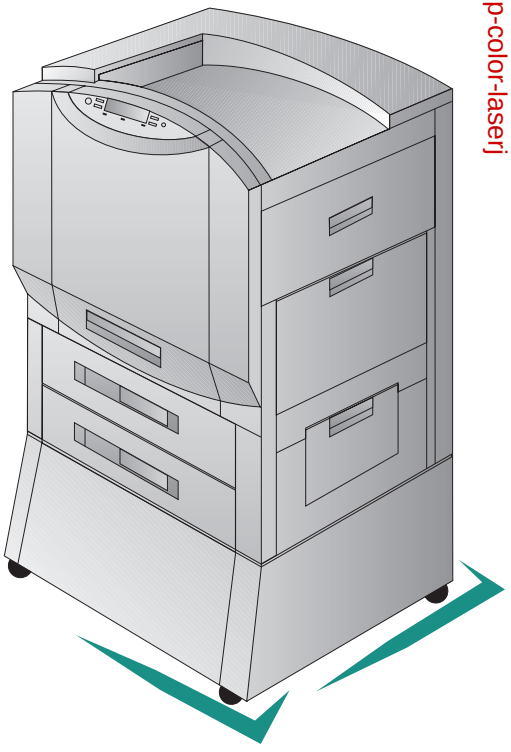
HEWLETT® PACKARD

Color LaserJet™

8500, 8500 N, 8500 DN Printer

Service Manual



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Service Manual

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WARNING
Electrical Shock Hazard

To avoid electrical shock, use only supplied power cords and connect only to properly grounded (3-hole) wall outlets.

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Printer features

Table 1. Features and optional accessories by printer model

	8500	8500 N	8500 DN
Features			
Standard DIMM memory	32 MB	32 MB	64 MB
Expandable to 512 MB of DIMM[1] memory	X	X	X
Internal printer hard disk			X
2,000-sheet input unit			X
Duplexer			X
HP JetDirect 600N internal print server		X	X
Optional accessories			
External (EIO-compatible) printer hard disk	X	X	
ROM, or synchronous DRAM DIMMs	X	X	X
Duplexer	X	X	
HP JetDirect 600N internal print server	X		
Multi-bin mailbox			X

[1] To expand the DIMM memory to 512 MB, install 64-MB DIMMs in all eight DIMM slots.

Table 2. Printer performance

Print speeds	● 24 pages per minute (ppm) black and white (b/w) ● 6 ppm color
Text and graphics resolution	● 600 dpi resolution
Approximate print speeds	
Letter, A4-size	● 24 ppm b/w; 6 ppm color
Legal, Executive, 11-by-17 inch size	● 12 ppm b/w; 3 ppm color
Heavy paper	● 3.2 ppm b/w; 2.2 ppm color
Transparencies	● 2.6 ppm b/w; 2.0 ppm color
Fonts	● HP LaserJet 45 TrueType™ font set ● PostScript® fonts
Printer personality support	● Automatic personality switching ● PCL[1] and PostScript support
User interface and EIO	● Standard ECP or bidirectional parallel cable interface (IEEE-1284 compliant) ● 2 enhanced input/output (EIO) slots ● Automatic I/O switching

[1] Not available at initial product introduction.

The approximate print speeds offered by this printer might vary from those listed above because the following factors affect processing time:

- complexity and size of graphics
- I/O configuration
- computer configuration
- amount of printer memory
- network operating system
- network configuration
- printer color calibration

Specifications

Electrical specifications

Table 3. Electrical specifications

Item	110-volt models	220-volt models
Power requirements	100 to 127 V (+/- 10%) 50/60 Hz (+/- 2 Hz)	220 to 240 V (+/- 10%) 50/60 Hz (+/- 2 Hz)
Power consumption (typical) During printing (black and white) During printing (color) During standby During Power Save mode During Off mode	 750 W (average) 375 W (average) 190 W (average) < 45 W < 2 W	 750 W (average) 375 W (average) 190 W (average) < 45 W < 2 W
Minimum recommended circuit capacity for typical product	12.0 A at 120 V	6.0 A at 220 V

Operating environment specifications

Table 4. Operating environment specifications

Item	Operating	Storage
Temperature Recommended Allowed	 20 to 26° C (68 to 79° F) 15 to 30° C (59 to 86° F)	 0 to 35° C (32 to 95° F) -20 to 60° C (-4 to 140° F)
Humidity Recommended Allowed	 20 to 50% RH 10 to 80% RH	 35 to 85% RH 10 to 95% RH
Altitude Allowed	 0 to 3,048 m (0 to 10,000 ft)	 0 to 3,048 m (0 to 10,000 ft)

Acoustic emission specifications

Table 5. Acoustic emissions

Operation position (per ISO 9296, DIN 45635, T.19)	
Printing	L_pA 54 dB(A)
Standby	L_pA 49 dB(A)
Bystander 1 meter (per ISO 7779, DIN 45635, T.19)	
Printing	L_pA 50 dB(A)
Standby	L_pA 45 dB(A)
Sound power (per ISO 9296)	
Printing	6.7 B (A)
Standby	6.1 B (A)

Printer dimensions

Table 6. Printer dimensions

	Printer	Printer with stand	Printer with 2,000-sheet input unit and multi-bin mailbox
Height	750 mm 30 in	1111 mm 44 in	1230 mm 48 in
Width	566 mm 22 in	566 mm 22 in	1056 mm 42 in
Depth	625 mm 25 in	625 mm 25 in	625 mm 25 in
Weight (with consumables)	87 kg 192 lb	100 kg 220 lb	118 kg 260 lb

Consumable storage specifications

The life of consumables is greatly affected by their storage environment. Use the following table to determine shelf life of stored consumables.

For consumable replacement specifications, see page 105.

Table 7. Consumable storage specifications

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	

Site requirements

General guidelines

Locating and placing the printer correctly are important in maintaining the performance level that has been set at the factory. In particular, be sure to adhere to the environmental specifications listed in this chapter. The following are recommendations for locating and placing the printer:

- Install in a well-ventilated, dust-free area.
- Install on a hard, level surface.
- Install where the temperature and humidity do not change abruptly. Do not install near water sources, humidifiers, air conditioners, refrigerators, or other major appliances.
- Do not expose the printer to direct sunlight, dust, open flames, or ammonia fumes.
- Install the printer away from walls or other objects. There must be enough space around the printer for proper access and ventilation (see figure 1 on page 25).
- Install the printer away from the direct flow of exhaust from air ventilation systems.

Space requirements

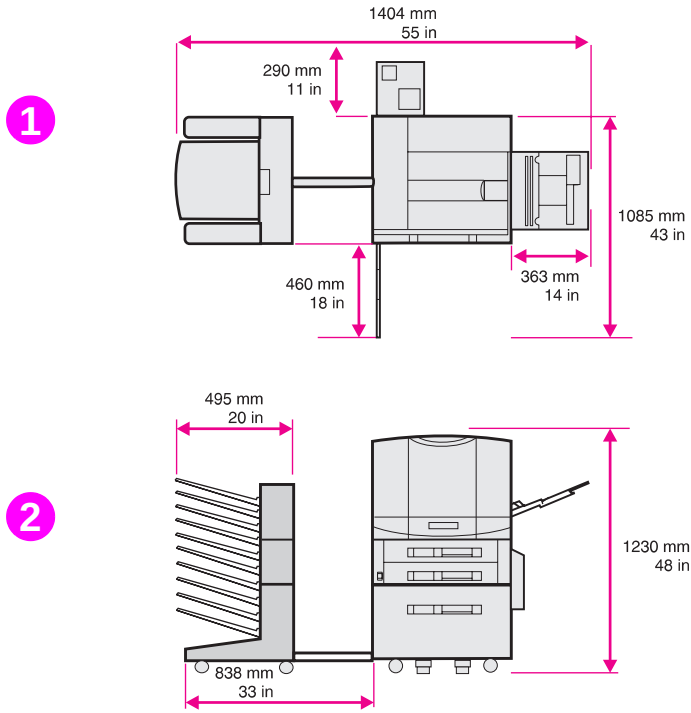

Figure 1. **Space requirements**

1 Top view (with optional multi-bin mailbox and 2,000-sheet input unit)

2 Front view (with optional multi-bin mailbox and 2,000-sheet input unit)

Media requirements

Selecting media

Many types of paper and other print media can be used with the printer, within certain specifications. Using media that does not meet the specifications outlined in this chapter can increase the incidence of media jams, contribute to repair and maintenance costs, and cause premature wear, print quality problems, and problems requiring service. This service might not be covered by the HP warranty or service agreements.

Before purchasing media or specialized forms, test a small quantity in the printer. Make sure your media supplier obtains and understands the media specifications in the *HP LaserJet Printer Family Paper Specification Guide*. For ordering information, see page 445.

Note It is possible that media could meet all of the specifications in this chapter and still not print satisfactorily. This might be caused by abnormal characteristics of the printing environment, such as extremes in temperature and humidity.

- For complete media specifications, see the *HP LaserJet Printer Family Paper Specification Guide*.
- Use only print media that meet the specifications outlined in this chapter.
- Do not try to print unsupported sizes or weights of media or other unsupported media.
- Always handle transparencies and glossy media by their edges to avoid fingerprints in the image area.
- Adhesives on any type of media must be compatible with the printer's fusing temperatures (approximately 190° C or 374° F).
- Do not use media that have already passed through the printer or through a copy machine, even if there is no printing on the page.
- Recycled media can be used with this printer. Recycled media must meet the specifications described in this chapter.

Storing media

Follow these guidelines when stacking and storing media:

- Store paper in its ream wrapper until you are ready to use it.
- Rewrap partially used packages of media before storing.
- Stack each carton upright and squarely on top of each other.
- Store envelopes in a protective box to avoid damaging the envelope edges.
- Keep stored media away from temperature and humidity extremes.
- *Do not* store cartons or reams directly on the floor where they will absorb humidity. Instead, place cartons on a pallet or on shelves.
- *Do not* store individual reams in any manner that causes them to curl or warp along the edges.
- *Do not* stack more than six cartons on top of each other.
- *Do not* place anything on top of media, regardless of whether the media is packaged or unpackaged.
- *Do not* store printed documents in vinyl folders or expose the documents to petroleum-based solvents.

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Media capacity and sizes for input trays

The following table lists the types and sizes of media supported by each input tray. For best results, use HP LaserJet paper or conventional white copier paper. The media should be of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, perforations, and curled or bent edges. For a complete list of media specifications, see the *HP LaserJet Printer Family Paper Specification Guide*.

Table 8. Media capacity and sizes for input trays

Media type	Media size and orientation	Media weight	Maximum capacity
Tray 1			
Paper Plain Preprinted Letterhead Prepunched Bond Recycled Color Card stock Heavy (more than 28 lb, 105 g/m^2) Glossy	11 by 17 in (portrait) JIS B4 (portrait) A3 (portrait) A4 (portrait) A5 (portrait) Custom min. (99 by 190 mm, 3.90 by 7.49 in) (portrait) Custom max. (304 by 469 mm, 11.98 by 18.48 in) (portrait) Executive (portrait) ISO B5 (portrait) JIS B4 (portrait) JIS B5 (portrait) Letter (landscape) Legal (landscape)	16 to 58 lb (60 to 216 g/m^2) bond	100 sheets of 20 lb (75 g/m^2) bond Limit to media-fill mark on the media width guides
Envelopes	B5 (portrait) C5 (portrait) Commercial #10 (Com10) (portrait) DL (portrait) Double Post Card (JPOSTD) Monarch (portrait)	Maximum 24 lb (90 g/m^2) bond	Approximately 10 Limit to media-fill mark on the media width guides
Labels	A4 (landscape) Letter (landscape)	—	Limit to media-fill mark on the media width guides
Transparencies	A4 (landscape) Letter (landscape)	4 to 5 mils (0.10 to 0.13 mm) thick*	Limit to media-fill mark on the media width guides

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