HP DeskJet Portable Printer Technical Support Solutions Guide



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Conventions

This document uses special conventions to clarify information and ensure your safety and the safety of the product. Pay special attention to the information highlighted in the following ways:

Italic type is used for titles of publications and to emphasize information in a paragraph.

Warning	The warning text is used where potential danger to an individual may occur.			
Caution	The caution text is used where potential danger to equipment may occur.			
Note	The note text is used where attention to special instructions appear.			

About This Guide

This guide is designed as a reference for people who provide post-sale technical support to end-users of the HP DeskJet Portable printer. It represents a collection of information gathered from Hewlett-Packard's dealer and end-user support organizations. The purpose of this guide is to provide answers to frequently asked questions and solutions to common problems.

While the content of this guide is quite comprehensive, it is not all inclusive. Therefore, it is not a substitute for other types of product documentation, such as the user's guide and the setup guide.

Organization

This guide is organized to help you quickly locate the information you need. You will find a table of contents in the front of this guide and a comprehensive index at the back of this guide.

Your constructive criticism will help us create better guides in the future. If you have comments concerning this guide, please complete the Reader's Comment Sheet located at the front of the guide.

Contents

Chapter 1	Product Information
-	Chapter Contents
	Support Tools and Information
	Product Features and Benefits
	Views
	Similarities and Differences
	Ordering Printer Options
	Power Module, Rapid Recharger, and Battery Pack Part Numbers
	Supplies and Accessories
	
	User Documentation
	Internal Fonts
	HP DeskJet Portable Printer Specifications
Chapter 2	Installation and Configuration
	Chapter Contents
	Items Included
	Connecting Power to an HP DeskJet Portable Printer
	Connecting the Printer to a Power Module or a Rapid Recharger 2-3
	Installing/Replacing a Battery Pack
	Centronics Parallel Pinout Information
	Connecting the Interface Cable and Establishing Communication
	Verifying Communication
	Configuring the Printer
	Changing the Printer Configuration Settings

Chapter 3	Operation and Usage					
опирост о	Chapter Contents					
	Control Panel Information					
	Rapid Recharger Lights and Buttons					
	Operating the HP DeskJet Portable Printer with the Optional Cut-Sheet Feeder 3-7					
	Attaching the Printer to the Optional Cut-Sheet Feeder					
	Folding the Printer and Cut-Sheet Feeder for Storage or Transporting 3-10					
	Automatic Feeding with the Cut-Sheet Feeder					
	Manually Feeding Paper Using the Cut-Sheet Feeder					
	Setting Up the Printer For Other Operations					
	Installing/Replacing a Print Cartridge					
	Loading Paper					
	Manual Single Load					
	Loading Media in the Optional Cut-Sheet Feeder					
	Powering the HP DeskJet Portable Printer					
	Quick Charge and Trickle Charge Rates					
	Sleep Mode					
	Low Battery Condition					
	Power Module Information					
	Rapid Recharger Information					
	Battery Pack Information					
	Maintenance					
	Maintaining Print Cartridges					
	Maintaining the Printer					
	Thermal Inkjet II Technology					
Chapter 4	Optimization					
•	Chapter Contents					
	Increasing the Printing Speed					
	Selecting a Printer Driver					

Chapter 5	Problem Resolution
	Chapter Contents
	Troubleshooting Tools
	Overall Troubleshooting
	Troubleshooting Battery Pack and AC Operations
	Solving Battery Pack Problems
	Solving Power Module and Rapid Recharger Problems 5-6
	Troubleshooting the Printer
	Self-Tests
	Control Panel Light Indications
	Solving Printer Stall Conditions
	Troubleshooting Paper Feed Operations
	Troubleshooting Communication Problems
	Troubleshooting Print Cartridges
	Short Print Cartridge Life
	Identifying the Print Cartridge Expiration Date
	Using the Print Cartridge Cleaning Routine
	Removing Crusted Ink from the Print Cartridge Nozzles 5-25
	Troubleshooting Print Quality
	Solving Print Quality Problems
	Printouts Missing Rows of Dots
Chapter 6	Service and Support Information
-	Chapter Contents
	Warranty Information
	Returning a Printer For Service
	US Service Support Contracts
	HP Express Exchange Service
	HP Customer Return Repair Service
	Obtaining Printer Drivers
	Printer Repair Feedback Information
	HP DeskJet Portable Printer Repair Sheet 6-7
Appendix A	HP PCL Printer Commands and Control Codes
	HP PCL Printer Command Summary
	Control Codes

Index

List of Tables

Chapter 1	Product Info	ormation
	Table 1-1.	Items to Support the HP DeskJet Portable Printer
	Table 1-2.	The HP DeskJet Portable Printer Model Number 1-2
	Table 1-3.	HP DeskJet Portable Printer Features and Benefits 1-3
	Table 1-4.	Similarities To and Differences From Other HP DeskJet Family Printers 1-6
	Table 1-5.	HP DeskJet Portable Printer Options 1-7
	Table 1-6.	Power Modules and Optional Rapid Rechargers 1-8
	Table 1-7.	Optional Battery Packs
	Table 1-8.	HP DeskJet Portable Printer Supplies and Accessories 1-10
	Table 1-9.	Available HP DeskJet Portable Printer User Documentation Kits 1-11
	Table 1-10.	Other User Documentation
	Table 1-11.	Internal Portrait Fonts
	Table 1-12.	Internal Landscape Fonts
	Table 1-13.	
	Table 1-14.	Reliability Specifications
	Table 1-15.	Graphics Resolution
	Table 1-16.	Interface Specifications
	Table 1-17.	Battery Pack Specifications
	Table 1-18.	Physical Specifications
	Table 1-19.	Packaging Dimensions Specifications
	Table 1-20.	Electrical Specifications
	Table 1-21.	Environmental Specifications
	Table 1-22.	Product Safety Specifications
	Table 1-23.	Paper Handling Specifications
	Table 1-24.	Printable Area
	Table 1-25.	Print Cartridge Specifications
Chapter 2	Installation	and Configuration
	Table 2-1.	Power Module and Rapid Recharger Information 2-3
	Table 2-2.	Common Battery Pack Troubleshooting Information
	Table 2-3.	Centronics Parallel Interface Pinout Information
	Table 2-4.	Control Panel Button Definitions in Configuration Mode 2-9
	Table 2-5.	Additional Configuration Information
	Table 2-6.	Troubleshooting Common Configuration Problems

Chapter 3	Installation	and Configuration			
	Table 3-1.	Description of Control Panel Buttons and Lights			
	Table 3-2.	Rapid Recharger Buttons and Lights			
	Table 3-3.	Setup Configurations with the			
		HP DeskJet Portable Printer and Cut-Sheet Feeder			
	Table 3-4.	Troubleshooting a Print Cartridge Problem in an HP DeskJet Portable Printer			
	Table 3-5.	Media Loading Information			
	Table 3-6.	Common Paper Related Problems			
	Table 3-7.	Determining the Battery Pack Charge Rate			
	Table 3-8.	Power Module Information			
	Table 3-9.	Rapid Recharger Information			
	Table 3-10.	Battery Pack Information			
Chapter 4	Optimizatio	on .			
	Table 4-1.	Increasing the Printing Speed			
	Table 4-2.	Selecting Printer Drivers for the HP DeskJet Portable Printer 4-3			
Chapter 5	Problem Re	esolution			
	Table 5-1.	Solving Battery Pack Problems			
	Table 5-2.	Solving Power Module and Rapid Recharger Problems			
	Table 5-3.	HP DeskJet Portable Printer Control Panel Light Indications 5-10			
	Table 5-4.	Possible Causes for Paper Jams			
	Table 5-5.	Print Cartridge Life Specifications			
	Table 5-6.	Possible Causes for Short Print Cartridge Life			
	Table 5-7.	Print Cartridge Life Specifications			
	Table 5-8.	Print Cartridge Expired?			
	Table 5-9.	Solving Print Quality Problems			
Chapter 6	Service and	d Support Information			
	Table 6-1.	HP DeskJet Portable Printer Error Code Table			
Appendix A	HP PCL Printer Commands and Control Codes				
	Table A-1. Table A-2.	HP PCL Printer Command Summary .A-1 HP PCL Printer Control Codes .A-5			

Product Information

Chapter Contents

Section Title	Page
Support Tools and Information	. 1-2
Model Number and Product Positioning	. 1-2
Product Features and Benefits	. 1-3
Views	
Similarities and Differences	
Ordering Printer Options	
Power Module, Rapid Recharger, and Battery Pack Part Numbers	
Supplies and Accessories	
User Documentation	
Internal Fonts	. 1-12
HP DeskJet Portable Printer Specifications	
Printer Specifications	
Reliability Specifications	
Graphics Resolution	. 1-15
Interface Specifications	. 1-15
Battery Pack Specifications	
Physical Specifications	
Packaging Specifications	
Electrical Specifications.	
Environmental Specifications	
Product Safety Specifications	
Paper Handling Specifications	. 1-21
Printable Area	
Print Cartridge Specifications	. 1-24

Support Tools and Information

Hewlett-Packard recommends the following tools and documentation for supporting the HP DeskJet Portable Printer.

Table 1-1. Items to Support the HP DeskJet Portable Printer

Subject	Recommended Items
Documentation	 Support Documentation HP DeskJet Portable Printer Technical Support Solutions Guide (this document), part number 5091-4838E HP DeskJet Portable Printer Technical Reference Manual, part number C2614-90060 User Documentation (English) HP DeskJet Portable Printer User's Guide Kit, part number C2614-60003 Battery Instruction Sheet, part number C3003-90001 Rapid Recharger Booklet, part number C3004-90001
Tools	 Dial caliper or accurate linear scale Tissue Foam rubber or lint free swabs, such as part number 9300-0767 Clean lint-free soft cloth Brush or small computer vacuum cleaner
Printer Driver	HP DeskJet Portable Printer Driver for Microsoft Windows (Included with the printer and available through CompuServe)

Note

Support information for the desktop HP DeskJet family printers, such as the HP DeskJet 550C printer, can be found in the HP DeskJet Printer Family Technical Support Solutions Guide.

Model Number and Product Positioning

Table 1-2. The HP DeskJet Portable Printer Model Number

Printer	Model Number	Printer Description	Product Positioning
HP DeskJet Portable Printer	C2614A	Monochrome DeskJet Family Printer for Portable Applications	HP's high-performance portable printer for black only printing.

Product Features and Benefits

Table 1-3. HP DeskJet Portable Printer Features and Benefits

Feature	Benefit
300 DPI Black Output Resolution	Laser-quality output at an affordable price.
Prints on Plain Paper	No special paper required.
Drop-On-Demand Thermal Inkjet Printing	Proven reliable, laser-quality, and quiet printing solution.
Works from a power module, an optional battery pack, or optional rapid recharger.	Flexible power requirements for greater portability.
Available optional cut-sheet feeder that detaches from the printer.	Flexible paper handling without sacrificing portability.
2 to 3 Pages Per Minute Printing	Faster printing than dot-matrix printers.
Support for Major DOS and MS Windows Applications	Confidence in software compatibility.
Kerning of the CG Times and Univers Internal Fonts	Increased satisfaction in the overall appearance of printed text.
TrueType Scalable Fonts Support in MS Windows Using the HP DeskJet Portable Printer Driver (Driver Included with the Printer)	Create any size text needed in MS Windows 3.1.
Grayscale Output in MS Windows Using the HP DeskJet Portable Printer Driver for MS Windows	Better grayscale graphics than laser printers.
Transparency Support in MS Windows Using the HP DeskJet Portable Printer Driver for MS Windows	Create high-quality presentations.
Customer Replaceable Black Print Cartridge with Water Resistant Ink	Easy to replace.

Views



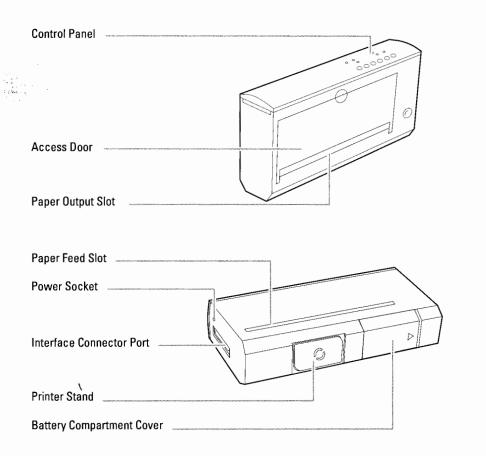


Figure 1-1. The HP DeskJet Portable Printer

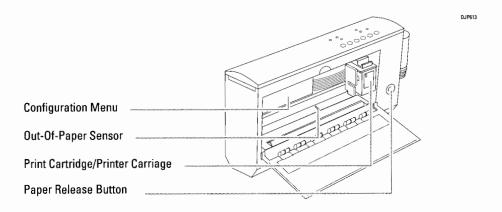


Figure 1-2. The HP DeskJet Portable Printer (Internal View)

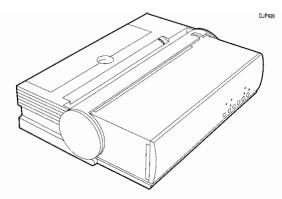
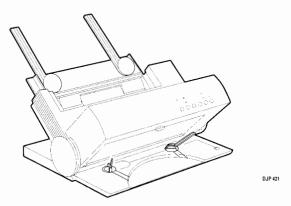




Figure 1-3. The HP DeskJet Portable Printer and Cut-Sheet Feeder in Transport Mode



DJP616

Figure 1-4. The HP DeskJet Portable Printer and Cut-Sheet Feeder in Operating Mode

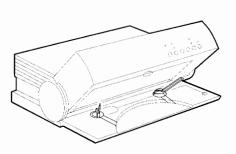


Figure 1-5. The HP DeskJet Portable Printer and Cut-Sheet Feeder in the Manual Feed Mode

Notes

- For physical dimensions, see "Physical Specifications" later in this chapter.
- For cut-sheet feeder callouts, see "Operating the HP DeskJet Portable Printer with the Optional Cut-Sheet Feeder" in chapter 3.

Similarities and Differences

Table 1-4 identifies similarities and differences between the HP DeskJet Portable Printer and other HP DeskJet family printers.

Table 1-4. Similarities To and Differences From Other HP DeskJet Family Printers

Similarities Differences Original 51608A Print Cartridge Compatibility **Portability** The HP DeskJet Portable printer uses the same original print The HP DeskJet Portable printer is the only printer in the HP cartridge as other HP DeskJet family printers. DeskJet printer family designed specifically for portability. Centronics Parallel Interface This design includes an optional cut-sheet feeder that folds The HP DeskJet Portable printer has the same Centronics flat for transportation. parallel interface capabilities as other HP DeskJet family **Incompatible with the High Capacity and Color Print** printers. Cartridges Repair Strategy The HP DeskJet Portable printer is a monochrome printer and therefore not compatible with the color print cartridge. The HP DeskJet Portable printer is supported on a centralized repair program. Support personnel determine if The high capacity print cartridge was not designed for the printer has a hardware problem and ship the printer to a portable applications and therefore not compatible with the centralized repair location for repair. HP DeskJet Portable printer. **HP PCL Level III Programming Language Support** No RS-232-C Serial Interface The HP DeskJet Portable printer is compatible with all level The HP DeskJet Portable does not have an RS-232-C serial III commands in the HP PCL programming language. The HP interface. DeskJet Portable printer, however, does not support all the **Unique Plug-In Cartridges** extensions of other HP DeskJet family printers, such as color The HP DeskJet Portable printer is not compatible with the optional plug-in cartridges for other HP DeskJet family output commands. printers. The HP DeskJet Portable printer has one optional cartridge slot. **Power Modules** The HP DeskJet Portable printer is not compatible with the power modules for other HP DeskJet family printers. The HP DeskJet Portable printer uses power modules, universal rapid rechargers, and battery packs incompatible with other HP DeskJet family printers. Media Support The HP DeskJet Portable does not support printing on The HP DeskJet Portable printer does not support the HP CX JetSeries paper. HP CX JetSeries paper is designed for color compatible inkjet printers.

year warranty.

The HP DeskJet Portable printer has a one year warranty. Other printers in the HP DeskJet printer family have a three

Ordering Printer Options

The HP DeskJet Portable printer is the same for all countries. The power module and documentation vary for the region's needs.

Note

For HP DeskJet Portable supplies and accessories, see table 1-8.

Table 1-5. HP DeskJet Portable Printer Options

Region or Country	HP DeskJet Portable Printer Option Number	Power Module Included	Language of User Documentation
Argentina	C2614A AC8	C2614-80033	Spanish
Australia	C2614A ABG	C2614-80004	English-Europe
Belgium/Netherlands	C2614A ACU	C2614-80005	Dutch
Brazil	C2614A AC4	C2614-8003	Portuguese
Canada (English)	C2614A ABA	C2614-80003	English
Canada (French)	C2614A ABC	C2614-80003	French
Denmark	C2614A ABY	C2614-80005	Danish
Europe	C2614A ABB	C2614-80005	English-Europe
Finland	C2614A ABX	C2614-80005	Finnish
France	C2614A ACS	C2614-80005	French
Germany	C2614A ACT	C2614-80005	German
Intercon	C2614A ABK	None	English-Europe
Italy	C2614A ABZ	C2614-80005	Italian
Latin America	C2614A ABM	C2614-80003	Spanish
Norway	C2614A ABN	C2614-80005	Norwegian
Portugal	C2614A AB9	C2614-80005	Portuguese
South Africa	C2614A ACQ	C2614-80007	English-Europe
Spain	C2614A ABE	C2614-80005	Spanish
Sweden	C2614A ABS	C2614-80005	Swedish
United Kingdom	C2614A ABU	C2614-80006	English-Europe
U.S.	C2614A ABA	C2614-80003	English

Power Module, Rapid Recharger, and Battery Pack Part Numbers

Table 1-6. Power Modules and Optional Rapid Rechargers

Plug Type	Country or Region	Region's AC Voltage	Power Module Part Number	Optional Rapid Recharger Part Number
DJP606	U.S. Canada Mexico Korea	120 VAC	C2614-80003	C3004A
DJP607	Japan	100 VAC	C2614-80010	C3060A
D.JP608	Australia	240 VAC	C2614-80004	C3064A
D.JP609	Europe (Including Switzerland and Denmark)	230 VAC	C2614-80005	C3063A
DJP610	UK	240 VAC	C2614-80006	C3062A
DJP611	South Africa	220 VAC	C2614-80007	C3065A
DJP608	China Argentina Uruguay	220 VAC	C2614-80033	C3064A

Table 1-7. Optional Battery Packs

Country or Region	Hewlett-Packard Part Number	Panasonic Part Number
U.S.	HP C3003A	PV-BP15
Japan	HP 3058A	VW-VBS1
Europe	HP C30059A	VW-VBS1E

Supplies and Accessories

Table 1-8. HP DeskJet Portable Printer Supplies and Accessories

Part Number	Supply/Accessory Description
51608A	Original Inkjet Print Cartridge (Black Ink) ¹
C3005A	Cut-Sheet Feeder
See table 1-6.	Power Modules Rapid Rechargers
See table 1-7.	Battery Packs
C3061A	Replacement Interface Cable ²
C3050A	Carrying Case (Holds printer, optional cut-sheet feeder, and notebook computer.)
51636F 51636G	LX JetSeries Transparency Film U.S. Letter Size European A4 Size

^{1.} The high capacity and color print cartridges, part numbers 51626A and 51625A, are not compatible with the HP DeskJet Portable printer.

^{2.} This interface cable has a low-profile design that complements the product design and avoids extending the interface cable directly out of the printer, with or without the optional cut-sheet feeder. A standard Centronics parallel interface cable, however, will work on an HP DeskJet Portable printer.

User Documentation

Table 1-9. Available HP DeskJet Portable Printer User Documentation Kits

Language	User Documentation Kit Part Number		
Danish	C2614-60005		
Dutch	C2614-60006		
English	C2614-60003		
English-Europe	C2614-60004		
Finnish	C2614-60007		
French	C2614-60008		
German	C2614-60009		
Italian	C2614-60010		
Norwegian	C2614-60011		
Portuguese	C2614-60012		
Spanish	C2614-60013		
Swedish	C2614-60014		

Table 1-10. Other User Documentation

Document	HP Part Number
Battery Instruction Sheet (Included with Hewlett-Packard Battery Packs)	C3003-90001
Rapid Recharger Booklet (Included with Hewlett-Packard Worldwide Rapid Rechargers)	C3004-90001

Internal Fonts

Note

Along with the listed internal fonts in this section, the HP DeskJet Portable printer can print TrueType fonts in MS Windows 3.1 using the HP DeskJet Portable Printer Driver for MS Windows.

Table 1-11. Internal Portrait Fonts

Portrait Fonts	Selectable from the Control Panel	Comments
Courier Upright (6 and 12 point) 5 cpi 10 cpi 16.67 cpi 20 cpi	~	Fonts not selectable from the control panel are selectable by escape sequences or software applications (application dependent). The HP DeskJet Portable printer can print all available portrait fonts in the following modes and enhancements:
Courier Italic (6 and 12 point) 5 cpi 10 cpi 20 cpi		Modes - Draft - Letter Quality Enhancements
Letter Gothic (6 and 12 point) 6 cpi 12 cpi 24 cpi		 Bold Underline Double Underline Superscript
Letter Gothic Italic (6 and 12 point) 6 cpi 12 cpi 24 cpi		– Subscript
CG Times (5, 6, 7, 8, 10, 12, and 14 point) Proportional Spacing		
CG Times Italic (5, 6, 7, 8, 10, 12, and 14 point) Proportional Spacing		
Univers (5, 6, 7, 8, 10, 12, and 14 point) Proportional Spacing		
Univers Italic (5, 6, 10, and 12 point) Proportional Spacing		

Table 1-12. Internal Landscape Fonts

Landscape Font	Selectable from the Control Panel	Comments
Courier Upright (6, 12, and 24 point) 10 cpi 16.67 cpi 20 cpi	<i>y</i>	Fonts not selectable from the control panel are selectable by escape sequences or software applications (application dependent).
Letter Gothic (6, 12, and 24 point) 12 cpi 24 cpi		The HP DeskJet Portable printer can print all available landscape fonts in the following modes and enhancements: Modes — Draft
Letter Gothic (4.75, 9.5, and 19 point) 16.67 cpi		– Letter Quality Enhancements – Normal – Bold

HP DeskJet Portable Printer Specifications

Table 1-13. Printer Specifications

Specification HP DeskJet Portable Printer			
Print Modes	Draft and Letter Quality (LQ)		
Print Speed			
Draft (using AC power)	3 ppm (pages per minute)		
Draft (using a battery pack)	2 ppm		
Letter Quality	2 ppm		
Mechanism Speed (Burst at 10 cpi)			
Draft (using AC power)	240 cps (characters per second)		
Draft (using battery power)	167 cps		
Letter Quality	167 cps		
Programming Command Set	HP PCL Level III		
Print Resolution (Vertical × Horizontal)			
Draft	300 × 150 dpi (dots per inch)		
Letter Quality	300 × 300 dpi		
Dot Placement	300×600 dpi (except CG Times and Univers Fonts)		
Internal Fonts (Built-In)	See tables 1-11 and 1-12.		
Character Sets	PC-8 (U.S.), HP Roman8, PC-8 (Europe), ISO 7 bit languages (German, French, Italian, Norwegian, Portuguese, Swedish, Spanish, UK), ASCII, PC-850, ECMA-94, and Legal		
Paper Feed	Manual Single Sheet Feeding (Optional cut-sheet feeder available)		
Printable Area	See figures 1-8 and 1-9, and table 1-25.		
Control Panel Lights and Buttons	See table 3-1.		
Graphics Resolution	75, 100, 150, or 300 ppi (pixels per inch) See table 1-15.		

Table 1-14. Reliability Specifications

Specification	HP DeskJet Portable Printer
Printer Usage	500 pages per month (maximum)
Mean Time Between Failures (MTBF)	20,000 hours (2000 hours power-on and 12,000 printed pages per year)
Mechanism Life	25,000 pages

Table 1-15. Graphics Resolution

Horizontal Resolution	Vertical Resolution	Number of Dots Per Pixel	
75 ppi (pixels per inch)	75 ppi (pixels per inch)	16	
100 ppi	100 ppi	9	
150 ppi	150 ppi	4	
300 ppi	300 ppi	1	

Table 1-16. Interface Specifications

Specification	HP DeskJet Portable Printer
Interface	Centronics parallel
Receive Buffer Size	48K

Table 1-17. Battery Pack Specifications

Specifications	HP DeskJet Portable Printer
Battery Type	6 volt, 1.2 Ah nickel cadmium
Typical Pages Printed Per Charge	100 pages

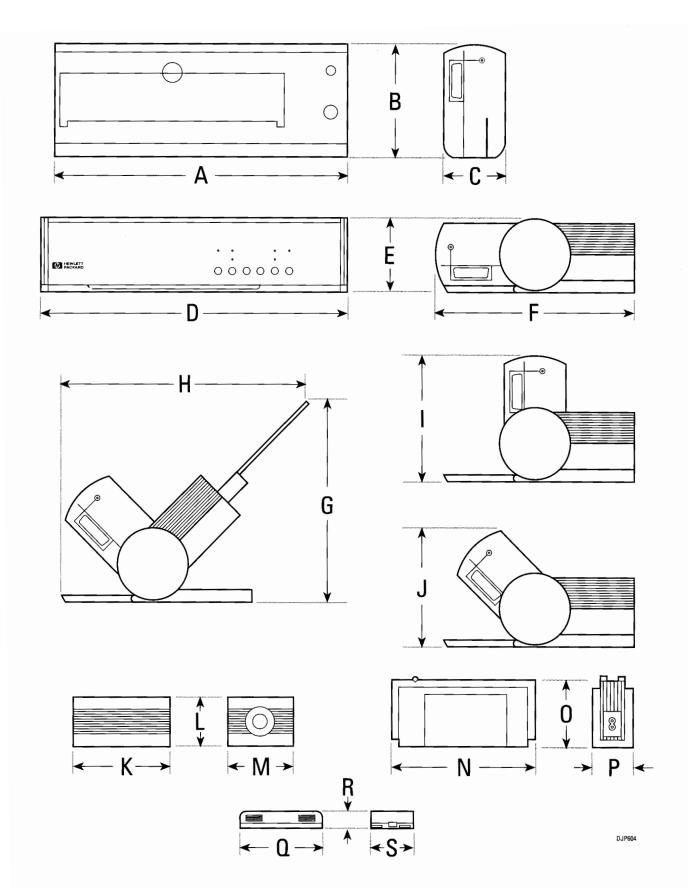


Figure 1-6. Physical Specifications

Table 1-18. Physical Specifications

ltem	Figure 1-6 Reference	Approximate Dimensions	Approximate Weight
Printer Only		5 - 5 1 2 2 2 3 3 4 4 2 3 5 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Width	Α	12.2 in. (310 mm)	4.5 lb (2 kg)
Height	В	5.75 in. (146 mm)	
Depth	C	2.56 in. (65 mm)	
Printer with Cut-Sheet Feeder			
Storage Position			7.5 lb (3.4 kg)
Width	D	13.0 in. (330 mm)	
Height	E	3.5 in. (90 mm)	
Depth	F	9.5 in. (240 mm)	
Normal Printing Position			
Width	D	13.0 in. (330 mm)	
Height	G	9.8 in. (250 mm)	
Depth	Н	13.8 in. (350 mm)	
Accessing the Print Cartridge			
and Configuration Position	1		
Width	D	13.0 in. (330 mm)	
Height	1	6.5 in. (165 mm)	
Depth	F	9.5 in. (240 mm)	
Manual Feed Position			
Width	D	13.0 in. (330 mm)	
Height	J	6.0 in. (152 mm)	
Depth	F	9.5 in. (240 mm)	
Power Module			
Width	K	4.1 in. (105 mm)	2.4 lb (1.1 kg)
Height	L	2.2 in. (57 mm)	
Depth	M	2.8 in. (70 mm)	
Cord Lengths (Input and Output)		6 feet (1.8 meters)	
Optional Rapid Rechargers			
Width	N	6.1 in. (156 mm)	350 g
Height	0	2.8 in. (70 mm)	
Depth	P	1.6 in. (40 mm)	
Cord Lengths (Input and Output)		6 feet (1.8 meters)	
Optional Battery Packs			
Width	a	3.5 in. (89 mm)	156 g
Height	R	0.7 in. (18 mm)	
Depth	S	1.8 in. (46 mm)	

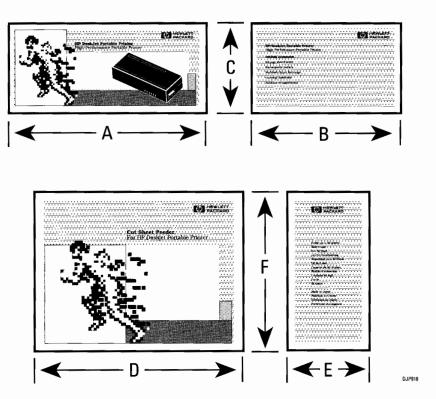


Figure 1-7. Packaging Dimensions Specifications

Table 1-19. Packaging Dimensions Specifications

Specifications	Figure 1-7 Reference	HP DeskJet Portable Printer		
Printer Packaging Dimensions				
Length	Α	15.7 in. (400 mm)		
Width	В	12.8 in. (325 mm)		
Height	С	7.0 in. (178 mm)		
Optional Cut-Sheet Feeder				
Packaging Dimensions				
Length	D	16.7 in. (425 mm)		
Width	E	6.5 in. (165 mm)		
Height	F	12.8 in. (325 mm)		

Table 1-20. Electrical Specifications

Specification	HP DeskJet Portable Printer			
Input Voltage	100, 120, 220, 230, or 240 VAC (±10%)			
Frequency				
100 VAC	50/60 Hz (±3 Hz)			
120 VAC	60 Hz (±3 Hz)			
220 VAC	50 Hz (±3 Hz)			
230 VAC	50 Hz (±3 Hz)			
240 VAC	50 Hz (±3 Hz)			
Power Consumption				
Non-printing	5 watts			
Printing (maximum)	13.5 watts			
Charging (maximum)	8 watts			
Transient Spike Immunity				
Amplitude	1 kV			
Pulse Width	50 µseconds			
Rise Time	1.2 µseconds			

Table 1-21. Environmental Specifications

Specification	HP DeskJet Portable Printer			
Temperature				
Operating	5 to 40° C (41 to 104°F)			
Non-Operating	-40 to 60° C (-40 to 140° F)			
Recommended Operating	15 to 35° C (59 to 95° F)			
Relative Humidity				
Operating	10% to 80% RH @ 30° C			
Non-Operating	95% RH @ 65°C			
Media	10% to 70% RH @ 30°C			
Altitude				
Printer				
Operating	0 to 4600 meters (15,000 feet)			
Non-Operating	0 to 15,300 meters (50,000 feet)			
Print Cartridge				
Operating	0 to 4600 meters (15,000 feet)			
Non-Operating	0 to 7300 meters (24,000 feet)			
Mechanical Vibration				
Frequency Range	5 to 500 Hz			
Operating				
Random	Approximately 0.21 G rms			
Non-Operating				
Random	Approximately 2.09 G rms			
Swept Sine	0.5 G (0 to peak)			
Noise Levels per ISO 9296				
Sound Pressure (@ 1 meter Bystander Position)	45 dB(A)			
Sound Power	5.8 B(A)			
Electro-Static Discharge				
No Soft Failures	0 to 5000 V			
2.5% or Fewer Soft Failures	<15,000 V			
No Hard Failures	<25,000 V			

Table 1-22. Product Safety Specifications

Item	Safety Certification
Power Module	UL CSA TÜV or VDE BSI SEMKO NEMKO FEI LCIE SECV
Printer with Power Module	UL CSA TÜV ETL
ltem	EMI Certifications
Printer with Power Module	FCC Class B when used with a Class B computing device (U.S.A.) EMC Directive 89/336/EED (European Community) VCCI (Japan) SABS (South Africa)

Table 1-23. Paper Handling Specifications

Specification	HP DeskJet Portable Printer		
Paper Grain	Long grain only		
Paper Weight	16 to 24 lb (60 to 90 g/m ²)		
Media Handling			
Printer only	Manual single feed		
Optional cut-sheet feeder	0.25 in. thick stack (approximately 40 sheets of 20 lb paper)		
Media Size			
U.S. Letter	8.5 in. × 11 in.		
U.S. Legal	8.5 in. × 14 in.		
European A4	210 mm × 297 mm		
Executive	7.25 in. × 10.5 in.		
Avery Labels	8.5 in. × 11 in.		
IN Tray Capacity			
Printer only	Manual single feed		
With optional cut-sheet feeder	Up to 55 sheets of 16 lb paper		

Notes

- . The HP DeskJet Portable printer does not support envelopes.
- The HP DeskJet Portable printer works well with most types of paper although variables in paper composition may affect print quality and paper handling. Bond paper, such as letterhead gives excellent quality. Paper should be tested to ensure best performance. HP CX JetSeries paper should not be used.

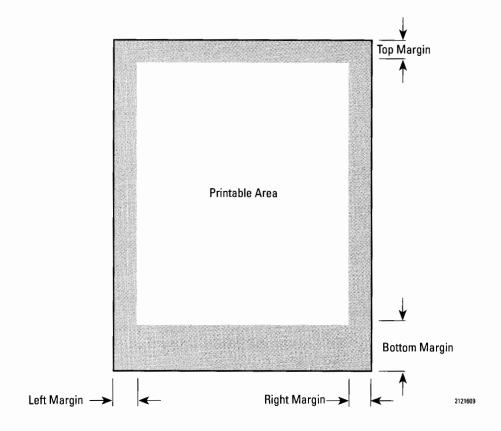


Figure 1-8. Printable Area (Portrait Orientation)

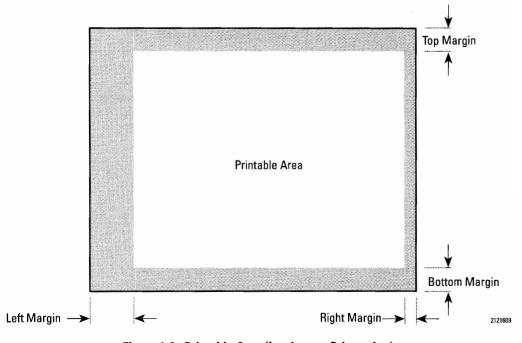


Figure 1-9. Printable Area (Landscape Orientation)

Table 1-24. Printable Area 1,2

	Tubio	1-24. I illicable /	1100				
Portrait Mode							
Page Size	Printable Area ³	Top Margin	Bottom Margin	Left Margin	Right Margin		
U.S. Letter 8 1/2 in. × 11 in. (215.9 mm × 279.4 mm)	8.0 in. × 10.5 in. (203.2 mm × 266.7 mm)	0.00 in. (0.0 mm)	0.5 in. (12.7 mm)	0.25 in. (6.4 mm)	0.25 in. (6.4 mm)		
U.S. Legal 8 1/2 in. × 14 in. (215.9 mm × 355.6 mm)	8.0 in. × 13.5 in. (203.2 mm × 342.9 mm)						
Executive Paper 7 1/4 in. × 10 1/2 in. (184.2 mm × 266.7 mm)	6.80 in. × 10.0 in. (172.7 mm × 254.0 mm)		(12.7 (1111))		0.20 in. (5.1 mm)		
A4 (210 mm × 297 mm)	(203.6 mm × 284.3 mm)			0.125 in. (3.2 mm)	0.125 in. (3.2 mm)		
		Landscape Mod					
Page Size	Printable Area	Top Margin	Bottom Margin	Left Margin	Right Margir		
U.S. Letter 11 in. × 8 1/2 in. (279.4 mm × 215.9 mm)	10.33 in. × 8.0 in. (262.4 mm × 203.1 mm)	0.25 in. (6.4 mm) 		0.5 in. (12.7 mm)	0.167 in. (4.2 mm)		
U.S. Legal 14 in. × 8 1/2 in. (355.6 mm × 215.9 mm)	13.33 in. × 8.0 in. (338.6 mm × 203.1 mm)						
Executive Paper 10 1/2 in. × 7 1/4 in. (266.7 mm × 184.2 mm)	9.83 in. × 6.75 in. (249.8 mm × 171.4 mm)						
A4 (297 mm × 210 mm)	(280.1 mm × 203.6 mm)		0.125 in. (3.2 mm)				

- The specifications in this table are based on text scale mode off (63 lines/page on U.S. letter size paper) and perforation skip mode off. The top margin (portrait mode) increases to 0.5 inches with perforation skip on. (The factory default setting for perforation skip mode is on.)
- Printable area for non-Windows applications. Other applications may have additional restrictions. See the documentation included with the software application or contact the software vendor.
- Based on perforation skip mode off. Perforation skip mode on reduces the printable area by adding 1/2 inch to the top margin.

Table 1-25. Print Cartridge Specifications

Specification	51608A Print Cartridge	
Туре	Plain Paper Drop-On-Demand Thermal Inkjet Printing	
Original 51608A Print Cartridge Life ¹ 1000 Characters Per Page Coverage 1500 Characters Per Page Coverage	500 to 1000 Pages 333 to 666 Pages	
Number of Nozzles	50 Nozzles	
Vertical Resolution	300 dpi	
Dot Size	130 µm on 25% Cotton Bond Paper	

^{1.} The 51608A print cartridge life specifications are based on printing Courier 10. The lower numbers in the specifications are based on using letter quality print mode and the higher numbers in the specifications are based on using draft print mode.

Caution

The ink in the print cartridges has been carefully formulated by Hewlett-Packard to ensure superior print quality and compatibility with the printer. Damage to the printer resulting from modifying the print cartridge is not the responsibility of Hewlett-Packard.

Hewlett-Packard does not support refilling the print cartridges. HP cannot guarantee the print quality from refilled print cartridges. Printer damage caused by refilling is not covered by the Hewlett-Packard warranty or customer service agreements.



Installation and Configuration

Chapter Contents

Section Title	Page
Items Included	2-2
Connecting Power to an HP DeskJet Portable Printer	
Connecting the Printer to a Power Module or a Rapid Recharger	
Installing/Replacing a Battery Pack	2-4
Centronics Parallel Pinout Information	2-6
Connecting the Interface Cable and Establishing Communication	2-7
Verifying Communication	2-8
Configuring the Printer	
Changing the Printer Configuration Settings	2-10

Items Included

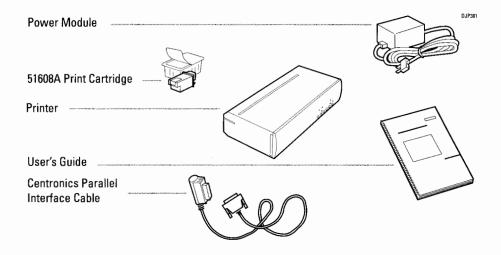


Figure 2-1. Items Included

Note

Items not included with the HP DeskJet Portable printer include the following:

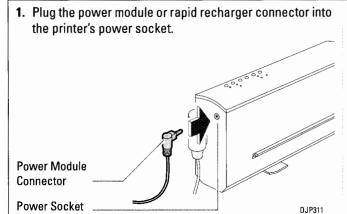
- Battery pack
- Rapid recharger
- Cut-sheet feeder
- Carrying case

See tables 1-6 through 1-8 for the part numbers for these HP DeskJet Portable printer accessories.

Connecting Power to an HP DeskJet Portable Printer

Connecting the Printer to a Power Module or a Rapid Recharger

Caution The power modules and rapid rechargers emit some magnetic interference. Place the power module or rapid recharger on the floor, or at least one inch (approximately 3 cm) away from the computer, disk drive, or hard disk.



2. Plug the other end of the power module cord into an AC outlet.

Table 2-1. Power Module and Rapid Recharger Information

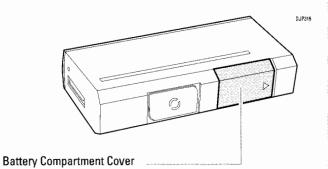
Topic	Information	
Power Module and Rapid Recharger Part Numbers	See table 1-6. A power module for the specific region or country is included with the HP DeskJet Portable printer. The rapid rechargers are accessories that are not included with any HP DeskJet Portable printer.	
Rapid Recharger AC Voltage Detection	The rapid rechargers will operate from any power source from 100VAC to 240VAC, 50 or 60 Hz. The rapid recharger detects the input voltage and automatically provides the appropriate power output to the printer.	
Differences Between the Rapid Rechargers	Since the rapid rechargers will operate from any power source from 100VAC to 240VAC, the differences between the available rapid rechargers is the cord included with the rapid recharger to adapt to a country or region's receptacle.	
More Operating Information	See "Powering the HP DeskJet Portable Printer" in chapter 3.	

Installing/Replacing a Battery Pack

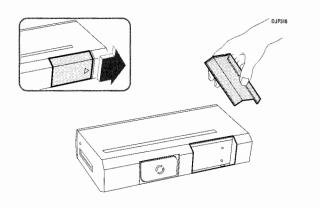
Caution

The power modules and rapid rechargers emit some magnetic interference. Place the power module or rapid recharger on the floor, or at least one inch (approximately 3 cm) away from the computer, disk drive, or hard disk.

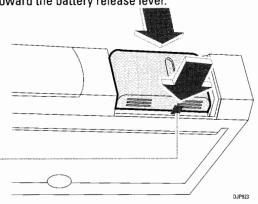
1. If the printer is installed in the optional cut-sheet feeder, remove the printer from the cut-sheet feeder. Place the printer on its side.



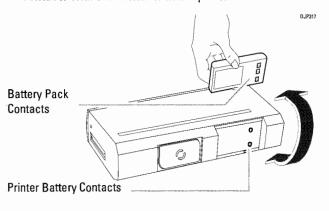
2. Slide the battery compartment cover to the right and remove it from the printer.



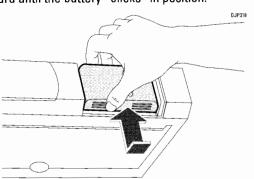
3. If a battery pack is installed, remove the battery pack by pressing the battery release lever and sliding the battery pack toward the battery release lever.



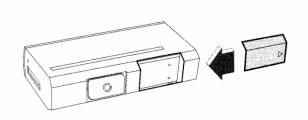
4. To install the new battery pack, align the battery pack contacts with the contacts in the printer.



5. Insert the battery into the battery compartment and slide it upward until the battery "clicks" in position.



6. Reinstall the battery compartment cover.



DJP614

Notes

- A battery pack is an accessory and is not included with the printer.
- See table 1-7 for battery pack part numbers.
- For information on using the HP DeskJet Portable printer with a battery pack, see "Powering the HP DeskJet Portable Printer" in chapter 3.
- The HP DeskJet Portable printer will operate from the power module or the rapid recharger without a battery pack in the printer.
- · When installing a new battery pack for the first time, the battery pack must be fully charged before using the printer in the battery-powered mode.
- · See "Configuring the Printer" for information on quick charging and draining battery packs in the printer.

Table 2-2. Common Battery Pack Troubleshooting Information

Problem	Probable Cause
Battery Pack Will Not Attach to Printer	 Verify the battery pack is compatible with the HP DeskJet Portable printer. See table 1-7 in chapter 1. Verify the battery pack is properly positioned in the printer battery pack compartment.
Battery Pack Will Not Come Off of the Printer	 Press the battery release lever when sliding the battery pack from the printer. Slide the battery pack in the direction shown on the preceding page.
Printer Will Not Operate From Battery Pack	 Verify the battery pack is compatible with the HP DeskJet Portable printer. See table 1-7 in chapter 1. The battery pack may not be charged. The Power light will blink when the battery pack charge level is low. Check the battery pack charge level by the configuration mode or by the printer self-test. If the printer does not print the charge level in the self-test or the battery level gauge is unavailable in the configuration mode, the printer does not detect a battery pack in the printer. The printer will not operate from a battery pack connected to a rapid recharger. Install the battery pack in the printer. The battery pack may be faulty. Replace the battery pack. If the printer will not operate from the power module or the rapid recharger, the power module or rapid recharger may be faulty and is not charging the battery pack. Replace the power module or the rapid recharger. The printer may be faulty. Return the printer for repair.
Battery Pack Has Short Printing Life	Revive the battery pack by fully discharging (draining) then charging the battery pack. This can be accomplished in the printer or on a rapid recharger. See "Powering the HP DeskJet Portable Printer" in chapter 3 and "Configuring the Printer" in chapter 2.

Centronics Parallel Pinout Information

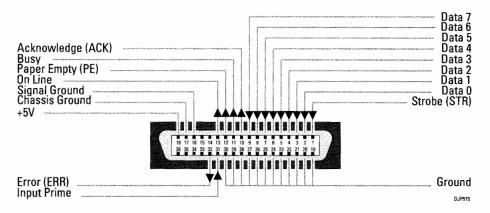


Figure 2-2. Centronics Parallel Interface Connector

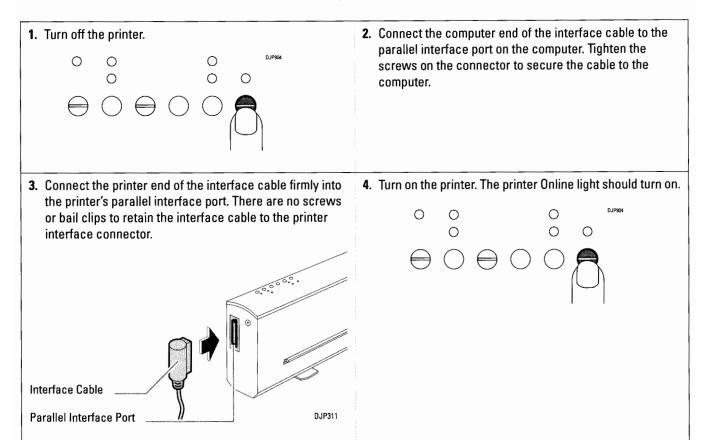
Table 2-3. Centronics Parallel Interface Pinout Information

Pin Number	Pin ID	Description	
1	STR ¹	A low pulse causes the printer to read one byte of data.	
2 - 9	Data 0 - Data 7	These pins are the data lines. Data 0 is the least significant bit (LSB).	
10	ACK ¹	The printer sends a low pulse to indicate that it has accepted a byte of data and is ready for more data.	
11	Busy	The printer sends a high logic level to indicate to the host that it cannot receive data due to data entry, a full buffer, or error status.	
12	PE	The printer sends a high logic level to indicate to the host that it is out of paper.	
13	On Line	The printer sends a high logic level to indicate to the host that it is in an on line condition	
16	Signal Ground	Signal interface ground.	
17	Chassis Ground	Chassis ground.	
18	+5 V	The printer outputs a +5 volt high logic level through a 2.2K ohm resistor.	
19 - 30	Ground	These pins are tied to signal ground.	
31	Input Prime (Reset) ¹	A low pulse sent by the host resets the printer and clears the print buffer. The printer does not work when this line is held low.	
32	ERR ¹	The printer sends a low logic level to the host to indicate that it is in an error state.	

Active low.

Connecting the Interface Cable and Establishing Communication

Centronics Parallel Interface Cable: C3061A (included with the HP DeskJet Portable printer)



5. Establish communication between the computer and the printer by sending the following DOS command:

MODE LPT1:,,P

This command causes infinite retrys when sending data so that the computer does not timeout while waiting for the printer to print. All data is directed to parallel port 1. Modify the Mode command if the printer is connected to another parallel interface port on the computer (such as parallel port 2).

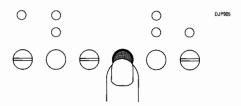
Note: This DOS command may be added to the AUTOEXEC.BAT file to avoid sending the command whenever the computer is turned off and on. Refer to your DOS manual for instructions on adding this command to the AUTOEXEC.BAT file.

Verifying Communication

- 1. Type the following to test the communication between the computer and the printer:
 - · Type DIR>PRN and press the Enter key on the

The computer should send a list of files of the current DOS directory.

2. Press and hold the LF/FF button to eject the page once the printer has finished printing the DOS directory of files.



If the printer does not print the listing of files on the current DOS directory, refer to the "Overall Troubleshooting" section in chapter 5.

Configuring the Printer

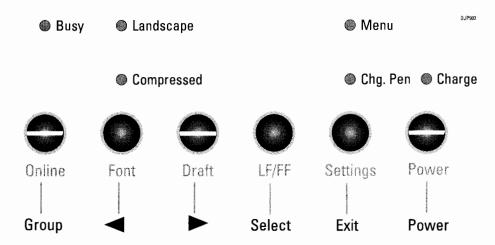


Figure 2-3. Control Panel Button Definitions in Configuration Mode

Note

Control panel definitions in configuration mode are also located on the inside of the printer on the access door.

Table 2-4. Control Panel Button Definitions in Configuration Mode

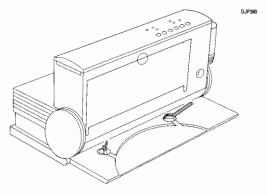
Control Panel Button Label	Configuration Mode Function	Description
Online Button	Group Selection	Moves the pointer to the next group of settings in the configuration menu.
Font Button	4	Moves the pointer to the next left selection in a configuration menu group. If the pointer is at the far left selection in the group, the pointer moves to the right-most selection in the group.
Draft Button	•	Moves the pointer to the next right selection in a configuration menu group. If the pointer is at the far right selection in the group, the pointer moves to the left-most selection in the group.
LF/FF Button	Select Setting	Selects the setting the pointer is pointing at in the configuration menu. The pointer moves slightly to the left and right to acknowledge the selection.
Settings Button	Exit Button	Exits from the configuration mode and returns the printer and control panel definitions to their normal printing operations.
Power Button	Not Applicable	The Power button is not redefined in the configuration mode.

Changing the Printer Configuration Settings

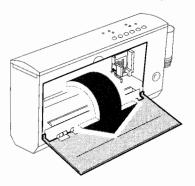
Caution

If using the printer with the cut-sheet feeder, be careful not to damage the paper support guides on the cut-sheet feeder from excessive downward pressure on the access door.

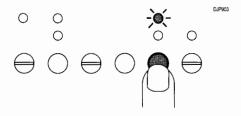
1. Set the printer in the vertical position. If using the cutsheet feeder, rotate the printer and IN tray such that the IN tray is flat against the cut-sheet feeder base.



2. Open the access door to gain access to the configuration menu mounted inside the printer. Figure 2-4 shows the configuration menu and pointer inside the printer.

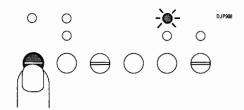


3. Press and hold the Settings button until the Menu light blinks. Then release the Settings button. The printer is in configuration mode when the Menu light is blinking.



In configuration mode, the control panel buttons are redefined. See figure 2-3 and table 2-4 for the control panel button definitions.

4. With the Menu light blinking, click the Group button (Online button) to select the desired configuration menu group. The pointer on the left side of the printer carriage points to the presently selected setting of the configuration menu group.



5. Press the left or right button (Font or Draft button) to move 6. With the pointer on the printer carriage pointing to the desired setting, press the Select button (LF/FF button) to the pointer to the desired setting within the printer save the selection. The selection is not saved until the configuration group. Select button is pressed. (The printer carriage will move 0 slightly to the right and left to indicate the selection of the 0 \circ printer setting.) 8. With all printer settings selected, press the Exit button 7. Repeat steps 4, 5, and 6 until all printer settings are selected as desired. (Settings button) to exit from the configuration mode. The control panel buttons are redefined to their normal printing functions and the printer returns to its normal printing mode.

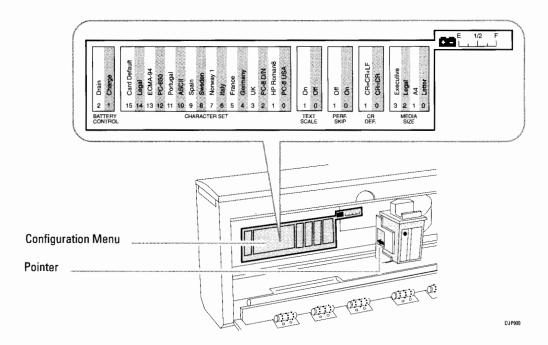


Figure 2-4. Configuration Menu

Table 2-5. Additional Configuration Information

Topic	Information
Verifying Configuration Settings	 The printer configuration can be verified by two methods: The printer self-test identifies the configuration settings. This configuration verification includes a battery level gauge if a battery pack is installed in the printer. The configuration mode identifies the configuration settings. When pressing the Group (Online) button in configuration mode, the pointer on the printer carriage points to the presently selected setting within the group.
Default Settings	 Any selections made in the configuration mode are stored as the new default printer configuration settings, even if the printer is turned off. Software application and escape sequence commands can override default printer settings. On the configuration menu inside the HP DeskJet Portable printer, the setting in each group with a "0" (zero) are the factory default settings. To set the printer to the factory default settings, press and hold the Online and Settings button while pressing and releasing the Power button.
Configuration Mode Timeout	If no selections are made while the printer is in the configuration mode, the printer exits the configuration mode and returns the print cartridge to the home position (right end of the mechanism). Press and hold the Settings button to return to configuration mode.
Left and Right Buttons	 The left and right arrow buttons in configuration mode (Font and Draft buttons) will cycle through the selections in a configuration menu group. Pressing the left or right arrow buttons in configuration mode will not point to selections in other groups. Use the Group (Online) button to move between groups when in the configuration mode.
BATTERY CONTROL	 The BATTERY CONTROL group of the configuration menu is not selectable unless a battery pack is installed in the printer. The Charge selection in the BATTERY CONTROL group is the only selection available when the printer is powered by a power module or a rapid recharger. The left and right arrow buttons (Font and LF/FF buttons), do not move the pointer in the BATTERY CONTROL group since only one selection is available, depending on whether the printer is powered by an AC power source or a battery pack. With the printer operated from a power module or a rapid recharger with a battery pack installed in the printer, the Charge selection is the only available setting in the BATTERY CONTROL group. The printer starts the charge mode once the user exits from the configuration mode. With the printer operated from a battery pack, the Drain selection is the only available setting in the BATTERY CONTROL group. The printer starts to discharge the battery pack once the user selects drain mode and exits from the configuration mode. To exit from the charge or drain mode after selecting the mode, turn off the printer.
Saving Settings	The Select button in configuration mode (LF/FF button) must be pressed to save the selected printer setting in a group. Leaving the configuration menu group or exiting the configuration mode without pressing the Select button will not save the selections as the new printer default settings.

Table 2-5. Additional Configuration Information (Continued)

Topic	Information
Overriding Printer Configuration Settings	Commands from software applications or escape sequences override printer configuration settings. However, the configuration mode settings are the default printer settings if power is cycled.
Battery Level Gauge	 The printer skips the battery level gauge unless a battery pack is installed in the printer. If the printer is unable to determine the charge level of a battery pack, the printer will point to the ¹/₄ level mark on the gauge. The battery level can also be determined by the printer self-test. The pointer will only indicate the battery charge level when initially entering configuration, provided a battery pack is installed in the printer. To point to the battery level gauge after making configuration selections, you must exit then reenter the configuration mode.

Table 2-6. Troubleshooting Common Configuration Problems

Problem	Possible Cause
Printer Does Not Save Configuration Settings	 The Select (LF/FF) button was not pressed after selecting a printer setting. The printer was not in the configuration mode. The menu light must be blinking to set the printer configuration. The user is exiting from the configuration mode (pressing the Exit button in configuration mode) without pressing the Select button. A software application is overriding the printer setting. Read the documentation included with the software application for information on setting printer settings within the software application.
Pointer Will Not Point to a Setting or a Group of Settings	 If the Chg Pen light is blinking rather than the Menu light blinking, the printer is in the change pen mode rather than the configuration mode. Click the Settings button to exit the change pen mode. Then press and hold the Settings button until the Menu light blinks. The printer does not point to the battery level gauge unless there is a battery pack in the printer. The left and right arrow (Font and Draft) buttons only move the pointer to the settings within a group. Use the Menu (Online) button to move between the configuration menu groups. The printer will not point to the BATTERY CONTROL selections unless there is a battery pack in the printer. With a battery pack in the printer, not all selections are available in the BATTERY CONTROL group. If powered by power module or rapid recharger with a battery pack installed, only the charge selection is available. If powered by a battery pack, only the drain selection is available. The pointer will point at the battery level gauge only after entering the configuration mode, provided a battery pack is installed in the printer. To check the battery charge level again, exit then re-enter the configuration mode.

Operation and Usage

Chapter Contents

Section Title	Page
Control Panel Information	. 3-2
Rapid Recharger Lights and Buttons	. 3-6
Operating the HP DeskJet Portable Printer with the Optional Cut-Sheet Feeder	. 3-7
Attaching the Printer to the Optional Cut-Sheet Feeder	. 3-9
Folding the Printer and Cut-Sheet Feeder for Storage or Transporting	. 3-10
Automatic Feeding with the Cut-Sheet Feeder	. 3-11
Manually Feeding Paper Using the Cut-Sheet Feeder	. 3-12
Setting Up the Printer for Other Operations	. 3-13
Installing/Replacing a Print Cartridge	. 3-14
Loading Paper	. 3-17
Manual Single Load	
Loading Media in the Optional Cut-Sheet Feeder	. 3-18
Powering the HP DeskJet Portable Printer	. 3-20
Quick Charge and Trickle Charge Rates	. 3-20
Sleep Mode	
Low Battery Condition	. 3-21
Power Module Information	
Rapid Recharger Information	
Battery Pack Information	. 3-24
Maintenance	. 3-26
Maintaining Print Cartridges	. 3-26
Maintaining the Printer	
Thermal Inkjet II Technology	. 3-29

Control Panel Information

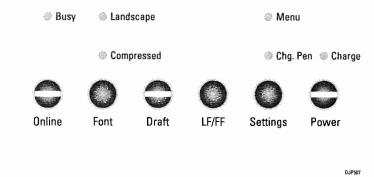


Figure 3-1. HP DeskJet Portable Printer Control Panel

Table 3-1. Description of Control Panel Buttons and Lights

Button or Light	Operation	Description
Online Button and Online Light	Setting the Printer Online	Click the Online button to toggle the printer between an online and offline condition. The Online light (light within the Online button) is on when the printer is in an online condition (ready to receive information and print). The printer must be online for the printer to print.
	Clearing an Out-Of-Paper Condition (With Cut-Sheet Feeder)	When using the optional cut-sheet feeder, press the Online button to clear an out-of-paper condition (Online light is blinking). Once paper is successfully loaded, the printer then returns to an online condition.
	Resetting the Printer to the Factory Settings	While pressing the Online and Settings buttons, press and release the Power button.
Font Button, Compressed Light, and Landscape Light	Selecting Internal Fonts	 Click the Font button to cycle through the internal fonts selectable by the control panel. The Busy light must be off to select fonts with the Font button. Portrait printing is selected if the Landscape light is off. Landscape printing is selected if the Landscape light is on. Courier 10 upright is selected if the Compressed light is off. Courier 16.67 upright is selected if the Compressed Light is on. (For example, with the Landscape and Compressed lights on, the landscape Courier 16.67 cpi font is selected.) Note: Not all internal fonts are selectable using the Font button. See "Internal
		Fonts" in chapter 1 for information on which internal fonts are selectable from the Font button.
	Starting the Printer Self-Test	Turn off the printer. Then while pressing the Font button, press the Power button until the Power and Busy lights are lit. See "Printer Self-Test" in chapter 5.
Draft Button and Draft Light	Selecting Draft and Letter Quality Modes	Click the Draft button to toggle between draft and letter quality print modes. The Draft light (light within the Draft button) is on when draft mode is selected. The Busy light must be off to select draft and letter quality modes.
LF/FF Button	Linefeed and Formfeed Operations	 Click the LF/FF button to advance the media approximately one line (1/6 inch). Click the LF/FF button several times to advance the media several linefeeds. Press and hold the LF/FF button to load or eject paper. If the printer has paper in the mechanism, pressing and holding the LF/FF button will eject paper. If using the optional cut-sheet feeder and the printer does not have paper in the mechanism, pressing and holding the LF/FF button will load paper from the cut-sheet feeder IN tray. The Busy light must be off for the LF/FF button to function.
	Clearing the Printer Buffer	If the Busy light is blinking, the printer has stopped printing but there is more information in the printer buffer. Press the LF/FF button to print the remaining information in the printer buffer and eject the page.
	Starting the Printer Self-Test	Turn off the printer. Then while pressing the LF/FF button, press the Power button until the Power and Busy lights are lit. See "Printer Self-Test" in chapter 5.

Table 3-1. Description of Control Panel Buttons and Lights (Continued)

Button or Light	Operation	Description
Settings Button, Chg Pen Light, and Menu Light	Replacing the Print Cartridge	Open the printer access door and click the Settings button to access the print cartridge. The Chg Pen (Change Pen) light blinks to indicate the printer is waiting for the user to replace the print cartridge and press the Settings button. Once the print cartridge is replaced, press the Settings button again to return the print cartridge to the home position.
	Enabling Configuration Mode	Press and hold the Settings button to enter the printer configuration mode. The Menu light blinks to indicate the printer is in the configuration mode. In the configuration mode, the printer control panel is redefined to select printer settings. Use the printer control panel button to make the desired configuration setting. Once the printer settings are selected, press the Settings button to return the printer to normal printing operating. For more information, see "Configuring the Printer" in chapter 2 of this manual. Note:The configuration mode is not selectable unless the Chg Pen light is off.
	Resetting the Printer to the Factory Settings	While pressing the Online and Settings buttons, press and release the Power button
Power Button and Power Light	Turning the Printer On and Off	 To turn the printer on, press and hold the Power button until the Busy light turns on. Then release the Power button. The Power light inside the Power button is lit if the printer powers on. To turn the printer off, press and hold the Power button until the Online light turns off. Then release the Power button.
	Identifying Printer and Battery Pack Status (Battery Mode Only)	The Power light indicates the following conditions when using a battery pack: The Power light will be dim in sleep mode. See "Using the Printer with a Battery Pack" in this chapter for more information. The Power light blinks when the battery pack charge level is low.
	Starting the Printer Self-Test	Turn off the printer. Then while pressing the Font button, press and hold the Power button until the Power and Busy lights are lit. See "Printer Self-Test" in chapter 5.
	Starting the Print Cartridge Cleaning Routine	Turn off the printer. Then while pressing the Draft button, press and hold the Power button until the Power and Busy lights are lit. See "Print Cartridge Cleaning Routine" in chapter 5.
	Resetting the Printer to the Factory Settings	While pressing the Online and Settings buttons, press and release the Power button.

Table 3-1. Description of Control Panel Buttons and Lights (Continued)

Button or Light	Operation	Description
Charge Light	Identifying Printer Status When Using a Battery Pack (Battery Mode Only)	 The Charge light indicates the following when the printer is used with a battery pack: The Charge light is on when the battery pack is being charged in the printer. The Charge light is off when the battery pack is fully charged or the printer does not have a battery pack. The Charge light blinks when the printer is discharging the battery pack.
Busy Light	Indicating Printer Status	The Busy light is on when the printer is processing or printing information. Most control panel buttons are inoperative when the Busy light is on.
	Printing Information in the Printer Buffer	If the Busy light is blinking, the printer has stopped printing but there is more information in the buffer that has not printed. Press the LF/FF button to print the information in the printer buffer and eject the page.

Note	For error patterns on the control panel, see "Control Panel Light Indications" in chapter 5.

Rapid Recharger Lights and Buttons



Figure 3-2. The HP Rapid Recharger Lights and Buttons

Table 3-2. Rapid Recharger Buttons and Lights

Button or Light	Operation	Description
Green Lights	Battery Pack Charging Status	 If the green light is blinking, the battery pack on that side of the rapid recharger is being charged. If the green light is on, the battery pack on that side of the rapid recharger is fully charged. If the green light is off, the battery pack is being discharged (red light on) or the rapid recharger does not detect a battery pack on that side of the rapid recharger.
Red Discharge Lights	Battery Pack Discharging Status	 If the red Discharge light is on, the battery pack is being discharged. If the red Discharge light is blinking, the rapid recharger is waiting to discharge the battery pack until the battery pack on the other side of the rapid recharger is discharged and charged. If the red Discharge light is off, the revive function is not selected.
Discharge Buttons	Selecting Revive and Charging Modes	 Press the Discharge button until the red light is on or blinking to revive a battery pack. To select charge mode with the red Discharge light on, press and hold the Discharge button until the red light turns off.

Note	There is no power light on the rapid recharger to indicate that the rapid recharger is plugged into an
	AC power source.

Operating the HP DeskJet Portable Printer with the Optional Cut-Sheet Feeder

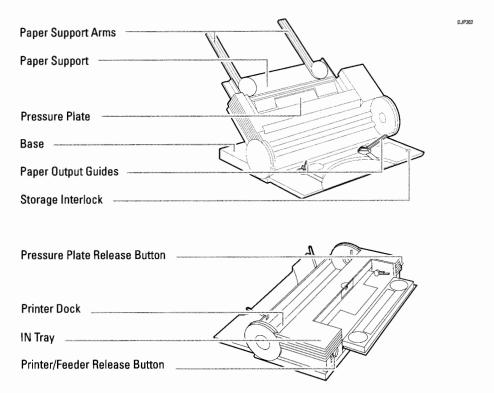
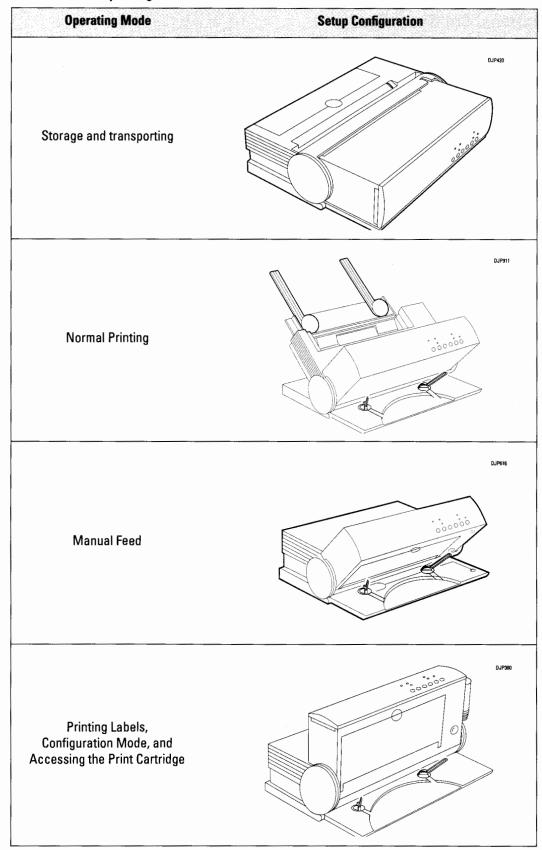


Figure 3-3. The HP DeskJet Portable Printer Optional Cut-Sheet Feeder

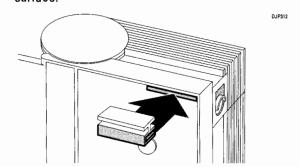
The optional cut-sheet feeder, part number C3005A, provides paper feeding capability to an HP DeskJet Portable printer. The IN tray holds up to one-quarter inch (approximately 0.5 cm) stack of paper. Table 3-3 shows the various operating configurations when using the HP DeskJet Portable printer with the optional cut-sheet feeder.

Table 3-3. Setup Configurations with the HP DeskJet Portable Printer and Cut-Sheet Feeder

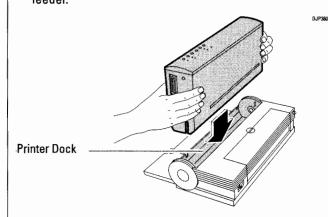


Attaching the Printer to the Optional Cut-Sheet Feeder

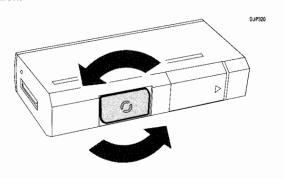
1. Attach the cable holder to the base of the cut sheet feeder. Then, place the cut-sheet feeder on a flat level surface.



3. Insert the printer into the printer dock in the cut-sheet feeder.



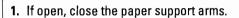
2. Make sure the printer stand is rotated to the stored position.

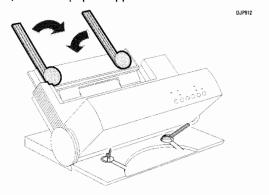


The HP DeskJet Portable printer with the optional cut-sheet feeder can be set up into four positions for four printer operations:

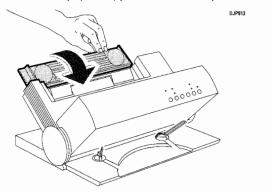
- · Transport mode
- Normal operating mode
- Manual single feed operation
- Configuration mode and accessing the print cartridge For information on using the printer in these operations, see the following information in this section.

Folding the Printer and Cut-Sheet Feeder for Storage or Transporting

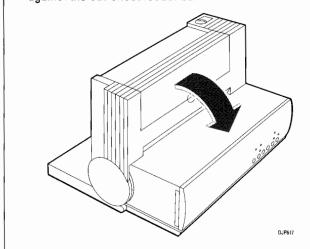




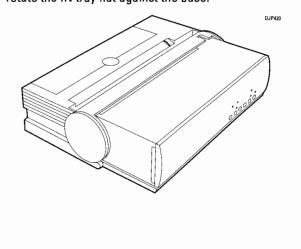
2. If open, close the paper support on the IN tray.



3. Rotate the printer and IN tray such that the printer is flat against the cut-sheet feeder base.

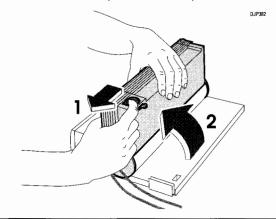


4. While sliding and holding the Printer/Feeder release lever, rotate the IN tray flat against the base.

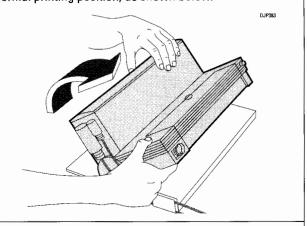


Automatic Feeding with the Cut-Sheet Feeder

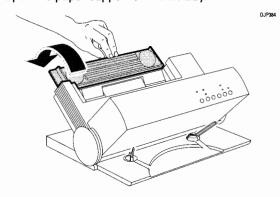
1. With the printer and the cut-sheet feeder folded for storage, slide and hold the Printer/Feeder release lever and rotate the IN tray to the vertical position.



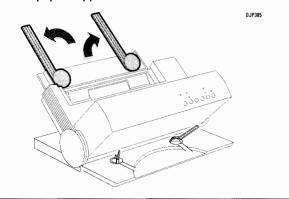
2. Release the Printer/Feeder Release lever. Then rotate the printer and the IN tray of the cut-sheet feeder to the normal printing position, as shown below.



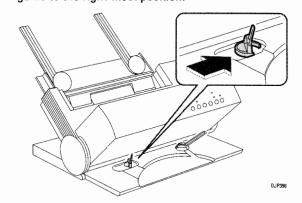
3. Open the paper support on the IN tray.



4. Open the paper support arms.

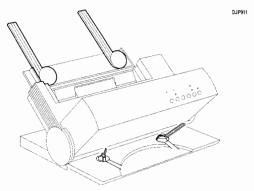


- 5. Adjust the left paper output guide for the size of media in the IN tray.
 - For U.S. letter, U.S. legal, and A4 size paper, slide the paper output guide to the left-most position.
 - For U.S. executive size paper, slide the paper output guide to the right-most position.

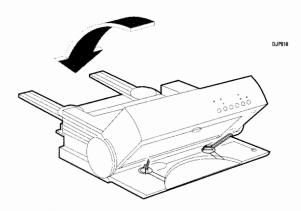


Manually Feeding Paper Using the Cut-Sheet Feeder

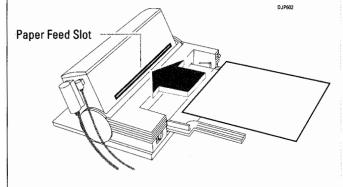
1. Set up the printer for automatic feeding of sheets. See "Automatic Feeding with the Cut-Sheet Feeder" in this section.



2. While holding the printer at a 45-degree angle to the base, slide and hold the Printer/Feeder release lever and rotate the IN tray flat against the cut-sheet feeder base.



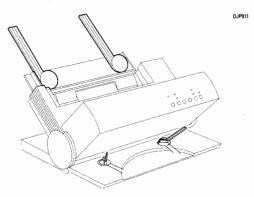
3. To manually load media, insert the sheet of paper into the paper feed slot, print side up, until the sheet stops. An alignment mark in the paper feed slot aligns the media to the paper feed slot.



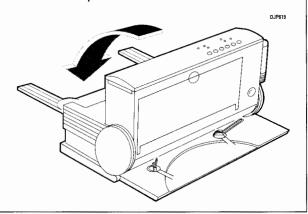
4. After approximately one second, the paper feed rollers will grip the media. Release the media and allow the printer to pull it in the printer.

Setting Up the Printer For Other Operations (Configuration Mode, Accessing the Print Cartridge, or Printing Labels)

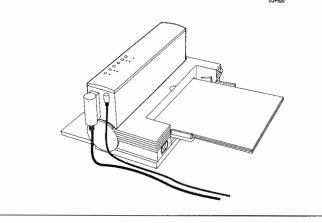
1. Set up the printer for automatic feeding of sheets. See "Automatic Feeding with the Cut Sheet Feeder" in this section.



2. Rotate the printer and the IN tray such that the IN tray is flat against the cut-sheet feeder base. The printer should be in the vertical position.



3. If printing labels, load the label stock into the IN tray with the IN tray against the cut-sheet feeder base. This configuration provides a straight path for the heavy label paper stock.



Notes

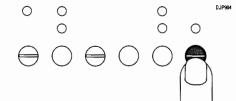
- For information on configuring the printer, see "Configuring the Printer" in chapter 2.
- For information on replacing a print cartridge, see "Installing/Replacing a Print Cartridge" in chapter 3.

Installing/Replacing a Print Cartridge

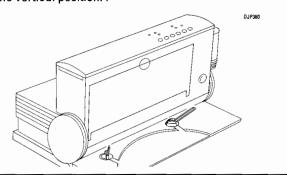
Caution

Do not let the print cartridge contacts and nozzles touch any surface or object, including your fingers. Skin oil and dust can cause print quality or missing dot problems.

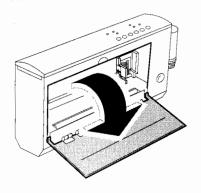
1. If the printer is off, turn on the printer.



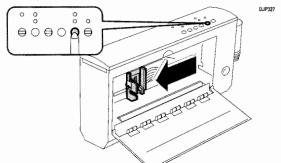
2. If using the optional cut-sheet feeder, position the printer in the vertical position. .



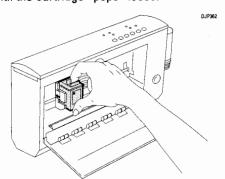
3. Open the access door.



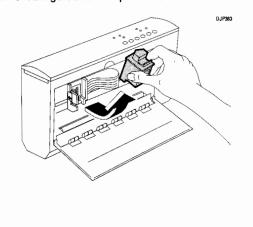
4. Click the Settings button. This provides access to the printer carriage. The Chg Pen (Change Pen) light should be blinking.



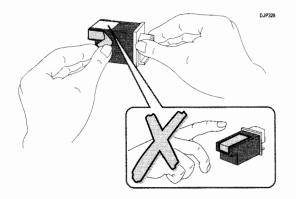
5. To remove a print cartridge from the printer, grasp the green cartridge top while placing your thumb on the bottom edge of the cartridge. Pull the top of the cartridge toward you until the cartridge "pops" loose.



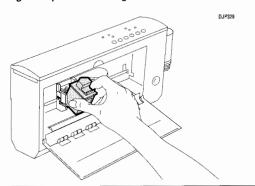
6. Lift the print cartridge out of the printer cradle.



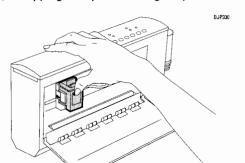
7. Open the new print cartridge container. Remove the tape covering the nozzles. Be careful not to touch the copper ribbon or the ink nozzles.



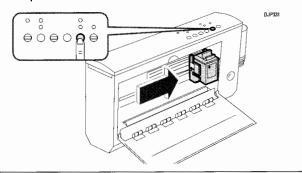
8. With the green arrow on top of the print cartridge facing the printer carriage, tip the print cartridge in the printer carriage. Be careful not to slide the print cartridge along the contacts in the printer carriage. This sliding motion can damage the printer carriage contacts.



9. Push the green arrow forward toward the printer carriage, "snapping" the print cartridge in place.



10. Click the Settings button to return the print cartridge to the home position. Close the access door.



Notes

Use only the HP 51608A print cartridge in an HP DeskJet Portable printer. Other print cartridges, such as the HP 51626A high-capacity print cartridge, are not compatible with the HP DeskJet Portable printer.

Table 3-4. Troubleshooting a Print Cartridge Problem in an HP DeskJet Portable Printer

Problem	Possible Causes	Solution
No Printout	 Tape may be covering the print cartridge nozzles. The print cartridge is out of or running out of ink. The print cartridge is faulty. The printer is faulty. 	See "Troubleshooting Print Cartridges" and "Solving Print Quality Problems" in chapter 5.
Fading Print, Rows of Dots Missing, or General Unsatisfactory Print Quality	 The print cartridge may be faulty. The media may be causing unsatisfactory print quality. The user may not be operating the printer for optimum print quality. The printer may be faulty. 	See "Troubleshooting Print Cartridges" and "Solving Print Quality Problems" in chapter 5.
Chg. Pen Light Blinking	The printer is waiting for the user to install a print cartridge and press the button to return the print cartridge to the home position.	Install the print cartridge and press the Settings button.
Faint or Fuzzy Print	The print cartridge or media may be the cause. The print cartridge may need cleaning.	See "Troubleshooting Print Quality" and "Using the Print Cartridge Cleaning Routine" in chapter 5.
Rows of Dots Missing On Printouts	The print cartridge, printer, or connection between the print cartridge and printer is faulty. The print cartridge may need cleaning.	See "Printouts Missing Rows of Dots" and "Using the Print Cartridge Cleaning Routine" in chapter 5.
Print Cartridge Will Not Return to the Home Position (Right Side of the Mechanism)	The print cartridge contacts have an interconnect problem with the printer carriage contacts. The printer is faulty.	See "Printout Missing Rows of Dots" in chapter 5.

Loading Paper

Note

The HP DeskJet Portable printer is designed to work only with cut-sheet paper and media (rather than continuous Z-fold paper). This includes manual single load operations and using the optional cut-sheet feeder. If continuous Z-fold paper is loaded in the printer, the printer will detect a paper jam error and will not operate properly.

Manual Single Load

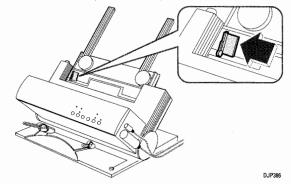
- 1. Insert a sheet of media into the paper-feed slot with the edge of the paper against the alignment mark. Wait several seconds for the printer to grab the sheet of paper.
 - 0.JP335
- 2. Let go of the media once the printer grips the media and pulls the media into the printer. The printer will print on the sheet of paper and eject the page out of the printer.



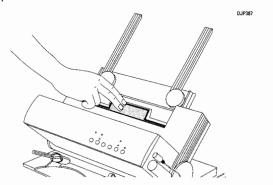
3. If the printer tries to load another sheet, the printer will detect an out-of-paper condition (Online light blinking). Insert a sheet of media into the paper-feed slot as described in step 1.

Loading Media in the Optional Cut-Sheet Feeder

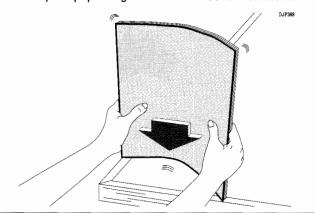
1. With the printer and cut-sheet feeder set up for automatic loading, slide the paper width adjustment bar to the left.



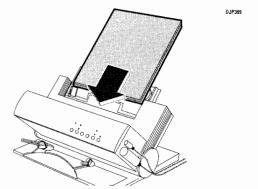
2. Press down on the paper pressure plate to lock it in the load position.



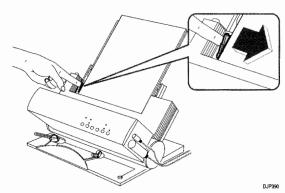
3. Take out a 1/4 inch (approximately 0.5 cm) stack of media and tap the paper edge on a flat surface to even the stack.



4. Insert the stack of paper squarely into the IN tray, print side up, making sure that the right edge of the paper is aligned against the right side of the IN tray.



5. Slide the paper width adjustment bar to the edge of the media. Be sure the paper width adjustment bar does not buckle the paper.



6. Press the gray pressure plate release button. This forces the paper against the paper feed rollers.

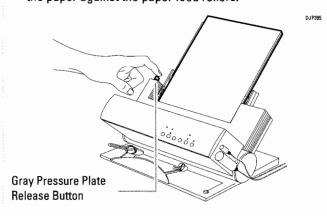


Table 3-5. Media Loading Information

Topic	Information
Transparencies	The optional cut-sheet feeder does not feed transparencies. Load this media manually.
Removing Media from the Cut-Sheet Feeder	To remove paper in the IN tray of the cut-sheet feeder, press on the stack of paper above the pressure plate. (The pressure plate is shown in step 2.) This will release tension on the IN tray paper stack. Then remove the stack from the printer.
Printing on Letterhead	To print on the letterhead side of a page, place the letterhead face up in the IN tray with the top of the letterhead toward the printer.
Printing on Labels	When printing labels with the printer attached to the optional cut-sheet feeder, rotate the printer so that it is in the vertical position (position for accessing the print cartridge or configuring the printer) so the printer provides a straight paper path for the heavier label paper stock. See "Printing on Labels" in this chapter.
Manually Loading Paper with the Optional Cut-Sheet Feeder	When manually loading media, rotate the printer to the 45 degree position and keep the IN tray in the horizontal position. See "Manually Loading Paper" in this chapter.
Media Loading Tips	 Make sure the paper meets the specifications listed in chapter 1. Avoid mixing media types in the IN tray. Always load a stack of paper into an empty IN tray rather than placing paper on top of paper in the IN tray. Move the paper width alignment bar against the IN tray paper.

Table 3-6. Common Paper Related Problems

Problem	Possible Causes and Solutions	
Printer Will Not Feed Paper in Manual Feed Mode	 Verify the paper path is clear of obstructions. Wait for the printer paper feed rollers to stop turning and insert the paper again. Make sure the paper is aligned against the alignment mark in the paper feed slot. 	
Printer Will Not Feed Paper from the Cut-Sheet Feeder	 Verify the paper meets the specifications listed in chapter 1. Verify the cut-sheet feeder is in the automatic paper feed position. Verify the gray pressure plate release button was pressed and the paper is making good contact with the paper feed rollers in the sheet feeder. If printing on transparencies, manually feed the media rather than using the cut-sheet feeder. 	
Optional Cut-Sheet Feeder Feeds More Than One Sheet	 Verify the paper meets the specifications listed in chapter 1. Verify there is no more than ¹/₄ inch of paper in the IN tray. Do not load media on top of existing media in the IN tray. Load the paper in the IN tray as one stack. 	
Online Light Blinking	The printer is out-of-paper. Load paper in the printer or the cut-sheet feeder.	
Busy Light Blinking	The printer has printed data but has not received a command to eject the page. Press and hold the LF/FF button to eject the page.	
Print Skewed	See "Avoiding Print Skew" in chapter 5.	
Busy and Online Lights Blinking	The printer detects a paper jam. See "Clearing Paper Jams" in chapter 5.	

Powering the HP DeskJet Portable Printer

Quick Charge and Trickle Charge Rates

The HP DeskJet Portable printer is capable of charging batteries at a trickle charge rate and at a quick charge rate. The quick charge rate is intended only for new and fully discharged battery packs. The trickle charge rate is used to maintain a peak battery charge level and for charging a battery pack with an unknown charge level. Trickle charging avoids damaging a battery pack from overcharging. The table below identifies when a trickle charge and quick charge rate is selected.

Table 3-7. Determining the Battery Pack Charge Rate

Battery Pack Situation	Charge Rate	Explanation
Fully Charged Battery Pack	Trickle Charge as Necessary	The printer detects a fully charged battery pack. The printer will trickle charge as necessary to maintain a fully charged battery pack.
Fully Discharged Battery Pack	Quick Charge	The printer detects a fully discharged battery pack and quick charges the battery pack.
Installed in the Printer as a Partially Charged Battery Pack	Trickle Charge	If a partially charged battery pack is installed in the printer, the printer cannot determine the present charge level of the battery pack until it has been fully charged. In this situation, the battery level gauge will indicate that the battery pack is $^{1}/_{4}$ charged until the battery pack is fully charged. The printer will trickle charge the battery pack until fully charged. The printer will then trickle charge as necessary to maintain the battery pack fully charged.
Partially Charged Battery Pack But Previously Fully Charged in the Printer	Trickle Charge	Since the battery pack had previously been fully charged, the printer can determine the present battery pack charge level. The printer will trickle charge the battery pack when the printer is powered on.
New Battery Pack	Dependent on Residual Charge Level in the Battery Pack	 If the printer detects a residual charge level in the battery pack, the printer will trickle charge the battery pack. If the printer detects a fully discharged battery pack (no residual charge), the printer will quick charge the battery pack.

Notes

- . The charging process is interrupted as the printer is active. Once the printer is inactive (not printing), the charging process will continue.
- To override the trickle charge rate and configure the printer for the quick charge rate, see "Configuring the Printer" in chapter 2.
- The charging rate is halted if the printer is turned off or the AC power source is disconnected.

Sleep Mode

When powering the printer with a battery pack, the HP DeskJet Portable printer has a sleep mode after two minutes of inactivity. Sleep mode extends the length of a battery pack charge by minimizing the printer power requirements during periods of inactivity. All control panel lights are turned off except for the Power light, which is dimmed.

The HP DeskJet Portable printer automatically wakes from sleep mode when data is sent to the printer or when a button on the control panel is pressed. The printer ignores the function of the control panel button when waking from sleep mode. Data sent to the printer when waking from sleep mode, however, is received by the printer and no data is lost.

If the HP DeskJet Portable printer is left in sleep mode for 30 minutes, the printer will turn off. If the printer powers off, any data sent to the printer will be lost. The printer must be turned on to restore the printer to its normal printing operation.

disabled or modified in the HP DeskJet Portable printer.	Note	 The printer will not go into sleep mode if the battery pack is being discharged. When powering an HP DeskJet Portable printer with a battery pack, sleep mode cannot be disabled or modified in the HP DeskJet Portable printer.
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Low Battery Condition

The Power light blinks if the printer detects a low battery condition. The HP DeskJet Portable printer can print approximately 5 pages after detecting a low battery condition.

Power Module Information

Table 3-8. Power Module Information

Power Module Topic	Information
Power Module Part Numbers	See "Power Module, Rapid Recharger, and Battery Pack Part Numbers" in chapter 1.
Compared to Rapid Rechargers	 Power modules are designed for a specific country and region's power (voltage and frequency). Rapid rechargers are designed as universal power sources (voltage and frequency independent). Power modules can charge and drain a battery pack in the printer, but they cannot charge and drain batteries out of the printer.
Connecting Power Modules	See "Connecting the Printer to a Power Module or a Rapid Recharger" in chapter 2.

Caution	Unlike the rapid rechargers, the power modules are designed to operate for a specific country or
	region. Do not use an adaptor to adapt a power module to a country's receptacle. Obtain the
	appropriate power module for the region or country. See table 1-6 for power module part numbers.

Rapid Recharger Information

Table 3-9. Rapid Recharger Information

Rapid Recharger Topic	Information
Cautions	 It is normal for the battery packs to feel warm after charging and discharging cycles. Use only battery packs recommended in this manual or by Hewlett-Packard.
Rapid Recharger Part Numbers	See "Power Module, Rapid Recharger, and Battery Pack Part Numbers" in chapter 1.
When to Use a Rapid Recharger	 The rapid rechargers may be used in place of the power module, which is included with the HP DeskJet Portable printer. All rapid rechargers will operate from any power source from 100VAC to 240VAC, 50Hz or 60Hz. The rapid recharger detects the input voltage and automatically provides the appropriate power output to the printer. The detachable cord, included with the rapid recharger, adapts the rapid recharger to a country or region's power receptacle. (These detachable cords cannot be ordered separately.) The HP DeskJet Portable printer will not operate from a battery pack attached to the rapid recharger. To use in battery mode, remove the battery pack from the rapid recharger and install it in the printer. To use the rapid recharger for power, connect the rapid recharger to the printer and to the AC power receptacle.
Using Rapid Rechargers Worldwide	Since the rapid rechargers detect the input voltage and automatically provide the appropriate power to the printer, a rapid recharger can be used worldwide by obtaining adaptors to adapt a rapid recharger plug to region and country's receptacles. Do not use these adaptors on power modules. Power modules are designed for specific countries and regions and do not detect the input voltage.
Compared to Power Modules	 The cord on the AC voltage side of the rapid rechargers is detachable. Rapid rechargers detect the input voltage and automatically provide the appropriate power output to the printer. Power modules are designed for a specific country and region's power input voltage. Power modules are capable of providing power to an HP DeskJet Portable printer. Rapid rechargers can provide power to an HP DeskJet Portable printer, charge battery packs outside of the printer, and drain battery packs outside of the printer.
Rapid Recharger Lights	See "Rapid Recharger Lights and Buttons" in this chapter.
Reviving/Discharging with a Rapid Recharger	 Nickel cadmium battery packs have a characteristic that reduces their charge capacity if they are not occasionally revived by fully discharging (draining) then charging the battery pack. Hewlett-Packard recommends fully discharging battery packs approximately once a month. Discharging battery packs on the rapid recharger can be accomplished with the rapid recharger disconnected from the AC power source. The rapid recharger can discharge only one battery pack at a time. A second battery pack will not begin discharging until the first battery pack is fully discharged then fully charged. For information on the rapid recharger lights and buttons, see "Rapid Recharger Lights and Buttons" in this chapter.

Table 3-9. Rapid Recharger Information (Continued)

Rapid Recharger Topic	Information
Charging with a Rapid Recharger	 The rapid recharger can quick-charge a battery in approximately 1 hour per battery pack. Once the battery pack is charged, the rapid recharger automatically switches to a trickle charge rate to maintain peak charge while the battery pack is attached to the rapid recharger. It is normal for the battery packs to feel warm after charging and discharging. Charging automatically begins once a battery pack is installed on the rapid recharger or the rapid recharger is plugged into the AC power source. No user action is required to begin the charging process once the battery pack is installed on the rapid recharger. Press the Discharge button on the rapid recharger to toggle between charging and discharging modes. The rapid recharger can hold none, one, or two battery packs at once. The rapid recharger, however charges or discharges one battery at a time. If two battery packs are connected to the rapid recharger for charging or reviving, the second battery pack does not begin the discharging or charging process until the first battery pack is fully charged. The rapid recharger does not need to be connected to an HP DeskJet Portable printer in order to charge battery packs attached to the rapid recharger. For information on the rapid recharger lights and buttons, see "Rapid Recharger Lights and Buttons" in this chapter.

Battery Pack Information

Table 3-10. Battery Pack Information

Battery Pack Topic	Information
Cautions	 Use only battery packs recommended in this manual or recommended by Hewlett-Packard. Do not touch the battery pack contacts. Do not dispose of the battery packs in fire. Follow local regulations for proper disposal of battery packs. Do not short the battery contact terminals. It is normal for battery packs to feel warm after charging and discharging cycles. Do not place any object other than a battery pack in the printer battery compartment.
Battery Part Numbers	See "Power Module, Rapid Recharger, and Battery Pack Part Numbers" in chapter 1.
Battery Specifications	See specifications listed in the Specifications section of chapter 1.
Battery Installation Instructions	See "Installing/Replacing a Battery Pack" in chapter 2 of this manual or in the user documentation included with the printer.
Operating from a Battery Pack	 The printer must be disconnected from an AC power source (power module or rapid recharger) for the printer to operate from a battery pack. The printer will not operate from a battery pack directly connected to a rapid recharger. The battery pack must be installed in the printer to operate in the battery mode.
Reviving/Discharging Information	 Nickel cadmium battery packs have a characteristic that reduces their charge capacity if the they are not occasionally fully discharged (drained) then charged. This is known as reviving a battery pack. Hewlett-Packard recommends reviving battery packs approximately once a month. If the printer begins to print fewer pages per battery charge cycle, revive the battery pack by fully discharging and charging the battery pack with the rapid recharger or the printer. See "Configuring the Printer" in chapter 2 for information on discharging (draining) and charging battery packs in the printer. When reviving two battery packs on a rapid recharger, the rapid recharger fully discharges and fully charges the first battery pack before reviving the second battery pack.
Charging Information	 Battery packs may be charged in the printer or on the rapid recharger. If the printer is attached to a power module or rapid recharger, the printer automatically charges the battery pack when the printer is turned on. The Charge light turns on when the battery pack is being charged. The Charge light turns off once the battery pack is fully charged. The charging process is interrupted when the printer is active (processing data or printing). Once the printer is inactive, the charging process continues. Charging is halted if the printer is turned off or it is disconnected from the AC power source. The HP DeskJet Portable printer has two battery pack charging rates: quick charge and trickle charge. For more information, see "Quick Charge and Trickle Charge Rates" in this chapter. Use the quick charging rate for new or fully discharged (drained) battery packs. For information on selecting the quick charge rate from the configuration mode, see "Configuring the Printer" in chapter 2. The rapid recharger will charge one battery pack at a time. If two battery packs attached to the rapid recharger are to be charged, the rapid recharger charges one battery pack then charges the second battery pack once the first battery pack is charged.

Table 3-10. Battery Pack Information (Continued)

Battery Pack Topic	Information
Battery Level and Status Indications	 Printer Control Panel Light Indictions The Power light blinks when battery capacity is low. The printer can print approximately 5 more pages in this condition. The printer self-test and the configuration mode can identify the current charge level of the battery pack. For more information, see "Self-Test" in chapter 5 and "Configuring the Printer" in chapter 2. The Charge light is on when the printer is charging the battery pack. The Charge light is off when the battery pack is fully charged or when the printer does not detect a battery pack in the printer. The Charge light blinks when the printer is discharging (draining) the battery pack. Rapid Recharger Light Indications The green light next to the battery pack blinks as the battery pack is being charged. The green light next to the battery pack is on once the battery pack is fully charged. The red light next to the battery pack is on when the battery pack is being discharged. The red light next to the battery pack blinks if the rapid recharger is waiting to discharge the battery pack.
Sleep Mode (Power Saving Mode)	 Sleep mode is available only when the HP DeskJet Portable printer is powered from a battery pack. After two minutes of inactivity, the HP DeskJet Portable printer will go into sleep mode. Sleep mode extends the life of the battery pack using less power during times of inactivity. If the printer is left in sleep mode for 30 minutes, the printer will automatically turn off. Any data sent to the printer after the printer turns off is lost. For more information on sleep mode, see "Sleep Mode" in this chapter.

Maintenance

The HP DeskJet Portable printer does not require any scheduled maintenance. Periodic cleaning, however, not only enhances the look of the product, but also maintains the printer in optimum condition. Also, visually diagnosing problems may be easier on a clean unit.

Maintaining Print Cartridges

The printer automatically performs operations of spitting, wiping, and capping of the print cartridge nozzles to maintain optimum print quality. These operations occur transparently to the user. Although the print cartridges require no routine maintenance, proper use and handling of the print cartridges will provide optimum print quality and print cartridge life. Read "Print Cartridge Tips" in this section for tips on using and handling the print cartridges.

Notes	See "Troubleshooting Print Cartridges" and "Solving Print Quality Problems" in chapter 5 for more print cartridge troubleshooting information.
Warning	The print cartridge ink contains diethylene glycol which may be harmful if swallowed by children. Keep new and used cartridges out of reach of children.

Cleaning the Print Cartridge

Along with the normal spitting and wiping operations, the HP DeskJet Portable printer has a print cartridge cleaning routine intended for restoring print cartridges. See "Using the Print Cartridge Cleaning Routine" in chapter 5.

Material Safety Data Sheet

A Material Safety Data Sheet (MSDS) is available for the print cartridges. The MSDS includes product identification, characteristics of the ink, and precautions for handling and use. You can request a MSDS at the following address:

Hewlett-Packard **Customer Information Center** Department MSDS 19310 Pruneridge Avenue Cupertino, CA 95014 Mailstop 49AS Telephone (800) 752-0900

Ask for Department MSDS (6:00 AM to 5:00 PM Pacific Time)

Print Cartridge Tips

- Do not use print cartridges after the expiration date. See "Identifying the Print Cartridge Expiration Date" in chapter 5.
- Keep the print cartridges sealed in the packaging container until ready for use. The print cartridges have a longer life sealed in the packaging container than in the printer.
- Keep opened print cartridges in the printer.
- Turn off the printer by pressing the Power button rather than unplugging the power module or rapid recharger. Turning the printer off with the Power button caps the print cartridge, extending the life of the print cartridge.
- Do not allow the print cartridge contacts and nozzles to touch any surface or object, including your fingers. Skin oil and dust can cause print quality problems.
- If printouts are missing dots, read "Printout Missing Dots" in chapter 5.
- Print cartridges left out of the printer may experience a crusting of dried ink on the print cartridge nozzles. Clean the dried ink off of the nozzles before installing the print cartridge in the printer. See "Removing Crusted Ink from the Print Cartridge Nozzles" in chapter 5.
- Store print cartridges at room temperature.

Caution	The ink in the print cartridges has been carefully formulated by Hewlett-Packard to ensure superior
	print quality and compatibility with the printer. Damage to the printer resulting from modifying the print
	cartridge is not the responsibility of Hewlett-Packard. Printer damage caused by refilling print
	cartridges is not covered by the Hewlett-Packard warranty or any customer service agreements.

Maintaining the Printer

The interior and exterior of the printer should be examined for smudges, dust, etc. Clean the exterior with a soft cloth moistened with mild detergent and water. Open the access door and examine the interior areas of the printer. Accumulation of paper or lint should be carefully removed by brushing the loose material onto a cloth, or by using a small computer vacuum cleaner.

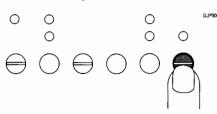
Caution	Clean the HP DeskJet Portable printer with water only. Platen cleaners or alcohol may damage the
	printer.



Cleaning the Platen and Pinch Plate

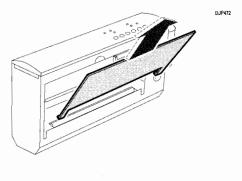
If ink, excess paper dust, or other contaminants are present on the platen or pinch plate, clean the platen and the pinch plate as follows:

1. Turn off the printer by pressing the Power button until the control panel lights turn off. The print cartridge should be locked in the home position.

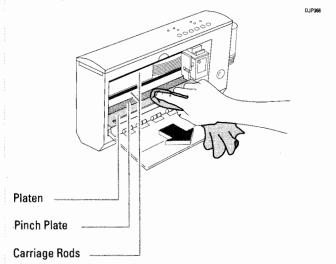


2. Disconnect the power module or rapid recharger from the printer.

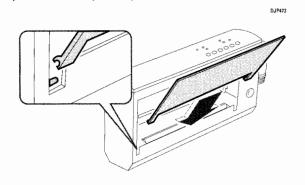
3. Open the printer access door to a 45 degree angle. Gently pull on the access door until the door comes off of the access door pins on the printer. Place the access door in a safe location to protect the delicate star wheels on the access door.



4. With a clean, lint-free cloth lightly moistened with water, gently wipe the pinch plate and platen using outward strokes. Do not wipe the printer carriage rods. Wiping the carriage rods will remove lubricants applied at the factory.



5. After allowing time for the platen to dry, install the access door on the printer by positioning the access door at a 45 degree angle and gently pressing it on the access door pins until it snaps into position.



6. Close the access door. Connect the power module or the rapid recharger.

Thermal Inkjet II Technology

The HP DeskJet Portable printer uses Thermal InkJet II (TIJ II) technology. This technology centers on a disposable print cartridge which propels ink out of 50 nozzles. The basic principle of TIJ II is to apply heat to a tiny measure of ink until it expands and is propelled through a nozzle.

This is achieved by first filling a small reservoir, known as the firing chamber, with ink. The next step is to heat the ink with a thin-film resistor layered above the firing chamber. As the ink heats up, it expands to form a bubble. As the bubble continues to expand and burst, it is forced through the nozzle located below the firing chamber.

This process is repeated up to 5,000 times per second and creates residual heat in the resistor which must be removed. A layer of silicon placed above the resistor transfers the residual heat from the resistor.

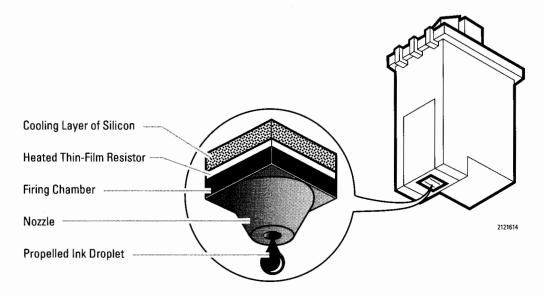


Figure 3-4. Thermal Inkjet II Technology

Note

The HP DeskJet Portable printer is not compatible with Hewlett-Packard's high capacity and color print cartridges.

Optimization

Chapter Contents

Section Title				Page									
Increasing the Printing Speed												4-2	
Selecting a Printer Driver												4-3	

Increasing the Printing Speed

Table 4-1. Increasing the Printing Speed

Printing Speed Factor	Solution
Computer and Printer	Use a more powerful computer. For example, a computer with an 80386 processor rather than an 80286 processor.
Configuration	Use the optional cut-sheet feeder rather than feeding sheets manually into the printer. Paper handling is quicker with the cut-sheet feeder.
	When possible, use draft mode on the printer while using either the power module or the rapid recharger. The printer prints faster in draft mode than letter quality mode, and the printer prints faster in draft mode when using AC power rather than a battery pack.
	If using MS Windows, turn off the Print Manager in the Control Panel.
	Read the documentation included with the software application for tips on enhancing the output performance.
Complexity of	If possible, reduce the complexity of the document.
the Document	Print draft copies at a lower resolution. This not only increases the printing performance for draft copies but also increases the print cartridge life.

Selecting a Printer Driver

Whenever available, choose an HP DeskJet Portable Printer driver for the software application. However, when an HP DeskJet Portable printer driver is unavailable, a printer driver from the following table will produce high-quality output with few limitations. Contact the software vendor for the latest version of an HP DeskJet Portable printer driver for the software application.

Table 4-2. Selecting Printer Drivers for the HP DeskJet Portable Printer

Type of Application	Printer Driver (In Order of Preference)	Comments/Limitations
MS Windows 3.0 and 3.1	HP DeskJet Portable Printer (Included with the Printer)	This printer driver supports the HP DeskJet Portable printer in MS Windows 3.0 and 3.1, including the following features: Internal fonts TrueType scalable fonts (MS Windows 3.1 only) Transparencies Manually feeding paper or using the cut-sheet feeder Media sizes supported by the HP DeskJet portable printer, including U.S. executive paper.
DOS Graphics Applications	HP DeskJet Portable Printer Driver HP DeskJet 500 Printer Driver	 This printer driver may fully support the HP DeskJet Portable printer. The capabilities of this printer driver, however, are dependent on the software vendor. Read the documentation included with the software application for any limitations to the printer driver. Contact the software vendor for the latest version of the printer driver. This solution results in HP DeskJet 500 printer output capabilities. This printer driver solution does not support the additional internal fonts in an HP DeskJet Portable printer that are not in an HP DeskJet 500 printer. This printer driver solution does not support transparency printing and executive size paper since these features are not supported on the HP DeskJet 500 printer.
DOS Wordprocessing Applications	HP DeskJet Portable Printer Driver HP DeskJet 550C Printer Driver	 This printer driver may fully support the HP DeskJet Portable printer. The capabilities of this printer driver, however, are dependent on the software vendor. Read the documentation included with the software application for any limitations to the printer driver. Contact the software vendor for the latest version of the printer driver. This printer driver should produce high-quality results and support all HP DeskJet Portable printer features for most monochrome documents. If importing color graphics in the document, the graphics may appear unsatisfactory. In this case, choose the HP DeskJet 500 Printer printer driver solution.
	HP DeskJet 500 Printer Driver	 This solution results in HP DeskJet 500 printer output capabilities. This printer driver solution does not support the additional internal fonts in an HP DeskJet Portable printer that are not in an HP DeskJet 500 printer. This printer driver solution does not support transparency printing and executive size paper since these features are not supported on the HP DeskJet 500 printer.

Problem Resolution

Chapter Contents

Section Title	Page
Troubleshooting Tools	
Overall Troubleshooting	5-3
Troubleshooting Battery Pack and AC Operations	
Solving Power Module and Rapid Recharger Problems	
Troubleshooting the Printer	
Control Panel Light Indications	5-10
Solving Printer Stall Conditions	
Troubleshooting Communication Problems	5-18
Troubleshooting the Print Cartridges	
Identifying the Print Cartridge Expiration Date	5-22
Using the Print Cartridge Cleaning Routine	
Troubleshooting Print Quality	5-26
Printout Missing Rows of Dots	

Troubleshooting Tools

The following tools are recommended for troubleshooting the HP DeskJet Portable printer:

- Dial caliper or accurate linear scale
- Tissue
- Foam Rubber or lint free swabs, such as part number 9300-0767. (Do not use cotton swabs.)
- Rigid Card Stock
- Clean soft cloth
- Voltmeter (Used to check the voltage out of power modules and rapid rechargers.)

Overall Troubleshooting

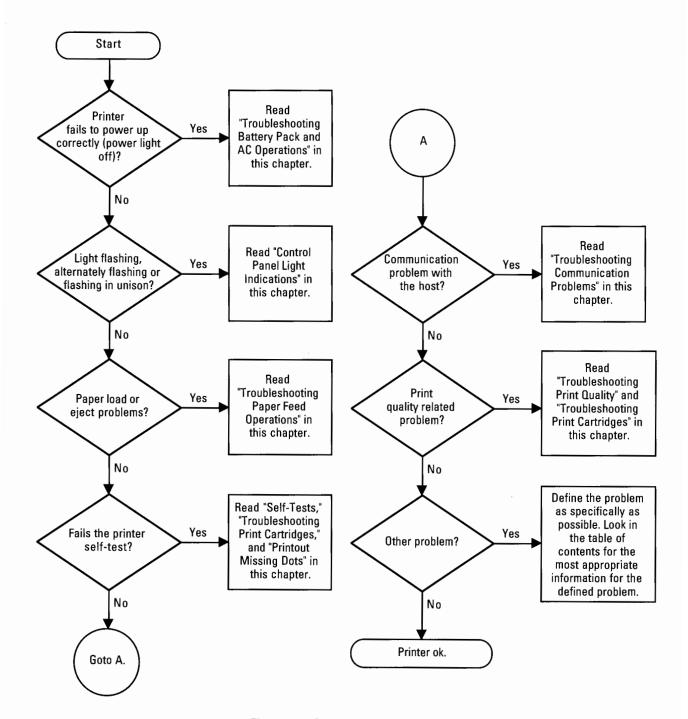


Figure 5-1. Overall Troubleshooting

Troubleshooting Battery Pack and AC Operations

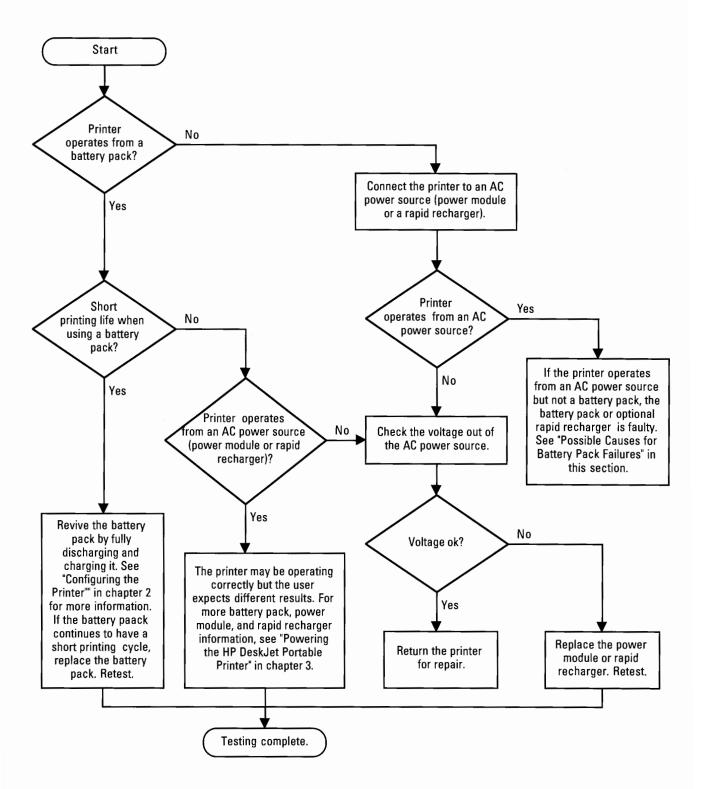


Figure 5-2. Troubleshooting Battery Pack and AC Operations

Solving Battery Pack Problems

Table 5-1. Solving Battery Pack Problems

Problem	Solutions
Printer Will Not Charge the Battery Pack	 Verify the power module is plugged into a powered AC receptacle. Perform the printer self-test. If the printer does not print a battery level gauge in the self-test, the printer does not detect a battery pack installed in the printer. Check the following if the printer does not detect a battery pack: Verify the battery pack is the correct type. See table 1-7. Verify the contacts are not damaged in the printer battery compartment or on the battery pack. Verify the battery pack is properly installed in the printer. See "Installing/Replacing a Battery Pack" in chapter 2 or instructions in the documentation included with the printer. If the battery pack is new, the battery must be fully charged before use. The printer does not charge the battery pack while printing. Allow the printer to charge the battery pack before printing. Revive the battery pack by fully discharging then charging the battery pack. This can be done in the printer or on a rapid recharger. If an optional rapid recharger is available, try charging the battery pack on the rapid recharger. If the rapid recharger charges the battery pack, the printer is probably faulty. If the rapid recharger does not charge the battery pack, the battery pack is probably faulty.
Optional Rapid Recharger Will Not Charge the Battery Pack	 Verify the rapid recharger is plugged into a powered AC receptacle. The rapid recharger charges one battery at a time. Remove any battery pack installed on the other side of the rapid recharger. Verify the battery pack is the correct type. See table 1-7. Verify the contacts on the rapid recharger and battery pack are not damaged. Verify the battery pack is properly installed on the rapid recharger. See the documentation included with the rapid recharger. Revive the battery pack by fully discharging then charging the battery pack. This can be done in the printer or on a rapid recharger. Try charging the battery pack on the other side of the rapid recharger. If the rapid recharger charges the battery pack on one side but not the other, the rapid recharger is faulty. Replace the rapid recharger. Try charging a different battery pack. If the second battery pack charges, the original battery pack is faulty. Replace the battery pack. If the second battery pack does not charge, the rapid recharger is probably faulty. Replace the optional rapid recharger.

Notes

- The printer will not operate from a battery pack attached to the rapid recharger. Remove the battery pack from the printer and connect it to the printer. See "Connecting Power to an HP DeskJet Portable Printer" in chapter 2.
- The printer always operates from AC power if it is connected to a power module or an optional rapid recharger. Disconnect the optional rapid recharger or power module from the printer.

Solving Power Module and Rapid Recharger Problems

Table 5-2. Solving Power Module and Rapid Recharger Problems

Problem	Solution		
Optional Rapid Recharger Will Not Charge the Battery Pack	See "Battery Pack Problems" in this chapter.		
Printer Will Not Operate from a Power Module	 Verify the user has the correct power module for the region or country. Power modules, unlike rapid rechargers, are designed for one specific voltage. See table 1-6. Verify the power module connector is fully seated on the printer's power connector. The user may not be pressing the Power button long enough. Press the Power button until the Busy light turns on. Check the voltage out of the power module. Replace the power module if it is faulty. The printer may be faulty. Return the printer for repair. 		
Printer Will Not Operate from an Optional Rapid Recharger	 The user may not be pressing the Power button long enough. Press the Power button until the Busy light turns on. Check the voltage out of the rapid recharger. There is no power light on the rapid recharger. Try using the power module included with the printer. If the printer operates from a power module but not the rapid recharger, the rapid recharger is faulty. Replace the rapid recharger. If the printer does not operate from a power module or the rapid recharger, the printer may be faulty. Return the printer for repair. The rapid recharger may have been exposed to overvoltage. Unplug the rapid recharger then plug it back into a powered receptacle from 100 VAC to 240 VAC. 		

Troubleshooting the Printer

Self-Tests

Power On Self-Test

The HP DeskJet Portable printer performs a power-on self-test as the printer is turned on to verify printer operation. There is no printout associated with the power on self-test (pass or fail).

- If the power on self-test passes, the printer will power up to its default configuration and the Online light will be lit.
- If the power on self-test fails, the control panel lights will blink in a pattern. Most error patterns have one control panel light alternately blinking with all of the other control panel lights. For more information on control panel error patterns, see "Control Panel Light Indications" in this chapter.



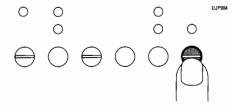
Printer Self-Test

The printer self-test checks the following:

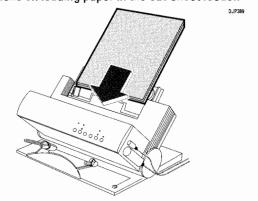
- The type of print cartridge installed (print cartridge ID)
- Nozzles not firing dots by printing a diagonal test pattern. Any gaps along the diagonal test pattern are a result of one or more dots not firing ink on the page.
- The printer firmware revision.
- The current printer configuration settings.
- A battery capacity gauge indicating the current level of the battery. This indication occurs only when a battery pack is installed in the printer.
- Prints internal fonts and external accessible fonts

Do the following to print the printer self-test. The self-test should look similar to figure 5-3:

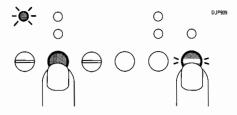
1. Turn off the printer by pressing the Power button until the lights on the control panel turn off.



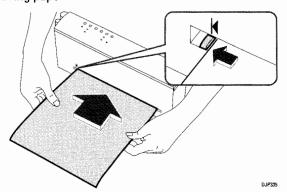
2. If using the optional cut-sheet feeder, load paper in the cutsheet feeder. See "Loading Media" in chapter 3 for instructions on loading paper in the cut-sheet feeder.



- Power button until the Power and Busy lights are lit.
 - Then release the Power button.
 - Then release the Font or LF/FF button.



3. While pressing the Font or LF/FF button, press and hold the 4. If using the printer only, manually load a sheet when the Busy light turns on and the Online light starts blinking. See "Loading Media" in chapter 3 for instructions on manually loading paper.



The Online light will blink when the printer is ready for another sheet of paper.

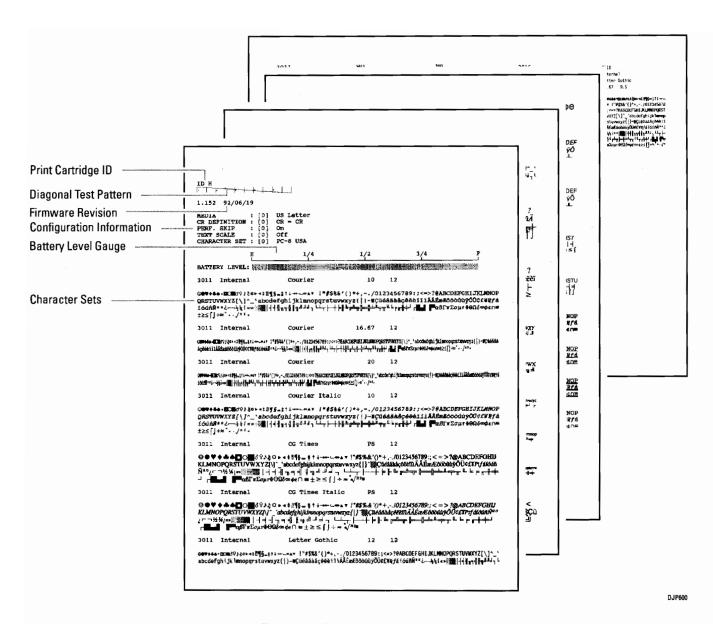


Figure 5-3. Printing Self-Test Pattern

Control Panel Light Indications

The printer will identify printer status and error conditions by the lights on the control panel. Most error indications are displayed by a single light blinking alternately with the other control panel lights. If a control panel error indication occurs, turn off the printer then turn on the printer again. If the failure occurs again, perform the solution in the table below.

Table 5-3. HP DeskJet Portable Printer Control Panel Light Indications

Control Panel Light Indication	Probable Cause	Solution	
Online Light Blinking	Detects an Out-Of-Paper Condition	If using the optional cut-sheet feeder, load paper in the IN tray. With paper in the IN tray, press the gray pressure plate release button so the paper contacts the paper feed rollers. If using the printer without the optional cut-sheet feeder, insert a sheet of paper in the paper feed slot and wait for the printer to pull the paper. Then release the paper. For more information, see "Loading Paper" in chapter 3.	
Power Light Dim (Battery Mode Only)	Printer in Sleep Mode	Sleep mode saves the life of the battery pack. Press any button on the control panel or send data to the printer to exit from sleep mode. For more information, see "Battery Pack Information" and "Sleep Mode" in chapter 3.	
Power Light Blinking	Battery Charge Level Low	Charge the battery pack. For more information, see "Configuring the Printer" and "Powering the HP DeskJet Portable Printer" in chapter 3.	
Charge Light On	Battery Pack Being Charged	No user intervention is required. The printer can be used while the battery pack is being charged, however, the charging process is disrupted during the printing process. The Charge light turns off once the battery pack is charged.	
Charge Light Off	Printer Detects No Battery Pack Or Battery Pack Fully Charged	No user intervention is required.	
Charge Light Blinking	Printer Discharging the Battery Pack	No user intervention is required. The printer can be used with a power module or rapid recharger during the discharging process, however, the discharging process is disrupted during the printing process.	
Busy Light On	Printer Busy Processing or Printing Data	No user intervention is required. Wait for the Busy light to turn of before pressing the Font, Draft, or LF/FF button. These buttons are disabled when the Busy light is on.	
Busy Light Blinking	Unprinted Data in the Printer Buffer	Press the LF/FF button to print the remaining data and eject the paper.	
Chg Pen (Change Pen) Light Blinking	Printer In Change Print Cartridge Mode	Install a print cartridge and press the Settings button. For more information, see "Installing a Print Cartridge" in chapter 3.	
Menu Light Blinking	Printer In Configuration Mode	Open the printer access door and select the desired configuration settings using the control panel. Once the printer is set to the desired configuration, press the Settings button. For more information, see "Configuring the Printer" in chapter 2.	
All Lights Blinking Simultaneously	Printer Failure	Return the printer for repair.	

Table 5-3. HP DeskJet Portable Printer Control Panel Light Indications (Continued)

Control Panel Light Indication		Probable Cause	Solution
Busy and Online Lights Blinking Together (Power Light On Steady)		Printer Detects Paper Jam	See "Troubleshooting Paper Feed Operations" in this chapter.
Alternat	s Blinking in an ing Pattern ng light blinking ely):		
•	Draft Light Blinking Separately	Printer Detects a Carriage Stall	See "Solving Printer Stall Conditions" in this chapter.
•	Chg Pen Light Blinking Separately	Printer Detects a Service Station Stall Failure	See "Solving Printer Stall Conditions" in this chapter.
•	Compressed Light Blinking Separately	Optional Card Failure	Turn off the printer and remove any optional card installed in the printer. Turn on the printer. If the printer operates correctly, the optional card is faulty. If the failure occurs with the optional card removed, the printer is faulty. Return the printer for repair.
•	Charge Light Blinking Separately	Battery Charge Failure	 Replace the battery pack. Turn the printer off and then back on. If the printer operates correctly with the new battery pack, the old battery pack is faulty. If the failure occurs with the new battery pack, the printer is faulty. Return the printer for repair.
•	Power Light Blinking Separately	Battery Drain Failure	Return the printer for repair.
•	Busy Light Blinking Separately	Printer Failure	Return the printer for repair.
•	Landscape Light Blinking Separately	Printer Failure	Return the printer for repair.
•	Online Light Blinking Separately	Printer Failure	Return the printer for repair.
•	Menu Light Blinking Separately	Printer Failure	Return the printer for repair.

Solving Printer Stall Conditions

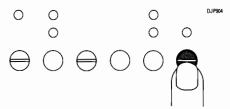
If the Draft light is blinking alternately with the other control panel lights, the HP DeskJet Portable printer detects a carriage stall. A carriage stall error condition occurs if the printer detects a problem with the print cartridge and printer carriage movement. The printer must be turned off to exit from a carriage stall error condition.

If the Change Pen light is blinking alternately with the other control panel lights, the HP DeskJet Portable printer detects a service station motor stall. The service station is the part of the mechanism below the print cartridge when the print cartridge is in the home position (right end of the mechanism). The printer must be turned off to exit from a service station motor stall error condition.

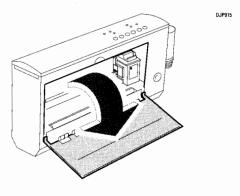
Caution

Do not attempt to manually move the print cartridge or printer carriage from the home position (right end of the mechanism). The mechanism locks the printer carriage in the home position, and attempting to slide the carriage or print cartridge in the locked position may damage the printer.

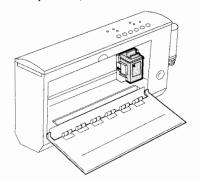
- 1. Turn the printer off and then back on.
 - If the stall condition does not reappear, no further troubleshooting is necessary. Monitor the printer for a period of time to ensure the stall condition does not reappear.
 - If a carriage or service station motor stall occurs again, continue on to the next step.



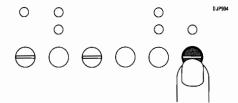
2. Place the printer in an upright position and open the access



- 3. Look inside the printer and determine if the print cartridge and printer carriage are in the home position (right end of the mechanism).
 - If the print cartridge and printer carriage are stuck in the home position, return the printer for repair.
 - If the print cartridge and printer carriage are not in the home position, continue on to the next step.

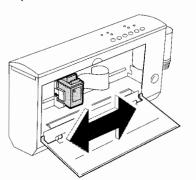


4. Turn the printer off. The printer should turn off with the print cartridge out of the home position from a stall condition.

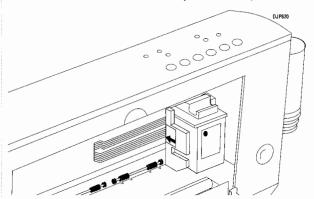


5. If the printer has a carriage stall error condition, look for obstructions or binding along the printer carriage path. Slide the printer carriage back and forth across the printer mechanism. If the problem cannot be resolved, return the printer for repair.

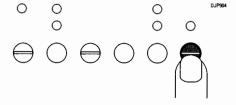
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6. If the printer has a service station motor stall error condition, look for any visible obstructions around the service station (right end of the mechanism) that may be hindering the service station operation. If the problem cannot be resolved, return the printer for repair.



- 7. Turn on the printer. The carriage should move along the carriage path and return to the home position.
 - If the stall problem recurs, look again for anything that may be causing the error condition. If there are no visible causes, return the printer for repair.
 - If the printer operates properly (no stall error condition), monitor the printer during printing operations. If the stall problem continues to occur, return the printer for repair.



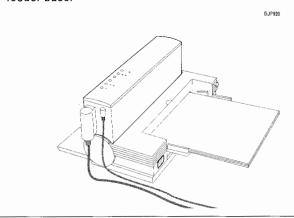
Troubleshooting Paper Feed Operations

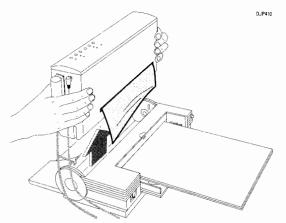
Clearing Paper Jams

If the Busy and Online lights are blinking, the printer detects a paper jam.

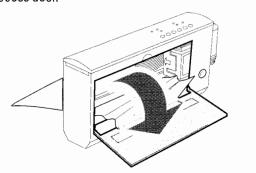
If you are using the printer without the optional cut-sheet feeder, go to step 3.

- 1. Rotate the printer and the IN tray such that the printer is in the upright position and the IN tray is against the cut-sheet feeder base.
- 2. Press down on the pressure plate to release the paper from the cut-sheet feeder. Lift the printer from the cut-sheet feeder. The paper jammed in the printer should slide out of the cut-sheet feeder.

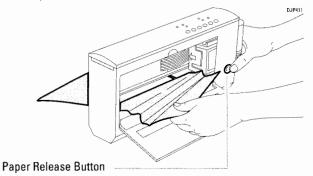




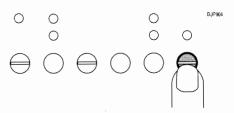
3. Place the printer upright on a flat surface and open the access door.



4. While pressing the Paper Release button, pull the paper out of the printer as shown below.



- 5. Turn the printer off and then turn the printer on.
 - If the Busy and Online lights do not blink, the paper jam has been removed.
 - If the Busy and Online lights blink again, look for paper in the printer's paper path.



6. If using the optional cut-sheet feeder, reinstall the printer on the cut-sheet feeder and rotate the printer and IN tray to its normal operating position.

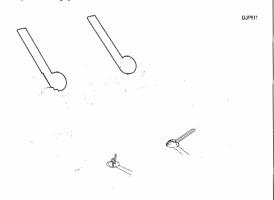


Table 5-4. Possible Causes for Paper Jams

Possible Cause	Solution	
Paper Out-of-Specification	Use paper that meets the specifications listed in chapter 1. However, some paper that meets the specifications listed in chapter 1 will not produce satisfactory results in an HP DeskJet Portable printer. If this is the case, try a different brand of paper.	
IN Tray Too Full	Make sure there is no more than $^{1}/_{4}$ inch (0.5 cm) stack of paper in the IN tray.	
Paper Too Long	 Use only media sizes recommended in chapter 1. Do not use continuous Z-fold paper in the printer. 	
Paper Not Loaded Correctly	If using the optional cut-sheet feeder, make sure the paper is not buckled. For more information, see "Loading Paper" in chapter 3 or the user documentation included with the printer.	
Obstructions in the Paper Path	Look for obstructions in the cut-sheet feeder and printer paper path. Open the access door and verify the paper path is clear of any obstructions. Lift the printer out of the optional cut-sheet feeder and look for obstructions in the cut-sheet feeder.	
Faulty Printer or Optional Cut-Sheet Feeder	 If paper feeds properly through the printer but jams with the optional cut-sheet feeder, the cut-sheet feeder may be damaged. Try reinstalling the printer on the cut-sheet feeder and reloading paper in the cut-sheet feeder. If the cut-sheet feeder continues to have problems feeding paper into the printer, return the cut-sheet feeder for repair. If the paper does not properly feed through the printer without the cut sheet feeder installed (using the printer only), the printer may be faulty. 	

Avoiding Print Skew

Print skew occurs when the movement of paper in the mechanism is not square to the carriage movement. The result is inconsistent print margins along the paper's edge. Several factors must be understood when dealing with print skew:

- The measured print skew is a result of the printer and the paper skew. Know the printer's and paper's skew specifications.
- Proper loading and handling of the paper can minimize print skew. Review the instructions included with the user documentation to ensure the paper was properly loaded.
- Understand how to measure and correct print skew.

Note	When using the optional cut-sheet feeder, always load a stack of paper into an empty IN tray rather than placing paper on top of paper in the IN tray.
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Printer Skew Specification

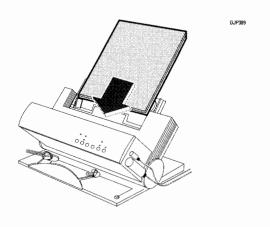
The print skew specification for the HP DeskJet Portable printer is 0.006 inches per inch on 95% of all pages printed. How paper is loaded and the squareness of the paper can impact print skew. Pre-printed forms can increase the print skew appearance if the form is skewed in the opposite direction of the printer's skew. Any skew on the printed form must be taken into account when measuring print skew.

Measuring Paper Squareness

Print skew may be impacted by the squareness of the paper. The industry standard for paper squareness is 0.003 inches per inch. This measurement must be added to the print skew specification to obtain a true overall print skew specification. Test the paper squareness by printing on one side of the paper, flipping the paper over, then printing on the other side. If the print slopes down on one side and up on the other side, the squareness of the paper may be impacting the print skew. In this case, try a different paper to improve the printer's print skew.

Measuring Print Skew

1. If using the cut-sheet feeder, load a stack of paper in the IN | 2. Print a page of information that should display a consistent



left margin down the page. For example, print a page of the printing self-test.



- 3. Take measurements to determine the print skew on the page.
 - A. Measure the distance from the left edge of the paper to the upper left corner of the printout. This is distance "A" in the figure below.
 - B. Measure the distance from the left edge of the paper to the lower left corner of the pattern. This is distance "B" in the figure below.
 - C. Measure the vertical distance between "A" and "B." This is distance "C" in the figure below.
 - C

- 4. Use one of the following equations to determine the print skew on the page:
 - If A>B, use the equation (A-B)/C
 - If B>A, use the equation (B-A)/C
- 5. Repeat steps 2, 3, and 4 on at least 20 pages. The measurement should be within the print skew specification on 19 out of 20 pages.
- 6. Try the process again with a different type of paper.
- 7. If the print skew is consistently out of tolerance, return the printer for repair.

Troubleshooting Communication Problems

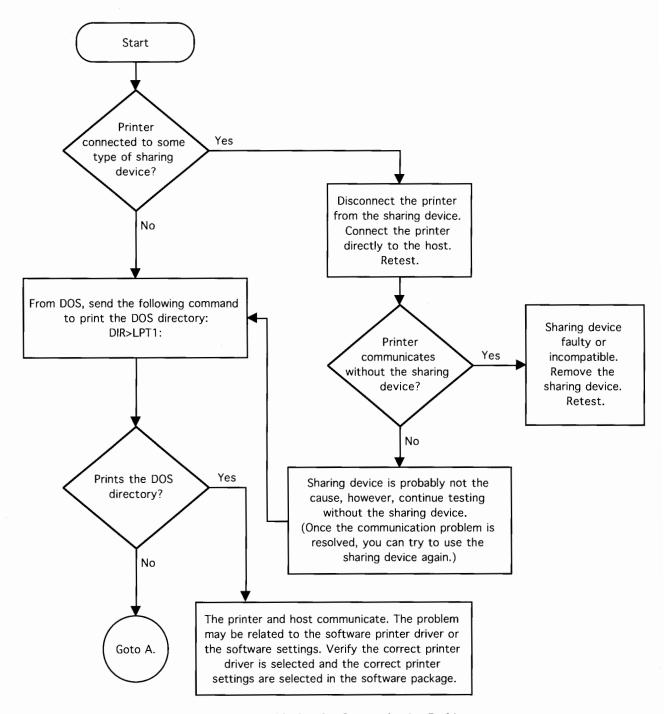


Figure 5-4. Troubleshooting Communication Problems

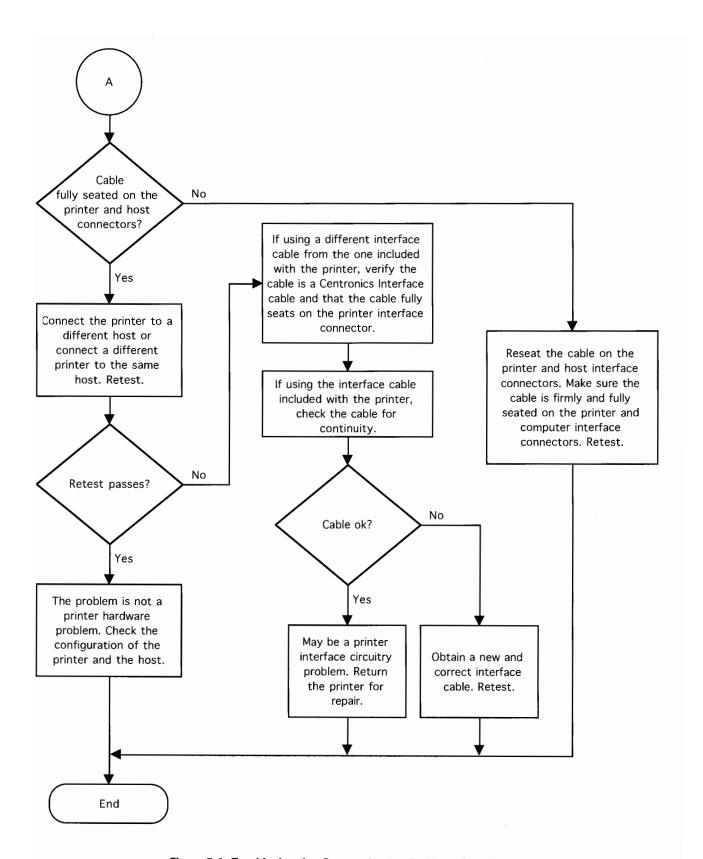


Figure 5-4. Troubleshooting Communication Problems (Continued)

Troubleshooting Print Cartridges

Short Print Cartridge Life

There are several causes for a short print cartridge life. The information below identifies the average print cartridge life for the 51608A print cartridge and possible causes for a reduction to this expected print cartridge life.

Table 5-5. Print Cartridge Life Specifications

		Print Cartridge Life	
Print Cartridge	Part Number	1000 Characters Per Page Coverage	1500 Characters Per Page Coverage
Original Print Cartridge	51608A	500 to 1000 Pages	333 to 666 Pages

The 51608A print cartridge life specifications are based on printing Courier 10. The lower numbers in the specifications are based on using letter quality print mode and the higher numbers in the specifications are based on using draft print mode.

Table 5-6. Possible Causes for Short Print Cartridge life

Possible Cause	Explanation	
Higher Rate of Ink Coverage	The rate of coverage on the page has a significant impact on the number of pages per print cartridge. Heavy concentrations of ink and higher print quality significantly reduce the number of pages per print cartridge.	
Pages Contain Graphics	Generally, graphics use ink at a much higher rate than the Courier 10 font at 15 character per page specification. If possible, print drafts of documents without t graphics.	
Selected Print Mode Uses Higher Rate of Ink Coverage	Higher quality print modes use more ink than a draft print mode. To maximize print cartridge life, print drafts of documents in draft mode, then print the final copies in letter quality mode.	
Print Cartridge Past Expiration Date	Replace the print cartridge. Use a FIFO (First In-First Out) inventory process to minimize having a stock of expired print cartridges.	
Printer Turned Off with the Print Cartridge Out of Home Position	A service station is located at the right end of the mechanism. This service station caps the print cartridge nozzles to minimize ink drying in the nozzles. Always allow the print cartridge to return to the home position so that the service station can cap the print cartridge nozzles when the printer is not in use.	
Print Cartridge Open Outside of Printer	Opened print cartridges must be stored in the printer.	
Print Cartridge Refilled	Hewlett-Packard does not recommend or guarantee the print quality or cartridge life of refilled print cartridges. Replace the print cartridge with a new print cartridge (51608A).	
Print Cartridge Opened From Sealed Container	The print cartridge has a longer life sealed in its packaging rather than in the printer. Keep print cartridges sealed in their packaging until needed. Then, install the print cartridge promptly into the printer.	

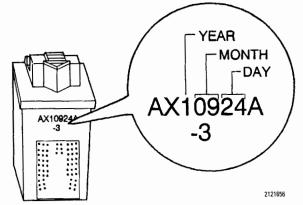
Table 5-6. Possible Causes for Short Print Cartridge life (Continued)

Possible Cause	Explanation	
Incorrect Estimate of Printed Pages	It is easy to underestimate the number of pages printed. When counting pages per cartridge, be sure to count drafts that are thrown away.	
Faulty Print Cartridge	Replace the print cartridge. If there becomes a pattern of faulty print cartridges from a printer, the printer may be causing the print cartridges to fail.	
Printer Hardware Problem	The service station may be faulty, or the printer may be damaging the print cartridges.	

Identifying the Print Cartridge Expiration Date

Print quality problems may be caused by print cartridges that have past their expiration date. There are two methods for determining a print cartridge has past its expiration date:

- 1. If the print cartridge is in the original packaging, read the "Use Before" date printed on the box. If the print cartridge is not in the original packaging, continue on to the next step.
 - **DEC 1993**
- 2. Determine the earliest and latest possible expiration dates from the code printed on the print cartridge.
 - A. Determine the manufacturing date from the code printed on the print cartridge. In the example below, the print cartridge was produced on September 24,
 - **B.** Determine the earliest and latest possible expiration dates from the code printed on the print cartridge.
 - Earliest Possible Expiration Date = Manufacturing Date + Open Life Specification
 - Latest Possible Expiration Date = Manufacturing Date + Shelf Life (Sealed in its Container)



From this data, replace the print cartridge if you suspect the print cartridge may have exceeded its expiration. See table 5-5.

Notes

Ink can evaporate through the nozzles, reducing the print cartridge life. Therefore, keep print cartridges in their sealed container or capped by the service station at the right end of the mechanism.

For more tips on maintaining the print cartridge life, read "Maintaining Print Cartridges" in chapter 3.

Table 5-7. Print Cartridge Life Specifications

Print Cartridge		Print Cartridge Life	
Part Number	Description	Sealed in its Container (Shelf Life)	Open in the Printer or in the Storage Container ¹
51608A Original Black Print Cartridge		18 Months	90 Days

^{1.} At office ambient printing at least once a month.

Table 5-8. Print Cartridge Expired?

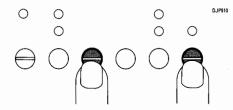
Period of Time After the Manufacturing Date	Print Cartridge Expired?	Reason
From the Manufacturing Date to 90 Days After the Manufacturing Date	No	(The print cartridge has yet to exceed the open life specification.)
90 Days to 18 Months From the Manufacturing Date	Maybe	(Expired if the print cartridge has been out of its packaging longer than the open life specification.)
Longer Than 18 Months After the Manufacturing Date	Yes	(The print cartridge has exceeded its 18 month shelf life.)

Note	Use a FIFO (First In, First Out) inventory control process to avoid having print cartridges longer than the print cartridge shelf life specification.

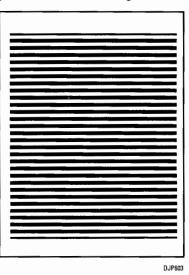
Using the Print Cartridge Cleaning Routine

Use the print cartridge cleaning routine to attempt to restore faulty print cartridges as follows:

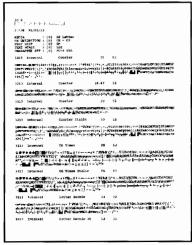
 Press and hold the Draft button while pressing the Power button.



2. When the Busy light turns on, Release the Draft and Power buttons. The printer will perform a series of spitting and wiping of the print cartridge nozzles. The printer will then print a page similar to the following:



- 3. Run the printer self-test by turning on the printer while pressing the Font button. Release the Font button once the Busy light turns on.
 - If the self-test printout has satisfactory print quality and there are no dots missing toward the end of the self-test, the cleaning routine restored the print cartridge.
 - If the self-test printout has unsatisfactory print quality or missing dots toward the end of the self-test, the cleaning routine did not restore the print cartridge.
 Replace the print cartridge.



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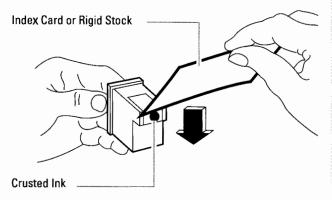
Removing Crusted Ink from the Print Cartridge Nozzles

Print cartridges left out of the printer may experience a crusting of ink on the print cartridge nozzles. Do not install a print cartridge with crusting into the printer. Use the following procedure to remove the crusted ink from the nose of a black print cartridge.

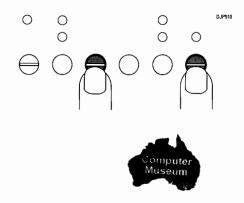
Caution

Use care during this process to avoid staining your hands or clothes with ink from the print cartridge.

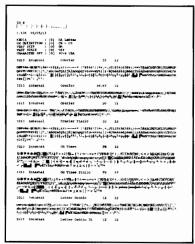
1. Grasp the print cartridge by the green top portion of the print cartridge. Scrape the dried ink off of the print cartridge nozzles into a trash container using the edge of an index card or other rigid paper stock.



2. Perform the print cartridge cleaning routine. This routine executes several spits and wipes on the print cartridge nozzles, and prints a page of horizontal bars. See "Using the Print Cartridge Cleaning Routine" in this chapter.



- 3. Perform the printer self-test.
 - If the printout is not missing dots toward the end of the self-test printout, the print cartridge is restored to operating condition.
 - If the printout is still missing dots toward the end of the self-test printout, the process did not restore the print cartridge. Replace the print cartridge.



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Troubleshooting Print Quality

Solving Print Quality Problems

Table 5-9. Solving Print Quality Problems

Print Quality Issue	Possible Cause
Faint or Fuzzy Print	 Was the print cartridge new when installed in the printer or was it a refilled print cartridge? If refilled, replace the print cartridge with a new print cartridge. Hewlett-Packard does not recommend refilling print cartridges and cannot guarantee the quality from a refilled print cartridge. Verify the media meets the specifications in chapter 1. Verify the paper is not inkjet, ThinkJet, or special coated paper unless recommended for the HP DeskJet Portable printer. If printing on transparencies, verify the transparencies are LX JetSeries media. Turn the paper over and try printing on the other side. All papers have a recommended print side. The HP DeskJet Portable printer should have paper loaded with the print side up. See the paper packaging for an arrow or other identification for the print side of the paper. The print cartridge may be running out of ink. Replace the print cartridge. Verify the print cartridge has not expired. See "Identifying the Print Cartridge Expiration Date" in this chapter. The print cartridge may be faulty. Try another print cartridge. Some paper that meets specifications in chapter 1 will not produce satisfactory results. Try a different brand of paper.
Ink Smearing	 Verify there is no crusting of ink on the print cartridge nozzles. Verify the paper is not inkjet, ThinkJet, or special coated paper unless it is recommended for use with the HP DeskJet Portable printer. If printing on transparencies, verify the media is LX JetSeries. Allow the ink to set before stacking media or placing them in sleeves. Some paper that meets specifications in chapter 1 will not produce satisfactory results. Try a different brand of paper.
Output Appears Jagged	Verify Letter Quality mode is selected rather than Draft mode.
Rows of Dots Missing	Dots missing may be caused by one of the following: Print Cartridge Printer Hardware problem Connection between the printer and the print cartridge. See "Printouts Missing Rows of Dots" in this chapter.

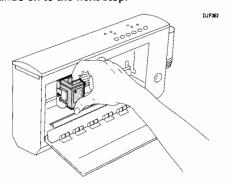
Printouts Missing Rows of Dots

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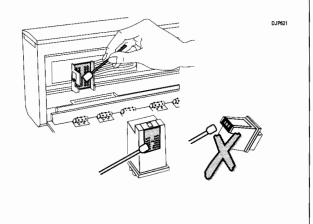
Figure 5-5. Printouts Missing Dots

Horizontal rows of dots missing on printouts may be the result of a connection problem between the printer carriage contacts and the print cartridge contacts. This is known as an "interconnect problem." Use the following procedure to solve printouts missing dots on an HP DeskJet Portable printer.

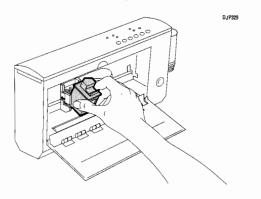
- 1. Remove and reinstall the print cartridge. Make sure the print cartridge snaps into place in the printer carriage cradle. Retest by printing the printer self-test.
 - If all of the rows of dots are printing, no further troubleshooting is necessary.
 - If rows of dots are still missing in the self-test printout, continue on to the next step.



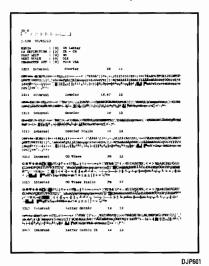
2. Remove the print cartridge from the printer and clean the print cartridge and printer carriage contacts. Use a soft, lint-free or rubber swab moistened with water or isopropyl alcohol. Do not use a cotton swab.



- 3. Once the print cartridge and printer carriage contacts are dry, reinstall the print cartridge. Retest by printing the printer self-test.
 - If all of the rows of dots are printing, no further troubleshooting is necessary.
 - If rows of dots are still missing in the self-test printout, continue on to the next step.



- 4. The print cartridge may be faulty. Replace the print cartridge and retest by printing the printer self-test.
 - If all of the rows of dots are printing, no further troubleshooting is necessary.
 - If rows of dots are still missing in the self-test printout, continue on to the next step.



5. Repeat the above steps of installing the print cartridge, cleaning the print cartridge contacts, and cleaning the printer carriage contacts several times. If the problem consistently appears in the printer self-test with the same rows of dots missing on different print cartridges, return the printer for repair.

Service and Support Information

Chapter Contents

Section Title	Page
Warranty Information	. 6-2
Returning the Printer For Service	
US Service Support Contracts	. 6-4
HP Express Exchange Service.	. 6-4
HP Customer Return Repair Service	. 6-4
Non-US Service Support Contracts	. 6-4
Obtaining Printer Drivers	. 6-5
Obtaining Software Support Information	. 6-5
Printer Repair Feedback Information	. 6-6
HP DeskJet Portable Printer Repair Sheet	. 6-7

Warranty Information

The HP DeskJet Portable printer can be repaired on a worldwide basis. For products returned under warranty, Hewlett-Packard may use one of the following options:

- Repair the product.
- Replace the product with a refurbished unit.
- Replace the product with a product of equal or greater functionality.
- Refund the purchase price.

See the user documentation included with the product or contact a Hewlett-Packard sales and service office for specific warranty information, including exclusions and limitations to the product warranty.

Returning a Printer For Service

In the U.S. if a printer requires service, the customer can contact a service authorized dealer. The dealer should verify that the printer is in need of repair and contact the Customer Service Center to arrange for repair. In warranty, service authorized dealers will receive a warranty handling fee for this service.

U.S. customers can contact Hewlett-Packard directly by calling HP CPO Customer Service Center at (208) 323-2551. They will verify that the printer is in need of repair and transfer the customer to the Customer Service Center in Corvallis, Oregon.

Outside of the U.S., customers should contact their local Country Repair Center or their dealer.

If the printer needs to be shipped, be sure it is packed in a protective carton. Hewlett-Packard recommends that the original shipping container be saved for this purpose. If needed, packaging materials and carton may be obtained from the Customer Service Center in Corvallis, Oregon. In-transit damage is not covered by the warranty. It is suggested that shipments are always insured.

You can help assure effective servicing of your customer's printer by following these guidelines:

- Follow the instructions in this manual to make certain the malfunction is in the printer and not the result of an interface error or a malfunction in the computer or software. If possible, identify the defective area or function.
- If you determine that repair is required, please provide the following with the printer when returning the printer for service:
 - a. Make a copy of the HP DeskJet Portable Printer Repair Sheet in this chapter.
 - b. Determine the appropriate error code from table 6-1 in the "Printer Repair Feedback Information" section in this chapter.
 - c. Fill out the repair sheet. Include specific information, such as the configuration at the time of the malfunction, a description of the computer or host, and a description of the software application in use.
 - d. If purchased through a Hewlett-Packard dealer, include a copy of the sales slip or other proof-of-purchase to establish the warranty coverage period.

Notes

- Include the power module when returning the printer for repair.
- Include the print cartridge when returning the printer for repair except in the following situation:
 - Do not include the print cartridge when the printer will be exchanged for another unit unless the faulty printer exhibits a print cartridge related problem.

When the print cartridge is not returned with the printer, remove the print cartridge and store it in a sealed plastic bag. Once the exchange unit is received, promptly install it in the printer.

Do not include any operating accessories (such as, the cut-sheet feeder, documentation, and software) with the printer unless the problem relates to an accessory.

US Service Support Contracts

HP Express Exchange Service

This service is designed for customers who require maximum uptime. As an alternative to next day onsite service, HP Express Exchange offers all of the convenience for less money.

HP Express Exchange customers call the HP Corvallis Service Center between 8:00 a.m. and 4:00 p.m. (Pacific time). Hewlett-Packard will have a replacement unit at your door by 10:30 the next working day. Hewlett-Packard makes returning the defective product quick and easy by providing return shipping materials and postage.

To order HP Express Exchange Service and avoid the 30-day waiting period, call toll-free at 800-835-4747; ask for ext. 524.

HP Customer Return Repair Service

If uptime is less critical, HP Customer Return Repair Service provides maintenance service at the HP Customer Service Center located in Corvallis, Oregon. HP will repair the product within two working days from receipt and return via surface transportation.

To order the HP Customer Return Repair Service for customers with non-critical applications, call tollfree 800-835-4747; ask for ext. 524.

Non-US Service Support Contracts

For service and support contracts outside of the US, contact the Hewlett-Packard office for that country.

Obtaining Printer Drivers

Contact the software vendors for the latest version of printer drivers available.

Hewlett-Packard offers printer drivers through the HP Forum on CompuServe. As updated and new printer drivers become available, they are uploaded to the HP Forum for instant access by CompuServe members. To become a CompuServe member and gain access to the printer drivers through HP Forum, call 1-800-848-8199.

In the U.S., printer driver updates are also available through the HP Distribution Center at (303) 353-7650. Hours are 7 am to 6 pm (MT), Monday through Friday.

Obtaining Software Support Information

Contact the software vendor for the latest information for the software application.

In the U.S., Hewlett-Packard offers a fax information system called HP FIRST (Hewlett-Packard Fax Information Retrieval Support Technology) to receive software notes information. The system requires a touch-tone Group 3 fax machine.

To use HP FIRST, dial 1-208-344-4809 from your facsimile. A voice response system will prompt you to enter the appropriate information. HP FIRST will then send your requested information to your facsimile.

Printer Repair Feedback Information

- Make a copy of the HP DeskJet Portable Printer Repair Sheet in this section.
- Observe the problem with the printer. Verify that the problem is repeatable.
- Determine the applicable error code in table 6-1.
- 4. Fill out the repair sheet and return the repair sheet with the printer.

Table 6-1. HP DeskJet Portable Printer Error Code Table

Symptom	Printer Error Code
Control panel fails to light.	900
No carriage movement.	901
Lights flashing in unison.	904
Lights flashing alternately.	905
Paper load problem.	910
Paper eject problem.	906
Printer will not perform the self-test.	902
Printing is skewed or slanted.	911
Paper jam (Busy and Online lights blinking).	920
Print quality problem (such as faint or fuzzy print).	913
Missing dots or lines in the print.	912
Other symptom.	950

HP DeskJet Portable Printer Repair Sheet

Company Information Company __ Address _____ Phone Your Name **Printer Information** Printer Model (Check one) ☐ HP DeskJet Portable Printer (Model 2614A) Serial Number _____ Date of Purchase ____ Date that you are Sending the Printer Printer Error Code (See Table 6-1) Other Information About the Problem **Included Information** Check any of the following boxes for additional troubleshooting information. ☐ Sample Printout Included ☐ Printer Self-Test Included ☐ Unable to Print the Printer Self-Test ☐ Actions Taken to Resolve the Problem and the Results

11/01/92

HP PCL Printer Commands and Control Codes

HP PCL Printer Command Summary

Table A-1. HP PCL Printer Command Summary

Command Topic	Printer Feature	Printer Command	Decimal Equivalent	Hex Equivalent
inii iniin usa yeridii idoo (ce ecc. arrasta e e e	ER E-stable della av tratani (Communi VIII) i në bilitoria Parza (Kazesa).	Printer Control Com	mands	
Reset and Self-Test	Reset	EcE	027 069	1B 45
Control	Self-Test	Ecz	027 122	1B 7A
Paper Input Control	Eject Page	Ec&l0H	027 038 108 048 072	1B 26 6C 30 48
(Media Source)	Feed From Tray	Ec&l1H	027 038 108 049 072	1B 26 6C 31 48
Print Mode	Unidirectional left to right	Ec&k0W	027 038 107 048 087	1B 26 6B 30 57
	Bidirectional	Ec&k1W	027 038 107 049 087	1B 26 6B 31 57
	Unidirectional right to left	Ec&k2W	027 038 107 050 087	1B 26 6B 32 57
Underline	Single Fixed	Ec&d1D	027 038 100 049 068	1B 26 64 31 44
	Double Fixed	Ec&d2D	027 038 100 050 068	1B 26 64 32 44
	Single Float	Ec&d3D	027 038 100 051 068	1B 26 64 33 44
	Double Float	Ec&d4D	027 038 100 052 068	1B 26 64 34 44
	Turn Off	Ec&d@	027 038 100 064	1B 26 64 40
Line Termination	CR=CR, LF=LF, FF=FF	Ec&k0G	027 038 107 048 071	1B 26 6B 30 47
	CR=CR+LF, LF=LF, FF=FF	Ec&k1G	027 038 107 049 071	1B 26 6B 31 47
	CR=CR, LF=CR+LF, FF=CR+FF	Ec&k2G	027 038 107 050 071	1B 26 6B 32 47
	CR=CR+LF, LF=CR+LF, FF=CR+FF	Ec&k3G	027 038 107 051 071	1B 26 6B 33 47
End-of-Line Wrap	Turn On	Ec&s0C	027 038 115 048 067	1B 26 73 30 43
	Turn Off	Ec&s1C	027 038 115 049 067	1B 26 73 31 43
Transparent Print Data	No. of Bytes	Ec&p#X	027 038 112 ## 088	1B 26 70 ## 58
Display Functions	Turn On	EcY	027 089	1B 59
	Turn Off	EcZ	027 090	1B 5A
Enhancement Control	Line-By-Line On	Ec&k0E	027 038 107 048 069	1B 26 6B 30 45
	Line-By-Line Off	Ec&k1E	027 038 107 049 069	1B 26 6B 31 45
SI/SO Control	Line-By-Line On	Ec&k0F	027 038 107 048 070	1B 26 6B 30 46
	Line-By-Line Off	Ec&k1F	027 038 107 049 070	1B 26 6B 31 46

Table A-1. HP PCL Printer Command Summary (Continued)

Command Topic	Printer Feature	Printer Command	Decimal Equivalent	Hex Equivalent
	and the production of the production of the second section and the second second second second second second s	Page Control Comma	ands	
Paper Size	Default Paper Size	Ec&l0A	027 038 108 048 065	1B 26 6C 30 41
	Executive Paper	Ec&l1A	027 038 108 049 065	1B 26 6C 31 41
	US Letter	Ec&l2A	027 038 108 050 065	1B 26 6C 32 41
	US Legal	Ec&l3A	027 038 108 051 065	1B 26 6C 33 41
	A4	Ec&l26A	027 038 108 050 054 065	1B 26 6C 32 36 41
Line Spacing	Lines Per Inch No. of Lines	Ec&l#D	027 038 108 ## 068	1B 26 6C ## 44
Page Orientation	Landscape	Ec&l1O	027 038 108 049 079	1B 26 6C 31 4F
	Portrait	Ec&l0O	027 038 108 048 079	1B 26 6C 30 4F
Page Length (Line Spacing)	Number of Lines	Ec&l#P	027 038 108 ## 080	1B 26 6C ## 50
Perforation Skip	On	Ec&l1L	027 038 108 049 076	1B 26 6C 31 4C
Mode	Off	Ec&l0L	027 038 108 048 076	1B 26 6C 30 4C
Top Margin	Number of Lines	Ec&l#E	027 038 108 ## 069	1B 26 6C ## 45
Text Length	Number of Lines	Ec&l#F	027 038 108 ## 070	1B 26 6C ## 46
Side Margins	Clear	Ec9	027 057	1B 39
	Left (Column No.)	Ec&a#L	027 038 097 ## 076	1B 26 61 ## 4C
	Right (Column No.)	Ec&a#M	027 038 097 ## 077	1B 26 61 ## 4D
Text Scale Mode	Off	Ec&k5W	027 038 107 053 087	1B 26 6B 35 57
	On	Ec&k6W	027 038 107 054 087	1B 26 6B 36 57
Cursor Positioning	Move to Row No.	Ec&a#R	027 038 097 ## 082	1B 26 61 ## 52
	Move to Column No.	Ec&a#C	027 038 097 ## 067	1B 26 61 ## 43
	Horizontal No. (Decipoints)	Ec&a#H	027 038 097 ## 072	1B 26 61 ## 48
	Vertical No. (Decipoints)	Ec&a#V	027 038 097 ## 086	1B 26 61 ## 56
	Horizontal No. (Dots)	Ec*p#X	027 042 112 ## 088	1B 2A 70 ## 58
	Vertical No. (Dots)	Ec*p#Y	027 042 112 ## 089	1B 2A 70 ## 59
	Horizontal Motion Index No. of 1/120th Inch Moves	Ec&k#H	027 038 107 ## 072	1B 26 6B ## 48
	Vertical Motion Index No. of 1/48th Inch Moves	Ec&l#C	027 038 108 ## 067	1B 26 6C ## 43



Table A-1. HP PCL Printer Command Summary (Continued)

Command Topic	Printer Feature	Printer Command	Decimal Equivalent	Hex Equivalent
	F	ont Selection Com	mands	
Character Set	PC-8	Ec(10U	027 040 049 048 085	1B 28 31 30 55
	HP Roman8	Ec(8U	027 040 056 085	1B 28 38 55
	PC-8 Danish/Norwegian	Ec(11U	027 040 049 049 085	1B 28 31 31 55
	PC-850	Ec(12U	027 040 049 050 085	1B 28 31 32 55
	ECMA-94 Latin 1	Ec(0N	027 040 048 078	1B 28 30 4E
	German (ISO 21)	Ec(1G	027 040 049 071	1B 28 31 47
	French (ISO 69)	Ec(1F	027 040 049 070	1B 28 31 46
	Italian (ISO 15)	Ec(0I	027 040 048 073	1B 28 30 49
	Spanish (ISO 17)	Ec(2S	027 040 050 083	1B 28 32 53
	Swedish Names (ISO 11)	Ec(0S	027 040 048 083	1B 28 30 53
	Swedish (ISO 10)	Ec(3S	027 040 051 083	1B 28 33 53
	Norwegian1 (ISO 60)	Ec(0D	027 040 048 068	1B 28 30 44
	Norwegian2 (ISO 61)	Ec(1D	027 040 049 068	1B 28 31 44
	Portuguese (ISO 16)	Ec(4S	027 040 052 083	1B 28 34 53
	United Kingdom (ISO 4)	Ec(1E	027 040 049 069	1B 28 31 45
	ANSI ASCII (ISO 6)	Ec(0U	027 040 048 085	1B 28 30 55
	JIS ASCII	· Ec(0K	027 040 048 075	1B 28 30 4B
	HP Legal	Ec(1U	027 040 049 085	1B 28 31 55
	ISO IRV	Ec(2U	027 040 051 085	1B 28 32 55
Spacing	Proportional	Ec(s1P	027 040 115 049 080	1B 28 73 31 50
	Fixed	Ec(s0P	027 040 115 048 080	1B 28 73 30 50
Print Pitch	Number of Characters Per Inch	Ec(s#H	027 040 115 ## 072	1B 28 73 ## 48
Point Size (Character Height)	Number of 1/72nd Inch	Ec(s#V	027 040 115 ## 086	1B 28 73 ## 56
Style	Upright	Ec(s0S	027 040 115 048 083	1B 28 73 30 53
	Italic	Ec(s1S	027 040 115 049 083	1B 28 73 31 53
Stroke Weight	Normal	Ec(s0B	027 040 115 048 066	1B 28 73 30 42
	Bold	Ec(s3B	027 040 115 051 066	1B 28 73 33 42
	Extra Bold (Optional)	Ec(s7B	027 040 115 055 066	1B 28 73 37 42
Typeface	Courier	Ec(s3T	027 040 115 051 084	1B 28 73 33 54
	CG Times	Ec(s4101T	027 040 115 052 049 048 049 084	1B 28 73 34 31 30 31 54
	Letter Gothic	Ec(s6T	027 040 115 054 084	U1B 28 73 36 54
	Univers (Optional)	Ec(s52T	027 040 115 053 050 084	1B 28 73 35 32 54
Print Quality	Letter	Ec(s2Q	027 040 115 050 081	1B 28 73 32 51
	Draft	Ec(s1Q	027 040 115 049 081	1B 28 73 31 51
Placement	Superscript	Ec(s+1U	027 040 115 043 049 085	1B 28 73 2B 31 55
	Normal	Ec(s0U	027 040 115 048 085	1B 28 73 30 55
	Subscript	Ec(s-1U	027 040 115 045 049 085	1B 28 73 2D 31 55
Primary Font	Primary Default	Ec(#@	027 040 ## 064	1B 28 ## 40
Designators	Default Character Set	Ec(0@	027 040 048 064	1B 28 30 40
	Current Primary Character Set	Ec(2@	027 040 050 064	1B 28 32 40
	Default Font	Ec(3@	027 040 051 064	1B 29 ## 58

Table A-1. HP PCL Printer Command Summary (Continued)

Command Topic	Printer Feature	Printer Command	Decimal Equivalent	Hex Equivalent
Secondary Font	Secondary Default	Ec)#@	027 041 ## 064	1B 29 ## 40
Designators	Default Chr. Set	Ec)0@	027 041 048 064	1B 29 30 40
	Default Primary Chr. Set	Ec)1@	027 041 049 064	1B 29 31 40
	Current Primary Chr. Set	Ec)2@	027 041 050 064	1B 29 32 40
	Default Secondary Font	Ec)3@	027 041 051 064	1B 29 33 40
	Re	aster Graphics Co	mmands	
Graphics Print Mode	Graphics Default	Ec*p0N	027 042 112 048 078	1B 2A 70 30 4E
Selection	Print Graphics Bidirectionally	Ec*p1N	027 042 112 049 078	1B 2A 70 31 4E
	Print Graphics Left to Right	Ec*p2N	027 042 112 050 078	1B 2A 70 32 4E
	Print Graphics Right to Left	Ec*p3N	027 042 112 051 078	1B 2A 70 33 4E
	Conditionally Print Graphics Bidirectionally	Ec*p4N	027 042 112 052 078	1B 2A 70 34 4E
Start Graphics	At Left Most Position	Ec*r0A	027 042 114 048 065	1B 2A 72 30 41
	Current Cursor Position	Ec*r1A	027 042 114 049 065	1B 2A 72 31 41
End Graphics	End Graphics	Ec*rC	027 042 114 067	1B 2A 72 43
Set Raster Graphics	75 Dots Per Inch	Ec*t75R	027 042 116 055 053 082	1B 2A 74 37 35 52
Resolution	100 Dots Per Inch	Ec*t100R	027 042 116 049 048 048 082	1B 2A 74 31 30 30 52
	150 Dots Per Inch	Ec*t150R	027 042 116 049 053 048 082	1B 2A 74 31 35 30 52
	300 Dots Per Inch	Ec*t300R	027 042 116 051 048 048 082	1B 2A 74 33 30 30 52
Width	Number of Pixels	Ec*r#S	027 042 114 ## 083	1B 2A 72 ## 53
Temporary X Offset Horizontal Offset for Raster Row		Ec*b#X	027 042 098 ## 088	1B 2A 62 ## 58
Compression	Compression Off	Ec*b0M	027 042 098 048 077	1B 2A 62 30 4D
	Method 1	Ec*b1M	027 042 098 049 077	1B 2A 62 31 4D
	Method 2	Ec*b2M	027 042 098 050 077	1B 2A 62 32 4D
	Method 3	Ec*b3M	027 042 098 051 077	1B 2A 62 33 4D
	Method 9	Ec*b9M	027 042 098 057 077	1B 2A 62 39 4D
	Seed Row Source	Ec*b#S	027 042 098 ## 083	1B 2A 62 ## 53
Transfer Graphics	Number of Bytes	Ec*b#Wdata	027 042 098 ## 087 data	1B 2A 62 ## 57 data
Relative Vertical Pixel Movement	Number of Dots	Ec*b#Y	027 042 098 ## 089	1B 2A 62 ## 59
Set Graphics Quality	Draft	Ec*r1Q	027 042 114 049 081	1B 2A 72 31 51
	Letter Quality	Ec*r2Q	027 042 114 050 081	1B 2A 72 32 51
Raster Graphics	No Shingling	Ec*o0Q	027 042 111 048 081	1B 2A 6F 30 51
Shingling	50% Shingling	Ec*o1Q	027 042 111 049 081	1B 2A 6F 31 51
	25% Shingling	Ec*o2Q	027 042 111 050 081	1B 2A 6F 32 51

Control Codes

Table A-2. HP PCL Printer Control Codes

Code Name	Symbol	Description	Value (Dec)	Value (Hex)	Keystroke
Backspace	<b<sub>S></b<sub>	Causes the printer to move the current print position one character position to the left.	08	08	CTRL H
Horizontal Tab	<h<sub>T></h<sub>	Causes the printer to move to the next predefined tab position. (Tabs are located every eighth character position, beginning at the left margin.)	09	09	CTRL I
Line Feed	<l<sub>F></l<sub>	Causes the printer to advance the paper one line at the current line spacing.	10	0A	CTRL J
Form Feed	<f<sub>F></f<sub>	Causes the printer to advance the paper to the next top-of-form. Top-of-form is the first line of printing on the next page.	12	0C	CTRL L
Carriage Return	<c<sub>R></c<sub>	Causes the printer to move the current print position to the left margin. Does not cause a paper advance.	13	0D	CTRL M
Shift Out	<s<sub>O></s<sub>	Causes the printer to select the currently designated secondary font for use.	14	0E	CTRL N
Shift In	<s<sub>I></s<sub>	Causes the printer to select the currently designated primary font for use.	15	0F	CTRL O
Device Control 1	<d<sub>1></d<sub>	Used for RS-232-C protocols only. Used as Xon character for the RS-232-C Xon/Xoff handshake. Also used as the trigger for the Status Request.	17	11	CTRL Q
Device Control 3	<d<sub>3></d<sub>	Used for RS-232-C protocols only. Used as Xoff character for the RS-232-C Xon/Xoff handshake.	19	13	CTRL S
Escape	<e<sub>C></e<sub>	Indicates to the printer that the characters immediately following are part of a printer command.	27	1B	CTRL [
Space	<s<sub>P></s<sub>	Causes the printer to move the current print position one character to the right.	32	20	

Index

Numerics	В
300 dpi	Base, 3-7
Resolution, 1-3	Battery Charge Failure, 5-11
•	Battery Compartment Cover, 1-4
•	BATTERY CONTROL Group, 2-12
A	Battery Drain Failure, 5-11
Access Door	Battery Level
View, 1-4	Gauge, 2-13
Access to Printer Drivers, 6-5	Indications, 3-25
Accessing the Print Cartridge, 3-8	Battery Pack, 1-3
Accessories, Supplies and, 1-10	Cautions, 3-24
Accoustic Specifications, 1-20	Charge Level, 5-8
Alignment, Vertical, 1-14	Charging, 3-6, 3-23
All Lights Blinking, 5-10	Configuration Information, 2-12
Alternately Blinking Lights, 5-11	Discharging, 3-22, 5-10
Altitude Specifications, 1-20	Information, 3-24
Area	Installing/Replacing, 2-4
Printable, 1-22	Instruction Sheet, 1-11
Argentina Product Number, 1-7	Low Battery Condition, 3-21
Attaching the	Low Charge, 5-10
Interface Cable, 2-7	Part Numbers, 1-9
Australian	Physical Spe, 1-16
Option Number, 1-7	Reviving, 3-6, 3-22, 3-24
Australian Power Module, 1-8	Specifications, 1-15
Automatic Feeding with the Cut-Sheet Feeder, 3-11	Status, 3-4
Available	Troubleshooting, 5-5
Languages, 1-7	Belgium Option Number, 1-7
Power Modules, 1-7	Benefits, Features and, 1-3
Printer Drivers, 6-5	Black
Avoiding Print Skew, 5-16	Self-Test Pattern, 5-9
	Transparencies, 1-3
	Blinking Lights, 5-10
	Block Diagram
	Overall Troubleshooting, 5-3
	Bold Internal Fonts, 1-12
	Box Specifications, 1-18
	Brazil Option Number, 1-7
	Buffer Size, 1-15
	Burst Print Speed, 1-14
	Busy and Online Lights Blinking, 5-11
	Busy Light, 3-3, 3-4, 3-5
	Alternately Blinking, 5-11
	Blinking, 5-10

C	Character Sets, 1-14
C-1.1.	Charge Capability of Battery Packs, 1-15
Cable	Charge Level of Battery Pack, 5-8
Checking the Interface, 5-19	Charge Light, 3-5
Connecting the Interface, 2-7	Alternately Blinking, 5-11
Holder, 3-9	Blinking, 5-10
Part Number, 1-10	Indications, 3-25
Canadian	Off, 5-10
Option Number, 1-7	On, 5-10
Power Module, 1-8	Charging
Carriage	the Battery Pack, 5-10
Locked, 5-12	Charging Battery Packs, 2-12, 3-23
Printer, 1-4	Charging Information, 3-24
Carriage Stall, 5-12	Checking the Interface Cable, 5-19
Failure, 5-11	Chg Pen Light, 3-4
Carrying Case Part Number, 1-10	Alternately Blinking, 5-11, 5-12
Cartridge	Blinking, 3-14, 3-16, 5-10
Centered, 3-16	Chinese Power Module, 1-8
Cleaning, 3-26	Cleaning Routine, 3-4
Cleaning Routine, 3-4, 5-24	Print Cartridge, 5-24
Identifying the Expiration Date, 5-22	Cleaning the
Installing, 3-14	Periodic, 3-26
Inventory Control, 5-23	Platen and Pinch Plate, 3-28
Maintaining, 3-26	Print Cartridge, 3-26, 5-28
Modifying or Refilling, 3-27	Printer, 3-27
Part Number, 1-10	Clearing
Refilling or Modifying, 1-24	Paper Jams, 5-14
Replacing, 3-4	the Printer Buffer, 5-10
Short Life Troubleshooting, 5-20	Clearing the
Specifications, 1-24	Printer Buffer, 3-3
Tips, 3-27	Color
Troubleshooting, 5-20	Transparencies, 1-3
Type, 5-8	Color Print Cartridge, 1-10
Cartridges	Command Set, 1-14
Similarities and Differences, 1-6	Commands and Control Codes, A-1
Causes for Paper Jams, 5-15	Communication Problems, 5-18
Cautions	Compressed Light, 3-3
Battery Pack, 3-24	Alternately Blinking, 5-11
Rapid Recharger, 3-22	CompuServe, 6-5
Centronics Parallel	Configuration
Interface Cable Part Number, 1-10	Installation and, 2-1
Interface Pinout Information, 2-6	Menu, 1-4, 2-11
CG Times Internal Fonts, 1-12	Configuration Mode, 3-4, 5-10
Change Print Cartridge Mode, 5-10	Control Panel, 2-9
Changing the Configuration, 2-10	Timeout, 2-12
	,

Configuration Settings	DeskJet
Identifying, 5-8	Internal Fonts, 1-12
Verifying, 2-12	User Documentation, 1-11
Configuration Setup, 3-8	DeskJet Portable
Configuring the Printer, 2-9	Printer Options, 1-7
Connecting the	Determining
Interface Cable, 2-7	Battery Charge Rate, 3-20
Consumables, 1-10	the Battery Charge, 2-13
Contaminants, Removing, 3-28	Diagnosing
Contract, Service Support, 6-4	Paper Jams, 5-14
Control Panel	the Printer, 5-1
In Configuration Mode, 2-9	Diagnostics, Overall, 5-3
Information, 3-2	Dial Caliper, 1-2, 5-2
Light Indications, 5-10	Differences
Selectable Fonts, 1-12	and Similarities, 1-6
View, 1-4	Between Rapid Rechargers, 2-3
Cotton Swabs, 1-2	Dim Power Light, 3-4
Country Options, 1-7	Dimensions, 1-16
Courier Internal Fonts, 1-12	of the Packaging, 1-18
CPO Customer Service Center, 6-3	Discharging Battery Packs, 3-6, 3-22, 5-10
Crusting Ink, Removing, 5-25	Disposing Battery Packs, 3-24
Customer Return Repair Service, 6-4	Documentation
Cut-Sheet Feeder, 1-3	Options, 1-7
Automatic Feeding, 3-11	Support, 1-2
Clearing Paper Jams, 5-14	User, 1-11
Loading Paper and Media, 3-18	DOS
Manual Feed Mode, 1-5	Graphics Applications, 4-3
Operation, 3-7	Support, 1-3
Paper Jam, 5-15	Wordprocessing Applications, 4-3
Part Number, 1-10	Dot Placement, 1-14
Physical Specifications, 1-16	Dots Missing, 3-16, 5-26
With Printer, 1-5	Draft Button, 2-9
CX JetSeries Paper Support, 1-6	Draft Button and Light, 3-3
	Draft Internal Fonts, 1-12
n .	Draft Light
D	Alternately Blinking, 5-12
Danish Option Number, 1-7	Draft Mode, 1-14
Danish User Documentation, 1-11	Printing Speed, 4-2
Data Sheet, Material Safety, 3-26	Drain Selection, 2-12
Default Settings, 2-12	Dried Ink, Removing, 5-25
Denmark Option Number, 1-7	Driver, Printer, 1-2
Depth, Physical Specifications, 1-17	Driver, Selecting a Printer, 4-3
- op, a sycholic op commonto, a a i	Drivers, Obtaining Printer, 6-5
	Dutch
	Option Number, 1-7
	User Documentation, 1-11

t	G
Ejecting Paper, 3-3	Gaps in Self-Test, 5-8
Electrical Specifications, 1-19	Gauge, Battery Level, 2-13
English Option Number, 1-7	General Maintenance, 3-26
English User Documentation, 1-11	German
Envelope Support, 1-6	Option Number, 1-7
Environmental Specifications, 1-20	User Documentation, 1-11
Equipment Needed, 1-2	Graphics
Error	Resolution, 1-14, 1-15
Indications, 5-7	Graphics Applications, DOS, 4-3
Indications, Control Panel, 5-10	Gray Pressure Plate Release Button, 3-18
Light Indications, 5-10	Group Button, 2-9
Light Patterns, 3-5	
ESD Specifications, 1-20	и
Europe	Н
Battery Pack, 1-9	Handling Specifications, Paper, 1-21
Option Number, 1-7	Height, Physical Specifications, 1-17
Power Module, 1-8	Hewlett-Packard Battery Packs, 1-9
User Documentation, 1-11	High Capacity Print Cartridge, 1-10
Evaporating Ink, 5-22	Home Position, 5-20
Exchange Service, 6-4	Horizontal Dots Missing, 5-27
Exit Button, 2-9	Horizontal Resolution, 1-14
Exiting	HP CPO Customer Service Center, 6-3
Sleep Mode, 3-21	HP Customer Return Repair Service, 6-4
Exiting From Configuration Mode, 2-9	HP DeskJet Portable Printer Repair Sheet, 6-7
Express Exchange Service, 6-4	HP Express Exchange Service, 6-4
Extending the Battery Pack Charge, 3-21	HP FIRST, 6-5
	HP Forum, 6-5
F	HP PCL Commands and Control Codes, A-1
•	Humidity Specifications, 1-20
Factory Settings, Resetting, 3-3, 3-4	
Fading Print, 3-16	1
Failure, Optional Card, 5-11	l
Faint and Fuzzy Print, 5-26	ICON Option Number, 1-7
Fax Retrieval System, 6-5	Identifying Battery Charge Rate, 3-20
Features and Benefits, 1-3	Improved Ink, 1-3
Feeding Paper Manually, 1-5	IN Tray, 3-7
Finnish	Capacity, 1-21
Option Number, 1-7	Capacity Problems, 5-15
User Documentation, 1-11	Increasing
Firmware Revision, 5-8	Print Cartridge Life, 4-2
FIRST, HP, 6-5	Printing Speed, 4-2
Foam Rubber Swabs, 1-2	Indications, Light, 5-10
Font Button, 2-9, 3-3	
Fonts	
Internal, 1-12	
Selecting, 3-3	
Formfeed Operation, 3-3	
French	
Option Number, 1-7	
User Documentation, 1-11	
Fully Charged Battery Packs, 3-20	

Information	Ink, Removing Crusted, 5-25
Battery Pack, 3-24	InkJet
Centronics Parallel Pinout, 2-6	Printing Benefit, 1-3
Configuration, 2-12	Technology, 3-29
InkJet Technology, 3-29	Input Buffer Size, 1-15
Internal Fonts, 1-12	Installation
Material Safety Data Sheet, 3-26	and Configuration, 2-1
Media Loading, 3-19	Installing Printer to Cut-Sheet Feeder, 3-9
Obtaining Software Support, 6-5	Interconnect Problem, 5-27, 5-28
Power Module, 3-21	Interface
Print Cartridge Tips, 3-27	Cable Holder, 3-9
Printer Repair Feedback, 6-6	Connecting the Cable, 2-7
Product, 1-1	Connector Port, 1-4
Rapid Recharger, 3-22	Similarities and Differences, 1-6
Service, 6-1	Specifications, 1-15
Warranty, 6-2	Interface Cable
Ink	Checking the, 5-19
Removing Crusted, 5-25	Part Number, 1-10
Ink Cartridge	Interface Specifications, 1-15
Cleaning, 3-26	Interference, Magnetic, 2-4
Cleaning Routine, 3-4, 5-24	Internal
Cleaning the, 5-28	Fonts, 1-12
Identifying the Expiration Date, 5-22	Fonts, Selecting, 3-3
Increasing Life, 4-2	Tests, 5-7
Installing, 3-14	Internal View, 1-4
Interconnect Problems, 5-28	Inventory Control of Print Cartridges, 5-23
Inventory Control, 5-23	Italian
Life, 1-24	Option Number, 1-7
Life Specification, 5-23	User Documentation, 1-11
Life Troubleshooting, 5-20	Items Included, 2-2
Maintaining, 3-26	
Manufacturing Date, 5-22	
Material Safety Data Sheet, 3-26	J
Modifying or Refilling, 3-27	Ioma Clearing Dancy 5 14
Part Number, 1-10	Jams, Clearing Paper, 5-14
Refilling or Modifying, 1-24	Japan Pottow: Pook 1.0
Replacing, 3-4	Battery Pack, 1-9
Similarities and Differences, 1-6	Power Module, 1-8
Specifications, 1-24	
Storing, 3-27	K
Tips, 3-27	••
Troubleshooting, 5-20	Keypad
Type, 5-8	Information, 3-2
Ink Coverage Impacting Life, 5-20	Light Indications, 5-10
Ink Smearing, 5-26	Kits, User Documentation, 1-11
	Korean Power Module, 1-8

L	Manual Kits, 1-11
	Manual Single Load, 3-17
Labels, Printing, 3-8	Manufacturing Date of the Print Cartridge, 5-22
Labels, Printing On, 3-19	Material Safety Data Sheet, 3-26
Landscape	Maximizing
Internal Fonts, 1-12, 1-13	the Printer, 4-1
Printing, 3-3	Mean Time Between Failures, 1-15
Landscape Light, 3-3	Measuring
Alternately Blinking, 5-11	Paper Squareness, 5-16
Language of User Documentation, 1-11	Print Skew, 5-17
Languages Available, 1-7	Mechanical Vibration Specifications, 1-20
Latin American Option Number, 1-7	Mechanism Carriage Locked, 5-12
Left Arrow Button, 2-9	Mechanism Life, 1-15
Left Button, 2-12	Mechanism Print Speed, 1-14
Letter Gothic Internal Fonts, 1-12	Media
Letter Quality Internal Fonts, 1-12	Loading, 3-17
Letter Quality Mode, 1-14	Loading Information, 3-19
Letterhead Printing, 3-19	Mixing, 3-19
Level of Battery, 2-13	Similarities and Differences, 1-6
Level of Charge, Battery Pack, 5-8	Size of, 1-21
LF/FF Button, 2-9, 3-3	Menu Light, 2-10, 3-4
Life	Alternately Blinking, 5-11
of Mechanism, 1-15	Blinking, 5-10
of Print Cartridge, 1-24	Menu, Configuration, 1-4, 2-11
Print Cartridge Shelf Life, 5-23	Missing Dots, 5-8, 5-26
Light Blinking, 5-10	Mixing
Light Indications, 5-10	Media, 3-19
Limitations with Printer Drivers, 4-3	Model Number, 1-2
Linear Scale, 1-2, 5-2	Model Numbers
Linefeed Operation, 3-3	Per Option, 1-7
Loading	Models
Paper, 3-17, 3-19	Similarities and Differences, 1-2
Locking of the Carriage, 5-12	Modifying or Refilling Print Cartridges, 3-27
Low Battery Condition, 3-21, 3-25	Modifying Print Cartridges, 1-24
Low Charge, Battery, 5-10	Moving the Pointer, 2-9
LX JetSeries Transparency Film, 1-10	MS Windows
	Printer Driver, 1-2
	Printer Driver Selection, 4-3
M	Support, 1-3
Magnetic Interference, 2-4	TrueType Font Capability, 1-12
,	TrueType Font Compatibility, 1-3
Maintaining	MSDS, 3-26
Print Cartridges, 3-26	MTBF, 1-15
the Printer, 3-27	MIDI, I IO
Maintenance, 3-26	
Manual Feed	
with Cut-Sheet Feeder, 1-5	

with the Cut-Sheet Feeder, 3-12

N	Optional Rapid Recharger, 1-3
	AC Voltage Detection, 2-3
Needed	Cautions, 3-22
Support Materials, 1-2	Connecting, 2-3
Netherlands Option Number, 1-7	Indications, 3-25
New Battery Pack, 5-5	Information, 3-22
No Printout, 3-16	Instruction Booklet, 1-11
Noise Level Specifications, 1-20	Lights and Buttons, 3-6
Nonprinting Self-Test, 5-7	Part Numbers, 1-8
Norwegian	Troubleshooting, 5-6
Option Number, 1-7	Options, 1-7
User Documentation, 1-11	Options, Repair, 6-2
Nozzles	Out-Of-Ink, 3-16
Crusting, 5-25	Out-Of-Paper Condition, 3-3, 5-10
Number, Model, 1-2	Out-Of-Paper Sensor, 1-4
, ,	Overall Troubleshooting, 5-3
	Overriding
0	Configuration Settings, 2-13
Obstructions Depor Deth. 5.15	Default Settings, 2-12
Obstructions, Paper Path, 5-15	Default Settings, 2-12
Obtaining	
Printer Drivers, 6-5	Р
Software Support Information, 6-5	
Online Button, 2-9	Packaging Specifications, 1-18
Online Button and Light, 3-3	Pages Per Month, 1-15
Online Light	Paper
Alternately Blinking, 5-11	Handling Specifications, 1-21
Blinking, 5-10	IN Tray Capacity, 1-21
Blinking Alternately, 5-11	Loading, 3-17, 3-19
Open Circuits, 5-28	Measuring Skew, 5-17
Operating	Measuring Squareness, 5-16
Configuration, 1-5	Mixing Media, 3-19
From A Battery Pack, 3-24	Path Obstructions, 5-15
the Cut-Sheet Feeder, 3-7	Printing on Plain, 1-3
Operation and Usage, 3-1	Problems, 3-19
Optimization, 4-1	Size of, 1-21
Optional	Weight, 1-21
Card Failure, 5-11	Paper Feed Slot, 1-4
Optional Battery Pack	Paper Jam
Configuration Information, 2-12	Clearing, 5-14
Installing/Replacing, 2-4	Detecting, 5-11
Instruction Sheet, 1-11	Possible Causes, 5-15
Part Numbers, 1-9	Paper Output Guides, 3-7
Troubleshooting, 5-5	Paper Output Slot, 1-4
Optional Cut-Sheet Feeder, 1-3	Paper Pressure Plate, 3-18
Automatic Feeding, 3-11	Paper Release Button, 1-4
Clearing Paper Jams, 5-14	Paper Sensor, 1-4
Loading Paper and Media, 3-18	Paper Support, 3-7
Operation, 3-7	Arms, 3-7, 3-11
Paper Jam, 5-15	Similarities and Differences, 1-6
Part Number, 1-10	ontinariues and Differences, 1-0
Physical Specifications, 1-16	
•	

Parallel Interface	Print Cartridge, 1-4
Pinout Information, 2-6	Cleaning, 3-26
Pattern, Self-Test, 5-9	Cleaning Routine, 3-4, 5-24
PCL Commands and Control Codes, A-1	Cleaning the, 5-28
Perforation Skip	Compatible, 3-15
Margins, 1-23	Identifying the Expiration Date, 5-22
Periodic Cleaning, 3-26	Increasing Life, 4-2
Physical Specifications, 1-16	Installing, 3-14
Pinch Plate, Cleaning the, 3-28	Interconnect Problems, 5-28
Pinout Information	Inventory Control, 5-23
Parallel, 2-6	Life, 1-24
Placement of Dots, 1-14	Life Specification, 5-23
Plain Paper Printing, 1-3	Life Troubleshooting, 5-20
Plate, Cleaning the, 3-28	Maintaining, 3-26
Pointer, 2-11	Manufacturing Date, 5-22
Pointer, Moving the, 2-9	Material Safety Data Sheet, 3-26
Port, Interface Connector, 1-4	Modifying or Refilling, 3-27
Portrait	Part Number, 1-10
Internal Fonts, 1-12	Refilling or Modifying, 1-24, 5-20
Printing, 3-3	Removing Crusted Ink, 5-25
Portuguese	Replacing, 3-4
Option Number, 1-7	Similarities and Differences, 1-6
User Documentation, 1-11	Specifications, 1-24
Power	- ,
Information, 3-20	Storing, 3-27
	Tips, 3-27
Saving Mode, 3-25	Troubleshooting, 5-20
Socket, 1-4	Type, 5-8
Specifications, 1-19	Won't Home, 3-16
Power Button, 2-9	Print Quality
Power Button and Light, 3-4	Unsatisfactory, 3-16
Power Light	Print Quality Problems, 5-26
Alternately Blinking, 5-11	Print Skew, 5-16
Blinking, 3-25, 5-10	Measuring, 5-17
Blinks, 3-21	Printable Area, 1-22
Dim, 3-21	Printer, 1-15
Power Module, 2-2	Buffer Size, 1-15
AC Voltage Detection, 2-3	Carriage, 1-4
Compared with Rapid Rechargers, 3-22	Clearing the Buffer, 3-3
Connecting, 2-3	Command Set, 1-14
Information, 3-21	Commands and Control Codes, A-1
Options, 1-7	Configuration Menu, 2-11
Part Numbers, 1-8	Configuring the, 2-9
Returning Instructions, 6-3	Control Panel Information, 3-2
Similarities and Differences, 1-6	Default Settings, 2-12
Power On Self-Test, 5-7	Description, 1-2
Powering the Printer, 2-3	Electrical Specifications, 1-19
Pressure Plate, 3-7, 3-18	Environmental Specifications, 1-20
Release Button, 3-7, 3-18	Failure, 5-10
Preventive Maintenance, 3-26	Firmware Revision, 5-8
Print	Information, 1-1
Modes, 1-14	Internal Fonts, 1-12
Resolution, 1-3, 1-14	Light Indications, 5-10
Speed, 1-14	Maintenance, 3-27
	Model Number 1-2

Operating and Using, 3-1	Product
Options, 1-7	Buffer Size, 1-15
Physical Specifications, 1-16	Commands and Control Codes, A-1
Positioning, 1-2	Configuration Menu, 2-11
Power Information, 3-20	Configuring the, 2-9
Power Module Part Numbers, 1-8	Control Panel Information, 3-2
Powering, 2-3	Default Settings, 2-12
Printing Speed, 1-14	Description, 1-2
Repair Feedback Information, 6-6	Electrical Specifications, 1-19
Repair Sheet, 6-7	Environmental Specifications, 1-20
Returning for Service, 6-3	Features and Benefits, 1-3
Safety Specifications, 1-21	Information, 1-1
Self-Test, 5-8	Interface Specifications, 1-15
Similarities and Differences, 1-2, 1-6	Internal Fonts, 1-12
Solving Stall Conditions, 5-12	Light Indications, 5-10
Specifications, 1-14	Maintenance, 3-26
Stand, 1-4	Model Number, 1-2
Status, 3-5	Operation and Usage, 3-1
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,	Prop, 1-12
with Paper, 5-19	Q
	Quality Problems, Print, 5-26
	Quick Charge, 3-20
	Quiet Printing, 1-3
Troubleshooting, 5-7 Usage Rate, 1-15 User Documentation, 1-11 Views, 1-4 Weight, 1-17 with Cut-Sheet Feeder, 1-5 Printer Dock, 3-7 Printer Driver, 1-2 Limitations, 4-3 Selecting a, 4-3 Printer Drivers Obtaining, 6-5 Printer Stand Rotating, 3-9 Printer/Feeder Release Button, 3-7 Printing Benefit with InkJet, 1-3 Graphics, 5-20 Increasing Speed, 4-2 Labels, 3-8 On Labels, 3-19 On Letterhead, 3-19 Self-Test, 5-8 Slanted Printing, 5-16 Printouts Missing Rows of Dots, 5-27 Problem Resolution, 5-1 Problems with Paper, 3-19	Optimization, 4-1 Options, 1-7 Overall Troubleshooting, 5-3 Physical Specifications, 1-16 Positioning, 1-2 Power Information, 3-20 Power Module Part Numbers, 1-8 Powering, 2-3 Print Cartridge Specifications, 1-24 Printing Speed, 1-14 Problem Resolution, 5-1 Repair Feedback Information, 6-6 Repair Sheet, 6-7 Returning for Service, 6-3 Safety Specifications, 1-21 Self-Tests, 5-7 Service Information, 6-1 Similarities and Differences, 1-2, 1-6 Specifications, 1-14 Technology, 3-29 User Documentation, 1-11 Using the Printer, 3-1 Views, 1-4 Weight, 1-17 Programming Command Set, 1-14 Prop, 1-12 Q Quality Problems, Print, 5-26 Quick Charge, 3-20

R	S
Rapid Recharger, 1-3	Safety
AC Voltage Detection, 2-3	Data Sheet, 3-26
Cautions, 3-22	Specifications, 1-21
Connecting, 2-3	Saving Battery Pack Charge, 3-21
Indications, 3-25	Saving Settings, 2-12
Information, 3-22	Scheduled Maintenance, 3-26
Instruction Booklet, 1-11	Select Button, 2-9
Lights and Buttons, 3-6	Selecting
Part Numbers, 1-8	a Printer Driver, 4-3
Physical Specifications, 1-16	Draft and Letter Quality, 3-3
Troubleshooting, 5-6	Groups, 2-12
Receiving Software Information From Facsimiles, 6-5	Internal Fonts, 3-3
Refilling or Modifying Print Cartridges, 3-27	Printer Settings, 2-9
Refilling Print Cartridges, 1-24	Self-Test, 5-7
Region, Power Module, 1-7	Pattern, 5-9
Relative Humidity Specifications, 1-20	Printer, 5-8
Release Button, Paper, 1-4	Starting, 3-3, 3-4
Release Button, Pressure Plate, 3-18	Verifying the Configuration, 2-12
Releasing Jammed Paper, 5-14	Sensor, Paper, 1-4
Reliability Specifications, 1-15, 1-21	Service
Removing	Express Exchange, 6-4
Contaminants, 3-28	Information, 6-1
Ink From the Nozzles, 5-25	Return Repair, 6-4
Media From the Cut-Sheet Feeder, 3-19	Returning for, 6-3
Repair Feedback Information, 6-6	Support Contacts, 6-4
Repair Options, 6-2	Service Center, 6-3
Replacement Supplies, 1-10	Service Station Stall, 5-12
Resetting to Factory Settings, 3-3, 3-4	Service Station Stall Failure, 5-11
Resistant Ink to Water, 1-3	Settings
Resolution, 1-3, 1-14	Identifying, 5-8
Graphics, 1-15	Saving, 2-12
Problem, 5-1	Selecting Printer, 2-9
Restoring Faulty Print Cartridges, 5-24	Settings Button, 2-9, 3-4, 3-14
Return Repair Service, 6-4	Setup Configuration, 1-5
Returning a Printer for Service, 6-3	Shelf Life, 5-23
Revision of Firmware, 5-8	Short Print Cartridge Life, 5-20
Revive Lights and Buttons on Rapid Recharger, 3-6	Short Printing Life, 3-24
Reviving Battery Packs, 3-6, 3-22, 3-24	Similarities and Differences, 1-6
Right Button, 2-9, 2-12 Rigid Stock, 5-25	Single Loading Paper, 3-17
Rotating the Printer Stand, 3-9	Size of Input Buffer, 1-15
Routine Maintenance, 3-26	Skew, 5-16 Measuring, 5-17
Rows of Dots Missing, 5-26	•
tions of Dots Missing, 0-20	Slanted Print, 5-16 Sleep Mode, 3-4, 3-21, 3-25, 5-10
	Snearing Ink, 5-26
	Software Support Information, Obtaining, 6-5
	boreware support mioritation, obtaining, 0-5

Solving	l l
Battery Pack and AC Operation Problems, 5-4	m
Communication Problems, 5-18	Taiwan Power Module, 1-8
Configuration Problems, 2-13	Technology Information, 3-29
Faulty Print Cartridges, 5-24	Temperature Specifications, 1-20
Media Loading Problems, 3-19	Tests, 5-7
Paper Jams, 5-14	Text Scale
Print	Margins, 1-23
Quality Problems, 5-26	Thermal InkJet
Print Cartridge Problems, 3-16	Printing, 1-3
Printer Stall Conditions, 5-12	Technology, 3-29
South Africa	Things Included, 2-2
Power Module, 1-8	TIJ Technology, 3-29
South African	Timeout, Configuration Mode, 2-12
Option Number, 1-7	Tips
Spanish	Media Loading, 3-19
Option Number, 1-7	Print Cartridge, 3-27
User Documentation, 1-11	Tools
Specifications, 1-14	Support, 1-2
Electrical, 1-19	Troubleshooting, 5-2
Environmental, 1-20	Transparencies, 3-19, 5-26
Interface, 1-15	Transparency
Print Cartridge, 1-24	Capability, 1-3
Printable Area, 1-22	Part Number, 1-10
Product Safety, 1-21	Transport
Reliability, 1-21	Configuration, 3-8
Speed of Printing, 1-14	Mode View, 1-5
Speed, Increasing Printing, 4-2	Trickle Charge, 3-20
Squareness of the Paper, 5-16	Troubleshooting, 5-1
Stall Problems, 5-12	Battery Pack and AC Operations, 5-4
Standard	Clearing Paper Jams, 5-14
Documentation, 1-11	Communication Problems, 5-18
Status of Battery Pack, 3-4	Configuration Problems, 2-13
Status of Printer, 3-5	Faulty Print Cartridges, 5-24
Storage	Media Related Problems, 3-19
Configuration, 3-8	Overall, 5-3
Storage Interlock, 3-7	Print Cartridge Problems, 3-16
Storing Print Cartridges, 3-27	Print Cartridges, 5-20
Subscript Internal Fonts, 1-12	Print Quality Problems, 5-26
Superscript Internal Fonts, 1-12	Printer Stall Conditions, 5-12
Supplies and Accessories, 1-10	Repair Sheet, 6-7
Support	The Printer, 5-7
Information, 6-1	Tools, 5-2
Needs, 1-2	TrueType Font Capability, 1-12, 4-3
Tools, 1-2	TrueType Fonts, 1-3
Support Arms, Paper, 3-11	Turning the Printer On and Off, 3-4
Support Contracts, 6-4	Type of Battery Pack, 1-15
Support Information, Obtaining, 6-5	
Support of Envelopes, 1-6	
Swabs, 1-2	
Swedish	
Option Number, 1-7	
User Documentation, 1-11	

U	W
U.S. Power Module, 1-8 UK Option Number, 1-7 Power Module, 1-8 Underline Internal Fonts, 1-12 Univers Internal Fonts, 1-12 Unsatisfactory Print Quality, 3-16 US Battery Pack Part Number, 1-9 US Option Number, 1-7 Usage of the Printer, 1-15 Operation and, 3-1 User Documentation, 1-11 For Support, 1-2 User Guide Kits, 1-11 Using the Printer, 3-1 Utilities, Internal, 5-7	Warranty Information, 6-2 Service Center, 6-3 Water Resistant Ink, 1-3 Weight, 1-17 Weight of Paper, 1-21 Width, Physical Specifications, 1-17 Windows Printer Driver, 1-2 Printer Driver Selection, 4-3 Support, 1-3 TrueType Font Capability, 1-12 Won't Charge Battery Pack, 5-5 Won't Home Print Cartridge, 3-16 Won't Point To Group in Configuration Mode, 2-13 Wordprocessing Applications, DOS, 4-3 Worldwide Repair, 6-2
V	Worldwide Use of Rapid Rechargers, 3-22
Verifying Configuration Settings, 2-12 Vertical Alignment, 1-14 Vertical Resolution, 1-14 View, 1-4 Internal, 1-4 Transport Mode, 1-5 Voltage Specifications, 1-19 Voltmeter, 5-2	





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