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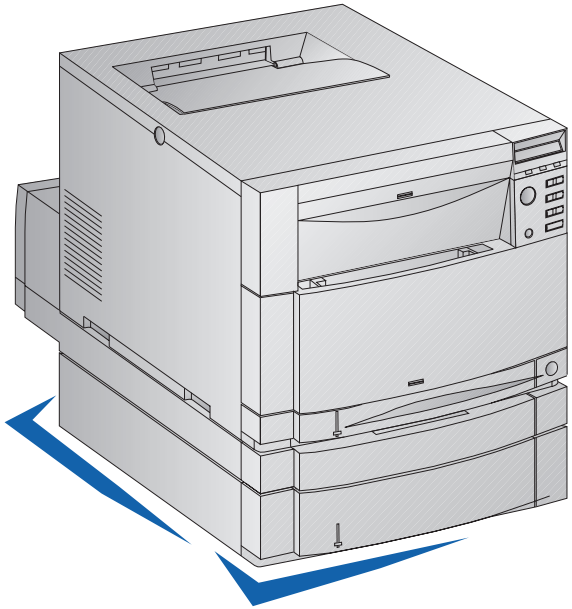
HEWLETT® PACKARD

Color LaserJet™

4500, 4500 N, 4500 DN Printer

Service Manual

October 1999 Edition



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Service Manual

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Conventions

This manual uses the following conventions:

Color is used to emphasize items that are important to the material under discussion.

Bold is used for emphasis, particularly in situations where *italic* type would be confusing.

Italic type is used to indicate related documents or emphasis.

`DISPLAY` type indicates text as seen on the printer control panel display.

Commands you use on a computer keyboard or on the printer control panel are shown in **Keycap**. Two examples are **Select**, and **- Value +**.

`COURIER` type indicates text that you type on a computer keyboard exactly as shown.

Hint Hints are used to suggest an action that may simplify the process.

Note Notes contain important information set off from the text.

CAUTION Caution messages alert you to the possibility of damage to equipment or loss of data.

WARNING! Warning messages alert you to the possibility of personal injury.

Contents

List of figures viii
List of tables xiii

1 Printer description

Printer features 2
Identification 5
Site requirements 7
Printer specifications 11
Printer assemblies 12
Media requirements 14
Environmental Product Stewardship Program 22
Regulatory statements 25
Safety information 28

2 Service approach

Service approach 32
Parts and supplies 33
Technical assistance 36
Warranty statement 37

3 Installation and configuration

Unpack the printer 41
Installation 44
Connecting to a network. 59
Enhanced I/O (EIO) configuration 62
Printer drivers 64
Network configuration. 65
Configuration tips 66
Setting network security on the printer 68

4 Printer maintenance

Cleaning the printer and accessories 72
Approximate replacement intervals for consumable items. 74
Locating consumables 78
Replacing consumable items 79
DIMM configuration 92

5 Theory of operation

Introduction 96
Basic operation 97
Image formation 98
Toner density 108
Mechanical system 109
Paper path 121
DC controller subsystem 137
Motors and fans 138
Formatter system 140
Power supplies 141

6 Removal and replacement

Introduction 145
Consumable assemblies 148
Covers, drawers, top, and front assemblies 149
Right side assemblies 173
Left side assemblies 190
Rear assemblies 204
Internal assemblies 209

7 Troubleshooting

Introduction 219
Troubleshooting process 220
Printer error troubleshooting 225
Paper path troubleshooting 255
Image formation troubleshooting 262
Image defects 272
Overhead transparency defects 286
Repetitive defects troubleshooting 288
Interface troubleshooting 292
Control panel troubleshooting 297
Troubleshooting tools 306
Service mode 311
Diagnostics mode 320
Diagrams 330

8 Parts and diagrams

Introduction 351
Ordering parts 352
Illustrations and parts lists 357
Alphabetical parts list 386
Numerical parts list 393

Index

List of figures

Figure 1-1 HP Color LaserJet 4500 family printers 2
Figure 1-2 Serial number information. 5
Figure 1-3 Sample label 6
Figure 1-4 Space requirements 8
Figure 1-5 Front view (shown with 500-sheet paper feeder and duplex unit) 12
Figure 1-6 Rear view (shown with 500-sheet paper feeder and duplex unit) 13
Figure 3-1 Package contents 41
Figure 3-2 Parallel cable with a “C” connector 53
Figure 4-1 Imaging drum life 75
Figure 4-2 OPC life 76
Figure 4-3 Location of consumables 78
Figure 4-4 Removing the formatter board 92
Figure 4-5 Do not remove the DIMM in slot #4. 93
Figure 4-6 EDO and SDRAM memory modules 93
Figure 5-1 Basic system operation. 97
Figure 5-2 Image formation 98
Figure 5-3 Primary charge 99
Figure 5-4 Laser exposure 100
Figure 5-5 Development. 101
Figure 5-6 Primary transfer 102
Figure 5-7 Secondary transfer 103
Figure 5-8 Separation 104
Figure 5-9 ITB residual toner cleaning 105
Figure 5-10 Waste toner to waste toner reservoir 106
Figure 5-11 Fuser. 107
Figure 5-12 Toner density sensor 108
Figure 5-13 Photosensitive drum cartridge 109
Figure 5-14 Waste toner 110
Figure 5-15 Transfer unit function 111
Figure 5-16 Home position detection 112
Figure 5-17 ITB unit life detection 113
Figure 5-18 Secondary transfer roller unit 114
Figure 5-19 ITB unit contact/separation unit 115
Figure 5-20 Toner carousel assembly 116
Figure 5-21 Toner carousel operation 117
Figure 5-22 Toner cartridge contact/separation function 118
Figure 5-23 Toner level detection/toner cartridge detection. 119
Figure 5-24 Laser/scanner operation 120
Figure 5-25 Paper jam sensors 122
Figure 5-26 Tray 2 (cassette) operation. 124
Figure 5-27 Tray 1 manual feed. 125
Figure 5-28 Laser paper detected 126

Figure 5-29 Overhead transparency sensor 127
Figure 5-30 Pick-up and feed system 129
Figure 5-31 Fusing and delivery unit 131
Figure 5-32 Reversing and duplex pick-up operation 133
Figure 5-33 Reversing operation 134
Figure 5-34 Side registration adjustment 135
Figure 5-35 Duplex feed roller pressure. 136
Figure 5-36 DC controller PCB 137
Figure 5-37 Motors and fans 138
Figure 6-1 Phillips vs. Posidriv screwdrivers 146
Figure 6-2 Top cover removal and replacement (rear view of printer) 149
Figure 6-3 Left side cover removal and replacement. 150
Figure 6-4 Right side cover removal and replacement. 151
Figure 6-5 Rear door removal and replacement 152
Figure 6-6 Right rear cover removal and replacement. 153
Figure 6-7 Drum drawer (top drawer) cover removal and replacement 154
Figure 6-8 Drum drawer (top drawer) cover tabs and levers . . .155
Figure 6-9 ITB drawer (middle drawer) cover removal and replacement 156
Figure 6-10 ITB drawer (middle drawer) removal and replacement 157
Figure 6-11 Control panel removal and replacement. 158
Figure 6-12 Front right cover removal and replacement 159
Figure 6-13 RFI shield removal and replacement 160
Figure 6-14 Laser/scanner assembly removal and replacement 161
Figure 6-15 DC controller removal and replacement 162
Figure 6-16 Developing PCB removal and replacement (1 of 2) .163
Figure 6-17 Developing PCB removal and replacement (2 of 2) .164
Figure 6-18 Top cover switch assembly removal and replacement 166
Figure 6-19 Top cover switch assembly removal and replacement 167
Figure 6-20 Drum drawer (top drawer) switch 168
Figure 6-21 Drum drawer (top drawer) assembly removal and replacement (1 of 3). 169
Figure 6-22 Drum drawer (top drawer) assembly removal and replacement (2 of 3). 170
Figure 6-23 Drum drawer assembly removal and replacement (3 of 3) 170
Figure 6-24 Densitometer removal and replacement (1 of 2). . . .171
Figure 6-25 Densitometer removal and replacement (2 of 2). . . .172
Figure 6-26 Formatter removal and replacement. 173
Figure 6-27 Formatter pan assembly removal and replacement (1 of 4) 175

Figure 6-28 Formatter pan assembly removal and replacement (2 of 4) 176
Figure 6-29 Formatter pan assembly removal and replacement (3 of 4) 177
Figure 6-30 Formatter pan assembly removal and replacement (4 of 4) 178
Figure 6-31 Power supply removal and replacement. 179
Figure 6-32 High-voltage power supply removal and replacement (newer version printers) 181
Figure 6-33 High-voltage power supply removal and replacement (older version printers). 181
Figure 6-34 Drum drive assembly removal and replacement (1 of 3) 182
Figure 6-35 Drum drive assembly removal and replacement (2 of 3) 183
Figure 6-36 Drum drive assembly removal and replacement (3 of 3) 184
Figure 6-37 Large fan removal and replacement (1 of 2). 185
Figure 6-38 Large fan removal and replacement (2 of 2). 186
Figure 6-39 Carousel drive assembly removal and replacement (1 of 2) 187
Figure 6-40 Carousel drive assembly removal and replacement (2 of 2) 188
Figure 6-41 Paper size switch removal and replacement 189
Figure 6-42 Switch plate assembly removal and replacement. . . 190
Figure 6-43 Paper feed PCB removal and replacement (1 of 3) . 191
Figure 6-44 Paper feed PCB removal and replacement (2 of 3) . 192
Figure 6-45 Paper feed PCB removal and replacement (3 of 3) . 193
Figure 6-46 Fuser motor removal and replacement (1 of 2) 194
Figure 6-47 Fuser motor removal and replacement (2 of 2) 195
Figure 6-48 Paper path motor removal and replacement 196
Figure 6-49 Paper pick solenoid removal and replacement. 197
Figure 6-50 ITB cleaning roller clutch removal and replacement. 198
Figure 6-51 ITB clutch assembly removal and replacement (1 of 2) 199
Figure 6-52 ITB clutch assembly removal and replacement (2 of 2) 200
Figure 6-53 Transfer roller cam clutch removal and replacement 201
Figure 6-54 Left side gears removal and replacement (1 of 2) . . 203
Figure 6-55 Left side gears removal and replacement (2 of 2) . . 203
Figure 6-56 Large right side fan removal and replacement (1 of 2) 204
Figure 6-57 Large right side fan removal and replacement (2 of 2) 205
Figure 6-58 Left side fan removal and replacement (1 of 3) 206
Figure 6-59 Left side fan removal and replacement (2 of 3) 207

Figure 6-60 Left side fan removal and replacement (3 of 3) 207
Figure 6-61 Rear paper path assembly removal and replacement 208
Figure 6-62 Carousel housing assembly removal and replacement (1 of 4) 209
Figure 6-63 Carousel housing assembly removal and replacement (2 of 4) 211
Figure 6-64 Carousel housing assembly removal and replacement (left side view when facing printer) (3 of 4) 212
Figure 6-65 Carousel housing assembly removal and replacement (right side view when facing printer) (4 of 4) 212
Figure 6-66 Paper transport assembly removal and replacement 213
Figure 6-67 Paper pick rollers removal and replacement. 214
Figure 7-1 Troubleshooting flowchart (1 of 2) 222
Figure 7-2 Troubleshooting flowchart (2 of 2) 223
Figure 7-3 Paper jam sensors 255
Figure 7-4 Paper jam locations 256
Figure 7-5 Paper jams 257
Figure 7-6 Image formation 262
Figure 7-7 Color balance calibration page 269
Figure 7-8 Imaging drum exposed to light (not to scale) 291
Figure 7-9 Menu map. 298
Figure 7-10 Printer configuration page. 307
Figure 7-11 Service mode menu map 311
Figure 7-12 Service menu map 312
Figure 7-13 Registration page 317
Figure 7-15 Sensor locations 330
Figure 7-16 Printer solenoids and clutches 332
Figure 7-17 Printer motors and fans 333
Figure 7-18 Miscellaneous sensors and clutches 334
Figure 7-19 Intermediate transfer belt sensors 335
Figure 7-20 Miscellaneous sensors (with tray 1 front cover removed). 336
Figure 7-21 PS6 and PS7 sensor location 337
Figure 7-22 Miscellaneous switches 338
Figure 7-23 Miscellaneous switches and sensors 339
Figure 7-24 PS14 sensor location 340
Figure 7-25 Miscellaneous parts 341
Figure 7-26 Imaging drum connector 342
Figure 7-27 Rear door interlock switch defeat 343
Figure 7-28 Right rear fan 344
Figure 7-29 Fuse (F1) and CB101 345
Figure 7-30 Fusing assembly. 346
Figure 7-31 DC controller PCB connectors 347

Figure 7-32 Location of connectors 348
Figure 7-33 Location of duplexer and 500-sheet paper feeder connectors 349
Figure 7-34 500-sheet feeder wiring diagram 350
Figure 8-1 Assembly location diagram (1 of 2) 358
Figure 8-2 Assembly location diagram (2 of 2) 359
Figure 8-3 PCB locations 360
Figure 8-4 External covers, panels, etc.. 362
Figure 8-5 Top cover assembly 364
Figure 8-6 Internal components (1 of 3). 366
Figure 8-7 Internal components (2 of 3). 368
Figure 8-8 Internal components (3 of 3). 370
Figure 8-9 Developing carousel assembly. 372
Figure 8-10 Paper pick-up assembly (1 of 3). 374
Figure 8-11 Paper pick-up assembly (2 of 3). 376
Figure 8-12 Paper pick-up assembly (3 of 3). 378
Figure 8-13 Upper drawer assembly 380
Figure 8-14 MP tray paper pick-up assembly 381
Figure 8-15 250-sheet cassette 382
Figure 8-16 500-sheet paper feeder 384
Figure 8-17 Duplex unit 385

List of tables

Table 1-1 Printer features 3
Table 1-2 Model names and numbers 5
Table 1-3 Electrical specifications 9
Table 1-4 Environmental specifications 9
Table 1-5 Consumable storage requirements 10
Table 1-6 Printer dimensions 11
Table 1-7 Acoustic emissions 11
Table 1-8 Supported media specifications 15
Table 1-9 Printing on transparencies 18
Table 2-1 Related documentation and software 35
Table 4-1 Cleaning the printer 73
Table 4-2 Approximate replacement interval for consumable items 77
Table 5-1 Toner carousel assembly components 116
Table 5-2 Motors, solenoids, sensors, and switches 124
Table 5-3 Motors, solenoids, clutches, and sensors 125
Table 5-4 Solenoids, sensors, switches 129
Table 5-5 Paper size detection switches 130
Table 5-6 Fusing and delivery unit components 131
Table 5-7 Motors, solenoids, and sensors 133
Table 5-8 Motor and fan locations 138
Table 6-1 Types of screws 147
Table 6-2 Approximate replacement interval for consumable items 148
Table 7-1 Pre-troubleshooting checklist 220
Table 7-2 Alphabetical printer error messages 226
Table 7-3 Numerical printer error messages 239
Table 7-4 Paper jam locations and associated error messages 258
Table 7-5 Explanation of alternating message 258
Table 7-6 Image defect table 272
Table 7-7 Defect spacing chart 290
Table 7-8 Communications checks 292
Table 7-9 Information Menu 299
Table 7-10 Paper Handling Menu 300
Table 7-11 Configuration settings 301
Table 7-12 Printing Menu settings 302
Table 7-13 I/O Menu settings 303
Table 7-14 Calibration Menu settings 304
Table 7-15 Resets Menu settings 305
Table 7-16 Formatter diagnostics 321
Table 7-17 Engine diagnostics 322
Table 7-18 Paper path sensors and switches 325
Table 7-19 Paper size settings 326

Table 7-20 Sensor status 327
Table 7-21 Sensor function and locations. 331
Table 7-22 Solenoid and clutch functions and locations. 332
Table 7-23 Printer motors and fans 333
Table 7-24 Miscellaneous sensors and clutches 334
Table 7-25 Intermediate transfer belt sensors 335
Table 7-26 PS3 and PS4 description 336
Table 7-27 PS6 and PS7 description 337
Table 7-28 Switch description. 338
Table 7-29 SW2, SW5, and PS13 description 339
Table 7-30 Density sensor location. 340
Table 7-31 Miscellaneous parts 341
Table 7-32 Imaging drum connector. 342
Table 7-33 Fuse F1 and CB101 location 345
Table 7-34 110-volt fusing assembly 346
Table 8-1 Consumables, accessories, and supplies 353
Table 8-2 Types of screws 356
Table 8-3 PCB assembly 361
Table 8-4 Printer cover and door 362
Table 8-5 Top cover components. 365
Table 8-6 Internal components (1 of 3). 366
Table 8-7 Internal components (2 of 3). 369
Table 8-8 Internal components (3 of 3). 371
Table 8-9 Developing carousel assembly. 372
Table 8-10 Paper pick-up assembly (1 of 3). 375
Table 8-11 Paper pick-up assembly (2 of 3). 376
Table 8-12 Paper pick-up assembly (3 of 3). 378
Table 8-13 Upper drawer assembly 380
Table 8-14 MP tray paper pick-up assembly 381
Table 8-15 250-sheet cassette 383
Table 8-16 500-sheet paper feeder 384
Table 8-17 Duplex unit 385
Table 8-18 Alphabetical parts list 386
Table 8-19 Numerical parts list. 393

1 Printer description

Chapter contents

Printer features 2
Identification 5
- Model and serial numbers 5
- Power and regulatory information 6

Site requirements 7
- Space requirements 8
- Electrical specifications 9
- Environmental specifications 9
- Consumable storage requirements 10

Printer specifications 11
Printer assemblies 12
Media requirements 14
- Selecting print media 14
- Media specifications 14
- Supported media weights and sizes 15
- Non-supported media 17
- Printing on special media 18

Environmental Product Stewardship Program 22
Regulatory statements 25
- FCC regulations 25
- Canadian DOC regulations 26
- VCCI statement (Japan) 26
- Korean EMI statement 26
- Declaration of Conformity 27

Safety information 28
- Laser safety statement 28
- Material Safety Data Sheet 28
- Toner safety 28
- Laser statement for Finland 29

Printer features

The HP LaserJet 4500 printer family pictured in Figure 1-1 has three models.

- The HP LaserJet 4500 printer is the base model; it includes 32 MB of RAM.
- The HP LaserJet 4500 N printer includes the base model with an HP JetDirect 600N print server (network card) and 64 MB of RAM.
- The HP LaserJet 4500 DN printer includes the base model with an HP JetDirect 600N print server (network card), a 500-sheet paper feeder, a duplex unit, and 64 MB of RAM.

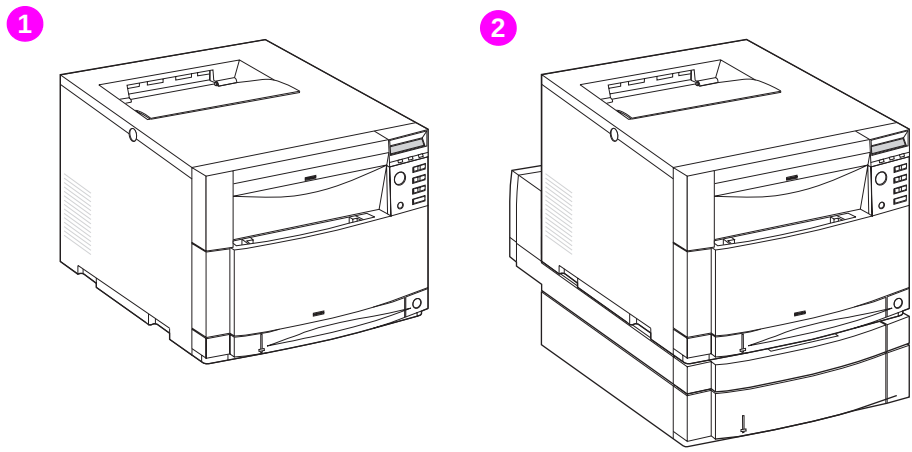

Figure 1-1 HP Color LaserJet 4500 family printers

1 HP Color LaserJet 4500 and 4500 N printers

2 HP Color LaserJet 4500 DN printer

This printer combines the quality and reliability of Hewlett-Packard printers with the features listed in Table 1-1 below. For more information on printer features, refer to the Hewlett-Packard website at http://www.hp.com.

Table 1-1 Printer features

Feature	Description
Connectivity	● Bidirectional parallel port (requires a “C” connector) ● Two enhanced input/output (EIO) slots ● Optional HP JetDirect 600N print server (network card) (included with the HP Color LaserJet 4500 N and 4500 DN printers)
Duplex	● Optional duplex unit; mounts directly beneath the printer for two-sided printing (duplex unit is standard with the HP Color LaserJet 4500 DN) ● Requires 40 MB of memory. 64 MB of memory is recommended for optimal duplex printing. **Note:** If the 500-sheet paper feeder (Tray 3) is installed, the duplex unit must be positioned between the printer and Tray 3.
Environmental	● PowerSave setting (meets ENERGY STAR guidelines) ● High content of recyclable components and materials
Fonts	● 80 internal fonts ● HP FontSmart software
Memory—standard	● 32 MB RAM (Base) ● 64 MB RAM (HP Color LaserJet 4500 N/4500 DN) ● Memory Enhancement Technology (MEt), which automatically compresses data to use RAM more efficiently
Memory—optional	● Install 4, 8, 16, 32, or 64 MB DIMMs into the printer’s three DIMM slots. Synchronous SDRAM modules do not need to be configured in pairs (in corresponding left and right slots). The printer will only recognize 208 MB of RAM. If you install more than 208 MB of RAM, it will not be used by the printer. **CAUTION:** The HP Color LaserJet printer uses 100-pin, non-parity, synchronous SDRAM DIMMs. Extended Data Output (EDO) DIMMs are not supported.

Table 1-1 Printer features (continued)

Feature	Description
Paper handling—input (tray capacity)	The capacities will vary depending on the media being used (for example, transparencies, labels, heavier media, and envelopes): ● **Tray 1:*** 150-sheet multipurpose tray ● **Tray 2:*** 250-sheet standard cassette ● **Tray 3:*** Optional 500-sheet paper feeder ***Quantities based on 75 g/m^2 (20 lb) media.
Paper handling—output (face-down, correct order output)	● Top output bin holds up to 250 sheets of standard paper ● Rear output bin holds up to 100 sheets of standard paper. (The output of the rear output bin is in reverse order, facing up.)
Printer language support	● HP PCL5c ● PostScript™ Emulation ● Auto language switching
Paper sizes supported	● A4/Letter ● Legal ● Executive ● JIS B5 ● A5 ● Custom (B5 ISO)
Print speed—monochrome printing	● 16 pages per minute (ppm) ● 8 ppm for transparencies, heavy paper, and glossy paper
Print speed—color printing	● 4 ppm ● 2 ppm for transparencies, heavy paper, and glossy paper
Standard interfaces	The printer comes equipped with two enhanced input/output (EIO) slots **Note:** If the printer is not configured with a network interface card, connect the printer using a bidirectional parallel cable (IEEE-1284 compliant) with a “C” connector.

Model and serial numbers

The model number and serial numbers are listed on identification labels located on the rear of the printer. The model number is alphanumeric, such as C4084A for the HP Color LaserJet 4500. The serial number contains information about the country of origin; the printer version; production code; and the production number of the printer (see Figure 1-2). For information on determining the version of printer you are servicing, see page 146.

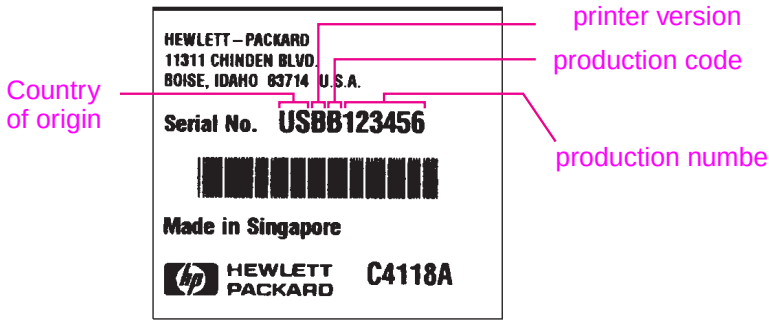

Figure 1-2 **Serial number information**

Table 1-2 Model names and numbers

Model Name	Model Number
HP Color LaserJet 4500	C4084A
HP Color LaserJet 4500 N	C4089A
HP Color LaserJet 4500 DN	C4094A

Note Two versions of the HP Color LaserJet 4500 series printers are available. Before servicing the printer or ordering parts, you will need to identify which printer version you are servicing. For more information, see page 146.

Power and regulatory information

The identification labels on the rear of the printer also contain power rating and regulatory information as shown in Figure 1-3.

CAUTION Converting the voltage on the printer can damage the printer. Do not use any voltage other than the operating voltage. Any attempt to convert operating voltages will void the product warranty (for example, attempting to change a 110V printer to a 220V printer).

Figure 1-3 Sample label

Site requirements

The printer must be kept in a proper location to maintain the performance level that has been set at the factory. In particular, be sure that the environment adheres to the specifications listed in this chapter.

Below are recommendations for the printer location and placement.

Make sure the printer has the following:

- a well-ventilated, dust-free area
- a hard, level surface (not more than a 2° angle):
  - for the HP Color LaserJet 4500 and 4500 N, the surface must support 51 kg (112 lb)
  - for the HP Color LaserJet 4500 DN, the surface must support 77 kg (169 lb)
- a level surface that supports all four corners of the 500-sheet paper feeder
- a constant temperature and humidity. (Do not install near water sources, humidifiers, air conditioners, refrigerators, or other major appliances.)

Make sure to keep the printer:

- away from direct sunlight, dust, open flames, or ammonia fumes
- away from walls or other objects. There must be enough space around the printer for proper access and ventilation. See Figure 1-4 on page 8.
- away from the direct flow of exhaust from air ventilation systems

Space requirements

The printer must have the following amounts of space above and around it.

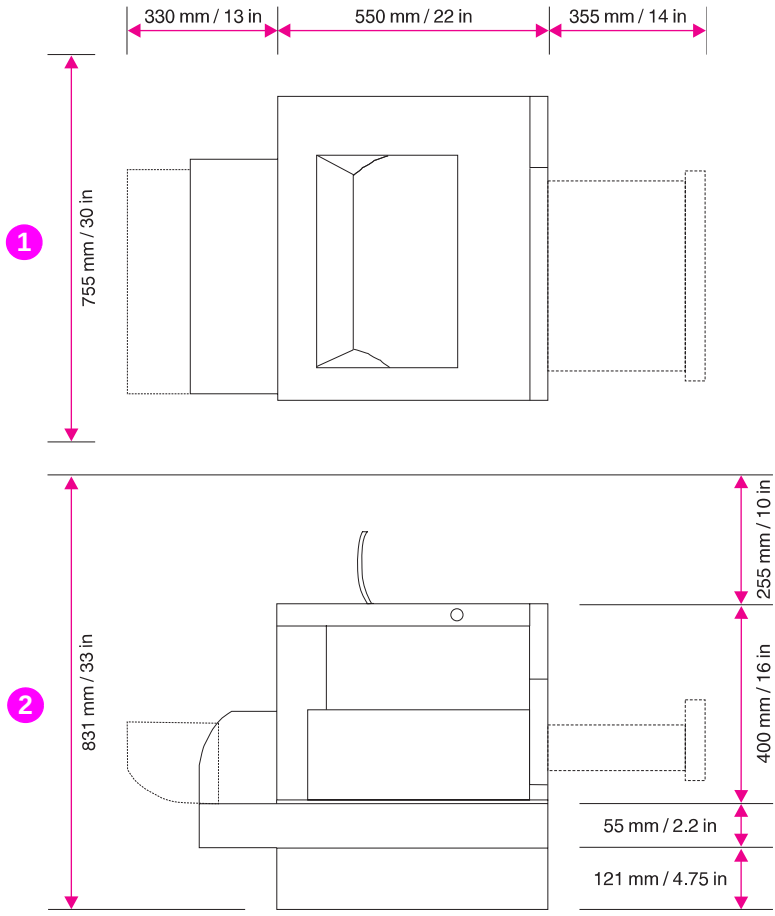

Figure 1-4 **Space requirements**

1 Top view

2 Side view

Electrical specifications

Table 1-3 lists the electrical specifications required to run the printer safely.

Table 1-3 Electrical specifications

Item	110-volt models	220-volt models
Power requirements	100-127 V (+/- 10%) 50/60 Hz (+/- 2 Hz)	220-240 V (+/- 10%) 50/60 Hz (+/- 2 Hz)
Power consumption (typical) During printing During standby[1] During PowerSave	 470 W (average) 80 W (average) < 45 W	 480 W (average) 90 W (average) < 45 W
Minimum recommended circuit capacity for typical product	16.0 A at 120 V	7.1 A at 220 V

[1] When the printer is in standby (off) mode, a minimal amount of energy is still consumed.

Environmental specifications

Keep the printer within the environmental conditions shown in Table 1-4 for optimum performance.

Table 1-4 Environmental specifications

Item	Operating
Temperature Recommended Allowed	 20 to 26° C (68 to 79° F) 15 to 30° C (59 to 86° F)
Humidity Recommended Allowed	 20 to 50% RH 10 to 80% RH
Altitude Allowed	 0 to 3100 m (0 to 10,000 ft)

Consumable storage requirements

The life of consumables is greatly affected by their storage environment. Use Table 1-5 to determine the shelf life of stored consumables.

Table 1-5 Consumable storage requirements

Item	Storage time	Storage condition
Temperature	Normal (maximum of 2.5 years)	0 to 35° C (32 to 95° F)
	Severe (maximum of 18 days)	High 35 to 40° C (95 to 104° F) Low 0 to -20° C (32 to -4° F)
Maximum temperature change rate	40 to 15° C (104 to 59° F) within 3 minutes -20 to 25° C (-4 to 77° F) within 3 minutes	
Humidity	Normal (maximum of 2.5 years)	35 to 85% RH
	Severe (maximum of 18 days)	High 85 to 95% RH Low 10 to 35% RH
Atmospheric pressure	460 to 760 mm Hg (18.1 to 29.9 in Hg)	
Average storage time	1 year	

Printer specifications

Table 1-6 describes the dimensions of the printer.

Table 1-6 Printer dimensions

	HP Color LaserJet 4500, 4500 N	HP Color LaserJet 4500 DN
Height	395 mm (15.6 inches)	578 mm (22.8 inches)
Width	500 mm (19.7 inches)	500 mm (19.7 inches)
Depth	559 mm (22 inches)	709 mm (27.9 inches)
Weight	57 kg (125 lb)	75 kg (165 lb)

Table 1-7 lists the acoustic emissions of the printer when it is printing and when it is in standby mode.

Table 1-7 Acoustic emissions

Operating position Printing Standby	Per ISO 9296, DIN 45635, T.19 L_{PA} 58 dB(A) L_{PA} 49 dB(A)
Bystander 1m Printing Standby	Per ISO 7779, DIN 45635, T.19 L_{PA} 52 dB(A) L_{PA} 45 dB(A)
Sound power Printing Standby	Per ISO 9296 L_{WAd} = 6.6 bels(A) L_{WAd} = 5.8 bels(A)

Note

This product emits a sound intensity level, L_{WAd}, at 6.4 bel during printing. Do not place the printer in close proximity to users.

Maximum duty cycles is 35,000 pages per month.

Printer assemblies

Figures 1-5 and 1-6 show the location of each major assembly in the printer. These assemblies are described in Chapter 3.

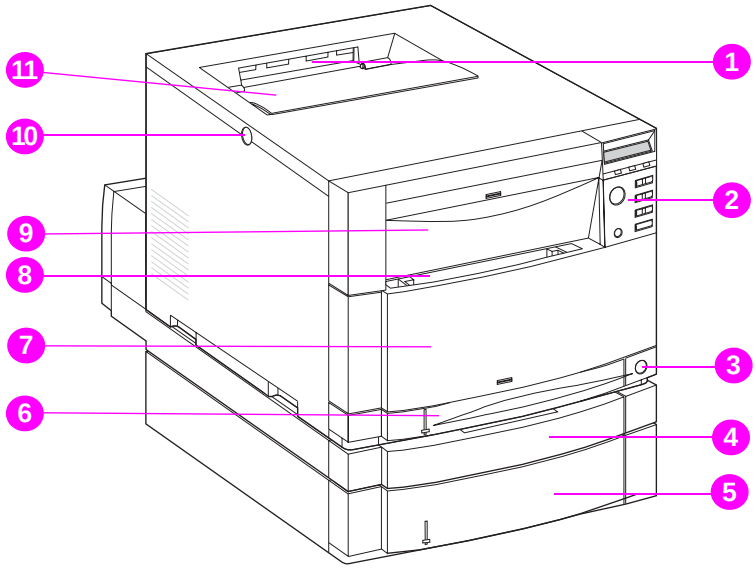

Figure 1-5 **Front view (shown with 500-sheet paper feeder and duplex unit)**

1 Top output bin

2 Printer control panel

3 Power switch (standby button)

4 Duplex unit drawer (optional on 4500 and 4500 N models)

5 Tray 3 (500-sheet paper feeder, optional on 4500 and 4500 N models)

6 Tray 2 (250 sheets of standard paper)

7 ITB drawer (transfer belt access)

8 Tray 1 (150-sheet multipurpose tray)

9 Drum drawer (imaging drum access)

10 Top cover release (toner access) button

11 Toner cartridge access cover

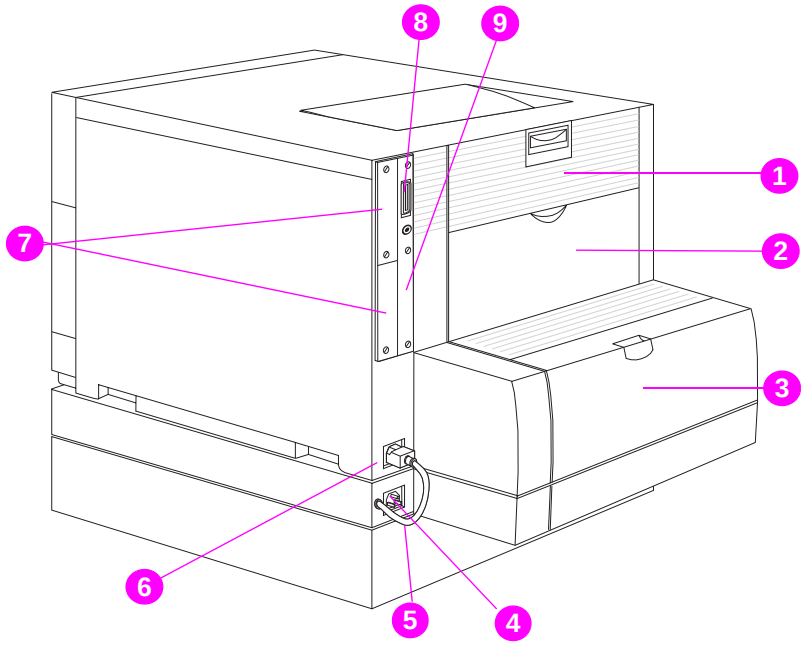

Figure 1-6 **Rear view** **(shown with 500-sheet paper feeder and duplex unit)**

1 Rear door (fuser access)

2 Rear output bin door

3 Cover for duplex unit

4 Power receptacle for duplex unit

5 Duplex unit power cord to the printer

6 Printer power receptacle

7 EIO slots

8 Parallel connector (“C” connector)

9 Memory access

Product: 1999 HP Color LaserJet 4500, 4500N, 4500DN Printer Service Repair Workshop Manual
Full Download: https://www.arepairmanual.com/downloads/1999-hp-color-laserjet-4500-4500n-4500dn-printer-service-repair-workshop-manual/

Selecting print media

You can use many types of paper and other print media with this printer. This section provides guidelines and specifications for selecting and using different print media.

Before purchasing any media or specialized forms in quantity, verify that your paper supplier obtains and understands the print media requirements specified in the *HP LaserJet Family Paper Specification Guide*. The guide is available through HP Direct. See the online user guide for ordering information.

It is possible that media could meet all of the guidelines in this chapter and still not print satisfactorily. This may be due to abnormal characteristics of the printing environment or to other variables over which Hewlett-Packard has no control (for example, extremes in temperature and humidity).

Hewlett-Packard recommends testing any media before buying it in large quantities.

CAUTION Using media that does not conform to the specifications listed here and in the *HP LaserJet Family Paper Specification Guide* can cause problems that require service. This service is not covered by the Hewlett-Packard warranty or service agreements.

Media specifications

For optimum results, use conventional 75 g/m^2 (20 lb) xerographic paper. Verify that the paper is of good quality and is free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, curls, or bent edges. Avoid fanning the print media before loading it into the paper trays.

Sample of manual. Download All 431 pages at:
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