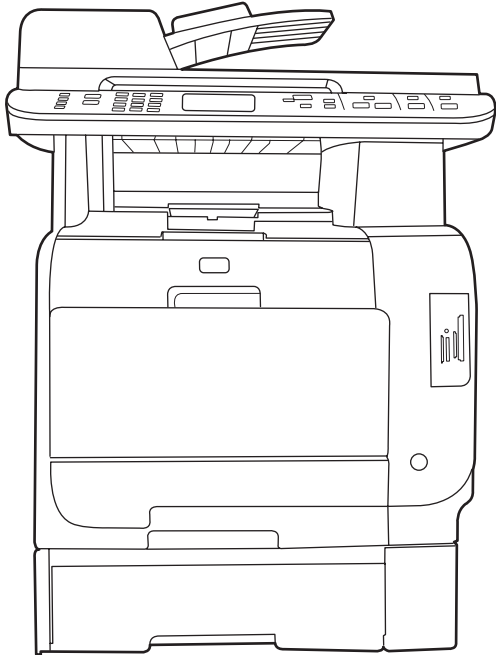


HP Color LaserJet CM2320 MFP Series

Software Technical Reference



HP Color LaserJet CM2320 MFP Series Printer
Software Technical Reference



Copyright and license

©2008 Copyright Hewlett-Packard Development Company, L.P.

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

The information contained herein is subject to change without notice.

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

Edition 1, 7/2008

Trademark credits

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

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

FireWire® FireWire is a trademark of Apple Computer, Inc., registered in the U.S. and other countries.

Java™ is a US trademark of Sun Microsystems, Inc.

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

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

Pentium® is a trademark or registered trademark of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX® is a registered trademark of The Open Group.

Table of contents

1 Purpose and scope

Introduction	1
Software technical reference overview	2
Product comparison	3
Product features	4
Product walkaround	5
Front view	5
Back view	6
Interface ports	6
Documentation availability and localization	8
Software availability and localization	11
Solutions software on the Web	12
In-box solutions software CDs	12
Microsoft Windows CD	12
CD versions	13

2 Software description

Introduction	15
Windows solutions software	16
Printing system and installer	16
HP Color LaserJet CM2320 MFP Series solutions software CD for MS Windows systems	16
HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide	16
HP Color LaserJet CM2320 MFP Series solutions CD browser	17
Installer features	18
HP Color LaserJet CM2320 MFP Series printer-drivers	19
Select the best printer-driver	20
Complete LaserJet printing system	20
HP PCL 6	20
HP LaserJet printing system	20
HP printer-drivers	20
Printer-driver version numbers for MS Windows operating systems	21
HP Driver Diagnostic Printer Check Tool	23

Advanced color use	24
Restrict color printing	24
HP ColorSphere toner	24
HP ImageREt 3600	24
Paper selection	25
Color options	25
Standard red-green-blue (sRGB)	25
Match colors	26
Use HP ToolboxFX to print the Microsoft Office Basic Colors palette	26
HP Basic Color Match tool	27
Use HP ToolboxFX to download the HP Basic Color Match tool	27
HP ToolboxFX	28
HP ToolboxFX overview	28
Start HP ToolboxFX	28
Structure	28
Opening screen	29
System requirements	29
Key features	29
HP product pop-up alert messages	29
System-tray icon alert	30
Desktop alert	30
E-mail alert	30
HP ToolboxFX folders	30
Status folder	31
Device Status	32
Supplies Status	33
Device Configuration	34
Network Summary	36
Print Info Pages	38
Color Usage Job Log	39
Event Log	40
Alerts folder	40
Set up Status Alerts	41
Set up E-mail Alerts	43
Product Information folder	45
Demonstration Pages	46
Fax folder	46
Fax Receive	47
Fax Phone Book	48
Fax Send Log	50
Fax Receive Log	51
Junk Faxes	52
Help folder	52
Troubleshooting	54

Paper and Print Media	56
Color Printing Tools	56
Animated Demonstrations	57
User Guide	58
System Settings folder	59
Device Information	60
Paper Handling	60
Print Quality	61
Print Density	61
Paper Types	63
Extended Print Modes	64
System Setup	69
Service	70
Device Polling	71
Save / Restore Settings	72
Password	73
Print Settings folder	73
Printing	74
PCL5	75
PostScript	75
Photo	76
Network Settings folder	76
Network Summary	78
IPv4 Configuration	79
IPv6 Configuration	79
Network Identification	80
Advanced	81
SNMP	82
E-mail folder	83
E-mail Configuration	84
E-mail Contacts	84
Other panes	85
About HP ToolboxFX dialog box	85
HP Instant Support	86
Support and Troubleshooting	86
Product Registration	86
Shop for Supplies	86
HP Solution Center	87
Recycle button	87
Home page	88
Utilities button	88
Help page	88
Shopping page	88
Settings page	89

HP Embedded Web Server (HP EWS)	90
Status tab	90
Device Status	91
Supplies Status	91
Device Configuration	92
Network Summary	94
Print Info Pages	95
Color Usage Job Log	96
Event Log	96
System tab	96
Device Information page	97
Paper Handling page	97
Print Quality	98
Print Density page	98
Paper Types	99
Extended Print Modes	99
System Setup	101
Service	101
Password	101
Print tab	101
Printing	102
PCL5c	102
PostScript	102
Photo	103
Fax tab	103
Fax Receive	103
Fax Phone Book	103
Networking tab	104
Network Summary	105
IPv4 Configuration	105
IPv6 Configuration	105
Network Identification	106
Advanced page	106
SNMP page	107
E-mail tab	107
E-mail Configuration page	107
E-mail Contacts page	108
HP Customer Participation Program	109
Optional software	110
Universal printer-driver	110
Basic Color Match	110
Web Printsmart	110
Font support	111
Basic fonts	111

Default fonts	111
---------------------	-----

3 Install Windows solutions software components

Introduction	115
Supported operating systems for Windows	116
Install overview	117
Software installation types for Windows	117
Installation options	117
Windows general installation overview	118
Animated Getting Started Guide (GSG)	118
Setup and installation instructions	118
Animated GSG dialog boxes	119
Unsupported Operating System dialog box	132
Windows installation for direct connections	133
Recommended Install	133
Easy Install	133
Advanced Install	134
Express Install	135
Windows installation for computers on a network	135
Recommended Install	135
Easy Install	135
Advanced Install	136
Express Network Install	137
Install printer-drivers by using a CD	138
Set a default printer	138
Modify an existing installation	139
Universal printer-driver (UPD) installation	139
HP Universal Print Driver installation modes	140
Detailed Windows installation instructions	141
Solutions software installation for Windows	141
Install optional software	157
HP Photosmart Essential	158
Universal Print Driver	158
Basic Color Match	158
HP Easy Printer Care	159
HP SmartWeb Printing	159
User uninstall software	160
Uninstall instructions for Windows	160
Uninstall a Recommended or Express installation	160
Use the product software Uninstall component (recommended)	160
Use the Windows Add or Remove Programs component	160
Use the solutions software CD	161
Uninstall a printer-driver only installation	161

Software for other operating systems	163
--	-----

4 HP PCL 6 and universal printer-driver for Windows

Introduction	165
Change the printer-driver settings for Windows	166
Printing Preferences printer-driver tabs	166
Properties printer-driver tabs	167
Help system	168
“What's this?” Help	168
Context-sensitive Help	168
Constraint messages	168
Advanced tab features	170
Paper/Output settings	171
Copy Count setting	171
Graphic settings	171
Image Color Management settings	172
TrueType Font settings	172
Document Options	172
Advanced Printing Settings	172
Printer Features	173
Print All Text as Black	173
Send TrueType as Bitmap	173
Raster Compression	173
Print Data Optimization	173
Layout Options	174
Paper/Quality tab features	175
Paper Options	176
Paper size:	176
Custom Paper Size	177
Name	177
Paper Size	178
Units	178
Custom width and height control limits	178
Paper source:	178
Paper type:	179
Special pages	181
Covers	181
Print pages on different paper	182
Document preview image	183
Print Quality group box	183
Print Quality drop-down menu	184
HP real life technologies	184
Remove red eye checkbox	184

Effects tab features	185
Resizing Options group box	186
Actual Size setting	186
Print Document On setting	186
Scale to Fit option	186
% of actual size option	187
Document preview image	188
Watermarks group box	188
Current watermarks	189
Watermark message	190
Message angle	190
Font attributes	190
Name drop-down menu	191
Color drop-down menu	191
Shading drop-down menu	192
Size spin box	192
Style drop-down menu	192
Default settings	192
Finishing tab features	193
Document Options	194
Print on Both Sides (Manually) check box	194
Manually printing on both sides	194
Flip Pages Up option	197
Booklet layout drop-down menu	197
Book and booklet printing	197
Printing a booklet	198
Printing a book	198
Pages per Sheet drop-down menu	198
Print Page Borders check box	198
Page Order drop-down menu	198
Document preview image	199
Orientation group box	199
Portrait option button	200
Landscape option button	200
Rotate by 180 degrees check box	200
Mirror Image check box (HP PS Emulation only)	200
Color tab features	201
Color Options	202
Automatic	202
Manual	202
General	203
Edge control	204
Half tone	204
Text, Graphics, Photographs	204

Neutral Grays	204
Color Themes	205
RGB Color	205
Document preview image	205
Services tab features	206
Internet Services	207
Device Settings tab features	208
Form to Tray Assignment	209
Font Substitution Table	210
External Fonts	210
Install external fonts	210
Remove external fonts	211
Installable Options	211
Allow Manual Duplexing	211
Printer Memory	211
HP PS Emulation Device Settings	212
Available PostScript Memory	212
Output Protocol	212
Send Ctrl-D Before Each Job	213
Send Ctrl-D After Each Job	213
Convert Gray Text to PostScript Gray	213
Convert Gray Graphics to PostScript Gray	213
Add Euro Currency Symbol to PostScript Fonts	213
Job Timeout	213
Wait Timeout	213
Minimum Font Size to Download as Outline	214
Maximum Font Size to Download as Bitmap	214
Postscript Passthrough	215
JPEG Passthrough	216
Printing Shortcuts tab	217
Factory Defaults	218
General Everyday Printing	218
Paper source	219
Page size	219
Orientation	219
Print on both sides	220
Paper type	220
Pages per sheet	221
Document preview image	221
About tab features	222
5 Macintosh	
Introduction	225

Macintosh solutions software	226
Software components for Macintosh	226
HP EWS Device Configuration utility	227
HP LaserJet Director	227
HP Photosmart Studio for Macintosh	228
Memory card access with the Macintosh (HP Color LaserJet CM2320 MFP only)	229
System requirements	230
Operating-system support	230
Availability	230
Software component localization	230
Order software for Macintosh	231
Macintosh install instructions	232
Installation overview	232
Installation options	232
Installation instructions for all Macintosh OSs — Animated Getting Started Guide	232
Macintosh installation instructions for direct and network connections	234
Installation dialog box options for Macintosh	234
Macintosh uninstall instructions	242

6 Engineering details

Introduction	243
Troubleshooting	244
Port communication	244
Overview	244
USB port connections	244
Product conflicts in Windows	244
Open the Windows Device Manager	245
Check for product conflicts	245
Guidelines for troubleshooting and resolving product conflicts	245
Installed Products	246
E-mail	247
HP LaserJet Scan	247
Troubleshooting tools	247
File to E-mail utility	247
AccessDeniedUtility.exe	248
FixErr1714 utility	248
Known issues for the HP Color LaserJet CM2320 MFP Series Printer	248
Windows software	249
Product communication	249
Hardware/firmware	251
Miscellaneous	252
IP discovery and rediscovery	253

Print and HP ToolboxFX	253
Scan printer-driver	253
ScanTo application	254
PCL font ID list	255
Supported paper and print media sizes	258
Paper/Quality tab features	259
Paper Options	260
Paper size:	260
Custom Paper Size:	261
Name	261
Paper Size	262
Units	262
Custom width and height control limits	262
Paper Source:	263
Paper type:	263
Special pages	266
Covers	266
Print pages on different paper	267
Document preview image	267
Print quality group box	268
Print Quality drop-down menu	268
HP real life technologies	268
Remove red eye checkbox	269
Install Notes	270
I. Introduction	270
PURPOSE OF THIS DOCUMENT	270
WHO NEEDS THIS SOFTWARE?	270
OVERVIEW OF THE PRINTING-SYSTEM COMPONENTS	270
End-user software components in an Express install	270
End-user software components available for a Recommended install	271
HP ToolboxFX	271
Product documentation	272
Uninstall	272
II. LATE-BREAKING INFORMATION	272
KNOWN ISSUES AND WORK-AROUNDS	272
General	272
HP ToolboxFX	273
Scan	273
Upgrade Windows	274
Other Applications	274
ISSUES FIXED	274
III. INSTALLATION INSTRUCTIONS	274

INSTALL SOFTWARE ON WINDOWS 2000, WINDOWS XP, WINDOWS SERVER 2003 AND WINDOWS VISTA	274
UNINSTALLER	275
IV. TECHNICAL ASSISTANCE	275
V. LEGAL STATEMENTS	275
TRADEMARK NOTICES	275
WARRANTY AND COPYRIGHT	275
Warranty	275
Copyright	275

Index	277
--------------------	------------

List of tables

Table 1-1	Software technical reference overview	2
Table 1-2	User documentation availability and localization	8
Table 2-1	Printer-drivers included with the HP Color LaserJet CM2320 MFP Series solutions software	21
Table 2-2	Color access control tools	24
Table 2-3	Event alerts for HP ToolboxFX	42
Table 2-4	Standard print modes	63
Table 2-5	Print Modes section controls	67
Table 2-6	Printing options and settings	74
Table 2-7	Advanced Network Settings options and settings	81
Table 2-8	Default fonts	111
Table 4-1	HP Color LaserJet CM2320 MFP Series product - HP PCL 6 custom paper sizes	178
Table 4-2	Watermark color values	191
Table 4-3	Page orientation	197
Table 5-1	Software components for Macintosh	226
Table 5-2	CD part number for the HP LaserJet software	231
Table 6-1	Products installed by the solutions software in Windows 2000 and in Windows 2003	246
Table 6-2	PCL font ID list	255
Table 6-3	Supported paper and print media sizes	258
Table 6-4	Supported envelopes and postcards	258
Table 6-5	Tray 1 and Tray 2 Specifications	262
Table 6-6	Paper type: – Type is: supported paper types and associated engine speeds	264
Table 6-7	HP real life technologies	268

List of figures

Figure 2-1	HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide – Main screen	16
Figure 2-2	Installation software CD-ROM browser	17
Figure 2-3	HP ToolboxFX alert – LOAD PAPER pop-up message	30
Figure 2-4	HP ToolboxFX Status folder	31
Figure 2-5	HP ToolboxFX Status folder – Device Status pane	32
Figure 2-6	HP ToolboxFX Status folder – Supplies Status pane (1 of 2)	33
Figure 2-7	HP ToolboxFX Status folder – Supplies Status pane (2 of 2)	33
Figure 2-8	HP ToolboxFX Status folder – Device Configuration pane (1 of 5)	34
Figure 2-9	HP ToolboxFX Status folder – Device Configuration pane (2 of 5)	34
Figure 2-10	HP ToolboxFX Status folder – Device Configuration pane pane (3 of 5)	35
Figure 2-11	HP ToolboxFX Status folder – Device Configuration pane pane (4 of 5)	35
Figure 2-12	HP ToolboxFX Status folder – Device Configuration pane pane (5 of 5)	36
Figure 2-13	HP ToolboxFX Status folder – Network Summary pane (1 of 3)	37
Figure 2-14	HP ToolboxFX Status folder – Network Summary pane (2 of 3)	37
Figure 2-15	HP ToolboxFX Status folder – Network Summary pane (3 of 3)	38
Figure 2-16	HP ToolboxFX Status folder – Print Info Pages pane	38
Figure 2-17	HP ToolboxFX Status folder – Color Usage Job Log pane	39
Figure 2-18	HP ToolboxFX Status folder – Event Log pane	40
Figure 2-19	HP ToolboxFX Alerts folder	41
Figure 2-20	HP ToolboxFX Alerts folder – Set up Status Alerts pane	41
Figure 2-21	HP ToolboxFX Alerts folder – Set up E-mail Alerts pane (1 of 3)	43
Figure 2-22	HP ToolboxFX Alerts folder – Set up E-mail Alerts pane (2 of 3)	44
Figure 2-23	HP ToolboxFX Alerts folder – Set up E-mail Alerts pane (3 of 3)	44
Figure 2-24	HP ToolboxFX Product Information folder	45
Figure 2-25	HP ToolboxFX Product Information folder – Demonstration Pages pane	46
Figure 2-26	HP ToolboxFX Fax folder	47
Figure 2-27	HP ToolboxFX Fax folder – Fax Receive pane	48
Figure 2-28	HP ToolboxFX Fax folder – Fax Phone Book pane	48
Figure 2-29	HP ToolboxFX Fax folder – Fax Send Log pane	51
Figure 2-30	HP ToolboxFX Fax folder – Fax Receive Log pane	52
Figure 2-31	HP ToolboxFX Fax folder – Junk Faxes pane	52
Figure 2-32	HP ToolboxFX Help folder (1 of 2)	53
Figure 2-33	HP ToolboxFX Help folder (2 of 2)	54
Figure 2-34	HP ToolboxFX Help folder – Troubleshooting pane (1 of 2)	55

Figure 2-35	HP ToolboxFX Help folder – Troubleshooting pane (2 of 2)	55
Figure 2-36	HP ToolboxFX Help folder –Paper and Print Media pane	56
Figure 2-37	HP ToolboxFX Help folder –Color Printing Tools pane	57
Figure 2-38	HP ToolboxFX Help folder –Animated Demonstrations pane	58
Figure 2-39	HP ToolboxFX Help folder – User Guide pane	59
Figure 2-40	HP ToolboxFX System Settings folder – Device Information pane	60
Figure 2-41	HP ToolboxFX System Settings folder – Paper Handling pane	60
Figure 2-42	HP ToolboxFX System Settings folder – Print Quality pane	61
Figure 2-43	HP ToolboxFX System Settings folder – Print Density pane (1 of 2)	61
Figure 2-44	HP ToolboxFX System Settings folder – Print Density pane (2 of 2)	62
Figure 2-45	HP ToolboxFX System Settings folder – Paper Types pane	63
Figure 2-46	HP ToolboxFX System Settings folder – Extended Print Modes pane (1 of 5)	64
Figure 2-47	HP ToolboxFX System Settings folder – Extended Print Modes pane (2 of 5)	64
Figure 2-48	HP ToolboxFX System Settings folder – Extended Print Modes pane (3 of 5)	65
Figure 2-49	HP ToolboxFX System Settings folder – Extended Print Modes pane (4 of 5)	65
Figure 2-50	HP ToolboxFX System Settings folder – Extended Print Modes pane (5 of 5)	66
Figure 2-51	HP ToolboxFX System Settings folder – System Setup pane	69
Figure 2-52	HP ToolboxFX System Settings folder – Service pane	70
Figure 2-53	HP ToolboxFX System Settings folder – Device Polling pane	71
Figure 2-54	HP ToolboxFX System Settings folder – Save / Restore Settings pane	72
Figure 2-55	HP ToolboxFX System Settings folder – Password pane	73
Figure 2-56	HP ToolboxFX Print Settings folder – Printing pane	74
Figure 2-57	HP ToolboxFX Print Settings folder – PCL5 pane	75
Figure 2-58	HP ToolboxFX Print Settings folder – PostScript pane	75
Figure 2-59	HP ToolboxFX Print Settings folder – Photo pane	76
Figure 2-60	HP ToolboxFX Network Settings folder (1 of 3)	77
Figure 2-61	HP ToolboxFX Network Settings folder (2 of 3)	77
Figure 2-62	HP ToolboxFX Network Settings folder (3 of 3)	78
Figure 2-63	HP ToolboxFX Network Settings folder – IPv4 Configuration pane	79
Figure 2-64	HP ToolboxFX Network Settings folder – IPv6 Configuration pane	80
Figure 2-65	HP ToolboxFX Network Settings folder – Network Identification pane (1 of 2)	80
Figure 2-66	HP ToolboxFX Network Settings folder – Network Identification pane (2 of 2)	81
Figure 2-67	HP ToolboxFX Network Settings folder – Advanced pane	81
Figure 2-68	HP ToolboxFX Network Settings folder – SNMP pane	82
Figure 2-69	HP ToolboxFX E-mail folder – E-mail Configuration pane	84
Figure 2-70	HP ToolboxFX E-mail folder – E-mail Contacts pane	85
Figure 2-71	HP ToolboxFX About HP ToolboxFX dialog box	86
Figure 2-72	HP Solution Center screen	87
Figure 2-73	HP EWS Status tab – Device Status page	91
Figure 2-74	HP EWS Status tab – Supplies Status page	91
Figure 2-75	HP EWS Status tab – Device Configuration page (1 of 6)	92
Figure 2-76	HP EWS Status tab – Device Configuration page (2 of 6)	92
Figure 2-77	HP EWS Status tab – Device Configuration page (3 of 6)	93
Figure 2-78	HP EWS Status tab – Device Configuration page (4 of 6)	93

Figure 2-79	HP EWS Status tab – Device Configuration page (5 of 6)	93
Figure 2-80	HP EWS Status tab – Device Configuration page (6 of 6)	94
Figure 2-81	HP EWS Status tab – Network Summary page (1 of 3)	94
Figure 2-82	HP EWS Status tab – Network Summary page (2 of 3)	94
Figure 2-83	HP EWS Status tab – Network Summary page (3 of 3)	95
Figure 2-84	HP EWS Status tab – Print Info Pages page	95
Figure 2-85	HP EWS Status tab – Color Usage Job Log page	96
Figure 2-86	HP EWS Status tab – Event Log page	96
Figure 2-87	HP EWS System tab – Device Information page	97
Figure 2-88	HP EWS System tab – Paper Handling page	97
Figure 2-89	HP EWS System tab – Print Quality page	98
Figure 2-90	HP EWS System tab – Print Density page	98
Figure 2-91	HP EWS System tab – Paper Types page	99
Figure 2-92	HP EWS System tab – Extended Print Modes page (1 of 3)	99
Figure 2-93	HP EWS System tab – Extended Print Modes page (2 of 3)	100
Figure 2-94	HP EWS System tab – Extended Print Modes page (3 of 3)	100
Figure 2-95	HP EWS System tab – System Setup page	101
Figure 2-96	HP EWS System tab – Service page	101
Figure 2-97	HP EWS System tab – Password page	101
Figure 2-98	HP EWS Print tab – Printing page	102
Figure 2-99	HP EWS Print tab – PCL5c page	102
Figure 2-100	HP EWS Print tab – PostScript page	102
Figure 2-101	HP EWS Print tab – Photo page	103
Figure 2-102	HP EWS Fax tab – Fax Receive page	103
Figure 2-103	HP EWS Fax tab – Fax Phone Book page (1 of 2)	104
Figure 2-104	HP EWS Fax tab – Fax Phone Book page (2 of 2)	104
Figure 2-105	HP EWS Networking tab – IPv4 Configuration page	105
Figure 2-106	HP EWS Networking tab – IPv6 Configuration page	105
Figure 2-107	HP EWS Networking tab – Network Identification page	106
Figure 2-108	HP EWS Networking tab – Advanced page	106
Figure 2-109	HP EWS Networking tab – SNMP page	107
Figure 2-110	HP EWS E-mail tab – E-mail Configuration page	107
Figure 2-111	HP EWS E-mail tab – E-mail Contacts page	108
Figure 3-1	Animated GSG – Welcome screen	119
Figure 3-2	Animated GSG – Select your connection screen	119
Figure 3-3	Animated GSG – Begin Setup screen	120
Figure 3-4	Animated GSG – Remove all orange shipping tape from the product screen	120
Figure 3-5	Animated GSG – Install accessories screen	121
Figure 3-6	Animated GSG – Record your Series and Product number for product registration screen	121
Figure 3-7	Animated GSG – Attach the control faceplate screen	122
Figure 3-8	Animated GSG – Remove the clear cover screen	122
Figure 3-9	Animated GSG – Rotate the display screen	123
Figure 3-10	Animated GSG – Prepare the print cartridges screen	123
Figure 3-11	Animated GSG – Install optional tray 3 (memory card model only) screen	124

Figure 3-12	Animated GSG – Open paper tray screen	124
Figure 3-13	Animated GSG – Adjust the paper tray guides and load paper screen	125
Figure 3-14	Animated GSG – Adjust the paper guides against the paper and reinsert tray screen	125
Figure 3-15	Animated GSG – Connect the power cord screen	126
Figure 3-16	Animated GSG – Connect the phone cord (fax models only) screen	126
Figure 3-17	Animated GSG – Turn on the product screen	127
Figure 3-18	Animated GSG – Connect the network cable screen	127
Figure 3-19	Animated GSG – Verify a network light is illuminated on the network port screen	128
Figure 3-20	Animated GSG – Set the language and the location on the control panel (if necessary) screen	128
Figure 3-21	Animated GSG – Optional: Insert a memory card into the reader and view photos on the display screen (Screen 1)	129
Figure 3-22	Animated GSG – Optional: Insert a memory card into the reader and view photos on the display screen (Screen 2)	129
Figure 3-23	Animated GSG – Print a Configuration Report screen	130
Figure 3-24	Animated GSG – Place the Configuration Report in the ADF and press Start Copy Black to test the ADF screen (Screen 1)	130
Figure 3-25	Animated GSG – Place the Configuration Report in the ADF and press Start Copy Black to test the ADF screen (Screen 2)	131
Figure 3-26	Animated GSG – Place the Configuration Report on the flatbed scanner and press Start Copy Color to test the color copy screen	131
Figure 3-27	Animated GSG – Install the software screen	132
Figure 3-28	Setup Error – Unsupported Operating System, Windows 98	133
Figure 3-29	Welcome Back! window	139
Figure 3-30	Thank you for purchasing from HP! – Select Install to begin installing your new HP device. window	141
Figure 3-31	Recommended Install – Please Allow All HP Install Wizard Processes	142
Figure 3-32	Recommended Install – Choose Easy Install or Advanced Install window	143
Figure 3-33	Choose Easy Install or Advanced Install window – End User License Agreement	144
Figure 3-34	Choose Easy Install or Advanced Install window – Automatic Software Updates FAQ	145
Figure 3-35	Choose Easy Install or Advanced Install window – HP Privacy Policy	146
Figure 3-36	Choose Easy Install or Advanced Install window – Internet Connection Capability	147
Figure 3-37	Recommended Install (Advanced) – Automatically Check for Updates window	148
Figure 3-38	Recommended Install (Advanced) – End User License Agreement window	149
Figure 3-39	Recommended Install (Advanced) – Thank you for buying another HP product window	150
Figure 3-40	Connection Type window	151
Figure 3-41	Connect your device now window	152
Figure 3-42	Identify Printer window	153
Figure 3-43	Firewall Notice window	154
Figure 3-44	Printers Found window	155
Figure 3-45	Congratulations! window	156
Figure 3-46	Welcome Back! window	157
Figure 3-47	Install More Software window	158
Figure 4-1	A typical constraint message	168
Figure 4-2	Advanced tab (HP PCL 6)	170

Figure 4-3	Paper/Quality tab	175
Figure 4-4	Paper Options group box	176
Figure 4-5	Paper/Quality tab – Custom Paper Size dialog box	177
Figure 4-6	Type is: box	179
Figure 4-7	Paper/Quality tab – Special Pages – Covers	181
Figure 4-8	Paper/Quality tab – Special Pages – Print pages on different paper	182
Figure 4-9	Document preview image	183
Figure 4-10	Paper/Quality tab – Print Quality group box	183
Figure 4-11	Effects tab	185
Figure 4-12	Effects tab – Resizing Options group box	186
Figure 4-13	Preview images - Legal on Letter; Scale to Fit off (left) and on (right)	187
Figure 4-14	Effects tab – Watermarks group box	188
Figure 4-15	Effects tab – Watermark Details dialog box	189
Figure 4-16	Finishing tab	193
Figure 4-17	Finishing tab – Document Options group box	194
Figure 4-18	Finishing tab – Print on Both Sides instructions window	196
Figure 4-19	Page-order preview images	199
Figure 4-20	Finishing tab – Orientation group box	199
Figure 4-21	Color tab	201
Figure 4-22	Color tab – Color Settings dialog box	203
Figure 4-23	Services tab	206
Figure 4-24	Device Settings tab	209
Figure 4-25	Printing Shortcuts tab	217
Figure 4-26	About tab	222
Figure 5-1	HP LaserJet Director – Macintosh	227
Figure 5-2	HP Photosmart Studio – Macintosh	228
Figure 5-3	System Authentication screen – Mac Memory Card Access	229
Figure 5-4	Authenticate Again – Mac Memory Card Access	230
Figure 5-5	HP LaserJet MFP Installer icon	233
Figure 5-6	Macintosh install – Animated Getting Started Guide	233
Figure 5-7	Install Software screen	234
Figure 5-8	Authenticate dialog box	235
Figure 5-9	License dialog box – HP Software License Agreement	236
Figure 5-10	Installing dialog box – progress indicator	237
Figure 5-11	If you are using a USB cable... dialog box	237
Figure 5-12	Restart alert	237
Figure 5-13	HP Setup Assistant – Introduction	238
Figure 5-14	HP Setup Assistant – Select Device dialog box	239
Figure 5-15	HP Setup Assistant – Firmware Upgrade Utility dialog box	240
Figure 5-16	HP Setup Assistant – Name the MFP dialog box	240
Figure 5-17	HP Setup Assistant – Finish dialog box	241
Figure 5-18	HP Setup Assistant – Congratulations dialog box	241
Figure 6-1	Sample Device Manager window	246
Figure 6-2	Printing Preferences – Paper/Quality tab	259


Figure 6-3	Paper Options group box	260
Figure 6-4	Paper/Quality tab – Custom Paper Size dialog box	261
Figure 6-5	Type is: box	264
Figure 6-6	Paper/Quality tab – Special Pages dialog box – Covers option	266
Figure 6-7	Paper/Quality tab – Special Pages dialog box – Print pages on different paper option	267
Figure 6-8	Paper/Quality tab – Print Quality group box	268

1 Purpose and scope

Introduction

This software technical reference (STR) provides information about and troubleshooting tips for the solutions software for the product.

This STR 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 end users, as appropriate.

 **NOTE:** This STR describes printer-drivers that are shipped on the solutions software CD that comes with the product. This STR does *not* describe printer-drivers that will become available on the Web.

The following information is included in this STR:

- Descriptions of printer-drivers, operating systems, and system environments
- Procedures for installing and uninstalling the solutions software components

For information about the location of information within chapters, see the table of contents. An index is also provided in this STR.

Software technical reference overview

The following table describes the structure of this STR.

Table 1-1 Software technical reference overview

Chapter	Content
Chapter 1, Purpose and scope	<p>This chapter contains basic information about the HP Color LaserJet CM2320 MFP Series product and its software:</p> <ul style="list-style-type: none">● Overview of the HP Color LaserJet CM2320 MFP Series printer● Solutions software overview. This includes the following topics:<ul style="list-style-type: none">◦ System requirements◦ Operating-system support◦ Availability● HP LaserJet software documentation
Chapter 2, Software description	<p>This chapter provides an overview of the solutions software installer and printer-drivers.</p> <p>This chapter also contains general information about other software features, including the following topics:</p> <ul style="list-style-type: none">● HP Embedded Web Server (HP EWS)● HP ToolboxFX
Chapter 3, Install Windows solutions software components	<p>This chapter provides instructions for installing the HP Color LaserJet CM2320 MFP Series product in Microsoft Windows operating systems by using various installation methods.</p>
Chapter 4, HP PCL 6 and universal printer-driver for Windows	<p>This chapter provides detailed descriptions of the HP printer-drivers for Microsoft Windows 2000, Windows XP®, Windows Server 2003, and Windows Vista®.</p>
Chapter 5, Macintosh	<p>This chapter provides instructions for installing the HP Color LaserJet CM2320 MFP Series product in Macintosh operating systems and how to use Macintosh features.</p>
Chapter 6, Engineering details	<p>This chapter contains information about the following special topics:</p> <ul style="list-style-type: none">● Troubleshooting● Uninstall● paper attributes● Firmware upgrades● <i>HP Color LaserJet CM2320 MFP Series Printing-System Install Notes</i>

For the location of information within chapters, see the table of contents. An index is provided in this STR.

Product comparison

The product is available in the following configurations.



HP Color LaserJet CM2320 MFP



HP Color LaserJet CM2320 MFP Fax Model



HP Color LaserJet CM2320 MFP Memory-Card Model

- Prints letter-size pages at speeds up to 21 pages per minute (ppm), and A4-size pages at speeds up to 19 ppm
- HP PCL 6 printer-drivers
- Tray 1 holds up to 50 sheets of paper or up to 10 envelopes
- Tray 2 holds up to 250 sheets of paper or up to 10 envelopes
- Optional 250-sheet input tray (Tray 3) available
- Hi-Speed USB 2.0 port and 10/100 Base-T network port
- 160-MB random-access memory (RAM)
- Flatbed scanner and 50-page automatic document feeder (ADF)
- One available DIMM slot for memory expansion (accepts 64 MB and 128 MB DIMMS)

- HP Color LaserJet CM2320 MFP, plus:
- 10/100 Base-T network port
 - V.34 fax modem and 8-megabyte (MB) flash fax-storage memory
 - Two RJ-11 fax phone line ports
 - Color graphics display

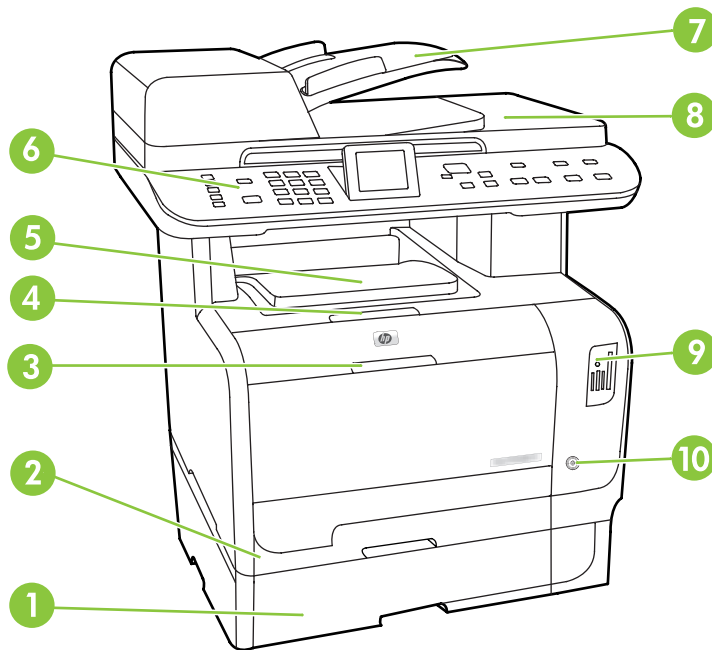
- HP Color LaserJet CM2320 MFP Fax Model, plus:
- Automatic two-sided (duplex) printing, fax receiving, and copying
 - Four memory card slots
 - Additional 250-sheet input tray (Tray 3) included

Product features

Performance	<ul style="list-style-type: none">● Prints up to 21 ppm (letter) or 19 ppm (A4).
Print quality	<ul style="list-style-type: none">● 1,200 dots per inch (dpi) with Image REt 3600 text and graphics.● Adjustable settings to optimize print quality.● The HP UltraPrecise print cartridge has a finer toner formulation that provides sharper text and graphics.
Fax (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)	<ul style="list-style-type: none">● Full-functionality fax capabilities with a V.34 fax; includes a phone book, fax/tel, and delayed-fax features.
Copy	<ul style="list-style-type: none">● Includes an ADF that allows faster, more efficient copy jobs with multiple-page documents.
Scan	<ul style="list-style-type: none">● Provides 1,200 pixels per inch (ppi), 24-bit full-color scanning from letter/A4-size scanner glass.● Provides 300 ppi, 24-bit full-color scanning from the ADF.● Includes an ADF that allows faster, more efficient scan jobs with multiple-page documents.
Memory card slots (HP Color LaserJet CM2320 MFP Memory-Card Model only)	<ul style="list-style-type: none">● Supports a variety of memory cards. See the user guide for more information.
Networking	<ul style="list-style-type: none">● TCP/IP<ul style="list-style-type: none">◦ IPv4◦ IPv6
Printer-driver features	<ul style="list-style-type: none">● Fast printing performance, built-in Intellifont and TrueType scaling technologies, and advanced imaging capabilities are benefits of the HP PCL 6 printer-driver language.
Interface connections	<ul style="list-style-type: none">● Hi-Speed USB 2.0 port.● 10/100 Base-T Ethernet network port (RJ-45).● RJ-11 fax/phone cable ports (HP LaserJet CM2320 Fax Model/CM2320 Memory-Card Model only).
Economical printing	<ul style="list-style-type: none">● N-up printing (printing more than one page on a sheet).● Two-sided printing using the automatic duplexer.
Supplies	<ul style="list-style-type: none">● A Supplies Status page that displays the amount of life remaining in the print cartridge.● No-shake cartridge design.● Authentication for HP print cartridges.● Enabled supplies-ordering capability.
Accessibility	<ul style="list-style-type: none">● Online user guide is compatible with text screen-readers.● Print cartridges can be installed and removed by using one hand.● All doors and covers can be opened by using one hand.

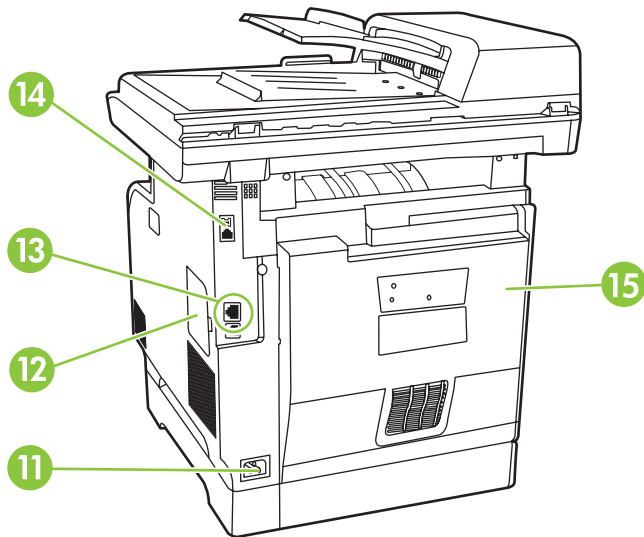
Product walkaround

Front view



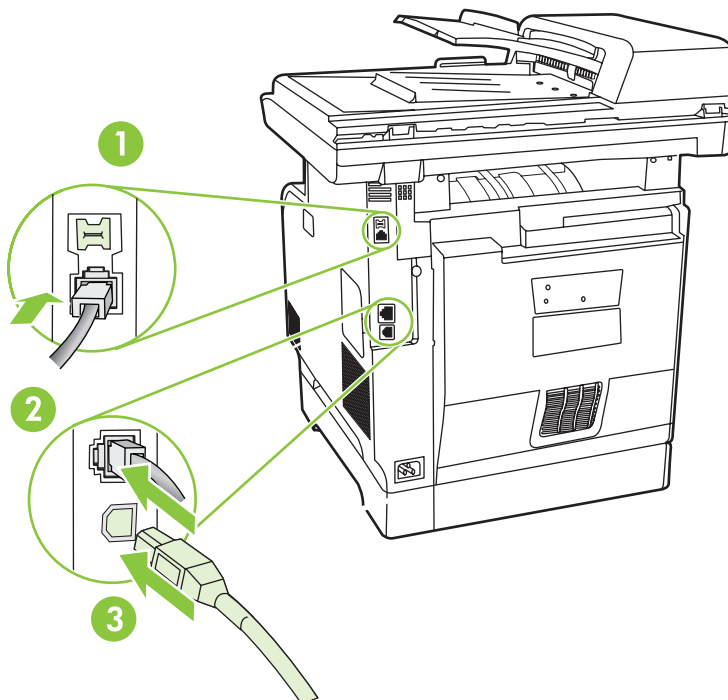
1	Optional Tray 3 (standard on the HP Color LaserJet CM2320 MFP Memory-Card Model)
2	Tray 2
3	Tray 1
4	Print-cartridge door latch
5	Top (face-down) output bin
6	Control panel
7	Automatic document feeder (ADF) input tray
8	ADF output bin
9	Memory card slots (HP Color LaserJet CM2320 Memory-Card Model only)
10	Power switch

Back view



11	Power connector
12	DIMM door (for adding additional memory)
13	Hi-Speed USB 2.0 port and network port
14	Fax ports (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)
15	Rear door for jam access

Interface ports



1	Fax ports (HP Color LaserJet CM2320 MFP Fax Model /HP Color LaserJet CM2320 MFP Memory-Card Model only)
---	---

2	Network port
3	Hi-Speed USB 2.0 port

Documentation availability and localization

The documentation in the following table is available for the HP Color LaserJet CM2320 MFP Series printer.

Table 1-2 User documentation availability and localization

Document name	Languages	Part number	Location
<i>HP Color LaserJet CM2320 MFP Series Printer User Guide</i>	English	CC434-90907	This product's user guide is available in electronic format on the solutions software CD in both .CHM and .PDF formats.
	Arabic	CC434-90901	
	Catalan	CC434-90902	
	Chinese (Simplified)	CC434-90928	
	Chinese (Traditional)	CC434-90929	
	Croatian	CC434-90912	
	Czech	CC434-90903	
	Danish	CC434-90904	
	Dutch	CC434-90952	
	Finnish	CC434-90909	
	French	CC434-90910	
	German	CC434-90905	
	Greek	CC434-90906	
	Hebrew	CC434-90911	
	Hungarian	CC434-90913	
	Indonesian (Bahasa)	CC434-90914	
	Italian	CC434-90915	
	Korean	CC434-90916	
	Norwegian	CC434-90918	
	Polish	CC434-90919	
	Portuguese (Brazilian)	CC434-90920	
	Romanian	CC434-90921	
	Russian	CC434-90922	
	Slovak	CC434-90923	
Slovenian	CC434-90924		
Spanish (Mid-Atlantic)	CC434-90908		
Swedish	CC434-90925		
Thai	CC434-90926		
Turkish	CC434-90927		

Table 1-2 User documentation availability and localization (continued)


Document name	Languages	Part number	Location
<i>HP Color LaserJet CM2320 MFP Series Printer Getting Started Guide</i>	<ul style="list-style-type: none"> ● Catalan ● Dutch ● English ● French ● German ● Italian ● Portuguese (Brazilian) ● Spanish 	CC434-90930	The <i>Getting Started Guide</i> is available in hard copy and comes in the box with the product.
	<ul style="list-style-type: none"> ● Arabic ● Danish ● English ● Finnish ● Norwegian ● Swedish ● Turkish 	CC434-90931	
	<ul style="list-style-type: none"> ● Czech ● English ● Hungarian ● Polish ● Russian ● Slovak 	CC434-90932	
	<ul style="list-style-type: none"> ● Croatian ● English ● Greek ● Hebrew ● Romanian ● Slovenian 	CC434-90933	
	<ul style="list-style-type: none"> ● Chinese (Simplified) ● Chinese (Traditional) ● English ● Indonesian (Bahasa) ● Korean ● Thai 	CC434-90934	

Table 1-2 User documentation availability and localization (continued)

Document name	Languages	Part number	Location
<i>HP Paper and Print paper Guide</i>	English	CC434-90942	The <i>HP Paper and Print Media Guide</i> is included on the solutions software CD for this product.
	Arabic	CC434-90936	
	Catalan	CC434-90937	
	Czech	CC434-90938	
	Danish	CC434-90939	
	German	CC434-90940	
	Greek	CC434-90941	
	Spanish (Mid-Atlantic)	CC434-90943	
	Finnish	CC434-90944	
	French	CC434-90945	
	Hebrew	CC434-90946	
	Croatian	CC434-90947	
	Hungarian	CC434-90948	
	Indonesian (Bahasa)	CC434-90949	
	Italian	CC434-90950	
	Korean	CC434-90951	
	Dutch	CC434-90952	
	Norwegian	CC434-90953	
	Polish	CC434-90954	
	Portuguese (Brazilian)	CC434-90955	
	Romanian	CC434-90956	
	Russian	CC434-90957	
	Slovak	CC434-90958	
	Slovenian	CC434-90959	
	Swedish	CC434-90960	
	Thai	CC434-90961	
	Turkish	CC434-90962	
Simplified Chinese	CC434-90963		
Traditional Chinese	CC434-90964		

Software availability and localization

Download the solutions software from the Web, or order it on a CD from an HP fulfillment center.

 **NOTE:** This STR describes printer-drivers that are shipped with the solutions software CD. This STR does *not* describe any printer-drivers that might be released for use by support personnel.

The following table lists the availability of software components for this product.

	Recommended Install	Express Install	Add Printer
Supported Windows operating systems			
Windows XP 32-bit	X	X	X ¹
Windows XP 64-bit		X	X ¹
Windows Vista 32-bit		X	X ¹
Windows Vista 64-bit		X	X ¹
Windows 2000		X	X ¹
Windows Server 2003 32-bit		X	X ¹
Windows Server 2003 64-bit			X ²
Components installed			
HP PCL 6 printer-driver	X	X	
WIA (Windows XP and Vista only)	X	X	X
Fax printer-driver	X	X	X
HP ToolboxFX w/Alerts	X		
SNP Alerts		X	X
Screen fonts	X		
Shop for HP supplies (desktop shortcut)	X		
Customer Participation Program 9.0	X		
HP Solution Center	X		
HP Update	X		
Warranty Reminder (timed pop-up)	X		

¹ **Express** installs are recommended over **Add Printer** installs.

² The 64-bit HP PCL 6 printer-driver is found on the root of the product.

Available from	Components
----------------	------------

HP.com — links from Install More Software button in CD browser

Easy Printer Care

Universal Printer-Driver

Basic Color Match Tool (Windows Vista and XP only)

HP Smart Web Printing (Windows Vista and XP only)

Marketing Resource Software (Windows Vista and XP only)

PostSmart Essentials

Topics:

- [Solutions software on the Web](#)
- [In-box solutions software CDs](#)

Solutions software on the Web

All of the solutions software that is contained on the installation CD is also available on the Web.

Web deployment is the preferred method for obtaining the latest solutions software. The HP website offers an option for automatic e-mail notification about new software releases.

The solutions software CD is available for download at the following website:

www.hp.com/support/CM2320series

In-box solutions software CDs

The solutions software CD contains several files that you can use to install the solutions software.

The solutions software is divided into three CDs, one for each of the following operating systems:

- The Microsoft Windows CD
- The Macintosh CD
- The ReadIris CD

The Microsoft Windows CD and the Macintosh CD both include the necessary software and files that are required to install and uninstall the solutions software components.

Topics:

- [Microsoft Windows CD](#)
- [CD versions](#)

Microsoft Windows CD

The root directory on the Microsoft Windows solutions software CD contains the AUTORUN.EXE file, the SETUP.EXE file, support files, and the directories listed in the following bulleted list:

 **NOTE:** The .INF files for the HP PCL 6 printer-driver are located on the root directory Microsoft Windows CD.

- Printer-drivers
- Setup
- Manuals

The solutions software file for each language that is on the solutions software CD resides in the Manuals directory.

 **NOTE:** File layouts differ by language for each regional version of the solutions software CD.

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

CD versions

Solutions software for the product's solutions software CD is available in four versions, each of which contains solutions software in one of the following languages:

- **Americas/ Europe 1 (part number CC434-60126):**
 - AR = Arabic
 - CA = Catalan (Català)
 - NL = Dutch (Nederland)
 - EN = English
 - FR = French (Français)
 - DE = German (Deutsch)
 - IT = Italian (Italiano)
 - PT = Brazilian Portuguese (Português)
 - ES = Spanish (Español)
- **Europe 2 (part number CC434-60127)**
 - CS = Czech (Cesky)
 - DA = Danish (Dansk)
 - EN = English
 - ET = Estonian (English printer-driver)
 - FI = Finnish (Suomi)
 - EL = Greek
 - HE = Hebrew
 - LV = Latvian (English printer-driver)
 - LT = Lithuanian (English printer-driver)

- NO = Norwegian (Norsk)
- SK = Slovak
- SV = Swedish (Svenska)
- **Europe 3 (part number CC434-60128)**
 - EN = English
 - HU = Hungarian (Magyar)
 - PL = Polish (Polski)
 - RO = Romanian (English printer-driver)
 - TR = Turkish (Turkçe)
- **Asia Pacific (part number CC434-60129):**
 - ZHCN = Simplified Chinese
 - ZHTW = Traditional Chinese
 - EN = English
 - KO = Korean
 - TH = Thai
- **Macintosh worldwide (part number CC434-60123):**
 - NL = Dutch (Nederland)
 - FR = French (Français)
 - EN = English
 - DE = German (Deutsch)
 - IT = Italian (Italiano)
 - ES = Spanish (Español)
- **ReadIris (part number 5851-3399)**

2 Software description

Introduction

The HP Color LaserJet CM2320 MFP Series product comes with software and installers for Microsoft Windows and for Apple, Inc., Macintosh systems. Linux and UNIX[®] systems also support the HP Color LaserJet CM2320 MFP Series product, and software is available on the Web. For information about specific system installers, printer-drivers, and components, see the section that corresponds to that system.

- [Windows solutions software](#)
- [HP Driver Diagnostic Printer Check Tool](#)
- [Advanced color use](#)
- [Match colors](#)
- [HP Basic Color Match tool](#)
- [HP ToolboxFX](#)
- [HP Solution Center](#)
- [HP Embedded Web Server \(HP EWS\)](#)
- [HP Customer Participation Program](#)
- [Optional software](#)
- [Font support](#)

Windows solutions software

Topics:

- [Printing system and installer](#)
- [HP Color LaserJet CM2320 MFP Series printer-drivers](#)

Printing system and installer

Topics:

- [HP Color LaserJet CM2320 MFP Series solutions software CD for MS Windows systems](#)
- [Installer features](#)

HP Color LaserJet CM2320 MFP Series solutions software CD for MS Windows systems

In the Microsoft Windows 2000, Windows XP, Windows Server 2003, or Windows Vista environments, insert this product's solutions software CD into the CD-ROM drive to open the HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide. To open the installation CD-ROM browser, close the HP Color LaserJet CM2320 MFP Series Animated User Guide.

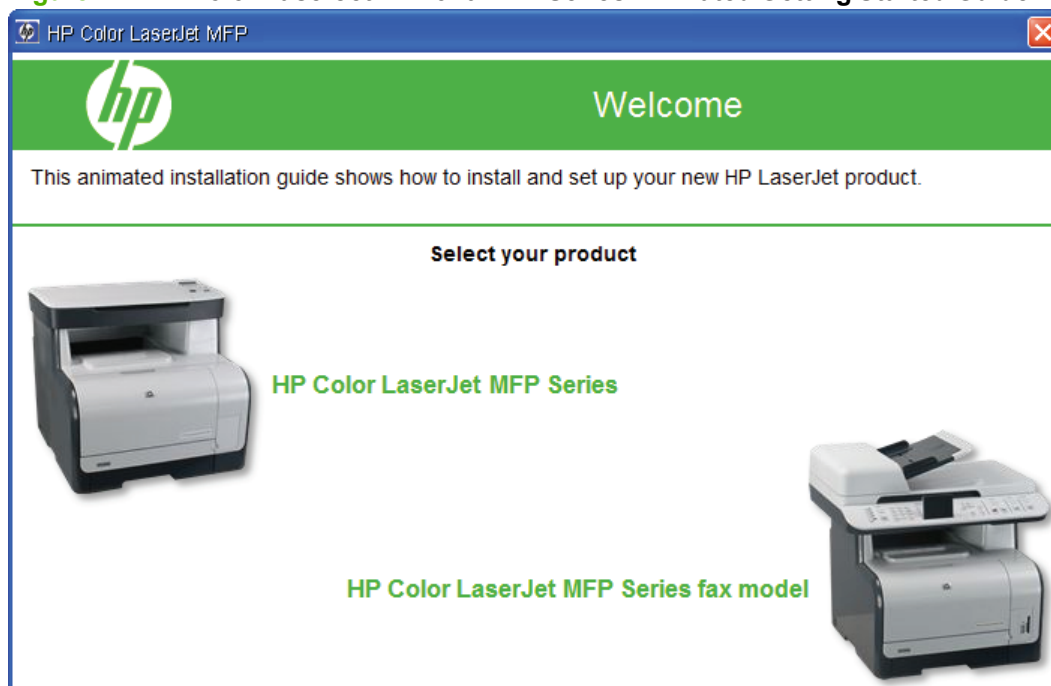
See the following section for information about the opening screens of the HP Color LaserJet CM2320 MFP Series Animated User Guide and CD-ROM browser.

HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide

Use the *HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide* to set up the product.

The following figure shows the main screen of the *HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide*.

Figure 2-1 HP Color LaserJet CM2320 MFP Series Animated Getting Started Guide – Main screen



If the screen does not appear when you insert the software CD into the CD-ROM drive, follow these steps to open the CD-ROM browser:

1. Click **Start**.
2. Click **Run**.
3. Click **Browse...**, and then navigate to the root directory of the software CD.

 **NOTE:** In Microsoft Vista, there is no **Run** command; instead, navigate to the **AUTORUN.EXE** file on the solutions software CD, and double-click it to start the animated getting started guide. Skip Step 4.

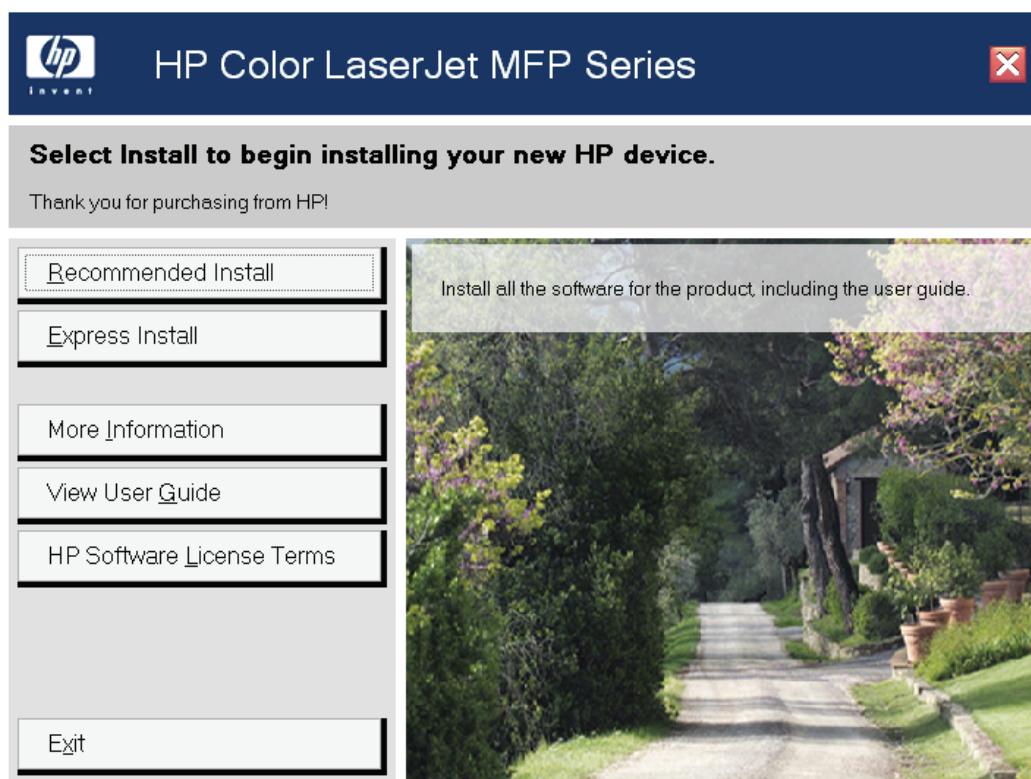
4. Double-click the **AUTORUN.EXE** file to start the animated getting started guide.

HP Color LaserJet CM2320 MFP Series solutions CD browser

Use the CD-ROM browser to install the printer-drivers and related components and to gain access to online user documentation, and optional HP software.

The following figure shows the main screen of the solutions software CD.

Figure 2-2 Installation software CD-ROM browser




If the screen does not appear when you insert the software CD into the CD-ROM drive, follow these steps to open the CD-ROM browser:

1. Click **Start**.
2. Click **Run**.

3. Click **Browse...**, and then navigate to the root directory of the software CD.
4. Double-click the **SETUP.EXE** file to start the installer.

The main screen of the software CD-ROM browser contains installation and documentation options in the left panel. Move the cursor over each option to see a description of that option in the right panel.

 **NOTE:** The options that are available for each product might differ from those in the figure.

CD browser main menu	Description
Recommended Install	Install the software for the product, including the user guide.
Express Install	Install the minimum software for the product. Clicking this button indicates your acceptance of HP's Software License terms.
More Information	<p>Get access to product support on the Web or to other product help and useful tips. The following are available on this screen:</p> <ul style="list-style-type: none"> ● Read Me First. Open the latest information about the product. This selection opens the <i>HP Color LaserJet CM2320 MFP Series Printer Install Notes</i>. ● Print Quality Optimizer Video. Watch a short video that shows the simple steps to get the best print quality when printing on special paper such as cardstock, heavy paper, or transparencies. ● Product Support Website. Go to HP's website to view troubleshooting help and frequently asked questions (FAQs). Download software updates. Contact a support specialist through live chat. ● View User Guide. Open the product user guide on this CD. The product user guide is also available in a print-friendly PDF format. To access the PDF version of the product user guide, either browse this software CD and open the preferred language folder or go to the Product Support website. <p>NOTE: If Adobe® Acrobat Reader 7.0 or later is not installed, click any of the links to a .PDF document to open it in a version of Adobe Acrobat Reader that runs from the solutions software CD. The CD-ROM browser version of Acrobat Reader is in English only but can be used to open localized versions of .PDF documents. The Adobe Acrobat Reader software is <i>not</i> installed on the computer and can only run while the solutions software CD is in the CD-ROM drive. Adobe Acrobat Reader is also available at the following website:</p> <p>www.adobe.com</p> <p>The user guide is also available in a .CHM format that can be viewed in a browser window.</p> <ul style="list-style-type: none"> ● Animated Getting Started Guide. See videos on how to properly set up your product. ● Back. Return to the previous screen.
View User Guide	Open the product user guide on this CD (CHM version).
HP Software License Terms	View the HP Software License Terms.
Exit	Quit this application.

Installer features

The common installer is designed to provide a simple and consistent installation method for the product. The common installer is available for the Windows 2000, Windows XP, Windows Server 2003, and Windows Vista operating systems.

The common installer offers the following features:

- The HP Color LaserJet CM2320 MFP Series solutions software CD features an interactive software interface.
- The network connection is integrated so that you can install printer-drivers and connect to a networked product in a single process.

The HP Color LaserJet CM2320 MFP Series solutions software CD also includes the following features:

- The HP LaserJet Uninstaller Utility

All of the Windows system components are installed by using the product's solutions installer. The installer automatically detects both the language of choice and the operating system. Select from the following types of installation:

- Recommended
 - Easy (recommended)
 - Advanced Install
- Express
 - USB
 - Network

HP Color LaserJet CM2320 MFP Series printer-drivers

HP Color LaserJet CM2320 MFP Series printer-drivers provide the printing features and communication between the computer and the product. The printing system includes software for end users and network administrators who are working in the following operating environments:

- Windows 2000, Windows XP (32-bit and 64-bit), Windows Server 2003 (32-bit and 64-bit), Windows Vista (32-bit and 64-bit)

Windows 64-bit printer-drivers for Windows XP and Windows Server 2003 are available for the following systems:

- AMD Athlon™ 64, AMD Opteron™, Intel® Xeon™, or Pentium® 4 with EMT64
- Apple Macintosh OS X (V10.2.8 or later)

 **NOTE:** For the latest information about the solutions software components, see the *HP Color LaserJet CM2320 MFP Series Printer Printing-System Install Notes* on the solutions software CD.

All of the printer-drivers provide access to paper-handling features and print-quality features.

Topics:

- [Select the best printer-driver](#)
- [HP printer-drivers](#)
- [Printer-driver version numbers for MS Windows operating systems](#)

Select the best printer-driver

HP printer-drivers are designed for different environments and uses. See the printer-driver Help for available features.

Topics:


- [Complete LaserJet printing system](#)
- [HP PCL 6](#)
- [HP LaserJet printing system](#)

Complete LaserJet printing system

Use the solutions software CD to install the necessary set of printer-drivers and other software for the product.

HP PCL 6

Overall, the HP PCL 6 provides the best performance, print quality, and printer-feature support for most users. The printer-driver aligns with the Windows graphic device interface (GDI) to optimize a computer's performance in Windows environments.

 **NOTE:** The HP PCL 6 may not be fully compatible with third party and custom solutions that are based on PCL 5.

Hybrid printing is possible only with the HP PCL 6 printer-driver. For a large print job, Hybrid printing allows the print job to use the host memory to ensure quick and quality printing. The printer-driver can be set to print each print job in Hybrid mode within the printer-driver Printing Preferences; however, Hybrid printing is used automatically for the following applications:

- AutoCad (ACAD.EXE)
- Adobe Acrobat® (ACROBAT.EXE)
- Adobe Reader (ACRORD32.EXE)
- Corel Draw (CORELDRW.EXE)
- Adobe Illustrator (ILLUSTRATOR.EXE)
- Adobe Photoshop® (PHOTOSHP.EXE or PHOTOSHOP.EXE)
- Microsoft PowerPoint (POWERPOINT.EXE)
- Quark Express (QUARKXPRESS.EXE)

HP LaserJet printing system

Use this for the complete set of printer-drivers, installer software, and other administrative tools that are found on the product's solutions software CD.

HP printer-drivers


The printer-driver available on this product's solutions software CD is the HP PCL 6 printer-driver for Windows 2000, Windows XP, Windows Server 2003, and Windows Vista.

Table 2-1 Printer-drivers included with the HP Color LaserJet CM2320 MFP Series solutions software

Install Method/ Operating System	HP PCL 6	WIA	TWAIN	FAX	PostScript 3
Express Install					
Microsoft Windows 2000	X		X		
Microsoft Windows 2003	X	X	X		
Microsoft Windows XP	X	X	X		
Microsoft Windows Vista	X	X	X		
Recommended Install					
Microsoft Windows XP	X	X	X	X	
Microsoft Windows Vista	X	X	X	X	
Add Printer Wizard Install					
Microsoft Windows 2000	X				X
Microsoft Windows 2003	X				X
Microsoft Windows XP	X				X
Microsoft Windows Vista	X				X
Macintosh install					
Macintosh OS			X	X	X

Printer-driver version numbers for MS Windows operating systems

Access to printer-driver version numbers varies, depending on the operating system in which the product is installed.

 **NOTE:** For a list of printer-drivers for this product, updated HP solutions software, and product support information, go to:

www.hp.com/support/CM2320series

The Windows 2000, Windows XP, Windows Server 2003, and Windows Vista operating systems support the HP PCL 6 printer-driver. If you are using an HP printer-driver in a Windows 2000, Windows XP, Windows Server 2003, or Windows Vista environment, follow these steps to find information about the version of your printer-driver:

1. Click **Start**.
2. Select **Settings**.

 **NOTE:** In Microsoft Vista, there is no **Setting** command; click **Control Panel**, and then click **Hardware and Sound**.

3. If your computer is running Windows Server 2003 or Windows XP, click **Printers and Faxes**. If your computer is running Windows 2000, click **Printers**.
4. Right-click the product icon.

5. Click **Properties**.

6. Click the **About** tab.

To determine the latest version of your printer-driver, view the overall build number (in parentheses after the model name).

HP Driver Diagnostic Printer Check Tool

Use the HP Driver Diagnostic Printer Check Tool, a Web-based diagnostic software program, to determine whether the correct and most current printer-driver is in use. To gain access to the HP Driver Diagnostic Printer Check Tool:

1. Open a Web browser.
2. Go to the following website:

www.hp.com/go/drivercheck

When the HP Driver Diagnostic Printer Check Tool runs, the products that are currently installed on the computer appear in a list. The tool gathers information about the product, printer-drivers, and system setup to diagnose the software printer-driver configuration and check the printer-driver.

When the HP Driver Diagnostic Printer Check Tool is open, select the HP product that you want to check. The tool verifies whether the latest printer-driver is being used, provides feedback if an incorrect printer-driver is being used, and indicates whether an updated version of the printer-driver is available. Click the latest version of the printer-driver to download and install it.

The data that the HP Driver Diagnostic Printer Check Tool gathers is stored anonymously so that HP can analyze and continuously improve its diagnostic tools. No private data is gathered from the computer.

Advanced color use

The product provides automatic color features that generate excellent color results. Carefully designed and tested color tables provide a smooth, accurate color rendition of all printable colors.

The product also provides sophisticated tools for the experienced professional.

Restrict color printing

Table 2-2 Color access control tools

Tool	Description
HP EWS	HP EWS is a Web browser-based utility that provides an interface to the product that you can use to change product settings, including color access control settings. No special software needs to be installed or configured. It allows you to set color printing restrictions and view a log of color printing use. HP EWS is designed for one-to-one product configuration monitoring and management.
HP Web Jetadmin	HP Web Jetadmin provides an interface to the product through a Web browser on single network-administration servers. Use HP Web Jetadmin to manage HP Jetdirect-connected products within an intranet. For more information, see the following website: www.hp.com/go/webjetadmin
Color usage job log	The color usage job log shows color and monochrome print job statistics for a printer.

HP ColorSphere toner

HP designed the print system (printer, print cartridges, toner, and paper) to work together to optimize print quality, product reliability, and user productivity. Original HP print cartridges contain HP ColorSphere toner that is specifically matched to your product so that it will produce a wide range of brilliant colors. This helps you create professional looking documents that contain sharp, clear text and graphics and realistic printed photos.

HP ColorSphere toner produces print-quality consistency and intensity that you can depend on across a wide range of paper . That means that you can produce documents that help you make the right impression. Plus, HP professional-quality everyday and specialty papers (including a wide variety of HP paper types and weights) are designed for the way you work.

HP ImageREt 3600

ImageREt 3600 provides 1,200 dots-per-inch (dpi) color laser-class quality through a multi-level printing process. This process precisely controls color by combining up to four colors within a single dot and by varying the amount of toner in a given area. ImageREt 3600 has been improved for this product. The improvements offer trapping technologies, greater control over dot placement, and more precise control of toner quality in a dot. These new technologies, coupled with HP's multi-level printing process, result in a 600 x 600 dpi product that provides 1,200 dpi color laser-class quality with millions of smooth colors.

In contrast, the single-level printing process found in the default mode of other color laser products does not allow the colors to be mixed within a single dot. This process, called dithering, significantly hinders the ability to create a wide range of colors without reduced sharpness or visible dot structure.

Paper selection

For the best color and image quality, select the appropriate paper type from the software product menu or from the printer-driver.


Color options

Color options automatically provide optimal color output. The printer-driver determines which objects appear on a page and uses half-tone and color settings that provide the best print quality for each object.

In the Windows environment, the **Automatic** and **Manual** color options are on the **Color** tab in the printer-driver.

Standard red-green-blue (sRGB)

Standard red-green-blue (sRGB) is a worldwide color standard that HP and Microsoft developed as a common color language for monitors, input devices (such as scanners and digital cameras), and output devices (such as printers and plotters). It is the default color space used for HP products, Microsoft operating systems, the World Wide Web, and most office software. The sRGB standard represents the typical Windows monitor and is the convergence standard for high-definition television.

 **NOTE:** Factors such as the type of monitor that you use and the lighting of the room in which you use the computer, can affect the appearance of colors on your screen. For more information see [Match colors on page 26](#).

The latest versions of Adobe Photoshop®, CorelDRAW®, Microsoft Office, and many other programs use sRGB to communicate color. Because it is the default color space for Microsoft operating systems, sRGB has been broadly adopted. When programs and products use sRGB to exchange color information, most users experience greatly improved color matching.

The sRGB standard improves your ability to automatically match colors between the product, the computer monitor, and other input products, and eliminates the need to become a color expert.

Match colors

The process of matching product output color to your computer screen is complex, because printers and computer monitors use different methods of producing color. Monitors *display* colors by using light pixels that use an RGB (red, green, blue) color process, but printers *print* colors by using a CMYK (cyan, magenta, yellow, and black) process.

Several factors can influence your ability to match the colors on your monitor to the colors on your printed output:

- Paper type
- product colorants (inks or toners, for example)
- Printing process (inkjet, press, or laser technology, for example)
- Overhead lighting
- Personal differences in perception of color
- Software programs
- Printer-driver
- Computer operating systems
- Monitors
- Video cards and printer-drivers
- Operating environment (humidity, for example)

Keep these factors in mind when colors on your screen do not perfectly match your printed colors.

For most users, the best method for matching colors is to print sRGB colors.

Use HP ToolboxFX to print the Microsoft Office Basic Colors palette

You can use HP ToolboxFX to print a palette of the Microsoft Office Basic Colors. Use this palette to select the colors that you want to use in printed documents. It shows the actual colors that print when you select these basic colors in a Microsoft Office program.

To use HP ToolboxFX to print a palette of the Microsoft Office Basic Colors, follow these steps:

1. In HP ToolboxFX, select the **Help** folder.
2. In the **Troubleshooting** section, select **Print Basic Colors**.

HP Basic Color Match tool

The HP Basic Color Match tool allows you to adjust spot color in your printed output. For example, you can match the color of your company logo on your printed output. You can save and use the new color schemes for specific documents or all printed documents, or you can create multiple color schemes that you can choose from later.

Use HP ToolboxFX to download the HP Basic Color Match tool


1. In HP ToolboxFX, select the **Help** folder.
2. In the **Color Printing Tools** section, select **Basic Color Match**. This opens an HP.com Web page from which you can download the Basic Color Match tool.

HP ToolboxFX

This section provides information about the following topics:

- [HP ToolboxFX overview](#)
- [System requirements](#)
- [Key features](#)
- [HP ToolboxFX folders](#)
- [Other panes](#)

HP ToolboxFX overview

 **NOTE:** HP ToolboxFX is available for Windows XP 32-bit, Windows Vista 32-bit, and Windows Vista 64-bit operating systems only. HP ToolboxFX is only available with a Recommended installation. It is not available with an Express installation.

HP ToolboxFX allows users to communicate with and manage the product. HP ToolboxFX provides the following capabilities:

- A view of the current status of the product
- A view of the current status of the product consumables
- Device Alert functionality, notifying the end user when particular events or conditions occur at the product
- Access to troubleshooting information
- Access to some product settings, as an alternative to accessing them through the product control panel

Start HP ToolboxFX

Use any of the following methods:

- Double-click the **HP ToolboxFX** icon in the Windows system tray.
- Click **Start**, click **Programs**, click **HP**, click **HP Color LaserJet CM2320 MFP Series**, and then click **HP ToolboxFX**.
- Right-click the **HP ToolboxFX** icon in the Windows system tray, and then click **Open HP ToolboxFX**.

Structure

HP ToolboxFX consists of a single framework divided into several sections.

- **Heading banner.** Each page that appears in HP ToolboxFX has a heading banner at the top that includes the HP logo.
- **Devices pane.** The **Devices** pane is visible on the left-hand side of the HP ToolboxFX window. The **Devices** pane shows the HP products that are available to the host computer system, and folders for the types of information available about each product.

- **Main content area.** Click any of the products or folders listed in the **Devices Pane** to see information about that product in the main content area of the HP ToolboxFX window.
- **Toolbar.** A toolbar appears at the top of the main content area. This toolbar contains controls for printing, refreshing the page, ordering supplies, and getting help.
- **Other Links pane.** The **Other Links** pane is visible in the lower-left corner of the HP ToolboxFX window. The **Other Links** pane contains links to the HP Instant Support, Product Support, and Product Registration pages on the HP website.

Opening screen

The opening screen that appears in the HP ToolboxFX section depends on the installed configuration of HP ToolboxFX. If HP ToolboxFX is installed for a single HP LaserJet product, the Device Status page for that HP LaserJet product appears when the toolbox is opened. To go to the Device Status page for a product, double-click the product. If multiple products that are supported by HP ToolboxFX are installed, they will appear in the left pane.

System requirements

HP ToolboxFX is currently supported on the following operating systems:

- Microsoft Windows Vista
- Microsoft Windows XP

HP ToolboxFX also requires Microsoft .NET Framework 2.0 on the client computer, which happens automatically during installation of the product solutions software (if HP ToolboxFX is not already installed).

Key features

The following alert messages are available:

- [HP product pop-up alert messages](#)
- [System-tray icon alert](#)
- [Desktop alert](#)
- [E-mail alert](#)

Through HP ToolboxFX, the appropriate person can be alerted when the product needs attention. To see a list of the events that generate alerts in HP ToolboxFX, see [Alerts folder on page 40](#).

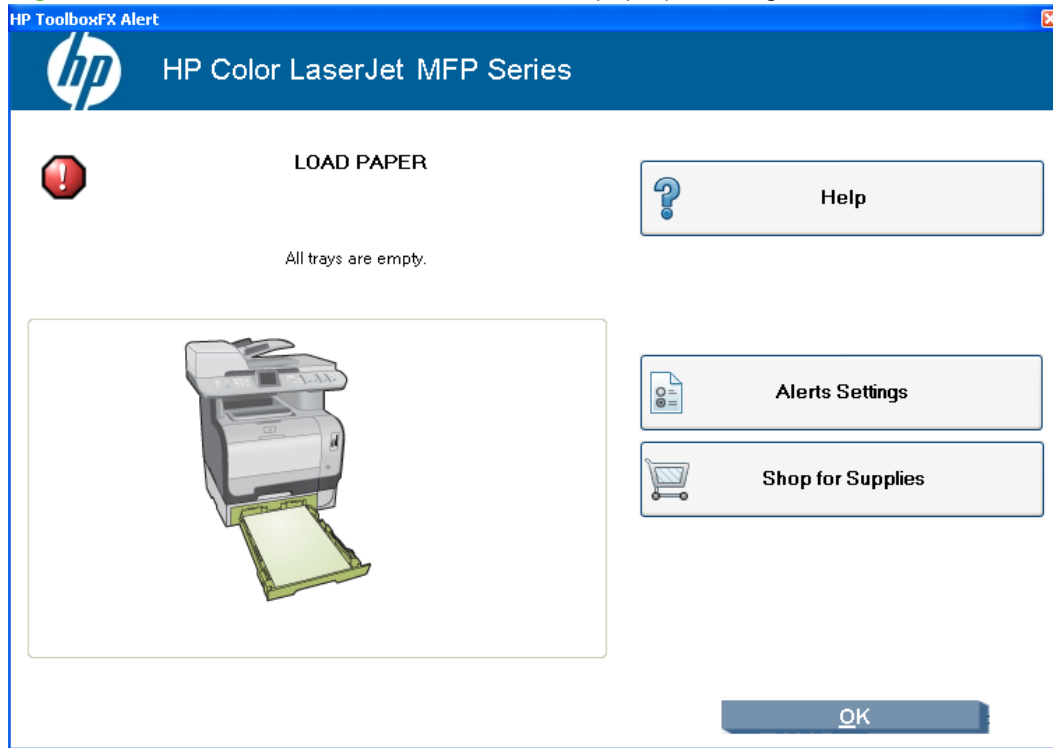
For status alerts, a group of errors or a group of print-cartridge warnings can be selected, but not specific items within those groups. To configure alerts, use the **Set up Status Alerts** screen in the **Alerts** folder in HP ToolboxFX.

HP product pop-up alert messages

Pop-up alert messages give instant notification when an error or print-cartridge warning occurs in the product. An error, such as a jam, halts the operation of the product and requires correction before the product can continue operating. The alert condition can be corrected at any time. Alerts are sent only

to the specific computer that prints to the product. This feature is provided through HP ToolboxFX and is turned *on* by default.

Figure 2-3 HP ToolboxFX alert – **LOAD PAPER** pop-up message



System-tray icon alert

The system-tray icon feature shows information about all of the current alert conditions for the product. An **HP Device Alert** icon appears in the Microsoft Windows system tray when an alert condition occurs. This feature is turned *on* by default.

Desktop alert

Desktop alert messages give immediate notification when an error or print-cartridge warning occurs in the product. Desktop alerts only appear for a few seconds, and then automatically disappear. This feature is turned *off* by default.

E-mail alert

E-mail alert messages notify up to two users when a specific alert condition occurs in the product. The alert condition can be a specific error alert or print-cartridge warning. This feature can be used to alert administrators or service providers that the product requires attention. For instance, when the toner low alert occurs, the person in charge of ordering print cartridges can be notified by e-mail.

This feature is turned *off* by default. To activate this feature, type the appropriate e-mail address, select the notification events, configure the SNMP e-mail server, and enable the feature in HP ToolboxFX.

HP ToolboxFX folders

The HP ToolboxFX folders section describes the following:

- [Status folder](#)

- [Alerts folder](#)
- [Product Information folder](#)
- [Fax folder](#)
- [Help folder](#)
- [System Settings folder](#)
- [Print Settings folder](#)
- [Network Settings folder](#)
- [E-mail folder](#)

Status folder

The **Status** folder contains the following panes:

- [Device Status](#)
- [Supplies Status](#)
- [Device Configuration](#)
- [Network Summary](#)
- [Print Info Pages](#)
- [Color Usage Job Log](#)
- [Event Log](#)

Figure 2-4 HP ToolboxFX **Status** folder

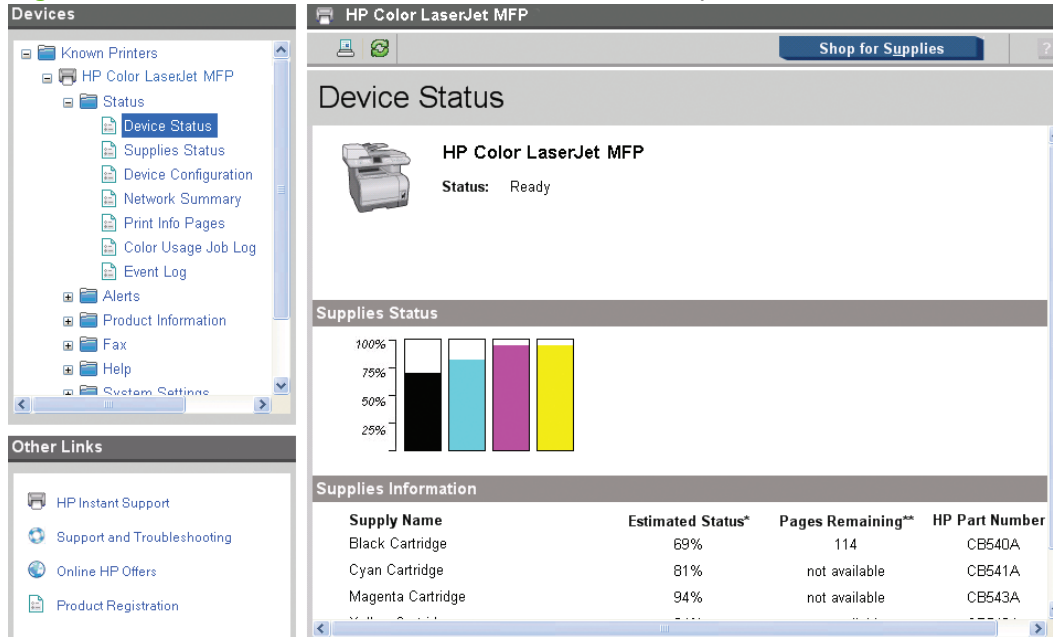
The screenshot displays the HP ToolboxFX interface for an HP Color LaserJet MFP. The left-hand navigation pane shows the 'Status' folder expanded, listing sub-items: Device Status, Supplies Status, Device Configuration, Network Summary, Print Info Pages, Color Usage Job Log, and Event Log. Below this are 'Other Links' for HP Instant Support, Support and Troubleshooting, Online HP Offers, and Product Registration. The main content area is titled 'Status' and shows the printer's status as 'Ready'. Below this is a 'Supplies Status' section with a bar chart showing ink levels for Black, Cyan, Magenta, and Yellow cartridges. The 'Supplies Information' table provides detailed data for each cartridge.

Supply Name	Estimated Status*	Pages Remaining**	HP Part Number
Black Cartridge	69%	114	CB540A
Cyan Cartridge	81%	not available	CB541A
Magenta Cartridge	94%	not available	CB543A
Yellow Cartridge	94%	not available	CB544A

Device Status

The **Device Status** pane shows product status messages from the product.

Figure 2-5 HP ToolboxFX Status folder – Device Status pane



The screenshot displays the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar shows a tree view of the 'Status' folder, with 'Device Status' selected. The main pane shows the 'Device Status' section with a printer icon and the text 'HP Color LaserJet MFP' and 'Status: Ready'. Below this is the 'Supplies Status' section, which features a bar chart showing the estimated toner levels for Black, Cyan, Magenta, and Yellow cartridges. The 'Supplies Information' section contains a table with the following data:

Supply Name	Estimated Status*	Pages Remaining**	HP Part Number
Black Cartridge	69%	114	CB540A
Cyan Cartridge	81%	not available	CB541A
Magenta Cartridge	94%	not available	CB543A

NOTE: This product includes a Supplies Status section and a Supplies Information section on the **Device Status** pane. These sections provide information about the estimated toner level, the approximate pages remaining based on the estimated toner level, and the HP part number for easy reference when ordering new consumables.

Supplies Status

The **Supplies Status** pane provides detailed information about the CMYK print cartridges. This information is not available if a non-HP print cartridge is installed in the product.

Figure 2-6 HP ToolboxFX Status folder – Supplies Status pane (1 of 2)

The screenshot shows the 'Supplies Status' pane for an HP Color LaserJet MFP. The left sidebar shows the 'Status' folder expanded, with 'Supplies Status' selected. The main pane displays two cartridge status cards:

- Black Print Cartridge (Order HP Part: CB540A):** 69% remaining. Approximate Pages Remaining: 114. Low reached: No. Serial number: 553713922. Pages printed with this supply: 52. First install date: 20070918. Last used date: 20080205.
- Cyan Print Cartridge (Order HP Part: CB541A):** 81% remaining. Approximate Pages Remaining: not available. Low reached: No. Serial number: 539164930. Pages printed with this supply: 26. First install date: 20070918. Last used date: 20080205.

Ordering and Return & Recycling information is provided for both cartridges.

Figure 2-7 HP ToolboxFX Status folder – Supplies Status pane (2 of 2)

The screenshot shows the 'Supplies Status' pane for an HP Color LaserJet MFP, displaying two more cartridge status cards:

- Magenta Print Cartridge (Order HP Part: CB543A):** 94% remaining. Approximate Pages Remaining: not available. Low reached: No. Serial number: 548864257. Pages printed with this supply: 26. First install date: 20070918. Last used date: 20080205.
- Yellow Print Cartridge (Order HP Part: CB542A):** 94% remaining. Approximate Pages Remaining: not available. Low reached: No. Serial number: 551354625. Pages printed with this supply: 26. First install date: 20070918. Last used date: 20080205.

Device Configuration

The **Device Configuration** pane shows the values for all of the settings available for the product and other configuration items, such as installed DIMMs, personalities, and page counts. The contents of this pane should be consistent with the configuration page that the product generates.

Figure 2-8 HP ToolboxFX Status folder – Device Configuration pane (1 of 5)

The screenshot shows the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar displays a tree view under 'Devices' with 'HP Color LaserJet MFP' expanded to 'Status', where 'Device Configuration' is selected. The main pane is titled 'Device Configuration' and contains a 'Product Information' section with the following data:

Product Information	
Product name:	HP Color LaserJet MFP
Formatter number:	NN000CB
Product serial number:	
Service ID:	17258
Firmware datecode:	20080109_0654
Telecom version:	04-015-001
ADF installed:	Yes
Maximum monochrome print quality:	600 x 8
Maximum color print quality:	ImageREt 3600
Controller number:	21
Device description:	HP Color LaserJet MFP
Device language:	English
Asset number:	
Company name:	
Contact person:	
Password:	Not specified
Hardware address:	
Host name:	
IPv4 address:	192.168.0.10
Show IPv4 address on control panel:	Disabled
IPv6 address:	
Total memory:	160 MB
Available memory:	123.78 MB

Below the main pane, there is an 'Other Links' section with links to HP Instant Support, Support and Troubleshooting, Online HP Offers, and Product Registration.

Figure 2-9 HP ToolboxFX Status folder – Device Configuration pane (2 of 5)

The screenshot shows the same HP ToolboxFX interface as Figure 2-8, but with the 'Device Configuration' pane scrolled down to show 'Installed Personalities and Options' and 'Page Counts' sections.

Installed Personalities and Options

PCL5	
PostScript	
PCLXL	
DIMM Slot 1:	Empty

Page Counts

Total pages printed:	32
Color pages printed:	19
Total monochrome pages printed:	13
Pages mispicked in printer:	0
Pages jammed in printer:	0
PCL6 pages printed:	9
PS pages printed:	4
PCL pages printed:	10
Color pages printed from photo:	0
Monochrome pages printed from photo:	0
Flatbed pages scanned to copy:	10
ADF pages scanned to copy:	3
Monochrome pages printed from copy:	0
Color pages printed from copy:	11
ADF pages scanned to host:	0
Flatbed pages scanned to host:	0
ADF pages scanned to fax:	0
Flatbed pages scanned to fax:	0

Figure 2-10 HP ToolboxFX Status folder – Device Configuration pane (3 of 5)

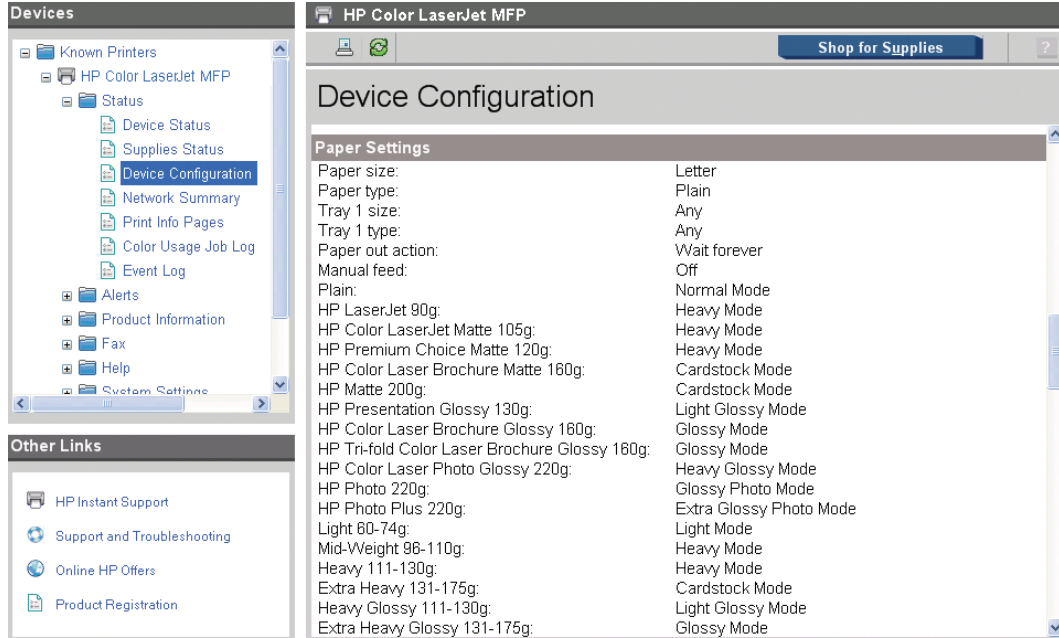
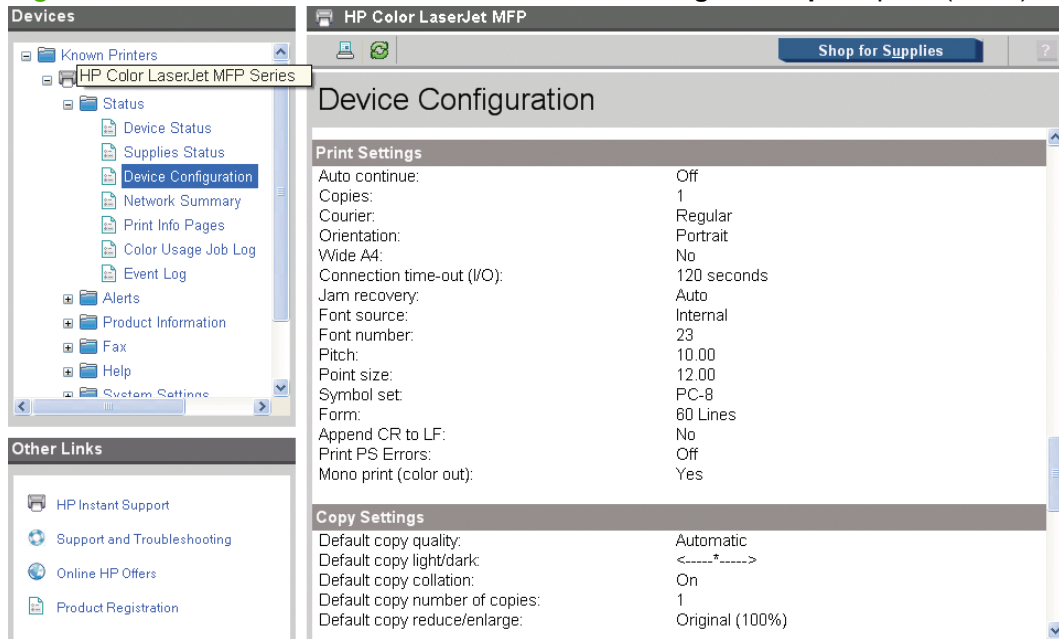
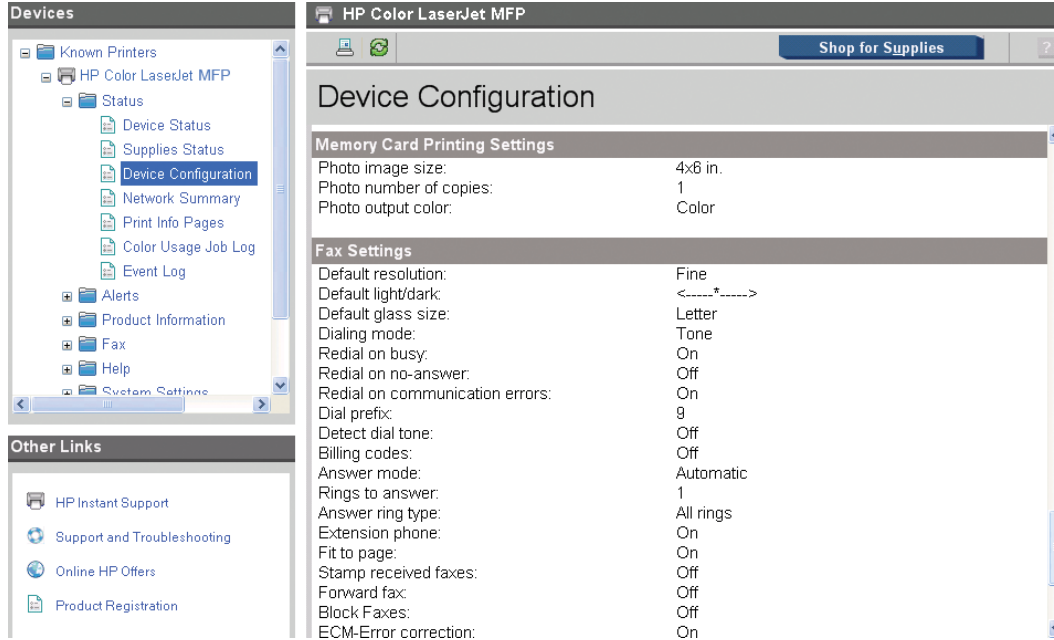


Figure 2-11 HP ToolboxFX Status folder – Device Configuration pane (4 of 5)



Software description

Figure 2-12 HP ToolboxFX **Status** folder – **Device Configuration** pane (5 of 5)



Network Summary

The **Network Summary** pane shows the values for all of the network settings that are available for the product. The contents of this pane should be consistent with the configuration page that the product generates.

The network settings that in the **Network Summary** pane appear under the following headings:

- TCP/IP (v4)
- TCP/IP (v6) Features
- Network Identification
- Network Hardware Configuration
- SNMP
- Network Statistics
- Enabled Features

NOTE: The **Network Summary** pane that appears in the **Status** folder is identical to the **Network Summary** pane that appears in the **Network Settings** folder.

Figure 2-13 HP ToolboxFX Status folder – Network Summary pane (1 of 3)

The screenshot shows the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar contains a 'Devices' tree with 'HP Color LaserJet MFP' expanded to 'Status', where 'Network Summary' is selected. Below the sidebar are 'Other Links' for HP Instant Support, Support and Troubleshooting, Online HP Offers, and Product Registration. The main content area is titled 'Network Summary' and contains two sections: 'TCP/IP (v4)' and 'TCP/IP (v6)'. Both sections show a status of 'Ready' and various network parameters.

TCP/IP (v4)	
Status:	Ready
IPv4 address:	192.168.0.10
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
IP configured by:	Configured by DHCP
DHCP/BOOTP server:	192.168.0.200
DHCP expiration time:	01:22:20 (days:hours:minutes)
WINS server:	192.168.0.200

TCP/IP (v6)	
Status:	Ready
Link-Local address:	
Stateless (from Router):	Not configured
Stateful (from DHCPv6):	Not configured

At the bottom of the main content area, the 'Network Identification' section is partially visible.

Figure 2-14 HP ToolboxFX Status folder – Network Summary pane (2 of 3)

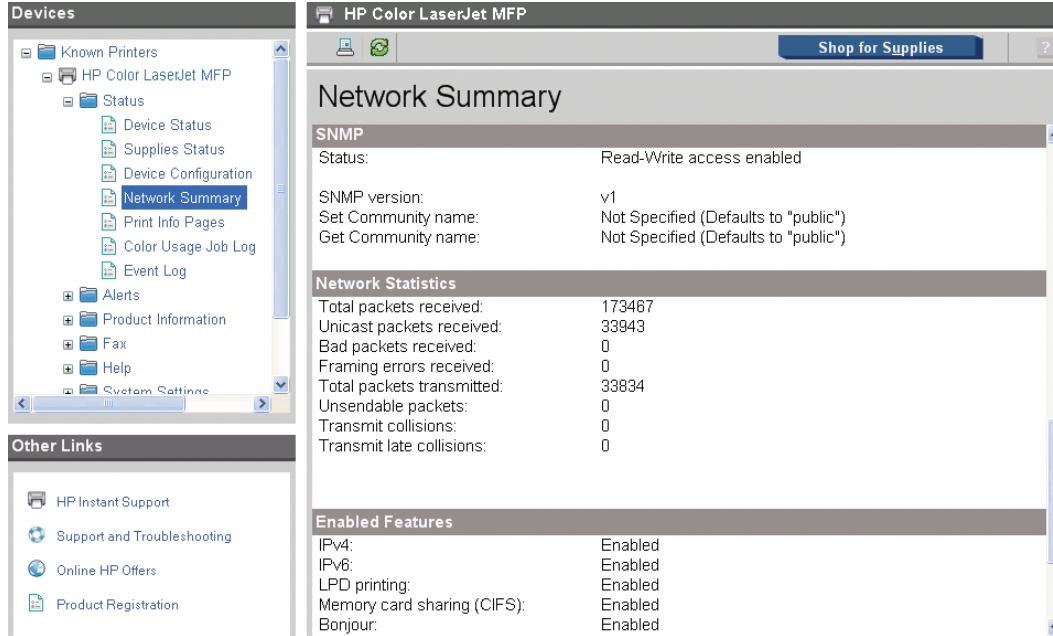
This screenshot shows the same HP ToolboxFX interface as Figure 2-13, but the 'Network Summary' pane is scrolled down to show 'Network Identification' and 'Network Hardware Configuration'. The 'Network Identification' section lists host and domain names, while 'Network Hardware Configuration' lists hardware address, firmware datecode, and link speed/duplex settings.

Network Identification	
Host name:	NP123456
Domain name (IPv4/IPv6):	
Domain name (IPv6 only):	
Bonjour Service name:	HP Color LaserJet MFP
Bonjour Domain name:	

Network Hardware Configuration	
Hardware address:	
Firmware datecode:	20080109_0654
Link speed and duplex negotiation:	Automatic
Link speed:	100 Mbps
Duplex:	Full
Automatic crossover:	On
Connection time-out (I/O):	120

Software description

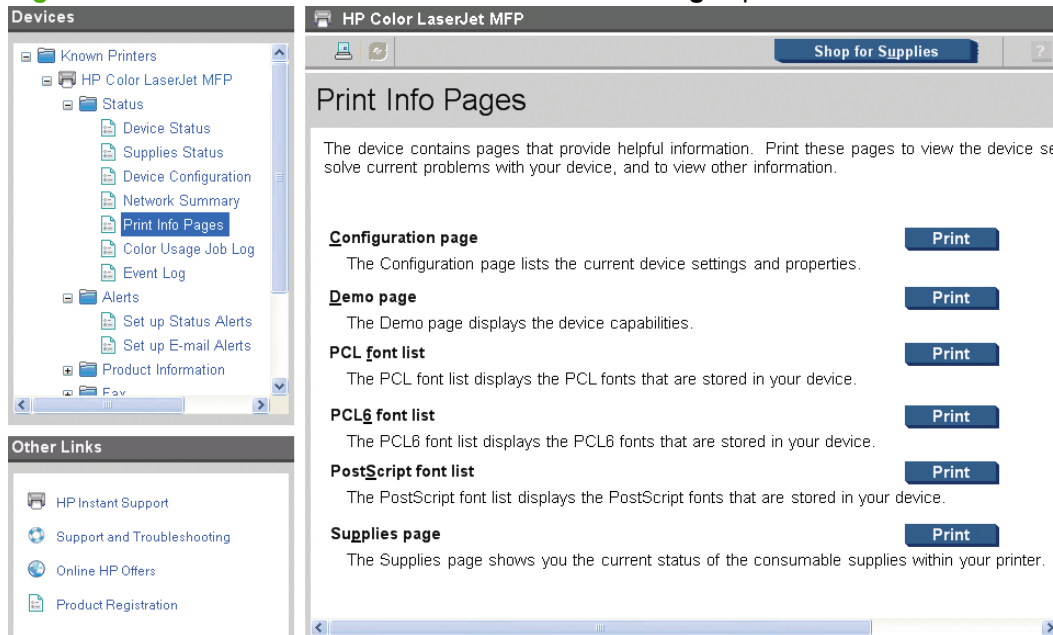
Figure 2-15 HP ToolboxFX Status folder – Network Summary pane (3 of 3)



Print Info Pages

Use the **Print Info Pages** pane to print the internal special pages that the product generates. Click **Print** next to the name of the page to be printed.

Figure 2-16 HP ToolboxFX Status folder – Print Info Pages pane



The content of these reports is generated by the product firmware, *not* by HP ToolboxFX.

Color Usage Job Log

Click the **Color Usage Job Log** pane to complete the following tasks:

- Find the product serial number under the **Product Information** subheading.
- Check the number of print jobs stored under the **Usage Totals** subheading. The log also includes information about how much color the product has used.
- Delete the currently stored Color Usage Job Log information by selecting the **Clear Job Log** option.

Figure 2-17 HP ToolboxFX **Status** folder – **Color Usage Job Log** pane

The screenshot shows the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar shows the 'Status' folder expanded, with 'Color Usage Job Log' selected. The main pane displays the following information:

Product Information

Product name: HP Color LaserJet MFP
 Product serial number: XXXXXXXXXXXX

Usage Totals

Total Jobs in log: 6
 Total mono sides: 9
 Total color sides: 2
 Total sheets: 11

Job Log

[Clear Job Log](#) To delete the Color Usage Job Log information currently stored on the device, press the Clear Job Log button.

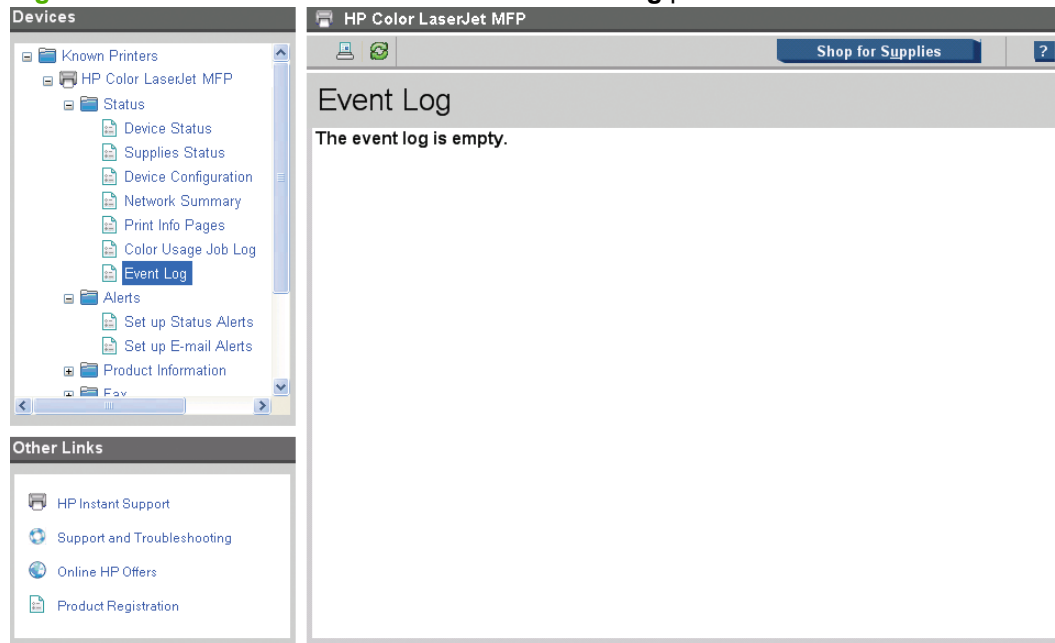
Date / Time	User	Job	Application	Mono Sides	Co
9/5/2007 2:54:07 PM	pajon	CC430_Custom Test Pa	Adobe Acrobat 6.0	0	1
2/5/2008 11:01:19 AM	v-cdema	Microsoft Word - Doc	Microsoft Office War	1	0
			Adobe Acrobat 7.0	0	1
				1	0
			Internal Report	1	0
			Internal Report	6	0

Software description

Event Log

Use the **Event Log** pane to monitor events for the product. Up to 10 events can appear on this pane. If this pane is empty, no events have occurred on the product.

Figure 2-18 HP ToolboxFX **Status** folder – **Event Log** pane



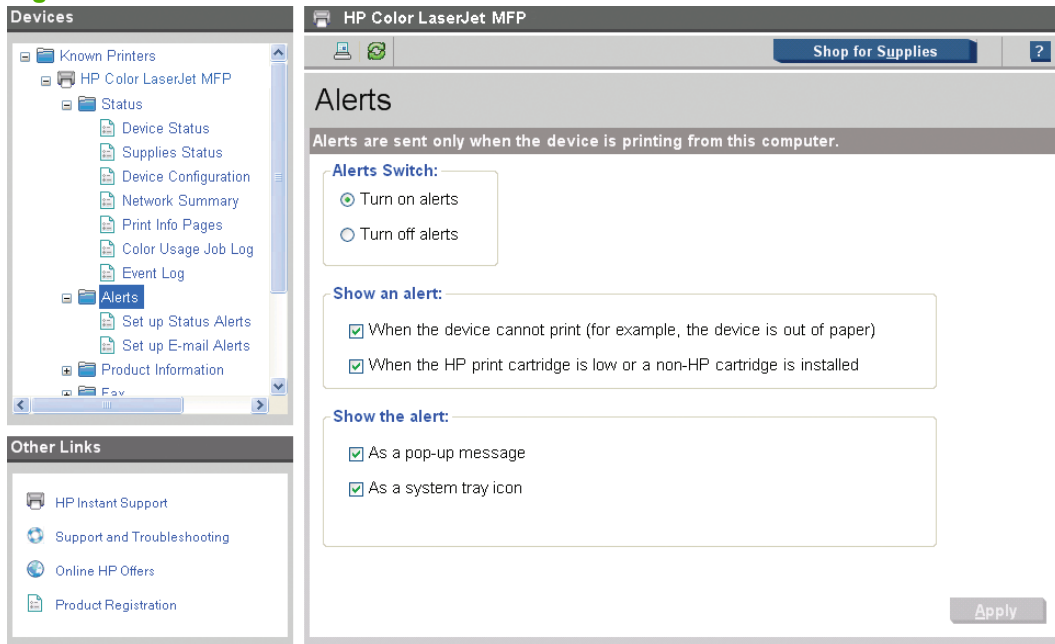
Alerts folder

The **Alerts** folder contains the following panes:

- [Set up Status Alerts](#)

- [Set up E-mail Alerts](#)

Figure 2-19 HP ToolboxFX Alerts folder

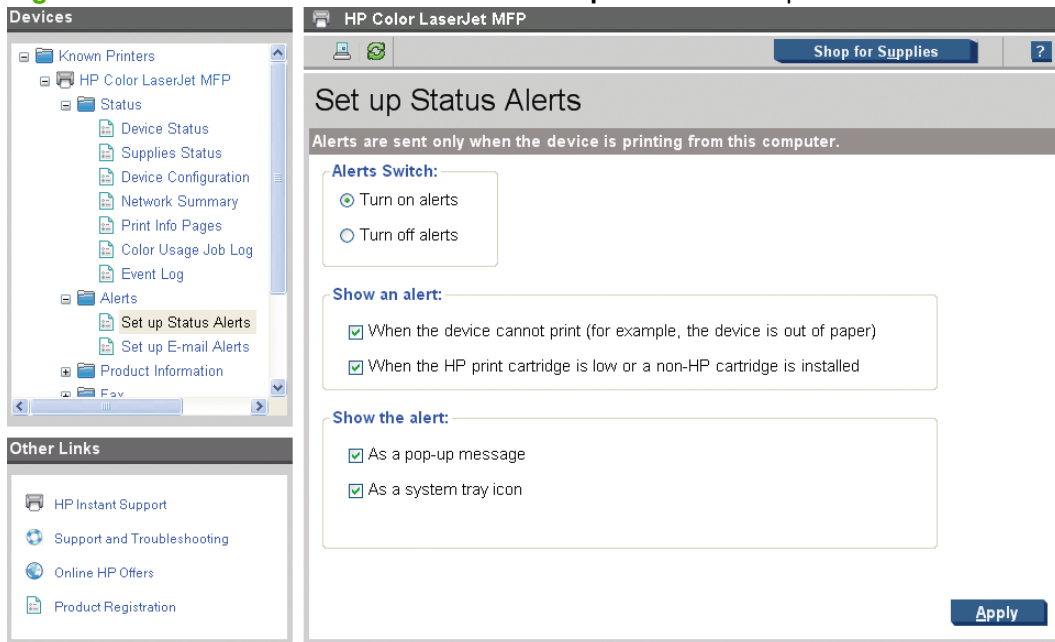


Software description

Set up Status Alerts

Use this folder to set up status alerts for the product. Select the **Turn on alerts** option, and then click **Apply** to turn on alerts.

Figure 2-20 HP ToolboxFX Alerts folder – Set up Status Alerts pane



Select options under **Show an alert** to receive alerts like those in the following table.

Table 2-3 Event alerts for HP ToolboxFX


Pop-up alerts and system-tray icon alerts	Event
Supplies warnings	Order Cyan, Magenta, Yellow, or Black Cartridge
Supplies errors	<ul style="list-style-type: none"> ● Cyan, Magenta, Yellow, or Black Incorrect ● Cyan, Magenta, Yellow, or Black Missing ● Non-HP Cyan, Magenta, Yellow, or Black Cartridge ● Unauthorized Cyan, Magenta, Yellow, or Black Cartridge ● Replace Cyan, Magenta, Yellow, or Black ● Cyan, Magenta, Yellow, or Black E-label Error ● Replace Yellow, Magenta, or Cyan in Mono ● Replace Supply/Supplies Printing in Mono ● Supplies Missing ● Replace Supplies
Product errors	<ul style="list-style-type: none"> ● Load Paper [TYPE] [SIZE] ● Tray 1 Paper Out ● Tray 2 Paper Out ● Insufficient Memory ● Door Cover Open ● Close Cover ● Manual Feed ● Tray 1 Jam ● Tray 2 Jam ● Jam In Print Paper Path ● Jam In Cartridge Area ● Jam In Output Bin ● Product Mispick ● Invalid Driver ● Fuser Error ● Low Fuser Error ● Slow Fuser Error ● High Fuser Error ● Fuser Driver Error ● Beam Error ● Fan Error ● Page Punt ● Engine Comm Error ● Tray 1 Unexpected Size [SIZE] ● Tray 2 Unexpected Size [SIZE] ● Misprint ● Top Detect Error ● Top Sensor Error ● DC Controller Error ● 59.4 Error ● Output Bin Full
E-mail alerts	<p data-bbox="655 1686 715 1713">Event</p> <ul style="list-style-type: none"> ● Cartridge low ● Replace cartridge ● Close doors/covers

Table 2-3 Event alerts for HP ToolboxFX (continued)

- Insufficient memory
- Manual feed
- Non-HP print cartridge installed
- Unauthorized supply installed
- Paper out
- Product misspick
- Remove jam
- Unexpected paper size

Select one or more formats for the alert under **Show the alert:**

- A pop-up message
- A system-tray icon

 **NOTE:** Click **Apply** to make any changes take effect.

Set up E-mail Alerts

Use the **Set up E-mail Alerts** pane to set up e-mail alerts for this product.

Figure 2-21 HP ToolboxFX Alerts folder – **Set up E-mail Alerts** pane (1 of 3)

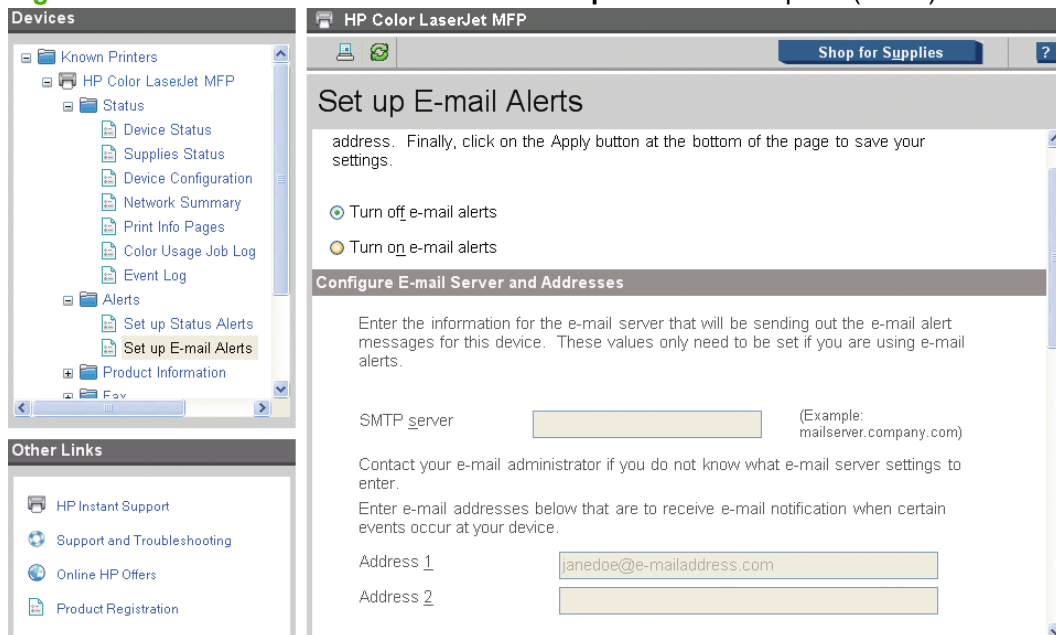


Figure 2-22 HP ToolboxFX Alerts folder – Set up E-mail Alerts pane (2 of 3)

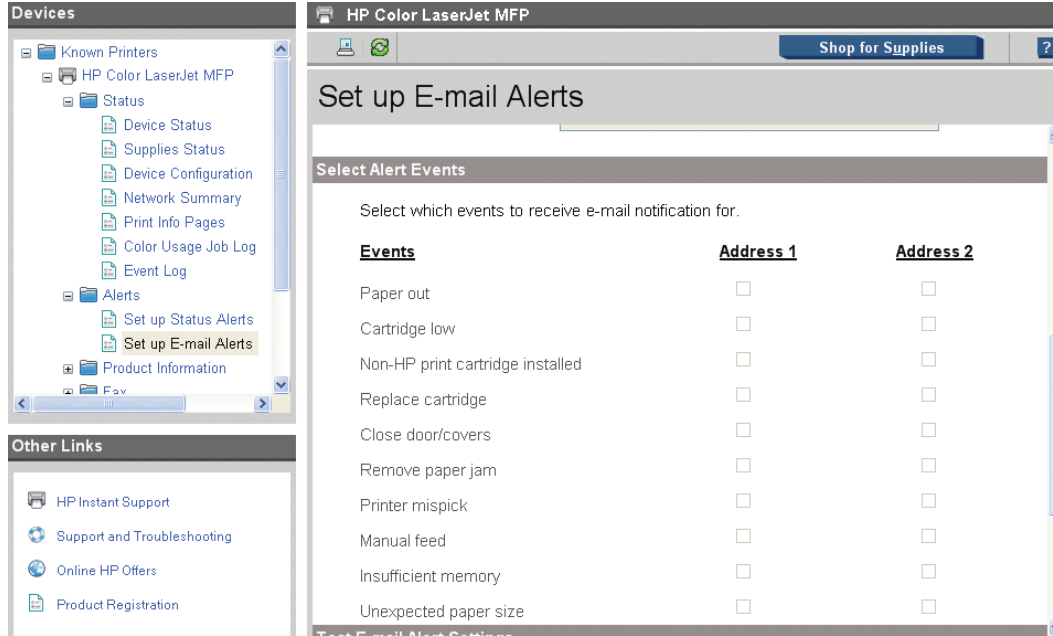
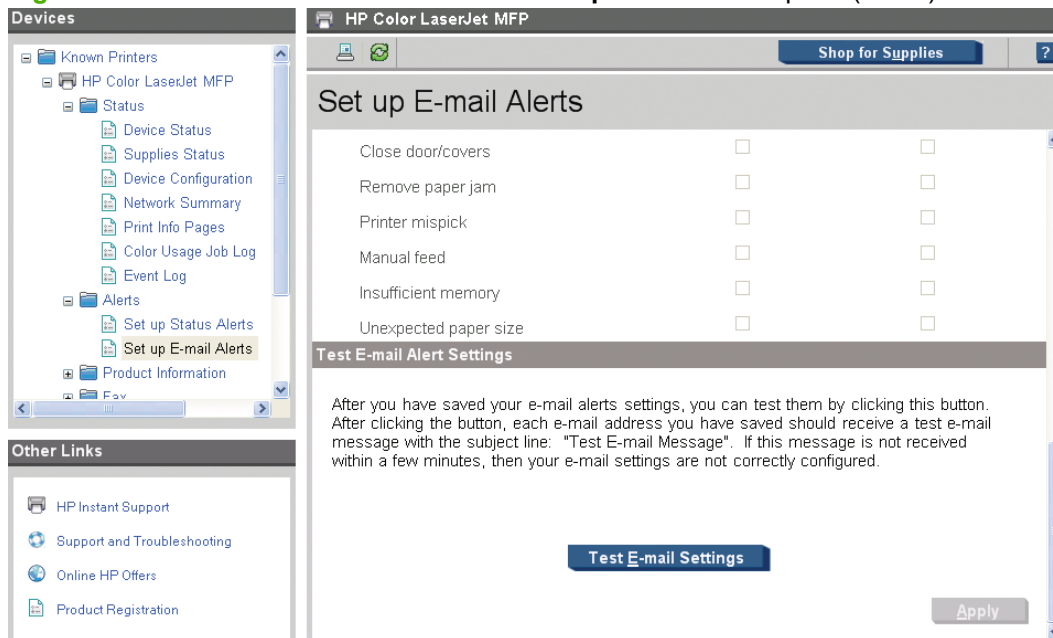


Figure 2-23 HP ToolboxFX Alerts folder – Set up E-mail Alerts pane (3 of 3)



E-mail messages can be sent about the supplies status of, or events (such as a jam) related to, the product. Select the specific events about which you want notification.

Use the following procedure to activate this feature:

1. Type in a valid e-mail address. Up to two e-mail addresses can be configured to receive messages for each event.
2. Select the events for which you want notification.
3. Configure the SNMP e-mail server that will be used to send the e-mail message.
4. Click **Apply** to make the changes take effect.

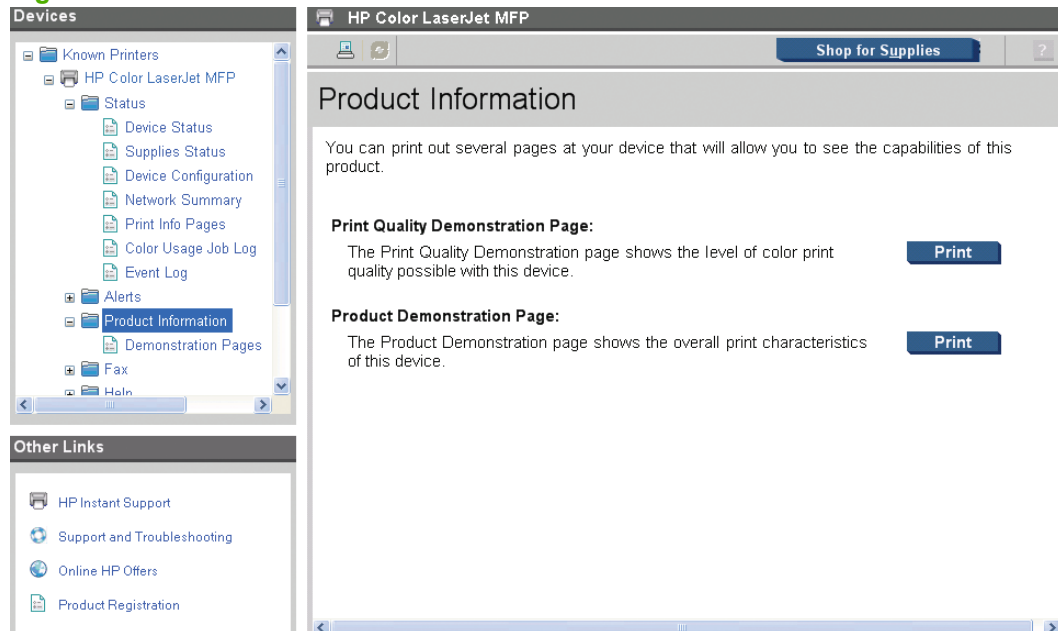
To ensure that the correct e-mail addresses have been used and that the SNMP server information is valid, click the **Test E-mail Settings** button.

Product Information folder

The **Product Information** folder contains the following pane:

- [Demonstration Pages](#)

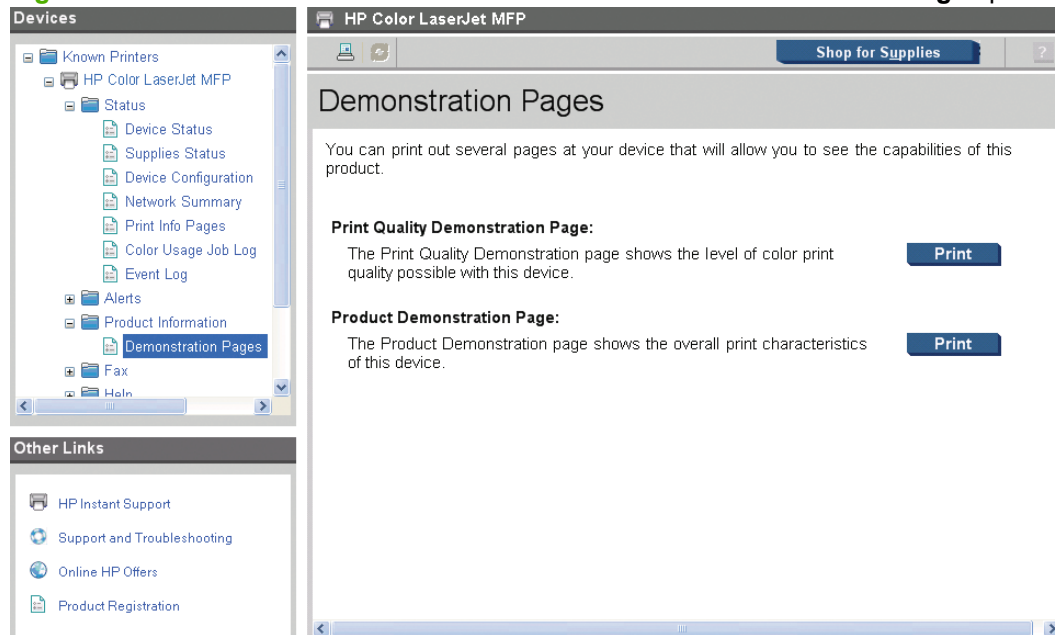
Figure 2-24 HP ToolboxFX **Product Information** folder



Demonstration Pages

Use the **Demonstration Pages** pane to print a Print Quality Demonstration Page or a Product Demonstration Page. Click the **Print** button next to the desired output.

Figure 2-25 HP ToolboxFX Product Information folder – **Demonstration Pages** pane



Fax folder

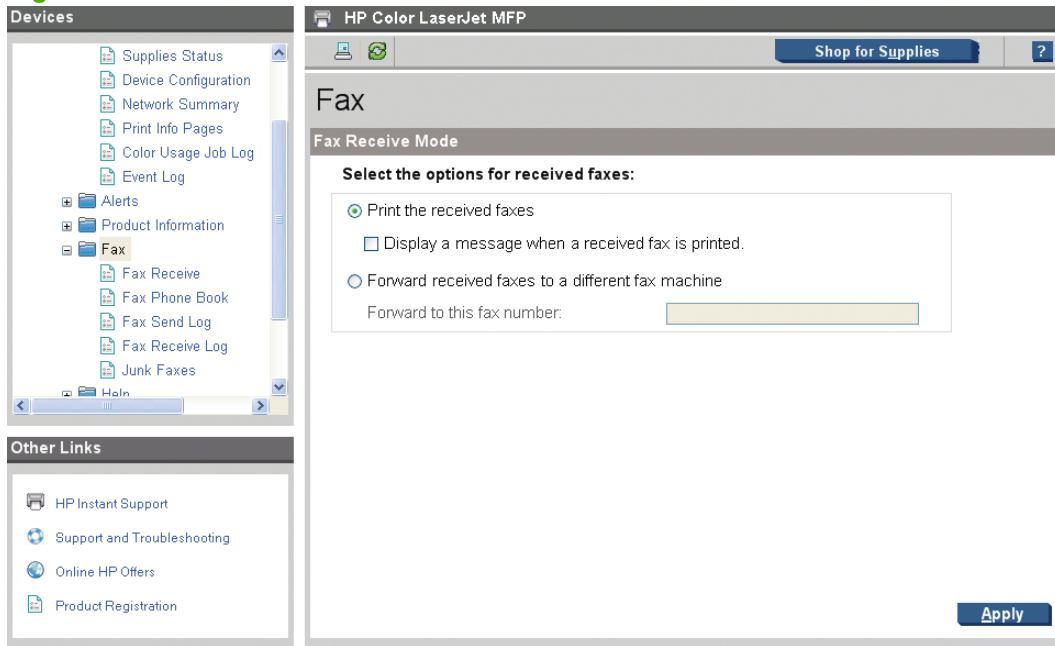
You can use the panes in the **Fax** folder to perform fax tasks from your computer.

The **Fax** folder contains the following panes:

- [Fax Receive](#)
- [Fax Phone Book](#)
- [Fax Send Log](#)
- [Fax Receive Log](#)

- [Junk Faxes](#)

Figure 2-26 HP ToolboxFX Fax folder



Fax Receive

The **Fax Receive** pane lists the following options for receiving faxes:

- **Print the received faxes.** This is the default selection. If you select this option, you also have the option to receive a notification (pop-up) message when a fax is printed.
- **Forward received faxes to a different fax machine.** If you select this option, you must also type a fax number for the machine to which you are forwarding a fax.


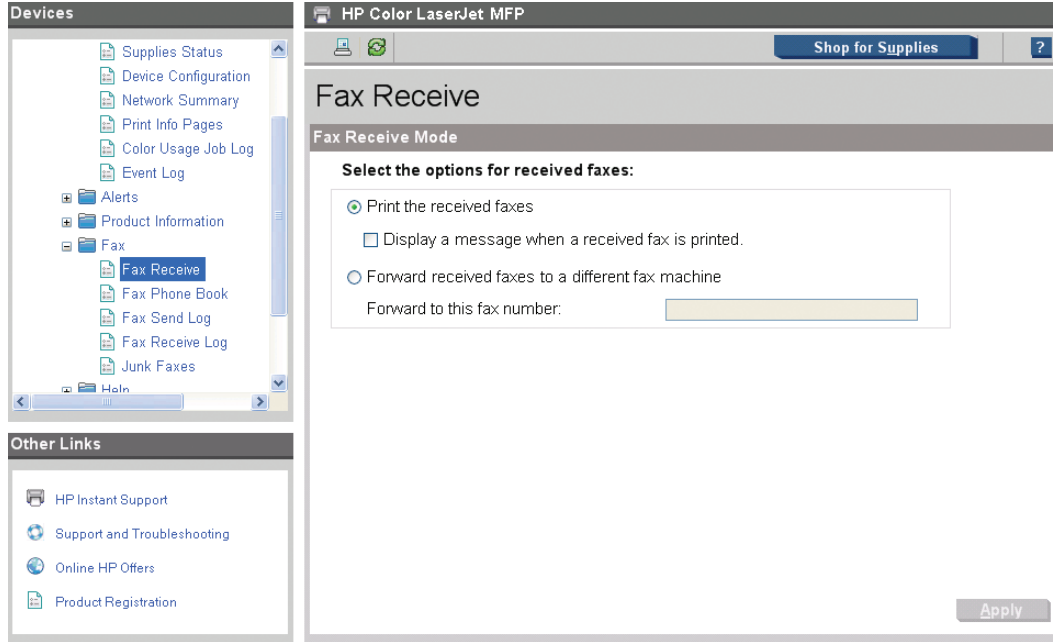
 **NOTE:** Click **Apply** for the changes to take effect.

Figure 2-27 HP ToolboxFX Fax folder – Fax Receive pane



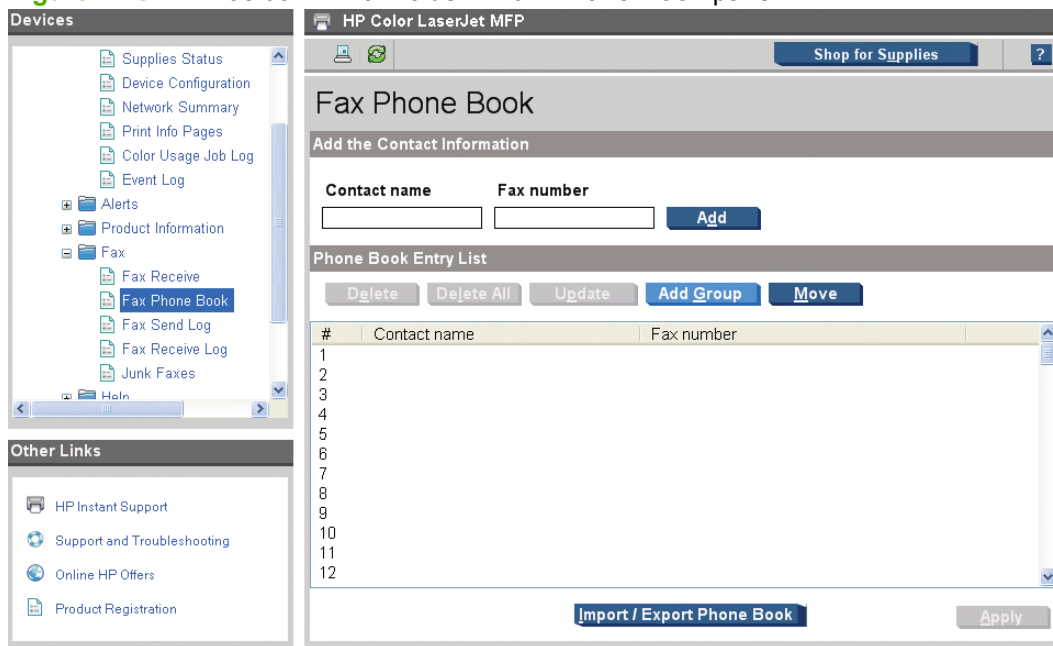
Fax Phone Book

The **Fax Phone Book** pane shows the product phone book data.

The maximum number of characters that a name can have in a phone book entry is 16. Only 12 of these characters are displayed on the product control panel, because four characters are used to display the phone book entry number (for example, 011:).


The maximum number of characters that a telephone number can have is 50. This includes special characters that are used to insert pauses into the dial sequence.

Figure 2-28 HP ToolboxFX Fax folder – Fax Phone Book pane



Use the **Fax Phone Book** page to add or remove individuals or groups on your speed-dial list, import phone books from a variety of sources, and update and maintain the contact list.

- To add an individual contact to the speed-dial list, select the row of the speed-dial number that you want to specify. Type the contact name in the **Contact name** window. Type the fax number in the **Fax number** window. Click **Add**.
- To add a group of contacts to the speed-dial list, select the row of the speed-dial number that you want to specify. Click **Add/Group**. Double-click a contact name from the list on the left to move it to the group list on the right, or select a name on the left and then click the appropriate arrow to move it to the group list on the right. You can also use those two methods to move names from right to left. When you have created a group, type a name in the **Group name** window, and then click **Apply**.
- To edit an existing individual speed-dial entry, click anywhere on the row containing the contact name to select it, and then click **Update**. Make any required changes, and then click **Apply**.
- To edit an existing group speed-dial entry, click anywhere on the row containing the group name to select it, and then click **Update Group**. Make any required changes, and then click **Apply**.
- To delete an entry from the speed-dial list, select the item and then click **Delete**.
- To move speed-dial entries, select the entry and then click **Move**, or select **Move** and then specify the entry in the dialog box. Either select **Next empty row** or specify the number of the row where you want to move the entry.

 **NOTE:** If you specify a row that is occupied, then the new entry will overwrite the existing entry.

- To import contacts from a phone book that exists in Lotus Notes, Outlook, or Outlook Express, use the following procedure:
 1. Click **Import/Export Phone Book**.
 2. Select the **Import** option, and then click **Next**.
 3. Select the appropriate software program, navigate to the appropriate file, and then click **Finish**.

To export contacts from a phone book, use the following procedure:

1. Click **Import/Export Phone Book**.
2. Select the **Export**, and then click **Next**.
3. Enter the file name or browse to the file to which you want to export contacts, and then click **Finish**.


You can also select individual entries from the phone book instead of importing the entire phone book.

- To delete all entries, click **Delete All**, and then click **Yes**.

In addition to numerical digits, the following are valid characters for fax numbers:

- (
-)
- +

- -
- *
- #
- R
- W
- .
- ,
- <space>


 **NOTE:** Click **Apply** for the changes to take effect.

Fax Send Log

The **Fax Send Log** pane lists all recently sent faxes and information about them, including the date and time sent, job number, fax number, page count, and the results.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not sent.

Click any column heading to re-sort the information in that column in ascending or descending order.

Click the **Refresh** button  to view new fax data. The following information for each fax appears in the logs:

- Date and time
- Job number
- Fax number
- Pages
- Result


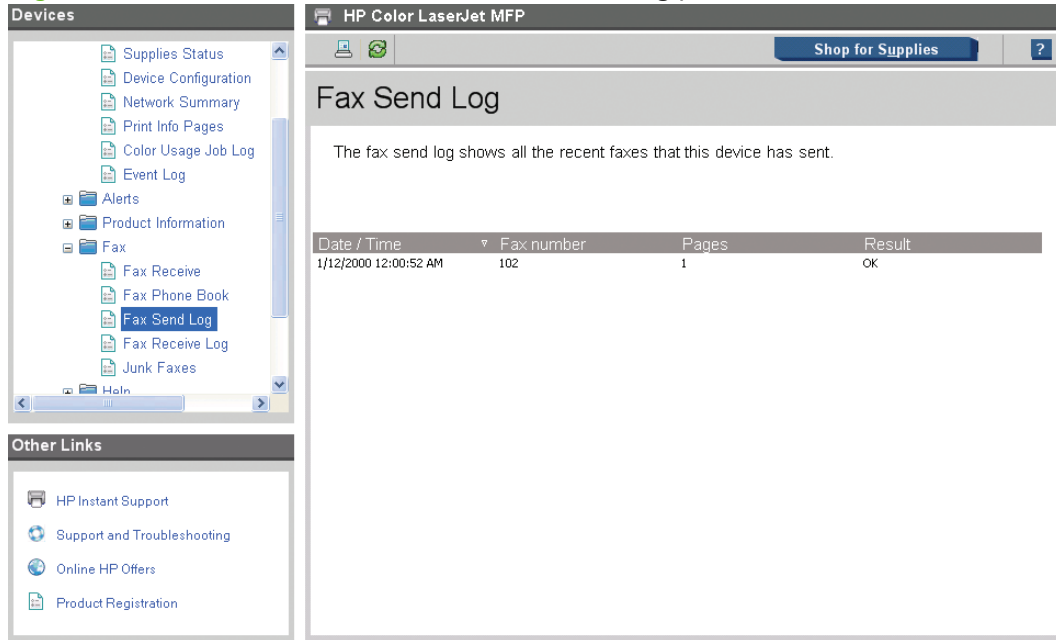
 **NOTE:** A maximum of 40 fax log entries are listed.

Figure 2-29 HP ToolboxFX Fax folder – Fax Send Log pane




Fax Receive Log


The **Fax Receive Log** pane provides a list of all recently received faxes and information about them including the date and time received, job number, fax number, page count, and results.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not sent.

The **Fax Receive Log** pane can be used to block future faxes. Check the **Block Faxes** box next to a received fax listed on the log, or click the **Go to Junk Faxes page** link to go to that pane, which is described below.

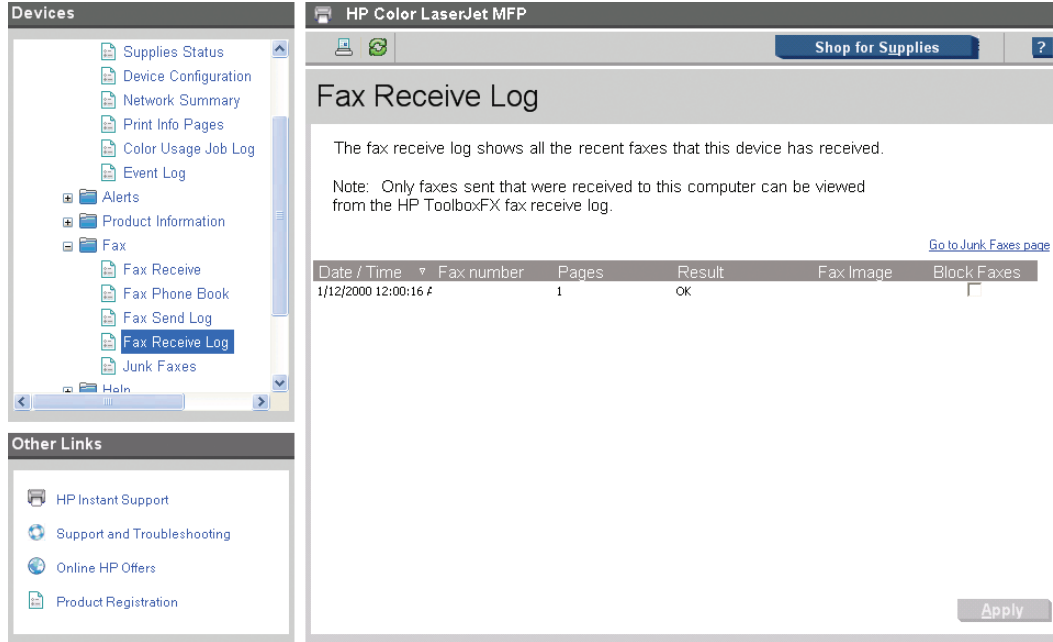
Click the **Refresh** button  to view new fax data. The following information for each fax appears in the logs:

- Date and time
- Job number
- Fax number
- Pages
- Result

 **NOTE:** A maximum of 40 fax log entries are listed.

NOTE: The **Fax Receive Log** pane is not self-refreshing. If left open, newly-received faxes will not appear until the pane is refreshed.

Figure 2-30 HP ToolboxFX Fax folder – Fax Receive Log pane

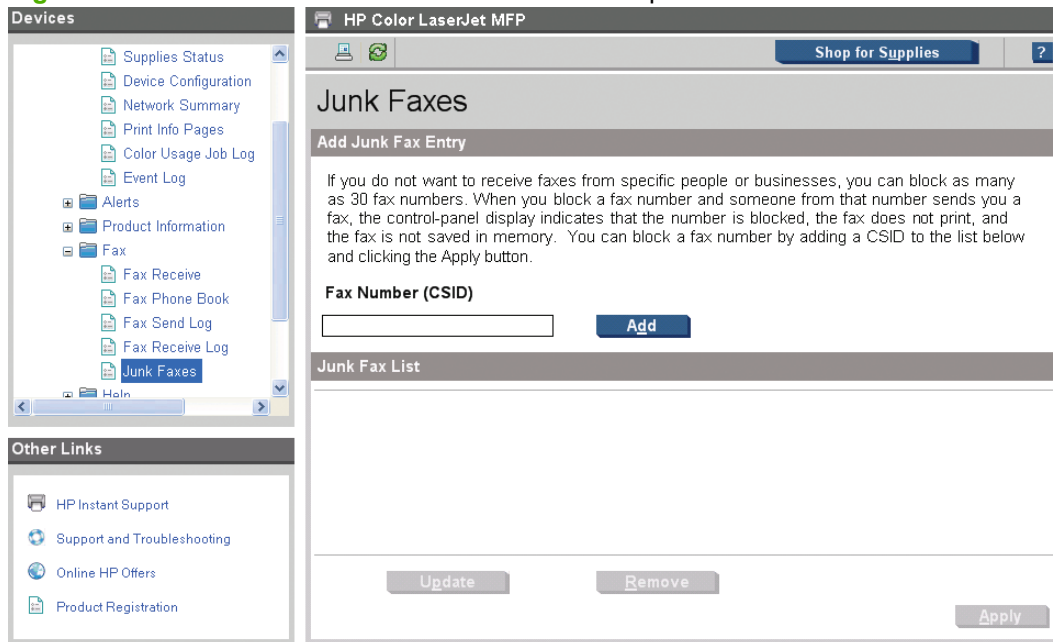


Junk Faxes

The **Junk Faxes** pane provides a list of all numbers that are blocked. Add, modify or delete blocked fax numbers on this pane.

NOTE: Click **Apply** for the changes to take effect.

Figure 2-31 HP ToolboxFX Fax folder – Junk Faxes pane



Help folder

The **Help** folder contains the following panes:

- [Troubleshooting](#)
- [Paper and Print Media](#)
- [Color Printing Tools](#)
- [Animated Demonstrations](#)
- [User Guide](#)

All of the content in the **Help** folder is static HTML content, except for the animated demonstrations. This content contains hyperlinks, and **Next** and **Previous** buttons, that can be used to navigate through the various sections of the Help content.

Figure 2-32 HP ToolboxFX **Help** folder (1 of 2)

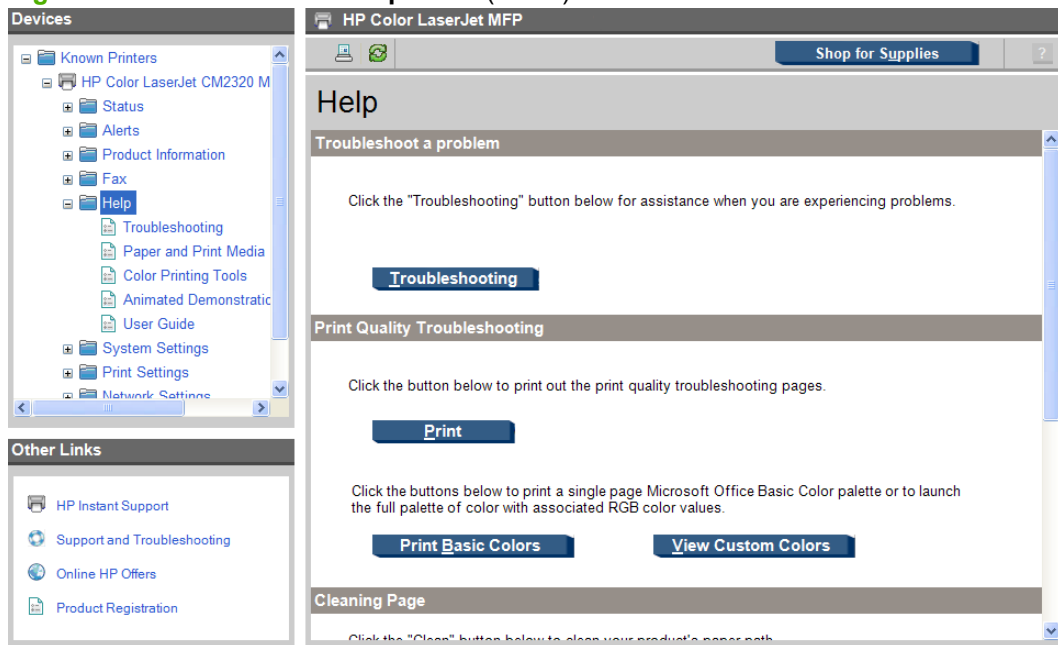
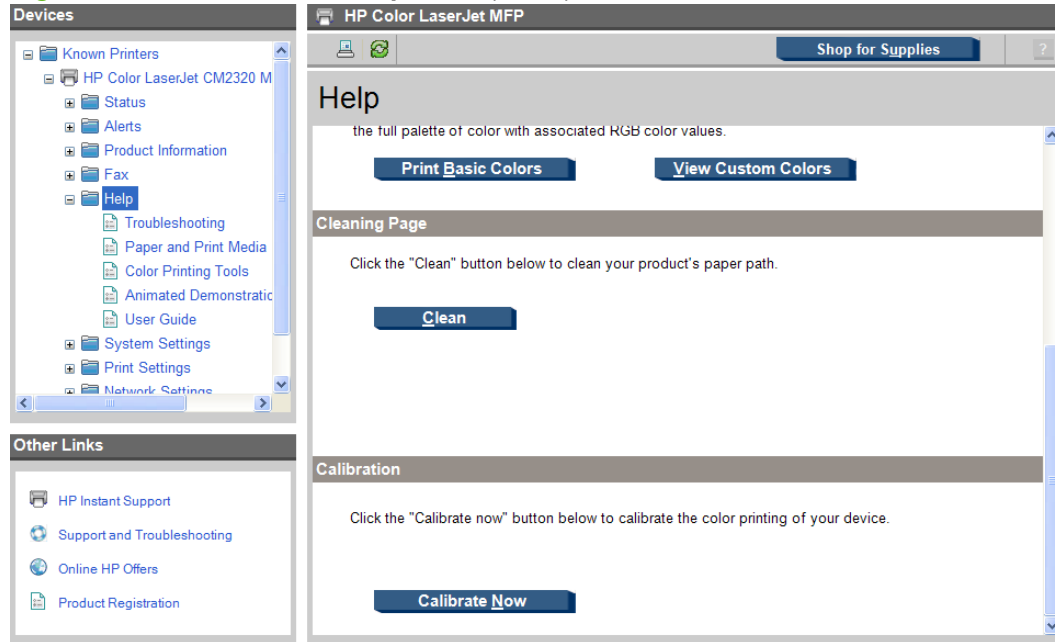


Figure 2-33 HP ToolboxFX **Help** folder (2 of 2)



Troubleshooting

The following options are available in the **Troubleshooting** pane:

- **Troubleshooting.** Click this button to open the Troubleshooting chapter of the *HP Color LaserJet CM2320 MFP Series Printer User Guide*.
- **Print.** Click this button to print the Print Quality Troubleshooting pages.
- **Print Basic Colors.** Click this button to print a single page of basic color palette options.

- **View Custom Colors.** Click this button to explore the basic and custom product color palette options.
- **Print Page and Clean.** Follow the onscreen directions to clean the product paper path.

Figure 2-34 HP ToolboxFX Help folder – Troubleshooting pane (1 of 2)

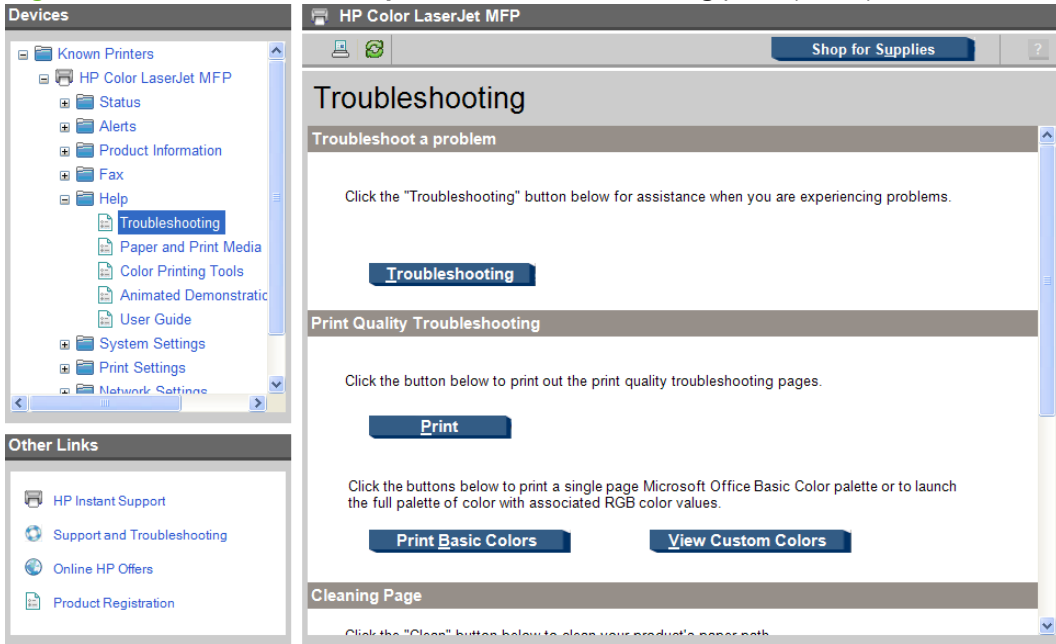
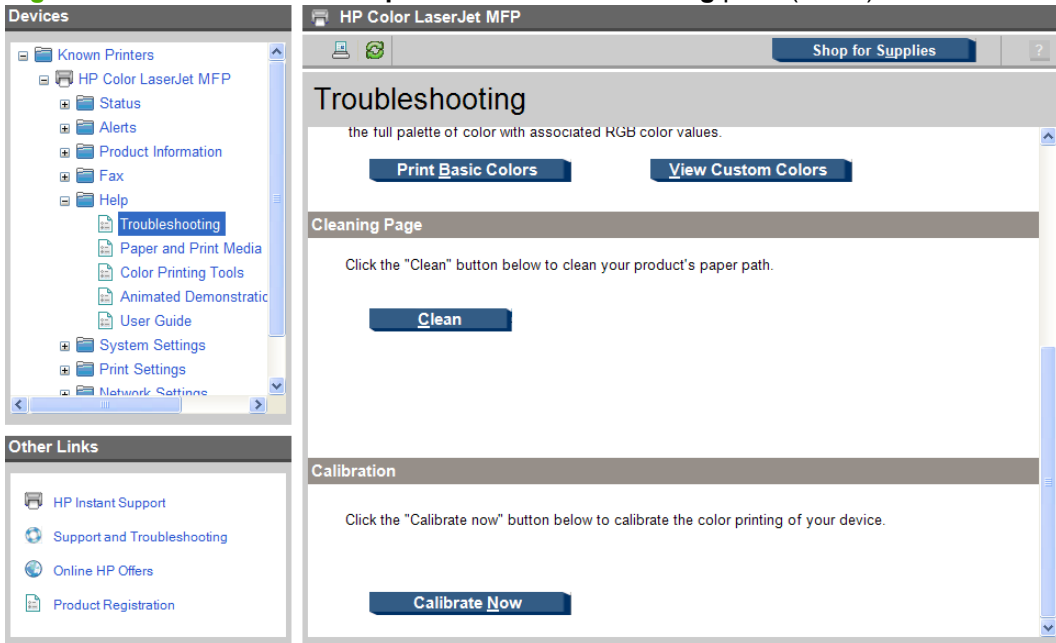


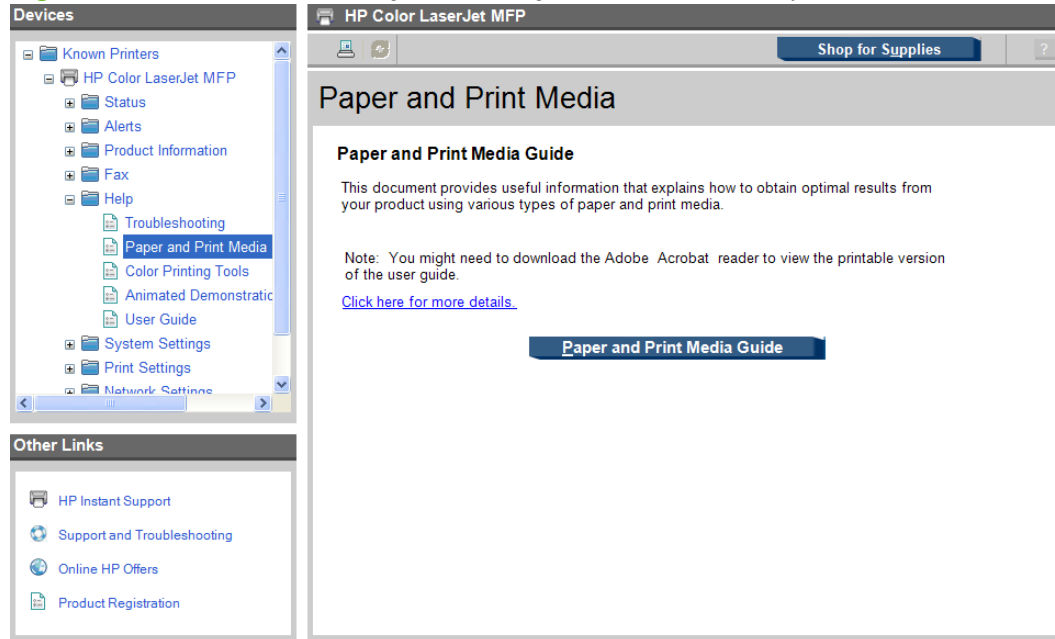
Figure 2-35 HP ToolboxFX Help folder – Troubleshooting pane (2 of 2)



Paper and Print Media

Use this page to open the **Paper and Print Media Guide** in PDF format.

Figure 2-36 HP ToolboxFX Help folder –Paper and Print Media pane

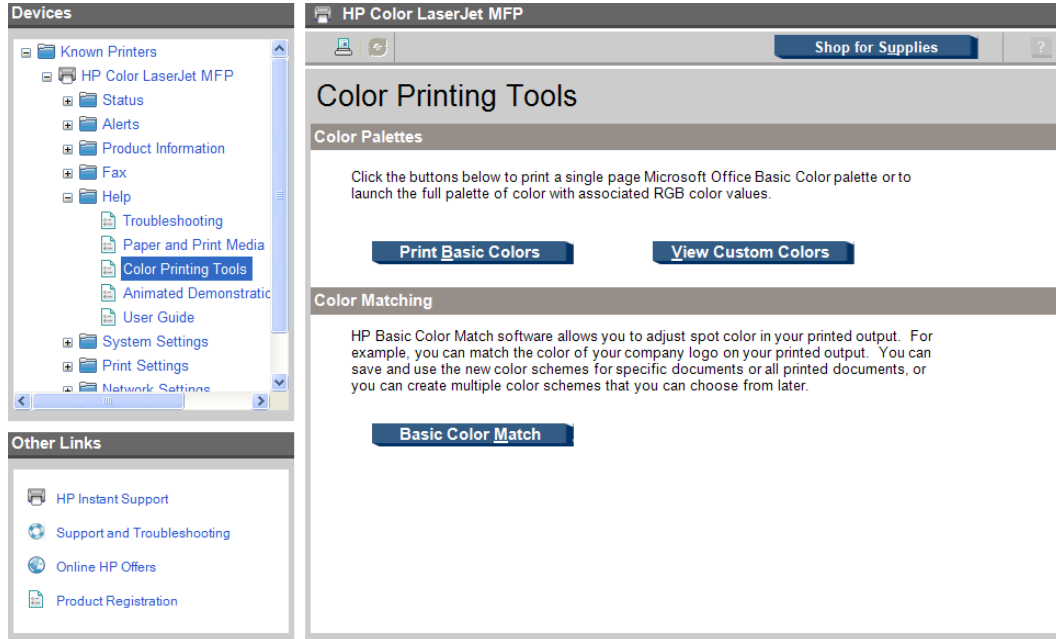


Color Printing Tools

The following options are available in the **Color Printing Tools** pane:

- **Print Basic Colors**
- **View Custom Colors**
- **Basic Color Match**

Figure 2-37 HP ToolboxFX Help folder –Color Printing Tools pane



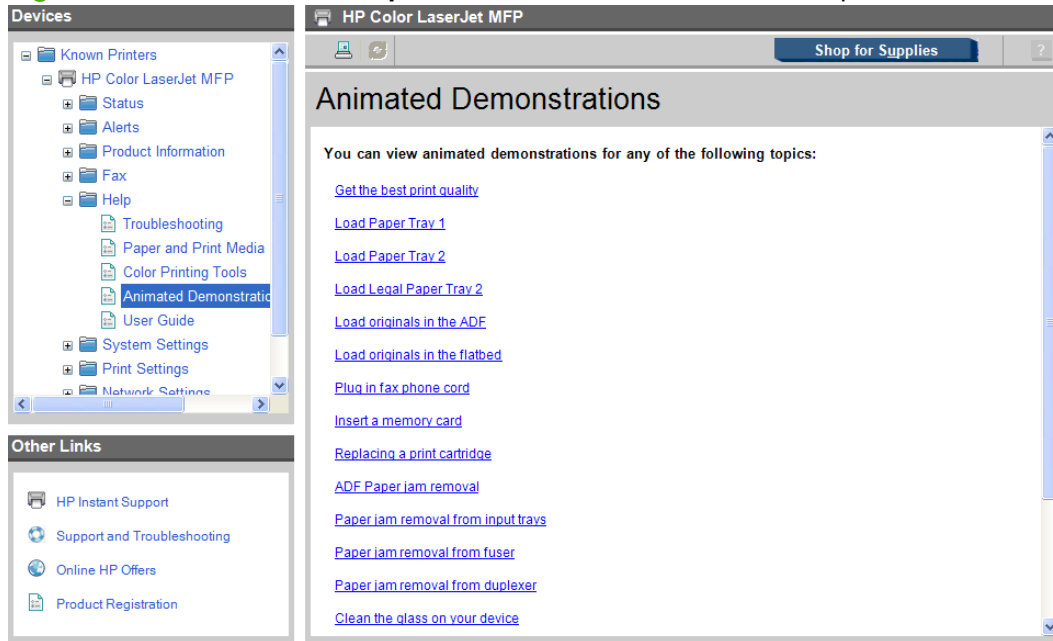
Animated Demonstrations

The following demonstrations are available in the **Animated Demonstrations** pane:

- **Get the best print quality**
- **Load Paper Tray 1**
- **Load Legal Paper Tray 1**
- **Load originals in the ADF**
- **Plug in fax phone cord**
- **Insert a memory card**
- **Replacing a print cartridge**
- **ADF Paper jam removal**
- **Paper jam removal from input trays**
- **Paper jam removal from fuser**
- **Clean the glass on your device**
- **Manual duplex printing (printing on both sides of the paper)**

- **Send a fax**
- **Replace control panel bezel**

Figure 2-38 HP ToolboxFX Help folder –**Animated Demonstrations** pane

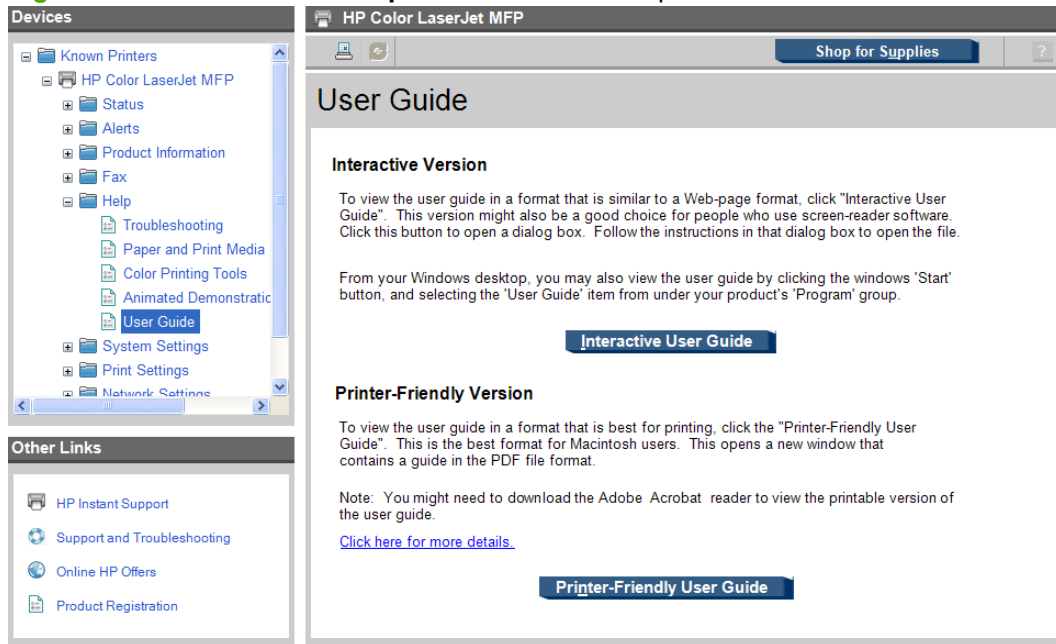


User Guide

The following options are available in the **User Guide** pane:

- **Interactive User Guide.** Click this button to open the user guide in a .CHM version. This view is similar to a Web-page format.
- **Printer-Friendly User Guide..** Click this button to open a .PDF version of the user guide. Opening the document in this view might require you to download the Adobe Acrobat Reader. To download the Adobe Acrobat Reader, see the following website:

Figure 2-39 HP ToolboxFX Help folder – User Guide pane



System Settings folder

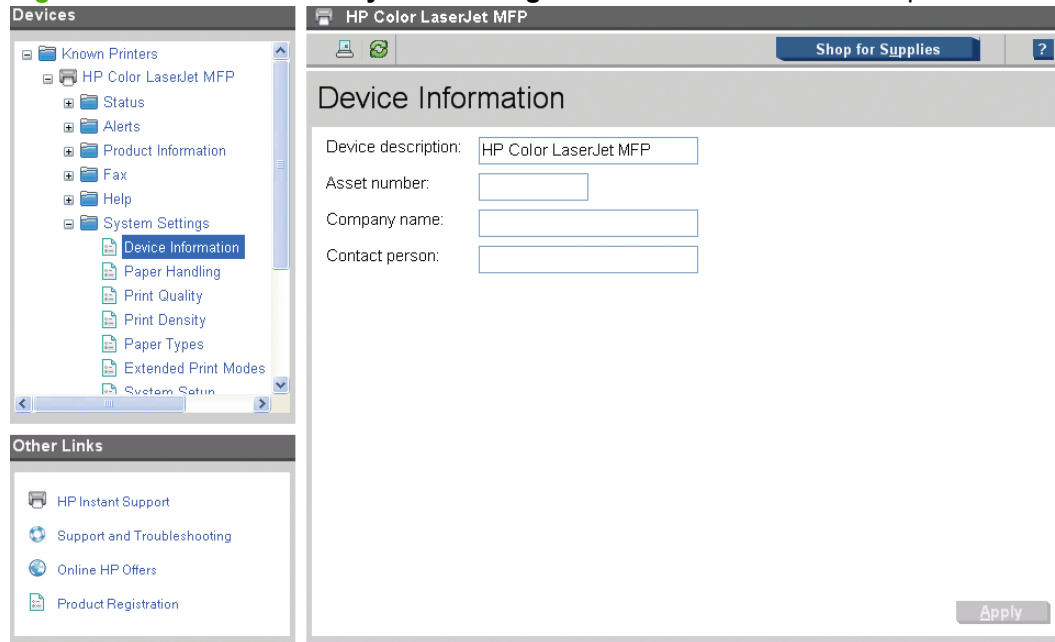
The **System Settings** folder contains the following panes:


- [Device Information](#)
- [Paper Handling](#)
- [Print Quality](#)
- [Print Density](#)
- [Paper Types](#)
- [Extended Print Modes](#)
- [System Setup](#)
- [Service](#)
- [Device Polling](#)
- [Save / Restore Settings](#)
- [Password](#)

Device Information

The **Device Information** pane stores data about the product for future reference. The information that you type in these fields appears on the Configuration Page. You can type any character in each of these fields.

Figure 2-40 HP ToolboxFX System Settings folder – Device Information pane

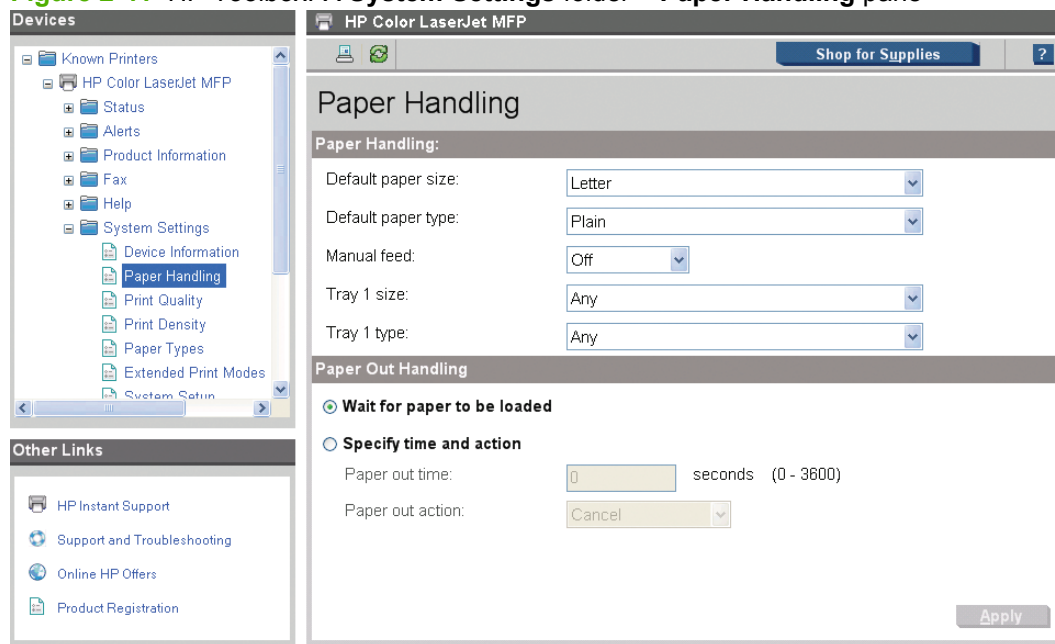


 **NOTE:** Click **Apply** to make any changes take effect.

Paper Handling

Use the **Paper Handling** pane to change the paper-handling defaults for the product.

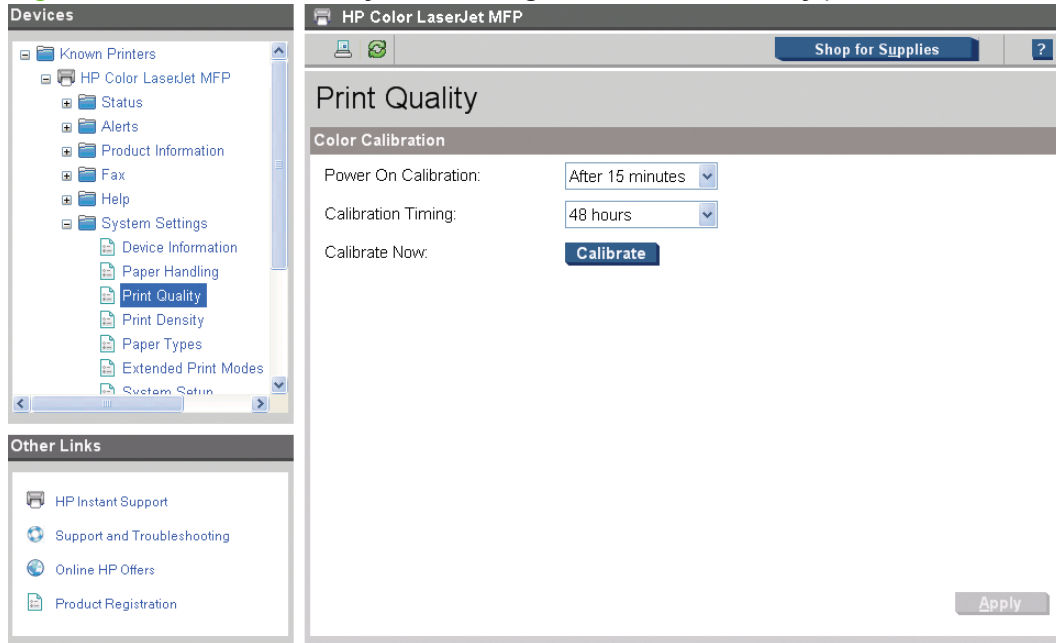
Figure 2-41 HP ToolboxFX System Settings folder – Paper Handling pane




Print Quality

Use the **Print Quality** pane to change the print-quality defaults for the product.

Figure 2-42 HP ToolboxFX System Settings folder – Print Quality pane



 **NOTE:** Click **Apply** to make any changes take effect.

Print Density

Use the settings on the **Print Density** pane to adjust the amount of toner that the product uses for images, pages, and documents.

Figure 2-43 HP ToolboxFX System Settings folder – Print Density pane (1 of 2)

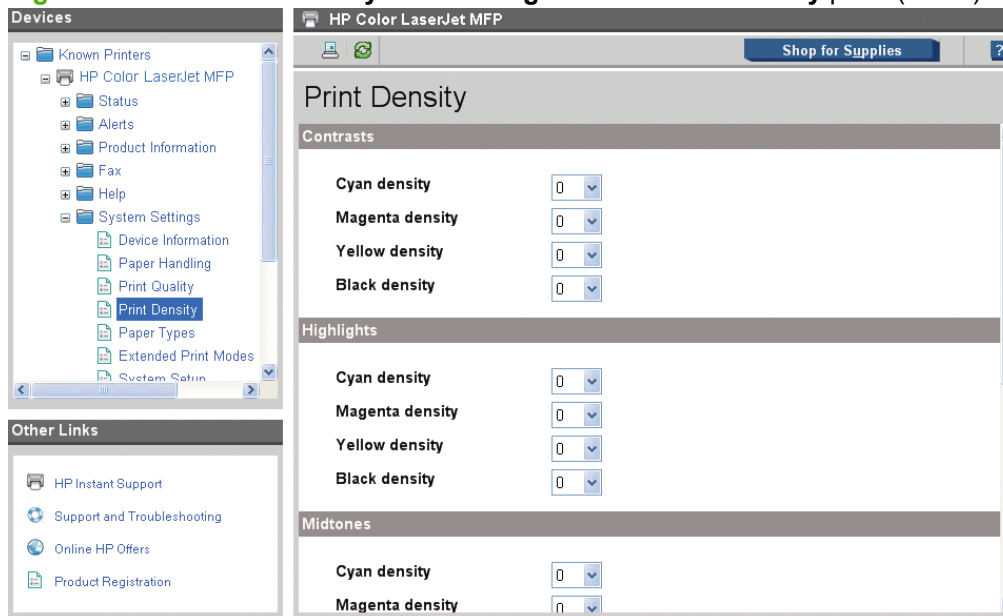
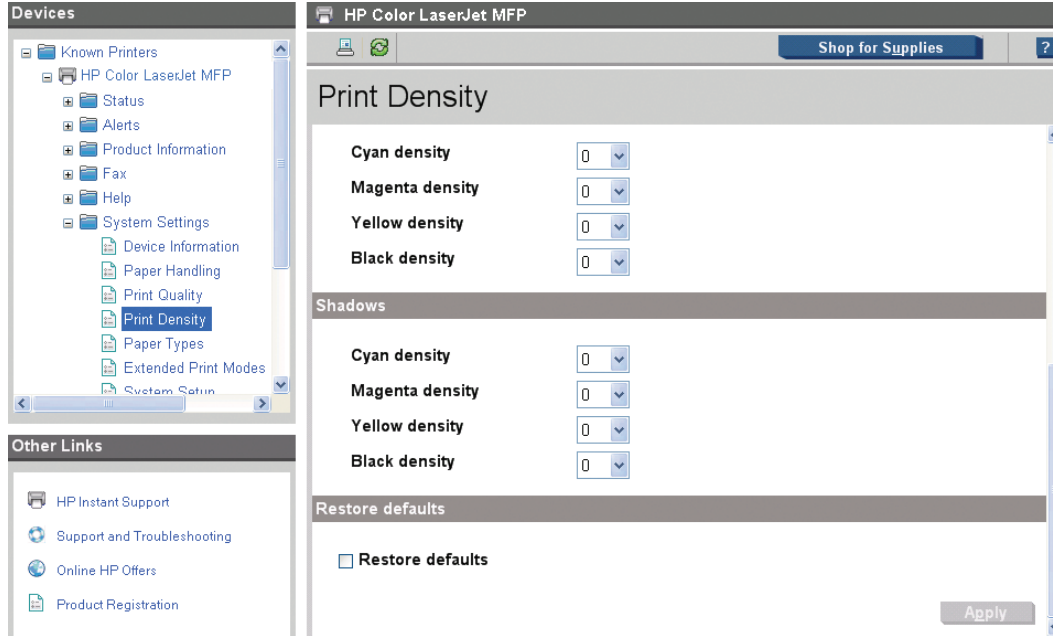


Figure 2-44 HP ToolboxFX **System Settings** folder – **Print Density** pane (2 of 2)



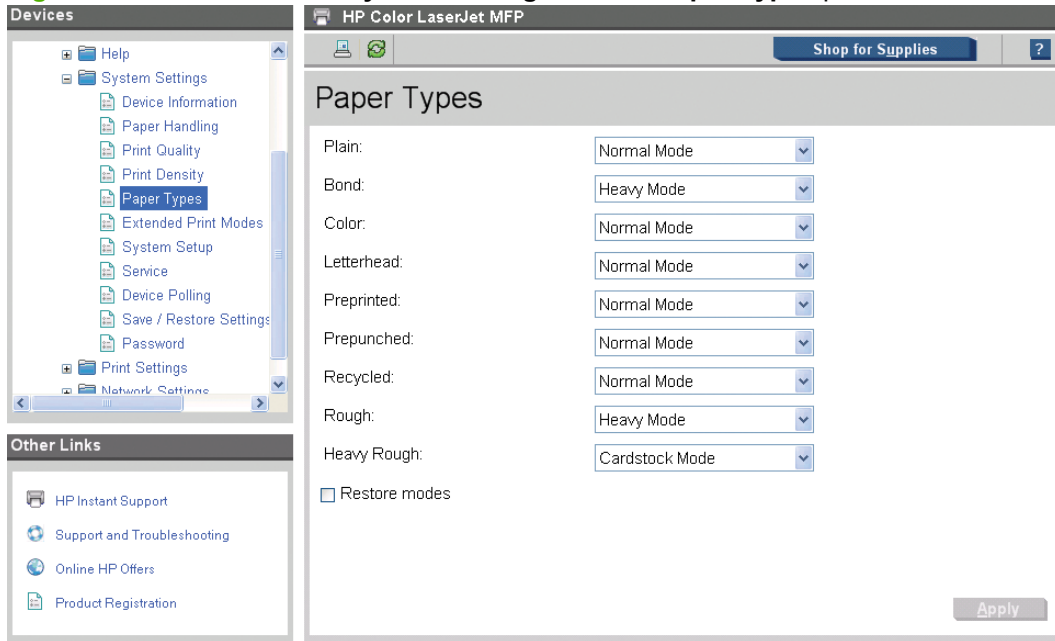
The **Print Density** pane contains the following settings:

- **Contrasts.** Contrast is the density difference between light (highlight) and dark (shadow) colors. To increase the difference between light and dark colors (equivalent to a negative highlight adjustment and a positive shadow adjustment), use a positive contrast setting. To decrease the difference between light and dark colors (equivalent to a positive highlight adjustment and a negative shadow adjustment), use a negative contrast setting.
- **Highlights.** Highlight colors are colors that are near white. To make highlight colors darker, use a positive highlight setting. To make highlight colors lighter, use a negative highlight setting. This adjustment does not affect midtone or shadow colors.
- **Midtones.** Midtone colors are approximately half-way between white and solid density. To make midtone colors darker, use a positive midtone setting. To make midtone colors lighter, use a negative midtone setting. This adjustment does not affect highlight or shadow colors.
- **Shadows.** Shadow colors are colors near solid density. To make shadow colors darker, use a positive shadow setting. To make shadow colors lighter, use a negative shadow setting. This adjustment does not affect highlight or midtone colors.
- **Restore defaults.** Resets factory defaults for the Print Density settings on the printer.

Paper Types

Use the **Paper Types** pane to configure the standard print modes that correspond to the various paper types.

Figure 2-45 HP ToolboxFX System Settings folder – Paper Types pane



A print mode is a special setting that controls the print speed and the fuser temperature of the product. The product speed and fuser temperature are adjusted to match the print mode selected, which can result in better print quality when printing on certain paper types.

NOTE: Not all of the paper types that are listed in the printer-driver can be adjusted in the **Paper Types** pane.

The following table shows the paper types that the product supports and the default fuser mode for each paper type.

Table 2-4 Standard print modes

Standard print modes	Extended Print modes	Color tables	Sensor correlation prefix	Default paper types
Normal Mode	None	Plain	PlainFull	Plain, Color, Preprinted, Prepunched, Recycled, Letterhead
Heavy Mode	None	Plain	PlainHalf	Heavy, Bond
Cardstock Mode	None	Plain	PlainHalf	Cardstock
Light Mode	None	Plain	PlainFull	Light
Light Glossy Mode	None	Glossy	Glossy	Glossy
Glossy Mode	None	Glossy	Glossy	Heavy Glossy
Heavy Glossy Mode	None	Glossy	Glossy	HP Premium Plus Photo

Table 2-4 Standard print modes (continued)

Standard print modes	Extended Print modes	Color tables	Sensor correlation prefix	Default paper types
Tough Paper	None	Glossy	Glossy	Tough Paper
Transparency Mode	None	OHT	Glossy	Transparency
Label Mode	None	Plain	PlainHalf	Labels

Extended Print Modes

Use this pane to control the extended print modes for the product.

Figure 2-46 HP ToolboxFX System Settings folder – Extended Print Modes pane (1 of 5)

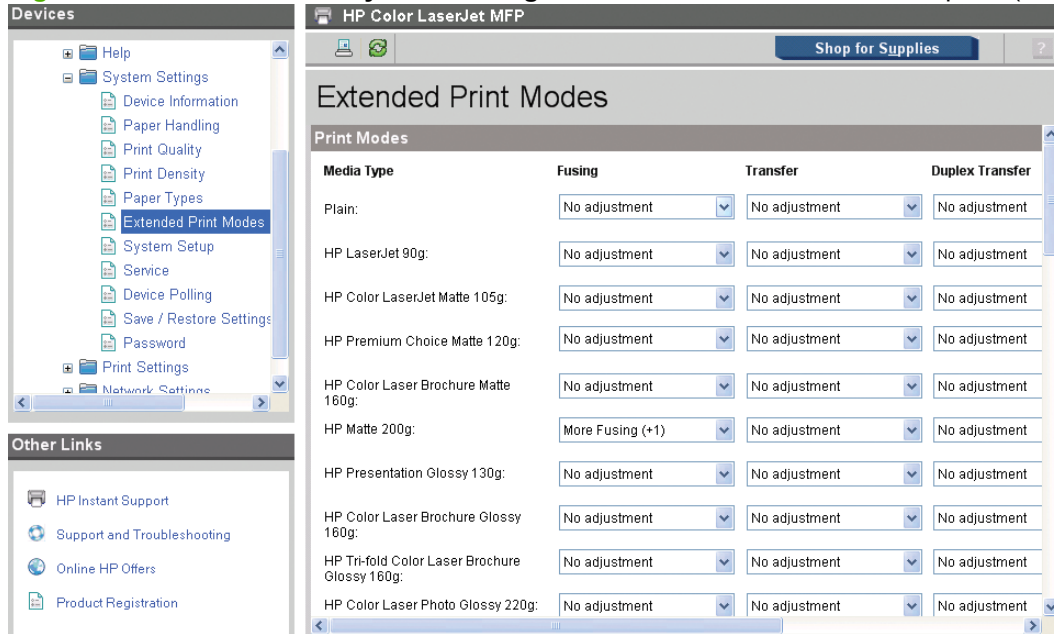


Figure 2-47 HP ToolboxFX System Settings folder – Extended Print Modes pane (2 of 5)

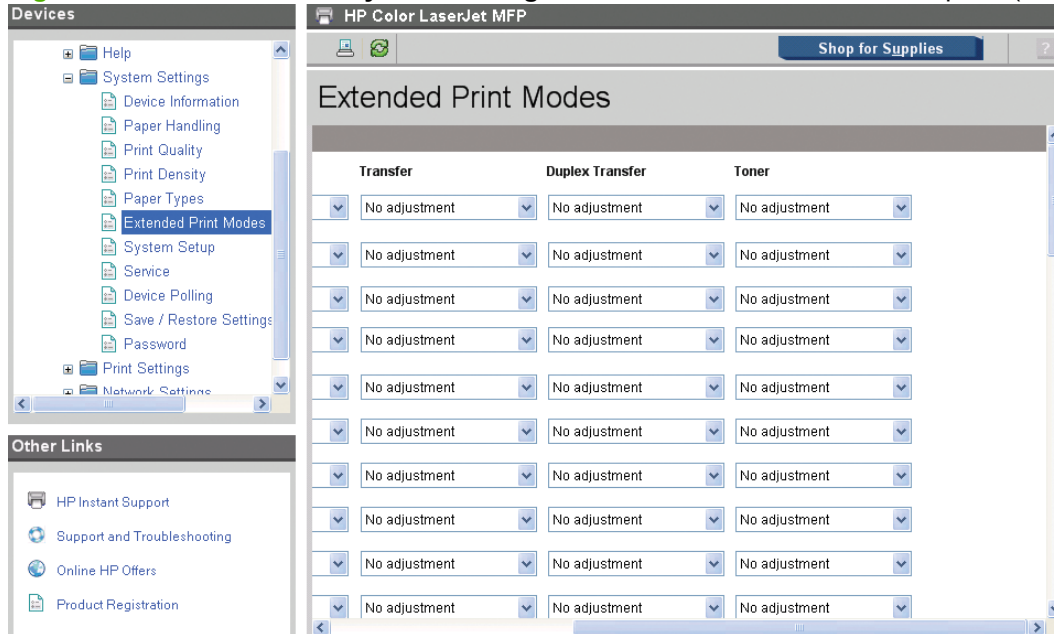


Figure 2-48 HP ToolboxFX System Settings folder – Extended Print Modes pane (3 of 5)

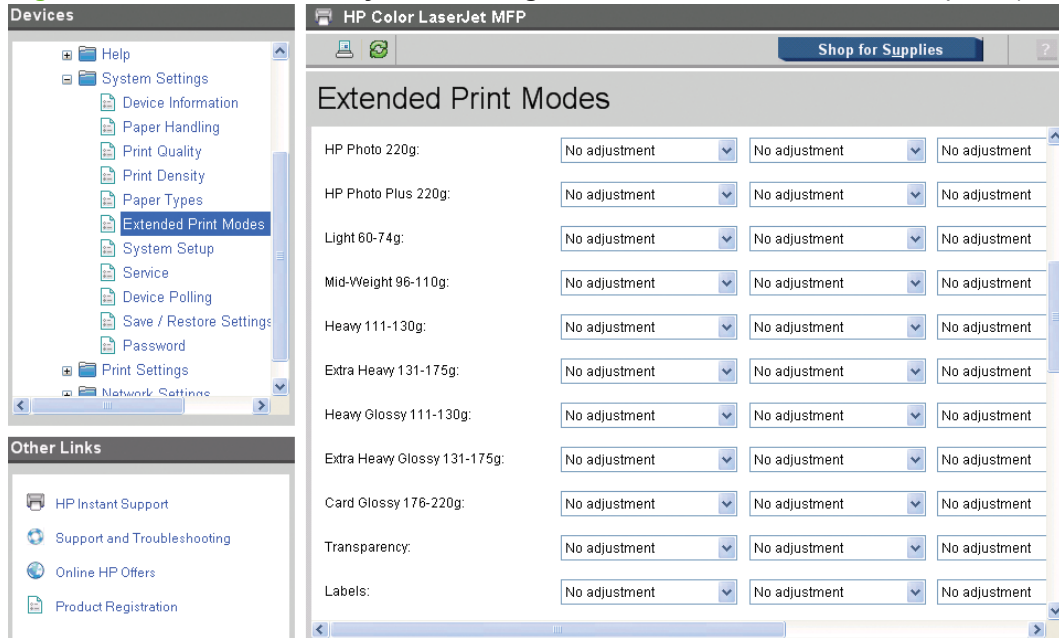
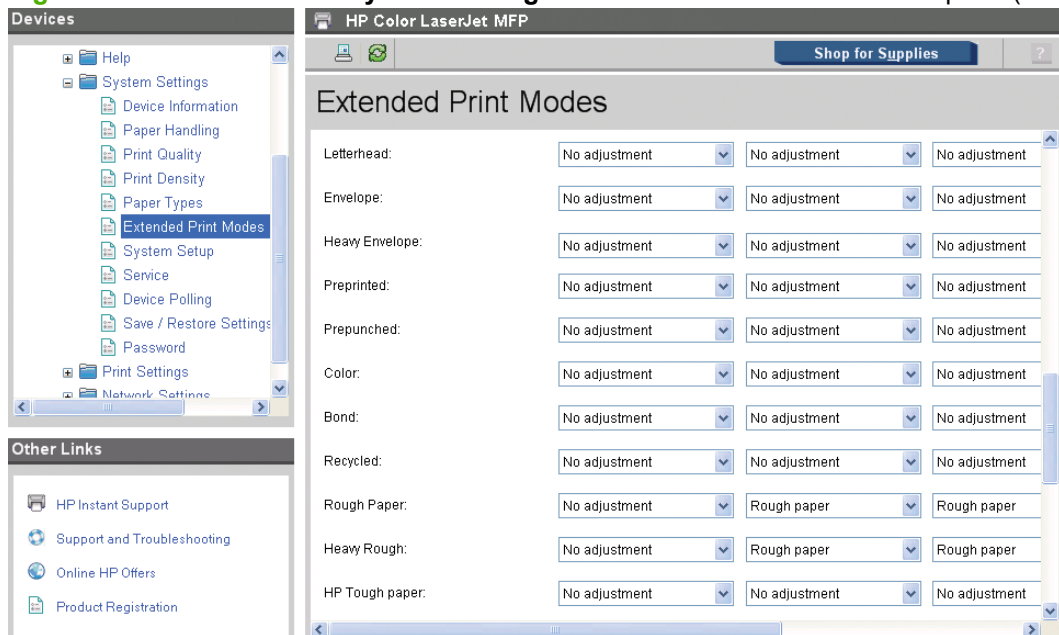
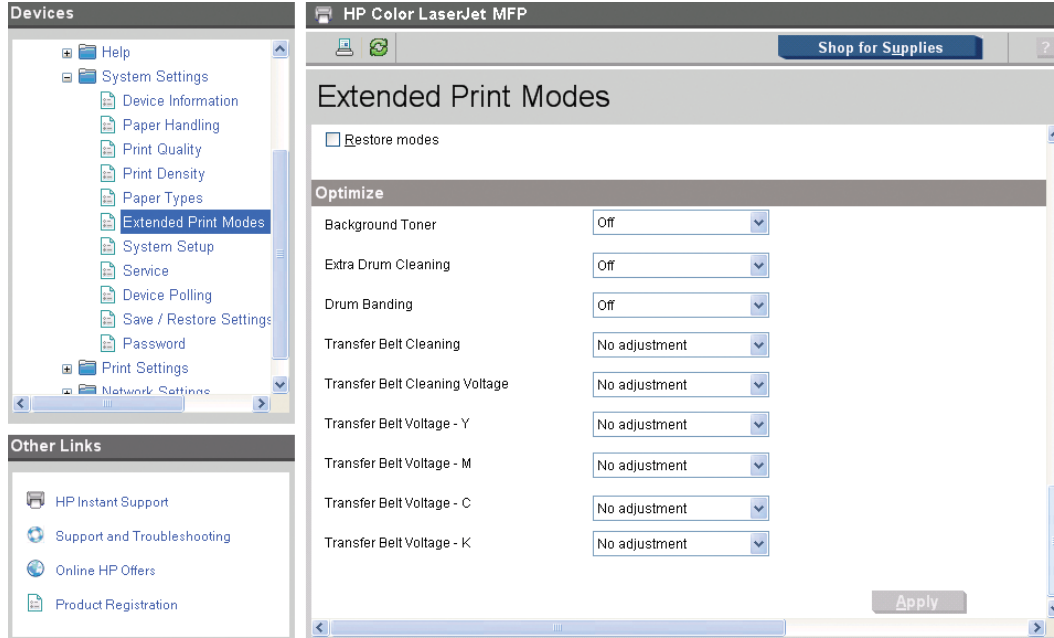


Figure 2-49 HP ToolboxFX System Settings folder – Extended Print Modes pane (4 of 5)



Software description

Figure 2-50 HP ToolboxFX **System Settings** folder – **Extended Print Modes** pane (5 of 5)



The **Extended Print Modes** pane contains a **Print Modes** section and an **Optimize** section.

The **Print Modes** section of the **Extended Print Modes** pane contains a list of media types, as well as four different controls that can be chosen to modify the engine print mode separately for each paper type.

The media types listed in the **Print Modes** section of the **Extended Print Modes** pane are as follows:

- Plain
- HP LaserJet 90g
- HP Color LaserJet Matte 105g
- HP Premium Choice Matte 120g
- HP Color Laser Brochure Matte 160g
- HP Matte 200g
- HP Presidential Glossy 130g
- HP Color Laser Brochure Glossy 160g
- HP Tri-fold Color Laser Brochure Glossy 160g
- HP Color Laser Photo Glossy 220g
- HP Photo 220g
- HP Photo Plus 220g
- Light 60-74g
- Mid-Weight 96-110g
- Heavy 111-130g

- Extra Heavy 131-175g
- Heavy Glossy 111-130g
- Extra Heavy Glossy 131-175g
- Card Glossy 176-220g
- Transparency
- Labels
- Letterhead
- Envelope
- Heavy Envelope
- Preprinted
- Prepunched
- Color
- Bond
- Recycled
- Rough Paper
- Heavy Rough
- HP Tough Paper

The following table lists and describes the four separate controls in the **Print Modes** section, and also lists and describes the different selections that can be made for each control.


 **NOTE:** Only one selection can be made for each control.

Table 2-5 Print Modes section controls

Control	Description/Option
Fusing	<p>The fuser temperature control in the engine is a complex algorithm that is based on the print mode and print-duty cycle. An “increase” or “decrease” in fuser temperature means that the fuser control algorithm increases or decreases the current temperature target by some amount, which depends on paper type and other factors.</p> <p>The following settings are available for the Fusing control:</p> <ul style="list-style-type: none"> ● No adjustment. ● Paper curl-up and Paper curl-down. These settings change the optimum fusing temperature to 1/2 speed for light and rough paper (such as Neenah Bond 16 lb.) and can help prevent paper curl and poor fixing performance for these kinds of paper. ● Flap sealing. ● Less Fusing/More Fusing (-2, -1, +1, +2). These settings allow the user to adjust the fuser temperature up or down one level. Use this setting to find the best balance for the print job when other adjustments are insufficient.

Table 2-5 Print Modes section controls (continued)


Control	Description/Option
Transfer	<p>The transfer bias voltage control in the engine is a complex algorithm that is based on the print mode, toner cartridge, and humidity. An “increase” or “decrease” in transfer bias means that the transfer control algorithm increases or decreases the transfer bias by some amount, which depends on paper type and other factors.</p> <p>The following settings are available for the Transfer control:</p> <ul style="list-style-type: none">• No adjustment.• Dry paper. This setting is appropriate for products that are in an environment with low humidity. It shows PQ defects with high-resistive paper.• Rough paper.• Humid paper. This setting is appropriate for products that are in an environment with high humidity. It sets Glossy Film as the Print mode and it also shows PQ failure.• Less transfer/More transfer (-5, -4, -3, -2, -1, +1, +2, +3, +4, +5). These settings provide one level of decreased transfer bias voltage and one level of increased transfer bias voltage if the other adjustments are insufficient. Try adjusting these settings to find the best balance for the print job. In extreme case (very dry or very wet), low-transfer current defects and high-transfer current defects can overlap; that is, a defect-free setting might be impossible. These adjustments can help find the best operating point.
Duplex Transfer	<p>Paper becomes much drier and develops a higher resistivity after it has printed on the first side and has passed through the fuser. The changes to the paper can result in transfer defects on the second side of the paper. To help prevent this situation, the product engine uses different transfer bias settings for printing on the second side of the paper.</p> <p>The following settings are available for the Duplex Transfer control:</p> <ul style="list-style-type: none">• No adjustment.• Dry paper. See Dry paper in the Transfer control row.• Humid paper. See Humid paper in the Transfer control row.• Rough paper.• Less transfer/More transfer (-5, -4, -3, -2, -1, +1, +2, +3, +4, +5). See Less transfer/More transfer (-5, -4, -3, -2, -1, +1, +2, +3, +4, +5) in the Transfer control row.
Toner	<p>The following settings are available for the Toner control:</p> <ul style="list-style-type: none">• No adjustment.• Dry paper. See Dry paper in the Transfer control row.• Humid paper. See Humid paper in the Transfer control row.• Rough paper.• Less transfer/More transfer (-5, -4, -3, -2, -1, +1, +2, +3, +4, +5). See Less transfer/More transfer (-5, -4, -3, -2, -1, +1, +2, +3, +4, +5) in the Transfer control row.

At the bottom of the **Print Modes** section, check the **Restore modes** box, and then click **Apply** to restore the product's print modes to the original factory defaults.

The **Optimize** section of the **Extended Print Modes** pane contains settings that are applied to all paper printed, depending on the engine's internal tables. The following settings are available:

- **Background toner**
- **Extra drum cleaning**
- **Drum banding**
- **Transfer belt cleaning**
- **Transfer belt cleaning voltage**
- **Transfer belt – Y**
- **Transfer belt – M**
- **Transfer belt – C**
- **Transfer belt – K**

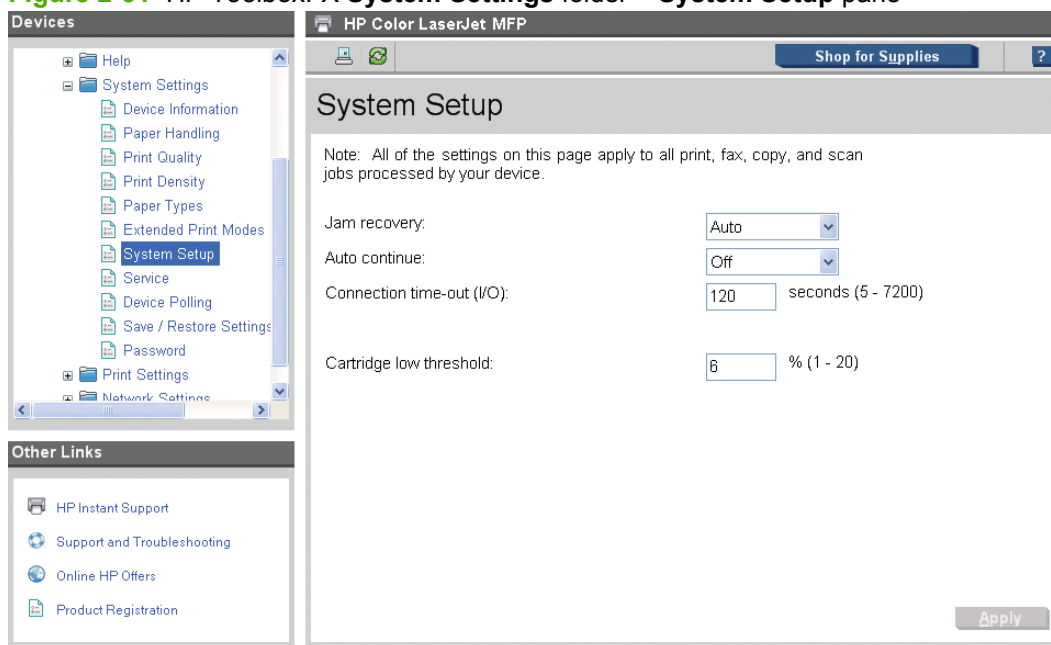
If you do not want to save changes made to the print mode settings, click **Refresh**.

 **NOTE:** Click **Apply** to make any changes take effect.

System Setup

Use the **System Setup** pane to change the system defaults for the printer.

Figure 2-51 HP ToolboxFX **System Settings** folder – **System Setup** pane



The following **Jam recovery** settings are available:


- **Auto (default)**
- **On**
- **Off**

The following **Auto continue** settings are available:

- On
- Off

Set the **Connection time-out (I/O)** setting to any value from 5 to 7200 seconds. The default for this setting is 120 seconds.

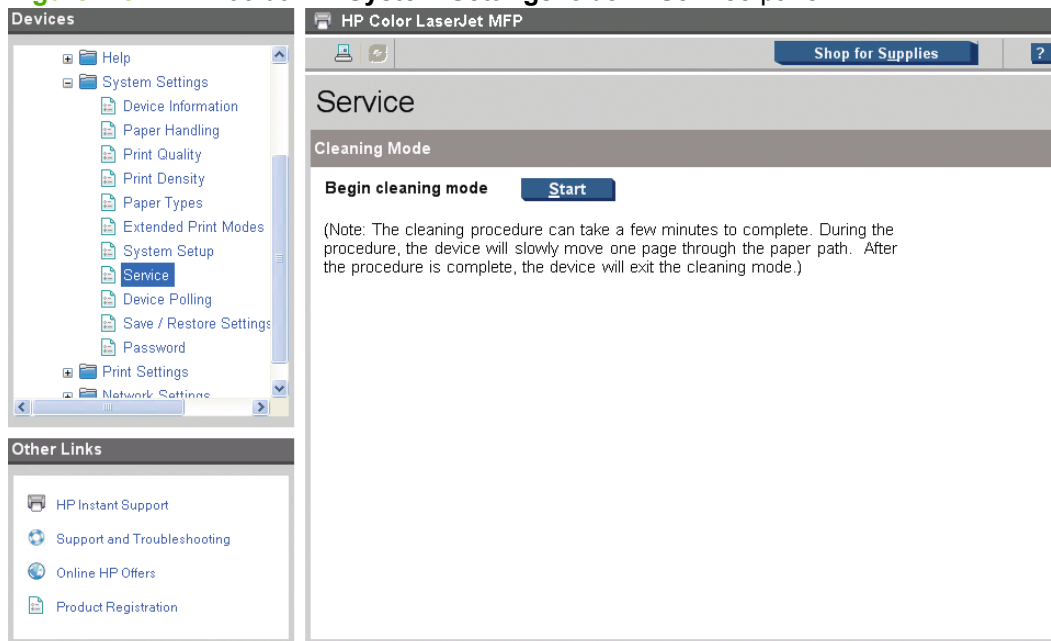
Set the **Cartridge low threshold** setting to any value from 1 to 20% (default is 6%). The **Cartridge low threshold** option sets the percentage threshold that triggers a toner low alert in HP ToolboxFX.

 **NOTE:** Click **Apply** to make any changes take effect.

Service

Use the **Service** pane to start the cleaning mode procedure on the product.

Figure 2-52 HP ToolboxFX **System Settings** folder – **Service** pane

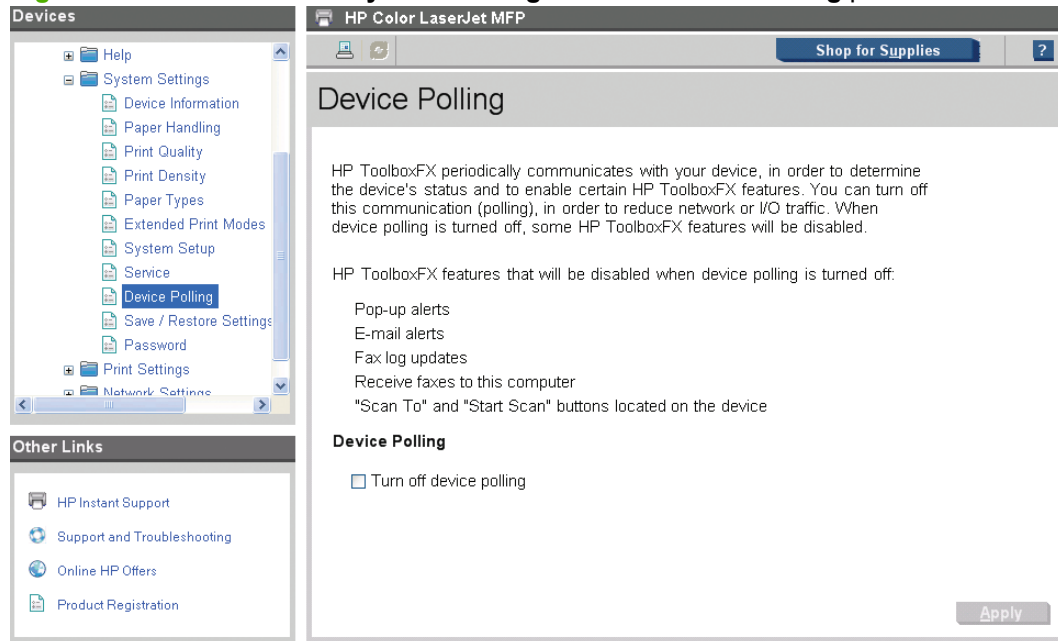


During the printing process, paper, toner, and dust particles accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner speck or smearing. Click **Start** to run the cleaning mode procedure on the product.

Device Polling

Use the **Device Polling** pane to control product polling.

Figure 2-53 HP ToolboxFX System Settings folder – Device Polling pane



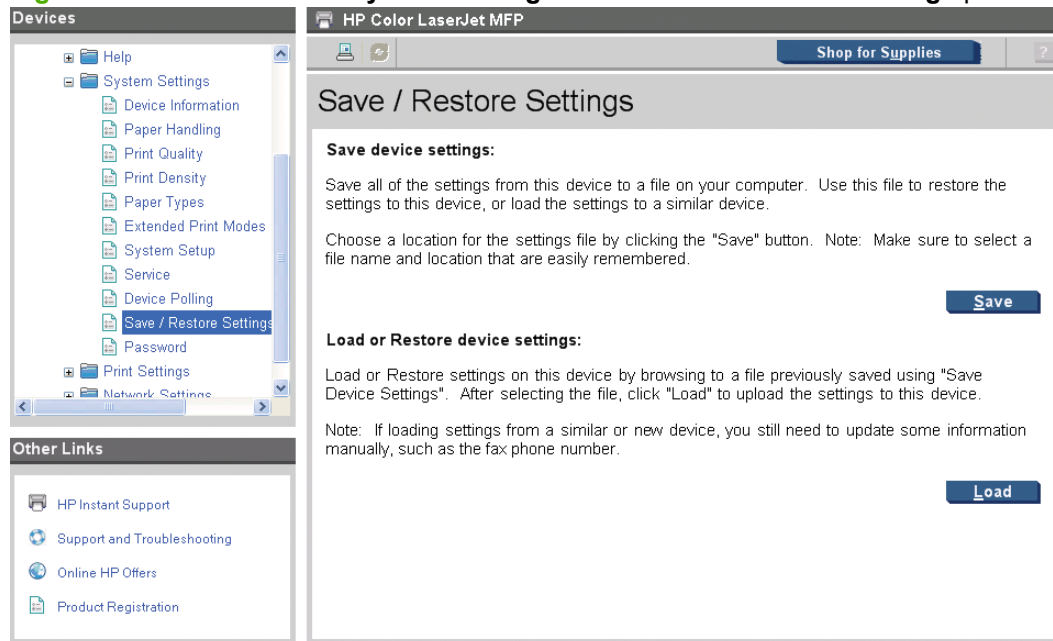
You can turn off **Device Polling** to reduce network traffic, but doing so also disables some HP ToolboxFX features: pop-up alerts, fax log updates, and scanning by using the **Scan To** button.

Selecting **Turn off device polling** on the **Device Polling** folder and then clicking **Apply** does not turn off HP ToolboxFX, but acts like a master switch to turn off all polling. You can then go back into HP ToolboxFX and turn off individual components such as the **Scan To** function or some fax functions.

Save / Restore Settings


Use the **Save / Restore Settings** pane to save all of the product settings to a file on the computer. The settings that have been saved into the product can also be loaded from this pane.

Figure 2-54 HP ToolboxFX **System Settings** folder – **Save / Restore Settings** pane



When you click **Save**, the **Save as** dialog box might be hidden. Look behind the browser window or on the taskbar.

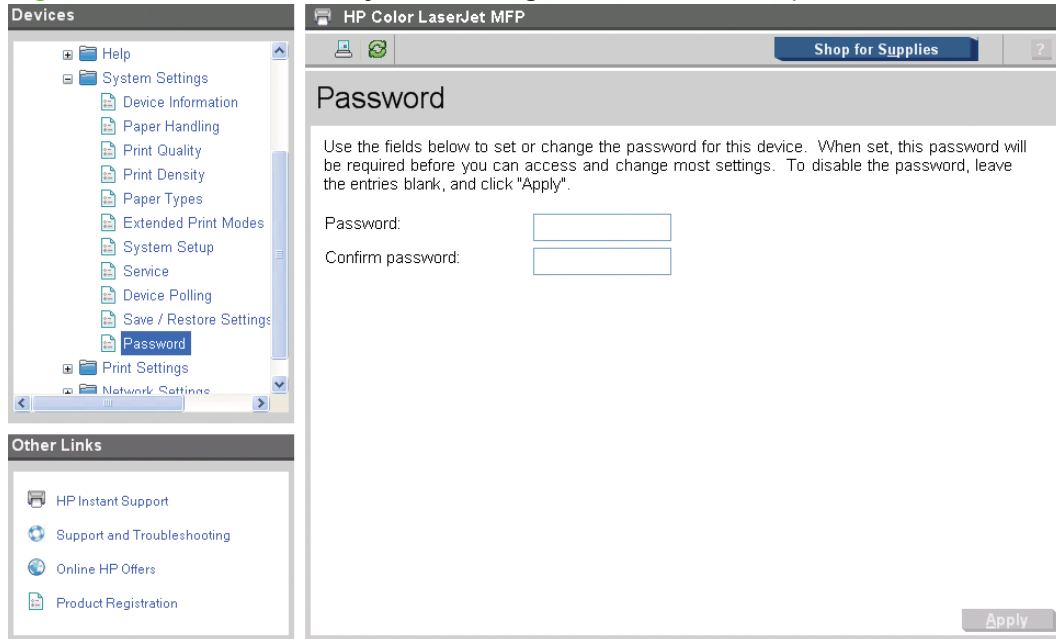
Settings that were saved from a previous HP product cannot be restored. Only settings that were saved from this product can be restored.

 **NOTE:** HP ToolboxFX will not function until settings have been fully loaded and the product's control panel has returned to the **Ready** state.

Password

Use the **Password** pane to set a password for the product.

Figure 2-55 HP ToolboxFX **System Settings** folder – **Password** pane




Network administrators can set user passwords to protect network settings. After a password is set, only users who know the password have access to certain pages within HP ToolboxFX.

If the password is lost or forgotten, the factory settings must be restored and a new password must be assigned.

The following HP ToolboxFX features become locked when a password is set:

- **Shop for Supplies** button
- **HP Instant Support** link
- **Systems Settings** folder
- **Print settings** folder
- **Network Settings** folder
- **Event Log** pane


 **NOTE:** Click **Apply** to make any changes take effect.

Print Settings folder

Use the **Print Settings** folder to change the printing defaults for the product. This folder displays the following panes:

- [Printing](#)
- [PCL5](#)
- [PostScript](#)

- [Photo](#)

 **NOTE:** The **Printing** pane displays the same information as the **Print Settings** folder.

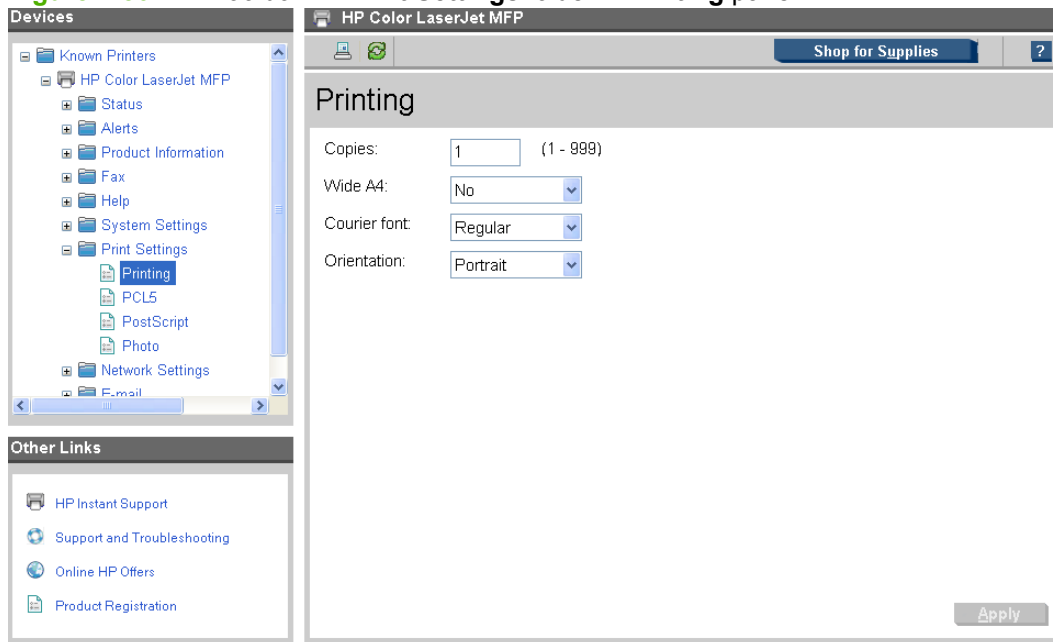
Printing


The following table shows the options and settings that are available on the **Printing** pane:

Table 2-6 Printing options and settings

Option	Settings
Copies	Type a value from 1 to 999.
Wide A4	<ul style="list-style-type: none"> • Yes • No (default)
Courier font	<ul style="list-style-type: none"> • Dark • Regular (default)
Orientation	<ul style="list-style-type: none"> • Landscape • Portrait (default)

Figure 2-56 HP ToolboxFX **Print Settings** folder – **Printing** pane

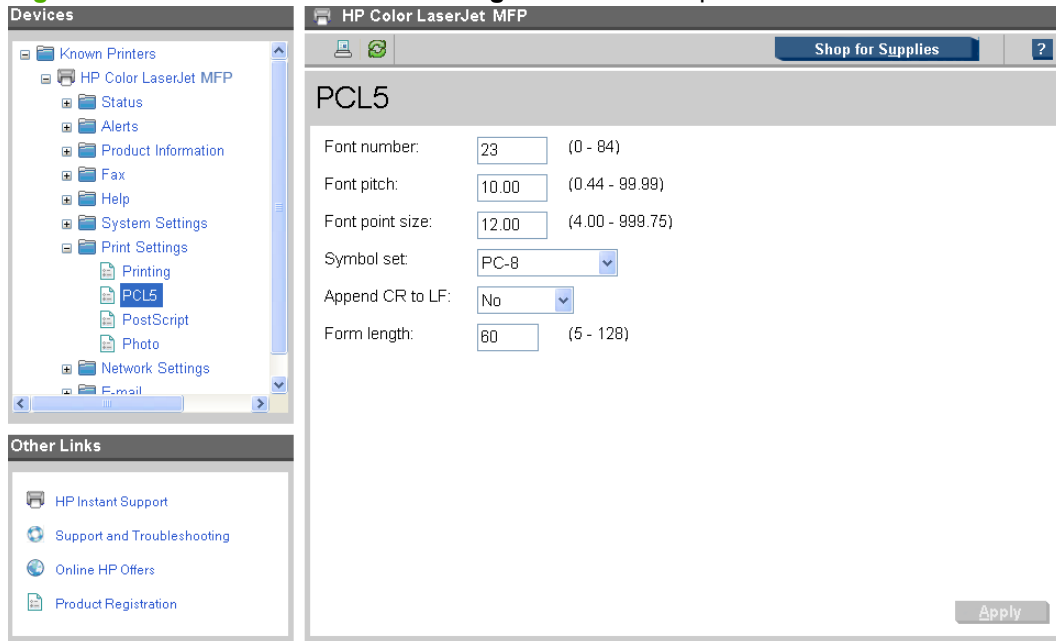



 **NOTE:** Click **Apply** to make any changes take effect.

PCL5

Use the **PCL5** pane to change the PCL defaults for the product.

Figure 2-57 HP ToolboxFX **Print Settings** folder – **PCL5** pane

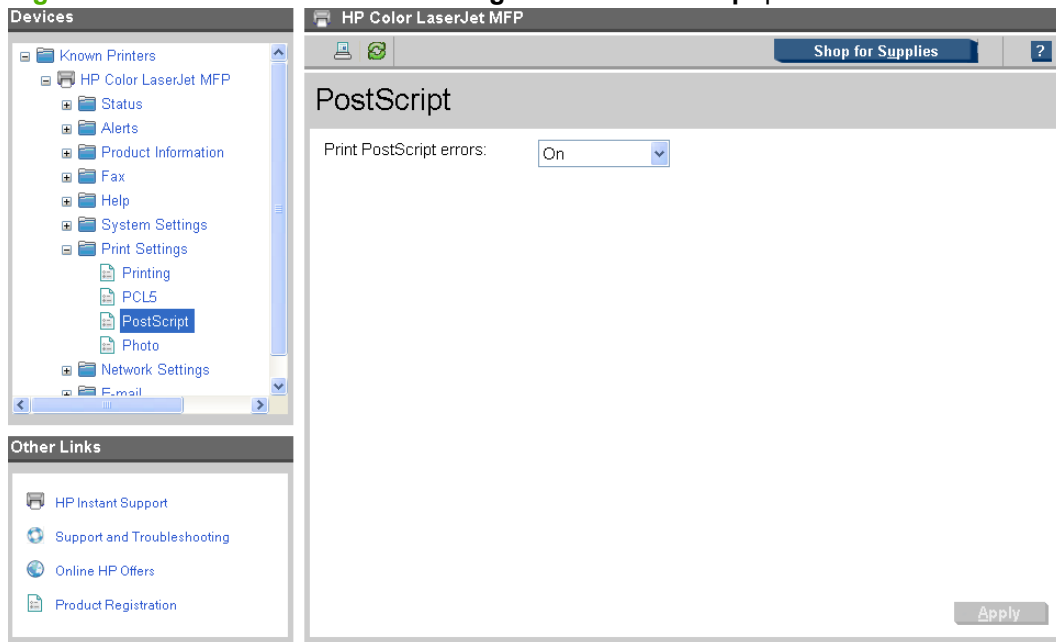



 **NOTE:** Click **Apply** to make any changes take effect.

PostScript

Use the **PostScript** pane to change the HP PostScript Emulation defaults for the product.

Figure 2-58 HP ToolboxFX **Print Settings** folder – **PostScript** pane

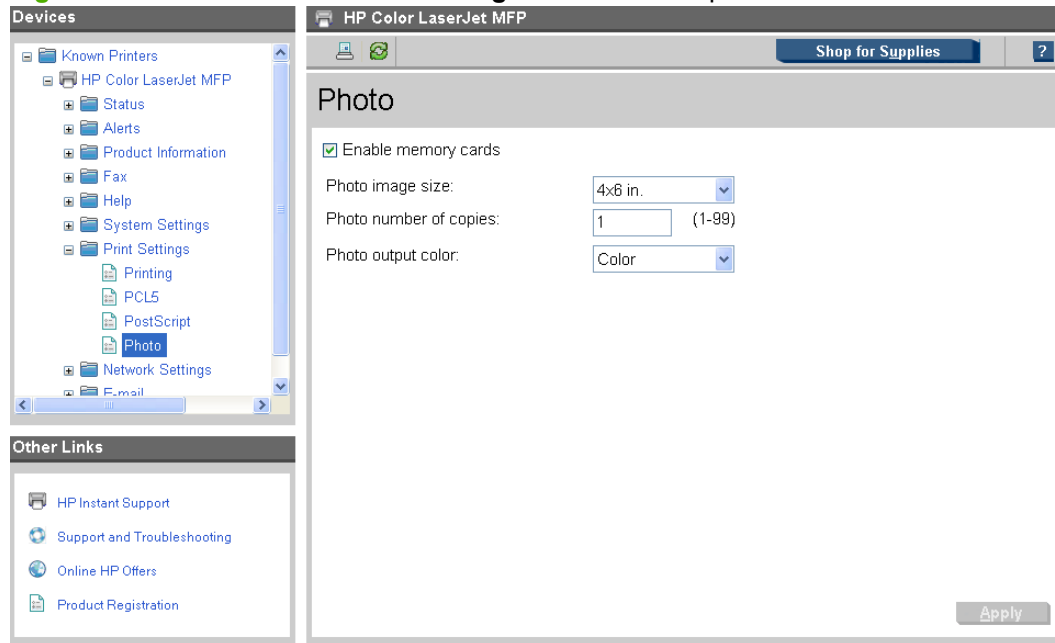


 **NOTE:** Click **Apply** to make any changes take effect.

Photo

Use the **Photo** pane to change the photo setting defaults for the product.

Figure 2-59 HP ToolboxFX **Print Settings** folder – **Photo** pane



NOTE: Click **Apply** to make any changes take effect.

Network Settings folder

The **Network Settings** folder is only available with a network installation.

This product contains onboard networking support. This product does not require the use of an external Jetdirect box for network connectivity. Use **Network Settings** options to configure the network settings for the product.

NOTE: External Jetdirect products are not officially supported.

For network installations, HP ToolboxFX communicates with the product by using the network settings that appear on the following **Network Settings** panes:

- [Network Summary](#)
- [IPv4 Configuration](#)
- [IPv6 Configuration](#)
- [Network Identification](#)
- [Advanced](#)
- [SNMP](#)

CAUTION: Changing network settings can cause communication problems between HP ToolboxFX and the product.

Figure 2-60 HP ToolboxFX Network Settings folder (1 of 3)

The screenshot shows the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar contains a 'Devices' tree with 'Network Settings' selected. Below it are 'Other Links' for support and registration. The main content area displays 'Network Settings' for the selected device. It is divided into sections for TCP/IP (v4) and TCP/IP (v6). The TCP/IP (v4) section shows the status as 'Ready' and lists configuration details such as IP address (192.168.0.10), subnet mask (255.255.255.0), and gateway (192.168.0.1). The TCP/IP (v6) section also shows 'Ready' status and lists link-local and stateless/stateful addresses.

TCP/IP (v4)	
Status:	Ready
IPv4 address:	192.168.0.10
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
IP configured by:	Configured by DHCP
DHCP/BOOTP server:	192.168.0.201
DHCP expiration time:	01:17:46 (days:hours:minutes)
WINS server:	

TCP/IP (v6)	
Status:	Ready
Link-Local address:	FE80::21B:78FF:FE16:9AF7
Stateless (from Router):	Not configured
Stateful (from DHCPv6):	Not configured

Figure 2-61 HP ToolboxFX Network Settings folder (2 of 3)

The screenshot shows the HP ToolboxFX interface for an HP Color LaserJet MFP. The left sidebar is identical to Figure 2-60. The main content area displays 'Network Settings' for the selected device, showing 'Network Hardware Configuration', 'SNMP', and 'Network Statistics' sections.

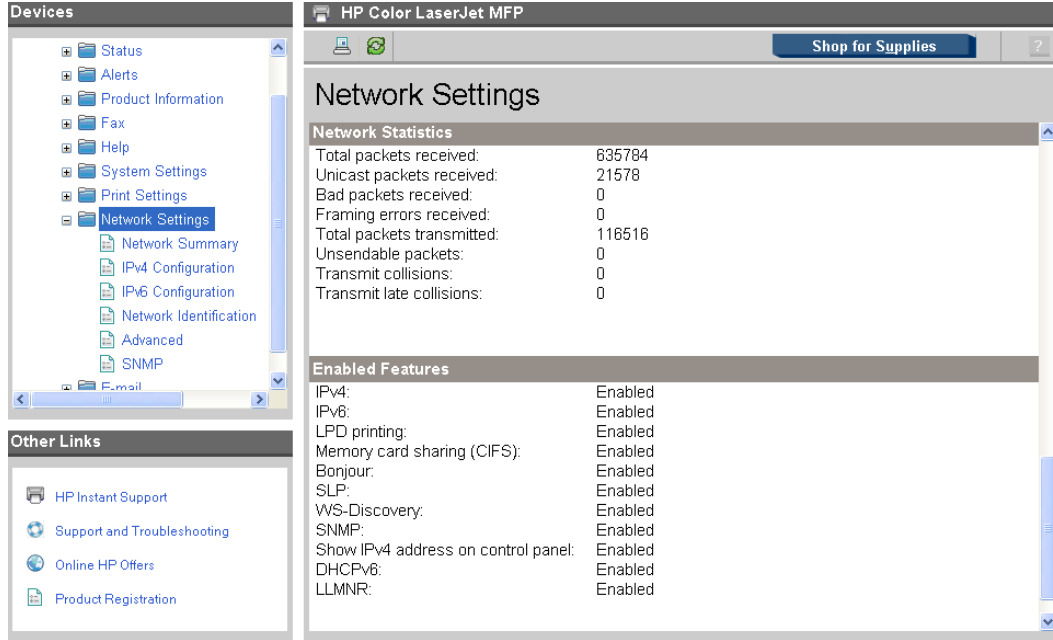
Network Hardware Configuration	
Hardware address:	00:1b:78:16:9a:f7
Firmware datecode:	20071211
Link speed and duplex negotiation:	Automatic
Link speed:	100 Mbps
Duplex:	Full
Automatic crossover:	On
Connection time-out (I/O):	120

SNMP	
Status:	Read-Write access enabled
SNMP version:	v1
Set Community name:	Not Specified (Defaults to "public")
Get Community name:	Not Specified (Defaults to "public")

Network Statistics	
Total packets received:	635784
Unicast packets received:	21578
Bad packets received:	0
Framing errors received:	0
Total packets transmitted:	116516

Software description

Figure 2-62 HP ToolboxFX **Network Settings** folder (3 of 3)



Network Summary

The **Network Summary** pane provides an overview of the network settings that are enabled for the product.

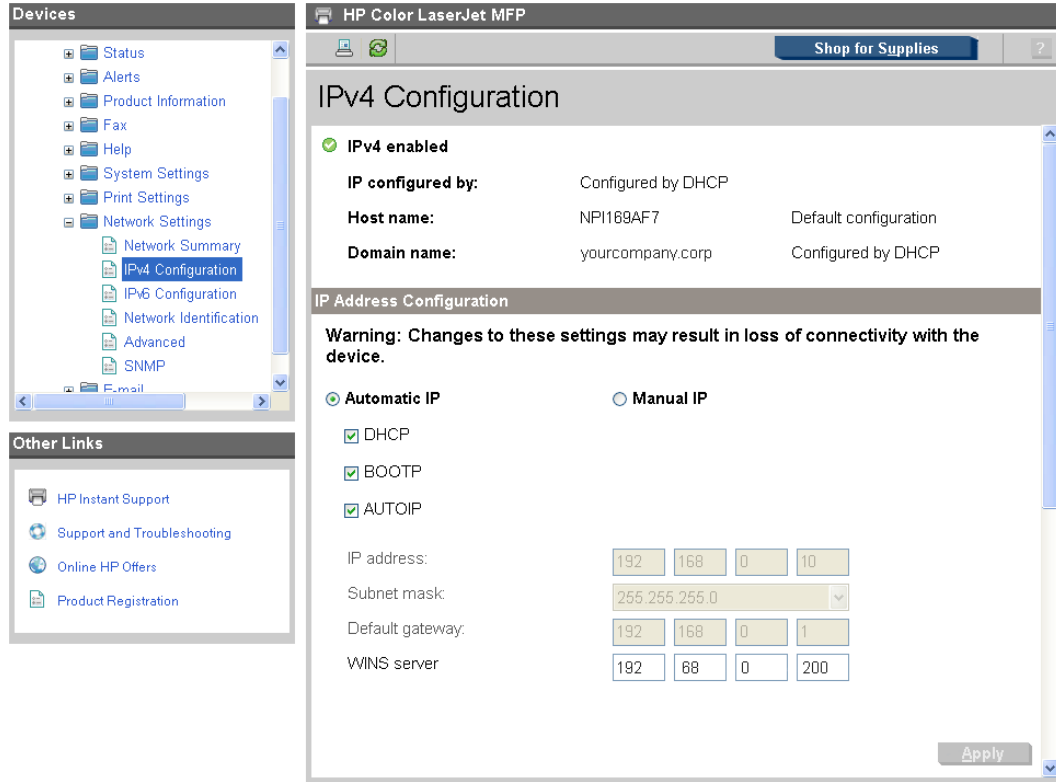
NOTE: This **Network Summary** pane is identical to the **Network Summary** pane in the **Status** folder.

To view this pane, go to the [Status folder on page 31](#) of this document.

IPv4 Configuration


The **IPv4 Configuration** pane shows the host name and domain of the product. By default the product uses automatic IP configuration and DNS Server. Use this pane to configure the TCP/IP address and DNS Server manually.

Figure 2-63 HP ToolboxFX Network Settings folder – IPv4 Configuration pane



The following **IP Address Configuration** options are available:

- **Automatic IP.** This option is selected by default. It causes the product to obtain a TCP/IP address from a Dynamic Host Configuration Protocol (DHCP) server, BOOTP server, or AUTOIP.
- **Manual IP.** Select this option to manually specify an Internet Protocol (IP) address (also known as a static IP address). If you select this option, you must specify an IP address in the **IP address**, **Subnet mask**, and **Default gateway** fields.

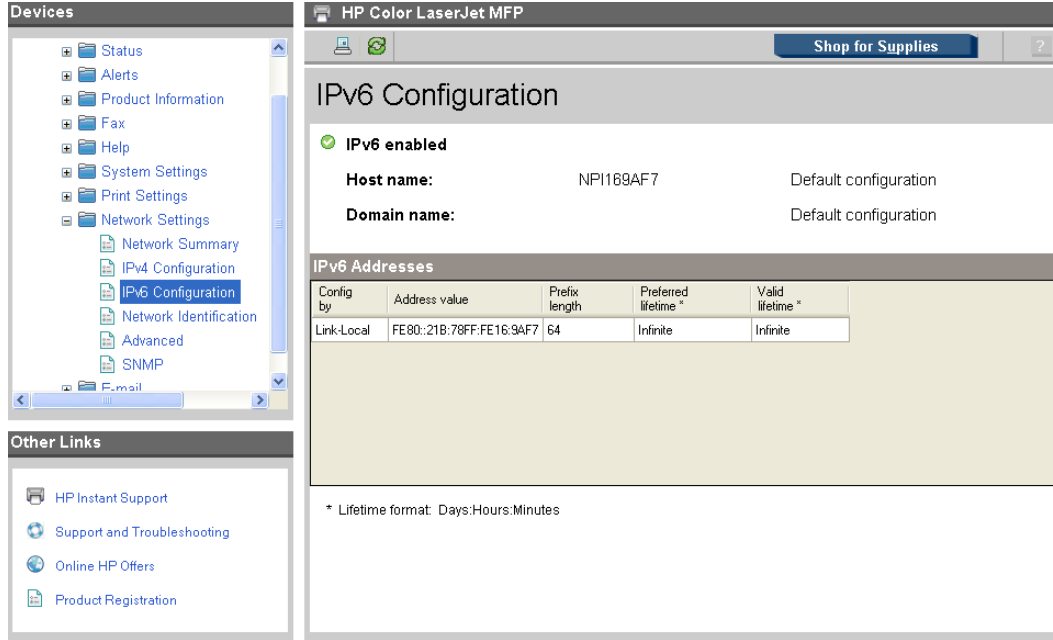
 **NOTE:** Click **Apply** to make any changes take effect.

IPv6 Configuration

The **IPv6 Configuration** pane provides an overview of the IPv6 settings for the product.

 **NOTE:** If IPv4 is *not* running, the **IPv6 Configuration** pane will display a **Domain name** with a **DHCP configuration**.

Figure 2-64 HP ToolboxFX **Network Settings** folder – **IPv6 Configuration** pane



Network Identification

Use the **Network Identification** pane to modify network settings and to restore default network settings.

Figure 2-65 HP ToolboxFX **Network Settings** folder – **Network Identification** pane (1 of 2)

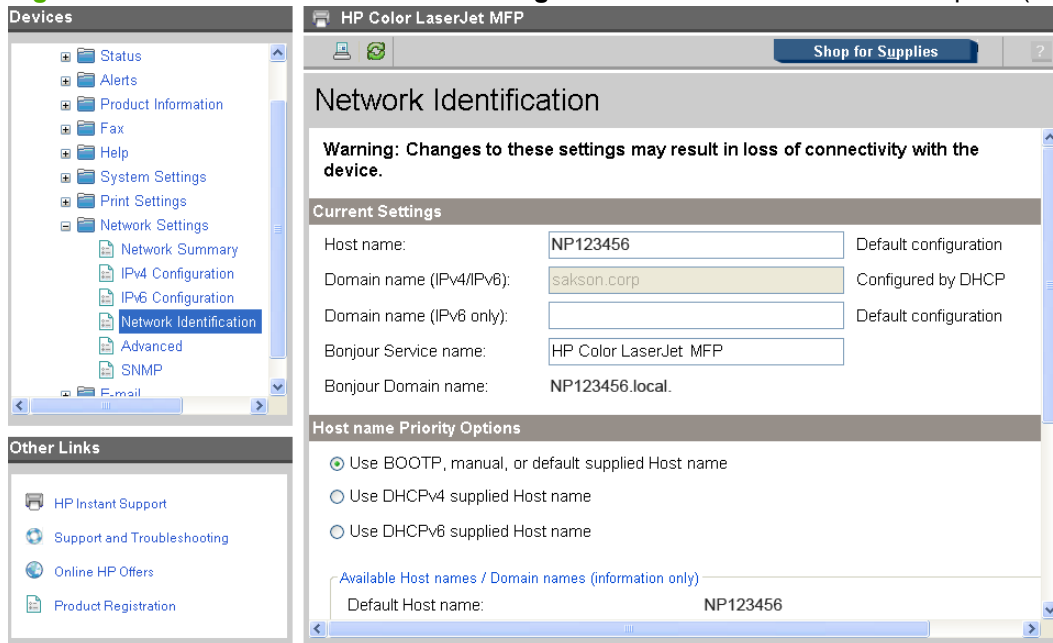
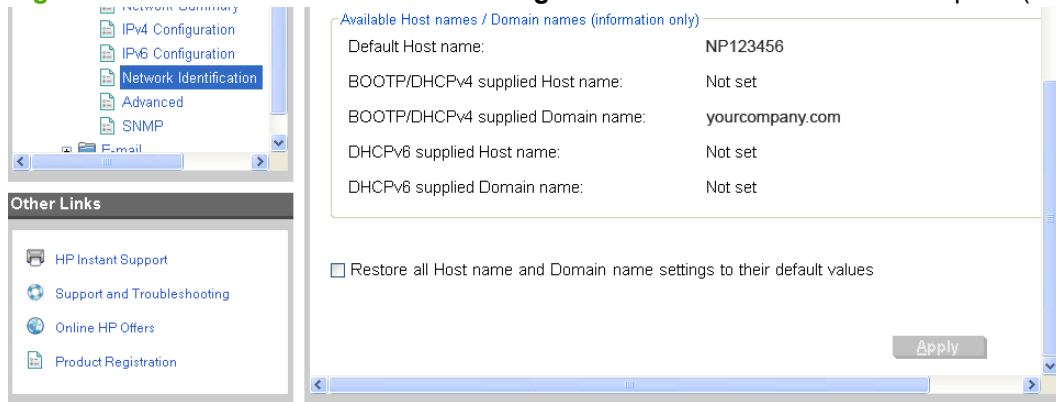


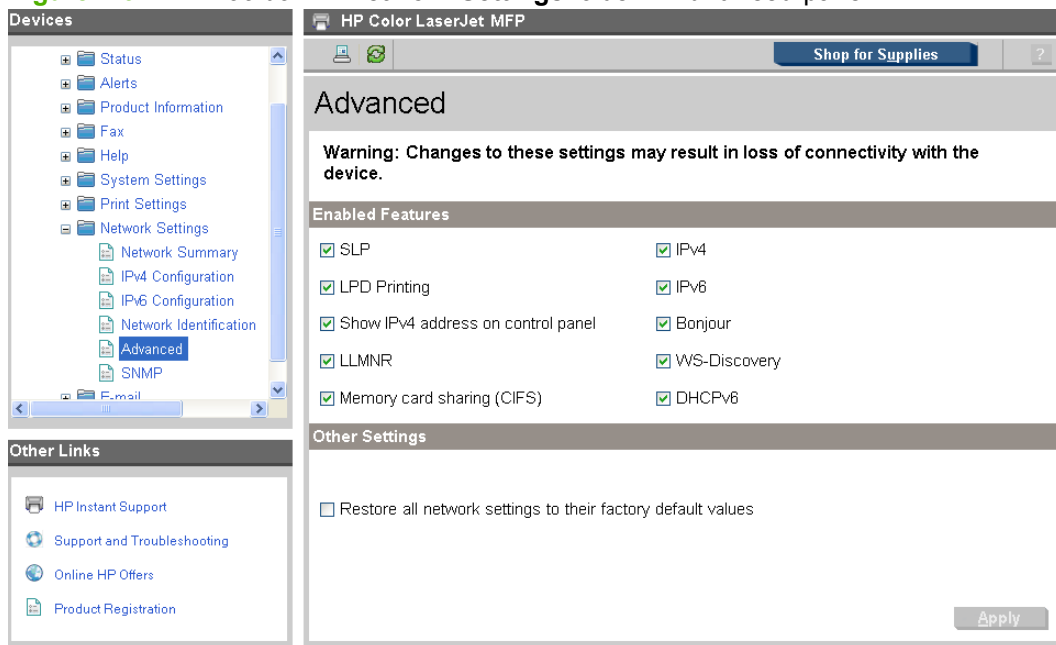
Figure 2-66 HP ToolboxFX Network Settings folder – Network Identification pane (2 of 2)



Advanced

Use the **Advanced** pane to set advanced networking features for the product.

Figure 2-67 HP ToolboxFX Network Settings folder – Advanced pane



The following table shows the options and settings that are available for the **Advanced** pane.

Table 2-7 Advanced Network Settings options and settings

Option	Settings
Enabled Features	<ul style="list-style-type: none"> LPD Printing (enabled by default) HP SLP Discovery (enabled by default)

Table 2-7 Advanced Network Settings options and settings (continued)

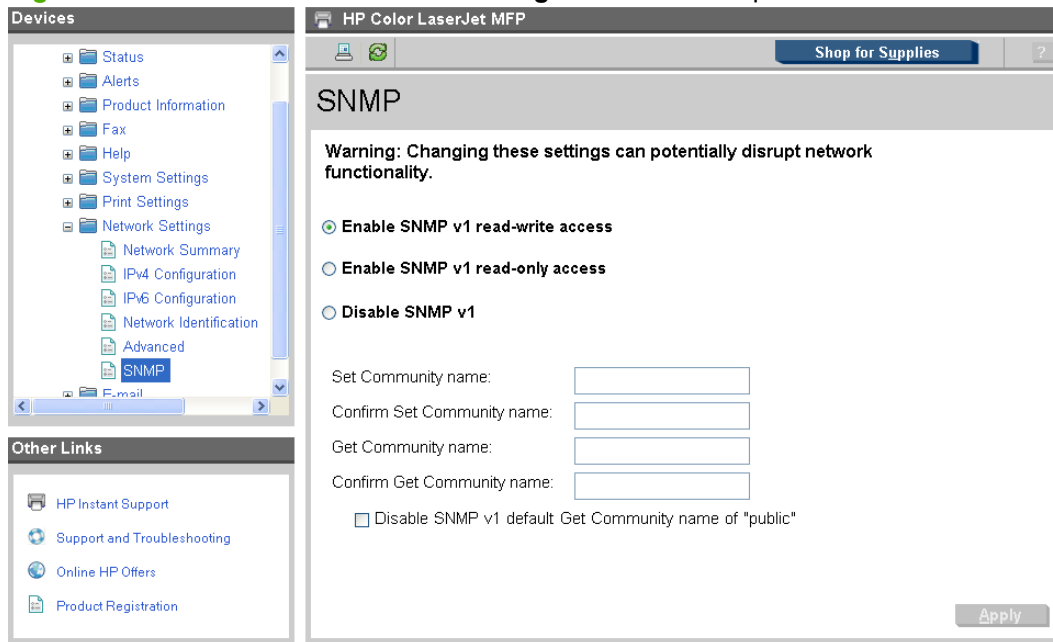
Option	Settings
Link Speed and Duplex	<ul style="list-style-type: none"> ● Auto negotiation (default setting) ● Manual negotiation <ul style="list-style-type: none"> ○ Link speed: 10 megabits per second (Mbps) or 100 Mbps ○ Duplex: Full or Half
Automatic Crossover	<ul style="list-style-type: none"> ● Enable (default) ● Disable

 **NOTE:** Click **Apply** to make any changes take effect.

SNMP

Use the **SNMP** pane to set SNMP networking features for the product.

Figure 2-68 HP ToolboxFX Network Settings folder – SNMP pane



The following options are available on the **SNMP** pane:

Options	Description
---------	-------------

Enable SNMP v1 read-write access	Select this option to enable SNMP v1 agents on the product. Custom community names can be configured to control management access to the product. These community name settings appear on the lower half of the pane.
Set Community name:	Type the SNMP Set Community name (password) to allow SNMP information to be configured (or written) on the product.
Confirm Set Community name:	Retype the SNMP Set Community name (password) to allow SNMP information to be configured (or written) on the product.
Get Community name:	Type the SNMP Get Community name (password) to allow SNMP information to be read from the product.
Confirm Get Community name:	Retype the SNMP Get Community name (password) to allow SNMP information to be read from the product.
Disable SNMP v1 default Get Community name of "public"	Select this option to disable the default Get community name "public." After selecting this option, type the values in the Get Community name and Confirm Get Community name fields.
Enable SNMP v1 read-only access (uses "public" for the Get Community value)	Select this option to enable the SNMP v1 agents on the product, but limit access to read-only. Write-access is disabled. The default Get Community name "public" is automatically enabled.
Get Community name:	Type the SNMP Set Community name (password) to allow SNMP information to be configured (or written) on the product.
Configure Get Community name:	
Disable SNMP v1 default Get Community name of "public:"	Select this option to disable the default Get community name "public". After selecting this option, type the values in the Get Community name field and in the Confirm Get Community name fields.
Disable SNMP v1	Select this option to disable the SNMP v1 agents on the product, which is recommended for secure environments. If SNMP v1 is disabled, some port monitors or discovery utilities might not operate properly.
Apply	Click Apply to make any changes take effect.


 **NOTE:** Changing SNMP settings can cause a loss of communication and functionality.

E-mail folder

Use the panes in this folder to configure the product to scan documents and have them sent via e-mail directly from the product.

The **E-mail** folder displays the following panes:

- [E-mail Configuration](#)
- [E-mail Contacts](#)

 **NOTE:** Except for a heading that says **E-mail** rather than **E-mail Configuration**, the **E-mail** folder page is identical to the **E-mail Configuration** pane.

E-mail Configuration

Use the **E-mail Configuration** pane to disable or enable E-mail Mode, set or change SMTP Gateway Settings, and set or change Default E-mail Settings.


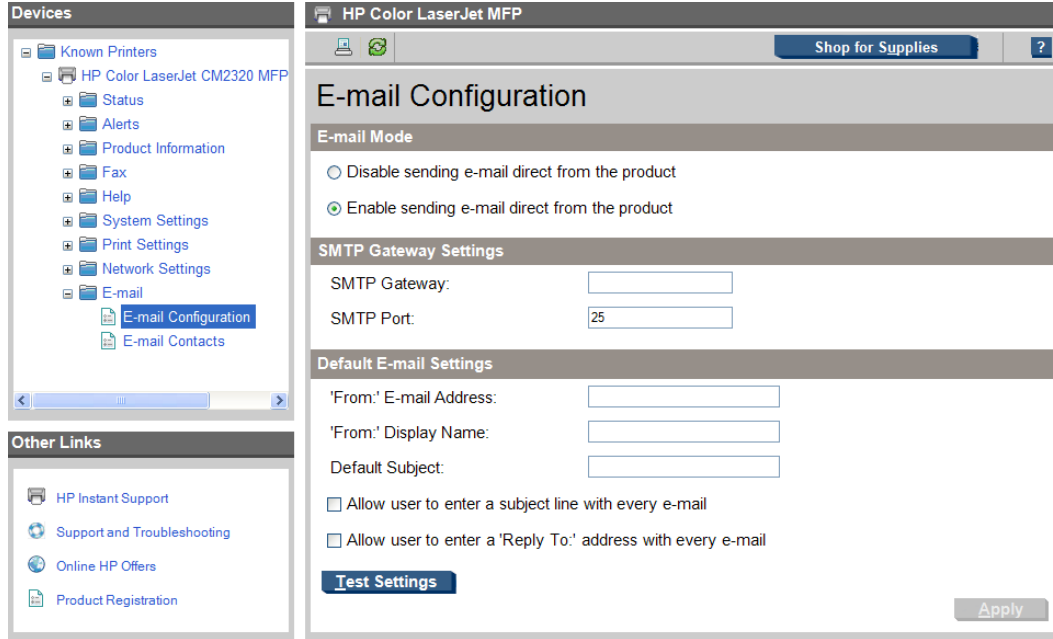
 **NOTE:** Click **Apply** to make any changes take effect.

Figure 2-69 HP ToolboxFX **E-mail** folder – **E-mail Configuration** pane



E-mail Contacts

Use the **E-mail Contacts** pane to store e-mail contacts that you communicate with by using this product.

The maximum number of characters allowed in the **Contact's Name** field is 40.

The maximum number of characters allowed in the **E-mail Address** field is 73.

The maximum number of e-mail contacts allowed in the **E-mail Contacts** pane is 50.

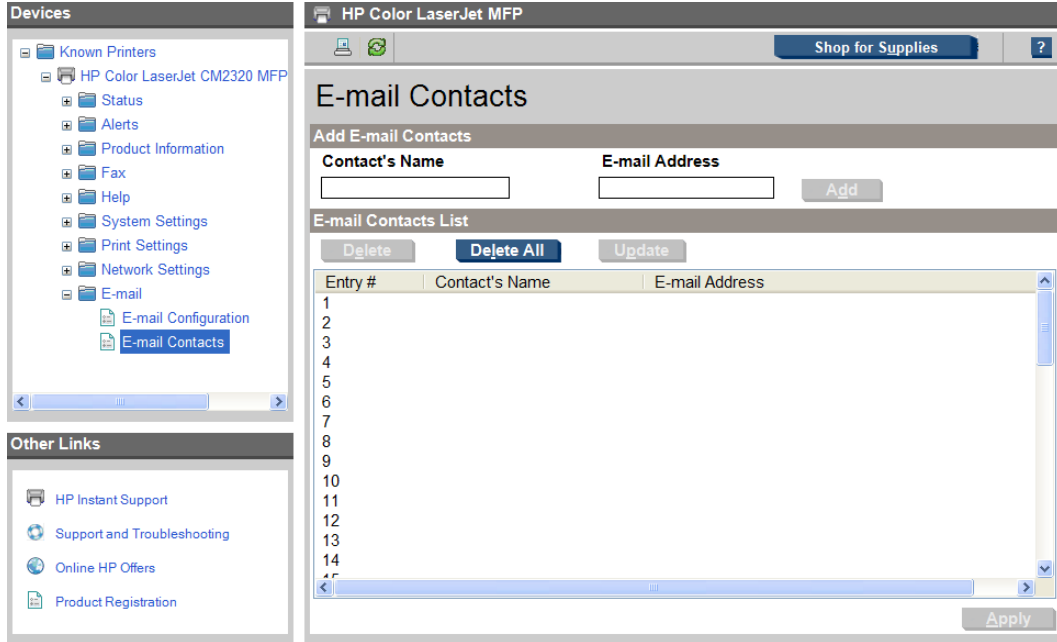
Use the **Delete** button to delete a contact.

Use the **Delete All** button to clear the contacts list.

Use the **Update** button to update an e-mail contact's name or e-mail address.

 **NOTE:** Click **Apply** to make any changes take effect.

Figure 2-70 HP ToolboxFX E-mail folder – E-mail Contacts pane



Other panes

The following table lists panes that are also available through HP ToolboxFX.

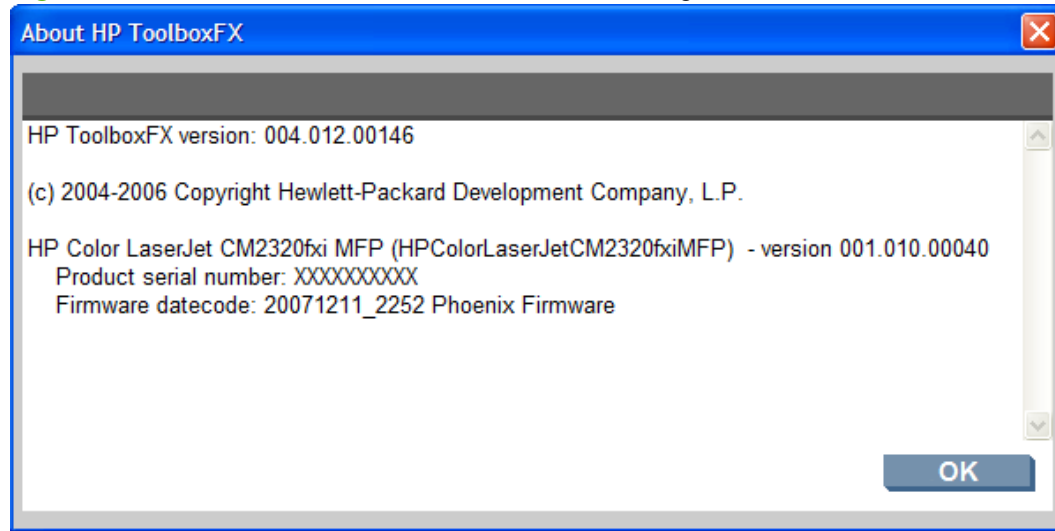
Pane	Access
About HP ToolboxFX	Click the HP logo that appears in the upper-left corner of the HP ToolboxFX panes.
HP Instant Support	Click the HP Instant Support link in the Other Links box that appears on all HP ToolboxFX and HP EWS panes.
Support and Troubleshooting	Click the Support and Troubleshooting link in the Other Links box that appears on all HP ToolboxFX and HP EWS panes.
Product Registration	Click the Product Registration link in the Other Links box that appears on all HP ToolboxFX and HP EWS panes.
Shop for Supplies	Click the Shop for Supplies link in upper-right of the HP ToolboxFX panes.

About HP ToolboxFX dialog box

Click the HP logo in the HP ToolboxFX heading banner on any HP ToolboxFX pane to gain access to the **About HP ToolboxFX** dialog box. This dialog box shows the software version number and a

copyright notice. This dialog box also shows the version number for each HP ToolboxFX product that is installed.

Figure 2-71 HP ToolboxFX **About HP ToolboxFX** dialog box



HP Instant Support

Click **HP Instant Support** to access self-help based on information sent from the product to the HP website. The help includes recommendations for troubleshooting, firmware upgrades, and reference documentation that is customized to respond to the most recent events that have occurred on the product.

Support and Troubleshooting

Select **Support and Troubleshooting** to get to a Web page with links to online support for the product.

Product Registration

The **Product Registration** link connects to a Web page to register the product.

Shop for Supplies

The **Shop for Supplies** link connects to a Web page that can be used to order supplies online. The supplies come not come from HP but from a choice of resellers. Supplies are preselected. Use the options on this screen to change quantities or order additional items. The selected items are dropped into the shopping cart, ready for checkout. This process ensures that the correct supplies are ordered from the selected reseller.

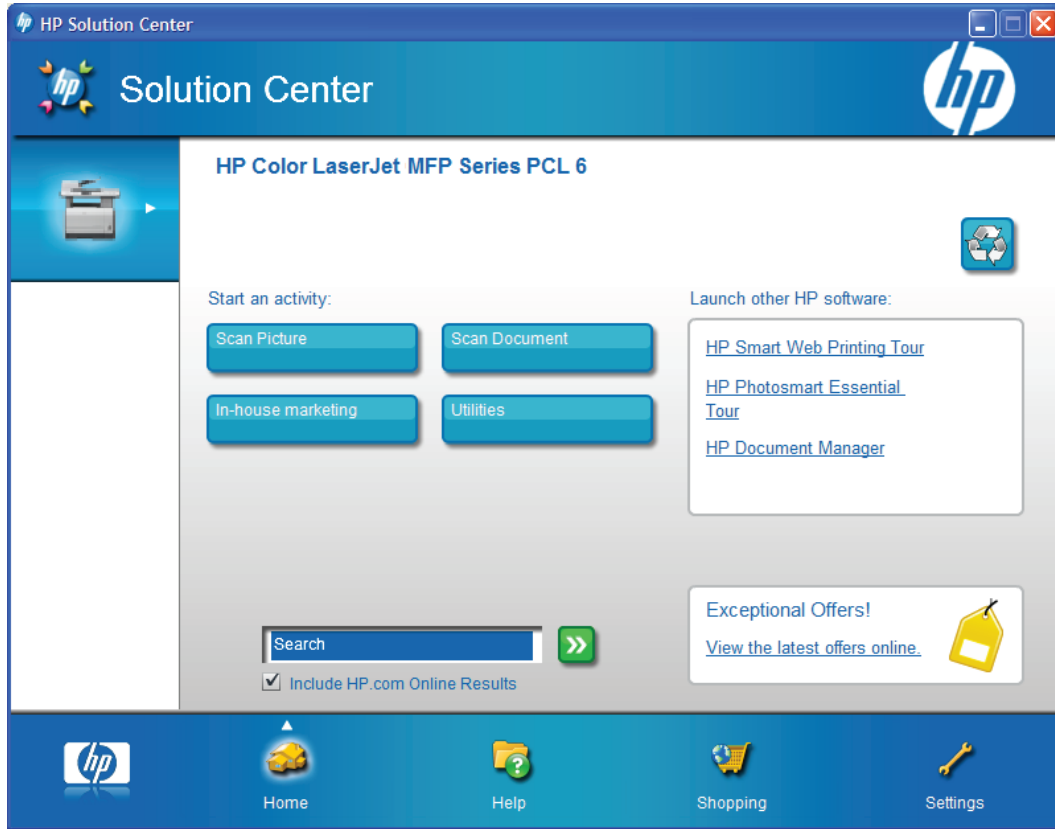
HP Solution Center

The HP Solution Center is installed automatically when you select a Recommended installation of the product's solutions software.

Use the HP Solution Center to gain access to product-specific software, default settings, status, and onscreen Help. By using the HP Solution Center, you can view and print images or video clips, go to the HP Shopping website, and update your HP software. The HP Color LaserJet CM2320 MFP Series printers can also transfer images from a camera or photo memory card.

To start the HP Solution Center, click **Start, Programs, HP, and HP Solution Center**. You can also double-click the **HP Solution Center** icon on your desktop shortcut. The following screen appears.

Figure 2-72 HP Solution Center screen



The following sections are available on this screen:

- [Recycle button](#)
- [Home page](#)
- [Help page](#)
- [Shopping page](#)
- [Settings page](#)

Recycle button

The **Recycle** button appears in the far-right corner of the HP Solution Center header.

Click this button to display the HP Product Recycling website.

Home page

When the HP Solution Center appears, the first screen is the **Home** page. If you navigate to other HP Solution Center pages, click the **Home** icon to return to the **Home** page.

The **Home** page contains the **Utilities** option.

Utilities button

Clicking this button opens the **Device Status** pane in HP ToolboxFX.

Help page

Click the **Help** icon to open the **Help** page, which contains several help options. Refer to the following table for details about these options.

Heading/Options	Description
Search	
Search	Type text in this field that describes what you are looking for. The HP Solutions Center will search itself as well as http://www.hp.com for solutions, feature descriptions and instructions.
Online Resources	
Check For Updates	Clicking this option opens HP Update . Follow the onscreen directions to search for possible software updates.
Visit Product Website	Clicking this option opens an HP Solution Center dialog box that asks: Use of this function requires an Internet connection. Do you wish to proceed? Click OK to open the product Website.
Printer Toolbox	Clicking this option opens the Device Status pane in HP ToolboxFX.
Additional Resources	
Documents	Clicking this option opens a Product Help box, which in turn opens the <i>HP Color LaserJet CM2320 MFP Series User Guide</i> .
Tools	Dragging the cursor over this options displays a menu that contains the following options: <ul style="list-style-type: none">● Printer Toolbox. Clicking this option opens the Device Status pane in HP ToolboxFX.● Technical information. Clicking this option opens the Troubleshooting pane in HP ToolboxFX. From this pane, you can access information about your product or about troubleshooting printing issues.● Contact HP. Clicking this option opens an HP Solution Center dialog box that asks: Use of this function requires an Internet connection. Do you wish to proceed? Click OK to open the HP product support page.

Shopping page

Click the **Shopping** icon to open the **Shopping** page.

From the **Select your country/region** drop-down menu, select your country/region. You must make this selection before clicking the additional shopping links provided.

Option	Description
Order supplies and accessories for your HP product	Clicking this option opens an HP Solution Center dialog box that asks: Use of this function requires an Internet connection. Do you wish to proceed? Click OK to open the HP Online Shopping page.
Shop for any HP Product	
When you want to buy lots of prints, buy them online!	Clicking this option opens an HP Solution Center dialog box that asks: Use of this function requires an Internet connection. Do you wish to proceed? Click OK to open the HP Snapfish page.
Photo gifts	

Settings page

Click the **Settings** icon to open the **Settings** page, which contains the following options for configuring and modifying print settings.

Heading/Option	Description
Product Settings	
Printer Settings	Clicking this option opens the Device Settings pane in HP ToolboxFX. From this pane, you can modify print settings and change product configuration settings.
Printer Toolbox	Clicking this option opens the Device Status pane in HP ToolboxFX. From this pane, you can monitor the status of the product, order supplies, and change configuration settings.
Other Settings	
Network Settings	Clicking this option opens the Network Settings pane in HP ToolboxFX. From this pane, you can configure, modify, and monitor the network settings for the product.

HP Embedded Web Server (HP EWS)

HP Embedded Web Server (HP EWS) is a Web-based program that allows users to control settings on the product through the Web browser. HP EWS can only be accessed if the HP Color LaserJet CM2320 MFP Series product is installed through a network rather than a USB connection.


To access HP EWS, open a Web browser and type the product's IP address in the address bar.

The product's IP address is documented on a Configuration Page. To print out a copy of the Configuration Page, follow these steps on the product control panel:

1. Press **Setup**.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Configuration report**, and then press **OK**.

The following tabs are available in HP EWS:

- [Status tab](#)
- [System tab](#)
- [Print tab](#)
- [Fax tab](#)
- [Networking tab](#)
- [E-mail tab](#)

 **NOTE:** The **Networking** tab appears only for the product, which comes standard with onboard networking capabilities.

NOTE: HP EWS is accessible on Macintosh for both network-connected and USB-connect products by using **Device Configuration Utility**.

Status tab

Use the **Status** tab to access and print detailed information regarding product status, supply status, product configuration, network configuration, and usage.

The **Status** tab contains the following pages:

- [Device Status](#)
- [Supplies Status](#)
- [Device Configuration](#)
- [Network Summary](#)
- [Print Info Pages](#)
- [Color Usage Job Log](#)
- [Event Log](#)

 **NOTE:** The **Status** tab opens to the **Device Status** page.

Device Status

The **Device Status** page shows product status messages from the product. The **Device Status** page also contains some pertinent product information and product settings.

Figure 2-73 HP EWS Status tab – Device Status page

HP Color LaserJet MFP 192.168.0.10

Device Status

Status: PowerSave on. 192.168.0.10

Supply	Level	Order HP Part	Approximate Pages Remaining
Used Black Cartridge *	Unknown	CC530A	
Used Cyan Cartridge *	Unknown	CC531A	
Used Magenta Cartridge *	Unknown	CC533A	
Used Yellow Cartridge *	Unknown	CC532A	

Supplies Detail

Supplies Status

The **Supplies Status** page shows the status of all of the product supplies, including the black, cyan, magenta, and yellow print cartridges.

Figure 2-74 HP EWS Status tab – Supplies Status page

HP Color LaserJet MFP 192.168.0.10

Supplies Status

Ordering Information:
Hewlett-Packard supplies can be ordered on the Internet, on-line through your printer software or by calling an authorized reseller. Refer to your printer User Guide for instructions.

Used Black Cartridge *
Order HP Part: CC530A

ATTENTION: A used supply has been installed. Supply status is unavailable. Features requiring supply status may also be unavailable.

*See Warranty Note

Used Cyan Cartridge *
Order HP Part: CC531A

ATTENTION: A used supply has been installed. Supply status is unavailable. Features requiring supply status may also be unavailable.

*See Warranty Note

Used Magenta Cartridge *
Order HP Part: CC533A

ATTENTION: A used supply has been installed. Supply status is unavailable. Features requiring supply status may also be unavailable.

*See Warranty Note

Used Yellow Cartridge *
Order HP Part: CC532A

ATTENTION: A used supply has been installed. Supply status is unavailable. Features requiring supply status may also be unavailable.

*See Warranty Note

Warranty Note
A used supply has been installed. If you believe you purchased a genuine HP supply, visit us at <http://www.hp.com/go/antcounterfeit>. Any printer repair required as a result of using used cartridges is not covered under warranty. Supply status and features depending on supply status will not be available.

Return & Recycling
Please return your genuine HP supplies for recycling to Hewlett-Packard. For more information, please visit us at <http://www.hp.com/go/recycle>

Device Configuration

The **Device Configuration** page shows the values of all of the settings that are available in the product. The contents of this page are consistent with the configuration page that is generated by the firmware.

Figure 2-75 HP EWS Status tab – Device Configuration page (1 of 6)

HP Color LaserJet MFP 192.168.0.10

HP Color LaserJet MFP

Device Configuration

Product Information

Product Name:	HP Color LaserJet MFP
Formatter Number:	A656Raptor
Product Serial Number:	
Service ID:	10001
Firmware Datecode:	20071211_2252
Telecom Version:	04-015-001
ADF Installed:	Yes
Max Monochrome Print Quality:	600x8
Max Color Print Quality:	ImageREt 3600
Controller Number:	6601
Device Description:	HP Color LaserJet MFP
Language:	English
Asset Number:	
Company Name:	
Contact Person:	
Password:	Not Specified
Hardware Address:	
Host Name:	NP109AF7
IPv4 Address:	192.168.0.10
Show IPv4 Address on Control Panel:	Enabled
IPv6 Address:	FE80:21B:78FF:FE16:9AF7
Total Memory:	160 MBytes
Available Memory:	123.77 MBytes

Figure 2-76 HP EWS Status tab – Device Configuration page (2 of 6)

Installed Personalities and Options

PCL5
PostScript
PCLXL
DIMM Slot 1: Empty
Memory card: Empty

Page Counts

Total Pages Printed:	21
Color Pages Printed:	0
Duplex Pages Printed:	10
Pages Mispicked in Printer:	1
Pages Jammed in Printer:	0
PCL5 Pages Printed:	3760
PS Pages Printed:	826
PCL Pages Printed:	578
Color Pages Printed from Photo:	0
Monochrome Pages Printed from Photo:	0
Memory Cards Inserted:	27
Proofsheet Pages Scanned:	0
Flatbed Pages Scanned to Copy:	0
ADF Pages Scanned to Copy:	0
Monochrome Pages Printed from Copy:	0
Color Pages Printed from Copy:	0
ADF Pages Scanned to Host:	0
Flatbed Pages Scanned to Host:	0
Pages Scanned to E-mail:	0
ADF Pages Scanned to Fax:	0
Flatbed Pages Scanned to Fax:	0
Fax Pages Printed:	0
Fax Pages Sent from PC:	0
Fax Pages Received to PC:	0
Total ADF Pages Scanned:	0
Total Flatbed Pages Scanned:	0

Figure 2-77 HP EWS Status tab – Device Configuration page (3 of 6)

Pages Jammed in Scanner:	0
Paper Settings	
Paper Size:	Letter
Paper Type:	Plain
Tray 1 Size:	Any Size
Tray 1 Type:	Any Type
Tray 2 Size:	Any Size
Tray 2 Type:	Any Type
Paper Out Action:	Wait Forever
Manual Feed:	Off
Duplex:	On
Bind:	Long Edge
Plain:	Normal
HP Matte 90g:	Heavy
HP Matte 105g:	Heavy
HP Matte 120g:	Extra Heavy
HP Matte 160g:	Card stock
HP Matte 200g:	Card stock
HP Glossy 130g:	Light Glossy
HP Glossy 160g:	Glossy
HP Tri Glossy 160g:	Glossy
HP Glossy 220g:	Heavy Glossy
Light 60-74g:	Light
Mid-Weight 96-110g:	Heavy
Heavy 111-130g:	Extra Heavy
Extra Heavy 131-175g:	Card stock
Heavy Glossy111-130g:	Light Glossy
X-HvyGlossy 131-175g:	Glossy
Card Glossy 176-220g:	Heavy Glossy
Transparency:	Transparency
Labels:	Label
Letterhead:	Normal
Envelope:	Envelope

Figure 2-78 HP EWS Status tab – Device Configuration page (4 of 6)

Heavy Envelope:	Heavy Envelope
Preprinted:	Normal
Prepunched:	Normal
Colored:	Normal
Bond:	Heavy
Recycled:	Normal
Rough:	Heavy
Heavy Rough:	Card stock
HP Tough Paper:	Tough Paper
Print Settings	
Auto Continue:	Off
Copies:	1
Courier Font:	Regular
Orientation:	P (Portrait)
Wide A4:	No
Connection Timeout (I/O):	120 Seconds
Jam Recovery:	Auto
Font Source:	I (Internal)
Font Number:	23
Pitch:	10.00
Point Size:	12.00
Symbol Set:	PC-8
Form:	60 Lines
Append CR to LF:	No
Print PS Errors:	On
Supply out override enabled:	No
Mono print (color out):	Yes
Cartridge Low Threshold:	1
Power Save Time:	15 Minutes
Memory Card Printing Settings	
Default Photo Image Size:	4 x 6 in
Default Photo Number of Copies:	1

Figure 2-79 HP EWS Status tab – Device Configuration page (5 of 6)

Default Photo Output Color:	Color
Copy Settings	
Default Copy Quality:	Auto Select
Default Copy Light/Dark:	<----->
Default Copy Collation:	On
Default Copy Number Of Copies:	1
Default Copy Reduce/Enlarge:	Original (100%)
Default Copy Draft:	Off
Default Copy Tray Select:	Auto Select
Default Copy 2-Sided:	1 to 1 Sided
Default Multi-Page copy:	Off
Fax Settings	
Answer Mode:	Automatic
Rings To Answer:	5
Distinctive Ring:	All Rings
Dial Prefix:	Off
Default Resolution:	Fine
Default Light/Dark:	<----->
Fit To Page:	On
Default Glass Size:	Letter
Dialing Mode:	Tone
Redial On Busy:	On
Redial On No Answer:	Off
Redial On Comm Error:	On
Detect Dial Tone:	Off
Billing Codes:	Off
Extension Phone:	On
Stamp Received Faxes:	Off
Private Receive:	Off
Confirm Fax Number:	Off
Allow Fax Reprint:	On

Figure 2-80 HP EWS Status tab – Device Configuration page (6 of 6)

Print Duplex:	Off			
Fax/Tel Ring Time:	20			
Fax Speed:	Fast(V.34)			
ECM - Error Correction:	On			
Forward Fax:	Off			
Block Junk Faxes:	Off			
Phone Line Volume:	Soft			
Alarm Volume:	Soft			
Ring Volume:	Soft			
Key-Press Volume:	Soft			
Fax Confirmation:	Never			
Fax Error Report:	Every Fax Error			
Include First Page:	On			
Auto Log Printing:	On			
T.30 Trace Printing:	Never			
Print Density				
	C	M	Y	K
Contrasts:	0	0	0	0
Highlights:	0	0	0	0
Midtones:	0	0	0	0
Shadows:	0	0	0	0

Network Summary

The **Network Summary** page contains information about the network and its enabled features.

Figure 2-81 HP EWS Status tab – Network Summary page (1 of 3)

HP Color LaserJet MFP 192.168.0.10

System | Print | Fax | **Networking** | E-mail

Device Status
Supplies Status
Device Configuration
Network Summary
Print Info Pages
Color Usage Job Log
Event Log

Network Summary

Shop for Supplies | Support

TCP/IP(v4)

Status: Ready

IP4 Address: 192.168.0.10
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.1
IP Configured By: DHCP
DHCP/BOOTP Server: 192.68.0.201
DHCP Expiration Time: 01:14:05 (Days:Hours:Minutes)
WINS Server: 192.68.0.201
Preferred DNS Address: 192.68.0.201
Alternate DNS Address: 192.68.0.212

TCP/IP(v6)

Status: Ready

Link-Local Address: FE80::21B:78FF:FE16:9AF7
Stateless (from Router): Not Configured
Stateful (from DHCPv6): Not Configured

Network Identification

Host Name: NP169AF7
Domain Name (IPv4/IPv6): yourcompany.com
Domain Name (IPv6 only):

Bonjour Service Name: HP Color LaserJet MFP (169AF7)
Bonjour Domain Name: NP169AF7.local

Figure 2-82 HP EWS Status tab – Network Summary page (2 of 3)

Network Hardware Configuration

Hardware Address: 20071211_2252
Firmware Datecode: 20071211_2252
Link Speed and Duplex Negotiation: Automatic
Link Speed: 100 Mbps
Duplex: Full
Automatic Crossover: Enabled
Connection Timeout (IO): 120 Seconds
WS-Print Users: 0

SNMP

Status: Read-Write Access Enabled

SNMP Version: v1
Set Community Name: Not Specified (Defaults to 'public')
Get Community Name: Not Specified (Defaults to 'public')

Network Statistics

Total Packets Received: 990402
Unicast Packets Received: 27409
Bad Packets Received: 0
Framing Errors Received: 0
Total Packets Transmitted: 59396
Unsendable Packets: 0
Transmit Collisions: 0
Transmit Late Collisions: 0

Enabled Features

IPv4: Enabled
IPv6: Enabled

Figure 2-83 HP EWS **Status** tab – **Network Summary** page (3 of 3)

DHCPv6:	Enabled
LPD Printing:	Enabled
Memory Card Sharing (CIFS):	Enabled
Bonjour:	Enabled
SLP:	Enabled
WS-Discovery:	Enabled
SNMP:	Enabled
Show IPv4 Address on Control Panel:	Enabled
LLMNR:	Enabled

Print Info Pages

Use the **Print Info Pages** page to print the internal special pages that are generated by the product. The following information pages are available:

- HP PCL Font List
- HP PCL6 Font List
- HP PostScript Font List
- Supplies Page

Figure 2-84 HP EWS **Status** tab – **Print Info Pages** page

HP Color LaserJet MFP 192.168.0.10

HP Color LaserJet MFP 192.168.0.10

Device Status

Status: PowerSave on. 192.168.0.10

Supplies Summary

Supply	Level	Order HP Part:	Approximate Pages Remaining
Used Black Cartridge *	Unknown	CC530A	
Used Cyan Cartridge *	Unknown	CC531A	
Used Magenta Cartridge *	Unknown	CC533A	
Used Yellow Cartridge *	Unknown	CC532A	

Shop for Supplies Support

Supplies Detail

Left navigation menu: Device Status, Supplies Status, Device Configuration, Network Summary, Print Info Pages, Color Usage Job Log, Event Log

NOTE: In the left-most section of the **Status** tab, this page is listed as **Print Info Pages**; however, when you visit the page, the page name that appears is **Print Information Pages**. They are the same Web page.

Color Usage Job Log

Click the **Color Usage Job Log** page to do the following:

- Find the product's serial number, which is listed under the **Product Information** subheading.
- Check the number of print jobs stored, which is listed under the **Usage Totals** subheading. The log also includes information about how much color the product has used.
- Delete the currently stored Color Usage Job Log information by selecting the **Clear Job Log** option.

Figure 2-85 HP EWS Status tab – Color Usage Job Log page

The screenshot displays the HP EWS interface for an HP Color LaserJet MFP. The main content area is titled "Color Usage Job Log" and includes the following sections:

- Product Information:** Product Name: HP Color LaserJet MFP, Product Serial Number: XXXXXXXXXX.
- Usage Totals:** Total Jobs in Log: 5, Total Mono Sides: 11, Total Color Sides: 0, Total Sides: 6.
- Job Log Table:**

Date/Time	User	Job	Application	Mono Sides	Color Sides	Total Sheets
20080505 09:31	BrentE	outbind--277-000000	Microsoft Office Out	3	0	2
			Internal Report	2	0	1
			Internal Report	2	0	1
			Internal Report	2	0	1
			Internal Report	2	0	1

At the bottom of the job log table, there is a "Clear Job Log" button and a note: "To delete the Color Usage Job Log information currently stored on the device, press the Clear Job Log button."

Event Log

Use the **Event Log** page to track events that occur on the product.

Figure 2-86 HP EWS Status tab – Event Log page

The screenshot displays the HP EWS interface for an HP Color LaserJet MFP. The main content area is titled "Event Log" and contains a table with the following data:


Number	Code	Page
2	13.0000	2
1	10.3300	0

System tab

Use the **System** tab to view pages and change settings for the following features:

- [Device Information page](#)
- [Paper Handling page](#)
- [Print Quality](#)
- [Print Density page](#)
- [Paper Types](#)
- [Extended Print Modes](#)

- [System Setup](#)
- [Service](#)
- [Password](#)

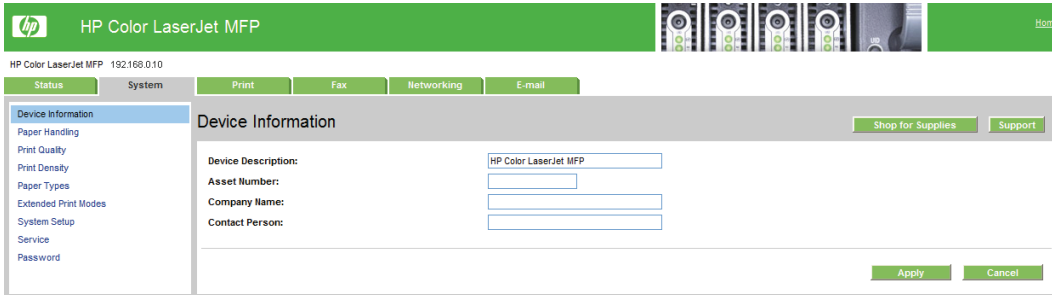
 **NOTE:** The **System** tab opens to the **Device Information** page.

Device Information page

This page contains the following identifying information about the product:

- **Device Description.** This field shows the version of the product that is installed.
- **Asset Number.** Use this field to assign an identifying asset control number to the product.
- **Company Name.**
- **Contact Person.**

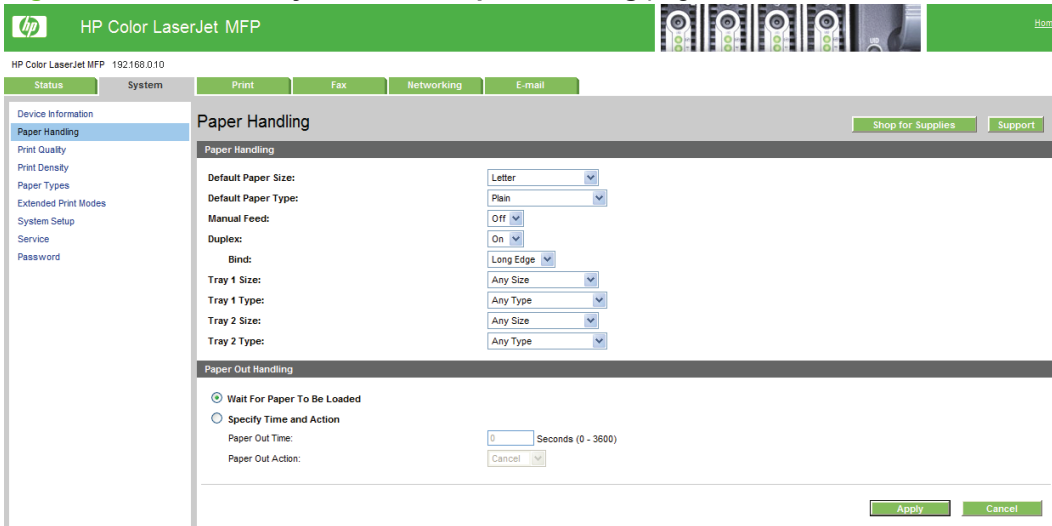
Figure 2-87 HP EWS **System** tab – **Device Information** page



Paper Handling page

Use this page to configure the paper-handling settings for the product. Change the default settings by clicking the blue arrow next to each option and highlighting the selection.

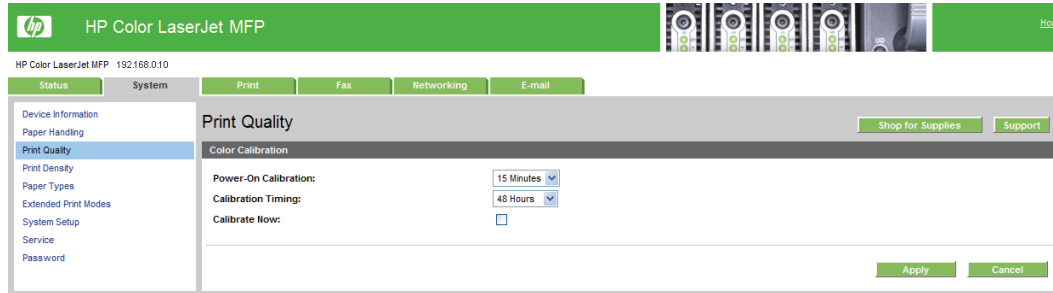
Figure 2-88 HP EWS **System** tab – **Paper Handling** page



Print Quality

Use the **Print Quality** page to change the print quality defaults for the product.

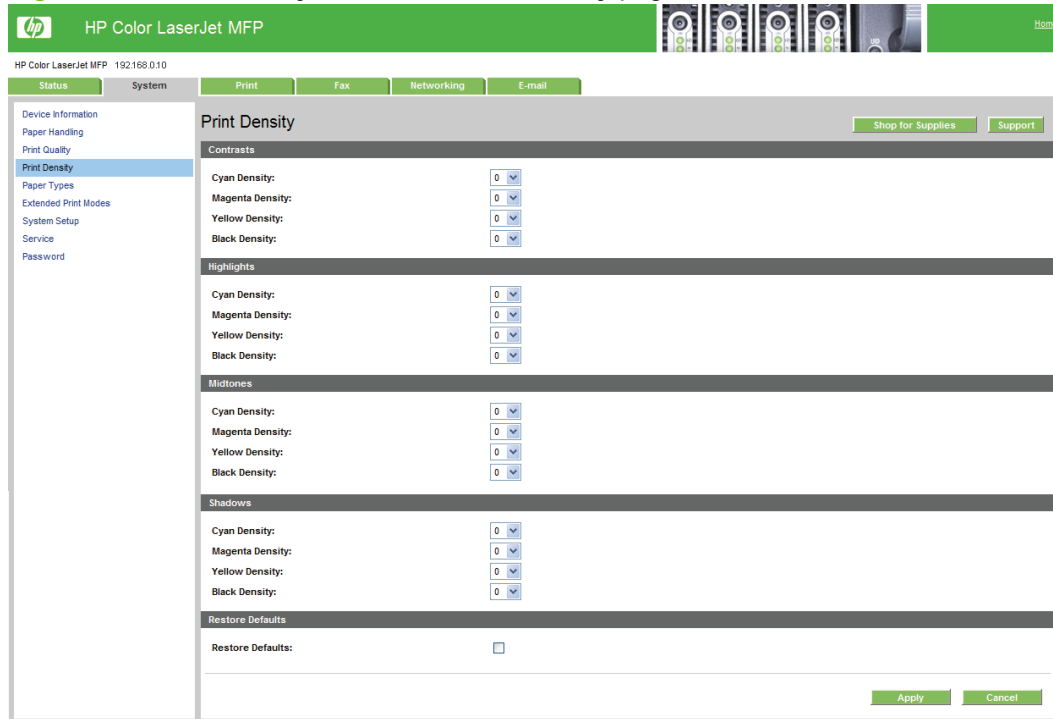
Figure 2-89 HP EWS System tab – **Print Quality** page



Print Density page

Use the **Print Density** page to control the print density of each print cartridge on the product.

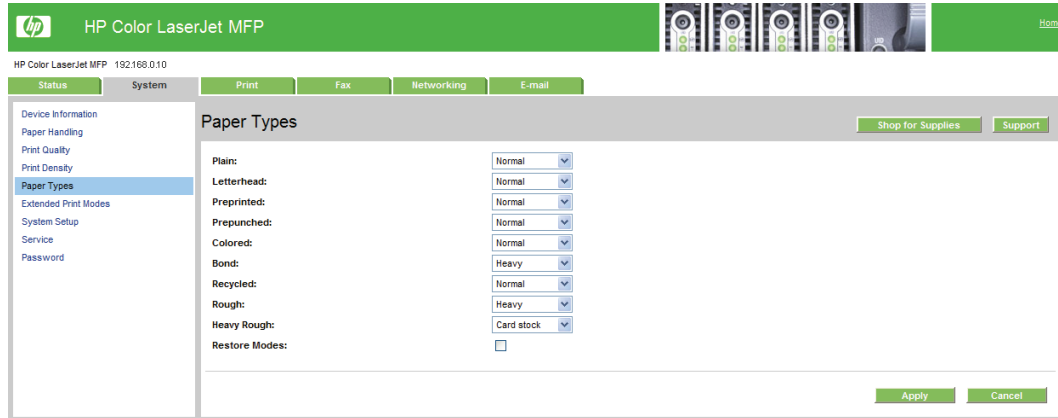
Figure 2-90 HP EWS System tab – **Print Density** page



Paper Types

Use the **Paper Types** page to set the default paper type settings for the product.

Figure 2-91 HP EWS System tab – Paper Types page



Extended Print Modes

Use the **Extended Print Modes** page to adjust printing process to optimize print quality for various paper types and sizes.

Figure 2-92 HP EWS System tab – Extended Print Modes page (1 of 3)

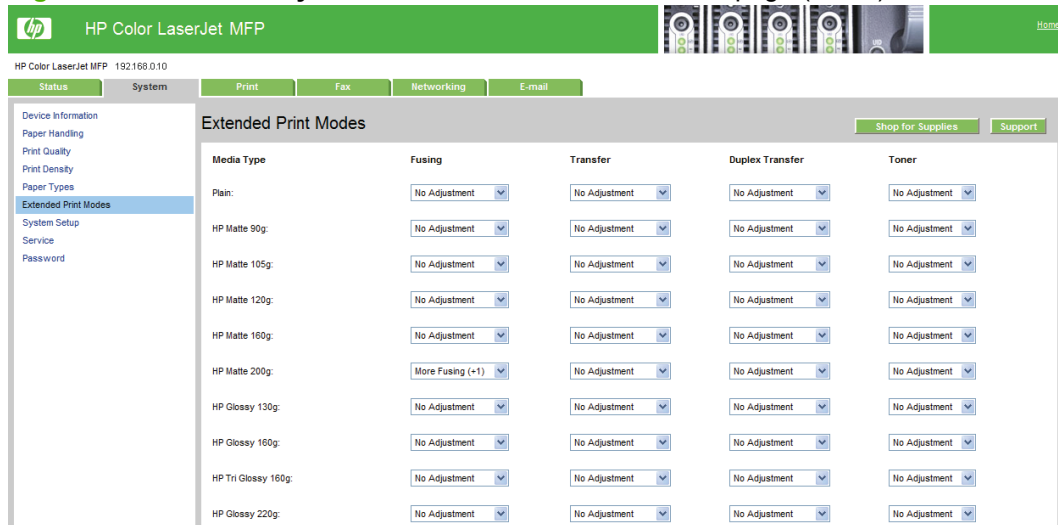


Figure 2-93 HP EWS System tab – Extended Print Modes page (2 of 3)

Light 60-74g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Mid-Weight 96-110g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Heavy 111-130g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Extra Heavy 131-175g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Heavy Glossy111-130g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
X-HvyGlossy 131-175g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Card Glossy 176-220g:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Transparency:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Labels:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Letterhead:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Envelope:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Heavy Envelope:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Preprinted:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Prepunched:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Colored:	No Adjustment	No Adjustment	No Adjustment	No Adjustment

Figure 2-94 HP EWS System tab – Extended Print Modes page (3 of 3)

Bond:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Recycled:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Rough:	No Adjustment	Rough Paper	Rough Paper	No Adjustment
Heavy Rough:	No Adjustment	Rough Paper	Rough Paper	No Adjustment
HP Tough Paper:	No Adjustment	No Adjustment	No Adjustment	No Adjustment
Restore Modes:	<input type="checkbox"/>			

Optimize

Background Toner: Off

Background Toner 2: Off

Extra Drum Cleaning: Off

Drum Banding: Off

Registration: Off

Tray 1: Off

Re-Transfer: Off

Jam Reduction: Off

Heavy Media Optimization: Off

Transfer Belt Cleaning: No Adjustment

Transfer Belt Cleaning Voltage: No Adjustment

Transfer Belt Voltage - Y: No Adjustment

Transfer Belt Voltage - M: No Adjustment

Transfer Belt Voltage - C: No Adjustment

Transfer Belt Voltage - K: No Adjustment

System Setup

Use the **System Setup** page to change settings, such as Jam Recovery and Auto Continue, on the product.

Figure 2-95 HP EWS System tab – System Setup page

Service

Use the **Service** page to start the cleaning mode procedure on the product.

Figure 2-96 HP EWS System tab – Service page

Password

Use the **Password** page to set or change the Administrator password.


Figure 2-97 HP EWS System tab – Password page

Print tab

Use this tab to view and configure the print settings for the product. The following pages are available:

- [Printing](#)

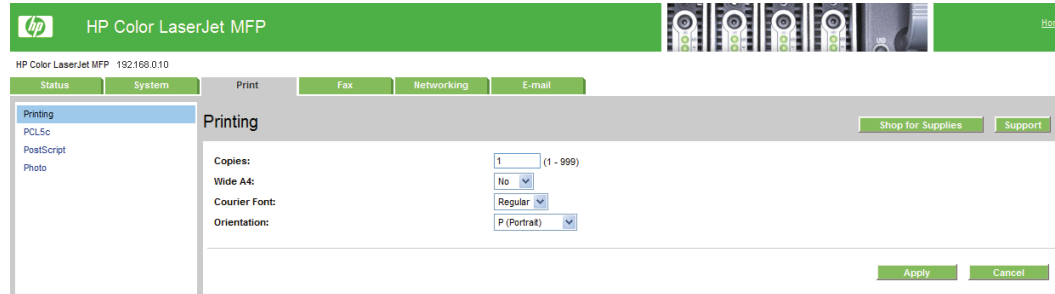
- [PCL5c](#)
- [PostScript](#)
- [Photo](#)

 **NOTE:** The **Print** tab opens to the **Printing** page.

Printing

Use the **Printing** page to change the printing defaults for the product.

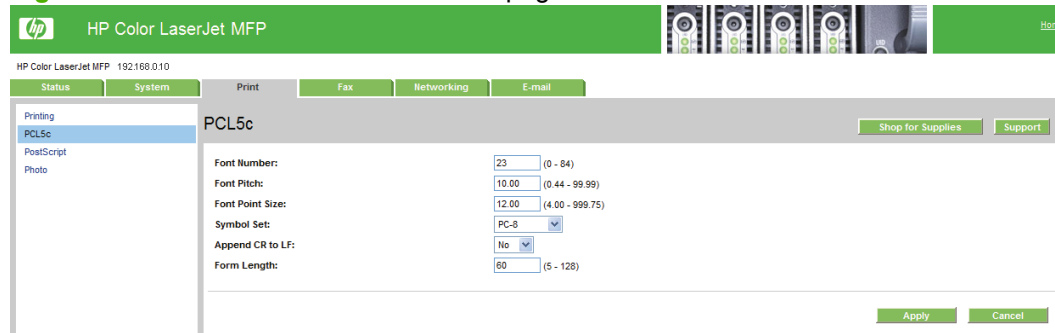
Figure 2-98 HP EWS **Print** tab – **Printing** page



PCL5c

Use the **PCL5c** page to change font information and form length.

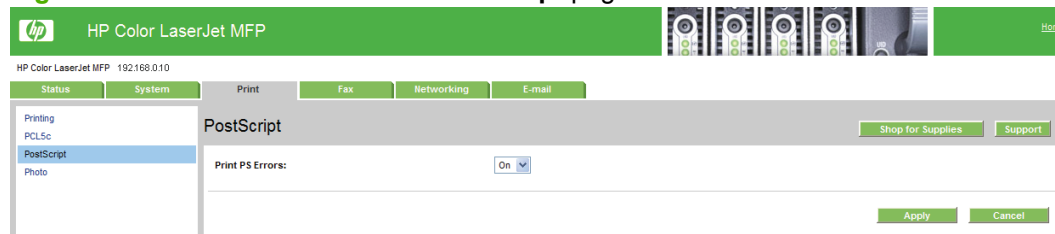
Figure 2-99 HP EWS **Print** tab – **PCL5c** page



PostScript

Use the **PostScript** page to change the **Print PS Errors** option.

Figure 2-100 HP EWS **Print** tab – **PostScript** page



Photo

Use the **Photo** page to allow photo features and to change default memory card options.


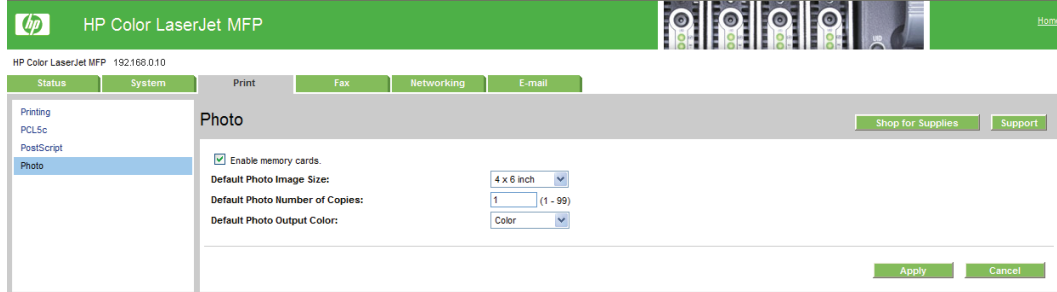
 **NOTE:** This page is not available if the product has the base bundle.

Figure 2-101 HP EWS **Print** tab – **Photo** page



Fax tab

Use the **Fax** tab to view and change settings for the following features:

- [Fax Receive](#)
- [Fax Phone Book](#)

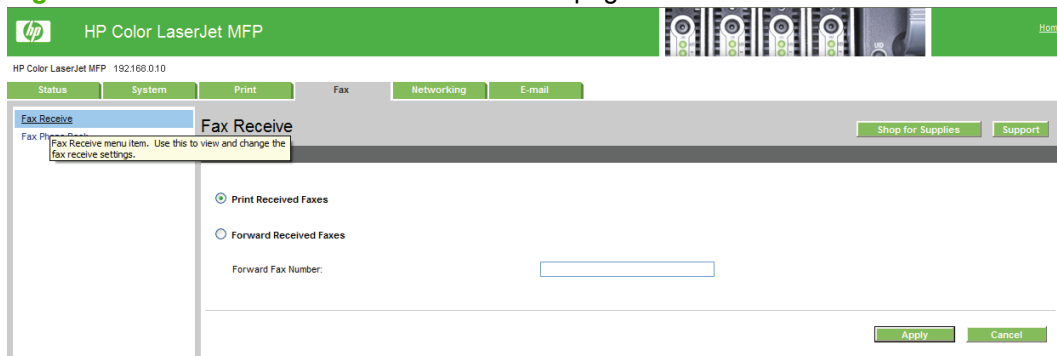
 **NOTE:** The **Fax** tab opens to the **Fax Receive** page.

Fax Receive

The **Fax Receive** page appears the following options for receiving faxes:

- **Print Received Faxes.** This is the default selection. If you select this option, you also have the option to receive a notification (pop-up) message when a fax is printed.
- **Forward Received Faxes.** If you select this option, you also must type, in the **Forward Fax Number:** field, a fax number for the machine to which the fax is being forwarded.

Figure 2-102 HP EWS **Fax** tab – **Fax Receive** page



Fax Phone Book

The **Fax Phone Book** page shows the product phone book data.

The maximum number of characters that a name can have in a phone book entry is 16. Only 12 of these characters appear on the product control panel, because four characters are used to display the phone-book entry number (for example, 001:).

The maximum number of characters that a telephone number can have is 50. This includes special characters that are used to insert pauses in the dialing sequence.

Figure 2-103 HP EWS Fax tab – Fax Phone Book page (1 of 2)

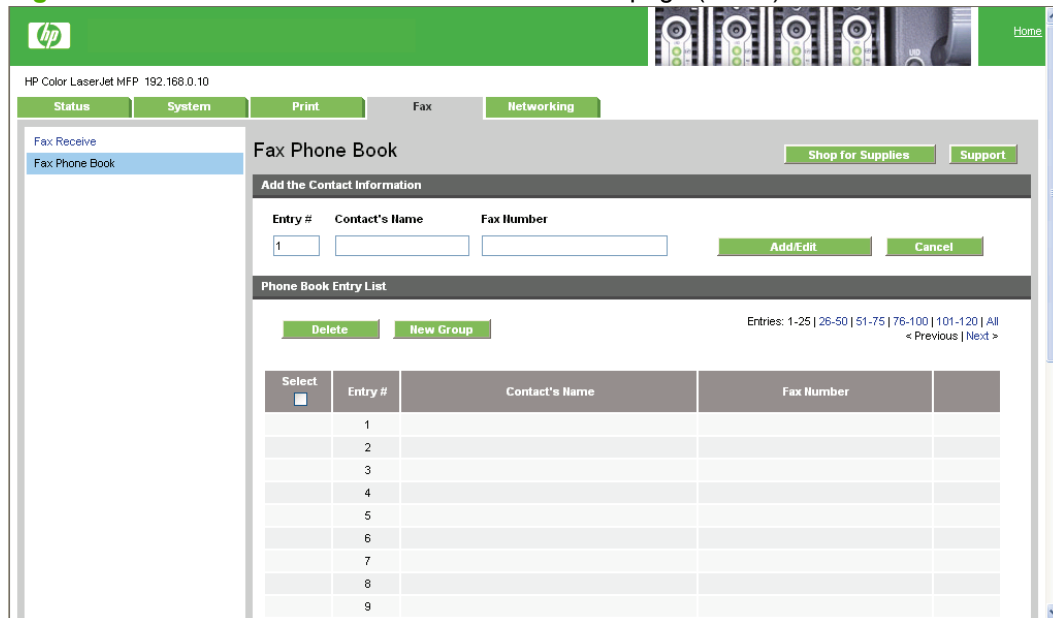
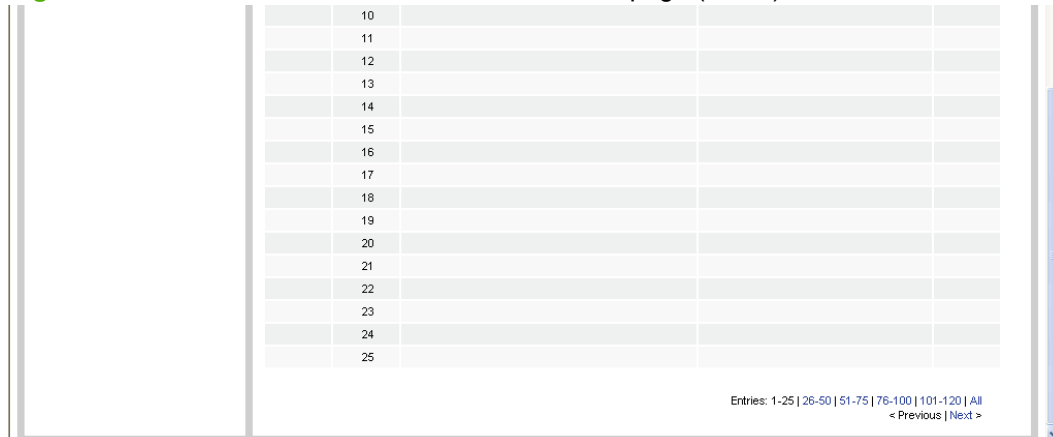


Figure 2-104 HP EWS Fax tab – Fax Phone Book page (2 of 2)



Networking tab

Use the **Networking** tab to view and change settings for the network connection and communication with the product. The following pages are available:


- [Network Summary](#)
- [IPv4 Configuration](#)
- [IPv6 Configuration](#)
- [Network Identification](#)

- [Advanced page](#)
- [SNMP page](#)

 **NOTE:** The **Networking** tab opens to the **Network Summary** page.

Network Summary

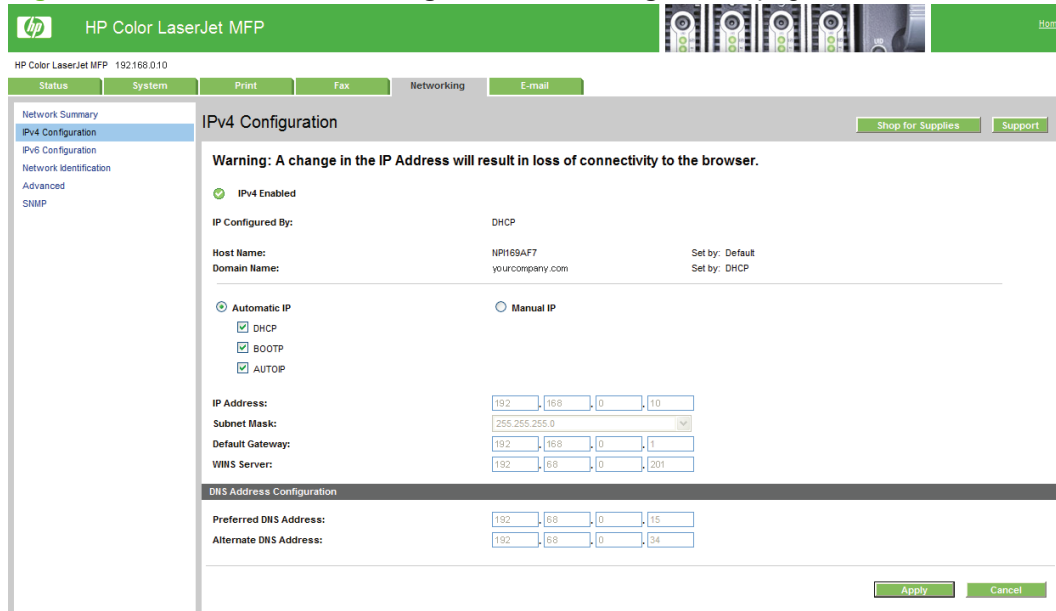
The **Network Summary** page contains all the information about the network and its enabled features.

 **NOTE:** This **Network Summary** page is the same as the **Network Summary** page that is under the HP EWS **Status** tab.

IPv4 Configuration

Use the **IPv4 Configuration** page to configure the IP address, host names, and domain names for the product.

Figure 2-105 HP EWS **Networking** tab – **IPv4 Configuration** page



HP Color LaserJet MFP 192.168.0.10

Network Summary | **IPv4 Configuration** | IPv6 Configuration | Network Identification | Advanced | SNMP

Warning: A change in the IP Address will result in loss of connectivity to the browser.

IPv4 Enabled

IP Configured By: DHCP

Host Name: NP169AF7 Set by: Default
Domain Name: yourcompany.com Set by: DHCP

Automatic IP Manual IP

DHCP
 BOOTP
 AUTOPI

IP Address: 192.168.0.10
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.1
WINS Server: 192.68.0.201

DNS Address Configuration

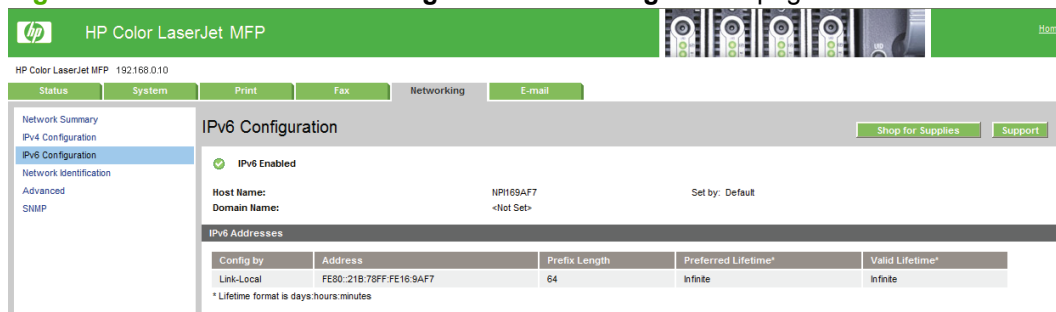
Preferred DNS Address: 192.68.0.15
Alternate DNS Address: 192.68.0.34

Apply Cancel

IPv6 Configuration

The **IPv6 Configuration** page provides an overview of the IPv6 settings for the product.

Figure 2-106 HP EWS **Networking** tab – **IPv6 Configuration** page



HP Color LaserJet MFP 192.168.0.10

Network Summary | **IPv6 Configuration** | IPv4 Configuration | Network Identification | Advanced | SNMP

IPv6 Enabled

Host Name: NP169AF7 Set by: Default
Domain Name: <Not Set>

IPv6 Addresses

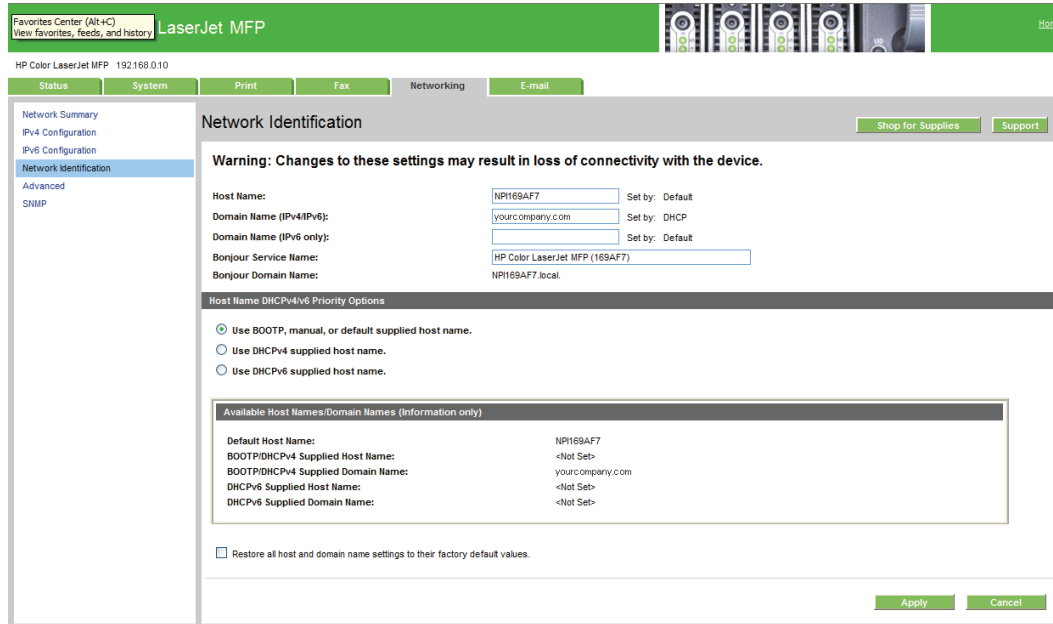
Config by	Address	Prefix Length	Preferred Lifetime*	Valid Lifetime*
Link-Local	FE80::21B:78FF:FE16:9AF7	64	Infinite	Infinite

* Lifetime format is days:hours:minutes

Network Identification

Use the **Network Identification** page to modify network settings and to restore default network settings.

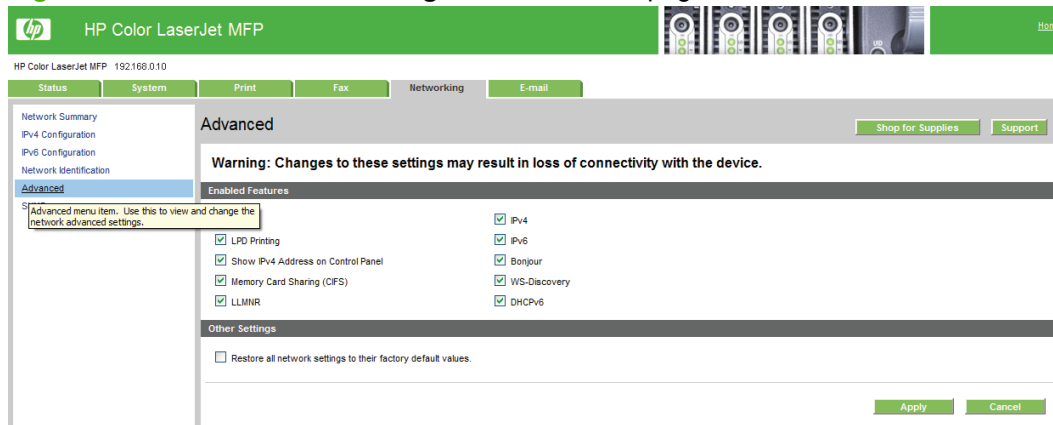
Figure 2-107 HP EWS Networking tab – Network Identification page



Advanced page

Use the **Advanced** page to configure the enabled settings and other settings, such as link speed, for the product.

Figure 2-108 HP EWS Networking tab – Advanced page



SNMP page

Use the **SNMP** page to configure the SNMP settings for the product.

Figure 2-109 HP EWS **Networking** tab – **SNMP** page


The screenshot shows the HP EWS interface for an HP Color LaserJet MFP. The top navigation bar includes 'Status', 'System', 'Print', 'Fax', 'Networking', and 'E-mail'. The 'Networking' tab is active, and the 'SNMP' sub-tab is selected. The page title is 'HP Color LaserJet MFP 192.168.0.10'. A sidebar on the left lists various configuration options, with 'SNMP' highlighted. The main content area is titled 'SNMP' and contains a warning: 'Caution: Changing these settings can potentially disrupt network functionality.' Below the warning are three radio button options: 'Enable SNMP read-write access.' (selected), 'Enable SNMP read-only access (uses 'public' for the Get Community Name).', and 'Disable SNMP'. There are four text input fields for 'Set Community Name', 'Confirm Set Community Name', 'Get Community Name', and 'Confirm Get Community Name'. A checkbox labeled 'Disable SNMP default Get Community Name of 'public'.' is also present. 'Apply' and 'Cancel' buttons are at the bottom right.

E-mail tab

Use the pages on this tab to configure the product to scan documents and have them sent via e-mail directly from the product.

The **E-mail** tab displays the following pages:

- [E-mail Configuration page](#)
- [E-mail Contacts page](#)

 **NOTE:** The **E-mail** tab opens to the **E-mail Configuration** page.

E-mail Configuration page

Use the **E-mail Configuration** page to disable or enable E-mail Mode, set or change SMTP Gateway Settings, and set or change Default E-mail Settings.

Figure 2-110 HP EWS **E-mail** tab – **E-mail Configuration** page

The screenshot shows the HP EWS interface for an HP Color LaserJet CM2320fxi MFP. The top navigation bar includes 'Status', 'System', 'Print', 'Fax', 'Networking', and 'E-mail'. The 'E-mail' tab is active, and the 'E-mail Configuration' sub-tab is selected. The page title is 'HP Color LaserJet CM2320fxi MFP 10.10.48.154'. A sidebar on the left lists 'E-mail Configuration' and 'E-mail Contacts', with 'E-mail Configuration' highlighted. The main content area is titled 'E-mail Configuration' and contains three sections: 'E-mail Mode' with two radio button options ('Disable sending e-mail direct from the product.' and 'Enable sending e-mail direct from the product.'), 'SMTP Gateway Settings' with input fields for 'SMTP Gateway' and 'SMTP Port' (set to 25), and 'Default E-mail Settings' with input fields for 'From: E-mail Address', 'From: Display Name', and 'Default Subject'. There are two checkboxes: 'Allow user to enter a subject with every e-mail.' and 'Allow user to enter a "Reply To:" with every e-mail.'. 'Apply' and 'Cancel' buttons are at the bottom right.

E-mail Contacts page

Use the **E-mail Contacts** page to store e-mail contacts that you communicate with by using this product.

The maximum number of characters allowed in the **Contact's Name** field is 40.

The maximum number of characters allowed in the **E-mail Address** field is 73.

The maximum number of e-mail contacts allowed in the **E-mail Contacts** page is 50.

To add a contact, type the contact's name and e-mail address in the **Contact's Name** field and the **E-mail Address** field, respectively, and then click **Add/Edit**.

To edit a contact's name or e-mail address, check the **Select** box to the left of an entry, and then click the **Edit** link to the right of the entry. After you have made changes, click **Add/Edit**.

To delete a contact, check the **Select** box to the left of an entry, and then click **Delete**.

Figure 2-111 HP EWS **E-mail** tab – **E-mail Contacts** page

HP Color LaserJet CM2320xi MFP 10.10.48.154

Status System Print Fax Networking E-mail

E-mail Configuration
E-mail Contacts

E-mail Contacts

Add / Edit the Contact Information

Shop for Supplies Support

Entry # Contact's Name E-mail Address

1 Add/Edit Cancel

E-mail Contacts

Delete

Select	Entry #	Contact's Name	E-mail Address
<input type="checkbox"/>	1		
<input type="checkbox"/>	2		
<input type="checkbox"/>	3		
<input type="checkbox"/>	4		
<input type="checkbox"/>	5		
<input type="checkbox"/>	6		
<input type="checkbox"/>	7		
<input type="checkbox"/>	8		
<input type="checkbox"/>	9		
<input type="checkbox"/>	10		
<input type="checkbox"/>	11		
<input type="checkbox"/>	12		
<input type="checkbox"/>	13		
<input type="checkbox"/>	14		
<input type="checkbox"/>	15		
<input type="checkbox"/>	16		
<input type="checkbox"/>	17		
<input type="checkbox"/>	18		
<input type="checkbox"/>	19		
<input type="checkbox"/>	20		
<input type="checkbox"/>	21		

HP Customer Participation Program

The HP Customer Participation Program is HP's voluntary program for communication between the computer and HP to help HP monitor toner usage. The HP Customer Participation Program is installed automatically by selecting the **Easy Install** method of the product's solutions software installation and is an option when the user selects the **Recommended Install** method.

Approximately two weeks after the product's solutions software is installed, an option appears on the user's screen allowing him or her to discontinue participation in the program. The message contains full disclosure of the information that is communicated. Participation is entirely voluntary, and the impact on processing and connecting speed is negligible. Personal information is never sent without the user's permission. TCP/IP addresses are used only to enable the connection and for security purposes.

Optional software

The following options are available on the **Install More Software** window:

- **Universal printer-driver**
- **Basic Color Match**
- **Web Printsmart**

Universal printer-driver

Click the **Get a universal printer-driver** button to go to the HP website to download a universal printer-driver for your product.

Basic Color Match

HP Basic Color Match software allows you to adjust spot color in your printed output. For example, you can match the color of your company logo on your printed output. You can save and use the new color schemes for specific documents or all printed documents, or you can create multiple color schemes that you can choose from later. Click this button to go to the HP website to download the HP Basic Color Match software.

Web Printsmart

Preview print output from an Internet browser by using Web Printsmart. Click this button to go to the HP Web Printsmart free download page.

Font support

The following sections list the fonts that are included with Windows software and the fonts that are available on the solutions software CDs that came with the product.

Basic fonts

Windows software includes these basic fonts, which can be used with any HP printing product:

- Arial
- 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 an installation of the product's solutions software.

Table 2-8 Default fonts


Font name	Font style	File name
Albertus Extra Bold	Regular	ALBR85W.TTF
Albertus Medium	Regular	ALBR55W.TTF
Antique Olive	Regular	OLVR55W.TTF
Antique Olive	Bold	OLVR75W.TTF
Antique Olive	Italic	OLVR56W.TTF
CG Omega	Regular	CGOR45W.TTF
CG Omega	Bold	CGOR65W.TTF
CG Omega	Bold Italic	CGOR66W.TTF
CG Omega	Italic	CGOR46W.TTF

Table 2-8 Default fonts (continued)

Font name	Font style	File name
CG Times	Regular	CGTR45W.TTF
CG Times	Bold	CGTR65W.TTF
CG Times	Bold Italic	CGTR66W.TTF
CG Times	Italic	CGTR46W.TTF
Clarendon Condensed	Bold	CLAR67W.TTF
Coronet	Regular	CORONET.TTF
CourierPS	Regular	CPSR45W.TTF
CourierPS	Bold	CPSR65W.TTF
CourierPS	Bold Oblique	CPSR66W.TTF
CourierPS	Oblique	CPSR46W.TTF
Garamond	Antiqua	GARR45W.TTF
Garamond	Halbfett	GARR65W.TTF
Garamond	Kursiv	GARR46W.TTF
Garamond	Kursiv Halbfett	GARR66W.TTF
Helvetica	Regular	HELR45W.TTF
Helvetica	Bold	HELR65W.TTF
Helvetica	Bold Oblique	HELR66W.TTF
Helvetica Narrow	Regular	HELR47W.TTF
Helvetica Narrow	Bold	HELR67W.TTF
Helvetica Narrow	Bold Oblique	HELR68W.TTF
Helvetica Narrow	Oblique	HELR48W.TTF
Helvetica	Oblique	HELR46W.TTF
ITC Avant Garde Gothic	Book	AVGR45W.TTF
ITC Avant Garde Gothic	Book Oblique	AVGR46W.TTF
ITC Avant Garde Gothic Demi	Regular	AVGR65W.TTF
ITC Avant Garde Gothic Demi	Oblique	AVGR66W.TTF
ITC Bookman Light	Regular	BOKR35W.TTF
ITC Bookman Light	Italic	BOKR36W.TTF
ITC Bookman Demi	Regular	BOKR75W.TTF
ITC Bookman Demi	Italic	BOKR76W.TTF
ITC Zapf Chancery	Medium Italic	CHANC___.TTF
ITC Zapf Dingbats	Regular	DINGS___.TTF
Letter Gothic	Regular	LETR45W.TTF
Letter Gothic	Bold	LETR65W.TTF

Table 2-8 Default fonts (continued)

Font name	Font style	File name
Letter Gothic	Italic	LETR46W.TTF
Marigold	Regular	MARIGOLD.TTF
New Century Schoolbook	Bold	NCSR75W.TTF
New Century Schoolbook	Bold Italic	NCSR76W.TTF
New Century Schoolbook	Italic	NCSR56W.TTF
New Century Schoolbook	Roman	NCSR55W.TTF
Palatino	Bold	PALR65W.TTF
Palatino	Bold Italic	PALR66W.TTF
Palatino	Italic	PALR46W.TTF
Palatino	Roman	PALR45W.TTF
SymbolPS	Regular	SYMPS_.TTF
Times*	Bold	TIMR65W.TTF
Times	Bold Italic	TIMR66W.TTF
Times	Italic	TIMR46W.TTF
Times	Roman	TIMR45W.TTF
Univers	Bold	UNVR65W.TTF
Univers	Bold Italic	UNVR66W.TTF
Univers Condensed	Bold	UNVR67W.TTF
Univers Condensed	Bold Italic	UNVR68W.TTF
Univers Condensed	Medium	UNVR57W.TTF
Univers Condensed	Medium Italic	UNVR58W.TTF
Univers	Medium	UNVR55W.TTF
Univers	Medium Italic	UNVR56W.TTF

 **NOTE:** 92 additional HP PostScript Emulation fonts are also available on the solutions software CD.

3 Install Windows solutions software components

Introduction

This product comes with software and installers for Microsoft Windows and Apple Computer, Inc., Macintosh systems. Linux and UNIX systems support the product, and software is available on the Web. This document provides procedures for installing and uninstalling the solutions software for Windows operating systems for this product.

- [Supported operating systems for Windows](#)
- [Install overview](#)
- [Windows general installation overview](#)
- [Detailed Windows installation instructions](#)
- [Install optional software](#)
- [User uninstall software](#)
- [Software for other operating systems](#)

Supported operating systems for Windows

The product supports the following Windows operating systems:

Full software installation

- Windows XP (32-bit)
- Windows Vista (32-bit and 64-bit)

Print and scan driver


- Windows XP (64 bit)
- Windows 2000
- Windows 2003 Server (32-bit and 64-bit)

 **NOTE:** The HP PCL 5 universal printer-driver (UPD) and HP PostScript Level 3 Emulation printer-drivers are only available on the HP support website: www.hp.com/support/CM2320series.

Install overview

The solutions software CD is included with the product. See the getting started guide for installation instructions.

The printing system includes software for end users and network administrators and printer-drivers for access to the product features and communication with the computer.

 **NOTE:** For a list of the network environments that the network-administrator software components support, see www.hp.com/go/LJCM2320_software.

For a list of printer-drivers and updated HP product software, go to www.hp.com/go/LJCM2320_software.

The following printer-drivers are not included on the CD, but are available from www.hp.com/go/LJCM2320_software.

- Linux printer-drivers
- HP PCL 5 universal printer-driver (UPD)
- HP PostScript Level 3 Emulation printer-driver

Software installation types for Windows

The following software installation types are available:

- **Recommended.** Installs the full software solution.
- **Express.** Installs the print driver, scan driver, USG driver and ScanTo driver. There is an express option for USB-connected products and another express option for network-connected products.

Installation options

The solutions software can be used with the product in the following configurations:

- Install the solutions software on a computer that is directly connected to the product through a USB port.
- Install the solutions software on a computer that has access to a network to which the product is connected.

Windows general installation overview

Installation is similar for all supported Windows operating systems.

If the product is connected through a file or print server, the solutions software must be installed on the server before it is installed on any client systems. If the solutions software is not first installed on the server, bidirectional communication and some printer-driver autoconfiguration methods are not available to the client systems.

For Microsoft Windows 2000, Microsoft Windows Server 2003, Microsoft Windows XP, and Microsoft Windows Vista, the person installing the software must have administrator rights on the system.

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

- [Animated Getting Started Guide \(GSG\)](#)
- [Unsupported Operating System dialog box](#)
- [Windows installation for direct connections](#)
- [Windows installation for computers on a network](#)
- [Install printer-drivers by using a CD](#)
- [Modify an existing installation](#)
- [Universal printer-driver \(UPD\) installation](#)

Animated Getting Started Guide (GSG)


The solutions software CD includes an animated getting started guide (GSG). This guide includes instructions for preparing the product for use and initial software install.

- [Setup and installation instructions](#)
- [Animated GSG dialog boxes](#)

Setup and installation instructions

The following includes instructions for setup of the product and steps towards installing the printer-driver software from the CD. The animated guide screens mentioned in this section can be found in the “**Animated GSG dialog boxes**” section below, which also includes additional setup dialog boxes not mentioned in the following instructions.

1. Quit all programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. The **Welcome** screen of the animated install guide opens. Two products appear; click to select your product.
4. Click **Begin Setup**.
5. Follow the onscreen instructions that appear in the animated GSG dialog boxes. The animated GSG dialog boxes appear in the order described in the “**Animated GSG dialog boxes**” section below.

 **NOTE:** Pay attention to the note in the **Connect the power cord** screen; do not connect the USB cable until you are prompted by the solutions software.

6. The **Select Install to begin installing your new HP device** screen appears. Select the desired install method: **Recommended Install** or **Express Install**.

Animated GSG dialog boxes

The Animated GSG dialog boxes are presented in the following order.

Figure 3-1 Animated GSG – **Welcome** screen

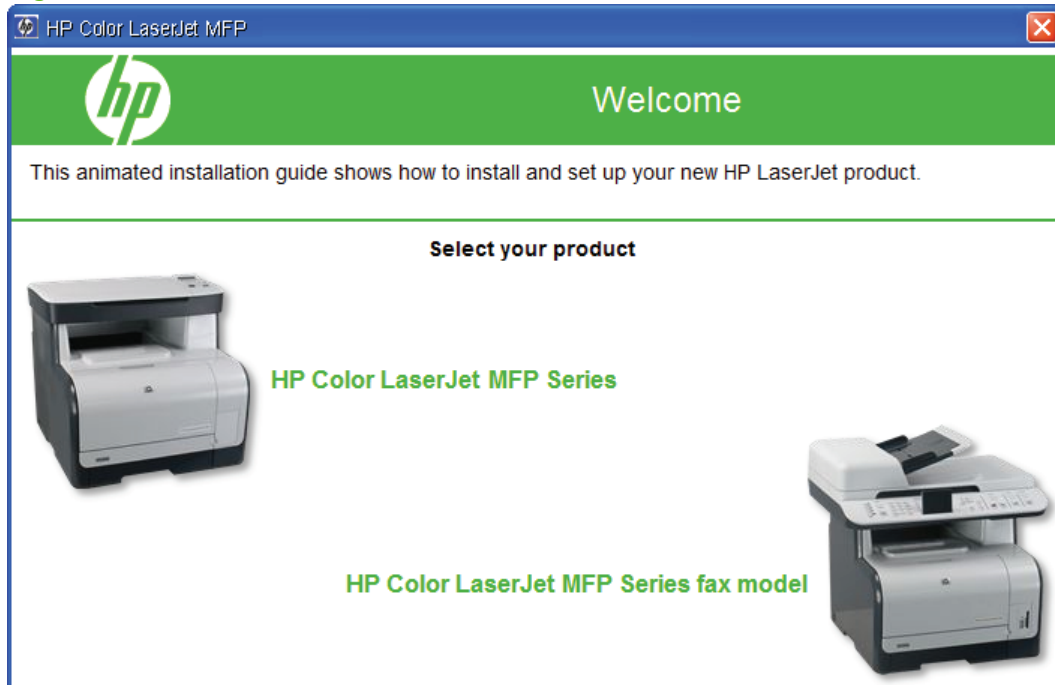


Figure 3-2 Animated GSG – **Select your connection** screen

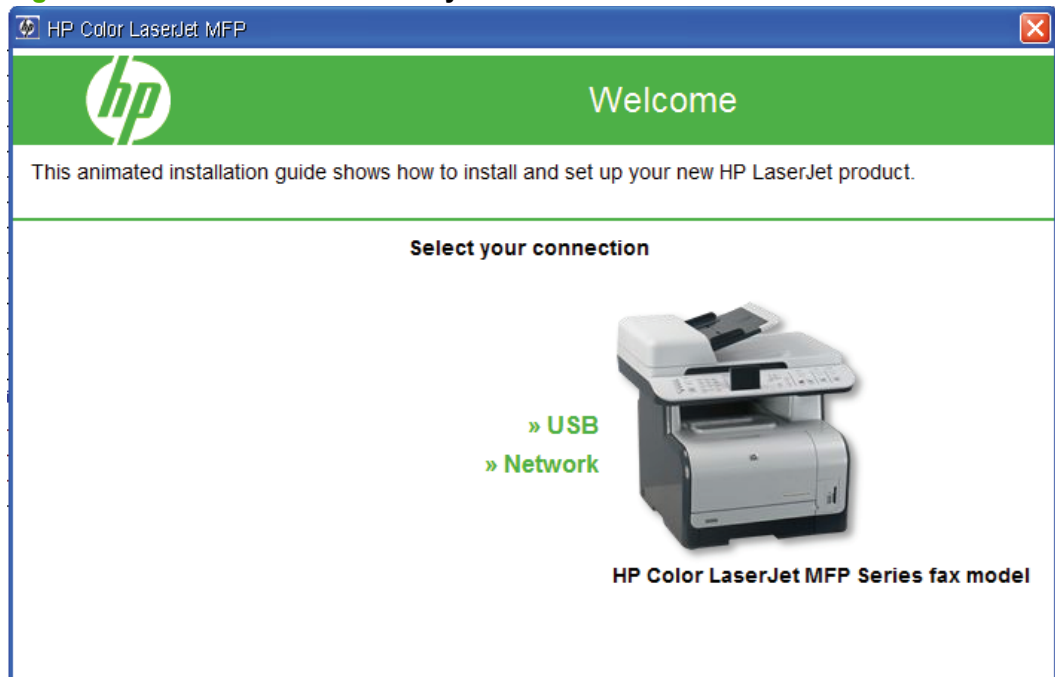


Figure 3-3 Animated GSG – **Begin Setup** screen



Figure 3-4 Animated GSG – **Remove all orange shipping tape from the product** screen



Figure 3-5 Animated GSG – **Install accessories** screen



Figure 3-6 Animated GSG – **Record your Series and Product number for product registration** screen



Figure 3-7 Animated GSG – **Attach the control faceplate** screen



Figure 3-8 Animated GSG – **Remove the clear cover** screen



Figure 3-9 Animated GSG – Rotate the display screen



Figure 3-10 Animated GSG – Prepare the print cartridges screen



Figure 3-11 Animated GSG – Install optional tray 3 (memory card model only) screen



Figure 3-12 Animated GSG – Open paper tray screen



Figure 3-13 Animated GSG – Adjust the paper tray guides and load paper screen

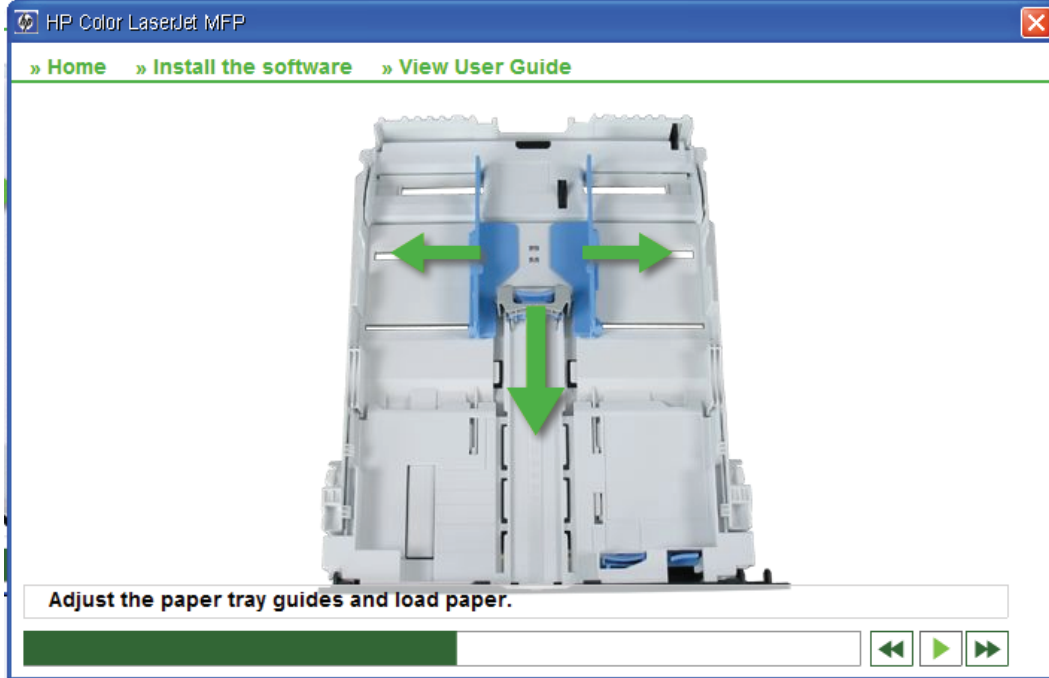


Figure 3-14 Animated GSG – Adjust the paper guides against the paper and reinsert tray screen

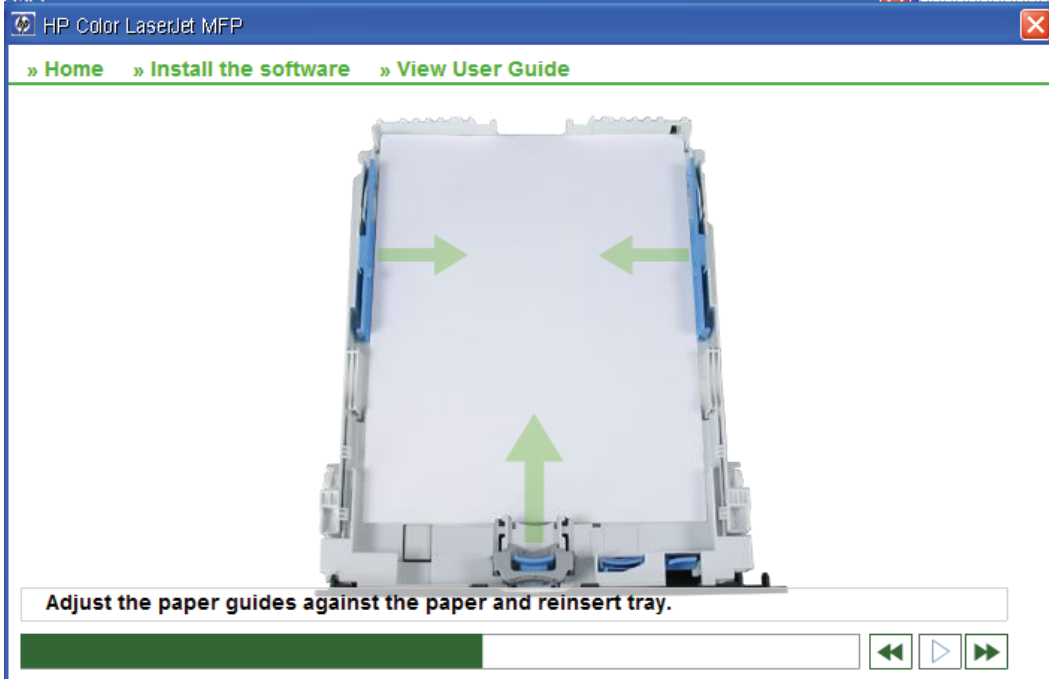


Figure 3-15 Animated GSG – **Connect the power cord** screen



Figure 3-16 Animated GSG – **Connect the phone cord (fax models only)** screen



Figure 3-17 Animated GSG – Turn on the product screen



Figure 3-18 Animated GSG – Connect the network cable screen

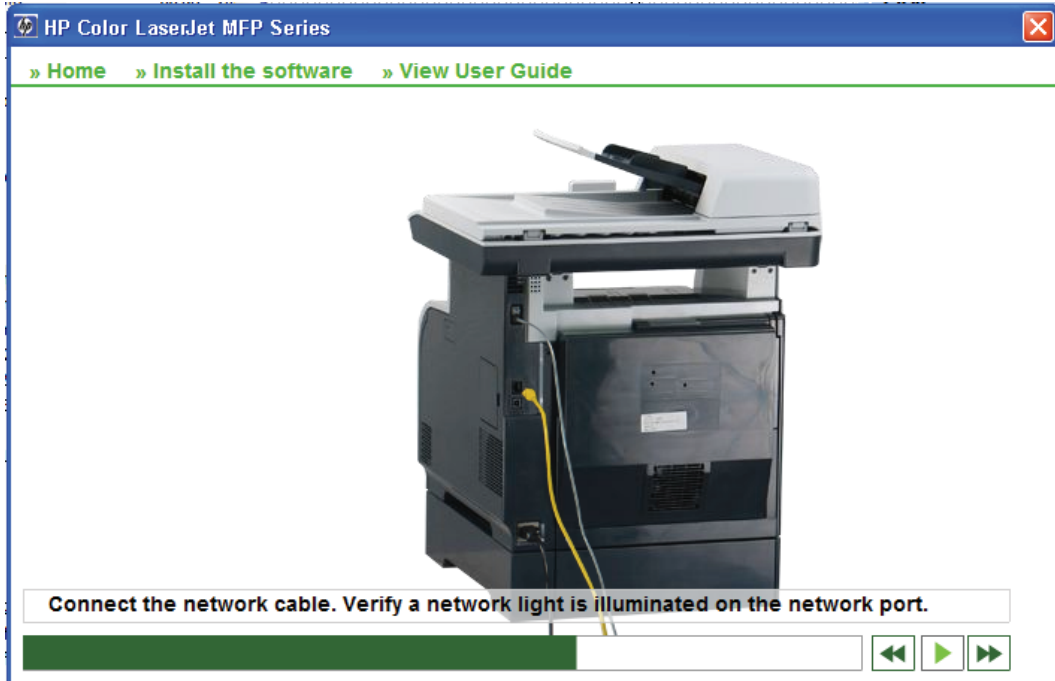


Figure 3-19 Animated GSG – **Verify a network light is illuminated on the network port** screen

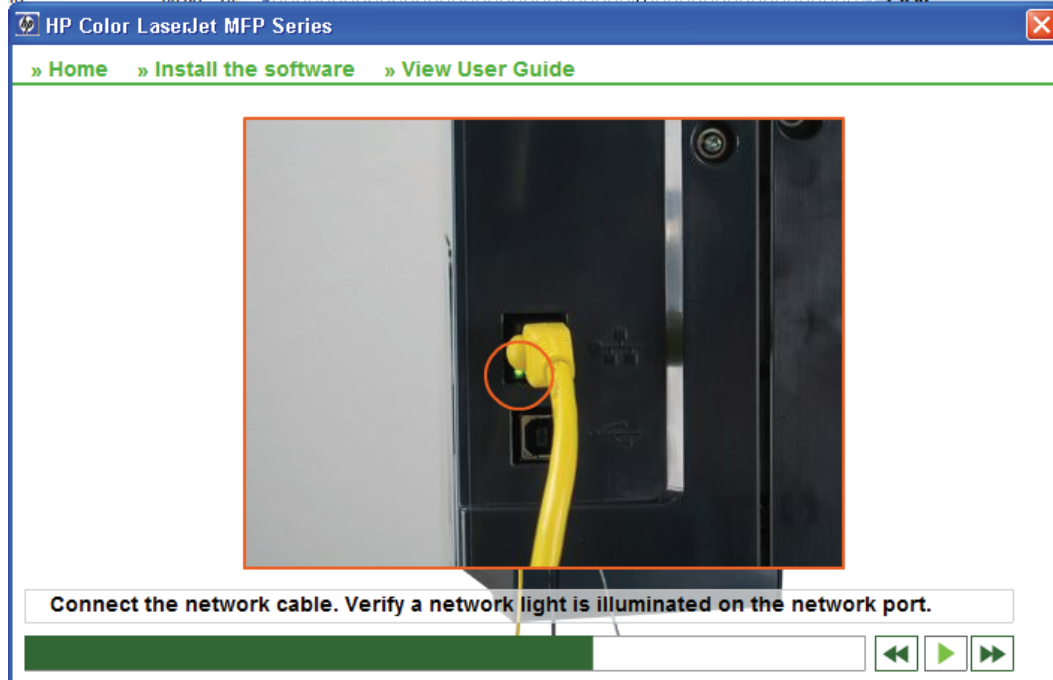


Figure 3-20 Animated GSG – **Set the language and the location on the control panel (if necessary)** screen

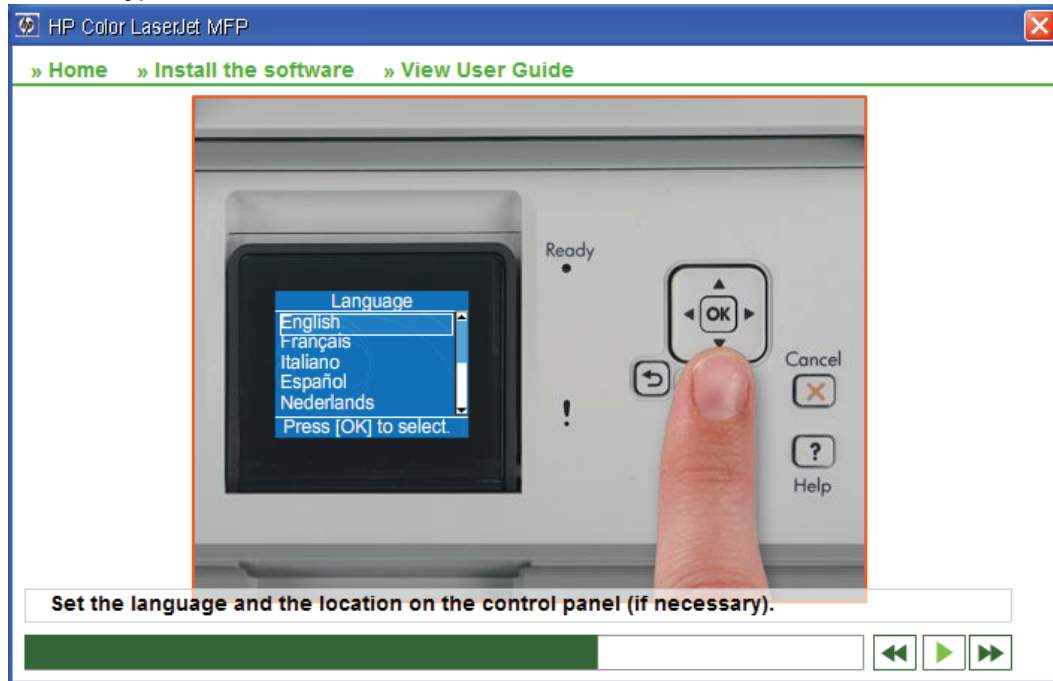


Figure 3-21 Animated GSG – **Optional: Insert a memory card into the reader and view photos on the display screen (Screen 1)**



Figure 3-22 Animated GSG – **Optional: Insert a memory card into the reader and view photos on the display screen (Screen 2)**



Figure 3-23 Animated GSG – Print a Configuration Report screen



Figure 3-24 Animated GSG – Place the Configuration Report in the ADF and press Start Copy Black to test the ADF screen (Screen 1)



Figure 3-25 Animated GSG – Place the Configuration Report in the ADF and press Start Copy Black to test the ADF screen (Screen 2)

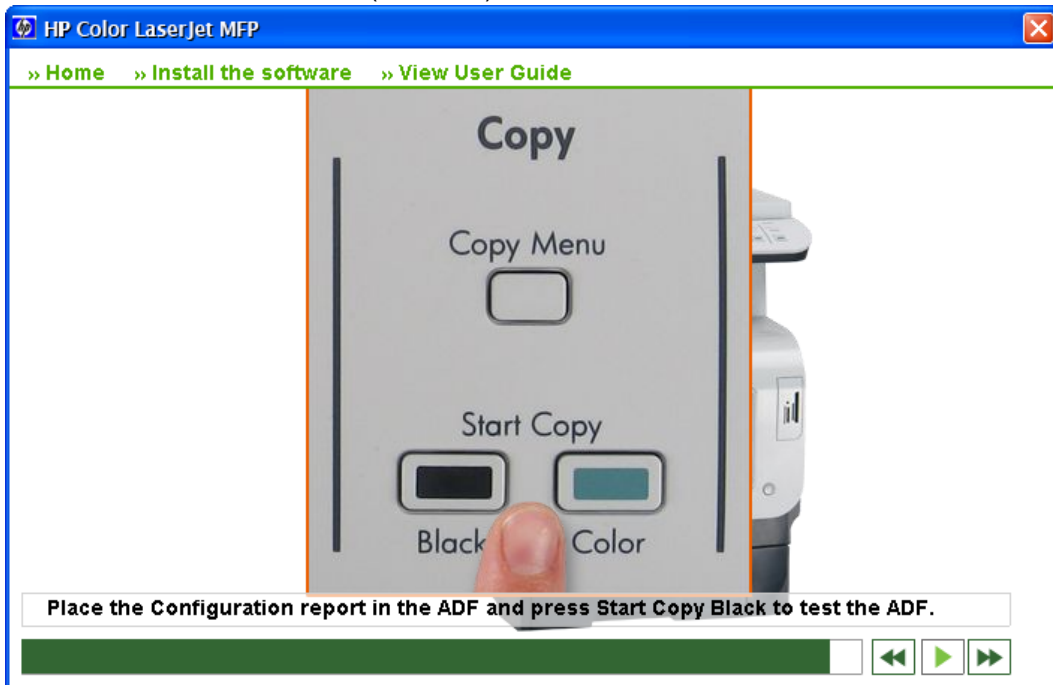


Figure 3-26 Animated GSG – Place the Configuration Report on the flatbed scanner and press Start Copy Color to test the color copy screen



Figure 3-27 Animated GSG – Install the software screen



Unsupported Operating System dialog box

The Microsoft Windows NT 4.0, Microsoft Windows 98, and Microsoft Windows Me operating systems do not support this product. When attempting to install the software in these environments, an **Unsupported Operating System** dialog box appears.

An example of an **Unsupported Operating System** dialog box is shown in the following figure.

Figure 3-28 Setup Error – Unsupported Operating System, Windows 98



Windows installation for direct connections

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.

Recommended Install

The following two methods are recommended:

- Easy Install
- Advanced Install

These two methods are detailed below.

Easy Install

1. Quit all open programs, including any anti-virus and firewall applications that are on your computer.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Recommended Install**.

4. The **Please Allow All HP Install Wizard Processes** window opens. Click **Next**.
5. The **Choose Easy Install or Advanced Install** window opens. The following links are available:
 - **The Software End User License Agreement**
 - **Automatic Software Updates**
 - **The Recommended Software Package***
 - **Click Here For The HP Privacy Policy**
 - **Click Here For Details On The Internet Connection Capabilities**Click **Easy Install**, and then click **Next**. The **Installing Color LaserJet CM2320 MFP Series** installation progress window opens.
6. The **Connection Type** window opens. Click **Directly to this computer using a USB cable..**
7. The **Connect your device now** window opens. Connect the USB cable from the computer to the product. Once the USB is connected, the install continues automatically.
8. The **Congratulations! Install Finished** window opens. Click **Exit**.
9. Restart any anti-virus and firewall applications that are on your computer.

Advanced Install

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Recommended Install**.
4. The **Please allow all HP Install Wizard Processes** window opens. Click **Next**.
5. The **Choose Easy Install or Advanced Install** window opens. The following links are available:
 - **The Software End User License Agreement**
 - **Automatic Software Updates**
 - **The Recommended Software Package***
 - **Click Here For The HP Privacy Policy**
 - **Click Here For Details On The Internet Connection Capabilities**Click **Advanced Install**.
6. The **Automatically check for updates** window opens. Click **Yes, please check for updates automatically (recommended)** or **No, I prefer to do this myself**. Then, click **Next**.
7. The **End User Agreement** opens. Click **I agree** to continue installing the printer-driver software.
8. The **Thank you for buying another HP product** window opens indicating where the software files will be installed on the computer. Click **Next** to continue.
9. The **Connection Type** window opens. Click **Directly to this computer using a USB cable**.

10. The **Connect your device now** window opens. Connect the USB cable from the computer to the product. Once the USB is connected, the install continues automatically.
11. The **Congratulations! Install Finished** window opens. Click **Exit**.

Express Install

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Express Install**.
4. On the **Express USB Install** window, click **Express USB Install**.
5. The **Connect your device now** window opens. Connect the USB cable from the computer to the product. Once the USB is connected, the install continues automatically.
The **Device has been detected** window opens and displays the progress of the install.
6. The **Congratulations! Install Finished** window opens. Click **Exit**.

Windows installation for computers on a network

 **NOTE:** The solutions software does not support Windows sharing (peer-to-peer networking).

Recommended Install

The two methods below are the recommended install:

- Easy Install
- Advanced Install

Easy Install

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Recommended Install**.
4. The **Please allow all HP Install Wizard Processes** window opens. Click **Next**.
5. The **Choose Easy Install or Advanced Install** window opens. The following links are available:
 - **The Software End User License Agreement**
 - **Automatic Software Updates**
 - **The Recommended Software Package***
 - **Click Here For The HP Privacy Policy**
 - **Click Here For Details On The Internet Connection Capabilities**

Click **Easy Install**. The installation progress window opens.

6. The **Connection Type** window opens. Click **Through the network**.
7. The **Identify a printer** window opens. Choose one of the following actions:
 - Click **Select from a list of detected printers (Recommended)**.
 - Click **Specify a printer by address** and type the IP Address (IPv4), hostname, or hardware address of the product.

Then, click **Next**.

8. The **Firewall Notice** window opens. Click **Next**.
9. The **Searching** window opens and displays the progress of the network or local search.
The **Printers Found** window opens and displays the products discovered on the network.
 - If the product appears in the selection box, select it and click **Install a discovered network printer**. Then, click **Next** to continue.
 - If the product does not appear in the selection box, click **Search Again**.
 - If the product still does not appear in the selection box, click the **Help me find my network printer** option and click **Next**.
10. The **Congratulations! Install Finished** window opens. Click **Exit**.

Advanced Install

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Recommended Install**.
4. The **Please allow all HP Install Wizard Processes** window opens. Click **Next**.
5. The **Choose Easy Install or Advanced Install** window opens. The following links are available:
 - **The Software End User License Agreement**
 - **Automatic Software Updates**
 - **The Recommended Software Package***
 - **Click Here For The HP Privacy Policy**
 - **Click Here For Details On The Internet Connection Capabilities**Click **Advanced Install**.
6. The **Automatically check for updates** window opens. Click **Yes, please check for updates automatically (recommended)** or **No, I prefer to do this myself**. Then, click **Next**.
7. The **End User Agreement** opens. Click **I agree** to continue installing the printer-driver software.

8. If you already have another HP product installed on your computer, the **Thank you for buying another HP product** window will appear. You can change the path on which you intend to install your additional HP product.
9. The **Connection Type** window opens. Click **Through the network**.
10. The **Identify a printer** window opens.
 - Click **Select from a list of detected printers (recommended)**.
 - Click **Specify a printer by address** and type the IP Address (IPv4), hostname, or hardware address of the product.Then, click **Next**.
11. The **Firewall Notice** window opens. Click **Next**.
12. The **Searching** window opens and displays the progress of the network or local search.
The **Printers Found** window opens and displays the products discovered on the network.
 - If the product appears in the selection box, select it and click **Install a discovered network printer**. Then, click **Next** to continue.
 - If the product does not appear in the selection box, click **Search Again**.
 - If the product still does not appear in the selection box, click the **Help me find my network printer** option and click **Next**.
13. The **Congratulations! Install Finished** window opens. Click **Exit**.

Express Network Install

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive.
3. On the **Select Install to begin installing your new HP device** window, click **Express Install**.
4. On the **Express USB Install** window, click **Express Network Install**.
5. The **Identify a printer** window opens.
 - Click **Select from a list of detected printers (recommended)**.
 - Click **Specify a printer by address** and type the IP Address (IPv4), hostname, or hardware address of the product.Then, click **Next**.
6. The **Firewall Notice** window opens. Click **Next**.
7. The **Searching** window opens and displays the progress of the network or local search.


The **Printers Found** window opens and displays the printers discovered on the network.

- If the product appears in the selection box, select it and click **Install a discovered network printer**. Then, click **Next** to continue.
- If the product does not appear in the selection box, click **Search Again**.
- If the product still does not appear in the selection box, click the **Help me find my network printer** option and click **Next**.

8. The **Congratulations! Install Finished** window opens. Click **Exit**.

Install printer-drivers by using a CD

Use the following instructions to install the printer-driver only.

 **NOTE:** **Add Printer** installs are not recommended unless the print port already exists. If the print port does not exist, then use the Express Install method from the CD instead.

1. In Windows Vista, click **Start**, click **Computer**, click **Control Panel**, and then click **Hardware and Sound**.

In Windows XP Professional and Windows Server 2003, click **Start**, and then click **Printers and Faxes**.

In Windows XP Home, click **Start**, click **Control Panel**, and then click **Printers and Faxes**.

In Windows 2000 operating systems, click **Start**, click **Settings**, and then click **Printers**.

2. Double-click **Add a printer**, and then click **Next**.
3. When asked whether the product is a local or network product, select local and then click **Next**.
4. You might need to first select the product for a list or type a TCP/IP address. If the printer-driver is not available, the **Add Printer Wizard** dialog box appears. Click **Have Disk** on the wizard screen.
5. Insert the solutions software CD into the CD-ROM drive.
6. Navigate to the root folder of the CD (where X is the letter of the CD-ROM drive), and click **OK**. The **Install Printer Software** dialog box appears. Select the printer-driver and then click **OK**.
7. Complete the installation. When prompted, print a test page to ensure that the printer-driver is installed correctly.

Set a default printer

1. In Windows Vista, click the **Start** button, click **Control Panel**, and then click **Hardware and Sound**. Under the **Printers** section, click **Change default printer**.

In Windows XP and Windows Server 2003, click **Start**, click **Control Panel**, and then click **Printers and Faxes** (Windows XP Professional) or **Printers and other hardware devices** (Windows XP Home).

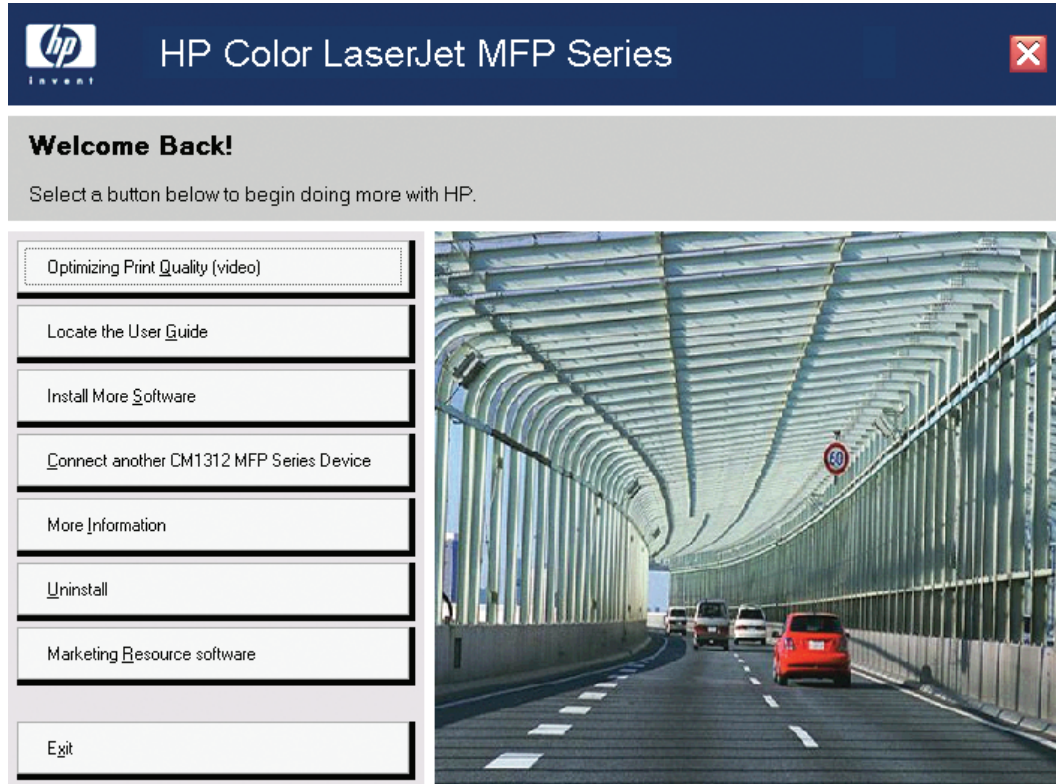
In Windows 2000 operating systems, click **Start**, click **Settings**, and then click **Printers**.

2. Right-click the product that you want to set as the default printer.
3. Click **Set as default**. A check mark appears next to the menu option.

Modify an existing installation

If an HP Color LaserJet CM2320 MFP Series product has been previously installed, the appearance of the main installation window changes on the CD browser. A pre-existing installation also changes the sequence of installation windows.

Figure 3-29 Welcome Back! window



Select the **Connect another CM2320 Series Device** option to add another HP Color LaserJet CM2320 MFP Series product.

Select **Install More Software** to download additional software from www.hp.com. For more information about additional software, see the [Install optional software on page 157](#) section of this chapter.

Select **Uninstall** to uninstall the printer-drivers or software from your computer.

Universal printer-driver (UPD) installation

The HP Universal Print Driver for Windows is a single printer-driver that gives you instant access to virtually any HP LaserJet product, from any location, without downloading separate printer-drivers. It is built on proven HP printer-driver technology and has been tested thoroughly and used with many software programs. It is a powerful solution that performs consistently over time.

The HP Universal Print Driver communicates directly with each HP product, gathers configuration information, and then customizes the user interface (UI) to show the product's unique, available features. It automatically enables features that are available for the product, such as two-sided printing and stapling, so that you do not need to manually enable them.

For more information, go to www.hp.com/go/upd.

HP Universal Print Driver installation modes

Traditional mode

- Use this mode if you are installing the printer-driver from a CD for a single computer.
- When installed with this mode, the HP Universal Print Driver operates like traditional printer-drivers.
- If you use this mode, you must install the HP Universal Print Driver separately for each computer.


Dynamic mode

- Use this mode if you are installing the printer-driver for a mobile computer, so you can discover and print to HP products in any location.
 - Use this mode if you are installing the HP Universal Print Driver for a workgroup.
 - To use this mode, download the HP Universal Print Driver from the Internet. See www.hp.com/go/upd.
-

Detailed Windows installation instructions

Solutions software installation for Windows


The following section shows the dialog box options that appear when you install the solutions software for the Windows 2000, Windows Server 2003, and Windows XP operating systems.

 **NOTE:** HP recommends installing the software before connecting the product to the computer (software-first installation). These instructions are for a software-first installation.

A computer that is running Windows Server 2003 will automatically go through the steps for a default installation of the solutions software.

Use these instructions the first time that you install the solutions software.

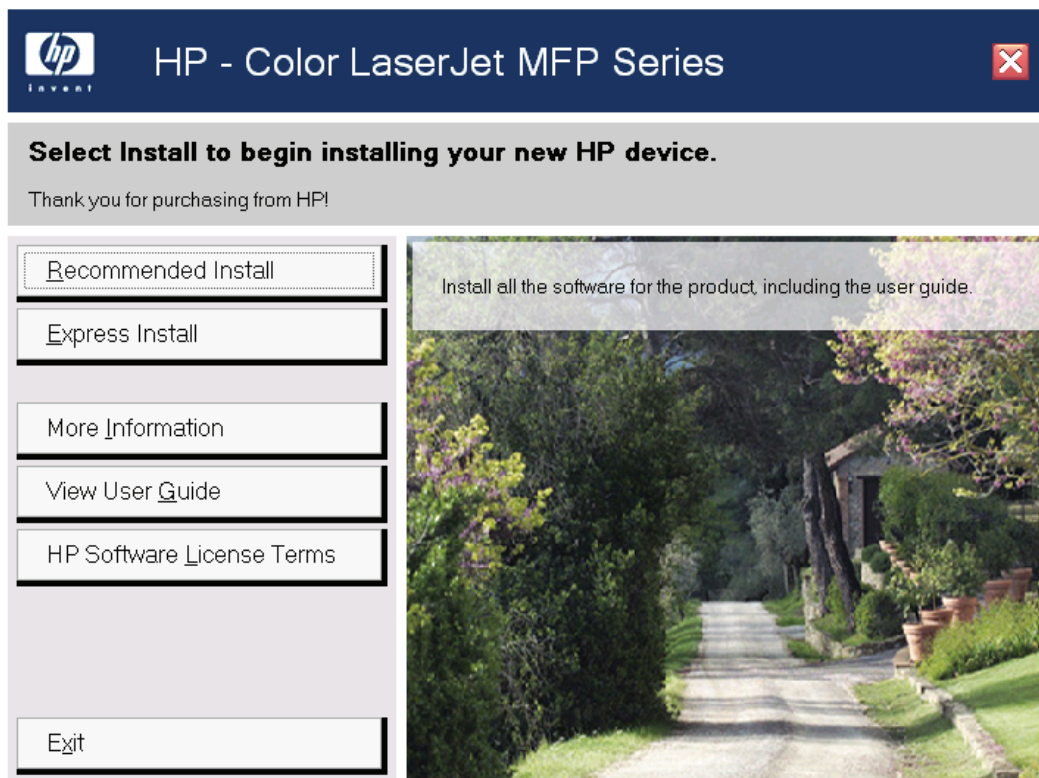
1. Quit all other programs.
2. Insert the solutions software CD into the CD-ROM drive.

 **NOTE:** If the CD does not start automatically, click **Start**, click **Run**, and then browse to and double-click the SETUP.EXE file in the root directory of the solutions software CD.

In Microsoft Vista, click **Control Panel**, click **Hardware and Sound**, and then browse to and double-click the SETUP.EXE file in the root directory of the solutions software CD.

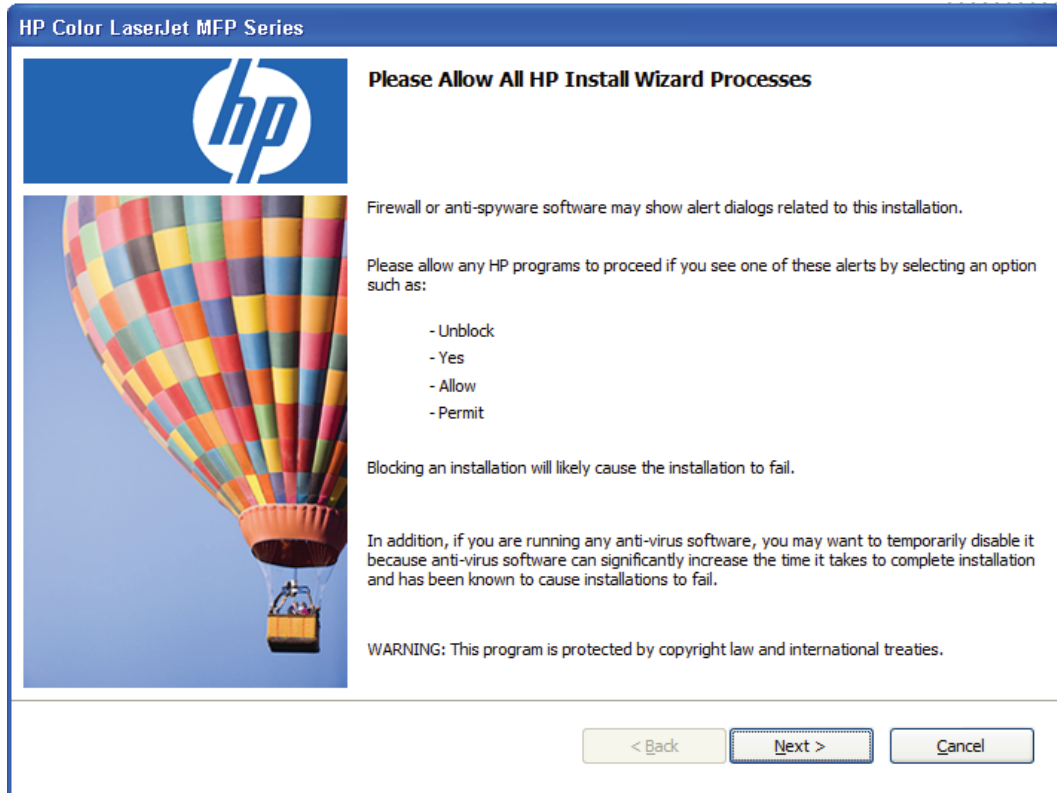
3. The **Select Install to begin installing your new HP device** opening window appears.

Figure 3-30 Thank you for purchasing from HP! – Select Install to begin installing your new HP device. window



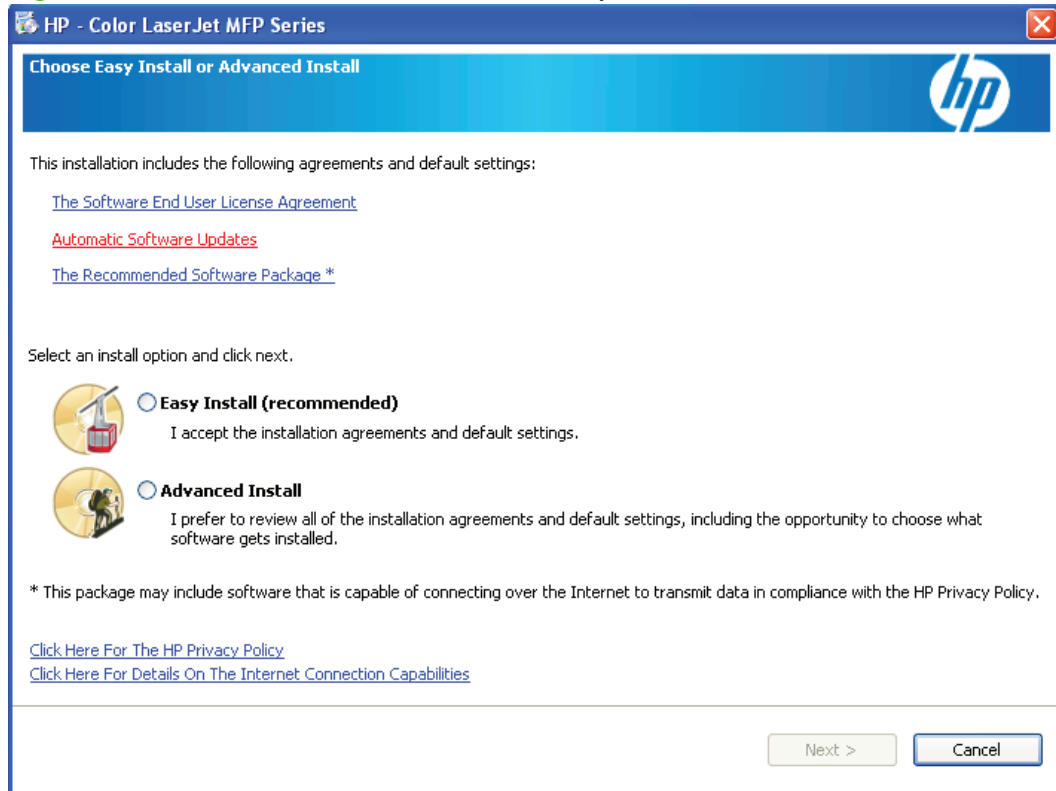
4. When you click **Recommended Install**, the **Please Allow All HP Install Wizard Processes** window opens.

Figure 3-31 Recommended Install – Please Allow All HP Install Wizard Processes



5. Click **Next**. The **Choose Easy Install or Advanced Install** window opens.

Figure 3-32 Recommended Install – Choose Easy Install or Advanced Install window

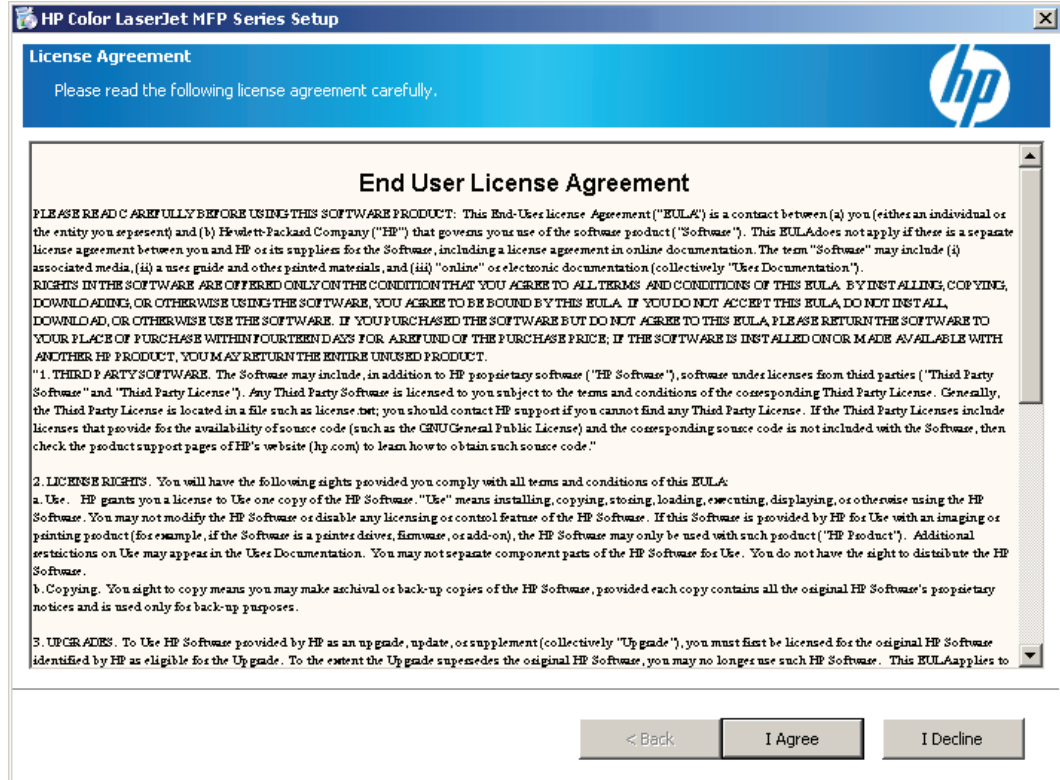


6. The links in **Choose Easy Install or Advanced Install** open the following windows:
- **The Software End User License Agreement**
 - **Automatic Software Updates**
 - **The Recommended Software Package***
 - **Click Here For The HP Privacy Policy**
 - **Click Here For Details On The Internet Connection Capabilities**
7. The **Software End User License Agreement** windows open as part of the Advanced Install process. The following are those that can only be accessed via the **Choose Easy Install or**

Advanced Install window for from the **Welcome Back!** window available after installation is complete. To skip this section, proceed to the **Automatically Check for Updates** window.

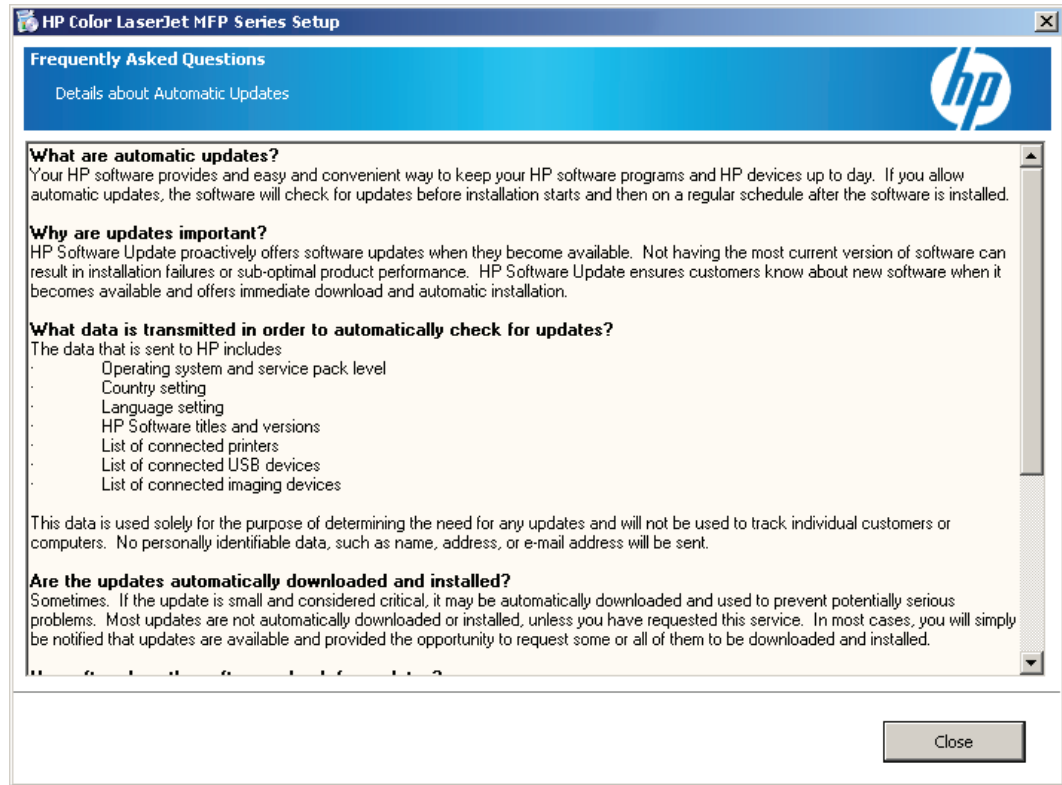
- The **End User License Agreement** window:

Figure 3-33 Choose Easy Install or Advanced Install window – End User License Agreement



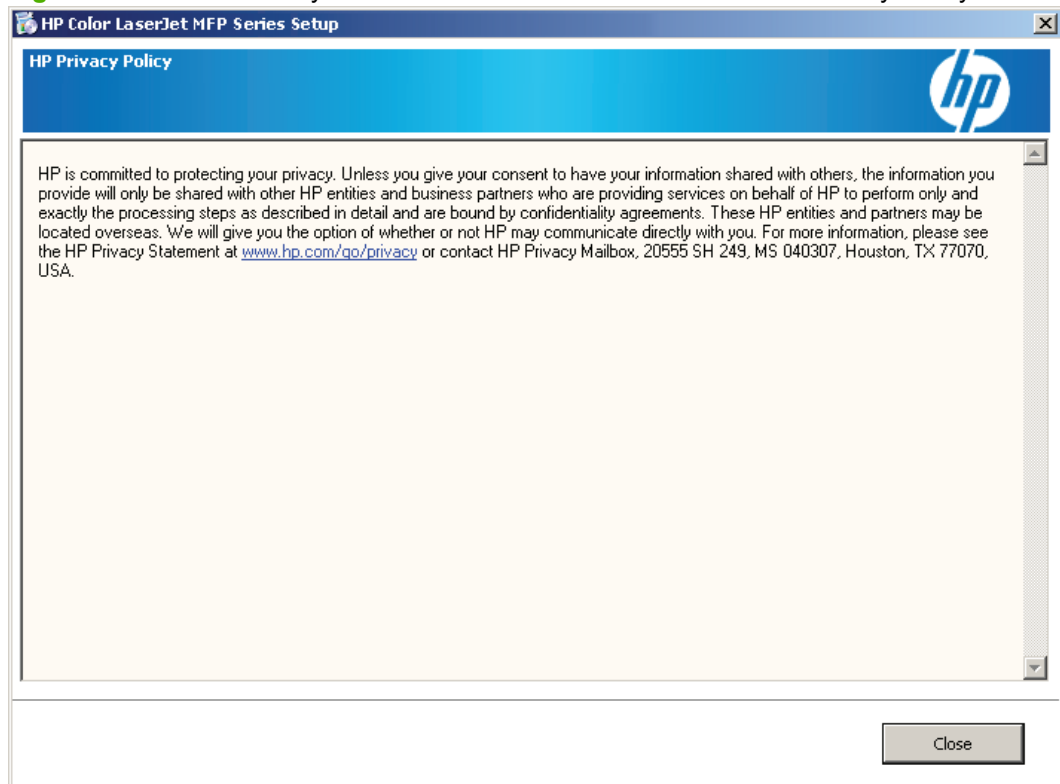
- The **Automatic Software Updates FAQ** window:

Figure 3-34 Choose Easy Install or Advanced Install window – Automatic Software Updates FAQ



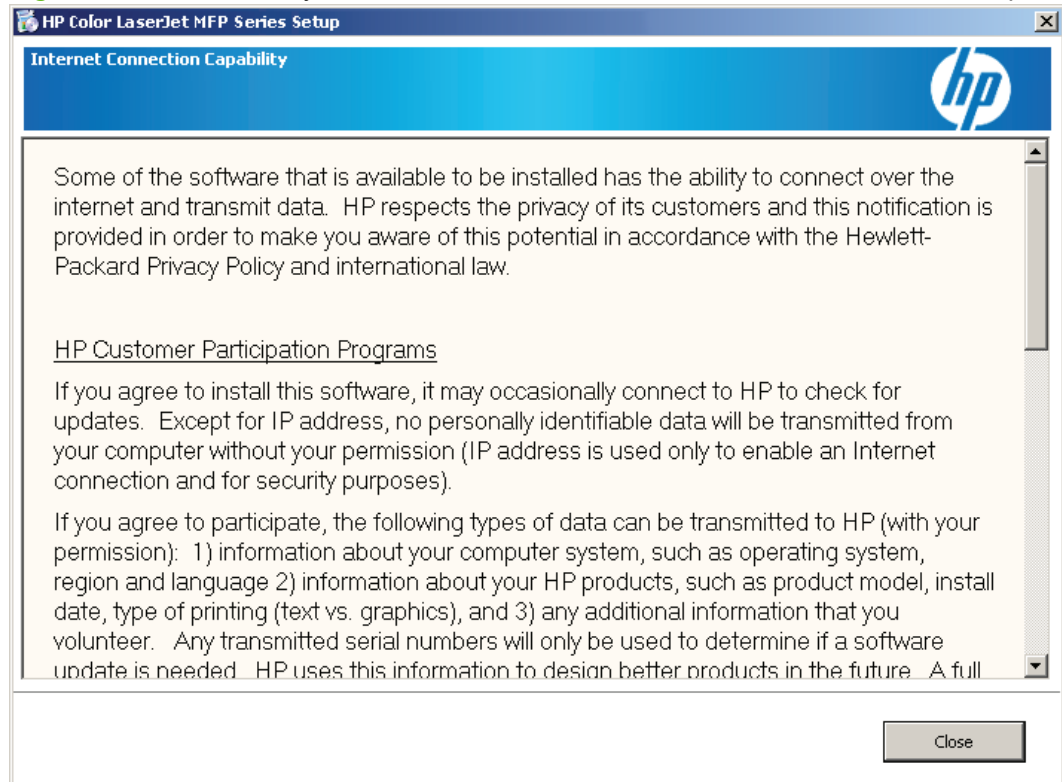
- The **HP Privacy Policy** window:

Figure 3-35 Choose Easy Install or Advanced Install window – HP Privacy Policy



- The **Internet Connection Capability** window:

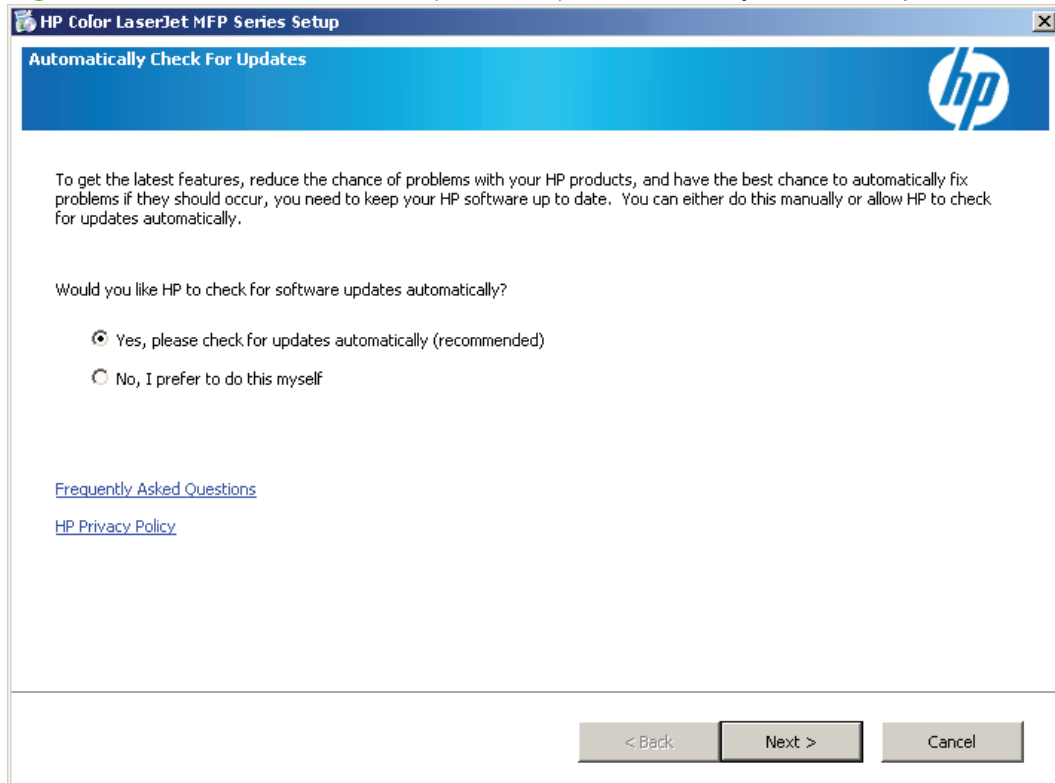
Figure 3-36 Choose Easy Install or Advanced Install window – Internet Connection Capability



8. On the **Choose Easy Install or Advanced Install** window, continue to the **Connection Type** window if you select **Easy Install**. Continue to the following if you select **Advanced Install**.

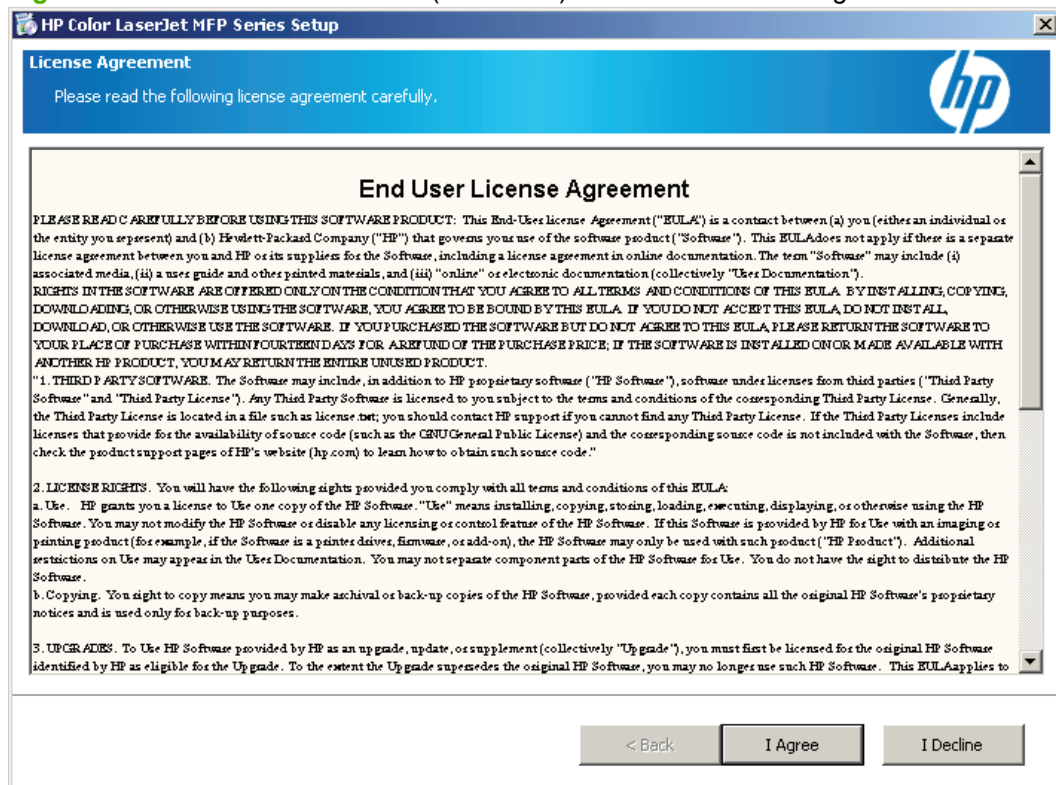
9. When you select **Advanced Install** and click **Next**, the **Automatically Check for Updates** window opens.

Figure 3-37 Recommended Install (Advanced) – Automatically Check for Updates window



10. On the **Automatically Check for Updates** window, click **Yes, please check for updates automatically (recommended)** or **No, I prefer to do this myself**; then, click **Next**. The **End User License Agreement** window opens.

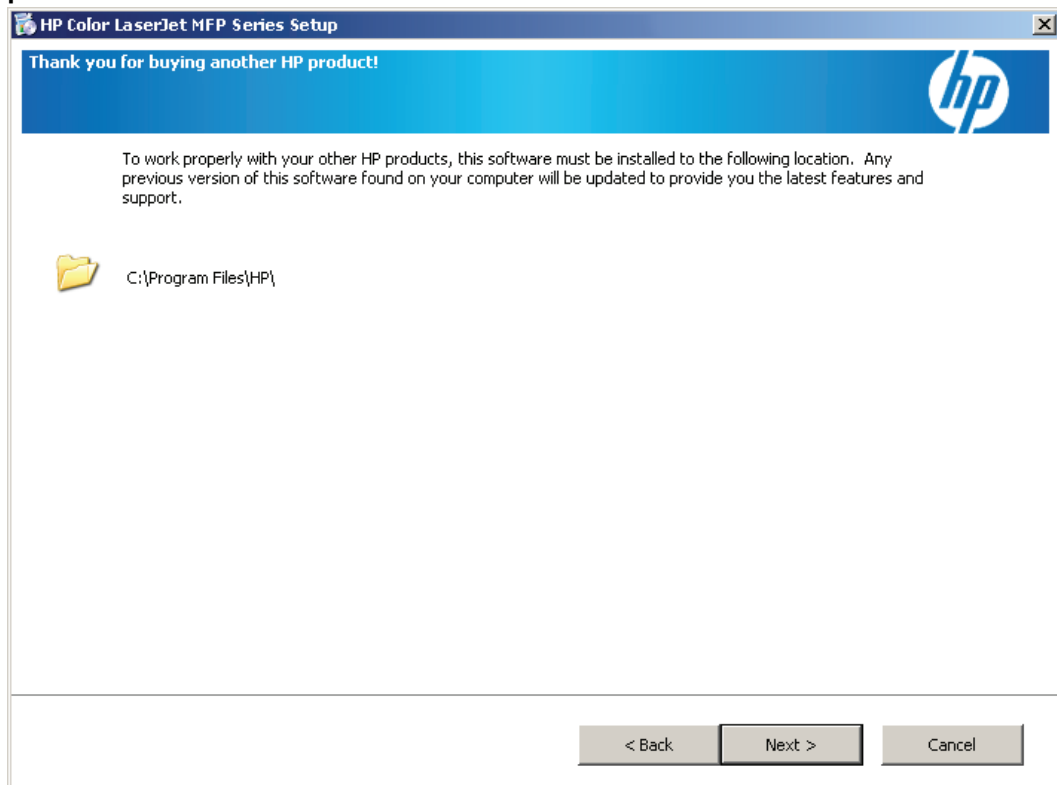
Figure 3-38 Recommended Install (Advanced) – End User License Agreement window



11. Click **I Agree** to continue the installation, or click **I Decline** to cancel the installation.

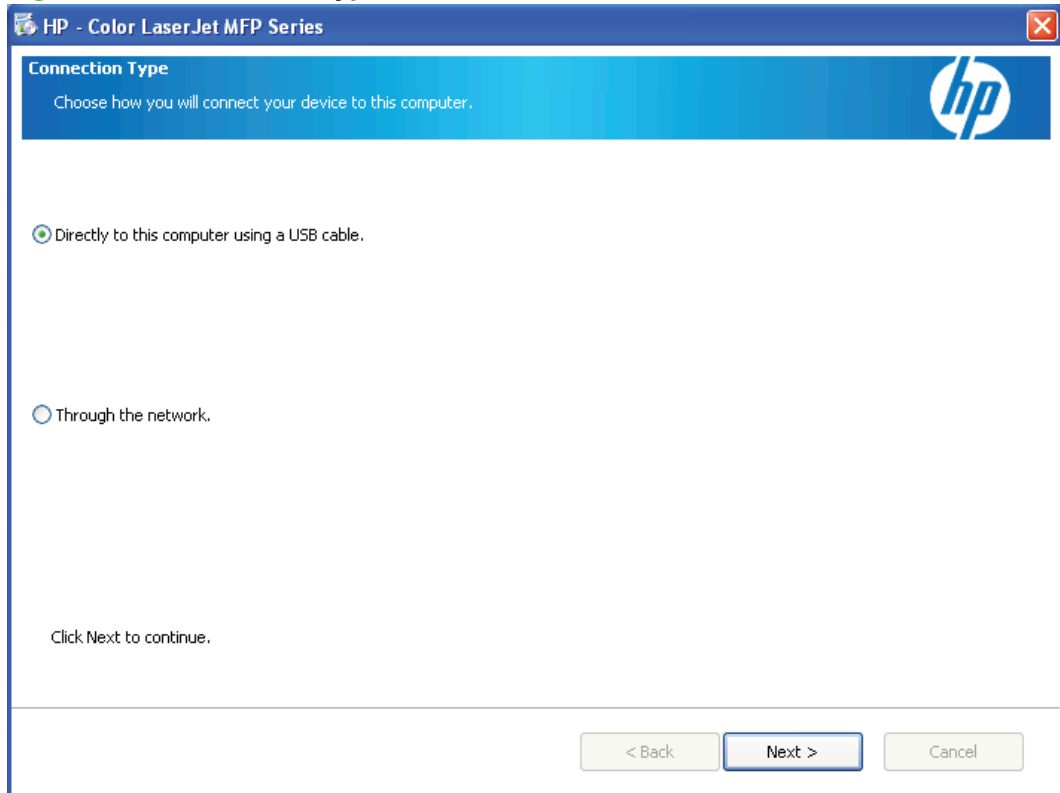
12. When **I Agree** is clicked, the **Thank you for buying another HP product** window opens indicating where the software files will be installed on the computer.

Figure 3-39 Recommended Install (Advanced) – Thank you for buying another HP product window



13. Click **Next** to continue to the **Connection Type** window.

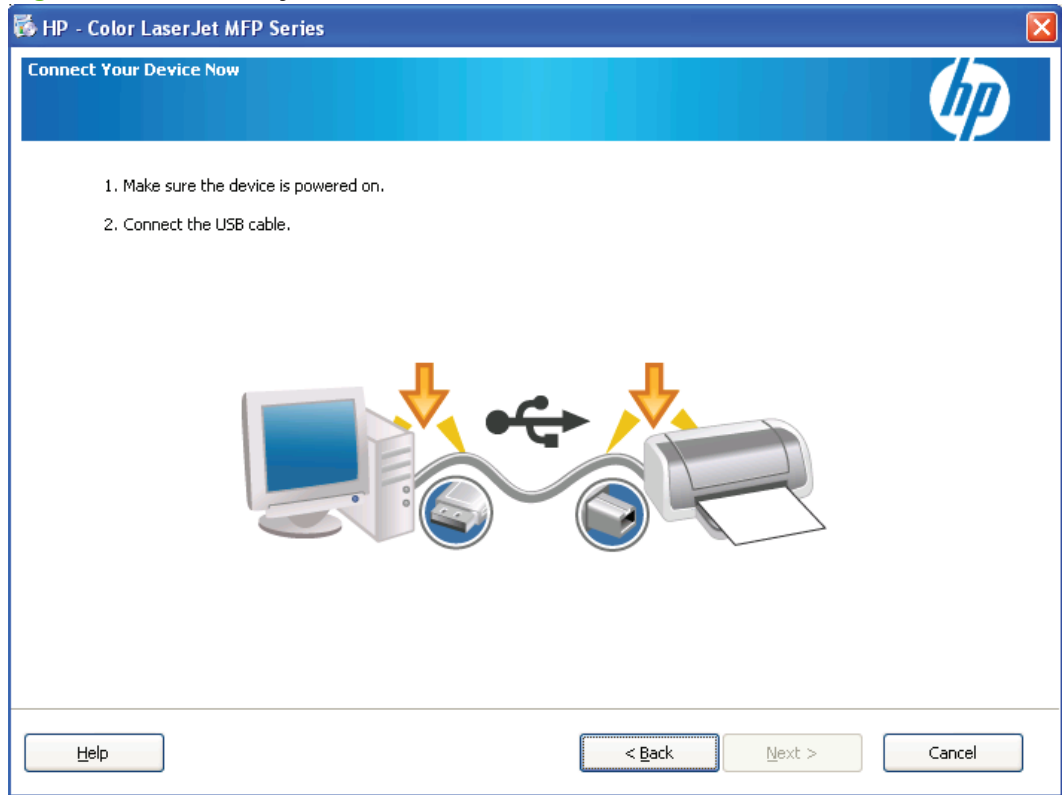
Figure 3-40 Connection Type window



14. On the **Connection Type** window, click either **Directly to this computer using a USB cable** or **Through the network**, and then click **Next**.
 - If you clicked **Through the network**, continue to the **Identify a printer** window.

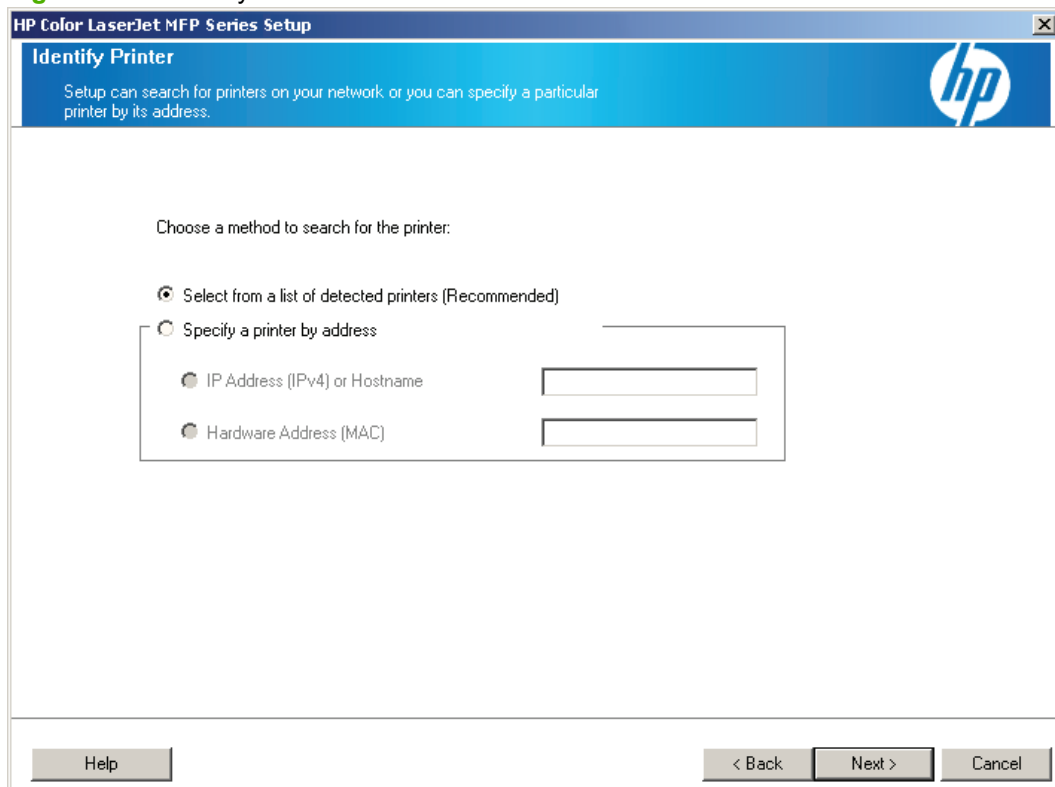
- If you clicked **Directly to this computer using a USB cable** and click **Next**, the **Connect your device now** window opens.

Figure 3-41 Connect your device now window



15. Once the USB cable is connected from the computer to the product, the install continues automatically. The **Congratulations!** window opens indicating the install is complete. Continue to step 19.

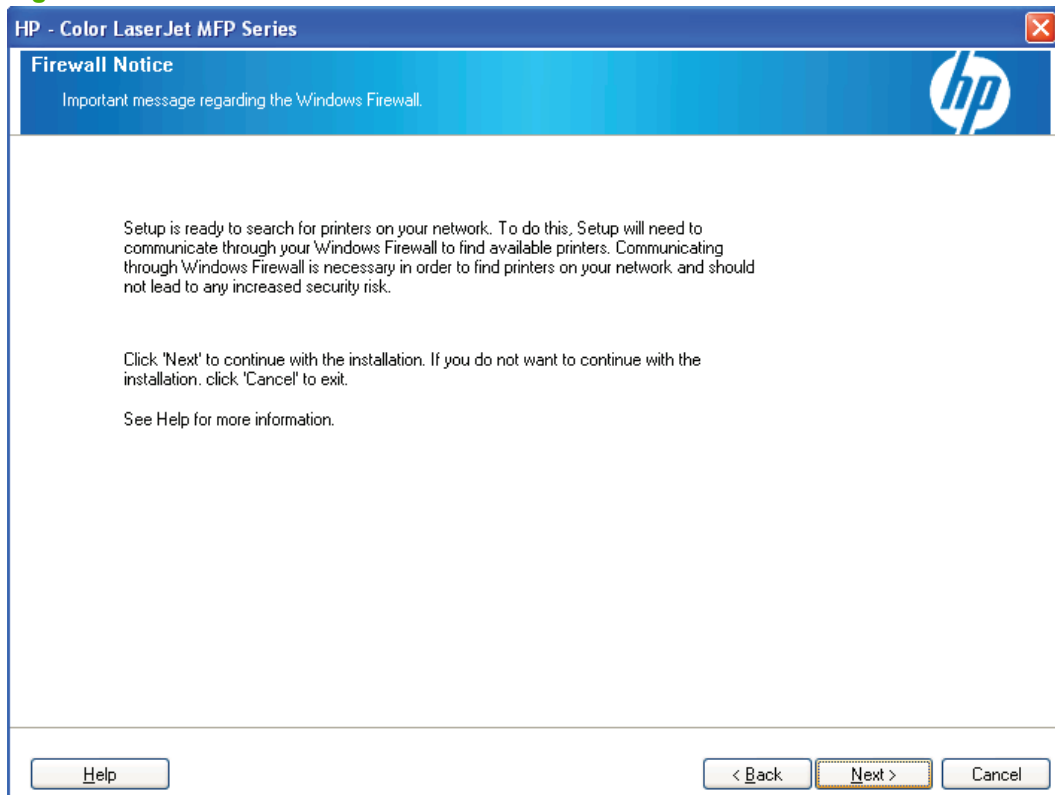
Figure 3-42 Identify Printer window




16. On the **Identify a printer** window, click **Select from a list of detected printers (Recommended)** or **Specify a printer by address** and type the address of the product in the field provided. Then, click **Next**.

17. The **Firewall Notice** window opens.

Figure 3-43 Firewall Notice window

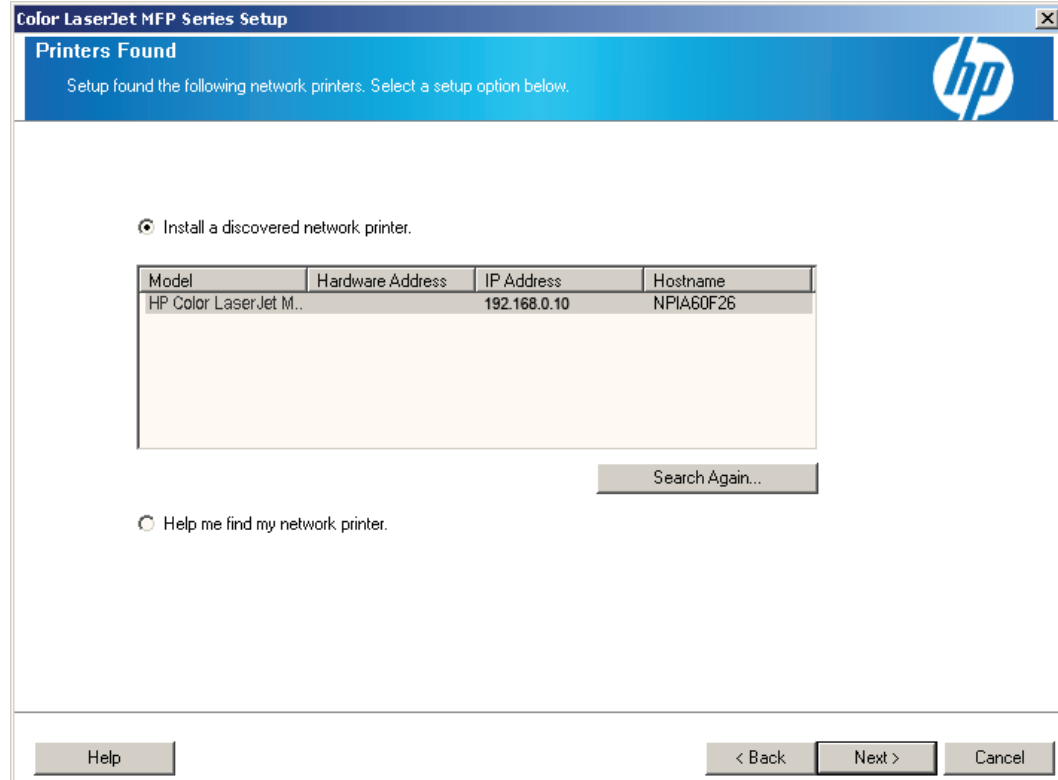


18. Click **Next**. The **Printers Found** window opens.

 **NOTE:** If the product was not found, click **Search Again**.

If the product was still not found, select **Help me find my network printer** and click **Next**.

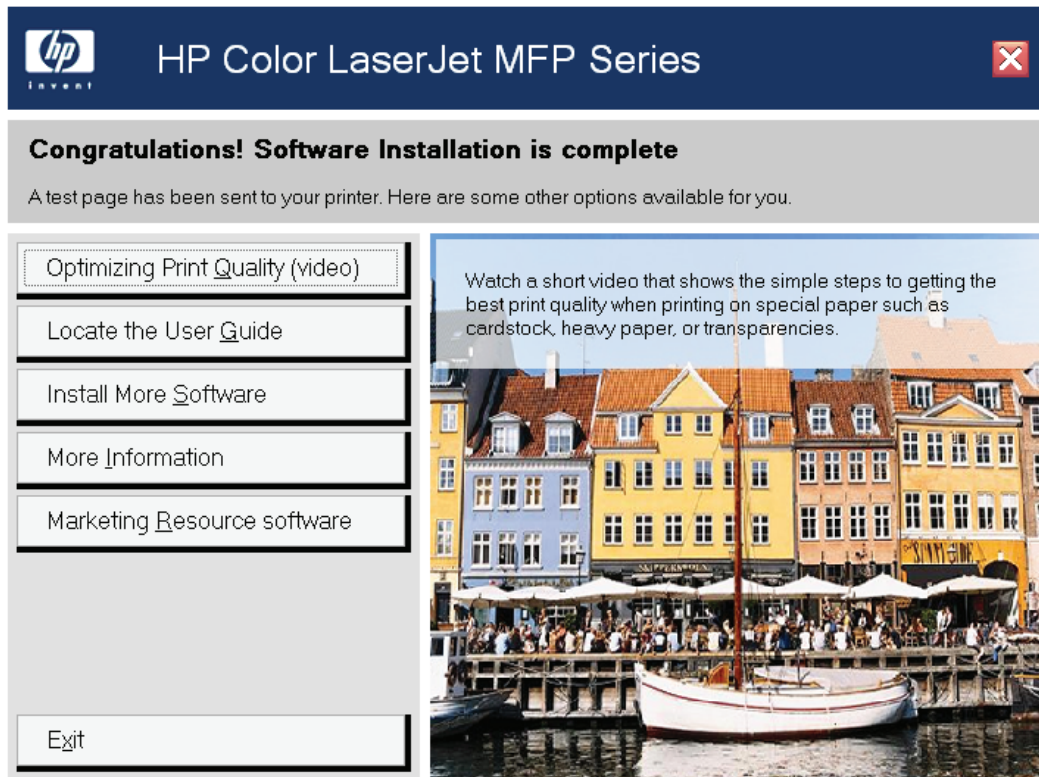
Figure 3-44 Printers Found window



19. If the product was found, select the product that you want to install, and then click **Next**. The **Congratulations!** window opens.

20. On the **Congratulations!** window, browse through the various CD browser features or click **Exit** to quit the CD browser.

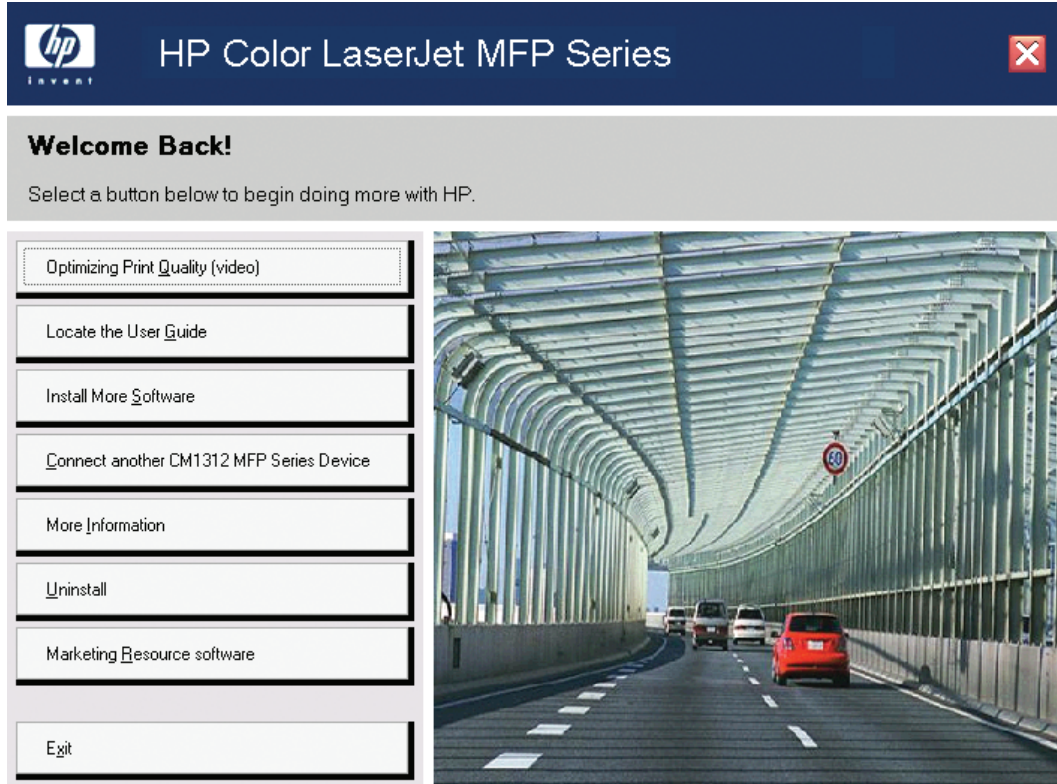
Figure 3-45 Congratulations! window



Install optional software

To install additional software, insert the solutions software CD. If the printer-driver software has already been installed, the **Welcome Back!** window opens.

Figure 3-46 Welcome Back! window

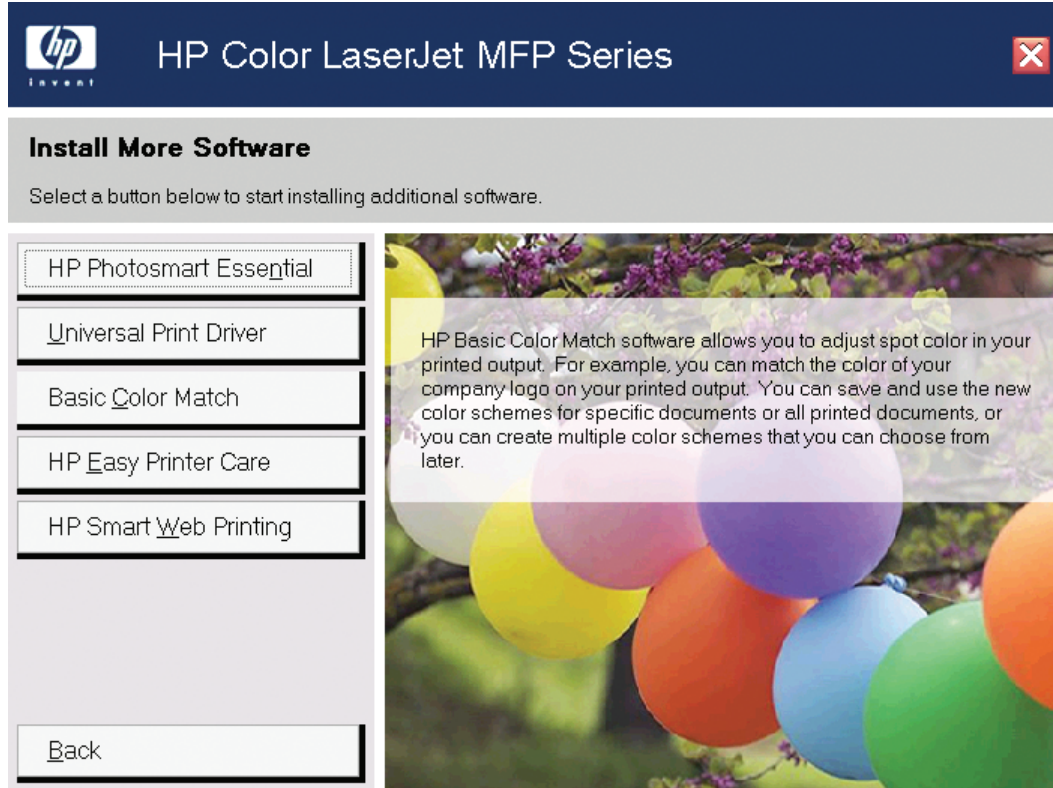


The **Welcome Back!** window includes the following options:

- **Print Quality Optimizer Video.** Watch a short video that shows the simple steps to getting the best print quality when printing on special paper, such as cardstock, heavy paper, or transparencies.
- **Locate the User Guide.** The user guide is installed on your computer. Click this button to open it now. To open it in the future, click the Windows **Start** button, and then click **All Programs**. Click the **HP** folder and then click **User Guide**. Product manuals are also available on the HP product support website.
- **Install More Software.** Get the most from your HP products by selecting additional software to install.
- **Connect another CM2320 Series Product.** Quickly install another HP product by using software already loaded on this computer.
- **More Information.** Get access to product support on the Web or to other product help and useful tips.
- **Uninstall.** Remove some or all of the HP products that are installed on this computer.
- **Marketing Resource software.** Tools, templates, classes, and more to enable you to create marketing materials in-house and grow your business while saving money.

The content below provides detailed information about the **Install More Software** option.

Figure 3-47 Install More Software window



The following options are available on the **Install More Software** window.

- **HP Photosmart Essential**
- **Universal Print Driver**
- **Basic Color Match**
- **HP Easy Printer Care**
- **HP SmartWeb Printing**

HP Photosmart Essential

Get simple digital photography software that allows you to view, edit, and print your pictures. Click this button to go to a link that will enable you to download this software.

Universal Print Driver

Get a universal printer-driver. Click this button to go to the HP website to download a universal printer-driver for your product.

Basic Color Match

HP Basic Color Match software allows you to adjust spot color in your printed output. For example, you can match the color of your company logo on your printed output. You can save and use the new color schemes for specific documents or all printed documents, or you can create multiple color schemes that you can choose from later. Click this button to go to the HP website to download the HP Basic Color Match software.

HP Easy Printer Care

With HP Easy Printer Care software, manage and monitor up to 15 printers from your desktop. HP Easy Printer Care software allows you to view the product status, create product usage reports, reorder supplies, and troubleshoot and repair products via HP Proactive Support. Click this button to go to a link that will enable you to download this software.

HP SmartWeb Printing

Preview print output from an Internet browser that is using Web Printsmart. Click this button to go to the HP Web Printsmart free download page.


User uninstall software

Uninstall instructions for Windows

The uninstall procedures vary according to the type of installation that you used.

- Uninstall a Recommended or Express installation
- Uninstall a printer-driver only installation


Uninstall a Recommended or Express installation

 **NOTE:** If you uninstall the software for troubleshooting purposes, try uninstalling only a specific printer. The shared software programs might not uninstall successfully, and are unlikely to be the cause of product-specific problems. These shared software programs should not need to be uninstalled, especially if they are being used by another HP product.

- Use the product software Uninstall component (recommended)
- Use the Windows Add or Remove Programs component
- Use the solutions software CD

Use the product software Uninstall component (recommended)


Follow these steps to uninstall the printing-system software by using the **Uninstall** component.

 **NOTE:** To uninstall the software you must have administrator privileges.

1. Quit all open programs.
2. Click **Start**, select **Programs** or **All Programs**, select **HP**, select **HP Color LaserJet CM2320**, and then click **Uninstall**.
3. The **Important Uninstall Information** dialog box appears. Click **Continue**.
4. The **Cleanup progress** dialog box appears. The progress bar reflects the status of the uninstall process.
5. When the uninstall process is completed, the **Restart** dialog box appears. Click **Restart** to restart the computer and finish the uninstall process.

Use the Windows Add or Remove Programs component

Follow these steps to uninstall the printing-system software by using the Windows **Add/Remove programs** component.

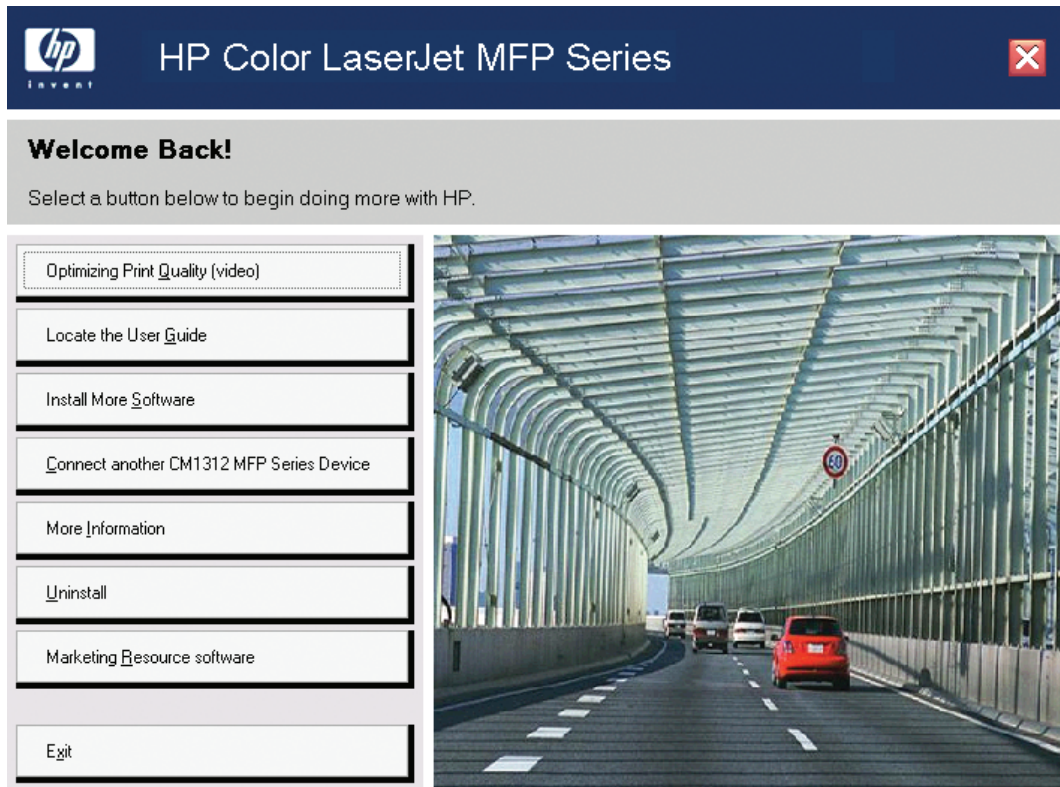
 **NOTE:** To uninstall the software in Windows 2000 or in Windows XP, you must have administrator privileges.

1. Quit all open programs.
2. Click **Start**, click **Control Panel**, then double-click **Add or Remove Programs**.
3. Click **Change or Remove programs** on the left side of the window, and then click the name of the product. Click **Remove**.

4. The **Important Uninstall Information** dialog box appears. Click **Continue**.
5. The **Cleanup progress** dialog box appears. The progress bar reflects the status of the uninstall process.
6. When the uninstall process is completed, the **Restart** dialog box appears. Click **Restart** to restart your computer and finish the uninstall process.


Use the solutions software CD

1. Quit all open programs.
2. Insert the solutions software CD into the CD-ROM drive. After the system is checked, the **Welcome Back!** dialog box appears.




3. Click **Uninstall** and then follow the onscreen prompts.

Uninstall a printer-driver only installation

 **NOTE:** To uninstall the software, you must have administrator privileges.

1. Click **Start**, click **Settings**, and then click **Settings**.

 **NOTE:** For Windows XP and Windows Vista, click **Start**, and then click **Printers and Faxes**.

2. Right-click the icon and then click **Delete**. This removes the icon only, but it does not remove the associated files.
3. To remove the associated files, click **File** from inside the **Printers** folder, and then click **Server Properties**.

4. Click the **Drive** tab, click the name of the product, and then click **Remove**. When you are prompted to confirm the deletion, click **Yes**.
5. Click **Close** to close the **Server Properties** dialog box, and then close the **Printers** folder.

Software for other operating systems

OS	Software
UNIX	For HP-UX and Solaris networks, go to www.hp.com/support/net_printing to download the HP Jetdirect printer installer for UNIX.
Linux	For information, go to www.hp.com/go/linuxprinting .

4 HP PCL 6 and universal printer-driver for Windows

Introduction

The HP Color LaserJet CM2320 MFP Series product includes the following printer-drivers: HP printer control language (PCL) 6, TWAIN, and a fax driver.

- [Change the printer-driver settings for Windows](#)
- [Help system](#)
- [Advanced tab features](#)
- [Paper/Quality tab features](#)
- [Effects tab features](#)
- [Finishing tab features](#)
- [Color tab features](#)
- [Services tab features](#)
- [Device Settings tab features](#)
- [Postscript Passthrough](#)
- [JPEG Passthrough](#)
- [Printing Shortcuts tab](#)
- [About tab features](#)

Change the printer-driver settings for Windows

Operating System	To change the settings for all print jobs until you quit the software program	To change the default settings for all print jobs	To change the product configuration settings
Windows 2000, Windows Server 2003, Windows XP	<ol style="list-style-type: none"> 1. On the File menu in the software program, click Print. 2. Select the printer-driver, and then click Properties or Preferences. <p>The steps can vary; this procedure is most common.</p>	<ol style="list-style-type: none"> 1. Click Start, click Settings, and then click Printers (Windows 2000) or Printers and Faxes (Windows XP Professional and Server 2003) or Printers and Other Hardware Devices (Windows XP Home). 2. Right-click the driver icon, and then select Printing Preferences. 	<ol style="list-style-type: none"> 1. Click Start, click Settings, and then click Printers (Windows 2000) or Printers and Faxes (Windows XP Professional and Server 2003) or Printers and Other Hardware Devices (Windows XP Home). 2. Right-click the driver icon, and then select Properties. 3. Click the Device Settings tab.
Windows Vista	<ol style="list-style-type: none"> 1. On the Start menu, click Settings, and then click Control Panel. 	<ol style="list-style-type: none"> 1. Click Start, click Control Panel, click Hardware and Sound, and then click Printers. 2. Right-click the driver icon, and then select Printing Preferences. 	<ol style="list-style-type: none"> 1. Click Start, click Control Panel, click Hardware and Sound, and then click Printers. 2. Right-click the driver icon, and then select Properties. 3. Click the Device Settings tab.
Macintosh OS X V10.3.9, 10.4, and 10.5	<ol style="list-style-type: none"> 1. On the File menu, click Print. 2. Select the printer-driver, and then click Properties or Preferences. <p>The steps can vary; this procedure is most common.</p>	<ol style="list-style-type: none"> 1. On the File menu, click Print. 2. Change the settings that you want on the various pop-up menus. 3. On the Presets pop-up menu, click Save as and type a name for the preset. <p>These settings are saved in the Presets menu. To use the new settings, you must select the saved preset option every time that you open a program and print.</p>	<ol style="list-style-type: none"> 1. Open System Preferences. 2. Select Print & Fax. 3. Select the product from the list. 4. Select Printer Setup.

Printing Preferences printer-driver tabs

The **Printing Preferences** printer-driver tabs change the default settings that are used across all software programs.

The following **Printing Preferences** tabs are available:

- **Advanced**
- **Paper/Quality**
- **Effects**
- **Finishing**
- **Color**
- **Services**
- **Printing Shortcuts**

Properties printer-driver tabs

The following **Properties** tabs are available:

- **General**
- **Sharing**
- **Ports**
- **Advanced**
- **Color Management**
- **Security**
- **Device Settings**
- **About**

The **Device Settings** and **About** tabs are HP printer-driver tabs and are described in this guide. The other **Properties** tabs are Windows tabs. For information about those tabs, see the pertinent documentation that came with your computer.

Help system

The HP PCL 6 printer-driver includes a full-featured Help system to provide assistance with printing and configuration options. The following Help options are available.

- [“What's this?” Help](#)
- [Context-sensitive Help](#)
- [Constraint messages](#)

“What's this?” Help

“What's this?” Help is supported in Windows 2000 and in Windows XP. You can access the “What's this?” Help messages in the following ways:

- Right-click a control button on a screen. For example, on the **Properties** tab screen, right-click either the **Printing Preferences** button or the **Print Test Page** button. A small **What's this?** box appears. Right-click the **What's this?** box, and a pop-up **Help** window appears.
- Click the **?** button in the upper-right corner of the screen 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 **Help** window for that feature appears.
- Press the **F1** key, and the **Help** window for the currently selected control appears.

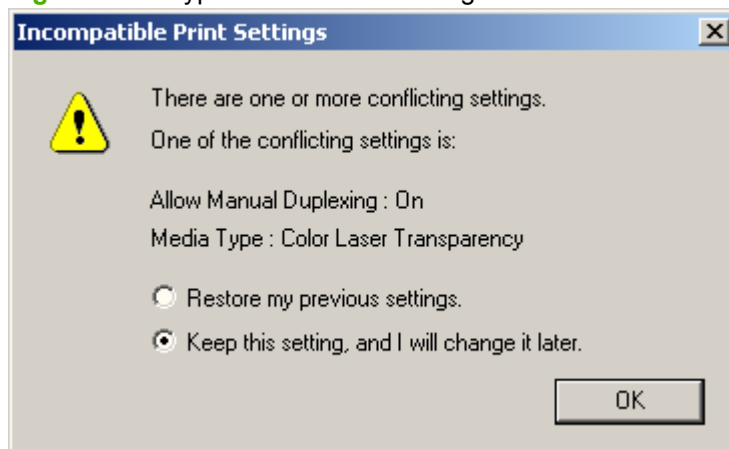
Context-sensitive Help

Click the **Help** button on a printer-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 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 **Transparency**, a message displays options on how to resolve this conflict.

Figure 4-1 A typical constraint message



Whenever a constraint message appears with a **Resolve all conflicts for me automatically** button or an **I will resolve the conflict myself** button, as follows:

- To reject the change that was just made and return the control to its previous value, click **Resolve all conflicts for me automatically** and then click **OK**.
- To accept the change that was just made, click **I will resolve the conflict myself** and then click **OK**. This resets the printer-driver settings so that the user can resolve the conflict.

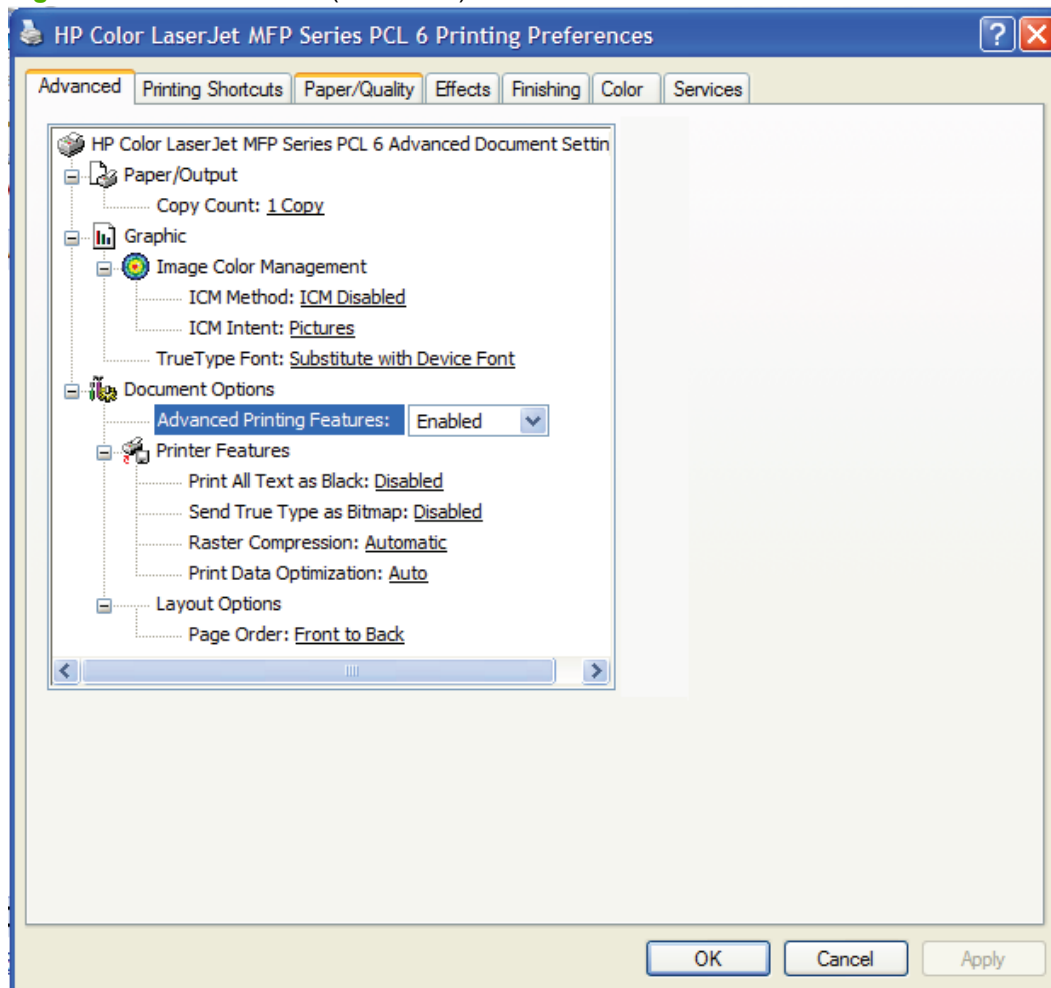
Advanced tab features

Follow these steps to gain access to the **Advanced** tab:

1. Click **Start** and then proceed according to the version of Windows that is running on your computer:
 - For Windows 2000, click **Settings**, and then click **Printers**.
 - For Windows XP Professional and Windows Server 2003, click **Printers and Faxes**.
 - For Windows XP Home, click **Printers and Other Hardware Devices**.
 - For Windows Vista, click **Hardware and Sound**.
2. Right-click the product name, and then select **Printing Preferences**.
3. Click the **Advanced** tab.

Use the **Advanced** tab to change the layout of printed pages, to configure special controls that are not commonly used, and to change other settings such as the paper size and number of copies. Many software programs also enable control of some **Advanced** tab features when those features are accessed through the print dialog box or through page settings.

Figure 4-2 Advanced tab (HP PCL 6)



The **Advanced** tab contains the following settings:

- **Paper/Output**
- **Graphic**
- **Document Options**

Paper/Output settings

The **Paper/Output** setting contains the **Copy Count** setting.

Copy Count setting

Copy Count specifies the number of copies that you want to print. This printer-driver setting is useful for software programs that do not provide a copy count. If the software program contains a copy count, set the copy count there.

The requested number of copies appears in the **Copy Count** option. Select the number by typing in the box or by using the up and down arrows on the right side of the text box. Valid entries are numbers from 1 to 9999. The copies value will not change from the maximum number (9999) to 1 when the up arrow is used, or change from 1 to the maximum number (9999) when the down arrow is used.

When you click another group box or leave the **Advanced** tab, invalid entries into the edit box (such as non-numerical input, numbers less than 1, or numbers greater than 9999). The default number of copies is 1.

Problems can develop when the software program that you are using and the printer-driver both allow the user to set the number of copies to print. In most cases, the software program and the printer-driver communicate, so that the number of copies set in one location appears in the other. However, for some software programs, this communication does not take place, and the separate copy count values are treated independently. For example, setting 10 copies in the program and then setting 10 copies in the printer-driver might result in the product making 100 copies (10 x 10). For this reason, HP recommends that you set the number of copies in the software program whenever possible.

Graphic settings

Graphic contains the following settings:

- **Image Color Management** settings (HP PCL 6 and HP PS Emulation only)
- **TrueType Font** settings

Image Color Management settings

Image Color Management (ICM) options are used for printing color graphics. The ICM options make it possible for programs to adjust colors before printing so that the color of images on the screen more closely matches the color of printed images. The following options are available:

- **ICM Method.** The ICM Method setting specifies how to print color graphics. The default setting for **ICM Method** is **ICM Disabled**. The **ICM Method** drop-down menu includes the following options:
 - **ICM Handled by Host System.** Click this option to perform calculations for color matching on the host computer before sending the document to the product.
 - **ICM Handled by Printer.** Click this option to perform calculations for color matching on the product. A set of rules for mapping the colors is created and downloaded to the product. The product uses these rules to adjust colors in the document.
- **ICM Intent.** The ICM Intent setting specifies how color images are created to produce the best-looking image on the printed page.
 - If printing a chart or using fully saturated, bright colors, click **Graphics** to achieve the best quality.
 - For photographs or pictures where the colors blend together, click **Pictures** to maximize the contrast.
 - If the document uses a color that you must exactly match and you are sending the document to a product that has that specific color of ink, click **Proof**.
 - To preview the color settings from another printer, click **Match**.

TrueType Font settings

This option specifies the TrueType Font settings. The following settings are available:

- **Substitute with Device Font.** This setting causes the product to use equivalent fonts for printing documents that contain TrueType fonts. This permits faster printing; however, special characters that the product font does not support might be lost. This is the default setting.
- **Download as Softfont.** This setting causes TrueType fonts to be downloaded and used for printing, instead of the fonts that are installed through the product.

Document Options

Document Options contains the following settings:

- [Advanced Printing Settings](#)
- [Printer Features](#)
- [Layout Options](#)

Advanced Printing Settings

When the **Advanced Printing Features** setting is **Enabled**, metafile spooling is turned on and the **Finishing** tab options such as **Page Order**, **Booklet Layout**, and **Pages per Sheet** are available, depending on the product. For normal printing, leave the **Advanced Printing Features** setting at the default, which is **Enabled**. If compatibility problems occur, disable the feature. However, some advanced printing features might still be available in the printer-driver, even if they have been disabled. If you select

an advanced printing feature in the printer-driver that has been disabled on the **Advanced** tab, the feature is automatically turned on again.

Printer Features

The following **Printer Features** are available:

- [Print All Text as Black](#)
- [Send TrueType as Bitmap](#)
- [Raster Compression](#)
- [Print Data Optimization](#)

Print All Text as Black

The **Print All Text as Black** feature is **Disabled** by default. When **Enabled** is selected, the printer-driver prints all text as black regardless of the original document text color. Color text is printed as black, except for white text, which remains white. (White text is a reliable method of printing reverse typeface against a dark background.) This setting does not affect graphic images on the page, nor does it affect any text that is part of a graphic. **Print All Text as Black** remains enabled only for the current print job. When the current print job is completed, **Print All Text as Black** is automatically disabled.

Send TrueType as Bitmap

Send TrueType as Bitmap provides an alternative for software programs that encounter problems when TrueType fonts are used for special graphic purposes such as shading, rotation, or slanting. The default setting for this feature is **Disabled**. The TrueType fonts are first converted to bitmap soft fonts before downloading. The **Enabled** setting causes the printer-driver to send TrueType fonts to the product as outlines, which retains the standard format (that is, outline) of the fonts.

Raster Compression

Use the **Raster Compression** feature to select one of the following the graphics compression methods:

- **Automatic.** This option allows the software to determine the best graphics compression method.
- **Best Quality.** This option forces the software to use a *lossless* (meaning that no data is lost during compression) compression method.
- **Maximum Compression.** This option, where applicable, requires the software to always use a *lossy* (meaning that some data is lost) compression method. Choosing this option will increase print-speed performance, but will decrease print-image quality.


Print Data Optimization

- **Auto**
- **Optimize for Raster**
- **Optimize for Text and Vector**

Layout Options

The **Layout Options** setting offers different ways of setting up the **Page Order**.

- **Front to Back.** Prints the document so that page 1 prints first.
- **Back to Front.** Prints the document so that page 1 prints last. This option is useful when you are printing to a product that has a face-up printed paper output bin and you want the document to come out in the correct order.

 **NOTE:** The page-ordering operation works on whole sheets of paper rather than on individual logical pages. Accordingly, if you set **Pages per Sheet** (on the **Finishing** tab) to a value that is greater than 1, the ordering of logical pages on a sheet of printed paper does not change.

Paper/Quality tab features

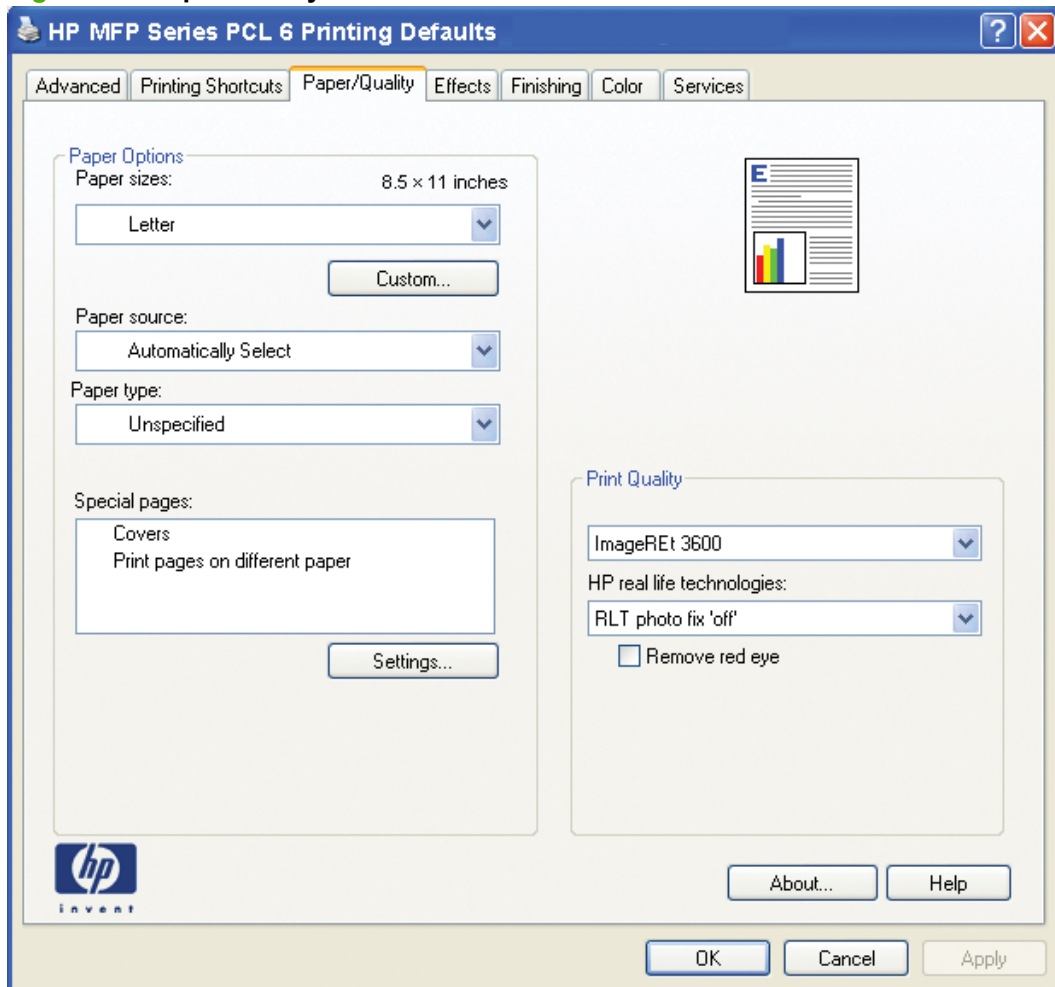
Follow these steps to gain access to the **Paper/Quality** tab.

1. Click **Start** and then proceed according to the version of Windows that is running on your computer:
 - For Windows 2000, click **Settings**, and then click **Printers**.
 - For Windows XP Professional and Windows Server 2003, click **Printers and Faxes**.
 - For Windows XP Home, click **Printers and Other Hardware Devices**.
 - For Windows Vista, click **Hardware and Sound**.
2. Right-click the product name, and then select **Printing Preferences**.
3. Click the **Paper/Quality** tab.

Use the **Paper/Quality** tab to specify the size, type, and source of the paper. Also use this tab to specify different paper selections for the front cover, first page, other pages, last page, and back cover of the document.

The following figure shows the **Paper/Quality** tab.

Figure 4-3 Paper/Quality tab



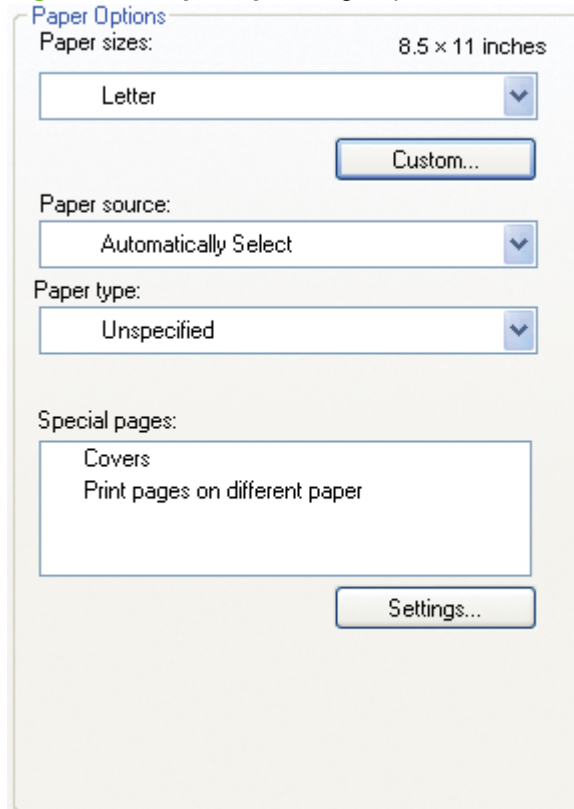
The **Paper/Quality** tab contains the following options:

- [Paper Options](#)
- [Document preview image](#)
- [Print Quality group box](#)

Paper Options

The settings specified in the **Paper Options** group box on the **Paper/Quality** tab apply to all of the pages of the document. The following figure shows the **Paper Options** group box and the default selections.

Figure 4-4 Paper Options group box



The settings in the **Paper Options** group box are described in the following order:


- Paper size:
- Paper source
- Paper type
- Special pages:

Paper size:

Paper size: is a drop-down menu that lists all of the supported paper sizes.

Move the cursor over the dimensions label to change the cursor from an arrow to a gloved hand. Click the dimensions label to toggle between English and metric units.

Because paper size settings in most software programs override printer-driver settings, use the printer-driver to set paper size only when printing from software programs that do not include a paper-size setting, such as NotePad, or when producing a book or a booklet that does not require different paper sizes.

 **NOTE:** Certain software programs can override the size command and specify different paper sizes within a single document.

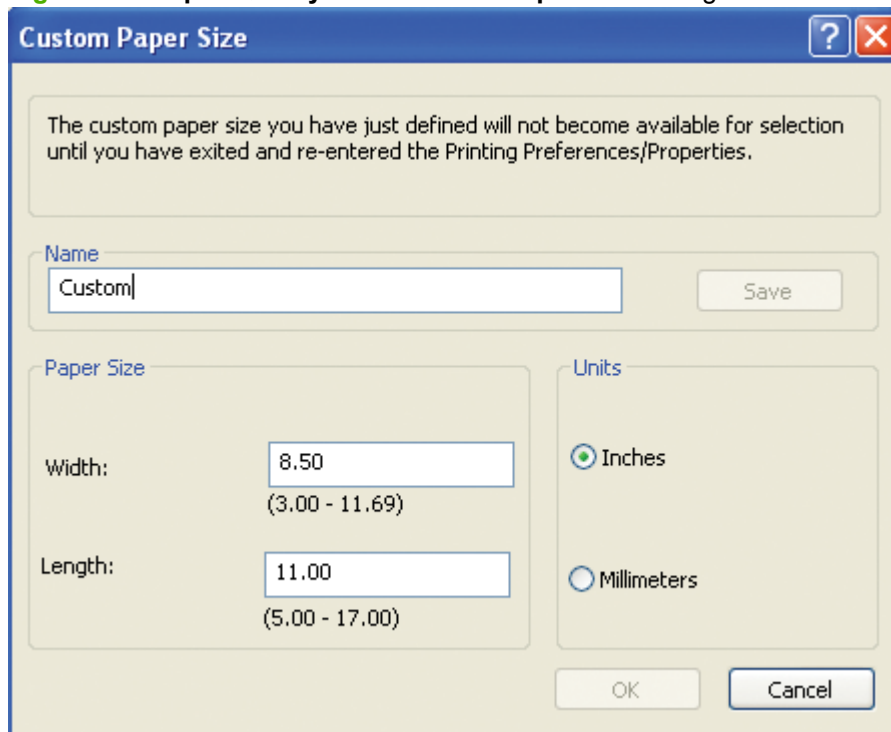
When you change the printer-driver setting to a paper size that is not currently loaded in the product, a control-panel message prompts you to load the paper size or select another tray.

Custom Paper Size

The **Custom Paper Size** dialog box appears when you click **Custom...** on the **Paper/Quality** tab.

The following figure shows the initial appearance of the **Custom Paper Size** dialog box.

Figure 4-5 Paper/Quality tab – Custom Paper Size dialog box



Name

Use the **Name** text box to type a new name for a custom paper size.

The name that appears in the **Name** text box depends on the following conditions:

- If a saved custom paper size has been selected from the drop-down menu on the **Paper/Quality** tab, the **Name** text box displays the name of the selected custom paper size.
- If a standard paper size has been selected on the **Paper/Quality** tab, the **Name** text box displays the default name of "Custom."
- If a new name has been typed into the **Name** text box for the purpose of saving a new paper size or renaming an existing paper size, then that new name will remain in the text box until the new size is saved or until the dialog box is closed.

If you type a new name into the **Name** text box but then do not click **Save**, you can change the width and height values without losing the name. However, if you close the dialog box without clicking **Save**, any unsaved name or size values are lost without warning.

Paper Size

Change the width and height values by typing numeric strings into the edit boxes in the **Paper Size** group box.

Any entry that is greater than the maximum limits of the width and height edit box is rounded down to the maximum valid entry, while any entry that is smaller than the minimum limits of the width and height edit box is rounded up to the minimum valid entry.

If units are in millimeters, the custom paper-size range minimum is the limit that is 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 edit box is 1 millimeter or 1/10 of an inch, depending on the current measurement units.

Units

To change measurement units, click one of the options in the **Units** group box (either **Inches** or **Millimeters**).

Custom width and height control limits

The minimum paper size is 76.2 x 127 mm (3 x 5 in), and the maximum paper size is 215.9 x 355.6 mm (8.5 x 14 in). The following table summarizes paper size limits.

Table 4-1 HP Color LaserJet CM2320 MFP Series product - HP PCL 6 custom paper sizes

Tray	Dimensions	Minimum	Maximum
Tray 1 (150-sheet)	Width	148.0 mm (5.83 in)	215.9 mm (8.5 in)
	Height	210.0 mm (8.26 in)	355.6 mm (14.0 in)

Paper source:

The **Paper source:** setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories that are installed. Any optional source trays that are installed through the **Device Settings** tab also appear here.

The **Paper source:** drop-down menu can contain the following options:

- **Automatically Select**
- **Printer auto select**

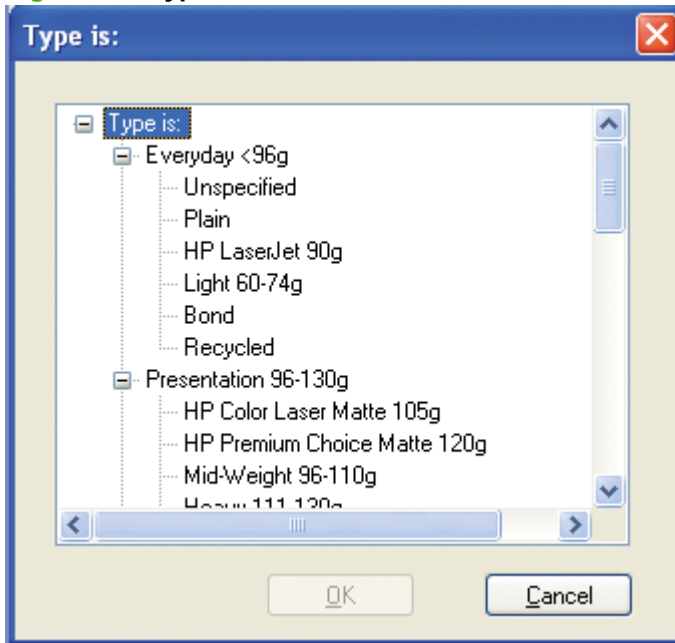
The default setting is **Automatically Select**. When this is selected, the product uses the source tray that supports the selected paper size. For the other options, make sure that the correct paper size is loaded in the source tray. For information about paper sources, see [Paper Options on page 176](#).

Paper type:

The **Paper type:** drop-down menu shows a selection of the paper types that the product supports. When you use the default setting, **Unspecified**, the product uses the default paper type, which is usually **Plain**.

To view additional supported paper types, select **More** in the **Paper type:** drop-down menu. The **Type is:** box opens. Select one of the additional paper types and then click **OK**. Now this option will be available in the **Paper type:** drop-down menu.

Figure 4-6 Type is: box



The following table lists the additional supported paper types that are available via the **Type is:** box.

Paper category	Paper type	Engine speed
Everyday < 96g	• Unspecified	• Full
	• Plain	• Full
	• Plain	• 3/4 speed (6 ppm)
	• HP LaserJet 90g	• Full
	• Light 60-74g	• Full
	• Bond	• 3/4 speed (6 ppm)
	• Recycled	• Full
Presentation 96-130g	• HP Color Laser Matte 105g	• 3/4 speed (6 ppm)
	• HP Premium Choice Matte 120g	• 3/4 speed (6 ppm)
	• Mid-Weight 96-110g	• 3/4 speed (6 ppm)
	• Heavy 111-130g	• 3/4 speed (6 ppm)
	• Mid-Weight Glossy 96-110g	• 3/4 speed (6 ppm)
	• Heavy Glossy 111-130g	• 3/4 speed (6 ppm)

	<ul style="list-style-type: none"> • HP Presentation Glossy 130g • HP Professional Laser Glossy 130g 	<ul style="list-style-type: none"> • 3/4 speed (6 ppm) • 3/4 speed (6 ppm)
Brochure 131-175g	<ul style="list-style-type: none"> • HP Color Laser Brochure Matte 160g • HP Superior Laser Matte 160g • HP Color Laser Brochure Glossy 160g • HP Tri-fold Color Laser Brochure 160g • HP Superior Laser Glossy 160g • Extra Heavy 131-175g • Extra Heavy Glossy 131-175g 	<ul style="list-style-type: none"> • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm)
Photo/Cover 176-200g	<ul style="list-style-type: none"> • HP Cover Matte 200g • HP Matte Photo 200g • HP Color Laser Photo Glossy 200g • HP Color Laser Photo Glossy 200g (faster printing) • HP Color Laser Photo Glossy 200g (higher gloss) • Card Glossy 176-220g 	<ul style="list-style-type: none"> • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • Half Speed (4 ppm) • 3/4 speed (6 ppm)
Other	<ul style="list-style-type: none"> • Color Laser Transparency • Labels • Letterhead • Envelope • Heavy Envelope • Preprinted • Prepunched • Colored • Rough • Heavy Rough • HP Tough Paper 	<ul style="list-style-type: none"> • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • Full • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • Full • Full • Full • 3/4 speed (6 ppm) • 3/4 speed (6 ppm) • 3/4 speed (6 ppm)

No mechanism exists for manually adding custom paper types through the printer-driver. Custom paper types can be added only by using the bidirectional communication mechanism; therefore, they must already exist in the product when the bidirectional query occurs. If bidirectional communication is enabled, an updated list of paper types is returned. If bidirectional communication is not enabled, the printer-driver looks for custom paper types that have been saved from a previous bidirectional

communication query and uses those. Otherwise, no custom paper types are available through the printer-driver.

The default setting is **Unspecified**, and the program selects the paper type. Before selecting a different setting, make sure that the correct paper type is loaded in the tray that is specified in the **Paper source:** setting.

If the printer-driver setting is changed to a paper type that is not currently loaded in the printer, a control-panel message prompts you to load the paper type or select another tray.

Caution symbols may appear next to some paper types in the selection list. This means that there is another setting that may be in conflict with the selected paper size. For example, if “print on both sides” is selected in the **Finishing** tab, then the **Transparency** paper type will have a **Caution** symbol next to it because transparencies can only be printed on a single side.

Special pages

To specify special pages that are to be used, click the **Settings** button under **Special Pages**.

Covers

To use specific cover settings, click **Covers** on the **Special Pages** window.

Use the **Covers** options to include a blank or preprinted cover on a document, or to include a front/back cover from a source tray that is different from the one used for the remainder of the document.

The following figure shows the **Covers** setting and options.

Figure 4-7 Paper/Quality tab – Special Pages – Covers

The screenshot shows the 'Special Pages' dialog box with the 'Covers' tab selected. The 'Covers' section is highlighted in the left pane. The main area contains the following options:

- Add a blank or preprinted cover:** Radio buttons for Front, Back, and Both.
- Paper source:** A dropdown menu set to 'Automatically Select'.
- Paper type:** A dropdown menu set to 'Unspecified'.
- Buttons for 'Add' and 'Update'.

A **NOTE:** section states: 'All pages not listed in this table are set to: Paper source: Automatically Select, Paper type: Unspecified, Print on both sides: Off'.

Below the note is a table titled 'Special pages defined for this print job:' with the following columns: Page Type, Pages, Paper Source, Paper Type, and Additional Attributes. The table is currently empty.

Buttons for 'Delete' and 'Delete All' are located below the table. 'OK' and 'Cancel' buttons are at the bottom right of the dialog.

The following are the **Covers** options:

- **Cover type.** Select which cover is customized: **Front**, **Back**, or **Both**
- **Paper source.** The **Paper Source** setting specifies the source tray to use for adding a front cover and/or a back cover to the document.
- **Paper type.** The **Paper Type** setting specifies the paper size to use for front covers and/or back covers. Changes made to the **Paper Type** setting here override any previous **Paper Type** settings that use the same paper source.

NOTE: The **Back Cover** options are not available when the **Booklet Printing Layout** setting is enabled on the **Finishing** tab. The back cover setting is unavailable, because this page would be printed in the middle of a booklet.

NOTE: The same size of paper will be used for the entire print job.

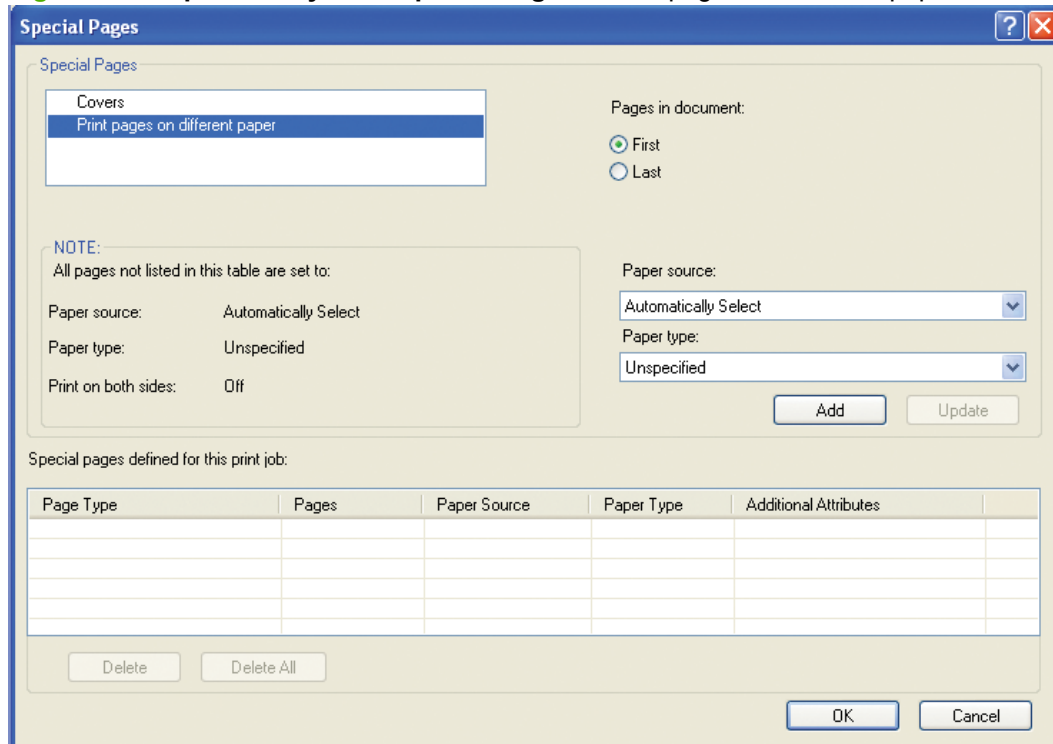
When you change the type and source of the paper and covers, the settings remain configured until you quit the software program.

Print pages on different paper

Use the **Print pages on different paper** options to select an alternative paper type or source for the first or last page of a document.

The following figure shows the **Print pages on different paper** settings and options.

Figure 4-8 Paper/Quality tab – Special Pages – Print pages on different paper



The following are the **Print pages on different paper** options:

- **Pages in document.** Select which pages are customized: the **First** page, or the **Last** page.
- **Paper source.** The **Paper source** setting specifies the source tray to use for printing a document.
- **Paper type.** The **Paper type** drop-down menu shows all of the paper types that the product supports.

 **NOTE:** The same type of paper is used for the entire print job.

When you change the type and source of the paper and covers, the settings remain configured until you quit the software program.

Document preview image

The document preview image is a line-drawn image of a page that represents graphics and text. It is always oriented so that the contents of the page are right-side-up.

Move the cursor over the document preview image to change the cursor from an arrow to a gloved hand. Toggle between portrait and landscape page orientation by clicking the image.

Figure 4-9 Document preview image

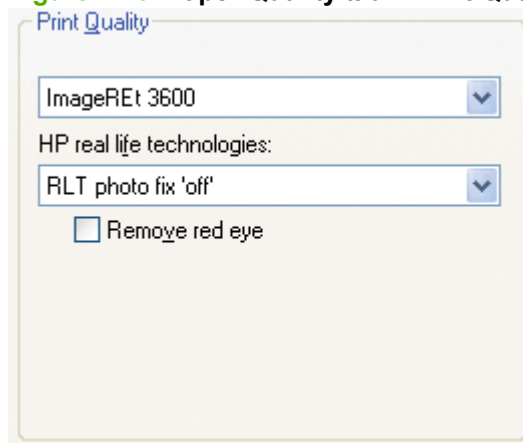


Print Quality group box

The **Print Quality** group box provides options that control resolution and digital imaging settings. The group box includes the following options:

- [Print Quality drop-down menu](#)
- [HP real life technologies](#)
- [Remove red eye checkbox](#)

Figure 4-10 Paper/Quality tab – **Print Quality** group box



Print Quality drop-down menu

The **Print Quality** drop-down menu contains the **Image REt 3600** resolution option. This setting produces 3600 dpi color output quality through HP Image Resolution Enhancement Technology (Image REt) 3600. This setting is selected by default.

HP real life technologies

The **HP real life technologies** drop-down menu contains the following options:

- **RLT photo fix 'off'**
- **'Basic' RLT photo fix**
- **'Full' RLT photo fix**

Remove red eye checkbox

The **Remove red eye** checkbox is selected by default. Uncheck this box to deselect this option.

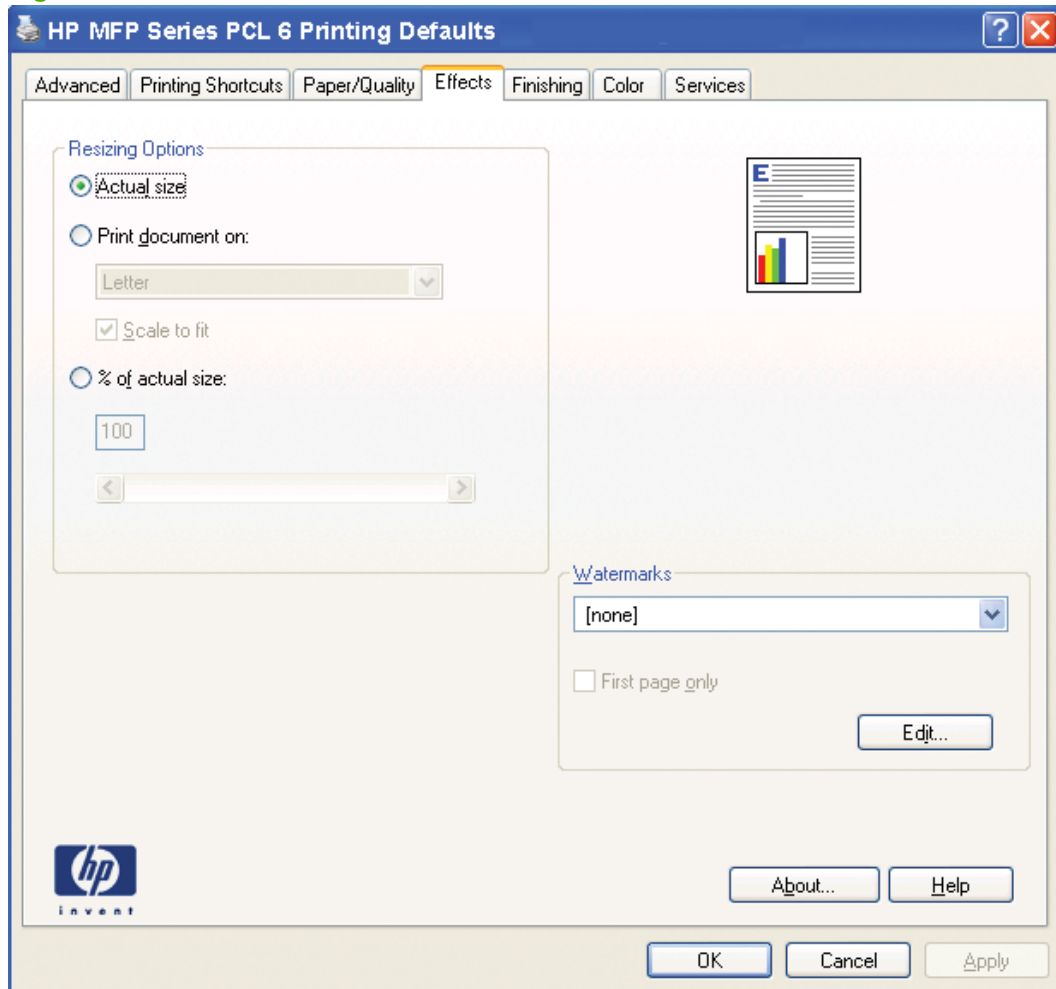
Effects tab features

Follow these steps to gain access to the **Effects** tab.

1. Click **Start** and then proceed according to the version of Windows that is running on your computer:
 - For Windows 2000, click **Settings** and then click **Printers**.
 - For Windows XP Professional and Windows Server 2003, click **Printers and Faxes**.
 - For Windows XP Home, click **Printers and Other Hardware Devices**.
2. Right-click the product name, and then select **Printing Preferences**.
3. Click the **Effects** tab.

Use the **Effects** tab to create unique paper effects such as scaling and watermarks.

Figure 4-11 Effects tab



The **Effects** tab contains the following controls:

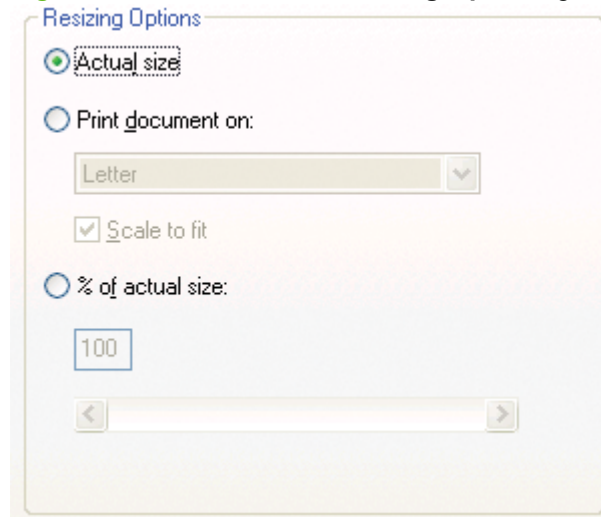
- **Resizing Options** group box
- Document preview image
- **Watermarks** group box

Resizing Options group box

The **Resizing Options** group box consists of the following controls:

- **Actual Size** (default)
- **Print Document On** setting
- **Scale to Fit** option
- **% of actual size** setting

Figure 4-12 Effects tab – Resizing Options group box



Actual Size setting

Actual Size is the default setting. It prints the document without changing the document size.

Print Document On setting

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

Print Document On is disabled by either of the following conditions:

- The **% of actual size** value is not 100.
- The **Pages per Sheet** value (on the **Finishing** tab) is not 1.

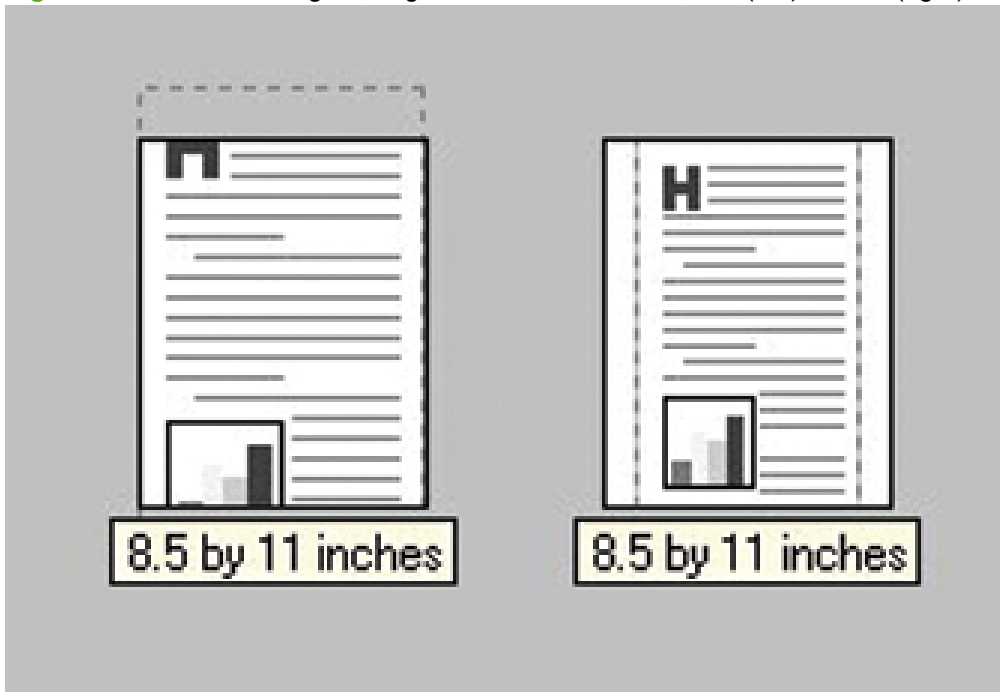
When **Print Document On** is selected, the drop-down menu shows the paper sizes on which you can print. The list contains all of the standard paper sizes that are supported by the selected paper source, as well as any custom sizes that have been created. When **Print Document On** is selected, **Scale to Fit** is also automatically selected. Clear the **Scale to Fit** check box if you do not want the document reduced or enlarged to fit on the selected paper.

Scale to Fit option

The **Scale to Fit** option box 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, the document page images are not scaled but are instead centered at full size on the target paper. If the document size is larger than the target paper size, the document image is clipped. If it is

smaller, it is centered within the target paper. The following illustration shows preview images for a document that is formatted for legal-size paper and for which the **Print Document On** check box is selected and the target size is specified as **Letter**.

Figure 4-13 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 indicate the boundaries of the logical page in relation to the target page size.

% of actual size option

The **% of actual size** option provides a slider bar to use for scaling the percentage setting. The default setting in the entry box is 100% of normal size. Normal size is defined as the paper size that is selected within the printer-driver or what the printer-driver receives from the software program (if the software program does not negotiate the paper size with the printer-driver). The printer-driver scales the page by the appropriate factor and then sends it to the printer.

The limits of the range are from 25 to 400%. Any values that are outside the range are adjusted to those limits as soon as the focus is removed from the control (that is, when the **Tab** key is pressed, or when another control is selected).

Any change to the scale also changes the page preview, which increases or decreases from the upper-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 1%. Each click on the slider bar affects the scale by 10%.

An exact value is not achieved by dragging the scroll bar indicator at the default Windows resolution; use the scroll bar indicator to approximate the appropriate value, and then use the scroll bar arrows to refine the value.

The following settings disable the **% of actual size** feature:

- **Print document on** (on the **Effects** tab) is selected
- **Pages per Sheet** (on the **Finishing** tab) does not have a value of 1

Document preview image

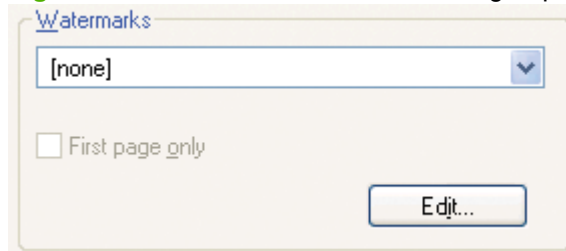
See the [Document preview image on page 183](#) section earlier in this chapter.

Watermarks group box

Use the **Watermarks** feature to select a watermark, create a custom watermark (text only), or edit an existing watermark. The following watermarks are preset in the printer-driver:

- **(none)**
- **Confidential**
- **Draft**
- **SAMPLE**

Figure 4-14 Effects tab – Watermarks group box



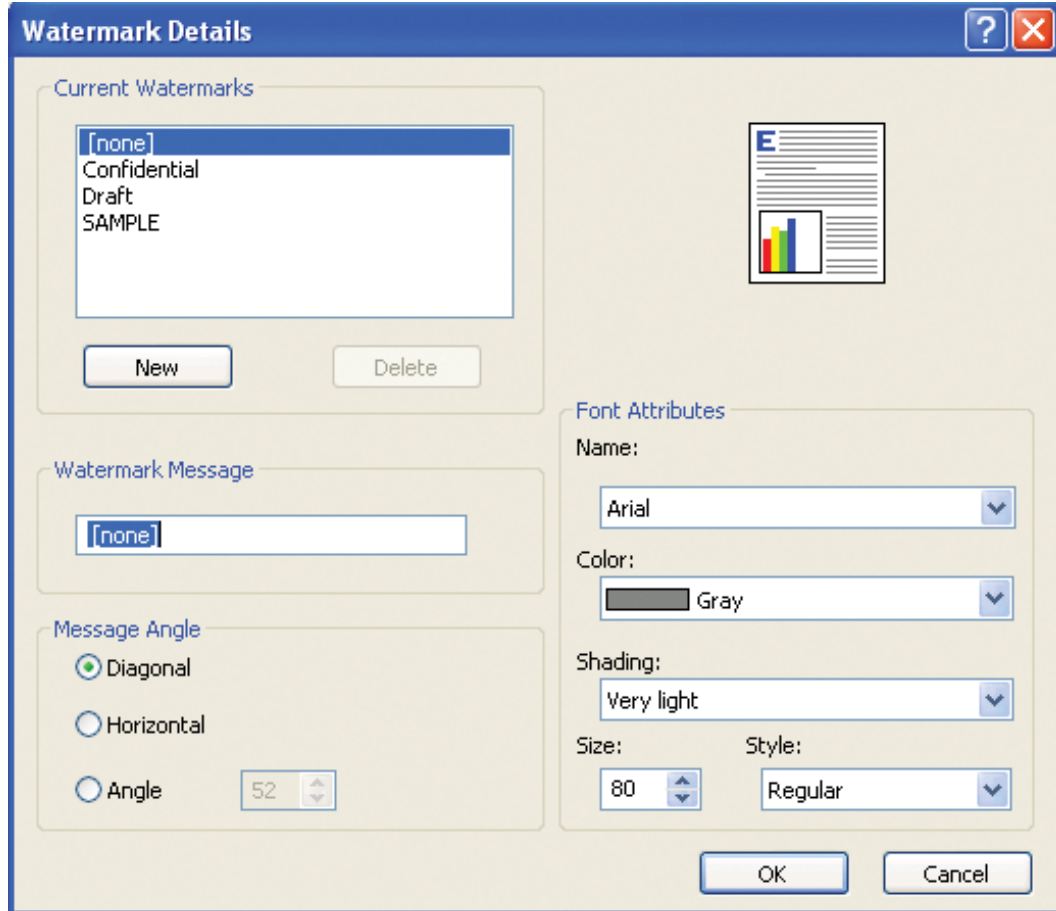
The drop-down menu shows alphabetically sorted watermarks that are currently available on the system, plus the string "(none)," which indicates that no watermark is selected. This is the default setting. Any watermark selected from this list appears in the preview image.

When the **First Page Only** check box 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 the value of **Pages per Sheet** is set to 4 and the **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 4-15 Effects tab – Watermark Details dialog box



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

Click **OK** to accept all of the changes that are made in the **Watermark Details** dialog box. However, clicking **Cancel** does not cancel all of the changes. If you make changes to a watermark and then select a different watermark or click **New**, all of the 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 the predefined watermarks that are available in the printer-driver and any new watermarks that have been created.

Creating a new watermark


1. Click **New**.

The new watermark appears in the **Current Watermarks** list and in the **Watermark Message** edit box as "Untitled" until it is named.

2. To name the new watermark, type the selected watermark text in the **Watermark Message** edit box.

The typed name in the **Watermark Message** field appears in the following locations:

- In the **Current Watermarks** group box in the **Watermark Details** dialog box
- In the **Watermarks** group box on the **Effects** tab

 **NOTE:** No more than 30 watermarks can exist in the **Current Watermarks** list at one time. When the limit of 30 watermarks is reached, the **New** button is disabled. The **(none)** setting is one of the 30 definable watermarks; the names for the other 29 watermarks can be customized.

To edit an existing watermark, select the watermark in the **Current Watermarks** list. Changing the **Watermark Message** for that watermark effectively creates a new watermark.

Deleting a watermark

1. Select the watermark in the **Current Watermarks** list.
2. Click **Delete**.
3. A warning appears, asking whether the intent is to delete the selected item.
 - Click **Cancel** to retain the watermark.
 - Click **OK** to delete the selected watermark.

Watermark message

The name in the **Watermark Message** field 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, several different watermarks can contain the message **DRAFT**, each with a different typeface or font 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 2 is used first, but if the resulting name is also in the list, the number increases until the name is unique (for example, **Draft #3**, **Draft #4**, and so on).

Message angle

Use the controls in the **Message Angle** group box to print the watermark in different orientations on the page. Selecting a particular setting affects only the angle of the string placement. The following settings are available:

- **Diagonal.** This is the default setting. Select this setting to place the text along a line that spans from the lower-left corner of the page to the upper-right corner.
- **Horizontal.** Select this setting to place the text along a line that spans the mid-left and mid-right edges of the page.
- **Angle.** Select this setting to place the text at the specified angle across the page. Use the numeric spin box to select the angle.

Font attributes

The **Font Attributes** group box contains the following controls:

- **Name** drop-down menu
- **Color** drop-down menu
- **Shading** drop-down menu

- **Size** spin box
- **Style** drop-down menu

Name drop-down menu

The **Name** drop-down menu lists fonts that are currently installed on the system. The default is language dependent.

Color drop-down menu

The **Color** drop-down menu provides a fixed, unalterable set of color choices, in palette/color name-pair form, for the watermark. The triplet values for these colors are shown in the following table.

Table 4-2 Watermark color values

Setting	Gray	Red	Yellow	Green	Cyan	Blue	Magenta
Lightest	255	255	255	232	232	232	255
	255	232	255	255	255	232	232
	255	232	232	232	255	255	255
Very Light	224	255	255	224	224	224	255
	224	224	255	255	255	224	224
	224	224	224	224	255	255	255
Light	192	255	255	192	192	192	255
	192	192	255	255	255	192	192
	192	192	192	192	255	255	255
Med Light	160	255	255	160	160	160	255
	160	160	255	255	255	160	160
	160	160	160	160	255	255	255
Medium	128	255	255	128	128	128	255
	128	128	255	255	255	128	128
	128	128	128	128	255	255	255
Med Dark	96	255	255	96	96	96	255
	96	96	255	255	255	96	96
	96	96	96	96	255	255	255
Dark	64	255	255	64	64	64	255
	64	64	255	255	255	64	64
	64	64	64	64	255	255	255

Table 4-2 Watermark color values (continued)

Setting	Gray	Red	Yellow	Green	Cyan	Blue	Magenta
Very Dark	32	255	255	32	32	32	255
	32	32	255	255	255	32	32
	32	32	32	32	255	255	255
Darkest	0	255	255	0	0	0	255
	0	0	255	255	255	0	0
	0	0	0	0	255	255	255

Shading drop-down menu

The default **Shading** setting for new and preset watermarks is **Very Light**. The following range of shades is available from the **Shading** drop-down menu.

- **Lightest**
- **Very Light** (default)
- **Light**
- **Medium Light**
- **Medium**
- **Medium Dark**
- **Dark**
- **Very Dark**
- **Darkest**

These values represent the intensity of the gray that is used. The **Light** option produces a lightly saturated gray watermark; the **Lightest** option produces the lightest shade of watermark, and the **Darkest** option produces a black watermark.

Size spin box

Font sizes from 1 point to 999 points are available from the **Size** menu. The default point size is language dependent.

Style drop-down menu

The **Style** drop-down menu has the following setting choices: **Regular**, **Bold**, **Italic**, and **Bold Italic**. The **Regular** setting is the default for new and preset watermarks.

Default settings

The default settings for new watermarks are **Arial** font, **Gray** color, **Very Light** shading, **80** points, and **Regular** style. The default settings for preset watermarks are **Arial** font, **Very Light** shading, and **Bold** style. The default point size for preset watermarks is language dependent and varies.

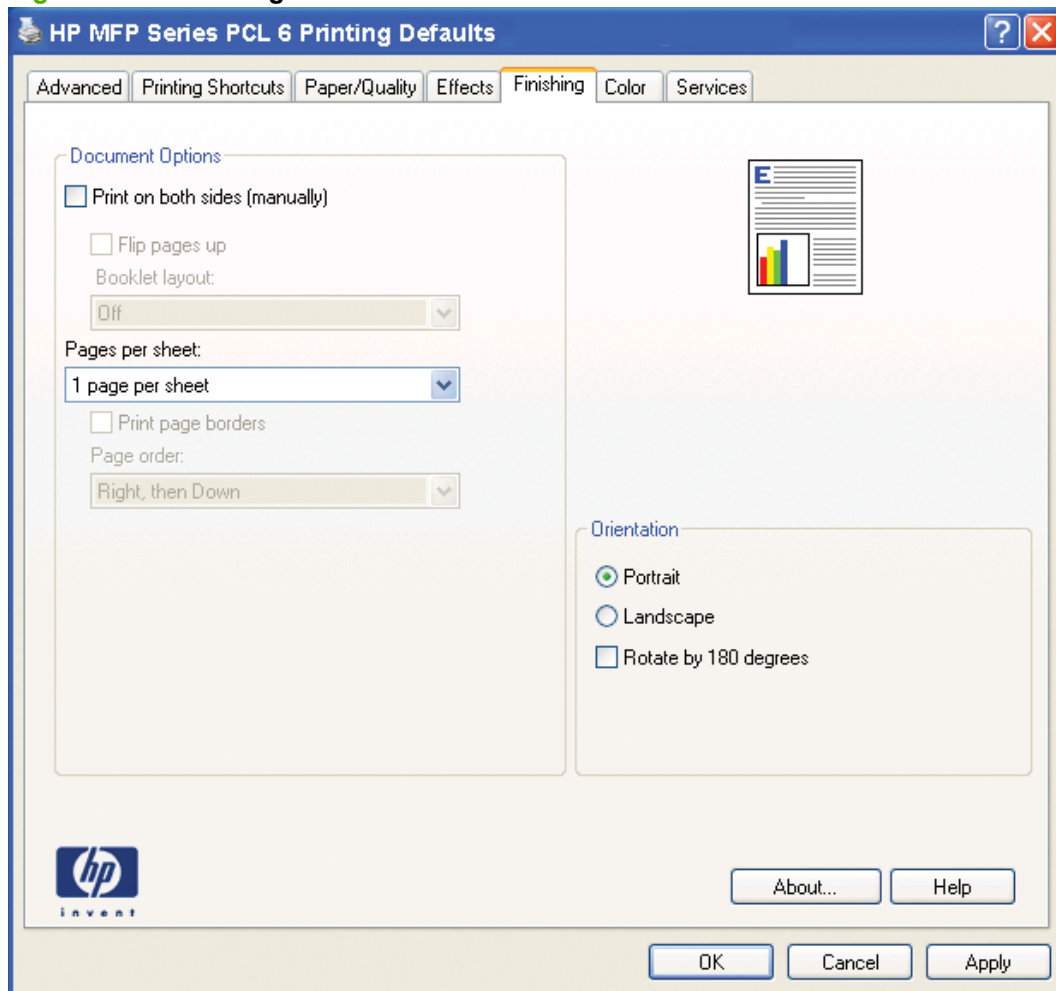
Finishing tab features

To open the **Finishing** tab, follow these steps:

1. Click **Start** and then proceed according to the version of Windows that is running on your computer:
 - For Windows 2000, click **Settings** and then click **Printers**.
 - For Windows XP Professional and Windows Server 2003, click **Printers and Faxes**.
 - For Windows XP Home, click **Printers and Other Hardware Devices**.
2. Right-click the product name, and then select **Printing Preferences**.
3. Click the **Finishing** tab.

Use the **Finishing** tab to print booklets and control the paper output.

Figure 4-16 Finishing tab



The **Finishing** tab contains the following controls:

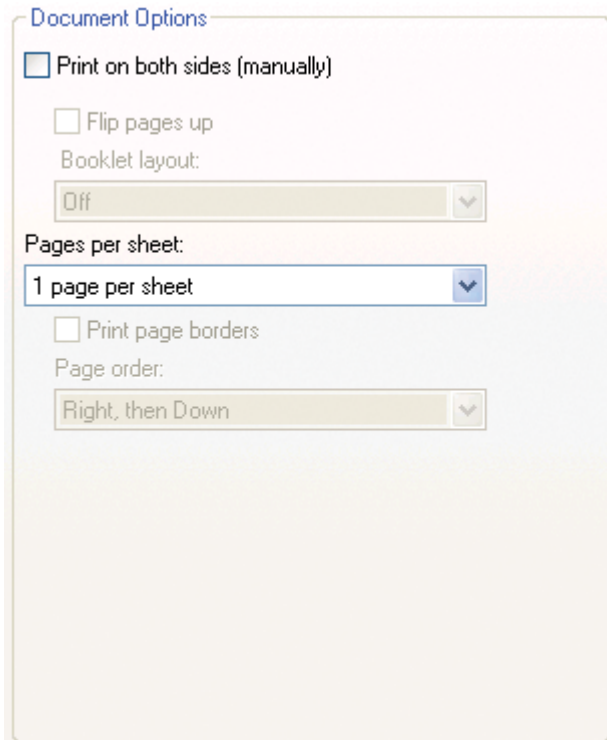
- [Document Options](#)
- [Document preview image](#)
- [Orientation group box](#)

Document Options

The **Document Options** group box contains the following controls:

- **Print on Both Sides** or **Print on Both Sides (Manually)** check box
- **Flip Pages Up** option
- **Booklet Layout** drop-down menu
- **Pages per Sheet** drop-down menu
- **Print Page Borders** check box
- **Page Order** drop-down menu

Figure 4-17 Finishing tab – Document Options group box



Print on Both Sides (Manually) check box

The **Print on Both Sides (Manually)** option controls the manual duplexing function of the product. This product does not have automatic duplexing capability.

Manually printing on both sides

Select the **Print on Both Sides (Manually)** check box to print on the second side of the paper.

Selecting a paper type instructs the product to use a group of settings (such as fuser temperature and print speed) to print the paper with the best possible quality. This group of settings is known as print mode. To achieve the best print quality when printing on the second side of the page, the product makes adjustments to its print modes. A different print mode is used with each paper type. Print-mode adjustments for the second side of a duplexed page are automatic.

Select the paper type that corresponds to the paper that is being used for the current print job. The following paper types have a different print mode when printed manually on the second side:

- **Unspecified**
- **Plain**
- **Preprinted**
- **Preprinted**
- **Transparency**
- **Prepunched**
- **Labels**
- **Bond**
- **Recycled**
- **Color**
- **Light** (60-75 g/m²)
- **Cardstock** (164-120 g/m²)
- **Glossy** (164-120 g/m²)
- **Tough Paper**
- **Envelope**
- **Rough**
- **Heavy** (105-120 g/m²)
- **Intermediate** (90-104 g/m²)
- **Extra Heavy** (120-163 g/m²)
- **HP Cover** (200 g/m²)
- **HP Matte Photo** (200 g/m²)
- **HP Glossy Photo** (220 g/m²)

Cardstock paper can be manually printed on the second side, but there is no change to the print mode.

A triangle enclosing an exclamation point icon appears next to the **Transparencies** and **Labels** options. This icon indicates that duplex printing is not advised for these paper types.

To make the **Print on Both Sides (Manually)** check box available in the document options, enable the **Allow Manual Duplexing** option on the **Device Settings** tab in the **Properties** printer-driver tabs.

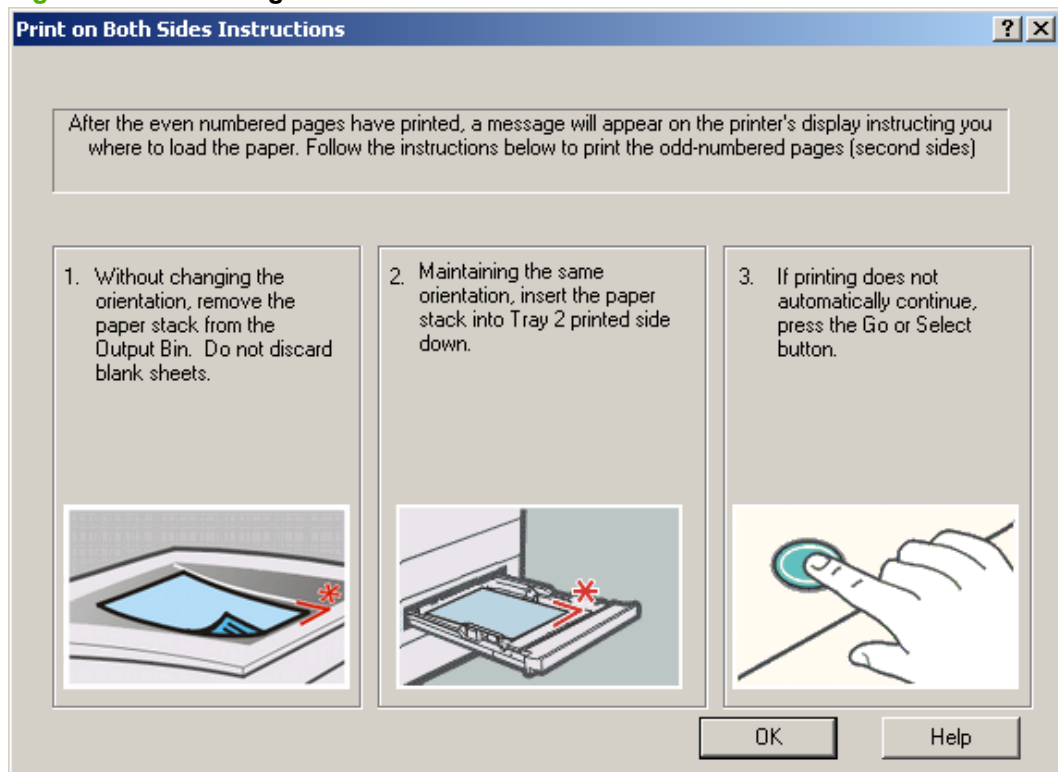
1. Click **Start**, click **Settings** and then click **Printers** (for Windows 2000); or click **Start** and then click **Printers and Faxes** (for Windows XP Professional and Windows Server 2003); or click **Start** and then click **Printers and Other Hardware** (for Windows XP Home).
2. Right-click the icon for the product.

3. Select **Properties** from the pop-up list that appears.
4. Click **Device Settings** tab.
5. Look for the *Installable Options* section at the bottom of **Device Settings** screen. Select “**Enabled**” for the “**Allow Manual Duplexing**” option.


When the **Print on Both Sides (Manually)** check box is available on the **Document Options** section of the **Finishing** tab screen, follow these steps to make the product manually print on both sides:

1. Select the **Print on Both Sides (Manually)** check box.
2. Click **OK**.
3. Click **Print**.
4. Click the green **OK** button on the product control panel. The even-number pages of the document print.
5. Insert the stack of even-number pages that just printed when the control panel shows the **Manually Feed** message or the **Load Tray** message.

Figure 4-18 Finishing tab – Print on Both Sides instructions window



6. Click the green **OK** button on the product control panel.
7. The second half of the job prints on the second side (blank) of the stacked sheets of paper. The printer-driver automatically coordinates the odd- and even-page printing.

 **NOTE:** For more assistance, refer to animation in the **Help** section of HP ToolboxFX.

Flip Pages Up option

Select the **Flip Pages Up** check box to specify the duplex-binding option. (The **Flip Pages Up** option is only available when **Print on Both Sides (Manually)** is selected.) By default, the **Flip Pages Up** check box is *not* selected. The following table shows the results of selecting this box, depending on the paper orientation selected on the **Finishing** tab.

Table 4-3 Page orientation

Orientation (Finishing tab)	Flip Pages Up selected	Flip Pages Up not selected
Portrait	Short-edge binding	Long-edge binding
Landscape	Long-edge binding	Short-edge binding

When **Print on Both Sides (Manually)** is selected, the document preview image changes to show a spiral binding along either the left edge or the top edge of the page. Also, a folded-over corner that shows in the lower-right portion of the preview image indicates that printing occurs on the back side of that page. An arrow on the folded-over corner points in the direction that the pages would be flipped if they were bound together.

Select the **Flip Pages Up** check box for print jobs with pages that read by flipping over like the pages of a calendar. Clear the **Flip Pages Up** check box for print jobs with pages that read by turning like the pages of a book.

Booklet layout drop-down menu

The **Booklet Layout** drop-down menu, visible when **Print on Both Sides Manually** is selected, offers choices that are based on the current paper size. The default setting for the **Booklet Layout** drop-down menu is **Off**.

- **Left Binding**
- **Right Binding**

By selecting **Left Binding** or **Right Binding**, the document preview image changes to show the location of the binding. If the **Pages per Sheet** setting is on the default setting of 1, it automatically changes to **2 pages per sheet**. Manually changing the **Pages per Sheet** setting to 4, 6, 9, or 16 pages per sheet disables the booklet setting. See the [Printing a booklet on page 198](#) section of this chapter for more information.

Book and booklet printing

A book is a print job consisting of at least two pages that can have a different paper type for the front cover, first page, other pages, last page, or back cover. Use the **Front Cover**, **First Page**, **Other Pages**, **Last Page**, and **Back Cover** settings on the **Paper/Quality** tab (available by selecting the **Use Different Paper/Covers** check box) to select different paper for these pages.

A booklet is a print job that places two pages on each side of a sheet that can be folded into a booklet that is half the size of the paper type. Use the **Booklet Layout** drop-down menu on the **Finishing** tab to control booklet settings.

Printing a booklet

Complete the following steps to print a booklet:

1. In the **Finishing** tab, select the **Print on Both Sides Manually** check box.
2. In the **Booklet Layout** drop-down menu, select the preferred type of booklet printing (for example, **Right Edge Binding**).
3. Click **OK** in the printer-driver.
4. Click **OK** in the **Print** dialog box to print.

Printing a book

To print a book in which the front cover, first page, other pages, last page, and back cover are printed on different paper types, see the [Paper/Quality tab features on page 175](#) section of this chapter.

Pages per Sheet drop-down menu

On the **Finishing** tab, use the **Pages per Sheet** option to select the number of pages to print onto a single sheet of paper. If more than one page per sheet is selected, the pages appear smaller and are arranged on the sheet in the order that they would otherwise be printed. The **Pages per Sheet** drop-down menu provides six settings:

- 1 page per sheet (default)
- 2 pages per sheet
- 4 pages per sheet
- 6 pages per sheet
- 9 pages per sheet
- 16 pages per sheet

 **NOTE:** Selecting an option other than **2 pages per sheet** makes booklet printing unavailable.

Print Page Borders check box

Related controls indented beneath the **Pages per Sheet** edit box are **Print Page Borders** and **Page Order**, which become active when **Pages per Sheet** is greater than 1.

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

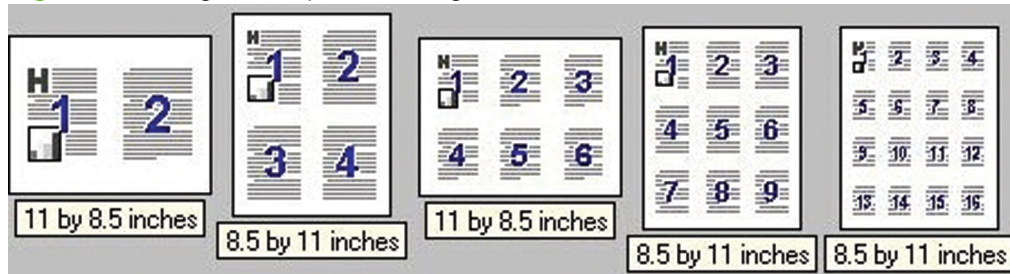
Page Order drop-down menu

The **Page Order** drop-down menu contains four selections:

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

The document preview image reflects any changes that are made in the **Page Order** settings. The following figure shows the different document preview configurations.

Figure 4-19 Page-order preview images



- 2 pages per sheet
- 4 pages per sheet
- 6 pages per sheet
- 9 pages per sheet
- 16 pages per sheet

Document preview image

See the [Document preview image on page 183](#) section earlier in this chapter.

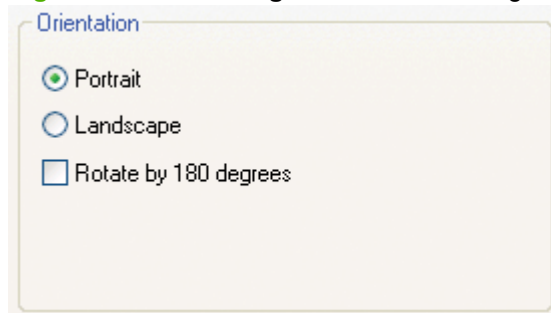
Orientation group box

Use the **Orientation** setting to establish different layouts of the image on the page. This setting does not affect the way that paper feeds into the product.

The **Orientation** group box contains the following options:

- [Portrait option button](#)
- [Landscape option button](#)
- [Rotate by 180 degrees check box](#)
- [Mirror Image check box \(HP PS Emulation only\)](#)

Figure 4-20 Finishing tab – Orientation group box



Portrait option button

Select this feature to print the document in **Portrait** orientation, which is when the top edge of the document is the shorter edge of the paper. This is the default setting.

Landscape option button

Select this feature to print the document in **Landscape** orientation, which is when the top edge of the document is the longer edge of the paper.

Rotate by 180 degrees check box

Select this feature to rotate the document image on the paper 180 degrees. For example: If the return address on an envelope is smudged, select this setting and then feed the envelope into the product so that the return address area goes in first.

Mirror Image check box (HP PS Emulation only)

Click the **Mirror Image** check box to reverse the horizontal coordinates of the printed document.

Color tab features

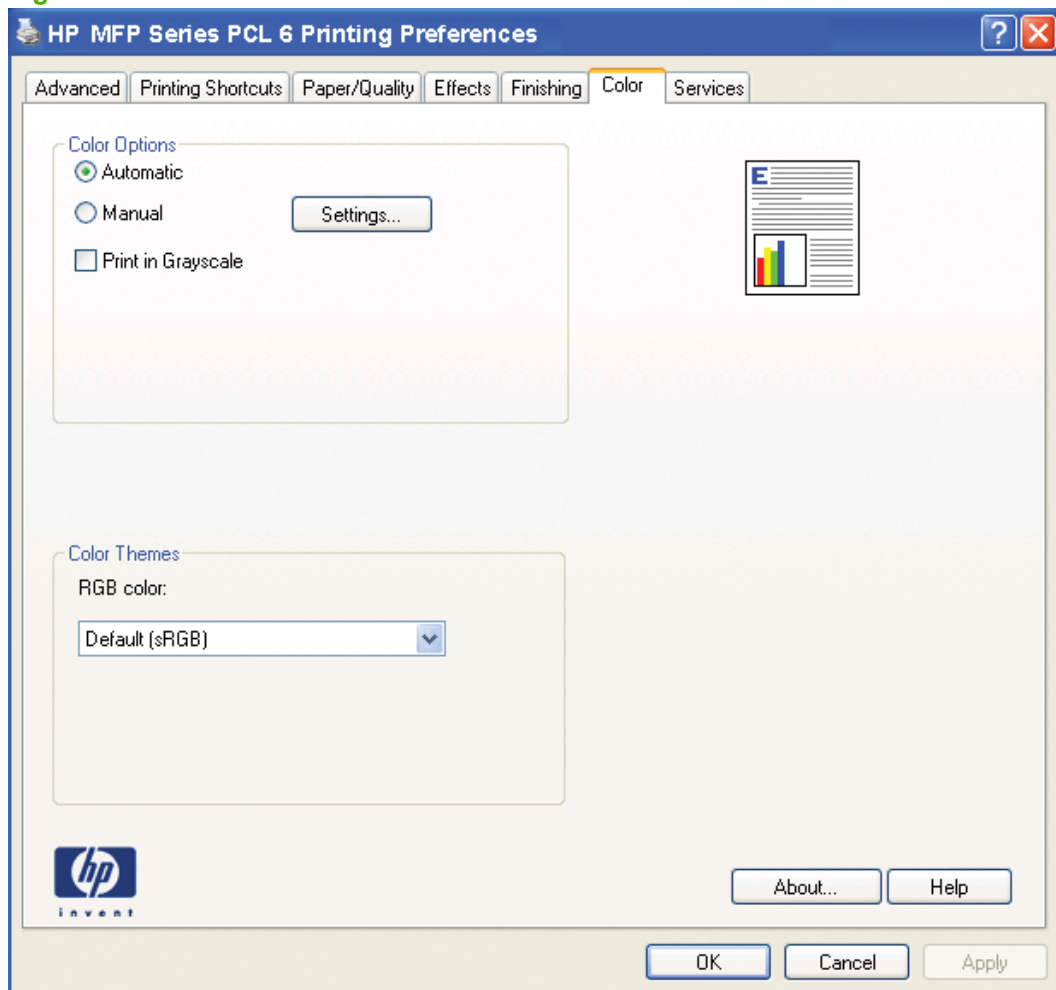
To gain access to the **Color** tab, follow these steps:

1. Click **Start**.
2. Select **Settings**.
3. Click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Windows Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home) or **Hardware and Sound** (Windows Vista).
4. Right-click the product name.
5. Click **Printing Preferences**.
6. Click the **Color** tab.

Use the **Color** tab to specify predefined color-option settings or to fine-tune the color treatments and halftoning. Color output can also be converted to grayscale.

The **Color** tab is shown in the following figure.

Figure 4-21 Color tab



The **Color** tab contains the following sets of controls:

- [Color Options](#)
- [Color Themes](#)
- [Document preview image](#)

Color Options

Use the **Color Options** group box to adjust the independent color controls. The settings affect the print job color rendering and print quality. The **Color Options** group box contains the following controls:

- **Automatic** option (default)
- **Manual** option
- **Settings** button (that opens the **Color Settings** dialog box)
- **Print in Grayscale** check box

Automatic

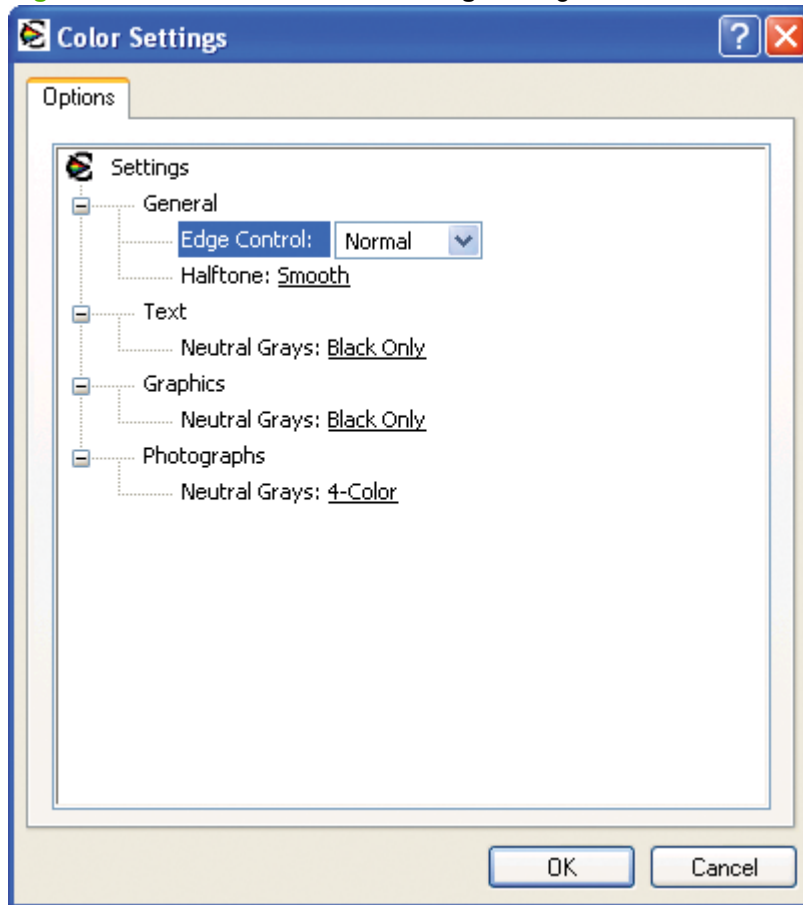
Use the **Automatic** option for default color settings that automatically fine-tune the printed output. The **Automatic** default color settings provide high-quality output for most color printing needs.

Manual

To change the default color settings, select the **Manual** option, and then click the **Settings** button. The **Color Settings** dialog box appears.

To change the settings, make your selections by using the drop-down menus in the **Color Settings** dialog box, and then click **OK**. The following figure shows the **Color Settings** dialog box with "Custom" settings.

Figure 4-22 Color tab – **Color Settings** dialog box



The **Color Settings** dialog box contains the following controls:

- **General**
 - **Edge Control**
 - **Halftone**
- **Text**
 - **Neutral Grays**
- **Graphics**
 - **Neutral Grays**
- **Photographs**
 - **Neutral Grays**

General

Use the **General** setting group to control **Edge Control** and **Halftone** settings for all color printing.

Edge control

Edge Control determines how a document's edges are rendered. **Edge Control** consists of three components: Adaptive Halftoning, which increases the sharpness of the edge; Trapping, which reduces the effect of color plan misregistration by slightly overlapping the edges of adjacent objects; and Color Resolution Enhancement technology (C-REt), which increases the apparent resolution by placing each dot for the smoothest edges.

The **Edge Control** option offers four settings:

- **Off.** The **Off** setting turns Trapping, Adaptive Halftoning, and C-REt to **Off**.
- **Light.** The **Light** setting provides minimal trapping. Adaptive Halftoning is set to **On** and C-REt is set to **On**.
- **Normal.** The **Normal** setting provides the default trapping settings. Adaptive Halftoning is set to **On**, and C-REt is set to **On**.
- **Maximum.** The **Maximum** setting provides the most trapping. Adaptive Halftoning is set to **On**, and C-REt is set to **On**.

Half tone

The **Halftone** setting controls the selection of a product-dependent halftone algorithm that is embedded in the product firmware. Halftoning is a method by which the product mixes the four primary colors (cyan, magenta, yellow, and black) in varying proportions to create millions of colors. The **Halftone** options affect the resolution and clarity of the color on the printed page. You can select **Halftone** settings for text, graphics, and photographs independently.

The following Halftone options are available:

- **Detail.** This is the default option. It is useful for text and graphics that require sharp distinctions among lines or colors, or for images that contain a pattern or a high level of detail. Choose this option for sharp edges and detail.
- **Smooth.** This option provides better results for large, solid-filled print areas. It also enhances photographs by smoothing out fine color gradations. Choose this option for uniform and smooth area fills.

Text, Graphics, Photographs

Use the **Text**, **Graphics**, and **Photographs** settings groups to control the **Neutral Grays** settings for color printing.

Neutral Grays

The **Neutral Grays** drop-down menu controls the selection of a printer-dependent color table that is embedded in the product firmware. The options are **Black Only** or **4-Color**. You can adjust the **Neutral Grays** setting independently for text, graphics, or photographs.


- **Black Only.** This option generates neutral colors (grays and black) by using only black toner. This option guarantees that neutral colors do not have a color cast. **Black Only** is the default setting for the **Text** and **Graphics** components.
- **4-Color.** This option generates neutral colors by combining all four colors of toner, which produces smoother gradients and transitions to non-neutral colors. It also produces the darkest possible black. The default setting for **Photographs** is **4-Color**.

Color Themes


The **Color Themes** group box contains the **RGB color:** drop-down menu.

RGB Color

The **RGB Color** settings affect the color treatment for object types and determine how colors are rendered. The following options are available.

 **NOTE:** In software programs that convert text and graphics to raster, the **Photographs** settings also control the **Text** and **Graphics** settings.

- **Default (sRGB).** This option interprets RGB color space (sRGB), which is the accepted standard for many software companies and organizations such as Microsoft and the World Wide Web Consortium. **Default (sRGB)** is the default setting for all components.
- **Vivid.** This option uses the full range of the product capabilities, producing colors that are more deeply saturated than those on the screen. By using **Vivid** color, blues and greens will likely appear darker in print than on the monitor. Vivid color is useful for business graphics and other documents that require deep, rich colors.

 **NOTE:** This setting uses the sRGB color table for the product.

- **Photo.** The **Photo** setting interprets the RGB color as if it were printed as a photograph from a digital mini-lab, rendering the deeper and more saturated colors differently than **Default** mode. Use this setting for printing photos. For best results, use HP Glossy Laser Paper with this setting.
- **Photo (Adobe RGB 1998).** Select **Photo (Adobe RGB 1998)** for documents that use the Adobe RGB color space rather than sRGB. For example, some digital cameras capture images in Adobe RGB, and documents that are produced with Adobe Photoshop use the Adobe RGB color space. When printing from a professional software program that uses Adobe RGB, turn off the color management in the software program and allow the product software to manage the color space.
- **None.** Select **None** to instruct the product to print RGB data in raw print mode. To render documents correctly when this option is selected, you must manage color data within the software program or the operating system.

△ **CAUTION:** Use this option only if you are familiar with the procedures for managing color in the software program or the operating system; otherwise, color quality can be compromised.

Document preview image

See the [Document preview image on page 183](#) section earlier in this chapter.

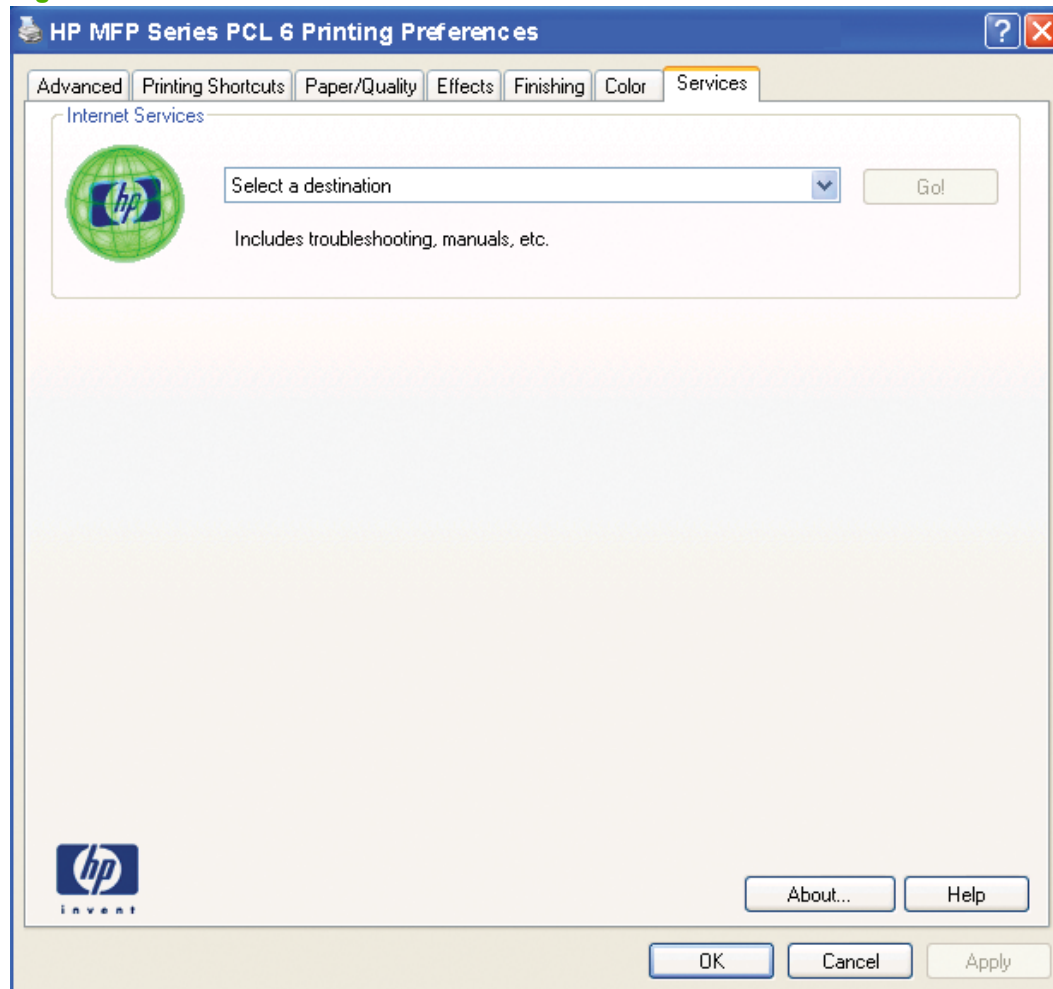
Services tab features

To gain access to the **Services** tab, follow these steps:

1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers**; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the product name.
5. Click **Printing Preferences**.
6. Click the **Services** tab.

The **Services** tab is shown in the following figure.

Figure 4-23 Services tab



The **Services** tab contains the following **Internet Services** feature.

Internet Services

The **Internet Services** group box contains the **Select a destination** drop-down menu with the following selections:

- **Support and troubleshooting.** Opens the product page for the HP Business Center.
- **Product manuals.** Opens a Web page to view or download this product's product manuals.
- **Check for driver updates.** Checks the printer-drivers to see whether the correct and most up-to-date printer-drivers are installed.
- **Shop for supplies.** Opens the HP SureSupply Web page and shop online for supplies for this product.

If you have Internet access, select any of these items and click **Go!** to open the corresponding Web page.

Device Settings tab features

On the product Properties, only the **Device Settings** tab and the **About** tab are unique to the product; all other tabs are part of the operating system.

The **Device Settings** tab is in the **Properties** window for the printer-driver. To gain access to the **Device Settings** tab, follow these steps:

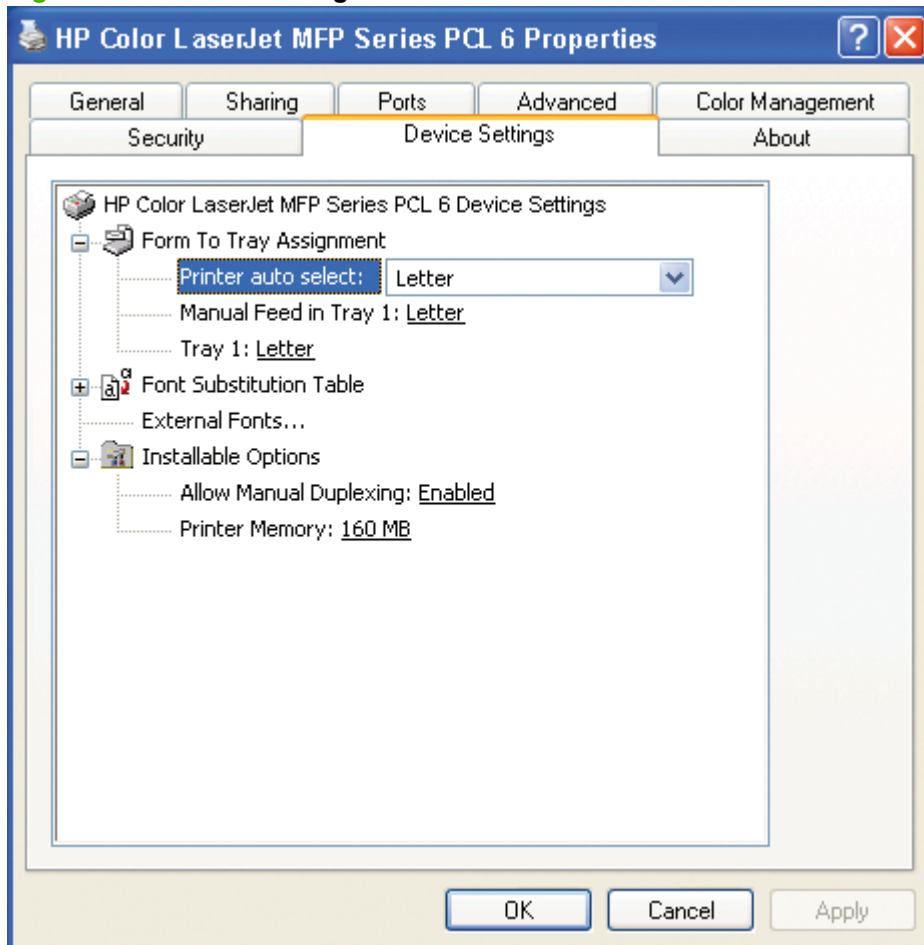
1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers**; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the product name.
5. Click **Properties**.
6. Click the **Device Settings** tab.

The **Device Settings** tab contains controls for paper-handling products and controls for managing the product.

Available options depend on the printer-driver and the particular feature.

The following figure shows the **Device Settings** tab for the HP PCL 6.

Figure 4-24 Device Settings tab



The following figures show the **Device Settings** tab for the HP PS Emulation.

The **Device Settings** tab contains the following controls:

- Form to Tray Assignment
- Font Substitution Table
- External Fonts
- Installable Options

Form to Tray Assignment

A network administrator can use **Form to Tray Assignment** to specify the paper size in each input tray.

Network administrators can use the **Form to Tray Assignment** setting to specify, in the printer-driver, the paper size that is loaded into each available input tray. The use of forms constrains the choices that are available in the paper-size list on the **Paper/Quality** tab in the **Printing Preferences** printer-driver tabs. This constraint reduces the likelihood that the product can be tied up with paper-mount messages that occur when users request paper sizes or types that are not available.

The trays listed in the **Form to Tray Assignment** setting include standard trays and optional accessory trays. Generally, items that are installed separately have a separate **Installable Options** setting.

The input trays listed here are also listed as paper sources on the **Paper/Quality** tab.

Configuring the trays


1. Select the appropriate tray in the **Form to Tray Assignment** list.
2. Use the drop-down menu to select the paper size (or form) that is loaded in that tray.
3. Repeat steps 1 and 2 for the remaining trays.
4. Click **OK** to enable the settings, or, if necessary, click **Cancel** to reconfigure all the trays and remove the paper size and type constraints that were imposed in the **Paper/Quality** tab.

Font Substitution Table

Use the **Font Substitution Table** settings to install and remove external fonts for the product. External fonts can be soft fonts or dual in-line memory module (DIMM) fonts.

Click the **Font Substitution Table** option to open a list of fonts, as show in the following figure. Use the settings to change the TrueType-to-printer font mappings.

External Fonts

 **NOTE:** The **External Fonts** option is available in for the HP PCL 5 and HP PCL 6 printer-drivers. It is not available in the HP PS Emulation printer-driver.

Use the **External Fonts** option to install and remove external fonts for the printer. External fonts can be soft fonts or DIMM fonts.

Click the **External Fonts** option to make the **Properties** button available. Click **Properties** to open the **HP Font Installer** dialog box, which is shown in the following figure.

Topics:

- [Install external fonts](#)
- [Remove external fonts](#)

Install external fonts

Follow these steps to install external fonts.

1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers**; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the name of the product.
5. Click **Properties**.
6. Click the **Device Settings** tab.
7. Click the **External Fonts** option. The **Properties** button appears.

8. Click **Properties**. The **HP Font Installer** dialog box appears.
9. Type the name and path of the font metric file in the **Printer Font File Location** text box, or click **Browse** to locate the file on the computer. The font file names appear in the **Font(s) to be Added** window
10. Select the fonts to add, and then click **Add**. The fonts are installed and the file names appear in the **Installed Font(s)** window.
11. Click **OK** to close the **HP Font Installer** dialog box.

Remove external fonts

1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers**; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the name of the product.
5. Click **Properties**.
6. Click the **Device Settings** tab.
7. Click the **External Fonts** option. The **Properties** button appears.
8. Click **Properties**. The **HP Font Installer** dialog box appears. The external fonts that are installed appear in the **Installed Fonts** window.
9. Select the fonts to remove, and then click **Remove**.
10. Click **OK** to close the **HP Font Installer** dialog box.

Installable Options

Topics:

- Allow Manual Duplexing
- Printer Memory

Allow Manual Duplexing

Select **Allow Manual Duplexing** to print on both sides of any size of, and most types of, paper (except transparencies, envelopes, and labels). To use this feature, reinsert the paper stack into the input tray to print the second side. The product pauses while the user makes this adjustment.

This setting is enabled by default.

Printer Memory

This option matches the setting to the amount of memory that is installed in the printer. The printer-driver generates ranges of memory that can be selected, up to the maximum that the product can accept. The printer-driver can use this information to manage the product memory.

HP PS Emulation Device Settings

The following controls are available and appear only in the HP PS Emulation **Device Settings** tab:

- [Available PostScript Memory](#)
- [Output Protocol](#)
- [Send Ctrl-D Before Each Job](#)
- [Send Ctrl-D After Each Job](#)
- [Convert Gray Text to PostScript Gray](#)
- [Convert Gray Graphics to PostScript Gray](#)
- [Add Euro Currency Symbol to PostScript Fonts](#)
- [Job Timeout](#)
- [Wait Timeout](#)
- [Minimum Font Size to Download as Outline](#)
- [Maximum Font Size to Download as Bitmap](#)

Available PostScript Memory

This control specifies the amount of available postscript memory and provides a spin box for changing that value. The available postscript memory is a subset of the printer's total physical memory. It is usually best to set the postscript memory to match the total RAM that appears on the configuration page.

To print a configuration page from the product control panel, follow these steps:

1. Press **OK** to open the menus.
2. Press the **Left arrow** button or the **Right arrow** button to navigate to **Main menu/Reports**, and then press **OK**.
3. Press the **Left arrow** button or the **Right arrow** button to navigate to **Reports/Config report**. Press **OK** to print the configuration report.

Output Protocol

This control specifies the protocol that the product uses for print jobs. The following options are available:

- **ASCII** (default)
- **TBCP**
- **Binary**

Click **ASCII** (American Standard Code for Information Interchange) to send data in ASCII (that is, 7-bit) format, which might take longer to print but can be sent through any input/output (I/O) channel, such as a serial or network port.

Click **TBCP** (Tagged Binary Communications Protocol) to send all data except special control characters in binary (8-bit) format. The binary formats can be sent over serial communications ports and are faster than sending data in ASCII format.

Click **Binary** to send all data except special control characters in binary (that is, 8-bit) format. The binary formats can be sent over serial communications ports and can travel faster than data sent in the ASCII format.

Send Ctrl-D Before Each Job

This control specifies whether the product is reset at the beginning of every postscript document. The default setting is **No**. Pressing **Ctrl-D** resets the product to its default setting to ensure that previous print jobs do not affect the current print job. Using **Ctrl-D** might cause a print job to fail if the product is connected through a network. If the document fails to print when sent to a product that is connected through serial ports, change **No** to **Yes**.

Send Ctrl-D After Each Job

This control specifies whether the product is reset at the end of every postscript document. The default setting is **Yes**. Pressing **Ctrl-D** resets the product to its default setting to ensure that future print jobs are not affected by the current print job. Using **Ctrl-D** might cause a print job to fail if the product is connected through a network. If the document fails to print when sent to a network printer, change **Yes** to **No**.

Convert Gray Text to PostScript Gray

This control specifies whether to convert the true gray value (RGB) in text to the gray that the printer-driver provides. The following settings are available:

- **Yes**
- **No** (default)

Convert Gray Graphics to PostScript Gray

This control specifies whether to convert the true gray value (RGB) in graphics to the gray provided by the printer-driver. The following settings are available:

- **Yes**
- **No** (default)

Add Euro Currency Symbol to PostScript Fonts

This control specifies whether to add the Euro symbol to the product fonts. The following settings are available:

- **Yes** (default)
- **No**

Job Timeout

This control specifies how long the document can take to get from the computer to the product before the product stops trying to print the document. If you specify **0 seconds**, the product continues trying to print indefinitely. The default setting is **0 seconds**. Use the spin box to change this value, up to a maximum of **32,767 seconds**.

Wait Timeout

This control specifies how long the product waits to get more postscript information from the computer. After the specified time passes, the product stops trying to print the document and prints an error

message. When printing a very complicated document, increase this value. If you specify **0 seconds**, the product waits indefinitely. The default setting is **300 seconds**. Use the spin box to change this value, up to a maximum of **32,767 seconds** (that is, approximately 9 hours).

Minimum Font Size to Download as Outline

This control specifies the minimum font size (in pixels) for which the printer-driver downloads TrueType fonts as outline (Type 1) fonts. Any font smaller than the minimum setting is downloaded as a bitmap (Type 3) font. Use this option to fine-tune the **Automatic** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **100 pixel(s)**. Use the spin box to change this value, up to a maximum of **32,767** pixels.

Maximum Font Size to Download as Bitmap

This control specifies the maximum font size (in pixels) for which the printer-driver will download TrueType fonts as bitmap (Type 3) fonts. Any font larger than the maximum setting will be downloaded as an outline (Type 1) font. Use this option to fine-tune the **Automatic** setting, or to override the **Send TrueType as Bitmap** setting for the **TrueType Font Download** option on the **Advanced** tab in **Document Defaults**. The default setting is **600 pixel(s)**. Use the spin box to change this value, up to a maximum of **32,767** pixels.

Postscript Passthrough

Postscript Passthrough is enabled by default and must be enabled for most print jobs. Postscript passthrough provides additional capabilities for some software programs when printing to a postscript printer-driver. Options such as **Watermarks**, **Pages per sheet** and **Booklet Printing** might not print correctly from some software programs when **Postscript Passthrough** is enabled, because such programs send postscript information that the printer-driver cannot control. Other programs might print using these options without problems. Select **Disabled** and print the document again if you encounter problems.

 **NOTE:** In some cases, disabling **Postscript Passthrough** can cause unexpected results within a software program.

JPEG Passthrough

The **JPEG Passthrough** setting contains the following options:

- **Disable.** When this option is selected, images that are sent as .JPEG are printed as bitmaps, resulting in faster printing.
- **Enable.** When this option is selected, images that are sent as .JPEG are printed as .JPEG (.JPEG passthrough).
- **Auto.** (This is the default.) When this option is selected, the product connection type is automatically detected. For network (TCP/IP) connections, the **JPEG Passthrough** setting is disabled. For DOT4 and USB connections, the **JPEG Passthrough** setting is enabled.

Printing Shortcuts tab

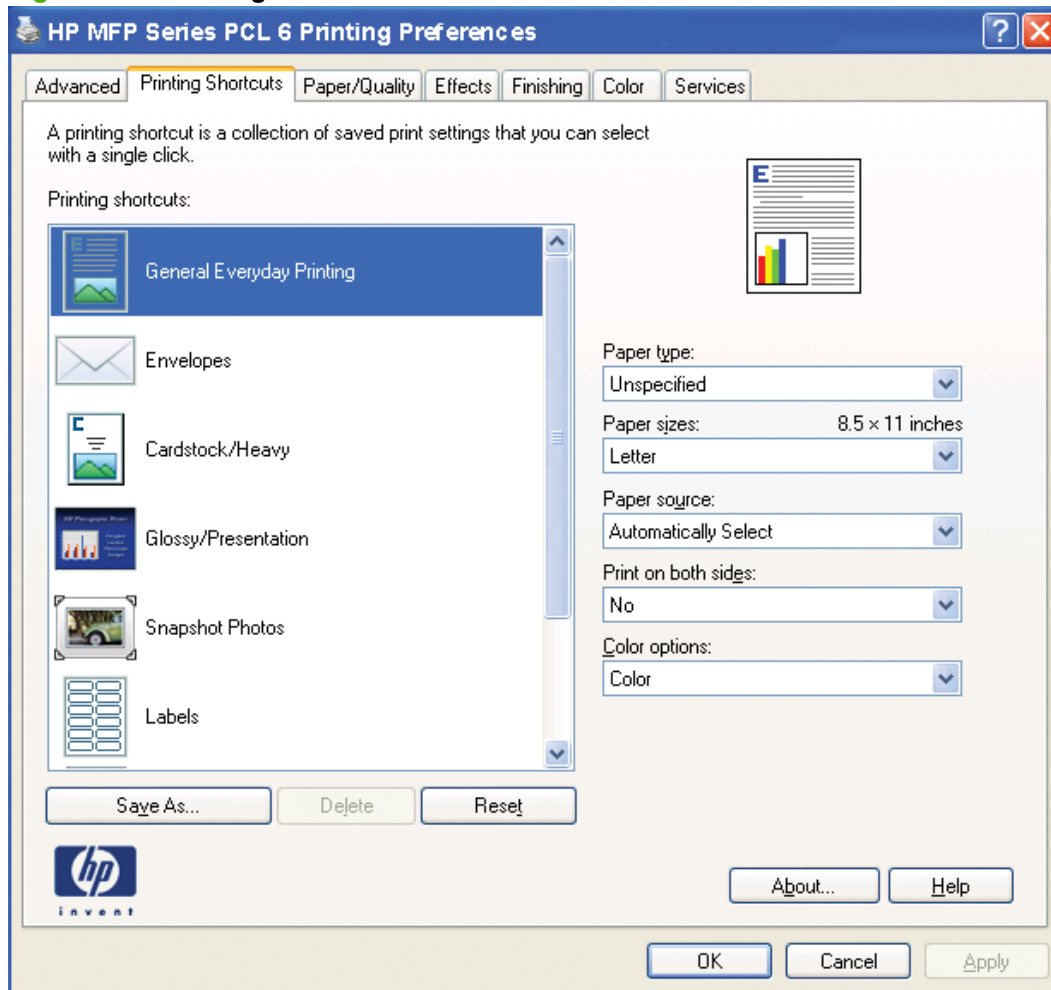
To gain access to the **Printing Shortcuts** tab, follow these steps:

1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers**; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the product name.
5. Click **Printing Preferences**.
6. Click the **Printing Shortcuts** tab.

Use the **Printing Shortcuts** tab to store specific combinations of printer-driver settings for easy use.

The following figure shows the **Printing Shortcuts** tab.

Figure 4-25 Printing Shortcuts tab



The **Printing Shortcuts** tab is a new tab that appears on HP PCL 5, HP PCL 6, and HP PS Emulation printer-drivers beginning with the HP Color LaserJet CM4730 MFP printer. In previous printer-drivers, the Print Task Quick Sets appeared in most of the printer-driver tabs and was used to capture commonly used printer-driver settings. Like Quick Sets, the **Printing Shortcuts** tab saves commonly used printer-driver settings under a shortcut name.

Printing Shortcuts contains the following:

- Factory Defaults
- General Everyday Printing
- Document preview image

Factory Defaults

When **Factory Defaults** is selected, the customizable options are grayed out, locking in those default options.

The **Factory Defaults** are as follows:

- **Paper source: Automatically select**
- **Staple: None**
- **Page size: Letter**
- **Orientation: Portrait**
- **Print on both sides: No**

General Everyday Printing

When **General Everyday Printing** is selected, the following options are available:

- **Paper source**
- **Staple**
- **Page size**
- **Orientation**
- **Print on both sides**
- **Paper type**
- **Pages per sheet**

When options other than the defaults are selected, the **Save as...** button and the **Reset** button become active.

Click **Save as...** to create a custom printing shortcut.

Click **Reset** to restore the default settings.

Paper source

The following options are available:

- **Automatically Select** (default)
- **Printer auto select**
- **Manual Feed in Tray 1**
- **Tray 1**
- **Tray 2**

Page size

The following options are available:

- **Letter** (default)
- **Legal**
- **Executive**
- **Statement**
- **8.5 x 13**
- **A4**
- **A5**
- **B5 (JIS)**
- **16K**
- **Double Japan Postcard Rotated**
- **Envelope #10**
- **Envelope Monarch**
- **Envelope B5**
- **Envelope C5**
- **Envelope DL**

Orientation

The following options are available:

- **Portrait** (default)
- **Landscape**

Print on both sides

The following options are available:

- **No** (default)
- **Yes, Flip Over**
- **Yes, Flip Up**

Paper type

The following options are available:

- **Unspecified** (default)
- **Plain**
- **Preprinted**
- **Letterhead**
- **Transparency**
- **Prepunched**
- **Labels**
- **Bond**
- **Recycled**
- **Color**
- **Light 60-75 g/m²**
- **Intermediate 90-104 g/m²**
- **Heavy 105-120 g/m²**
- **Extra Heavy 120-163 g/m²**
- **Cardstock 164-220 g/m²**
- **Rough 90-105 g/m²**
- **Glossy 75-120 g/m²**
- **Heavy Glossy 120-160 g/m²**
- **Extra Heavy Glossy 160-220 g/m²**
- **Tough paper**
- **Envelope**

Pages per sheet

The following options are available:

- **1 page per sheet** (default)
- **2 pages per sheet**
- **4 pages per sheet**
- **6 pages per sheet**
- **9 pages per sheet**
- **16 pages per sheet**

Document preview image

See the [Document preview image on page 183](#) section earlier in this chapter.

About tab features

On the product Properties, only the **Device Settings** tab and **About** tab are unique to the product; all other tabs are part of the operating system.

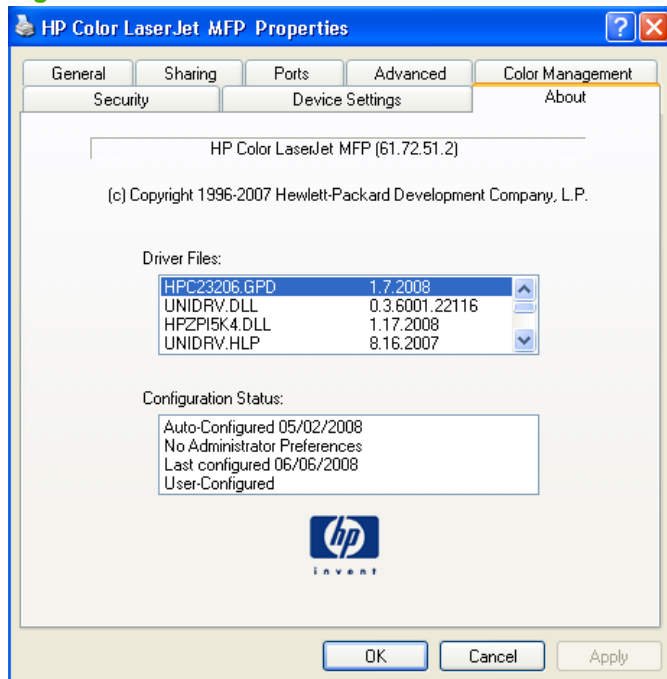
The **About** tab is in the **Properties** for the printer-driver.

To open the **About** tab, follow these steps:

1. Click **Start**.
2. Select **Settings**.
3. If your computer is running Windows 2000, click **Printers** ; if your computer is running Windows XP Professional and Windows Server 2003, click **Printers and Faxes**; if your computer is running Windows XP Home, click **Printers and Other Hardware Devices**; if your computer is running Windows Vista, click **Hardware and Sound**.
4. Right-click the product name.
5. Click **Properties**.
6. Click the **About** tab.

The **About** tab provides detailed information about the printer-driver. It contains an overall build number (in parentheses after the model name) along with specific information about each component. The information varies according to the product model number, printer-driver, date, and versions. The **About** tab is shown in the following figure.

Figure 4-26 About tab



The **About** tab lists printer-driver installation file names and their version numbers. This tab also indicates whether the printer-driver was autoconfigured, whether administrator preferences were set, the date that the printer-driver was last configured, and whether the configuration is default or user defined.

To determine the latest version, compare the overall build number (in parenthesis after the model name) to the GPD number (in the **Driver Files:** field). If the overall build number has increased, this is the latest version of the printer-driver.

If the overall build number is the same, check the version number of the GPD file. The printer-driver that has the highest GPD version number is the latest printer-driver.

5 Macintosh

Introduction

The HP Color LaserJet CM2320 MFP Series product comes with solutions software and installers for Apple Computer, Inc., Macintosh operating systems.

Topics:

- [Macintosh solutions software](#)
- [Macintosh install instructions](#)
- [Macintosh uninstall instructions](#)

Macintosh solutions software

This section provides information about the following topics:

- [Software components for Macintosh](#)
- [System requirements](#)
- [Operating-system support](#)
- [Availability](#)

Software components for Macintosh

The following table outlines the software components that are available for the Macintosh operating system.

Table 5-1 Software components for Macintosh

Component	Description
Installer software	Installs the printer-driver.
Printer-driver software	Allows you to print from the product.
HP EWS Device Configuration	Provides a UI to configure the product.
HP LaserJet Director	This software program is installed automatically with the solutions software and is located under Applications in the HP LaserJet MFP/Director folder. This program provided access to the print, copy, scan, and scan-to-e-mail features.
ReadIris	This optional software program comes on a separate CD. Convert scanned images into text for edit in word-processing programs.
Scan to e-mail	This feature is installed automatically with the solutions software, and can be accessed through the HP LaserJet Director and through the buttons on the MFP control panel. During installation, the installer detects supported e-mail programs on the computer and integrates them into the HP LaserJet Scan software. Each time the computer restarts, the software updates the list of available e-mail programs.
HP Photosmart Studio	Use the HP Photosmart Studio to work with photos, scanned images, and video clips. You can edit images, create printing projects, and send images.
Online documentation	The user documentation is included on the installation CD in Adobe Acrobat format. You must have Adobe Acrobat Reader installed on your computer to read the PDF files. Go to the following website to download Adobe Acrobat Reader: www.adobe.com/products/acrobat/readstep2.html

HP EWS Device Configuration utility

The Device Configuration utility allows you to control the printer from your computer by using the HP Embedded Web Server (HP EWS).

To gain access to the Device Configuration utility for this product, click **Maintain Device** in the HP LaserJet Director, or follow these steps:

1. Open the **Finder** menu.
2. Click **Applications**.
3. Double-click the **HP EWS Device Configuration** folder.
4. Double-click the **HP Device Configuration** icon.
5. Select the product from the list. This opens the default Web browser whether your computer is connected over the network or through a USB connection.

For more information about HP EWS, see the [HP Embedded Web Server \(HP EWS\) on page 90](#) section of chapter 2 of this document.

HP LaserJet Director

Use the HP LaserJet Director to gain access to product-specific software, default settings, status, and onscreen Help. By using the HP LaserJet Director, you can scan various types of originals (pictures, documents, and slides), make copies, view and print images or video clips, configure and maintain the product, and see user documentation.

To open the HP LaserJet Director, go to the Applications folder, open the HP LaserJet MFP folder, open the Director folder, and then double-click the **HP LaserJet Director** icon.

Figure 5-1 HP LaserJet Director – Macintosh



The following options are available when you open the HP LaserJet Director.

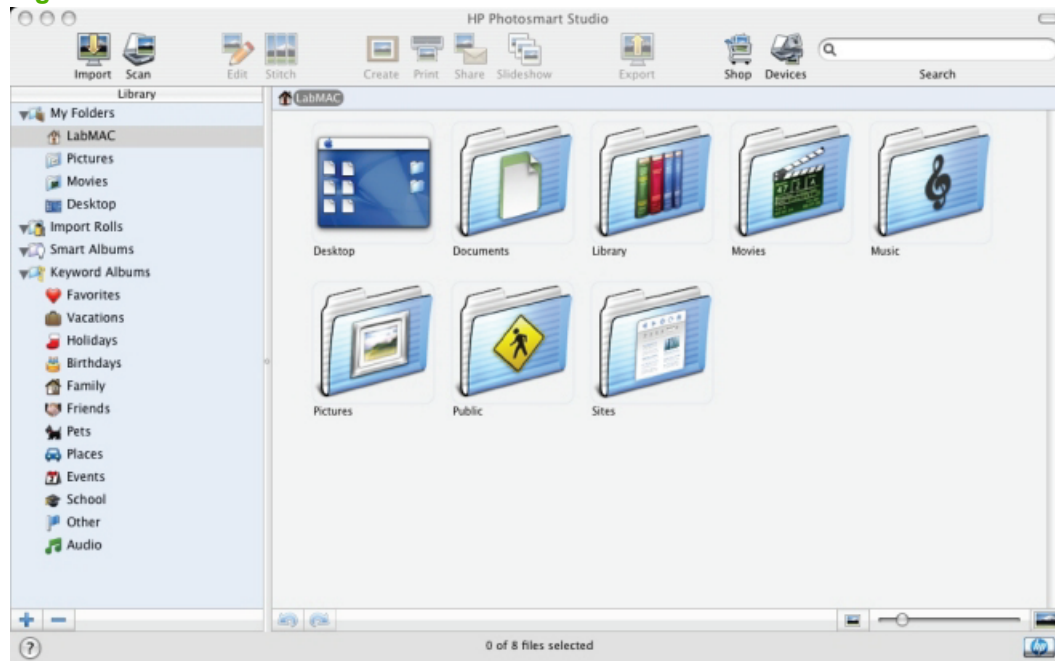
- **Scan.** Click to open the HP LaserJet Scan software.
- **E-mail.** Click to use the scan-to-e-mail feature.
- **Fax.** Click to launch the **Mac Print** dialog box, from which you can select **Fax PDF** to gain access to the Macintosh fax system.
- **Photo.** Click to open HP Photosmart Studio.
- **Maintain Device.** Click to open HP EWS.
- **Remove Device.** Click to remove the product from the product list.
- **Users Guide.** Click to open the online version of the user guide for this product.

HP Photosmart Studio for Macintosh

HP Photosmart Studio is an easy, full-featured software program for digital photos that helps you view, organize, edit, print, share, and use them in creative projects.

To access HP Photosmart Studio, click **Photo** in the HP Director, or by going to the Hewlett-Packard folder on your computer and double-clicking the HP Photosmart Studio icon.

Figure 5-2 HP Photosmart Studio – Macintosh




The following options are available from the main toolbar of the HP Photosmart Studio.

- **Import.** Click to begin importing photos.
- **Scan.** Click to start the HP LaserJet Scan software.
- **Edit.** This option becomes available after a photo or image has been selected. Click to edit a photo or image.
- **Stitch.** This option becomes available after a photo or image has been selected. Click to join smaller images into one large image.
- **Create.** This option becomes available after a photo or image has been selected. Click to use the photo or image in a variety of creative projects.
- **Print.** This option becomes available after a photo or image has been selected. Click to print the photo or image.
- **Share.** This option becomes available after a photo or image has been selected. Click to see options for sharing the photo or image with others.
- **Slideshow.** This option becomes available after a photo or image has been selected. Click to see photos or images in slideshow mode.
- **Export.** This option becomes available after a photo or image has been selected. Click to export photos or images to another software program or another product.

- **Shop.** Click to shop for HP products.
- **Devices.** Click to choose the product to work with.

Memory card access with the Macintosh (HP Color LaserJet CM2320 MFP only)

Follow these steps to gain access to the memory cards on the product.

 **NOTE:** Memory cards are only available on the fax model of the product.

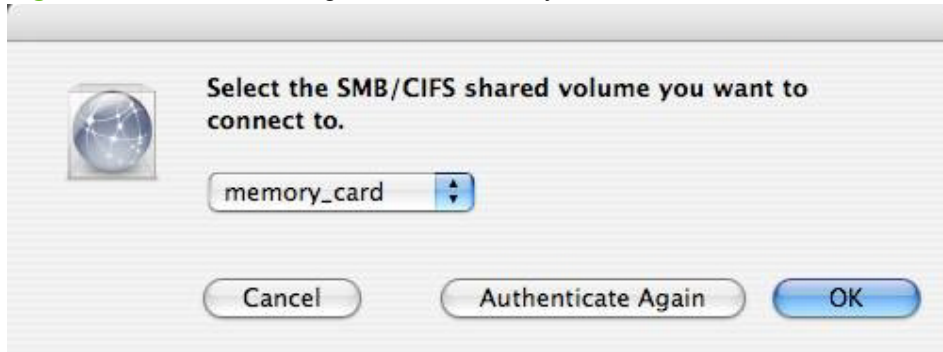
1. On the **Finder** menu, click **Go**.
2. Click **Connect to Server**.
3. Type `smb://[IPAddress]`, where `[IPAddress]` stands for the IP address of the product. Click **Connect**.
4. The **System Authentication** screen appears. Click **OK**.

Figure 5-3 System Authentication screen – Mac Memory Card Access




5. The **Authenticate Again** screen appears. Click **OK**.

Figure 5-4 Authenticate Again – Mac Memory Card Access



6. The memory-card contents appear in a window on the screen and an icon is added to the desktop.

 **NOTE:** The Control Panel prints only images that are in .JPG format.

System requirements

The solutions software has the following minimum system requirements:

- Macintosh OS X (Version 10.3 or later)
- Macintosh computer (Power PC and Intel Core processors), such as an iMac, Power Macintosh G3 or higher (Power Macintosh G4 233 MHz recommended)
- Minimum 256 MB system memory
- 100 MB or more of available hard-disk space
- A USB port or an Ethernet connection that uses on-board networking
- A CD-ROM drive (required for installation)

Operating-system support

The printing, fax and scanning systems supplied with this product support Macintosh OS X V10.3, 10.4, and 10.5. There is no current support for the upcoming Macintosh OS X V10.6.

Availability

This document provides information about the availability of the solutions software and related software and firmware. Solutions software on a CD is available from the HP fulfillment centers.

Topics:

- [Software component localization](#)
- [Order software for Macintosh](#)

Software component localization

The following table contains the part number and language groups on the solutions software CD for Macintosh.

Table 5-2 CD part number for the HP LaserJet software

Part number	Contents	Languages
CB394-60116	Product software for Macintosh	<ul style="list-style-type: none">• Dutch• English• French• German• Italian• Spanish

Order software for Macintosh

- To order the software, contact Hewlett-Packard Support at the following website:
www.hp.com/go/LJCM2320_software
Click **CD Order Page** to order, or click **Download drivers and software** to get the software update.
- To request the software CD by phone, see the following website for the correct contact number for your country/region:
www.hp.com

Macintosh install instructions

This product comes with software and installers for Microsoft Windows and Apple Computer, Inc., Macintosh systems. Linux and UNIX systems support this product; their software is available on the Web. This document provides procedures for installing the solutions software for Macintosh operating systems for this product.

Topics:

- [Installation overview](#)
- [Installation options](#)
- [Installation dialog box options for Macintosh](#)

Installation overview

The solutions software comes on one CD-ROM and includes printer-drivers.

This product uses the HP Installer. The HP Installer installs only the solutions software onto the current system-startup drive that contains the active System folder. By default, the solutions software folder is installed in the **Library** folder.

The HP LaserJet Director software is also installed by the HP Installer. The HP LaserJet Director is installed automatically when the solutions software is installed. The HP LaserJet Director software components are installed under the Applications directory, in the HP LaserJet MFP/Director folder.

The HP Photosmart Studio has its own installer and installs automatically when the solutions software is installed. The HP Photosmart Studio components are installed in the Hewlett-Packard directory.

Installation options

The solutions software can be used with the product in the following configurations:

- A computer is directly connected to the product through a USB port, and the solutions software is loaded on the computer.
- The product is networked by using on-board networking through Bonjour (Rendezvous).

Installation instructions for all Macintosh OSs — Animated Getting Started Guide

Use the following instructions to set up this product in Macintosh X V10.3.9 and higher.

1. Insert the solutions software CD into your CD-ROM hard drive.

2. Double-click the **HP LaserJet MFP Installer** icon.

Figure 5-5 HP LaserJet MFP Installer icon



The HP LaserJet MFP Installer folder opens.

The Animated Getting Started Guide (GSG) opens.


 **NOTE:** The following graphic shows version 10.4 of the Animated GSG for Macintosh OS X.

Figure 5-6 Macintosh install – Animated Getting Started Guide



3. If you have not set up the product, click **Begin Setup** and follow the setup sequence to the end. The **Install Software** screen appears when setup is complete.

Figure 5-7 Install Software screen




4. Click **Install the software**.

Macintosh installation instructions for direct and network connections


Use the following instructions to install the solutions software onto a computer that is running Macintosh OS X.

1. Follow the instructions in the *Animated GSG dialog boxes* section.
2. If prompted to do so, enter a user name and password with administrator privileges.
3. The software license agreement appears. Click **Accept**. The installation begins. During the installation, you might be prompted again to provide a user name and password with administrator privileges.
4. When the installation is complete, a message appears stating that the installation was successful. Click **Restart**.
5. The HP Setup Assistant starts automatically. Follow the onscreen instructions.

 **NOTE:** If the HP Setup Assistant does not start automatically, click **Macintosh HD**, click **Applications**, click **HP**, and then double-click **HP Setup Assistant**.

Installation dialog box options for Macintosh

The following sequence describes the dialog box options that appear during the installation of the solutions software for Macintosh systems.

 **NOTE:** In the following installation sequence, the product name represents the specific product that you are installing.

1. In the **Authenticate** dialog box, type your user login name and password, and then click **OK**, or click **Cancel** to close the installer.

Figure 5-8 Authenticate dialog box



2. In the **License** dialog box, select from the following options:
 - Click the language list to change the language of the **License Agreement** and the user interface.
 - Click **Print** to print a copy of the license agreement.
 - Click **Save** to save the text of the software license agreement to disk.

- Click **Go Back** to exit the installer.
- Click **Continue** to initiate the installation process.

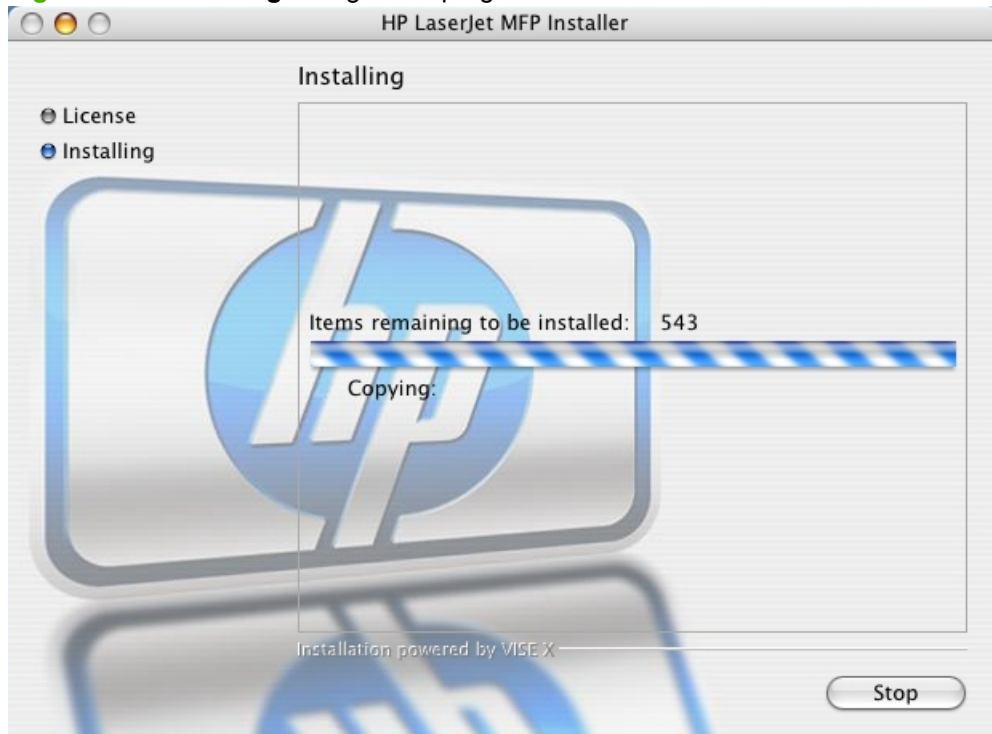
Figure 5-9 License dialog box – HP Software License Agreement



After you have connected the USB cable, click **OK**.

3. The **Installing** dialog box shows the number of items that remain to be installed.

Figure 5-10 Installing dialog box – progress indicator



If you are installing the solutions software by using a USB connection, the following dialog box appears, instructing you to connect your USB cable:

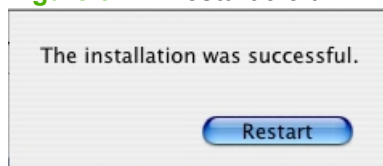
Figure 5-11 If you are using a USB cable... dialog box



After you have connected the USB cable, click **OK**.

4. When software installation is complete, the **Restart** alert appears.

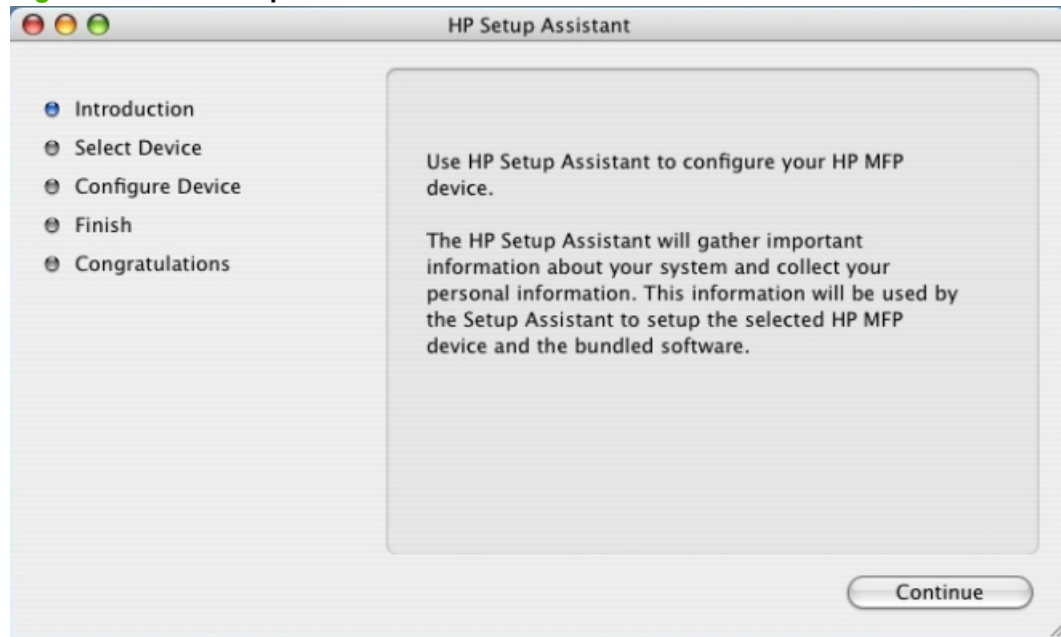
Figure 5-12 Restart alert



Click **Restart** to close the installer and restart the computer.

5. After the computer restarts, log on to the computer, and then the **HP Setup Assistant** starts automatically.

Figure 5-13 HP Setup Assistant – Introduction



NOTE: If the HP Setup Assistant does not start automatically, follow these steps:


1. Click **Macintosh Hard Drive**.
2. Click **Applications**.
3. Click **HP**.
4. Double-click **HP Setup Assistant**.

6. Click **Next** to go to the **Select Device** dialog box.

Figure 5-14 HP Setup Assistant – **Select Device** dialog box

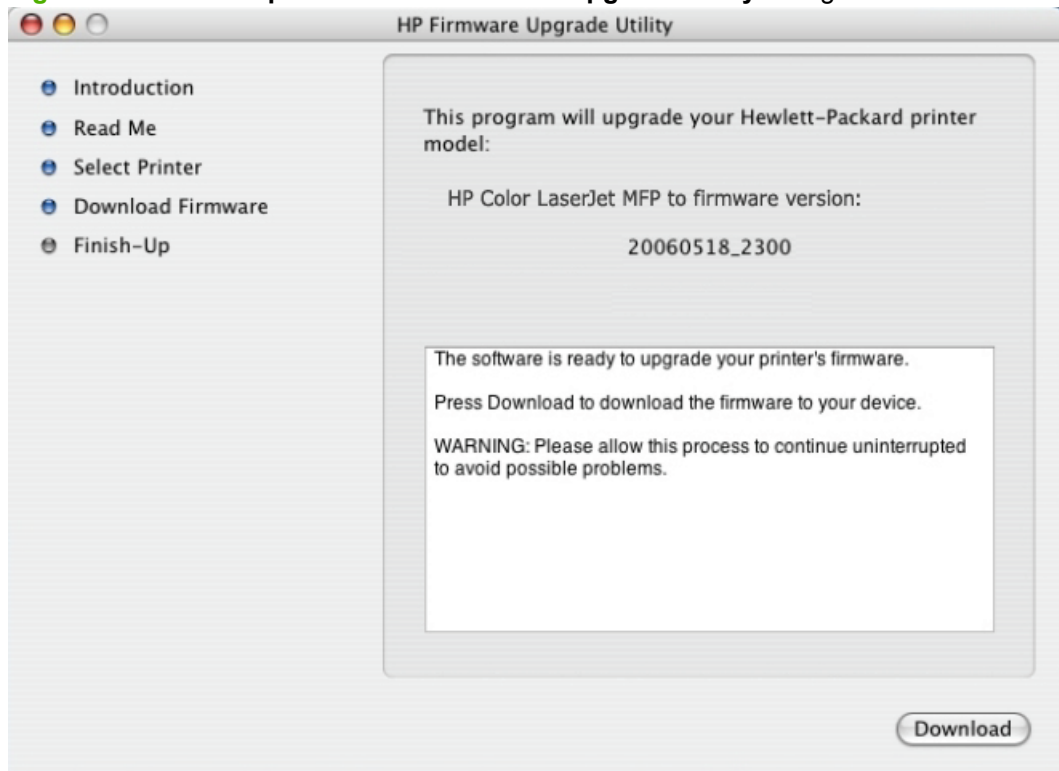


7. In the **Select Device** dialog box, select from the following options:
 - Click **USB**, and the product name appears in the list box. Click the product name, and then click **Next** to open the **User Identification** dialog box.
 - Click **TCP/IP** and then click **Create**. A text-entry dialog box opens and you can type the network address or name for the product.
 - Click **Go Back** to return to the **Introduction** dialog box.
 - Click **Rescan USB** to scan the system again and locate the designated product connection.

 **NOTE:** If you have not connected the product to your computer, the **No devices found** message appears instead of a list of products. Connect the product to the computer by using the USB cable, turn on the product, and then click **Rescan USB**. The product name appears in the list box.

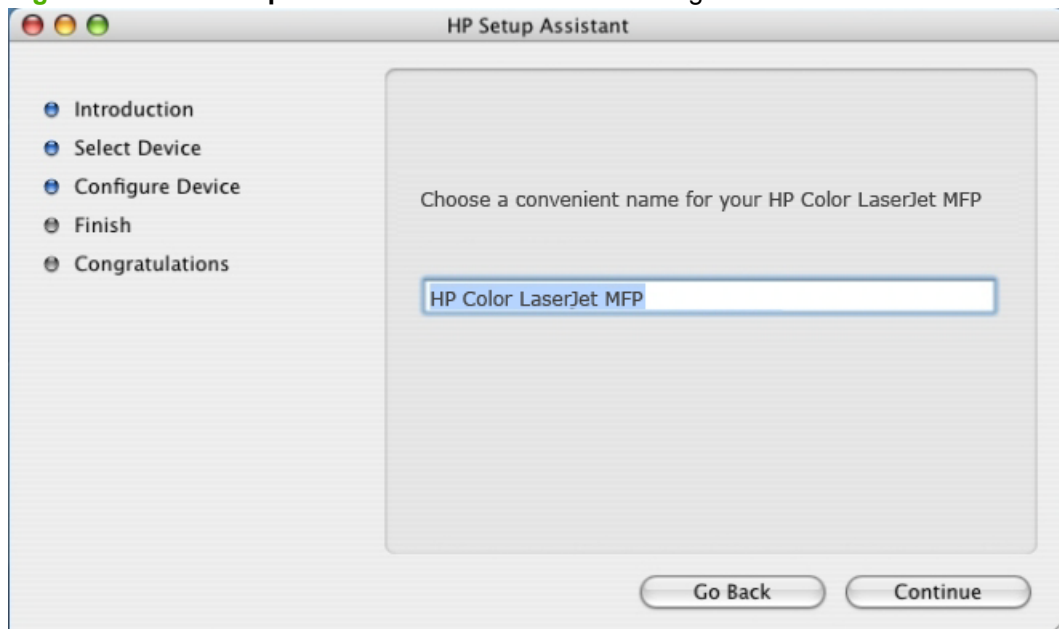
8. The **Firmware Upgrade Utility** dialog box appears. Click **Download** to upgrade to the current firmware. When the update is complete, click **Quit** to close the **Firmware Upgrade Utility** and continue the installation setup.

Figure 5-15 HP Setup Assistant – Firmware Upgrade Utility dialog box



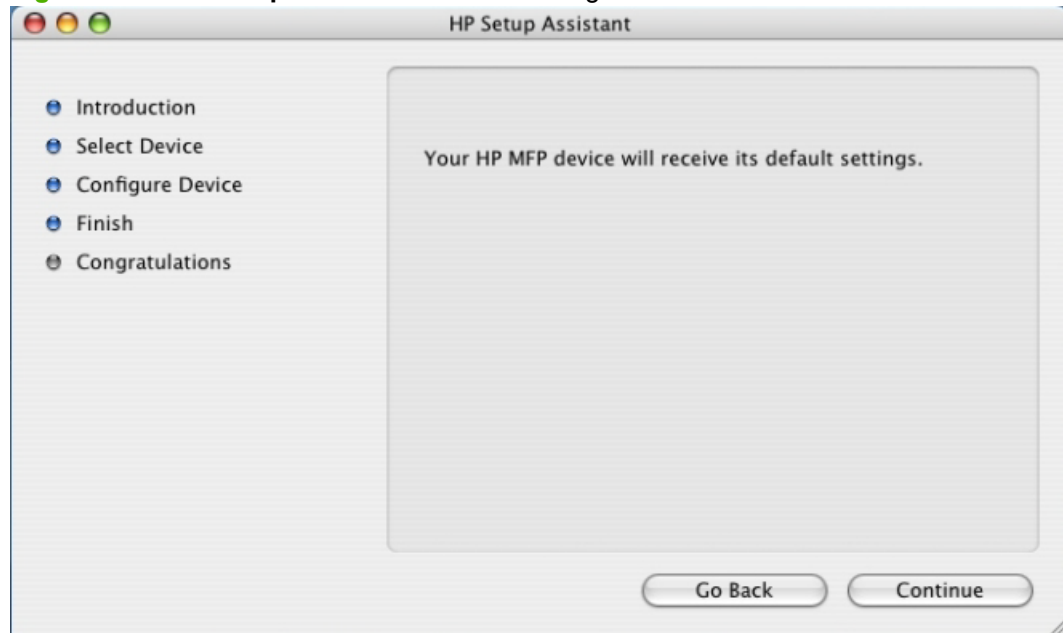
9. Type a name for the product in the text box, and then click **Continue**.

Figure 5-16 HP Setup Assistant – Name the MFP dialog box



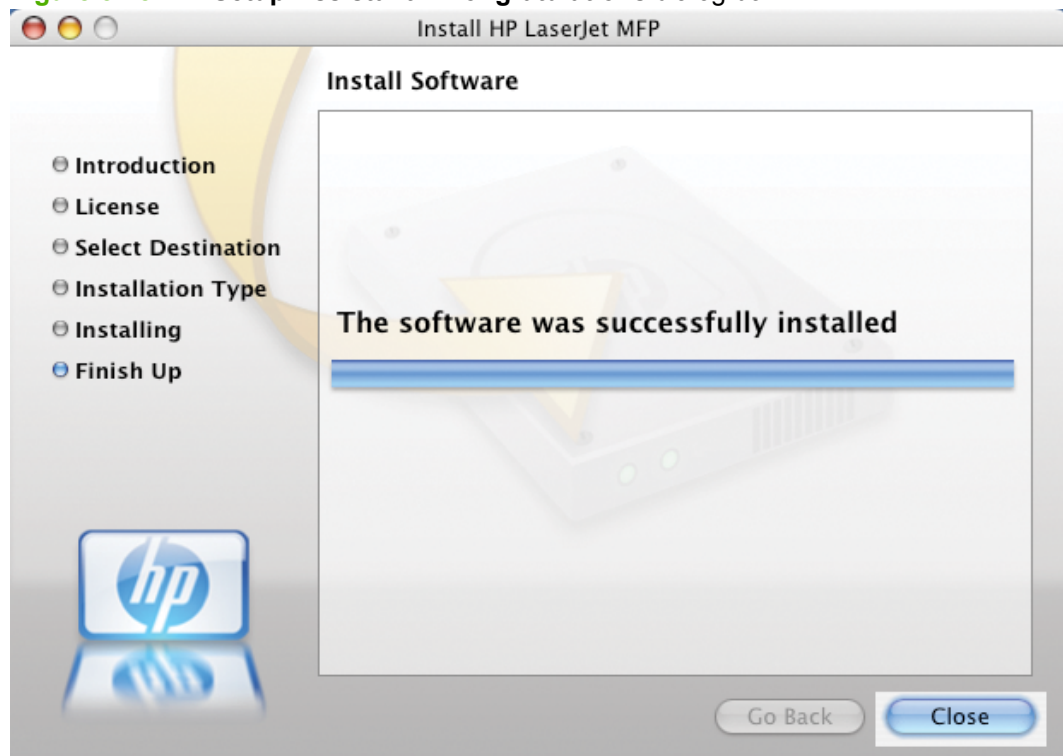
10. The information that you typed in previous dialog boxes appears in the **Finish** dialog box. If any items need to be changed, click the **Back** button to return to the previous dialog boxes.

Figure 5-17 HP Setup Assistant – Finish dialog box



11. Click **Continue** to go to the **Congratulations** dialog box.

Figure 5-18 HP Setup Assistant – Congratulations dialog box



12. Click **Close** to close the HP Setup Assistant.

Macintosh uninstall instructions

Use the following instructions to uninstall the solutions software from the computer:

1. Locate the **Uninstaller utility** icon in its software folder by using the following path:
<system drive>/Applications/hplaserjetaio/HP Uninstaller
2. Double-click the **HP Uninstaller** icon to start the utility.
3. Specify whether you want to perform an uninstall for all HP products or only for a specific product. If you select **Uninstall selected**, you must then specify the products that you want to uninstall from the list.
4. Click **Next**.
5. Select the appropriate check boxes to uninstall any additional items.
6. Click **Uninstall**.
7. When the uninstall process is complete, click **Restart**.

6 Engineering details

Introduction

Topics:

- [Troubleshooting](#)
- [IP discovery and rediscovery](#)
- [PCL font ID list](#)
- [Supported paper and print media sizes](#)
- [Paper/Quality tab features](#)
- [Install Notes](#)

Troubleshooting

The following topics are described in this section:

- [Port communication](#)
- [E-mail](#)
- [HP LaserJet Scan](#)
- [Troubleshooting tools](#)
- [Known issues for the HP Color LaserJet CM2320 MFP Series Printer](#)


Port communication

This section provides information on the following topics:

- [Overview](#)
- [USB port connections](#)
- [Product conflicts in Windows](#)

Overview

The HP Color LaserJet CM2320 MFP Series product includes a USB port. The product includes both a 10/100Base-T TCP/IP network port and a USB port and can be connected by using either port.

 **NOTE:** Do not connect both the 10/100Base-T TCP/IP network port and the USB port at the same time.

Only the HP Color LaserJet CM2320 MFP Memory-Card Model of the product has both USB and network ports.


USB port connections

Hi-speed USB is an input/output mode that both PC and Macintosh computers support. A wide variety of consumer products, such as digital cameras and scanners, also support USB. Hi-speed USB is the current standard. This product is compatible with Hi-speed USB specifications.

A USB host is distinct from a USB product. This product is a USB product. It can connect only to a USB host or to a USB hub.

Product conflicts in Windows

When two-way communication cannot be established with this product, the Windows Device Manager might show a conflict. Conflicts should be resolved immediately, before continuing to troubleshoot two-way communication issues. The following sections contain a few guidelines for identifying and resolving these conflicts.

 **NOTE:** USB connections are supported only in Microsoft Windows 2000, Microsoft Windows Server 2003, Microsoft Windows XP, Microsoft Windows XP 64-bit, and Microsoft Windows Vista (32-bit and 64-bit).

Open the Windows Device Manager

Follow these steps to open the Windows Device Manager.

1. In Windows 2000, click **Start**, click **Settings**, and then click **Control Panel**.
In Windows XP or in Windows Server 2003, click **Start**, and then click **Control Panel**.
In Windows Vista, click **Start**, click **Settings**, and then click **Control Panel**.
2. Double-click the **System** icon.
3. On the **Hardware** tab, click **Device Manager**.

Check for product conflicts


Follow these steps to check for product conflicts.

1. Look for products that appear on the list with a yellow exclamation mark (!) or a red X.
2. Identify port conflicts by double-clicking **Port** or by clicking the plus sign (+). Conflicts here usually interfere with two-way communication.
3. To check the status of a product, click the product name, and then click **Properties**. The **Device Status** appears in the middle of the dialog box.
4. To check the **Conflicting Device** list, click the product name, and then click **Properties**. Click the **Resources** tab, and look at the **Conflicting Device** list at the bottom of the dialog box.
5. Click the plus sign (+) to the left of **Open the Other Devices**. Misidentified or noncategorized products are placed here.

Guidelines for troubleshooting and resolving product conflicts

Follow these steps for resolving product conflicts.

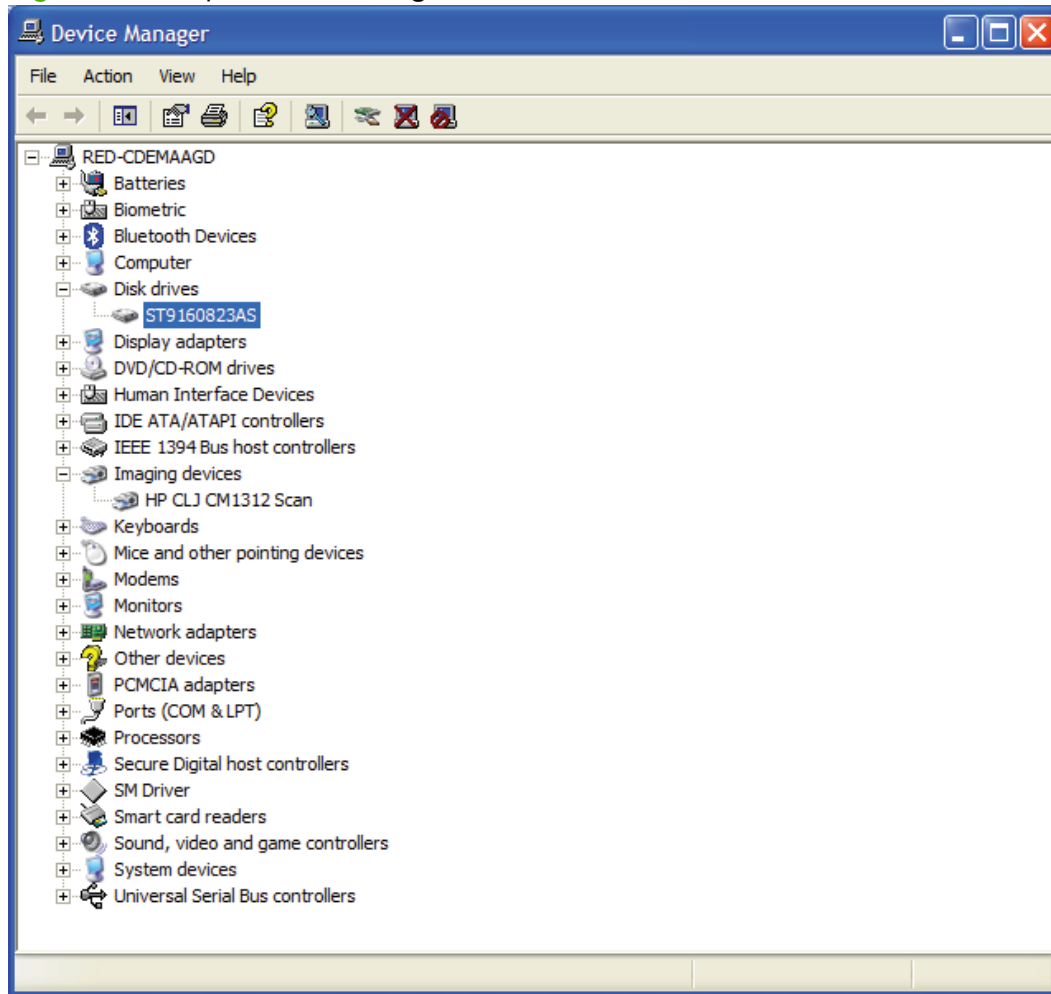
1. If the conflicting product is no longer present in the list of products, click the product name, click **Remove**, and then click **Yes**. Click **Yes** to restart Windows.
2. If the conflicting product is a duplicate (and one of the duplicate listings does not show a conflict), click the name(s) of the product(s) that have a conflict, click **Remove**, and then click **Yes**. Click **Yes** to restart Windows.

 **NOTE:** You might not need to restart the computer, depending on the type of port conflict you are resolving.

3. If a product has a conflict and you have the printer-driver for that product, remove the product and then reinstall it. After removing the product, restart the computer. When Windows reinstalls products, it usually finds nonconflicting resources.

Installed Products

Figure 6-1 Sample **Device Manager** window



Click the **View** menu to see the following options:

- Devices by Type
- Devices by Connection
- Resources by Type
- Resources by connection
- Hidden Devices

The following table shows products that are installed by the solutions software in Windows 2000, Windows XP, and Windows Vista.

Table 6-1 Products installed by the solutions software in Windows 2000 and in Windows 2003

Product by type	Product
Disk drives	<ul style="list-style-type: none">● HP Color LaserJet CM2320 MFP Series USB product
IEEE 1284.4 compatible printers — Windows XP	<ul style="list-style-type: none">● HP Color LaserJet CM2320 MFP Series Printer
IEEE 1284.4 products	<ul style="list-style-type: none">● HP Color LaserJet CM2320 MFP Series

Table 6-1 Products installed by the solutions software in Windows 2000 and in Windows 2003 (continued)

Product by type	Product
Imaging products	<ul style="list-style-type: none"> HP Color LaserJet CM2320 MFP Series
Universal Serial Bus controllers	<ul style="list-style-type: none"> HP Color LaserJet CM2320 MFP Series HP EWS USB Printing Support USB Composite Product USB Mass Storage Product

E-mail

If **Scan to e-mail** is not working, follow these steps to verify MAPI compliance.

1. Open Windows Microsoft Explorer or Internet Explorer and navigate to the file.
2. Right-click the file, select **Send To**, and then click **Mail Recipient**.

HP LaserJet Scan

The following are a few simple steps you can take to improve copy and scan quality.


- Use high-quality originals.
- Load the paper correctly. If the paper is loaded incorrectly, the resulting scan might appear skewed.
- Adjust the software settings according to how you plan to use the scanned page.

For more detailed information about troubleshooting HP LaserJet Scan problems, see the user guide for this product.

Troubleshooting tools

The solutions software CD contains the following troubleshooting tools in the Utilities folder on the root directory. This section contains the following topics:

- [File to E-mail utility](#)
- [AccessDeniedUtility.exe](#)
- [FixErr1714 utility](#)

 **NOTE:** The solutions software CD also includes two other troubleshooting tools, RestoreINF and UPDScrub, that install automatically during a Recommended Install and are not accessible to the user.

File to E-mail utility

The **File to E-mail** utility collects the data specified in an .INI file and then attaches the data files to an e-mail that can be sent to HP Customer Support to assist troubleshooting. The utility runs on your computer, but it does not interact with the product.

The utility is included on the installer CD, but is not copied to your computer during the software installation. HP Customer Support can also send the utility to you by e-mail or by posting it to an HP Web page.

The utility is compatible with Windows 2000, Windows XP, Windows Server 2003, and Windows Vista.

The utility runs with any MAPI-compliant e-mail applications. It does not run with Web-based e-mail services such as Yahoo, Hotmail, or AOL.

Depending on the speed of your computer, it might take a few minutes for the utility to gather the log files and attach them to an e-mail message.

The utility consists of the following two files that are located in the **util** folder on the solutions software CD for this product:

- <CD-ROM drive>util\CCC\FiletoEmail\FileToEmail.exe
- <CD-ROM drive>util\CCC\FiletoEmail\FileToEmail.ini

To use the utility, copy these files to your desktop, navigate to them in Explorer, and double-click **FileToEmail.exe** to open the utility. The utility generates files, opens an e-mail message, and attaches the files so that you can send them to your IT administrator.

If the utility is not successful for any reason (for instance, if you cancel the new message or you are using Web-based e-mail software), all the files are copied to a folder on the desktop that is named HpCCC, possibly with strings of zeros attached to the end. You can zip these files and e-mail them separately.

 **NOTE:** The **File to E-mail** utility now gathers COLLECT.BAT information, so it is no longer necessary to run COLLECT.BAT and the **File to E-mail** utility.

AccessDeniedUtility.exe

This utility is used by CCC agents when customers call in with registry “access denied” problems.

- Fixes the registry access-denied issues
- Should not be necessary to run because the installer runs this executable at the time of installation.
- No command-line options exist, just double-click.
- No logging takes place

FixErr1714 utility

This utility is used by CCC agents when customers call in with MSI error 1714, which is an occasional problem that occurs when a different user than the installing user attempts to uninstall the product.

- This utility might fix the 1714 problem; some evidence exists that this utility might not work in all cases.
- No command-line options exist, just double-click.
- No logging takes place.
- No user interface (UI) exists.

Known issues for the HP Color LaserJet CM2320 MFP Series Printer

The following issues are known issues for this product.


- [Windows software](#)

- [Product communication](#)
- [Hardware/firmware](#)
- [Miscellaneous](#)

Windows software



Cause: The HP ToolboxFX uses .NET technologies which require that Microsoft .NET Framework be installed on the user's computer. When the HP ToolboxFX software installer runs, it will silently install Microsoft .NET Framework 2.0. This will allow HP ToolboxFX to run, but there are some known issues with .NET Framework 2.0 that might impact the user.

 **NOTE:** If .NET Framework 2.0 is already installed on the user's system at the time that HP ToolboxFX is installed, the framework will not be installed.

- **Location:**
www.microsoft.com/downloads/details.aspx
- **Location:**
www.microsoft.com/downloads/details.aspx

Product communication

The majority of problems observed with HP ToolboxFX involve a lack of communication with the product. In these cases, always check to see if the cables are plugged in, and the product is turned on. Also, please see the above section regarding .NET Framework dependencies. If communication problems are observed, particularly over a USB connection, .NET Framework and Windows configuration should be checked and updated if necessary.

Communication with the product can also be impacted if you change the IP address or hostname on a network-connected product. The HP ToolboxFX uses the properties stored by the printer-driver in order to determine the product's address. If communication errors are observed, attempt to print a test page to the product from the computer. If a page cannot be printed, it might be that the address or port for the printer-driver needs to be configured correctly. In these cases, it is often necessary for you to reboot

the computer after re-configuring the printer-driver in order for HP ToolboxFX to resume communication with the product.

- **Cause:** The HPPUSG.EXE is the HP Customer Participation Program software that the user has opted to install. It does not affect printing or HP ToolboxFX functionality.

Solution: None.

- **Issue:** HP Marketing Assistant will not open from within HP Solution Center.

Solution: Open HP Marketing Assistant from the desktop icon, or click **Start**, then **All Programs**, then **HP**, then **HP Marketing Assistant**, and then click **Start HP Marketing Assistant**.

- **Issue:** HP Solution Center might not show the second product when two products are installed on the same system.

Solution: Both products are accessible through HP ToolboxFX.

- **Cause:** HP ToolboxFX is slow at startup because the application must communicate and collect information from the product before constructing and displaying a page with this information.

Solution: None.

- **Cause:** This is as designed. The check for determining if the PC has USB support is done before the **Select USB** or **Network install** dialog boxes appears. If it is not done, a user would be able to still select USB, and the install would fail.

Solution:None.

1. Hold down CTRL+SHIFT and click the **Cancel** button to bypass the results. The installer continues as normal, allowing you to select the **Network install** option.
2. If the solutions software CD is copied to a local drive, the AUTORUN.INF file can be modified as follows:

```
[SystemRequirements]
MinUsbReady=0
RecUsbReady=0RecUsbReady=3
```

```
[SystemRequirements.Min]
MinUsbReady=0
RecUsbReady=0
```

Modify as follows to not fail on USB being disabled.

```
[SystemRequirements]
MinUsbReady=3
RecUsbReady=3
```

```
[SystemRequirements.Min]
```

MinUsbReady=3

RecUsbReady=3

Hardware/firmware

- **Cause:** CPR occurs when several color planes are misaligned. For example, if green text is printed, green is the combination of cyan and yellow toner. When the two color planes, cyan and yellow, are slightly misaligned it looks as if the print is fuzzy or ghosted.

Solution: Verify that paper type is set to represent the correct paper used. This is particularly important with envelopes and small, thick paper. Improper settings will reduce the electro-photographic (EP) process current and fuser temperatures. Improper EP current can allow paper to shift slightly on the electrostatic transfer belt, causing CPR issues.

- **Issue:** “Printing Document...” appears on the series display just prior to “Calibrating...”

Solution: None. This is normal behavior. For approximately four seconds before a calibration, “Printing Document...” will appear on the display, then switch to “Calibrating...”. This occurs again at about 1 minute 15 seconds into the calibration. At the end of the calibration sequence, “Printing Document...” appears one last time at approximately 2 minutes and 28 seconds.

- **Solution:** Power cycle the product and manually start the calibration if necessary. The product automatically calibrates after 15 minutes from power on.
- **Cause:** The engine does not detect the difference between A4 and Letter sizes. The engine reports size errors when the size is shorty by 20 mm or more than the expected size. The difference between A4 and Letter is only 17.6 mm.

Solution: None.

- **Solution:** On the **Configuration Page** or **Service Page**, the number value for **Append CR to LF** is used as **0=Yes** and **2=No**.

- ERROR: limitcheck

OFFENDING COMMAND: showpage

STACK:

(r)

(Sys/Start)

(Sys/Start)

If the HP PCL 6 job is allowed to continue to finish, then the HP PS job will complete normally. The size does not seem to matter here. However, if an HP PCL 6 job is canceled and an HP PS job is run afterwards, then no matter how big the document, this error occurs. If a print job is run immediately after this error occurs, it prints correctly.

Solution: None.

- **Cause:** Supplies Status values for cartridges that have reached the out state are no longer valid when **Override out** is in use.

Solution: Do not enable **Override out**. **Override out** can only be enabled from the product's control panel (**System Setup**, then **Print Quality**, then **Replace Supplies**, then **Override out**).


- **Cause:** This can only occur if there are two yellow or two magenta cartridges installed in the product, and one of them is installed in the cyan slot.

Solution: Verify that the correct cartridges are installed in the correct locations. From top to bottom, the cartridge order is black (K), yellow (Y), cyan (C), and magenta (M).


Miscellaneous

- **Issue:** When printing on special paper, print quality issues can arise if the correct paper type is not configured in the printer-driver.

Solution: When printing on special paper (for example, glossy paper), it is necessary to configure the printer-driver for the type of paper that is loaded into the product's tray(s) in order to optimize print quality. Configuring the printer-driver with the correct paper type signals the product to use more or less heat and adjust the print speed for a particular paper type. Use the following steps to print on special paper:

 **NOTE:** The instructions below outline the steps for printing glossy paper with a weight of 120 g/m² from Microsoft Word 2003.

1. In Microsoft Word 2003, click **File**, and then click **Print**.
2. Verify that this product is the selected product.
3. Click **Properties**.

 **NOTE:** In some applications, this might be **Preferences**.

4. Click the **Paper/Quality** tab, and then locate the **Type is:** option under the **Paper Options** section.
 5. In the **Type is:** box, click the drop-down arrow at the right and select **Glossy** (106 - 120 g/m²), or the appropriate type for the paper on which you are printing.
 6. Click **OK** to save and quit the settings.
 7. Click **OK** to print.
- **Issue:** PDF files might take a long time to print or might print incorrectly.

Solution: Select the **Print as Image** check box inside of the Adobe application. The **Print as Image** check box is typically found by clicking **Advanced** in the **Print** dialog box that appears after clicking **File** and then **Print**.

IP discovery and rediscovery

This section discusses the features that function correctly and those that do not, through the IP discovery and rediscovery process for the product. The following features are discussed:


- [Print and HP ToolboxFX](#)
- [Scan printer-driver](#)
- [ScanTo application](#)

Print and HP ToolboxFX

When the IPV6AddressEx is installed, the HP Port Monitor is also installed and the product IP address is entered in the following registry key:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Print\Monitors\HP Standard TCP/IP
Port\Ports\<port_name>\IPAddress
```

where <port_name> is the name of the port to which the printer-driver was installed. This port monitor periodically checks for changes to the product IP address by using the Rediscovery library, HPZJRD01.DLL. If a change is detected, the registry entry is updated with the correct IP address. Both the printer-driver and HP ToolboxFX use the IP address in this registry key to establish communication with the product.

 **NOTE:** Print and HP ToolboxFX rediscovery occurs only if the computer and the product are on the same subnet mask.

Scan printer-driver

When the HP Color LaserJet CM2320 MFP Series product is installed, the Scan co-installer determines the IP address or hostname of the product and writes that information to the following registry key:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Class\{6BDD1FC6-810F-11D0-
BEC7-08002BE2092F}\0000\DeviceData\PortID
```

If the hostname can be obtained, it is written to this location; otherwise, the IP address is written. The scan printer-driver uses this value to establish a connection to the product.

- **Installed using hostname.** If the hostname is written to the **PortID** registry key, when the product IP address changes, this registry value does not change. It may take a while for the network routing tables to update the DNS servers with the new IP address for this hostname. Scanning is inoperable while the DNS servers are being updated.
- **Installed using IP address.** If the IP address is written to the **PortID** registry key, then when the product's IP address changes, the registry value only updates if a scan had previously been performed. Otherwise, the user must either edit this value manually or run the **FixScan** utility to update this value. Once a scan has been successfully completed, a registry key under the path listed above, named **PortData**, will appear. This is a binary value consisting of the MAC address and some other data. If this key is present and the product IP address changes, then when the user attempts a scan the scan driver will initially use the **PortID** value to communicate with the product. This will fail, but PortData value will be passed to the Rediscovery library, HPZJRD01.DLL, to obtain the new IP address. Once the new IP address is obtained, it is written to the **PortID** registry key.

ScanTo application

When the HP Color LaserJet CM2320 MFP Series product is installed, the following registry key is written for the **ScanTo** application:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Hewlett-Packard\DigitalImaging\HP Color LaserJet CM2320  
PCL 6\DeviceInstances\\Functions\Device\IP Address
```

where <dev_instance_id> is a numeric value representing a unique product. The value of this key is the IP address of the product. The **ScanTo** application uses this value to establish communication with the product for purposes of retrieving and setting the **ScanTo** destination list. If the product IP address changes, the value of this registry is never updated. Using the **ScanFixIt** utility, available on the web at time of product introduction, updates this value.

PCL font ID list

The following table lists the PCL font IDs for this product.

Table 6-2 PCL font ID list

Font	HP LaserJet 3015, 3020/3030, 3380 Font ID number	Font ID number for this product
Courier	0	23
CG Times	1	0
CG Times Bd	2	2
CG Times It	3	1
CG Times BdIt	4	3
CG Omega	5	15
CG Omega Bd	6	17
CG Omega It	7	16
CG Omega BdIt	8	18
Coronet	9	33
Clarendon CdBd	10	32
Univers Md	11	4
Univers Bd	12	6
Univers MdIt	13	5
Univers BdIt	14	7
Univers CdMd	15	8
Univers CdBd	16	10
Univers CdMdIt	17	9
Univers CdBdIt	18	11
AntiqOlive	19	12
AntiqOlive Bd	20	14
AntiqOlive It	24	13
Garamond Antiqua	22	19
Garamond Hlb	23	21
Garamond Krsv	24	20
Garamond KrsvHlb	25	22
Marigold	26	34
Albertus Md	27	30
Albertus Xb	28	31
Arial	29	35

Table 6-2 PCL font ID list (continued)

Arial Bd	30	37
Arial It	31	36
Arial BdlT	32	38
Arial It	31	36
Arial BdlT	32	38
TimesNewRmn	33	39
TimesNewRmn Bd	34	41
TimesNewRmn IT	35	40
TimesNewRmn BdlT	36	42
Helvetica	37	57
Helvetica Bd	38	59
Helvetica Ob	39	58
Helvetica BdOb	40	60
Helvetica Nr	41	61
Helvetica NrBd	42	63
Helvetica NrOb	43	62
Helvetica NrBdOb	44	64
Palatino Rmn	45	69
Palatino Bd	46	71
Palatino It	47	70
Palatino BdlT	48	72
ITCAvantGard Bk	49	45
ITCAvantGard Db	50	47
ITCAvantGardBKOb	51	46
ITCAvantGardDbOb	52	48
ITCBookman Lt	53	49
ITCBookman Db	54	51
ITCBookman LtIt	55	50
ITCBookman DbIt	56	52
NewCentSchlBk Rman	61	74
NewCentSchlBk Bd	58	67
NewCentSchlBk It	59	66
NewCentSchlBk BdlT	60	68
Times Rmn	61	74
Times Bd	62	76

Table 6-2 PCL font ID list (continued)

Times It	63	75
Times BdlT	64	77
ZapfChancery MdlT	65	78
Symbol	66	43
SymbolPS	67	73
WingDings	68	44
ZapfDingbats	69	79
Courier Bd	70	25
Courier It	71	24
Courier BdlT	72	26
LetterGothic	73	27
LetterGothic Bd	74	28
LetterGothic It	75	29
CourierPS	76	53
CourierPS Bd	77	55
CourierPS Ob	78	54
CourierPS BdOb	79	56
Line Printer	80	84
Line Printer	81	84
Line Printer	82	84
Line Printer	83	84
Line Printer	84	84
Line Printer	85	84
Line Printer	86	
Line Printer	87	
Line Printer	88	
Line Printer	89	
Not included in BFI:		
Naskh		80
Naskh Bd		81
Koufi		82
Koufi Bd		83

Supported paper and print media sizes

This product supports a number of paper sizes, and it adapts to various print media.


 **NOTE:** To obtain best print results, select the appropriate paper size and type in the printer-driver before printing.

Table 6-3 Supported paper and print media sizes

Size	Dimensions	Tray 1
Letter	216 x 279 mm (8.5 x 11 in)	Y
Legal	216 x 356 mm (8.5 x 14 in)	Y
A4	210 x 297 mm (8.27 x 11.69 in)	Y
Executive	184 x 267 mm (7.24 x 10.51 in)	Y
A3	297 x 420 mm (11.69 x 16.54 in)	N
A5	148 x 210 mm (5.83 x 8.27 in)	Y
A6	105 x 148 mm (4.13 x 5.83 in)	Y
B5 (JIS)	182 x 257 mm (7.17 x 10.12 in)	Y
16k	197 x 273 mm (7.75 x 10.75 in)	Y
16k	195 x 270 mm (7.7 x 10.6 in)	Y
16k	184 x 260 mm (7.25 x 10.25 in)	Y
8.5 x 13	216 x 330 mm (8.5 x 13 in)	Y
4 x 6 ¹	107 x 152 mm (4 x 6 in)	Y
5 x 8 ¹	127 x 203 mm (5 x 8 in)	Y
10 x 15 cm ¹	100 x 150 mm (3.9 x 5.9 in)	Y
Custom	Minimum—76 x 127 mm (3 x 5 in); Maximum—216 x 356 mm (8.5 x 14 in)	Y

¹ These sizes are supported as custom sizes.

Table 6-4 Supported envelopes and postcards

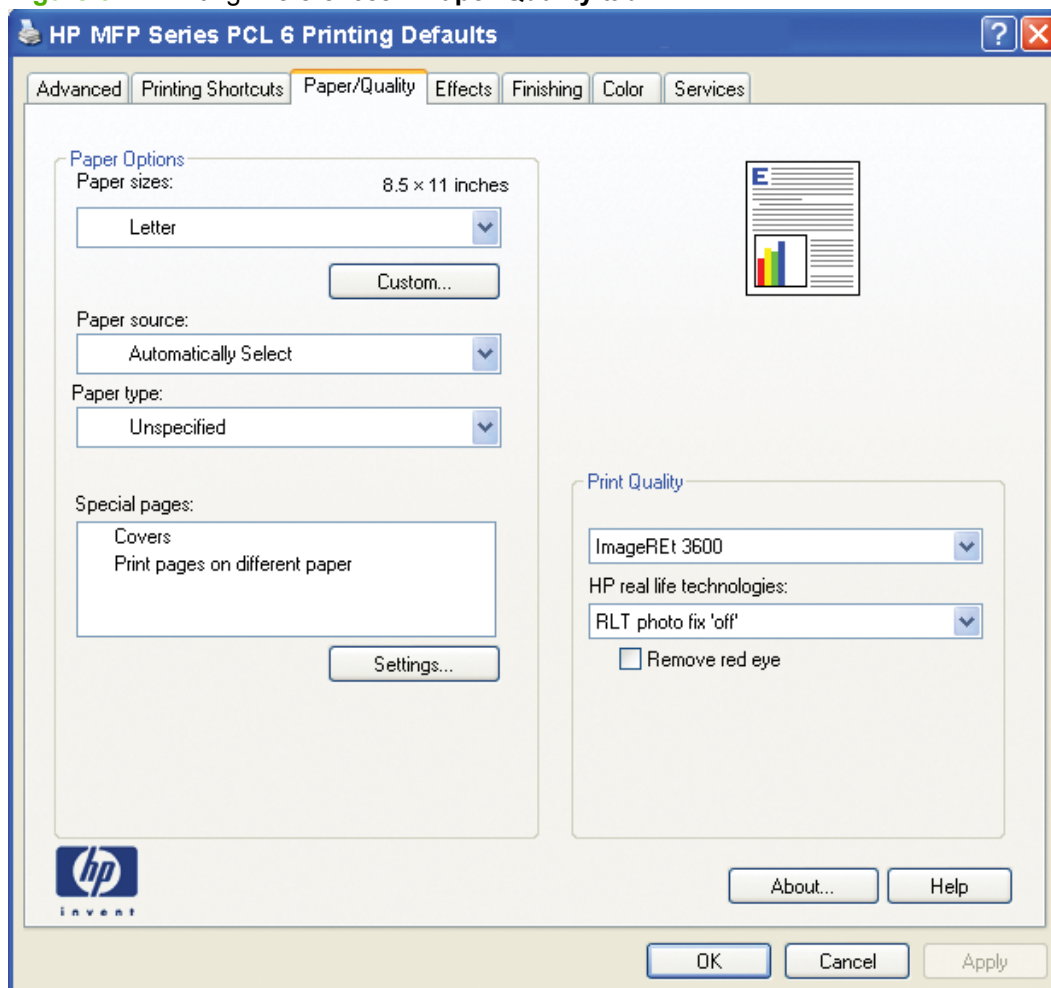
Size	Dimensions	Tray 1
Envelope #10	105 x 241 mm (4.13 x 9.49 in)	Y
Envelope DL	110 x 220 mm (4.33 x 8.66 in)	Y
Envelope C5	162 x 229 mm (6.93 x 9.84 in)	Y
Envelope B5	176 x 250 mm (6.7 x 9.8 in)	Y
Envelope Monarch	98 x 191 mm (3.9 x 7.5 in)	Y
Postcard	100 x 148 mm (3.94 x 5.83 in)	Y
Double postcard	148 x 200 mm (5.83 x 7.87 in)	Y

Paper/Quality tab features

Use the **Paper/Quality** tab to specify the size, type, and source of the paper, and to specify different paper selections.

The following figure shows the **Paper/Quality** tab.

Figure 6-2 Printing Preferences – **Paper/Quality** tab



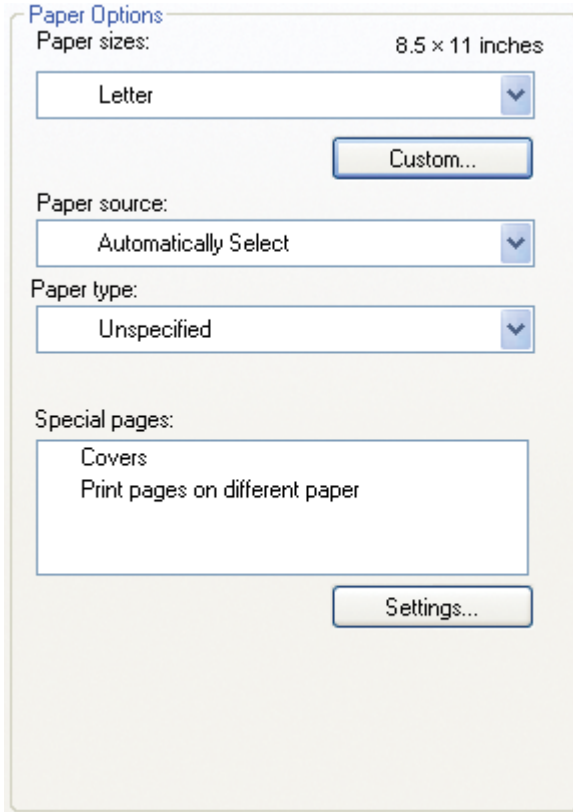
The **Paper/Quality** tab contains the following options:

- [Paper Options](#)
- [Document preview image](#)
- [Print quality group box](#)

Paper Options

The settings specified in the **Paper Options** group box on the **Paper/Quality** tab apply to all of the pages of the document. The following figure shows the **Paper Options** group box and the default selections.

Figure 6-3 Paper Options group box



The settings in the **Paper Options** group box are described in the following order:


- [Paper size: on page 176](#)
- [Custom Paper Size on page 177](#)
- [Paper source: on page 178](#)
- [Paper type: on page 179](#)
- [Special pages on page 181](#)

Paper size:

Paper size: is a drop-down menu that lists all of the supported paper and print media sizes.

Move the cursor over the dimensions label to change the cursor from an arrow to a gloved hand. Click the dimensions label to toggle between English and metric units.

Because paper-size settings in most software programs override printer-driver settings, use the printer-driver to set paper size only when printing from software programs that do not include a paper-size setting, such as NotePad, or when producing a book or a booklet that does not require different paper sizes.

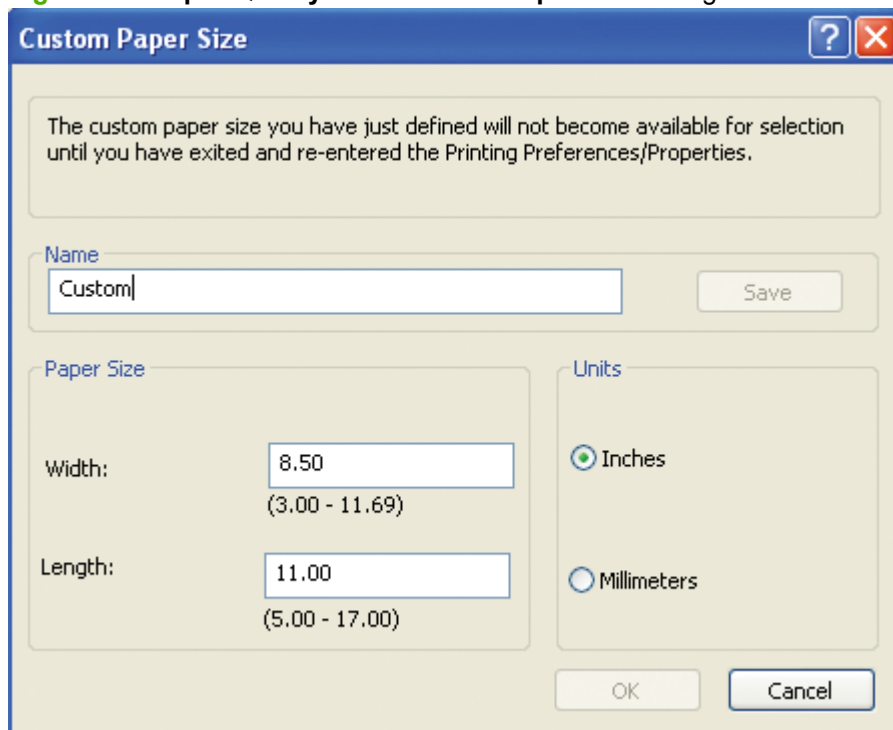
 **NOTE:** Certain software programs can override the size command and specify different paper sizes within a single document.

Custom Paper Size:

The **Custom Paper Size** dialog box appears when you click **Custom...** on the **Paper/Quality** tab.

The following figure shows the initial appearance of the **Custom Paper Size** dialog box.

Figure 6-4 Paper/Quality tab – Custom Paper Size dialog box



Name

Use the **Name** text box to type a new name for a custom paper size.

The name that appears in the **Name** text box depends on the following conditions:

- If a saved custom paper size has been selected from the drop-down menu on the **Paper/Quality** tab, the **Name** text box shows the name of the selected custom paper size.
- If a standard paper size has been selected on the **Paper/Quality** tab, the **Name** text box shows the default name of **Custom**.
- If a new name has been typed into the **Name** text box for the purpose of saving a new size or renaming an existing size, then that new name remains in the text box until the new size is saved or the dialog box is closed.

If you type a new name into the **Name** text box, but then do not click **Save**, you can change the width and height values without losing the name. However, if you close the dialog box without clicking **Save**, any unsaved name or size values are lost without warning.

Paper Size

Change the width and height values by typing numeric strings into the edit boxes in the **Paper Size** group box.

Any entry that is greater than the maximum limits of the width and height edit box is rounded down to the maximum valid entry. Any entry that is smaller than the minimum limits of the width and height edit box is rounded up to the minimum valid entry.

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 edit box is 1 millimeter or 1/10 of an inch, depending on the current measurement units.

Units

To change measurement units, click one of the options in the **Units** group box (either **Inches** or **Millimeters**).

Custom width and height control limits

The minimum media size for the HP Color LaserJet CM2320 MFP Series printer is 76.2 x 127 mm (3 x 5 in) and the maximum is 215.9 x 355.6 mm (8.5 x 14 in). The following table summarizes media size limits.

The following table identifies the media types the HP Color LaserJet CM2320 MFP Series printer supports in trays 1 and 2.

Table 6-5 Tray 1 and Tray 2 Specifications

Tray 1 and Tray 2	Dimensions ¹	Weight	Capacity ²
Paper	Minimum: 76 x 127 mm (3 x 5 in) Maximum: 216 x 356 mm (8.5 x 14 in)	60 to 163 g/m ² (16 to 43 lb) Up to 176 g/m ² (47 lb) for postcards	Single sheet of 75 g/m ² (20 lb) paper for Tray 1 Up to 250 sheets for Tray 2

Table 6-5 Tray 1 and Tray 2 Specifications (continued)

Tray 1 and Tray 2	Dimensions ¹	Weight	Capacity ²
HP LaserJet glossy paper and HP LaserJet photo paper	Same as the preceding listed minimum and maximum sizes.	75 to 220 g/m ² (20 to 58 lb)	Single sheet of HP LaserJet glossy paper or HP LaserJet photo paper for Tray 1 Up to 25 mm (0.99 in) stack height for Tray 2
HP Premium Cover Paper ³		200 g/m ² (53 lb) cover	Single sheet of HP Cover paper for Tray 1 Up to 25 mm (0.99 in) stack height for Tray 2
Transparencies and opaque film		Thickness: 0.10 to 0.13 mm (3.9 to 5.1 mils)	Single sheet of transparency or opaque film for Tray 1 Up to 50 sheets for Tray 2
Labels ⁴		Thickness: up to 0.23 mm (up to 9 mils)	Single sheet of labels for Tray 1 Up to 25 mm (0.99 in) stack height for Tray 2
Envelopes		Up to 90 g/m ² (up to 24 lb)	Single envelope for Tray 1 Up to ten envelopes for Tray 2

¹ The product supports a wide range of standard and custom sizes of paper. Check the printer-driver for supported sizes.

² Capacity can vary depending on paper weight and thickness, and environmental conditions.

³ Smoothness: 100 to 250 (Sheffield).

⁴ Hewlett-Packard does not guarantee results when printing with other types of heavy paper.

Paper Source:

The **Paper source**: setting specifies the source tray to use for printing a document. The list of source trays depends on the product accessories that are installed. Any optional source trays that are installed through the **Device Settings** tab also appear here.

The **Paper source**: drop-down menu can contain the following options:

- **Automatically Select**
- **Printer auto select**
- **Manual Feed in Tray 1**
- **Tray 1**

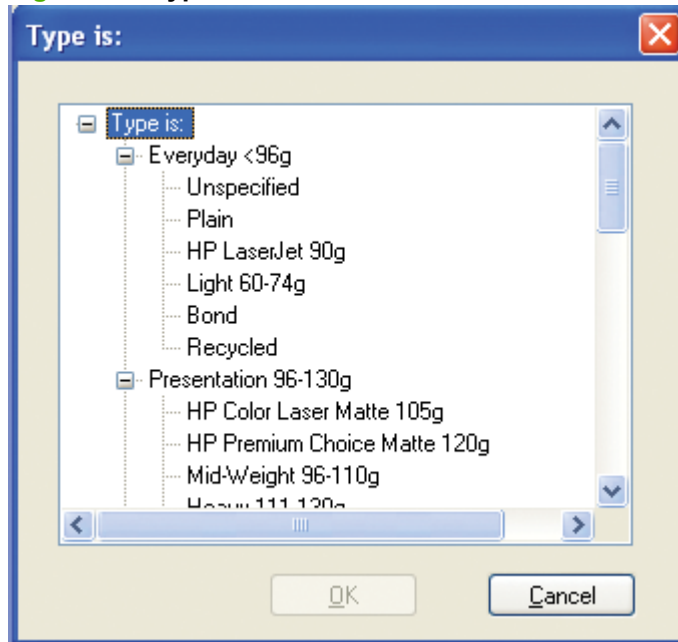
The default setting is **Automatically Select**. When this is selected, the HP Color LaserJet CM2320 MFP Series product uses the source tray that supports the selected paper size. For the other options, make sure that the correct paper size is loaded in the source tray.

Paper type:

The **Paper type**: drop-down menu shows a selection of the paper types that the HP Color LaserJet CM2320 MFP Series product supports. When you use the default setting, **Unspecified**, the product uses the default paper type, which is usually **Plain**.

To view additional supported paper types, select **More** in the **Paper type:** drop-down menu. The **Type is:** box opens. Select one of the additional paper types and click **OK**. Now this option is available in the **Paper type:** drop-down menu.

Figure 6-5 Type is: box



The additional supported paper type available via the **Type is:** box are included in the following table.

Table 6-6 Paper type: – Type is: supported paper types and associated engine speeds

Paper category	Paper type	Engine speed
Everyday < 96g	• Unspecified	• Full
	• Plain	• Full
	• HP LaserJet 90g	• 3/4 Speed (6 ppm)
	• Light 60-74g	• Full
	• Bond	• 3/4 Speed (6 ppm)
	• Recycled	• Full
Presentation 96-130g	• HP Color Laser Matte 105g	• 3/4 Speed (6 ppm)
	• HP Premium Choice Matte 120g	• 3/4 Speed (6 ppm)
	• Mid-Weight 96-110g	• 3/4 Speed (6 ppm)
	• Heavy 111-130g	• 3/4 Speed (6 ppm)
	• Mid-Weight Glossy 96-110g	• 3/4 Speed (6 ppm)
	• Heavy Glossy 111-130g	• 3/4 Speed (6 ppm)
	• HP Presentation Glossy 130g	• 3/4 Speed (6 ppm)
	• HP Professional Laser Glossy 130g	• 3/4 Speed (6 ppm)

Table 6-6 Paper type: – Type is: supported paper types and associated engine speeds (continued)

Paper category	Paper type	Engine speed
Brochure 131-175g	• HP Color Laser Brochure Matte 160g	• 3/4 Speed (6 ppm)
	• HP Superior Laser Matte 160g	• 3/4 Speed (6 ppm)
	• HP Color Laser Brochure Glossy 160g	• 3/4 Speed (6 ppm)
	• HP Tri-fold Color Laser Brochure 160g	• 3/4 Speed (6 ppm)
	• HP Superior Laser Glossy 160g	• 3/4 Speed (6 ppm)
	• Extra Heavy 131-175g	• 3/4 Speed (6 ppm)
	• Extra Heavy Glossy 131-175g	
Photo/Cover 176-200g	• HP Cover Matte 200g	• 3/4 Speed (6 ppm)
	• HP Matte Photo 200g	• 3/4 Speed (6 ppm)
	• HP Color Laser Photo Glossy 200g	• 3/4 Speed (6 ppm)
	• HP Color Laser Photo Glossy 200g (faster printing)	• 3/4 Speed (6 ppm)
	• HP Color Laser Photo Glossy 200g (higher gloss)	• Half Speed (4 ppm)
	• Card Glossy 176-220g	• 3/4 Speed (6 ppm)
Other	• Color Laser Transparency	• 3/4 Speed (6 ppm)
	• Labels	• Full
	• Letterhead	• 3/4 Speed (6 ppm)
	• Envelope	• 3/4 Speed (6 ppm)
	• Heavy Envelope	• 3/4 Speed (6 ppm)
	• Preprinted	• Full
	• Prepunched	• Full
	• Colored	• Full
	• Rough	• 3/4 Speed (6 ppm)
	• Heavy Rough	• 3/4 Speed (6 ppm)
	• HP Tough Paper	• 3/4 Speed (6 ppm)

No mechanism exists for manually adding custom paper types through the printer-driver.

The default setting is **Unspecified**. Before selecting a different setting, make sure that the correct paper type is loaded in the tray that is specified in the **Paper source:** setting.

If the printer-driver setting is changed to a paper type that is not currently loaded in the product and the tray is configured for a specific paper type, a control-panel message prompts you to load the paper type or select another tray.

Caution symbols might appear next to some paper types in the selection list. This means that there is another setting that might be in conflict with the selected paper size. For example, if **Print on both sides** is selected in the **Finishing** tab, then the **Transparency** paper type will have a **Caution** sign next to it because transparencies can only be printed on a single side.

Special pages

To specify special pages to be used, click **Settings** under **Special Pages**.

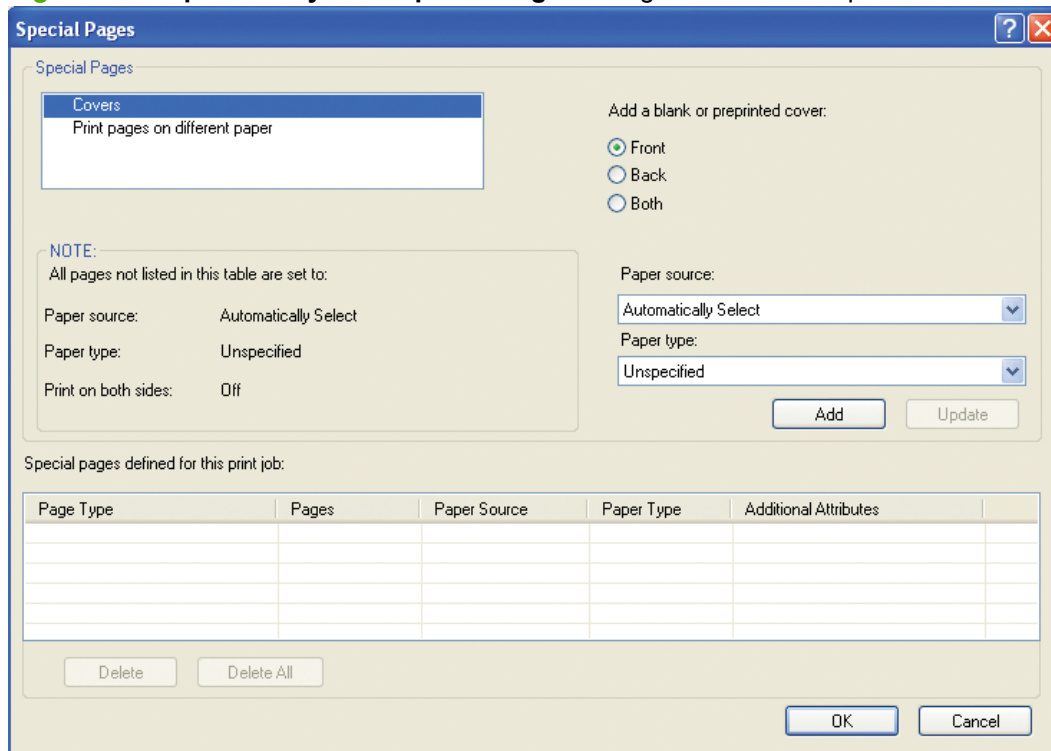
Covers

To use specify cover settings, click **Covers** in the **Special Pages** dialog box.

Use the **Covers** options to include a blank or preprinted cover on a document, or to include a front/back cover from a source tray that is different from the one used for the remainder of the document.

The following figure shows the **Covers** setting and options.

Figure 6-6 Paper/Quality tab – Special Pages dialog box – Covers option



The following are the **Covers** options:

- **Cover type.** Select which cover is customized: **Front**, **Back**, or **Both**.
- **Paper source.** The **Paper Source** setting specifies the source tray to use for adding a front and/or back cover to the document.
- **Paper type.** The **Paper Type** setting specifies the paper size to use for front and/or back covers. Changes made to the **Paper Type** setting here override any previous **Paper Type** settings using the same paper source.

NOTE: The **Back Cover** options are not available when the **Booklet Printing Layout** setting is enabled on the **Finishing** tab. The back cover setting is unavailable, because this page would be printed in the middle of a booklet.

NOTE: The same size of paper is used for the entire print job.

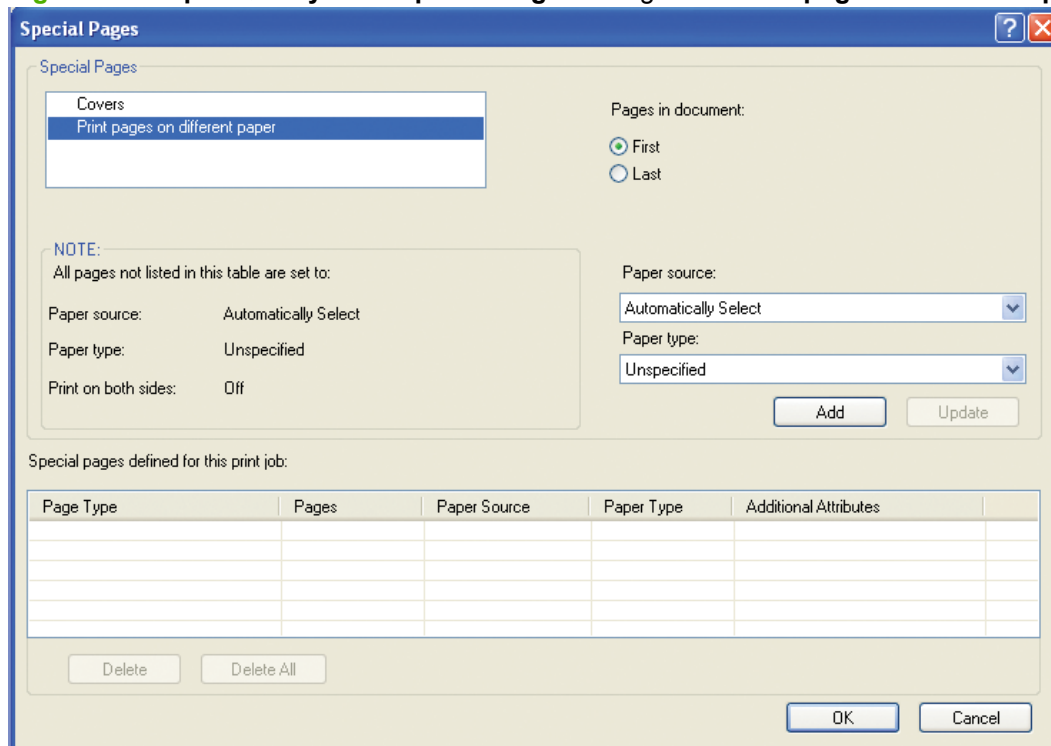
When you change the type and source of the paper and covers, the settings remain configured until you quit the software program.

Print pages on different paper

Use the **Print pages on different paper** options to select an alternative paper type or source for the first or last page of a document.

The following figure shows the **Print pages on different paper** settings and options.

Figure 6-7 Paper/Quality tab – Special Pages dialog box – Print pages on different paper option



The following are the **Print pages on different paper** options:

- **Pages in document.** Select which pages are customized: the **First** page or the **Last** page.
- **Paper source.** The **Paper source** setting specifies the source tray to use for printing a document.
- **Paper type.** The **Paper type** drop-down menu shows all of the paper types that the product supports.

NOTE: The same type of paper is used for the entire print job.

When you change the type and source of the paper and covers, the settings remain configured until you quit the software program.

Document preview image

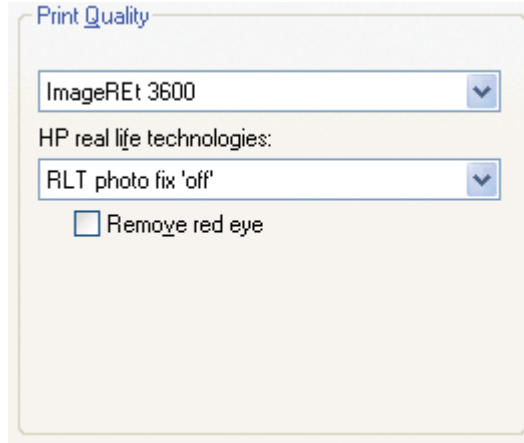
See the [Document preview image on page 183](#) section in the “HP PCL 6 and universal printer-driver for Windows” chapter.

Print quality group box

The **Print Quality** group box provides options that control resolution and digital imaging settings. The group box includes the following options:

- [Print Quality drop-down menu](#)
- [HP real life technologies](#)
- [Remove red eye checkbox](#)

Figure 6-8 Paper/Quality tab – **Print Quality** group box



Print Quality drop-down menu

The **Print Quality** drop-down menu contains the **Image REt 3600** resolution option. This setting produces 3600 dpi color output quality through HP Image Resolution Enhancement Technology (Image REt) 3600. This setting is selected by default.

HP real life technologies

The **HP real life technologies** drop-down contains the following options:

- **RLT photo fix 'off'**
- **'Basic' RLT photo fix**
- **'Full' RLT photo fix**

See the following table for more information about configuring this feature.

Table 6-7 HP real life technologies

	RLT photo fix 'off'	'Basic' RLT photo fix	'Full' RLT photo fix
Photo Brightening	Off	Off	Auto
Adaptive Lighting	Off	Off	Auto
SmartFocus	Off	On	On
Sharpness	Off	Low	Auto
Smoothing	Off	Off	Off

Remove red eye checkbox

The **Remove red eye** checkbox is deselected by default. Select this option to reduce or remove red eye from photographs.

Install Notes

- [I. Introduction](#)
- [II. LATE-BREAKING INFORMATION](#)
- [III. INSTALLATION INSTRUCTIONS](#)
- [IV. TECHNICAL ASSISTANCE](#)
- [V. LEGAL STATEMENTS](#)

I. Introduction

PURPOSE OF THIS DOCUMENT

This document provides specific installation instructions and other information you should know before you install and use the printing system. Installation instructions are provided in this document for the following operating systems:

- Windows® 2000
- Windows® XP
- Windows Server 2003
- Windows Vista

For information and printer-drivers for Linux, go to the following website: www.hp.com/go/linux

For information and printer-drivers for UNIX®, go to the following website: www.hp.com/go/jetdirectunix_software

For installation instructions for OS/2 printer-drivers, Macintosh OS components, or other systems, see the associated installation notes, readme files, or other product information for that particular system.

This file provides specific installation, compatibility, and troubleshooting information. For additional information about product features and printer-driver features, see the product user guide and the online help that is included with each software component.


WHO NEEDS THIS SOFTWARE?

All users need this printing system software in order to operate the HP Color LaserJet CM2320 MFP Series.

OVERVIEW OF THE PRINTING-SYSTEM COMPONENTS

The Windows CD-ROM has software for IBM-compatible computer systems. For more information about a particular printer-driver or software component, see its associated online help.

End-user software components in an Express install

 **NOTE:** Software installations for Windows 2000, Windows XP 64-bit and Windows Server 2003 are Express installations only and will install a print and scan driver. Windows XP 32-bit and Windows Vista can be either an Express install or a Recommended install depending on the type of installation chosen

Drivers

A driver is software that allows software applications to access product features. Typically, you should install drivers for each product. The solutions software CD-ROM that came with your product includes the following Windows drivers:

- HP PCL 6 print driver for the supported operating systems listed above
- HP TWAIN Scan driver for the supported operating systems listed above
- HP WIA Scan driver for Windows XP and newer supported operating systems listed above

Software Applications

- HP LaserJet Scan application
- HP Fax Setup Wizard
- User guide (Windows Help format)

End-user software components available for a Recommended install

Drivers

A driver is software that allows software applications to access product features. Typically, you should install drivers for each product. The printing system software CD-ROM that came with your product includes the following Windows drivers:

- HP PCL6 driver for the supported operating systems listed above
- HP TWAIN Scan driver for the supported operating systems listed above
- HP WIA Scan driver for Windows XP and newer supported operating systems listed above

Software Applications

- HP ToolboxFX
- HP Software Update
- HP Document Manager
- User guide (Windows Help format)
- HP Product Assistant
- HP Solution Center

 **NOTE:** ScanTo functionality is only available after a Recommended (Full) or Custom install.

Additional drivers might be available from your Hewlett-Packard distributor or from online sources. See the "Technical Assistance" section of these install notes or the product user guide for more information about obtaining drivers and other HP software.

HP ToolboxFX

The printing system software includes HP ToolboxFX software for end-users. HP ToolboxFX provides product status information such as toner and paper levels, and it also provides pop-up alert messages when attention is needed at the product. HP ToolboxFX is also used to configure the product settings.

Product documentation

The following documents are available on the printing-system software CD-ROM:

HP Color LaserJet CM2320 MFP

- Document: *HP Color LaserJet CM2320 Series User Guide*
File name: LJCM2320_use_<language code>.pdf
File name: LJCM2320_use_<language code>.chm
Path: <CD-ROM Drive>:\<Language>\MANUALS\LJCM2320_use_<language code>.pdf
Path: <CD-ROM Drive>:\<Language>\MANUALS\LJCM2320_use_<language code>.chm
- Document: *HP Color LaserJet CM2320 Series Install Notes*
File name: LJCM2320_installnotes_<language code>.htm
Path: <CD-ROM Drive>:\<Language>\LJCM2320_installnotes_<language code>.htm

Uninstall

The uninstall utility allows you to remove the Windows HP printing system components. See the "Uninstaller" section for more instructions.

II. LATE-BREAKING INFORMATION

KNOWN ISSUES AND WORK-AROUNDS

General

- The SNMP Community Name can be set in HP ToolboxFX or HP Embedded Web Server (HP EWS). If the Community Name is changed to something other than "public," network scanning stops working.
- Firewall software can interfere with the HP software installer. Disable the firewall before starting a network installation or the product might not be detected.
- Certain high-speed USB 2.0 cards ship with unsigned host controller drivers. If you have purchased a USB 2.0 add-in card and have an unsigned driver, you might experience driver installation problems or communication problems between the product and HP software. It is recommended that you always use a Microsoft WHQL Certified host controller printer-driver with your USB hardware.
- Plug and Play Print/Scan driver packages are available on the Web at: www.hp.com/support/CM2320series
- Functionality is limited on systems that only meet minimum system requirements. Many images and videos require a system that meets the recommended system requirements for acceptable performance and reliability.

- If your product is not recognized:
 - Verify that your cable is USB 2.0 high-speed compliant.
 - Ensure that your cable is connected correctly. Remove the USB cable, look at the end of the cable, and then match it to the pattern on the USB port. Make sure that it is not upside down. Insert one end of the USB cable completely into the USB port on the HP product, and insert the other end into the back of the computer.
 - Verify that the peripheral is powered on. Peripherals will not be recognized if the power is off.
 - Ensure that your USB cable is no more than 5 meters (~16.4 feet) in length.
 - Verify that the USB port is enabled. Some PCs ship with disabled USB ports.
- On a Thai system, some components may show English text.
- Simultaneous printing and scanning is not supported. If the product is scanning, the print job will be held until the scan completes. If the product is printing, an attempt to scan will result in a "Device Busy" error.

HP ToolboxFX

- HP ToolboxFX utilizes Microsoft .NET Framework version 2.0. Depending on the configuration of your PC, you might need to update your system configuration after installation by using Windows Update. If you encounter problems with HP ToolboxFX, install all available critical updates from Windows Update.
- HP ToolboxFX might not function in Windows 2000 if Service Pack 4 (SP4) and critical updates are not currently installed. If you encounter problems with HP ToolboxFX, install all available critical updates for Windows 2000 from Windows Update.
- Your network settings can be password protected by setting a password within HP ToolboxFX. If you forget your password, you must restore the factory defaults on your product.

Scan

- Scanning at higher resolutions can take a long time, and the process will create large files. The best compromise between quality, time, and size is provided by the default resolution.
- The default file type for the HP LaserJet Scan software is JPEG when scanning to a file, and the default file type is PDF when scanning to e-mail. A JPEG file supports 256 gray shades (8-bit) output type. If you select an output type of black-and-white (1-bit), the file produced will still be in the JPEG format. To get a true black-and-white output type, change the setting for the default file type to either TIFF or BMP in the **Settings** menu in the HP LaserJet Scan software.
- For the best autocrop results, make sure the lid is correctly centered on the scanner to prevent stray light from entering into the scan. Some images may not autocrop well even when the lid is on properly. In these instances you will need to manually draw the crop area.
- OCR recommendations for input files:
 - 300 dpi, 8-bit grayscale or 24-bit image data
 - 400 dpi, 8-bit grayscale or 24-bit image data for Asian languages (Traditional and Simplified Chinese, Japanese, and Korean)
 - Do not use 1-bit files for OCR.

- Putting a few sheets of paper on top of flatbed-scanned originals can help eliminate bleed-through of the second side image or foam mat.
- Scanned originals that are bent, creased, or scored can cause shadows to appear on the image.
- Scan buttons on the product control panel will not function unless you have done a Recommended (Full) or Custom install and set up ScanTo in the HP LaserJet Scan software.

Upgrade Windows

- HP recommends that you uninstall HP products before upgrading to a newer supported version of Windows. For example, when upgrading from Windows XP to Windows Vista, uninstall your HP product using **Add/Remove Programs** and then upgrade to the new operating system. After the operating system upgrade is complete, re-install your HP product using the latest software available at the following URL:

www.hp.com/support/CM2320series

Other Applications

- Microsoft WordPad does not display compressed JPEG files contained in an RTF file. To display these files, use a different application such as Microsoft Word.

ISSUES FIXED

For an updated listing of issues fixed for the HP LaserJet printing system software, see the HP Color LaserJet CM2320 MFP Series support pages at the following URL:

www.hp.com/support/CM2320series

III. INSTALLATION INSTRUCTIONS

When operating in a Windows environment, the CD-ROM setup or installation software detects the version and language of the operating system that you are running.

INSTALL SOFTWARE ON WINDOWS 2000, WINDOWS XP, WINDOWS SERVER 2003 AND WINDOWS VISTA

 **NOTE:** Administrator privileges are required to install the printing system.

NOTE: Do not plug the USB cable into the computer or product until instructed to do so by the software.

1. Quit all programs.
2. Insert the CD-ROM.
3. If the HP printing system installer program has not started after 30 seconds, complete steps 4 through 6.
4. Select **Run** from the **Start** menu on your task bar.
5. Browse to the root directory on the CD-ROM drive.
6. Select the AUTORUN.EXE file, click **Open**, and then click **OK**. When the animated installation guide appears, click **Begin Setup** for help setting up the product.

7. After watching the animated installation guide, click **Install Software** to start the software installation.
8. Follow the onscreen instructions.

UNINSTALLER

The uninstaller removes all of the HP printing system components.

1. From the **Start** menu, in the **HP Color LaserJet CM2320 MFP Series** program group, click the **HP Color LaserJet CM2320 Series** uninstall icon.
2. Follow the onscreen instructions.

If you have performed a Recommended install and you do not have any other HP products installed, perform the following additional steps:
3. Open the Microsoft® Windows Control Panel.
4. Double-click **Add/Remove Programs**. You will see entries for HP Customer Participation Program, HP Update, and any additional HP applications that have been installed.
5. For each HP item, click **Change/Remove** and follow the prompts.

IV. TECHNICAL ASSISTANCE

For customer support information, see the user guide or the in-box support flyer, or call your local authorized HP dealer.

You can also browse to the following URL for online technical support:

www.hp.com/support/CM2320series

V. LEGAL STATEMENTS

TRADEMARK NOTICES

Adobe®, Acrobat®, and Adobe® PostScript® 3™ are trademarks of Adobe Systems Incorporated.

Energy Star® and the Energy Star mark® are US registered marks of the United States Environmental Protection Agency.

Microsoft®, Windows®, and Windows® XP are U.S. registered trademarks of Microsoft Corp.

UNIX® is a registered trademark of the Open Group.

WARRANTY AND COPYRIGHT

Warranty

See the product user guide for complete warranty and support information.

Copyright

© 2008 Copyright Hewlett-Packard Development Company, L.P.

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

The information contained herein is subject to change without notice.

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

Index

Symbols/Numerics

% of Normal Size setting
 unidrivers 187

A

About tab
 HP ToolboxFX 85
 printer-driver 222
AccessDeniedUtility.exe 248
accessibility features 4
Adobe Acrobat Reader
 installing 18
Advanced network settings 81
Advanced page, EWS
 (Windows) 106
Advanced pane 81
Advanced Printing Features setting,
 unidrivers 173
Advanced tab, unidrivers 170
alerts
 e-mail 30, 43
 HP ToolboxFX 30
 pop-up 29
 Setup Status Alerts pane, HP
 ToolboxFX 41
 system-tray icons 30
Alerts folder, HP ToolboxFX 40
Animated Demonstrations pane,
 HP ToolboxFX 57
Apple Macintosh. See Macintosh
ASCII output protocol, HP PS
 Emulation printer-driver 212
Auto continue settings 70
Automatic color settings
 unidrivers 202

B

binary output protocol, HP PS
 Emulation printer-driver 212

binding settings
 HP PCL 6 Unidriver 197
bins
 custom paper sizes 178, 262
bins, output
 locating 5
black, printing all text as
 unidrivers 173
booklets
 HP PCL 6 Unidriver
 settings 197
 unidriver settings 197
browsers supported, HP
 ToolboxFX 29

C

Cartridge low threshold
 settings 70
cartridge-door release, locating 5
CD-ROM
 directory structure,
 Windows 12
 installer, Windows solutions
 software 16
 languages, Windows 13
 localized versions,
 Macintosh 230
 ordering 231
color
 HP basic color match
 tool 27
 HP ImageREt 3600 24
 matching 26
 matching, HP basic color
 matching tool 27
 Microsoft Office Basic Colors
 palette 26
 printed vs. monitor 26
 sRGB 25

Color Printing Tools pane, HP
 ToolboxFX 57
Color Themes
 unidrivers 205
Color Usage Job Log
 EWS 96
 HP ToolboxFX 39
colors
 Print All Text as Black 173
 unidriver settings 172
common installer, features 18
components, software
 Macintosh 226
 Windows 11
Configure Device utility 226
conflicts, device 244
Connection time-out (I/O)
 settings 70
constraint messages 168
copies, number of
 unidriver settings 171
Ctrl-D settings 213
custom paper sizes
 driver settings 177
 printer-driver settings 261
customer support 86
Customization Wizard
 languages, Windows 13

D

density
 EWS page 98
 HP ToolboxFX 61
Device Configuration page, EWS
 (Windows) 92
Device Configuration pane, HP
 ToolboxFX 34
device conflicts 244
Device Information page, EWS
 (Windows) 97

- Device Information pane, HP
 - ToolboxFX 60
 - Device Polling pane 71
 - Device Polling pane, HP
 - ToolboxFX 71
 - Device Settings tab
 - printer-drivers 208
 - Device Status page, EWS (Windows) 91
 - Device Status pane, HP
 - ToolboxFX 32
 - diagnostics 23, 206
 - dialog boxes, Macintosh
 - installation 234
 - dimensions
 - media 258
 - DIMMs, fonts
 - printer-driver settings 210
 - direct connections
 - Macintosh installation 234
 - Director, HP LaserJet 226, 227
 - directory structure, CD-ROM
 - Windows 12
 - disk space requirements
 - Macintosh 230
 - Document Options
 - unidrivers 172, 194
 - document preview image
 - printer-drivers 183, 205, 267
 - documentation
 - languages, Windows 13
 - localized versions 8
 - Readme 270
 - dots per inch (dpi)
 - HP ImageREt 3600 24
 - specifications 4
 - double-sided printing
 - unidriver settings 194
 - downloading
 - solutions software 12
 - downloading software
 - Linux 117
 - dpi (dots per inch)
 - HP ImageREt 3600 24
 - specifications 4
 - drivers
 - document preview image 183, 205
 - Graphic settings 171
 - Internet Services 207
 - Paper Options 176
 - Paper/Quality tab 175
 - Services tab 206
 - universal 139
 - Drum low threshold settings 70
 - duplexing
 - Print on Both Sides (Manually)
 - check box 194
 - duplexing unit
 - custom paper sizes 178, 262
- E**
- e-mail
 - File to E-mail utility 247
 - Macintosh software 227
 - troubleshooting 247
 - e-mail alerts 30, 43
 - E-mail Configuration page, EWS (Windows) 107
 - E-mail Configuration pane, HP
 - ToolboxFX 84
 - E-mail Contacts page, EWS (Windows) 108
 - E-mail Contacts, HP
 - ToolboxFX 84
 - E-mail folder, HP
 - ToolboxFX 83
 - E-mail tab, EWS (Windows) 107
 - e-mail, scanning to
 - Macintosh software 226
 - Edge Control settings
 - unidrivers 203
 - Effects tab
 - unidrivers 185
 - error messages
 - Auto continue settings 70
 - constraint, unidrivers 168
 - pop-up alerts 29
 - Euro symbol 213
 - Event Log page, EWS (Windows) 96
 - Event Log pane, HP
 - ToolboxFX 40
 - EWS (Windows)
 - accessing 90
 - Advanced page 106
 - Color Usage Job Log 96
 - Device Configuration page 92
 - Device Information page 97
 - Device Status page 91
 - E-mail Configuration
 - page 107
 - E-mail Contacts page 108
 - E-mail tab 107
 - Event Log page 96
 - Fax tab 103
 - Network Summary page 94
 - Networking tab 104
 - Paper Handling page 97
 - Paper Types page 99
 - Password page 101
 - PCL5c page 102
 - PostScript page 102
 - Print Density page 98
 - Print Info Pages 95
 - Print Quality page 98
 - Print tab 101
 - Printing page 102
 - Settings 96
 - SNMP page 107
 - Status tab 90
 - Supplies Status page 91
 - System Setup page 101
 - EWS Device Configuration utility, Macintosh 227
 - Extended Print Modes pane, HP
 - ToolboxFX 64
 - External Fonts settings, PCL
 - printer-drivers 210
- F**
- fax 46, 47, 50, 51, 52
 - fax folder 46
 - Fax folder, HP
 - ToolboxFX 46
 - fax phone book 48
 - Fax Phone Book, HP
 - ToolboxFX 48
 - fax ports, locating 6
 - fax printer-driver
 - languages, Windows 13
 - operating systems
 - supported 20
 - fax receive 47
 - fax receive log 51
 - Fax Receive Log, HP
 - ToolboxFX 51
 - Fax Receive, HP
 - ToolboxFX 47
 - fax send log 50
 - Fax Send Log, HP
 - ToolboxFX 50
 - Fax tab, EWS (Windows) 103

- features
 - HP ToolboxFX 28
 - product 4
 - File to E-mail utility 247
 - Finishing tab
 - unidrivers 172, 193
 - FixErr1714 utility 248
 - Flip Pages Up settings
 - HP PCL 6 Unidriver 197
 - Font Substitution Table, HP PS Emulation printer-driver 210
- fonts
 - DIMM settings, printer-drivers 210
 - Euro symbol 213
 - External, PCL printer-drivers 210
 - HP PS Emulation printer-driver 214
 - languages, Windows 13
 - lists, printing 95
 - Send TrueType as Bitmap, HP PCL 6 Unidriver 173
 - TrueType settings, unidrivers 172
 - watermark settings, unidrivers 190, 192
 - Windows 111, 113
- Form to Tray Assignment, printer-drivers 209
- formatter
 - number 34
- fulfillment centers 231
- fuser modes 63

G

- grayscale settings, HP PS Emulation printer-driver 213

H

- help
 - Macintosh 226
 - unidrivers 168
 - Help folder, HP ToolboxFX 52
 - HP basic color match tool, opening 27
 - HP Driver Diagnostic Printer Check Tool 23
- HP Embedded Web Server (Windows)
 - accessing 90
 - Advanced page 106
 - Color Usage Job Log 96
 - Device Configuration page 92
 - Device Information page 97
 - Device Status page 91
 - E-mail Configuration page 107
 - E-mail Contacts page 108
 - E-mail tab 107
 - Event Log page 96
 - Fax tab 103
 - Network Summary page 94
 - Networking tab 104
 - Paper Handling page 97
 - Paper Types page 99
 - Password page 101
 - PCL5c page 102
 - PostScript page 102
 - Print Density page 98
 - Print Info Pages 95
 - Print Quality page 98
 - Print tab 101
 - Printing page 102
 - Settings 96
 - SNMP page 107
 - Status tab 90
 - Supplies Status page 91
 - System Setup page 101
- HP EWS Device Configuration utility, Macintosh 227
- HP ImageREt 3600 24
- HP Instant Support 86
- HP LaserJet Director 226, 227
- HP Marketing Assistant troubleshooting 250
- HP PCL 6
 - Graphic settings 171
 - Printer Features tab 173
- HP PCL 6 Unidriver
 - Advanced Printing Features, enabling 172
 - Advanced tab 170
 - booklet printing 197
 - constraint messages 168
 - Copy Count 171
 - Document Options 172, 194
 - help 168
- Image Color Management (ICM) 172
- Layout Options 174
- orientation settings 199
- Pages per Sheet 198
- Paper/Output settings 171
- Print All Text as Black 173
- Print on Both Sides 194
- Printing Preferences tab 166
- Properties tab 166, 167
- Raster Compression 173
- Resizing Options 186
- Send TrueType as Bitmap 173
- TrueType font settings 172
- Watermarks settings 188

- HP PCL printer-drivers. *See* PCL printer-drivers
- HP Photosmart Studio (Macintosh) 226, 228
- HP PS Emulation
 - Graphic settings 171
 - Printer Features tab 173
- HP PS Emulation driver
 - document preview image 183, 205
 - Internet Services 207
 - Paper Options 176
 - Paper/Quality tab 175
 - Services tab 206
- HP PS Emulation fonts 113
- HP PS Emulation printer-driver
 - about 20
 - About tab 222
 - Ctrl-D settings 213
 - Device Settings tab 208
 - diagnostics 23
 - document preview image 267
 - Font DIMM Installer 210
 - font settings 214
 - Font Substitution Table 210
 - Form to Tray Assignment 209
 - included 20
 - Installable Options settings 211
 - JPEG Passthrough 216
 - languages, Windows 13
 - Output Protocol settings 212
 - Paper Options 260
 - Paper/Quality tab 259

- PostScript Device settings 212
- PostScript Memory settings 212
- PostScript Passthrough 215
 - timeout settings 213
 - version number 21
- HP PS Emulation Unidriver
 - Advanced Printing Features, enabling 172
 - Advanced tab 170
 - booklet printing 197
 - Color Themes 205
 - Copy Count 171
 - Document Options 172, 194
 - Edge Control 203
 - Effects tab 185
 - Finishing tab 193
 - help 168
 - Image Color Management (ICM) 172
 - Mirror Image 200
 - Neutral Grays 204
 - orientation settings 199
 - Pages per Sheet 198
 - Paper/Output settings 171
 - Print All Text as Black 173
 - Print on Both Sides 194
 - Printing Preferences tab 166
 - Properties tab 166, 167
 - Resizing Options 186
 - TrueType font settings 172
 - Watermarks settings 188
- HP PS Level 3 Emulation printer-driver. See HP PS Emulation printer-driver
- HP Software License Agreement dialog box
 - Macintosh installation 236
- HP Solution Center
 - features 87
 - opening 87
 - troubleshooting 250
- HP ToolboxFX
 - About 85
 - Advanced network settings 81
 - Alerts folder 40
 - Animated Demonstrations pane 57
 - Auto continue settings 70
 - browsers supported 29
 - Color Printing Tools pane 57
 - Color Usage Job Log 39
 - desktop alerts 30
 - Device Configuration pane 34
 - Device Information pane 60
 - Device Polling pane 71
 - Device Status pane 32
 - e-mail alerts 30
 - E-mail Configuration pane 84
 - E-mail Contacts pane 84
 - E-mail folder 83
 - Event Log pane 40
 - Extended Print Modes pane 64
 - Fax folder 46
 - Fax Phone Book 48
 - Fax Receive 47
 - Fax Receive Log 51
 - Fax Send Log 50
 - features 28
 - Help folder 52
 - HP basic color match tool, opening 27
 - HP Instant Support 86
 - IPv4 Configuration pane 79
 - IPv6 Configuration pane 79
 - Jam recovery settings 69
 - Junk Faxes 52
 - Microsoft Office Basic Colors palette, printing 26
 - Network Configuration pane 36
 - Network Settings folder 76
 - Network Summary pane 78
 - opening page 29
 - Paper and Print Media pane 56
 - Paper Handling pane 60
 - Paper Types pane 63
 - Password pane 73
 - PCL5 pane 75
 - Photo pane 76
 - pop-up alert messages 29
 - PostScript pane 75
 - Print Density pane 61
 - Print Info Pages pane 38
 - Print Modes pane 64
 - Print Quality pane 61
 - Print Settings folder 73
 - Printing pane 74
 - Product Registration screen 86
 - Save / Restore Settings pane 72
 - sections 28
 - Service pane 70
 - Set up E-mail Alerts pane 43
 - Setup Status Alerts pane 41
 - Shop for Supplies screen 86
 - SNMP Configuration settings 82
 - starting 28, 30
 - Status folder 31
 - Supplies Status pane 33
 - Support and Troubleshooting screen 86
 - system requirements 29
 - System Setup pane 69
 - troubleshooting 249
 - Troubleshooting pane 54
 - User Guide pane 58
- HP Universal Print Driver 139
- HP-UX software 163
- I
- ICM (Image Color Management) settings 172
- Image Color Management (ICM) settings 172
- image quality
 - HP ImageREt 3600 24
- ImageREt 3600 24
- information pages, print from EWS (Windows) 95
- information pages, printing 38
- Installable Options
 - HP PS Emulation printer-driver 211
- installation
 - Adobe Acrobat Reader 18
 - dialog boxes, Macintosh 234
 - File to E-mail utility 247
 - Macintosh product software 234
 - Macintosh software 232
 - system requirements for Macintosh 230

- troubleshooting 249
- Unsupported Operating System
 - dialog box 132
- installation, software
 - types (Windows) 117
- installers
 - common, features 18
 - Macintosh 226
 - Windows 16
- installing
 - Windows software 117
- Instant Support, HP 86
- interface ports
 - locating 6
 - types included 4
- Internet Services 207
- IPv4 Configuration pane, HP
 - ToolboxFX 79
- IPv6 Configuration pane, HP
 - ToolboxFX 79

J

- jams
 - recovery settings 69
- Job Timeout settings 213
- JPEG Passthrough 216
- junk fax 52
- junk faxes 52
- Junk Faxes, HP ToolboxFX 52

K

- known issues 248

L

- landscape orientation
 - Flip Pages Up, HP PCL 6
 - Unidriver 197
 - unidrivers 199
- languages
 - Windows CD-ROMs 13
- languages, localized versions
 - documentation 8
 - Macintosh software 230
- Layout Options 174
- Layout Options, unidrivers 174
- license agreement
 - Macintosh installation 236
- Linux 163
- Linux drivers 117
- Linux software 163

- localized CD-ROMs
 - Windows 13
- localized versions
 - documentation 8
 - Macintosh software 230

M

- Macintosh
 - components, software 226
 - dialog boxes, installation 234
 - HP EWS Device Configuration
 - utility 227
 - HP LaserJet Director 226, 227
 - HP Photosmart Studio 226, 228
 - installers 226
 - installing product
 - software 234
 - installing software 232
 - memory cards, accessing 229
 - operating systems
 - supported 230
 - ReadIris 226
 - software components 226
 - system requirements 230
 - uninstalling software 242
- Macintosh operating systems
 - printer-drivers supported 20
- Manual color settings
 - unidrivers 202
- manual duplexing
 - Print on Both Sides check
 - box 194
- manuals
 - localized versions 8
- Marketing Assistant
 - troubleshooting 250
- matching colors 26
- matching colors, HP basic color
 - matching tool 27
- matching, color 172
- media
 - supported sizes 258
- memory
 - Device Configuration pane, HP
 - ToolboxFX 34
 - HP PS Emulation printer-driver
 - settings 212

- installation requirements for
 - Macintosh 230
 - printer-driver settings 211
- memory cards
 - Macintosh, accessing 229
- messages
 - Auto continue settings 70
 - constraint, unidrivers 168
 - pop-up alerts 29
- Microsoft Office Basic Colors
 - palette, printing 26
- Mirror Image, HP PS Emulation
 - Unidriver 200
- MSI error 1714 utility 248

N

- Network Configuration pane, HP
 - ToolboxFX 36
- network port
 - locating 6
- Network Settings folder, HP
 - ToolboxFX 76
- Network Summary page, EWS
 - (Windows) 94
- Network Summary pane, HP
 - ToolboxFX 78
- Networking tab, EWS
 - (Windows) 104
- networks
 - Advanced settings 81
 - HP Embedded Web Server,
 - accessing 90
 - HP ToolboxFX settings 36
 - Password settings 73
 - SNMP settings 82
- Neutral Grays settings
 - unidrivers 204
- number of copies
 - unidriver settings 171

O

- OCR
 - Macintosh 226
- online help
 - HP ToolboxFX 52
 - Macintosh 226
 - unidrivers 168

- operating systems
 - availability of software
 - components 11
 - Macintosh 230
- operating systems supported 116
- ordering software 231
- orientation, page
 - Flip Pages Up, HP PCL 6
 - Unidriver 197
 - unidrivers 199
- output bins
 - custom paper sizes 178, 262
 - locating 5
- Output Protocol settings, HP PS Emulation printer-driver 212
- output quality
 - HP ImageREt 3600 24
- P**
- page orientation
 - Flip Pages Up, HP PCL 6
 - Unidriver 197
 - unidrivers 199
- Pages per Sheet settings
 - unidrivers 198
- paper
 - custom sizes 177, 261
 - Pages per Sheet settings, unidrivers 198
 - Paper Handling pane 60
 - Print Document On settings, unidrivers 186
 - print modes 63
 - Print on Both Sides, Unidriver 194
 - Size is settings, drivers 176
 - Size is settings, printer-drivers 260
 - Source is settings, drivers 178
 - Source is settings, printer-drivers 263
 - supported sizes 258
 - troubleshooting 252
 - Type is: settings, drivers 179
 - Type is: settings, printer-drivers 263
- Paper and Print Media pane, HP ToolboxFX 56
- Paper Handling page, EWS (Windows) 97
- Paper Handling pane, HP ToolboxFX 60
- Paper Options
 - drivers 176
 - printer-drivers 260
- Paper Types page, EWS (Windows) 99
- Paper Types pane, HP ToolboxFX 63
- Paper/Output settings, unidrivers 171
- Paper/Quality tab
 - printer-drivers 175, 259
- parallel port, not supported 244
- part numbers
 - documentation 8
- Password page, EWS (Windows) 101
- Password pane, HP ToolboxFX 73
- Password settings 73
- PCL 6 Unidriver
 - Effects tab 185
 - Finishing tab 193
- PCL drivers
 - document preview image 183, 205
 - Internet Services 207
 - Paper Options 176
 - Paper/Quality tab 175
 - Services tab 206
 - universal 139
- PCL printer-drivers
 - about 20
 - About tab 222
 - Device Settings tab 208
 - diagnostics 23
 - document preview image 267
 - External Fonts settings 210
 - Font DIMM Installer 210
 - Font Substitution table 210
 - Form to Tray Assignment 209
 - included 20
 - Installable Options settings 211
 - languages, Windows 13
 - Paper Options 260
 - Paper/Quality tab 259
 - version numbers 21
- PCL unidrivers
 - Color Themes 205
 - Edge Control 203
 - Neutral Grays 204
- PCL5 pane, HP ToolboxFX 75
- PCL5c page, EWS (Windows) 102
- PDF files
 - installing Adobe Acrobat Reader 18
- Percent of Normal Size setting unidrivers 187
- phone book 48
- Photo pane, HP ToolboxFX 76
- Photosmart Studio (Macintosh) 226, 228
- pop-up alerts 29
- portrait orientation
 - Flip Pages Up, HP PCL 6
 - Unidriver 197
 - unidrivers 199
- ports
 - connecting 244
 - device conflicts 244
 - locating 6
 - types included 4
- PostScript Device settings, HP PS Emulation printer-driver 212
- PostScript page, EWS (Windows) 102
- PostScript pane, HP ToolboxFX 75
- PostScript Passthrough 215
- PPDs, Macintosh
 - included 226
 - localized versions 230
- Print all Text as Black unidrivers 173
- print cartridges
 - door release, locating 5
- Print Density page, EWS (Windows) 98
- Print Density pane, HP ToolboxFX 61
- Print Document On settings unidrivers 186
- Print Info Pages pane, HP ToolboxFX 38
- Print Info Pages, EWS (Windows) 95

- print media
 - supported 258
- print modes 63
- Print Modes pane, HP
 - ToolboxFX 64
- Print on Both Sides
 - unidriver settings 194
- print quality
 - HP ImageREt 3600 24
- Print Quality page, EWS
 - (Windows) 98
- Print Quality pane, HP
 - ToolboxFX 61
- Print Settings folder, HP
 - ToolboxFX 73
- Print tab, EWS (Windows) 101
- Printer Features, printer-drivers 173
- printer-drivers
 - About tab 222
 - Device Settings tab 208
 - diagnostics 23
 - document preview image 267
 - Font DIMM Installer 210
 - font settings 210
 - Font Substitution table 210
 - Form to Tray Assignment 209
 - included 19
 - Installable Options
 - settings 211
 - JPEG Passthrough 216
 - languages, Windows 13
 - localized versions 230
 - Macintosh 226
 - Paper Options 260
 - Paper/Quality tab 259
 - PostScript Passthrough 215
 - Printer Features tab 173
 - specifications 4
 - troubleshooting
 - installation 249
 - version numbers 21
- Printing page, EWS
 - (Windows) 102
- Printing pane, HP ToolboxFX 74
- Printing Preferences tabs,
 - unidrivers 166
- Product Registration screen, HP
 - ToolboxFX 86
- Properties tabs, unidrivers 166,
 - 167
- protocols 212
- Q**
- quality
 - HP ImageREt 3600 24
- quality settings
 - HP ToolboxFX 61
- R**
- Raster Compression
 - HP PCL 6 Unidriver 173
- ReadIris
 - Macintosh 226
- Readme file 270
- receive 47
- receive log 51
- regional versions, CD-ROMs
 - Windows 13
- registration, product 86
- removing software
 - Macintosh 242
- reports, printing 38
- Resizing Options, unidrivers 186
- resolution
 - HP ImageREt 3600 24
 - HP ToolboxFX settings 61
 - Print Quality page, EWS
 - (Windows) 98
 - specifications 4
- RGB settings
 - unidrivers 205
- S**
- Save / Restore Settings pane
 - 72
- Save / Restore Settings pane, HP
 - ToolboxFX 72
- Scale to Fit setting
 - unidrivers 186
- scanning
 - Macintosh software 226, 227
- Send Ctrl-D settings 213
- send fax printer-driver
 - languages, Windows 13
 - operating systems
 - supported 20
- send log 50
- serial number 34
- Service ID 34
- Service pane 70
- Service pane, HP ToolboxFX 70
- Services tab
 - printer-drivers 206
- Set up E-mail Alerts pane, HP
 - ToolboxFX 43
- settings
 - color 24
 - Device Configuration pane 34
 - Settings tab, EWS (Windows) 96
 - Setup Status Alerts pane, HP
 - ToolboxFX 41
 - Shop for Supplies screen, HP
 - ToolboxFX 86
- sizes, paper
 - driver settings 176
 - printer-driver settings 260
- SNMP page, EWS
 - (Windows) 107
- SNMP settings 82
- software
 - Linux 163
 - Solaris 163
 - supported operating
 - systems 116
 - UNIX 163
- software license agreement
 - Macintosh installation 236
- software, ordering 231
- Solaris software 163
- Solution Center
 - features 87
 - opening 87
 - troubleshooting 250
- Source is settings 178, 263
- specifications
 - product features 4
- sRGB settings 25
- status alerts pane, HP
 - ToolboxFX 41
- Status folder, HP ToolboxFX 31
- status pane, HP ToolboxFX 32,
 - 33
- Status tab, EWS (Windows) 90
- Supplies Status page, EWS
 - (Windows) 91
- Supplies Status pane, HP
 - ToolboxFX 33
- supplies, ordering 86

- Support and Troubleshooting screen, HP ToolboxFX 86
 - support, product 86
 - supported media 258
 - system requirements
 - HP ToolboxFX 29
 - Macintosh 230
 - System Setup page, EWS (Windows) 101
 - System Setup pane, HP ToolboxFX 69
 - system-tray icon alerts 30
- T**
- TBCP output protocol, HP PS Emulation printer-driver 212
 - text, printing all as black
 - unidrivers 173
 - timeout settings 213
 - ToolboxFX. *See* HP ToolboxFX
 - tray 1
 - locating 5
 - trays
 - custom paper sizes 178, 262
 - HP ToolboxFX settings 60
 - locating 5
 - printer-driver Form to Tray Assignment 209
 - Source is settings, drivers 178
 - Source is settings, printer-drivers 263
 - troubleshooting
 - AccessDeniedUtility.exe 248
 - Animated Demonstrations pane 57
 - communication 249
 - constraint messages, unidrivers 168
 - device conflicts 244
 - e-mail 247
 - File to E-mail utility 247
 - FixErr1714 utility 248
 - HP driver Diagnostic Printer Check Tool 23
 - HP Marketing Assistant 250
 - HP Solution Center 250
 - HP ToolboxFX 249
 - known issues 248
 - paper 252
 - pop-up alerts 29
 - printer-driver installation 249
 - Services tab, drivers 206
 - tools 247
 - Unsupported Operating System dialog box 132
 - Troubleshooting pane, HP ToolboxFX 54
 - TrueType font settings 214
 - TrueType fonts
 - Send as Bitmaps, HP PCL 6 Unidriver 173
 - unidriver settings 172
 - two-sided printing
 - unidriver settings 194
 - Type is settings 179, 263
 - types, paper
 - driver settings 179
 - HP ToolboxFX settings 60
 - print modes 63
 - printer-driver settings 263
- U**
- unidrivers
 - Advanced Printing Features, enabling 172
 - Advanced tab 170
 - booklet printing 197
 - Color Themes 205
 - constraint messages 168
 - Copy Count 171
 - Document Options 172, 194
 - Edge Control 203
 - Effects tab 185
 - Finishing tab 193
 - help 168
 - Image Color Management (ICM) 172
 - Layout Options 174
 - Mirror Image 200
 - Neutral Grays 204
 - orientation settings 199
 - Pages per Sheet 198
 - Paper/Output settings 171
 - Print All Text as Black 173
 - Print on Both Sides 194
 - Printing Preferences tab 166
 - Properties tab 166, 167
 - Resizing Options 186
 - TrueType font settings 172
 - Watermarks settings 188
- V**
- uninstalling software
 - Macintosh 242
 - universal print driver 139
 - UNIX 163
 - UNIX software 163
 - Unsupported Operating System dialog box 132
 - usage log, color
 - EWS 96
 - HP ToolboxFX 39
 - USB port
 - connecting 244
 - device conflicts 244
 - devices vs. hubs 244
 - locating 6
 - type included 4
 - User Guide pane, HP ToolboxFX 58
 - user guides
 - localized versions 8
- W**
- version numbers, printer-drivers 21
- W**
- Wait Timeout settings 213
 - watermarks
 - unidrivers 188
 - websites
 - downloading software 12
 - HP Driver Diagnostic Printer Check Tool 23
 - Linux software 117
 - universal print driver 139
 - Windows
 - device conflicts 244
 - supported operating systems 116
 - universal print driver 139
 - Windows operating systems
 - availability of software components 11
 - CD-ROM, print system 16
 - directory structure, CD-ROM 12
 - fonts supported 111
 - HP PS Emulation fonts supported 113

printer-driver versions 21
printer-drivers supported 20

