

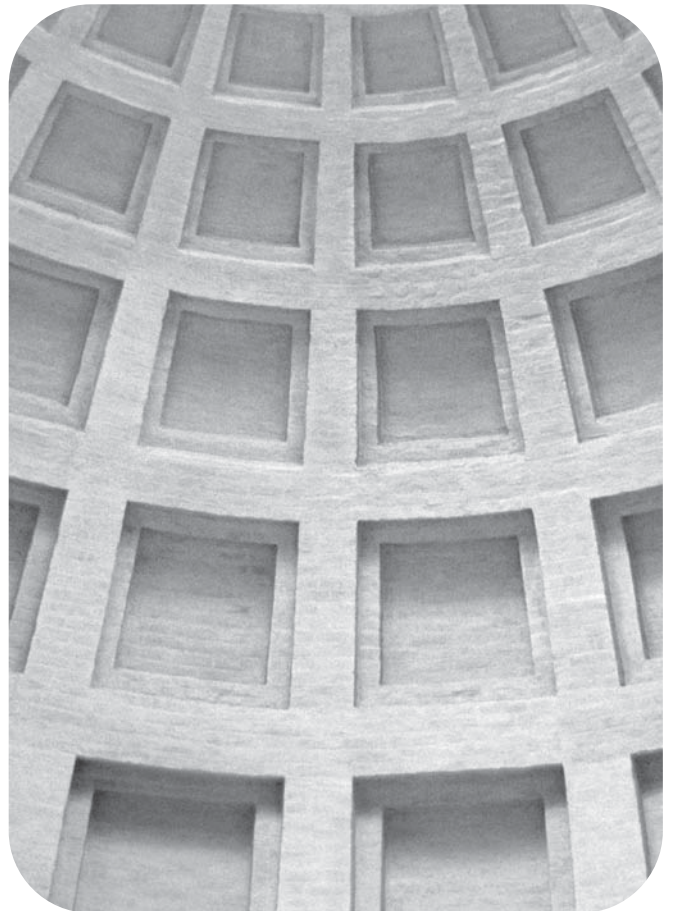
For the complete PDF manual  
please visit [www.LaserPros.com](http://www.LaserPros.com).



HP color LaserJet  
5500/5550 Printers



**Service**





# HP Color LaserJet 5500/5550 Printers

**Service Manual** \_\_\_\_\_

© 2005 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.

Part number: Q3713-90965

Edition 1, 1/2005

#### **Trademark Credits**

Adobe and Adobe Photoshop are  
trademarks of Adobe Systems Incorporated.

CorelDRAW™ is a trademark of Corel  
Corporation or Corel Corporation Limited.

Microsoft® is a U.S. registered trademark  
of Microsoft Corporation.

Netscape is a U.S trademark of Netscape  
Communications Corporation.

PANTONE® Pantone, Inc.'s check-  
standard trademark for color.

PostScript is a trademark of Adobe  
Systems, Incorporated, which may be  
registered in certain jurisdictions.

TrueType is a U.S. trademark of Apple  
Computer, Inc.

UNIX is a registered trademark of the Open  
Group.

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

# Table of contents

## 1 Printer description

Model Configurations .....	3
The HP Color LaserJet 5500 series printer .....	3
Performance, memory, and other printer features .....	6
Identification .....	9
Model and serial numbers .....	9
HP Color LaserJet 5500 models .....	11
HP Color LaserJet 5550 models .....	12
Printer specifications .....	13
Supply storage requirements (HP Color LaserJet 5500 series) .....	15
Product information .....	16
Product information .....	16
Electrical specifications (HP Color LaserJet 5500 models) .....	16
Electrical specifications (HP Color LaserJet 5550 models) .....	17
Media requirements .....	19
Selecting print media .....	19
Media specifications .....	19
Supported media weights and sizes (HP Color LaserJet 5500 models) .....	19
Supported paper weights and sizes (HP Color LaserJet 5550 models) .....	22
Media specifications for 2-sided (duplex) printing .....	25
Media to avoid .....	25
Media that may cause damage to the printer .....	26
Printing on special media .....	26
Transparencies .....	26
Printing on transparencies .....	26
Glossy paper .....	27
Colored paper .....	27
Heavy paper .....	27
Printing images (HP Color LaserJet 5550 models) .....	28
Envelopes .....	28
Labels .....	29
HP LaserJet Tough paper .....	29
Preprinted forms and letterhead .....	29
Recycled paper .....	30
Weight equivalence table .....	30
Hewlett-Packard warranty statement .....	32
Limited warranty for print cartridge life .....	33
HP's Premium Protection Warranty. Color LaserJet Image Fuser Kit and Image Transfer Kit Limited Warranty Statement .....	34
Declaration of Conformity .....	35
Safety information .....	37
Laser safety statement .....	37
Canadian DOC regulations .....	37
EMI statement (Korea) .....	38
VCCI statement (Japan) .....	38
Laser Statement for Finland .....	39

Toner safety .....	40
--------------------	----

## 2 Service approach

Chapter contents .....	41
Service approach .....	42
Parts and supplies .....	43
Ordering parts .....	43
By phone: .....	43
By mail: .....	43
Ordering supplies .....	43
Ordering parts, supplies, and accessories over the Internet .....	43
Ordering directly through the embedded Web server (for printers with network connections) .....	43
Ordering directly through the HP Toolbox software (HP Color LaserJet 5550 model only) .....	44
Exchange program .....	44
Supplies .....	44
World Wide Web .....	44
HP service parts information compact disc .....	45
HP support assistant compact disc .....	45
Customer care reseller sales and service support center .....	45
HP service agreements .....	45
Other areas .....	45
HP customer care .....	45
Ordering related documentation and software .....	46
HP maintenance agreements .....	48
On-site service agreements .....	48
Priority on-site service .....	48
Next-day on-site service .....	48
Weekly (volume) on-site service .....	48

## 3 Installation and configuration

Site requirements .....	51
Space requirements .....	52
500-sheet paper feeder dimensions .....	52
Printer stand dimensions .....	52
Unpack the printer .....	53
Package contents .....	53
Unpacking the HP Color LaserJet 5500 series printer (for base models 5500n and 5500dn) .....	54
Unpacking the HP Color LaserJet 5500/5550dtn and 5500/5550hdn models .....	58
Installing print cartridges for HP Color LaserJet 5500 series printers .....	62
Installing print cartridges (HP Color LaserJet 5500 series models) .....	62
Installing paper trays (HP Color LaserJet 5500 series printers) .....	64
Installing accessories (HP Color LaserJet 5500 series printers) .....	66
Installing optional printer stand (HP Color LaserJet 5500 series printers) .....	69
Installing a new overlay (HP Color LaserJet 5500 models) .....	70
Installing a new control panel label (HP Color LaserJet 5550 models) .....	71
Testing the printer operation .....	73
Using PowerSave .....	73
Connecting to a computer .....	75
Parallel connections .....	75
USB configuration (HP Color LaserJet 5550 models) .....	76
Auxiliary connection configuration (HP Color LaserJet 5550 models) .....	76
Network connections .....	77

Enhanced I/O (EIO) configuration .....	79
HP Jetdirect print servers .....	79
Available enhanced I/O interfaces .....	79
NetWare networks .....	79
Windows and Windows NT networks .....	80
AppleTalk networks .....	80
LocalTalk configuration .....	80
LocalTalk network configuration .....	80
UNIX/Linux networks .....	80
Wireless printing .....	81
IEEE 802.11b standard .....	81
Bluetooth .....	81
Printer drivers .....	82
Available drivers .....	82
Additional drivers .....	83
Select the right printer driver for your needs .....	83
Printer driver Help .....	84
Software for Macintosh computers .....	85
PPDs .....	85
HP LaserJet Utility .....	85
Installing the printing system software .....	86
Installing Windows printing system software for direct connections .....	86
Installing Windows printing system software for networks .....	87
To set up Windows-sharing to use the printer on a network .....	87
Installing Macintosh printing system software for networks .....	88
Installing Macintosh printing system software for direct connections (USB, HP Color LaserJet 5550 models) .....	89
Installing the software after the parallel or USB cable has been connected .....	90
Network configuration .....	92
Configuring Novell NetWare frame type parameters .....	92
HP Web Jetadmin .....	93
UNIX .....	93
Utilities .....	93
Embedded Web server .....	94
Configuring TCP/IP parameters .....	96
Setting network security on the printer .....	102
Locking the control panel .....	102
Using an ASCII PJI escape sequence to set network security .....	103

## 4 Printer maintenance

Cleaning the printer and accessories .....	106
Cleaning spilled toner .....	106
Vacuum specifications .....	106
Periodic cleaning .....	108
Cleaning the static discharge comb .....	108
Cleaning the OHT sensor .....	109
Approximate replacement intervals for supply items .....	111
ETB life under different circumstances .....	113
Locating supplies .....	114
Replacing supply items .....	115
Changing print cartridges .....	115
Replacing the transfer unit (ETB) .....	117
Replacing the transfer unit when it is not at end of life .....	118
Replacing the fuser .....	119
Replacing the fuser when it is not at end of life .....	120

Printer memory (HP Color LaserJet 5500 models) .....	122
To print a configuration page .....	122
Installing memory and font DIMMs (for HP Color LaserJet 5500 models) .....	122
Installing DDR memory DIMMs (for HP Color LaserJet 5550 models) .....	125
Enabling memory (HP Color LaserJet 5500 models) .....	128
Enabling the language font DIMM (HP Color LaserJet 5550 models) .....	128
Enabling the language font DIMM (HP Color LaserJet 5500 models) .....	129
Checking DIMM installation (HP Color LaserJet 5500 models) .....	129
Installing an HP Jetdirect print server card .....	129

## 5 Theory of operation

Basic operation .....	135
Operation sequence .....	135
Engine control system .....	137
DC controller circuit .....	137
Motors and fans .....	139
Fuser power supply circuit .....	141
Heater temperature control .....	142
Heater temperature control (HP Color LaserJet 5550 models) .....	143
Failure detection (HP Color LaserJet 5550 models) .....	144
High-voltage power supply .....	144
Low-voltage power supply .....	145
Formatter system .....	146
PowerSave .....	146
Input/Output .....	147
Printer memory .....	148
Read-only memory .....	148
Random-access memory .....	148
Firmware DIMM (HP Color LaserJet 5500 models) .....	148
Firmware compact flash (HP Color LaserJet 5550 models) .....	148
Nonvolatile memory .....	148
PJM overview .....	149
PML .....	149
Control panel .....	149
Laser/scanner system .....	150
Scanner motor control .....	151
Image formation system .....	152
Image formation process .....	153
Print cartridges .....	155
Toner level detection .....	156
Electrostatic transfer/transport belt (ETB) unit .....	160
Electrostatic latent image formation block .....	161
Development block .....	163
Transfer block .....	164
Fusing block .....	165
Fuser motor speed control .....	166
Cleaning block .....	166
Calibration and cleaning .....	167
Color plane registration calibration .....	171
Drum phase calibration .....	172
Image stabilization control .....	172
Pickup/feed system .....	175
Pickup/feed unit .....	178
Fuser/delivery unit .....	185
Duplex feed unit .....	186



500-sheet paper feeder .....	187
Pickup and feed operations .....	187

## 6 Removal and replacement

Introduction .....	191
Removal and replacement strategy .....	191
Repair notices .....	191
Caution regarding electrostatic discharge (ESD) .....	191
Required tools .....	191
Types of screws .....	192
Supplies .....	194
Print cartridges and ETB .....	194
Covers and external components .....	196
Rear cover .....	196
Top cover .....	196
Rear top cover .....	197
Left cover .....	198
Right cover .....	199
Reinstallation tip .....	200
Multi-purpose tray (Tray 1) .....	200
Front cover .....	201
Control panel .....	202
Cassette cover .....	204
Internal components (front) .....	205
Paper pickup unit .....	205
Cassette sensor PCB .....	206
Multi-purpose tray sensor PCB .....	206
Paper pickup drive unit .....	207
Lifter drive unit .....	208
Cassette (Tray 2) paper pickup and feed rollers .....	210
Solenoid and clutch .....	211
Cassette separation roller .....	212
Multi-purpose tray pickup roller .....	213
Multi-purpose tray separation pad .....	214
Color registration detection unit .....	214
Internal components (left side) .....	216
DC controller shield .....	216
Environment sensor (HP Color LaserJet 5550 models) .....	216
Memory tag antenna PCBs .....	217
E-label memory controller PCB .....	223
DC controller PCB .....	224
Cassette paper size detection switches .....	225
Power supply fan .....	226
Internal components (rear) .....	228
Formatter .....	228
Low-voltage power supply .....	229
Formatter case .....	231
Laser/scanner units .....	233
Internal components (right side) .....	239
High-voltage power supply PCB .....	239
Toner level detection PCB .....	240
High-voltage contact blocks .....	241
Door switch .....	242
Internal components (top) .....	244
Discharging PCB .....	244

Fuser power supply PCB .....	245
Fuser drive unit .....	246
Fuser inlet paper sensor .....	249
Fuser delivery sensor and output bin full sensor .....	250
Static discharge comb .....	252
Formatter fan .....	253
Cartridge fan .....	253
Optional 500-sheet paper feeder .....	255
Paper feeder left cover .....	255
Paper feeder right cover .....	256
Paper feeder pickup and feed rollers .....	257
Paper feeder separation roller .....	257
Paper feeder pickup unit .....	257
Paper feeder lifter drive unit .....	259
Paper feeder length and width detection switches .....	260
Paper feeder pickup clutch .....	261
Paper feeder PCB .....	262

## 7 Troubleshooting

Introduction .....	266
Troubleshooting process .....	267
Pre-troubleshooting checklist .....	267
Troubleshooting flowchart .....	268
Troubleshooting flowchart (continued) .....	270
Troubleshooting power-on .....	270
Printer error troubleshooting .....	272
Status messages .....	272
Warning messages .....	272
Error messages .....	272
Critical error messages .....	272
Alphabetical printer messages .....	273
Numerical printer messages .....	302
Replacement parts configuration (HP Color LaserJet 5550 models) .....	341
Both the formatter and DC controller .....	341
Formatter (new or previously installed in another printer) .....	341
DC controller (new or previously installed in another printer) .....	342
Paper path troubleshooting .....	343
Jams .....	343
Jam locations .....	343
Jam locations by error message .....	343
Jam recovery .....	345
Avoiding paper jams .....	346
Persistent jams .....	347
Basic troubleshooting for paper jams .....	347
Data collection .....	347
General paper path troubleshooting .....	348
Paper path checklist .....	348
Paper transport troubleshooting .....	354
Paper is wrinkled or folded .....	354
Image formation troubleshooting .....	356
Print quality problems associated with media .....	356
Overhead transparency defects .....	356
Print quality problems associated with the environment .....	357
Print quality problems associated with jams .....	357
Print quality troubleshooting pages .....	357

Understanding color variations .....	358
Print quality defect chart .....	363
Image defects .....	369
Light image .....	370
Light color .....	370
Dark image .....	371
Dark color .....	372
Completely blank image .....	372
All black or solid color .....	372
Dots in vertical lines .....	373
Dirt on back of paper .....	373
Dirt on front of paper .....	374
Vertical lines .....	374
White vertical lines .....	375
Horizontal lines .....	375
White horizontal lines .....	376
Missing color .....	376
Blank spots .....	377
Poor fusing .....	377
Distortion or blurring .....	378
Smearing .....	378
Misplaced image .....	379
Repetitive defects troubleshooting .....	380
Interface troubleshooting .....	383
Communications checks .....	383
EIO troubleshooting .....	383
AUTOEXEC.BAT standard configurations .....	383
Printer Job Language (PJL) commands .....	384
Control panel troubleshooting .....	387
Printing a menu map .....	387
Information menu .....	388
Paper handling menu .....	389
Configure device menu .....	389
Printing menu .....	390
Print quality menu .....	393
System setup menu .....	395
I/O menu .....	401
Resets menu .....	402
Diagnostics menu .....	402
Service menu .....	404
Tools for troubleshooting .....	406
Embedded Web server .....	406
To access the embedded Web server .....	406
Information tab .....	407
Settings tab .....	407
Networking tab .....	408
Other links .....	408
Using the HP Toolbox (HP Color LaserJet 5550 models) .....	408
Printer Status and Alerts software .....	411
To choose which status messages appear .....	412
To view status messages and information .....	412
Printer configuration page .....	412
Supplies status page .....	414
Usage page .....	415
Event log .....	417
Print the file directory page .....	418

Print the PCL font list page .....	419
Print the PS font list page .....	420
Print the RGB samples page (HP Color LaserJet 5550 models) .....	421
Print the CMYK samples page (HP Color LaserJet 5550 models) .....	422
Diagnostics .....	423
LED diagnostics .....	423
Engine diagnostics .....	425
Diagnostics from the control panel .....	426
Test pages .....	439
Engine test page .....	439
Formatter test page .....	439
Engine resets .....	440
Cold reset .....	440
NVRAM initialization .....	440
Hard disk initialization .....	441
Calibration bypass .....	441
Calibrate now (HP Color LaserJet 5500 models only) .....	442
Full calibrate now (HP Color LaserJet 5550 models) .....	443
Quick calibrate now (HP Color LaserJet 5550 models) .....	444
Service menu .....	445
Accessing the Service menu .....	445
Clear event log .....	445
Total page count .....	445
Transfer kit count .....	445
Fuser kit count .....	445
Serial number .....	445
Service ID .....	446
Cold reset paper .....	447
Diagrams .....	448
Main parts .....	448
Switches .....	450
Solenoid and clutch .....	451
Motors and fans .....	452
PCBs .....	453
DC controller PCB .....	454
Connectors .....	455
500-sheet paper feeder connectors .....	458
General circuit diagram .....	459
500-sheet paper feeder circuit diagram .....	460

## 8 Parts and diagrams

Introduction .....	462
Ordering parts .....	463
Supplies and accessories .....	463
Common fasteners .....	468
Illustrations and parts lists (printer) .....	470
Illustrations and parts lists (500-sheet paper feeder) .....	520
Alphabetical parts list.....	534
Numerical parts list.....	543

## Index

For the complete PDF manual  
please visit [www.LaserPros.com](http://www.LaserPros.com).