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Service and Support Guide

HP DeskJet 1220C

Professional Series



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WARNING
Electrical Shock Hazard
To avoid electrical shock,
use only supplied power
cords and connect only to
properly grounded wall
outlets.



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Conventions

This manual uses the following conventions:

The names of major printer parts and assemblies are **Capitalized**.

Italic type is used to show you where to find more information.

Bold type is used to indicate printer commands.

Note

Notes contain important information set off from the text.

Caution

Caution messages alert you to the possibility of damage to equipment.

WARNING!

Warning messages alert you to the possibility of personal injury.

Chapter Descriptions

Preface

The preface provides chapter descriptions and information on how to use this manual.

Chapter 1: Product Information

This chapter describes features of the printer, gives safety and regulatory information, and provides information on how to access service and support.

Chapter 2: Installing and Configuring the Printer

Learn how to get the printer ready for use. Connect the printer to a computer, install printer software and learn how to use the printer on a network.

Chapter 3: Printer Operation

Learn to use the key panel and the control panel, how to change default print settings and how to use the ToolBox to access basic troubleshooting and printer maintenance procedures.

Chapter 4: Paper Selection and Paper Loading

This chapter discusses what types of media to use with your printer and how to load media in to the printer.

Chapter 5: Printer Maintenance

This chapter discusses procedures for cleaning the printer and how to use print cartridges effectively.

Chapter 6: Troubleshooting

Learn how to effectively diagnose printer problems. This chapter shows service professionals how to help customers solve printer problems over the phone and how to work on printers returned for repair.

Chapter 7: Removal, Replacement and Calibration

Step-by-step procedures show how to replace field replaceable components in the printer and how to calibrate the printer.

Chapter 8: Parts and Diagrams

Exploded view drawings and part number listings are included for all replaceable parts in the printer. The composite table of replaceable parts is sorted alphabetically by part name, and also sorted numerically by part number. Both tables are cross-referenced to the diagrams in the chapter.

Index

The index is an alphabetical, cross-referenced listing of information found in the main body of the manual.

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Product Overview

Product Positioning

The HP DeskJet 1220C is designed to be the printer of choice for small businesses and offices that value printing on a wide range of media types and sizes. The HP DeskJet 1220C printer can print vibrant colors on paper up to 13" x 50" (330 mm x 1016 mm). It connects directly to IBM and IBM-compatible computers through a parallel port or a Universal Serial Bus (USB) port, and connects to Macintosh 68040 or later computers through a USB port. The printer can also be shared on a network.

Model and Serial Number

The serial number and the model number are listed on the identification label located on the back of the printer. The serial number contains information about the Country of Origin, the Revision Level, the Production Code, and the Production Number of the printer. The label also contains power rating and regulatory information.

Note

These values vary by region.

Technology Update

Thermal InkJet Technology

Thermal InkJet Technology is based on HP's disposable print cartridges. In each cartridge, there is a small reservoir, known as the firing chamber, filled with a tiny measure of ink. This ink is heated with a thin-film resistor layered above the firing chamber. As the ink heats up, it expands to form a bubble. The bubble expands until it bursts, at which point the ink is forced through the nozzle located below the firing chamber and out onto the paper. This process is repeated up to 12,000 times per second, and creates residual heat in the resistor. A layer of silicon is placed above the resistor to cool it by transferring the residual heat away.

HP black print cartridges (series C51645) contain 300 nozzles and HP color cartridges (series C6578) contain 432 nozzles (144 per color).

PhotoREt III

Photo Resolution Enhancement technology enables DeskJet printers to produce photo-quality color images. PhotoREt III's Color Layering technology

combines small ink-drop-volume print cartridges, vibrant, fade-resistant color inks, new halftoning algorithms, and specially developed HP Premium Plus Photo paper to deliver outstanding image quality and performance. The increased capacity of HP DeskJet 1220C printers to place up to 29 drops of ink in a single pixel creates finer color control and produces five times the number of colors produced by PhotoREt II printers.

ColorSmart III

ColorSmart III enables the printer driver to scan the contents (text, graphics, and images) of pages to generate optimal settings for each document printed. ColorSmart III further extends ColorSmart technology with new image-enhancement tools:

- HP SmartFocus—A new algorithm that improves image clarity in high-resolution files, as well as continues optimization for low-resolution images from the Internet or multimedia sources.
- HP Automatic Contrast Enhancement (ACE)—Brightens colors and sharpens details in images captured under poor lighting conditions.
- sRGB (standard Red, Green, Blue)—An industry peripheral color standard developed jointly by HP and Microsoft that improves color matching in peripheral devices that support the color standard.
- Intel MMX/SIMD technology—Allows the driver to process media-rich data in parallel for faster processing of color and image graphics.

Printer Description and Features

Table 1.1 Printer Description and Features

Print Method	Drop on-demand thermal inkjet printing		
Print Speed Black	Black text	Letter	Tabloid
	Fast Mode	11 ppm	7 ppm
	Normal Mode	6.8 ppm	4 ppm
	Best Mode	4.5 ppm	3 ppm
Print Speed Color	Mixed text with color graphics	Letter	Tabloid
	Fast Mode	9.5 ppm	6.4 ppm
	Normal Mode	5 ppm	3.3 ppm
	Best Mode	2.8 ppm	1.5 ppm
	Full page color	Letter	Tabloid
	Fast Mode	2.9 ppm	2 ppm
	Normal Mode	0.6 ppm	0.4 ppm
	Best Mode	0.3 ppm	0.2 ppm
	Color photo	4" x 6"	8" x 10"
	Normal	0.8 ppm	0.5 ppm
	Best	0.5 ppm	0.2 ppm
	Approximate figures. Exact speed depends on the system configuration, software program, and document complexity.		
	Black Resolution	Draft:	300 x 600 dpi
Normal:		600 x 600 dpi	
Best:		600 x 600 dpi	
Color Resolution	Draft:	300 x 600 dpi	
	Normal:	PhotoREt III	
	Best:	PhotoREt III**	
** A High Resolution Mode of 2400 x 1200 dpi is also available by unchecking PhotoREt when photo paper type is selected.			
Vertical Alignment	+/- 0.002" (0.051 mm)		

Table 1.1 Printer Description and Features

Printer Command Language	HP PCL Level 3 enhanced
Software Compatibility	Microsoft Windows® (3.1x, 95, 98, NT 4.0); Macintosh, MS-DOS applications
Fonts	8 built-in fonts: CG Times, CG Times Italic; Univers, Univers Italic; Courier, Courier Italic; Letter Gothic, Letter Gothic Italic (Euro Symbol Supported)
Smart Software Features	In-box printer driver features: HP ZoomSmart scaling technology, Tiling, Booklet, Handout (N-up printing), Manual Duplex, Banner, Mirror Image, Watermark*, Optimized for fax, Print Preview*, Sepia*, Quick Sets*, Schedule Printing**, ColorSync** Note: *Windows Only; **Macintosh Only

Table 1.1 Printer Description and Features

<p>Media Size/Type Supported</p>	<p>Paper: Plain, inkjet, photo, glossy: Super B 13" x 19" U.S. Tabloid 11" x 17" U.S. Legal 8.5" x 14" U.S. Letter 8.5" x 11" U.S. Executive 7.25" x 10.5" Statement 5.5" x 8.5" European A3 297 x 420 mm A4 210 x 297 mm A5 148.5 x 210mm JIS-B4 257 x 364 mm JIS-B5 182 x 257 mm</p> <p>Banner: U.S. Letter 8.5" x 11" European A4 210 x 297 mm U.S. Tabloid 11" x 17" A3 297 x 420 mm</p> <p>Transparencies: U.S. Letter 8.5" x 11" European A4 210 x 297 mm</p> <p>Envelopes: U.S. No. 10 4.12" x 9.5" U.S. A2 Invitation 4.37" x 5.57" U.S. Monarch 3.87" x 7.75" European DL 220 x 110 mm C5 162 x 229 mm Japanese Kaku #2 240 x 333 mm, #3 120 x 235 mm, #4 90 x 205 mm</p> <p>Cards: U.S. Index card 4" x 6" U.S. Index card 5" x 8" European A6 card 105 x 148.5 mm Japanese Hagaki Postcard 100 x 148 mm</p> <p>Labels: U.S. Labels 8.5" x 11" European A4 Labels 210 x 297 mm</p> <p>Custom Size: Width: 4" to 13" (102 to 330 mm) Length: 6" to 50" (152 to 1270 mm)</p>																				
<p>Media Handling</p>	<table border="0"> <tr> <td></td> <td style="text-align: center;">Sheets</td> <td style="text-align: center;">Envelopes</td> <td style="text-align: center;">Cards</td> </tr> <tr> <td>Main Paper Tray:</td> <td style="text-align: center;">Up to 150</td> <td style="text-align: center;">Up to 15</td> <td style="text-align: center;">Up to 60</td> </tr> <tr> <td>Alternative Top Tray:</td> <td style="text-align: center;">Up to 10</td> <td style="text-align: center;">Up to 3</td> <td style="text-align: center;">Up to 4</td> </tr> <tr> <td>Manual Feed:</td> <td colspan="3">Single sheet only</td> </tr> <tr> <td>Output Tray:</td> <td colspan="3">Up to 50 sheets</td> </tr> </table>		Sheets	Envelopes	Cards	Main Paper Tray:	Up to 150	Up to 15	Up to 60	Alternative Top Tray:	Up to 10	Up to 3	Up to 4	Manual Feed:	Single sheet only			Output Tray:	Up to 50 sheets		
	Sheets	Envelopes	Cards																		
Main Paper Tray:	Up to 150	Up to 15	Up to 60																		
Alternative Top Tray:	Up to 10	Up to 3	Up to 4																		
Manual Feed:	Single sheet only																				
Output Tray:	Up to 50 sheets																				

Table 1.1 Printer Description and Features

Recommended Media Weight	<p>Paper: 60 to 135 g/m² (16 to 36 lb. Bond) using main tray and alternative tray; 60 to 250 g/m² (16 to 67 lb. Bond) using rear media feed (up to 0.02" or 0.52 mm thickness using rear media feed)</p> <p>Envelopes: 75 to 90 g/m² (20 to 24 lb. Bond)</p> <p>Cardstock: 110 to 200 g/m² (110 lb. Index)</p>
I/O Interface	IEEE 1284–Centronics parallel compatible; Universal Serial Bus (Windows 98® and USB-connect Macintosh™)
Printer Memory	8MB of built-in RAM
Dimensions	<p>With paper tray closed: 592.3 mm (23.3") W x 233 mm (9.2") H x 381 mm (15.0") D</p> <p>With paper tray fully extended: 592.3 mm (23.3") W x 233 mm (9.2") H x 672 mm (26.5") D</p>
Weight	10 kg (22 lb.)
Reliability & Estimated Usage	5,000 pages/month
Power Supply	Built-in Universal Power Supply
Power Requirements	Power Modules: input voltage 100 to 240 VAC (±10%), 50/60 Hz (±3 Hz)
Power Consumption	1 watt maximum when off; 11.3 watts maximum non-printing; 47.7 watts maximum when printing
Operating Environment	<p>Operating temperature: 5° to 40°C (41° to 104°F)</p> <p>Recommended operating conditions: 15° to 35°C (59° to 95°F)</p> <p>Storage temperature: -40° to 60° C (-40° to 140°F)</p> <p>Relative Humidity: 20 to 80% RH non-condensing</p> <p>Noise levels per ISO 9296: Sound power LwAd: 5.8 B(A); Sound Pressure LpAm: 47 dB(A) (By-stander position)</p>

Table 1.1 Printer Description and Features

<p>System Requirements</p>	<p>Minimum: Windows 3.1x: 486 66MHz, 8MB RAM; Windows 95/98: Pentium 60MHz processor, 16MB RAM; Windows NT 4.0: Pentium 60MHz processor, 24MB RAM; MAC: OS 8.1 or above, USB-connect Macintosh only; OS 7.6.1 or above: Network via HP JetDirect only; MS-DOS: DOS 3.3 or above, 486 66MHz, 4MB RAM</p>
	<p>Recommended: Windows 3.1x: 486 66MHz processor, 8MB RAM; Windows 95/98: Pentium 300MHz processor, 32MB RAM; Windows NT 4.0: Pentium 300MHz processor, 64MB RAM; Power MAC G3: OS 8.6, 350MHz, 64MB RAM; iMac: OS 8.6, 333MHz, 32MB RAM; 50MB Free Hard Disk space for 11" x 17" or A3 size printing. High-resolution images and graphics-intensive files may require more disk space.</p>
<p>Warranty</p>	<p>1 year limited warranty</p>
<p>Product Certifications</p>	<p>Safety Certifications: CCIB (China), CSA (Canada), PSB (Singapore), UL (USA), NOM1-1-NYCE (Mexico), TUV-GS (Germany), SABS (South Africa), JUN (Korea), LS (Lithuania), EEI (Estonia), CE (European Union), B mark (Poland). EMI Certifications: FCC Title 47 CFR Part 15 Class B (USA), ICES-003 (Canada), CTICK (Australia & New Zealand), VCCI (Japan), CE (European Union), BCIQ (Taiwan), JUN (Korea) LS (Lithuania).</p> 

External View

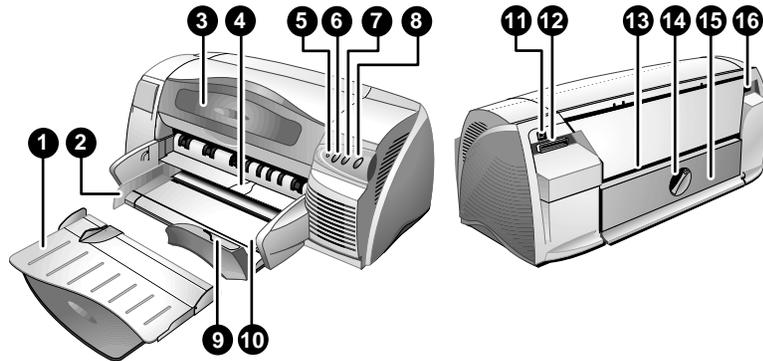


Figure 1.1 Printer External View

- 1** Output Tray—Collects the printed pages.
- 2** Paper Guides—Guides the paper into the printer.
- 3** Access Door—Gives access to the print cartridges and jammed paper.
- 4** Bypass Stopper—Lifts for inserting paper into the alternative top media feed.
- 5** Cartridge LED—Blinks when the Access Door is open or a cartridge error occurs.
- 6** Cancel Button—Cancels the current print job.
- 7** Resume Button—Blinks while waiting for a printed page to dry. Press it if you do not want to wait.
- 8** Power Button—Turns the power off and on.
- 9** Postcard Guide—Extends to guide short media into the printer.
- 10** Main paper tray—Holds the standard paper.
- 11** USB port—Jack for the Universal Serial Bus cable.
- 12** Parallel port—Jack for the parallel cable.
- 13** Rear media feed—Feeds thicker paper that requires a straight paper path.
- 14** Cleanout Trough knob—Turns counterclockwise for removing the Cleanout Trough, or clockwise to lock it.

15 Cleanout Trough–Alternate access to jammed paper.

16 Power input–Connector for the power cable.

Specifications

Hewlett-Packard Print Cartridge Specifications

The following specifications apply to Hewlett-Packard print cartridges used during plain paper drop-on-demand thermal inkjet printing.

Table 1.2 Hewlett-Packard Print Cartridge Specifications

Cartridge type	Black Large	Black	Color Large	Color
Part Number	51645A	51645G	C6578A	C6578D
Nozzles	300	300	408	408
Cartridge Life	18 months	18 months	18 months	18 months
Vertical Resolution	600 dpi	600 dpi	600 dpi	600 dpi
Ink Volume	42 ml	21 ml	42 ml	19 ml

Printable Area

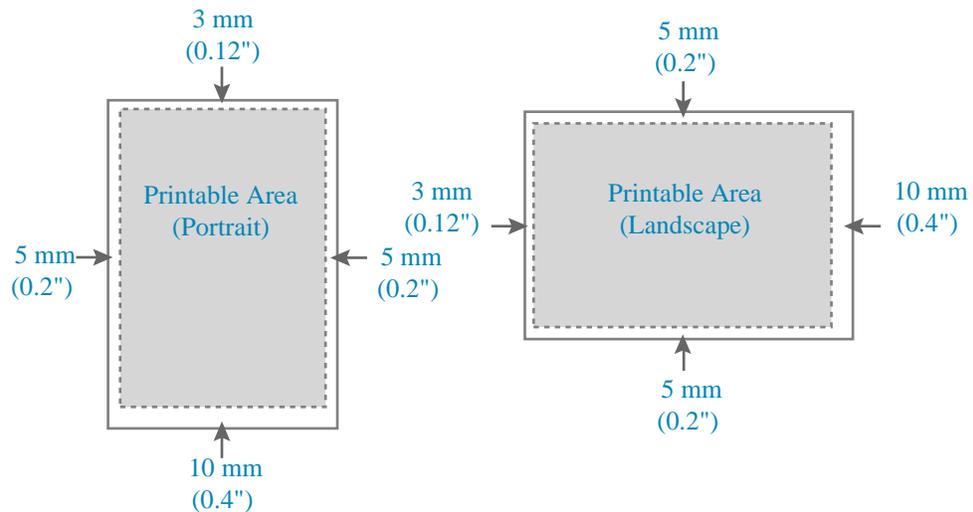


Figure 1.2 Printable Area

The printable areas apply to all media sizes.

Safety and Regulatory Notices

To reduce risk of injury from fire or electric shock, always follow basic safety precautions when using or servicing this printer.

- 1 Read and understand all instructions in the Service and Support Manual.
- 2 Observe all warnings and instructions marked on the printer.
- 3 Unplug the printer from wall outlet before cleaning.
- 4 Do not install, service, or use the printer near water, or when you are wet.
- 5 Install the printer securely on a stable surface.
- 6 Install the printer in a protected location where no one can step on or trip over the power cord, and the power cord cannot be damaged.
- 7 If the printer does not operate normally, see *Chapter 6: Troubleshooting*.
- 8 There are no user-serviceable parts inside the printer. Refer servicing to qualified service personnel.

Visit www.hp.com/abouthp/environment/contents/envfacts.htm for more information about safety and the environment.

Print Cartridge Safety

Ink used in the print cartridge does not pose a health hazard except as noted below. During the development of ink formulas, all ingredients are researched for known potential health related issues. Only chemicals that meet or exceed worldwide safety and regulatory requirements are used in HP inks.

WARNING!

The ink in the print cartridges contains diethylene glycol which may be harmful if swallowed. Keep new and used cartridges out of the reach of children. If ink is accidentally ingested, contact the 24 hour HP Health Line:

800-457-4209 (within U.S.)
503-494-7199 (outside U.S.)
