

Product: 1999 HP 2500C Series Printer Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/1999-hp-2500c-series-printer-service-repair-workshop-manual/>



HP 2500C Series Printer Service and Support Manual

Version History

Version 2.0 January 1, 1999

Notice

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.

No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard Company.

Contents

Chapter 1

Production Information

Technology Update.....	1-1
Modular Ink Delivery System	1-1
Specifications	1-4
Data Sheet	1-4
Cable Specifications.....	1-8
Reliability Specifications	1-14
Interface Specifications	1-15
Physical Specifications.....	1-16
Packaging Dimensions Specifications	1-17
Electrical Specifications	1-18
Environmental Specifications.....	1-19
Product Certifications.....	1-20
Media Sizes Supported.....	1-21
Recommended Media Weight	1-22
Paper Handling	1-23
Printable Area	1-24
Media Margins.....	1-25
Hewlett-Packard Ink Cartridge Specifications	1-27
System Requirement	1-28
Product Overview	1-29
Printer External View.....	1-29
Model and Serial Number	1-29
Supplies and Accessories	1-30
Product Structure	1-30
Power Cord.....	1-31
Network Interface	1-32
Print Cartridge	1-33
Media.....	1-34
Other Accessories	1-35
Replaceable Parts.....	1-35
Warranty and Support.....	1-36
Hewlett-Packard Limited Warranty Statement.....	1-37
Extent of Limited Warranty.....	1-37
Limitations of Warranty	1-38
Limitations of Liability	1-39
Obtaining Printer Drivers	1-40
Service Support Contracts	1-41
Service and Support Resource.....	1-42
Worldwide Customer Support Numbers	1-49

Chapter 2

Operating Overview

Using the Control Panel	2-1
Control Panel Layout	2-1
Indicator Lights.....	2-3
Settings and Defaults	2-4
Restoring Factory Defaults.....	2-7
Control Panel Menus.....	2-8
Paper Handling Menu.....	2-9
Diagnostics Menu.....	2-11
Information Menu	2-12
Self-Test Menu.....	2-13
Print Quality Menu.....	2-14
Printing Menu	2-15
I/O Menu.....	2-16
Resets Menu.....	2-17
Configuration Menu	2-17
MIO Menu	2-18
Aligning Printheads.....	2-19
Printhead Diagnostic Process	2-20
Error Codes	2-21
Recoverable Error Codes	2-21
Unrecoverable Codes.....	2-23
Printer Diagnostic Pages	2-33
Diagnostic Page	2-33
Extended Diagnostic Page.....	2-35

Chapter 3

Loading Paper and Paper Behavior

Loading the Trays	3-1
Loading Commonly-Used Media in Tray 2	3-2
Loading Commonly Used Media in Tray 3	3-4
Loading Paper in Tray1.....	3-6
Loading Paper through the Rear Manual Feed.....	3-7
Paper Behavior	3-8
Print Job Selected Tray 2	3-8
Print Job Selected Tray 3	3-8
Print Job Selected Autoselect	3-9
Print Job Selected Manual Feed	3-9
Unexpected Paper Size.....	3-9
Printer is Idle	3-9
Printer is Printing from Tray 1 or Tray 2.....	3-9
Printer is Printing from Tray 3	3-10
Paper Jam at Output Bin During Paper Loading	3-10
Paper Jam at Output Bin During Printing	3-10
Paper Jam Internal During Paper Loading	3-11

Chapter 4

Install / Uninstall

Installing Printer Software from CD.....	4-1
Installing PCL Software from CD in Windows	4-2
Installing PCL Software from Floppy Diskettes in Windows.....	4-3
Installing PostScript Software in Macintosh.....	4-4
Installing PostScript Software in Windows	4-4
Uninstalling Printer Software.....	4-5
For Windows 3.1x	4-5
For Windows 95 / 98 / NT4.0	4-5
Copy Printer Software from CD to Disk or Server	4-6

Chapter 5

Maintenance and Ink Cartridge Safety

Cleaning the Printer and Accessories	5-1
Cleaning Spilled Ink	5-1
Printhead	5-2
Ink Cartridge Safety.....	5-3
For HP No.10 Color/Black Ink Cartridges.....	5-3
For Service Station Assembly	5-5
Potential Health Effects	5-6
First Aid Measures.....	5-7
Note to Physician.....	5-7
Handling Precautions	5-7
Additional Information	5-8
Material Safety Data Sheet (MSDS).....	5-8

Chapter 6

Functional Overview

Writing System.....	6-1
Introduction	6-1
Part Numbers	6-2
Ink Cartridge and Printhead Specifications.....	6-3
Thermal InkJet Technology.....	6-4
Paper Paths and Components	6-6
Chassis.....	6-6
Output Management	6-7
Output Mechanism.....	6-8
Swivel PCA	6-18
Dual Bin Pick and Feed Mechanism.....	6-21
HP 2500C Electronics.....	6-24
HP 2500C PCA Overview.....	6-24
Motor Control Overview	6-25
Firmware	6-26
Physical Layer	6-27
Data Link Layer.....	6-27
Application Layer	6-28
Interface with Mechanism.....	6-28
Interface with Key Panel	6-29

Chapter 7

Removal and Replacement of Parts (without Calibration)

Introduction	7-1
Removal and Replacement Tools	7-1
Before You Begin	7-2
Important Notes about Printer Components and Disassembly	7-3
Replacement of Parts	7-4
Removing the PCA	7-4
Installing the PCA	7-6
Removing the Service Station	7-7
Installing the Service Stations	7-9
Removing the LED PCA	7-10
Installing the LED PCA	7-12
Removing the LCD Panel	7-13
Installing the LCD Panel	7-14
Removing the Power Knob	7-15
Installing the Power Knob	7-16
Removing the Power Supply	7-19
Installing the Power Supply	7-20
Removing the MIDS	7-21
Installing the MIDS	7-22
Removing the Ink Supply System	7-23
Installing the Ink Supply System	7-24
Removing the Main Case	7-25
Installing the Main Case	7-26
Removing the Paper Knob	7-27
Installing the Paper Knob	7-28
Removing the Fan	7-29
Installing the Fan	7-30
Removing the Carriage Motor	7-31
Installing the Carriage Motor	7-32
Removing the Assembly Harness Cover	7-33
Installing the Assembly Harness Cover	7-34
Removing the Rear Door	7-35
Installing the Rear Door	7-36
Removing the Encoder Strip	7-37
Installing the Encoder Strip	7-38
Removing the Primary Star Wheel	7-39
Installing the Primary Star Wheel	7-40
Removing the Secondary Star Wheel	7-41
Installing the Secondary Star Wheel	7-42
Removing the Rubber Foot	7-43
Installing the Rubber Foot	7-44
Removing the Absorbers	7-45
Installing the Absorbers	7-48

Chapter 8

Troubleshooting

Troubleshooting Concepts	8-1
LED.....	8-2
Standard Procedures	8-3
No Power.....	8-4
LED or LCD.....	8-6
Unrecoverable Error Messages.....	8-9
Print Quality	8-11
Broken or Missing Parts.....	8-12
No Pick or Multiple Pick or Other Mechanism Problems	8-13
Troubleshooting Tools	8-14

Chapter 9

Parts and Diagrams

Parts List	9-1
Parts Leveraged from HP2000C (C4503A)	9-2
Exploded Views.....	9-3

Chapter 1 Product Information

Technology Update

Modular Ink Delivery System

A modular ink delivery system is the separation of ink cartridges and printheads into individual, single-color components. Traditional inkjet printers use one black and one tri-color ink cartridge, each with integrated printheads. HP's modular ink delivery system features four separate ink cartridges--one for each primary printing color--and four corresponding long-life printheads, with tubes connecting the components. Including the standard and high-capacity black ink cartridges, there are actually nine consumables, with only eight used in the printer at one time.



Technology Update

How It Works

By separating the ink cartridge from the printheads, a modular ink delivery system allows the ink supply to remain in a permanent, fixed position. The printheads remain attached to the carriage and move back and forth, delivering ink to the page as the paper advances through the printer. Each printhead and ink cartridge is embedded with a tiny memory device called a smart chip that recognizes and stores the unique operating characteristics of the component to create a totally integrated printing system that ensures consistent, high-quality printing at the lowest cost available.

A unique pressurization system maintains a constant supply of ink to the printheads. Smart chips monitor the amount of ink used by counting every drop that passes through each printhead. When the smart chips sense more ink is needed to maintain continuous printing, a plunger in each cartridge temporarily pressurizes the cartridges to deliver more ink to the printheads. With the modular ink delivery system, ink supply is instantly replenished, even at top speeds.

The new, individually replaceable printheads are designed for long life and each should print 12,000 pages in black, 24,000 pages in color. As a result, you'll go through many ink cartridges before the corresponding printhead will need replacement. With their modular design, ink cartridges contain twice the ink supply of current HP cartridges, so you'll also get longer lasting cartridges. When a component approaches the end of its print life, the smart chip notifies the user through on-screen messages so a replacement can be purchased prior to the part expiring.

By separating the printheads and ink cartridges, you only replace the component that is no longer usable. Printheads can be replaced one at a time without the need for costly or extensive servicing and aren't discarded when the ink is expended. HP printheads also use a wet wiping system to eliminate nozzle clogging that plagues other permanent printhead designs. Component replacement is easy. Simply pull out the used part and snap in a replacement.

Technology Update

The Benefits

Cuts up to 30 percent off the printing costs of other methods

- Modular design means only the component that is no longer useful is replaced.
- Longer-life printheads and higher-capacity ink cartridges means less frequent replacement.

Achieves color laser speed in a personal desktop printer

- Printheads have 304 nozzles apiece (1,216 total, the most in the industry) resulting in faster print speeds.
- Prints in 1/2-inch swath as opposed to the 1/5- or 1/3-inch swaths of integrated print cartridges.
- Ink cartridge pressurization system keeps constant flow of ink to printhead. Smart chips store component information and alert user to low-ink, ink-out and printhead failure status.

Specifications

Data Sheet

Print Method	Plain paper drop on-demand thermal inkjet printing.		
Print Speed¹ Black	Black Text Econofast Mode Normal Mode Best Mode	Letter / A4 9 ppm 7 ppm 7 ppm	11x17 / A3 5 ppm 3 ppm 3 ppm
Print Speed¹ Color	Color Highlights Econofast Mode Normal Mode Best Mode Mixed Text & Graphics Econofast Mode Normal Mode Best Mode Full Page Color Econofast Mode Normal Mode Best Mode	Letter / A4 9 ppm 6 ppm 5 ppm Letter / A4 7 ppm 3.5 ppm 1.2 ppm Letter / A4 3.5 ppm 1.8 ppm 0.4 ppm	11x17 / A3 5 ppm 3 ppm 2 ppm 11x17 / A3 4 ppm 2 ppm 0.5 ppm 11x17 / A3 1 ppm 0.8 ppm 0.2 ppm
	¹ Approximate figures. Exact speed dependent on the system configuration, software program, and document complexity		
Black Resolution	Up to 600x600 dpi		
Color Resolution	PhotoREt II for photo quality		
Printhead Nozzles	304 black, 912 color (304 per color printhead)		
Printer Command Language	HP PCL 3 enhanced Adobe PostScript 3 (With HP 2500CM only)		
Font Capability	HP FontSmart v2.5 (110 TrueType fonts for windows) HP FontSmart software provides easy-to-use font management capabilities 136 PostScript fonts with Adobe PostScript 3		
Memory	HP 2500C 4 Mbytes standard RAM HP2500CM 20 Mbytes standard RAM Two 72-pin SIMM slots for additional memory (EDO, 60ns) expansion up to a total of 76 Mbytes		

<p>Connectivity /Network Management</p>	<p>HP2500C Network-capable printer for DOS and Windows environments Enhanced HP PCL 3e Windows Driver Support for Windows NT 4.0, Windows 3.1x/95/98 Centronics parallel, IEEE 1284 compliant One network interface slot accepts optional HP MIO Print Servers with support for Novell Netware, Microsoft LAN Manager, Windows for Workgroups, Windows for NT, IBM LAN Server, Unix environment and Apple Talk (Ether Talk)</p> <p>HP2500CM Network-ready printer for DOS, Windows and Macintosh environments Enhanced HP PCL 3e Windows Driver Support for Windows NT 4.0, Windows 3.1x/95/98 Centronics parallel, IEEE 1284 compliant HP MIO 10/100Base-TX print server with support for Novell Netware, Microsoft LAN Manager, Windows for Workgroups, Windows NT, IBM LAN Server, Unix environment and AppleTalk (EtherTalk) Supports networking protocols IPX/SPX, TCP/IP, DLC/LLC, AppleTalk and NetBEUI Adobe PostScript 3 drivers for Windows and Macintosh QuickDraw</p> <p>Automatic switching between languages and ports. HP JetAdmin printer management software provides easy printer setup and configuration. Latest versions available from HP's web site (http://www.hp.com/go/jetadmin) HP WebJetAdmin printer management software available from HP's web site (http://www.hp.com/go/webjetadmin) for simple installations and configuration from a common web browser.</p>
<p>Paper Handling</p>	<p>Standard input capacity of 400 sheets through two trays (Tray 2 & 3) of 150 sheet and 250 sheet capacity. Standard output capacity of 150 sheets (face-up) Rear Manual feed – single sheet only Tray 1 (Input / Output Tray) – Sheets: up to 10, Cards: up to 4 Tray 2 (Upper Tray) – Sheets: up to 150, Cards: up to 60 Tray 3 (Lower Tray) – Sheets: up to 250 All input paths handle standard media sizes (as listed below) up to 13 in.x19 in. (Supper A3) Additionally, Tray 1 and the rear manual feed support all media sizes as small as 4 in.x6 in. (101.6mmx152.4mm) Built-in media size sensors prevents printing on the wrong size of media</p>

Paper Size Handling	Minimum Width: 76.2 mm (4in.) x 127.0 mm (6 in.) Maximum Width: 330.2 mm (13in.) x 482.6 mm (19 in.)
Maximum Print Width	320 mm (12.61 in.) x 470 mm (18.49 in.) on 13 in. x 19 in. media
Recommended Media Weight	All input paths handle the following paper weights with the rear straight-through paper path handling up to 0.3 mm thickness of paper Paper / Labels: 60 to 135 g/m ² (16 to 36 lb. Bond) Cards: 110 to 200 g/m ² (110 lb. Index) Straight-through path: up to 0.3 mm thickness (0.012 in.) or approx. 200 g/m ² (110 lb. Index)
Smart Software Features	Built-in printer driver features: HP ZoomSmart scaling technology, Billboard, Handout (N-up printing), Mirror, Watermark, Print Preview, Quick Sets, LaserJet Margin Emulation
Media Size / Type	Paper: Super B 13 x 19 in., U.S. Tabloid 11 x 17 in., U.S. Legal 8.5 x 14 in., U.S. Letter 8.5 x 11 in., European A3 297 x 420 mm, European A4 210 x 297 mm, European B4 257 x 364 mm Transparencies: U.S. Letter 8.5 x 11 in., European A4 210 x 297mm Cards: U.S. Index card 4 x 6 in., Index card 5 x 8 in., European A5 card 105 x 148.5 mm, Postcard 100 x 148 mm Labels: U.S. Labels, 8.5 x 11 in.; European A4 Labels, 210 x 297mm
Control Panel	Intuitive operation and complete, easy-to-understand messages Two-line 32 character LCD display and 2 LEDs Buttons: ⏪(Go), Job Cancel, Menu, Item, Value, Select Indicators: Attention, Ready Messages can be displayed in 14 languages: English, French, Italian, German, Spanish, Portuguese, Dutch, Norwegian, Finnish, Swedish, Danish, Polish, Czech and Russian
Operating Environment	Operating temperature: 5° to 40°C (41° to 104°F) Recommended operating conditions: 15° to 35°C (59° to 95°F) Storage temperature: -40° to 60°C (-40° to 140°F) Relative Humidity: 20 to 80% RH non-condensing Noise levels per ISO 9614-1: Sound Pressure, LwAm 62 dB(A)
Power Supply	Built-in Universal Power Supply
Power Requirements	Input Voltage 100 – 240 AC (±10%), 50/60 Hz (±3 Hz)
Power Consumption	Less than 2 watts when off, 8 watts maximum non-printing, 35 watts average printing, 65 watts maximum printing

Dimensions	<p>With paper tray closed 685 mm (26.97in.) W x 610 mm (24.02in.) D x 337 mm (13.27in.) H</p> <p>With paper tray fully extended 685 mm (26.97in.) W x 745 mm (29.33in.) D x 337 mm (13.27in.) H</p> <p>Desk Space Required 685 mm (26.97 in.) W x 532 mm (20.94 in.) D</p>
Weight	<p>26.5 kg (58.48 lb.) without printheads and ink cartridges 27.0 kg (59.52 lb.) with printheads and ink cartridges</p>
Reliability & Estimated Usage	<p>Up to 12,000 pages / month</p>
System Requirements	<p>Minimum: Windows 3.1x: 486DX-66, 8Mb RAM Windows 95/98: 486DX-100, 8Mb RAM Windows NT 4.0: 486DX-100, 16Mb RAM Macintosh System 7.5.3: 68040 – 8Mb RAM</p> <p>Recommended: Windows 3.1x: Pentium 150/166, 16Mb RAM Windows 95/98: Pentium 150/166, 16Mb RAM Windows NT 4.0: Pentium 150/166, 32 Mb RAM Macintosh System 8 or later: Power PC – 16 Mb</p> <p>50 Mb Free HardDisk space for 11 x 17 or A3 size printing. Graphics intensive files may require more disk space.</p>
Warranty	<p>1 year on site warranty</p>
Product Certifications	<p>Safety Certifications: CCIB (China), CSA (Canada), PSB (Singapore), UL (USA), NOMi(Mexico), TUV-GS (Germany), SABS (South Africa), JUN (Korea) EMI Certifications: FCC Part 15B Class B when used with a Class B computing device (USA), FCC Part 15B Class A when connected to Local Area Network (LAN) Devices, CTICK (Australia & New Zealand), VCCI (Japan), CE (European Union), B mark (Poland), Gost (Russia), BCIQ (Taiwan), RRL (Korea)</p>

Brands and product names listed are trademarks or registered trademarks of their respective companies.

Information in this document is subject to change without notice – for more information or the latest updates, please go to the HP2500C/CM's web site located at <http://www.hp.com/go/hp2500>

Specifications

Cable Specifications

1284-B Connector Pin Assignments

The pin numbers and their assigned signal names for the 1284-B connectors are given below.

Note	
The abbreviations used in the "Source" column: H = host; P = printer; Bi-Di = bi-directional	

PIN#	SOURCE	COMPATIBLE	NIBBLE	BYTE	ECP	EPP
1	H	nStrobe	HostClk	HostClk	HostClk	nWrite
2	Bi-Di*	Data 1 (Least Significant Bit)				AD1
3	Bi-Di*	Data 2				AD2
4	Bi-Di*	Data 3				AD3
5	Bi-Di*	Data 4				AD4
6	Bi-Di*	Data 5				AD5
7	Bi-Di*	Data 6				AD6
8	Bi-Di*	Data 7				AD7
9	Bi-Di*	Data 8 (Most Significant Bit)				AD8
10	P	nAck	PtrClk	PtrClk	PeriphClk	Intr
11	P	Busy	PtrBusy	PtrBusy	PeriphAck	nWait
12	P	PError	AckDataReq	AckDataReq	nAckReverse	User Defined 1
13	P	Select	Xflag	Xflag	Xflag	User Defined 3
14	H	nAutoFd	HostBusy	HostBusy	HostAck	nDStrb
15		Not Defined				
16		Logic Gnd				
17		Chassis Gnd				
18	P	Peripheral Logic High				
19		Signal Ground (nStrobe)				
20		Signal Ground (Data 1)				
21		Signal Ground (Data 2)				
22		Signal Ground (Data 3)				
23		Signal Ground (Data 4)				
24		Signal Ground (Data 5)				
25		Signal Ground (Data 6)				
26		Signal Ground (Data 7)				
27		Signal Ground (Data 8)				
28		Signal Ground (PError, Select, nAck)				
29		Signal Ground (Busy, nFault)				

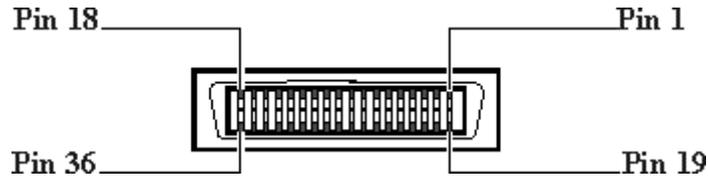
30		Signal Ground (nAutoFd, nSelectIn, nInit)				
31	H	nInit	nInit	nInit	nReverseRequest	nInit
32	P	nFault	nDataAvail	nDataAvail	nPeriphRequest	User Defined 2
33		Not Defined				
34		Not Defined				
35		Not Defined				
36	H	nSelectIn	1284 Active	1284 Active	1284 Active	nAStrb

* Data signals will be driven by some but not all peripheral devices.

* Pins not defined by this spec are used by manufacturers at their own risk.

Specifications

Centronics Parallel Pinout Information



PIN NUMBER	PIN ID	DESCRIPTION
1	Strobe 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	Acknowledge	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 computer that it cannot receive data due to data entry, a full buffer or error status.
12	Paper Error	The printer sends a high logic level to indicate to the computer that it is out of paper.
13	Ready	The printer sends a high logic level to indicate to the computer that it is in an online condition. The printer sends a low logic level to indicate that it is offline or that the input buffer is full.
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	Reset/Input Clear ¹	A low pulse sent by the computer resets the printer and clears the print buffer. The reset occurs on the trailing edge of the pulse
32	Error ¹	The printer sends a low logic level to the computer to indicate that it is in an error state.

¹ Active low

Specifications

The Centronics Parallel Cable has only 8 data lines, 5 status lines, 4 ground lines and ground connections between the host PC and the peripheral. Each of the signal lines has a corresponding bit position in a memory address (register) in the host where data is read or written. Sending data to the printer follows the sequence below:

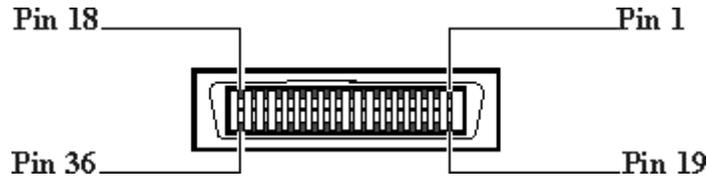
- Host places data in Data Out register
- Host sends pulse on Strobe line
- Printer sends pulse on Busy in response to pulse on Strobe
- Printer reads data on Data Out lines
- Printer sends pulse on ACK (Acknowledge) line after data is read

This method of data transfer is also known as the Compatibility mode and the transfer rate of data is slow. The printer while operating in compatibility mode is capable of indicating limited printer error feedback to the host computer. Such feedback includes:

- Paper jam
- Out of paper
- Printer on or off line
- Time out

Specifications

IEEE 1284 Pinout Information



Any standard IEEE 1284 compliant printer cable will work with the printer. The customer can order the HP IEEE 124 Compliant Parallel Interface Cable C2950A (2 meters) or C2951A (3 meters). See **Ordering Parts** in **Chapter 12** for ordering information.

PIN NUMBER	PIN ID	DESCRIPTION
1	HostClk	Used in a closed-loop handshake with PeriphAck to transfer data or address information from the host to the peripheral device.
2 - 9	AD1 - AD8	Host to peripheral device or peripheral device to host address or data. Data 1 is the least significant bit (bit 0).
10	PeriphClk	Used in a closed-loop handshake with HostAck (nAutoFd) to transfer data from the peripheral device to host.
11	PeriphAck	The peripheral uses this signal for flow control in the forward direction. PheriphAck also provides a ninth data bit to determine whether command or data information is present on the data signals in the reverse direction.
12	nAckReverse	The peripheral drives this signal low to acknowledge nReverseRequest. The host relies upon nAckReverse to determine when it is permitted to drive the data signals.
13	Xflag	This is used by the peripheral device to reply to the requested extensibility byte during the negotiation phase.
14	HostAck	The host drives this signal for flow control in the reverse direction. It is used in an interlocked handshake with PeriphClk. Host Ack also provides a ninth data bit used to determine whether command or data information is present on the data signals in the forward direction.
16	Logic Ground	Logic board ground.
17	Chassis Ground	Chassis Ground.
18	Peripheral Logic High	This signal is used to provide +5V high logic.
19-30	Ground	These pins are tied to signal ground
31	nReverseRequest	This signal is driven low to place the channel in the reverse direction. While in ECP mode, the peripheral is only allowed to driver the bi-directional data signals when nReverseRequest is low and 1284 Active is high.

32	nPeriphRequest	During ECP mode the peripheral may drive this pin low to request communications with the host. This request merely "hints" to the host; the host has ultimate control over the transfer direction. This signal provides a mechanism for peer-to-peer communication. This signal is valid in the forward and reverse directions.
36	1284 Active	Driven high by host while in ECP mode. Set low by the host to terminate ECP mode and return the link to the Centronics (uni-directional) mode

The 1284 compliant cable supports the ECP (Extended Capabilities Port) mode in the transfer of data. The ECP protocol includes a series of protocols that differ from standard Centronics parallel port operation. These additional signaling methods allow the host and peripheral to negotiate any of faster transfer modes (e.g. DMA, FIFO and RLE decompression). The protocol is hardware driven and the performance is limited by the ISA bus bandwidth. The primary advantage is that once data transfer is negotiated, data can flow without the need of an acknowledge or a return status signal. This can result in a transfer rate of up to 10 times faster than that of the compatibility mode that the Centronics parallel cable supports.

To transfer data, the host first goes through a negotiation phase, which allows the host and peripheral to select a mutually-supported communications mode. During the negotiation phase, the host indicates which communication mode and options it would like to use via the Extensibility Request Value. If the peripheral device does not support the requested mode or options, it sets the Extensibility Flag low and the interface returns to Compatibility Mode.

Specifications

Reliability Specifications

Category	Specifications
Printer Usage	Up to 12,000 pages / month
Mechanism Life	150,000 A size pages / 5 years

Specifications

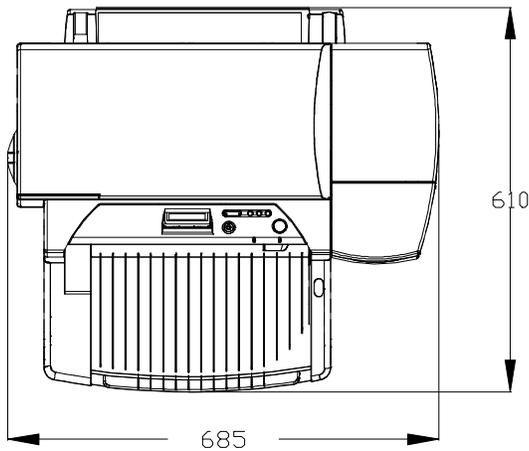
Interface Specifications

Category	Specifications
Interface Specification	<ul style="list-style-type: none"><li data-bbox="756 499 1248 604">▪ Centronics parallel, IEEE 1284 Compliant with 1284-B receptacle (ECP)<li data-bbox="756 659 1248 697">▪ 64KB buffer size

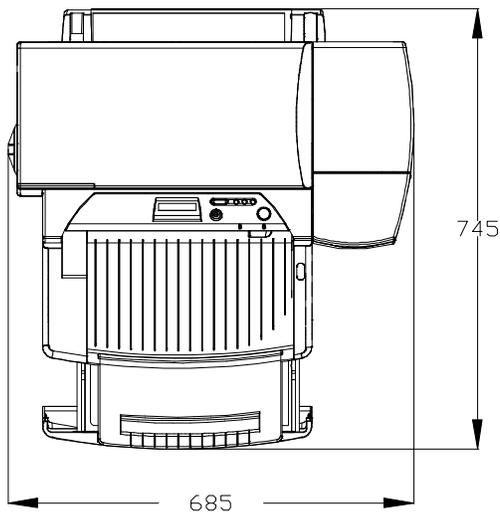
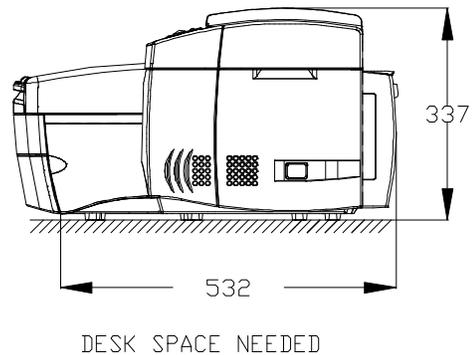
Specifications

Physical Dimensions

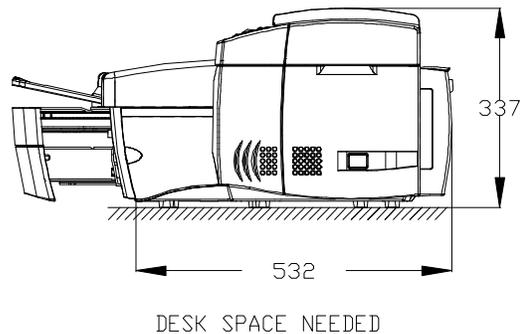
With paper tray closed (W x D x H)	27.0 x 24.0 x 13.3 inches 685 x 610 x 337 mm
With paper tray fully extended (W x D x H)	27.0 x 29.3 x 13.3 inches 685 x 745 x 337 mm
Weight	26.5 kg (58.48 lb.) without printheads and ink cartridges 27.0 kg (59.52 lb.) with printheads and ink cartridges
Desk space needed (W x D)	27.0 x 21.0 inches 685 x 532 mm



Printer with paper tray closed



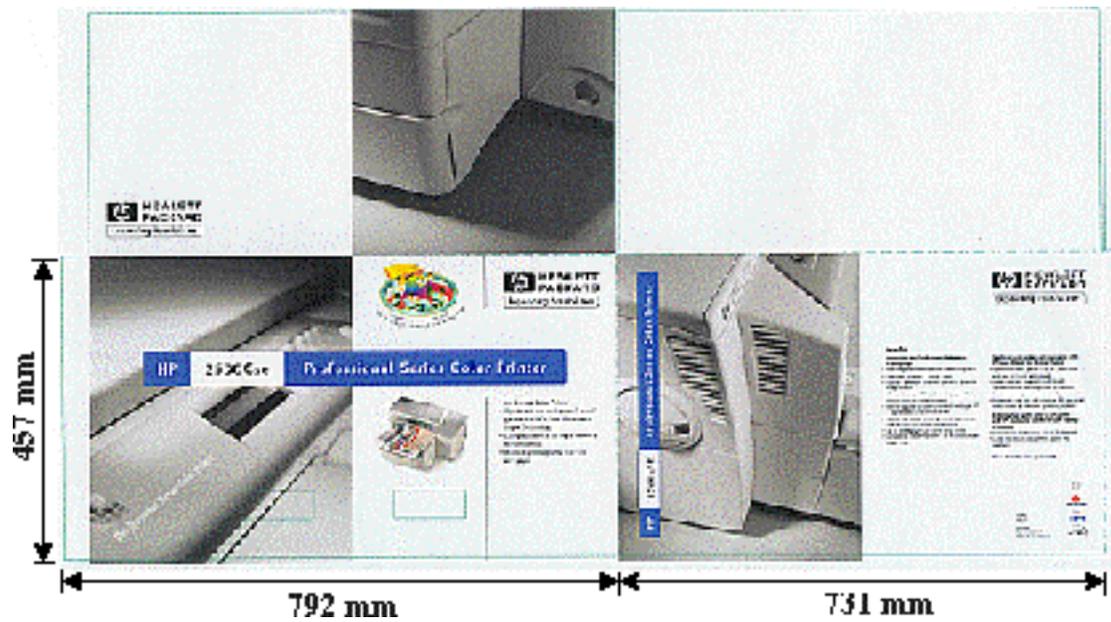
Printer with paper tray fully extended



Specifications

Packaging Dimensions Specifications

792 mm (31.3 in.) W x 731 mm (28.8 in.) D x 457 mm (18.0 in.) H



Specifications

Electrical Specifications

Category	Specification
Input Voltage	100 to 240 Vac ($\pm 10\%$)
Frequency	50/60 Hz (± 3 Hz)
Interface Specification	Centronics parallel, IEEE 1284 Compliant with 1284-B receptacle (ECP)
Power Consumption	
▪ Idle	4.4 watts
▪ Printing	35 watts max.
Transient Spike Immunity	
▪ Amplitude	1 kV
▪ Pulse width	50 μ seconds
▪ Rise time	1.2 μ seconds

Specifications

Environmental Specifications

Category	Specifications
Temperature	
<ul style="list-style-type: none"> ▪ Operating ▪ Storage condition ▪ Recommended operating 	5 °C to 40 °C (41 °F to 104 °F) -40 °C to 60 °C (-40 °F to 140 °F) 15 °C to 35 °C (59 °F to 95 °F)
Humidity	
<ul style="list-style-type: none"> ▪ Operating ▪ Storage condition ▪ Recommended operating 	10%-80% RH non-condensing 10%-80% RH non-condensing 20%-80% RH non-condensing
Altitude	
<ul style="list-style-type: none"> ▪ Operating ▪ Non-operating 	0 to 3100 meters 0 to 4600 meters
Mechanical Vibration	
<ul style="list-style-type: none"> ▪ Frequency range ▪ Operating (Random) ▪ Non-operating (Random) ▪ Swept Sine 	5 to 500 Hz Approximately 0.21 G rms Approximately 2.09 G rms 0.5 (0 to peak)
Noise Levels per ISO 9296	
<ul style="list-style-type: none"> ▪ Sound power L_{pAm} 	49 dB(A) (By-stander position)

Specifications

Product Certifications

Safety Certifications	EMI Certifications
CCIB (China)	C TICK (Australia and New Zealand)
CSA (Canada)	VCCI (Japan)
NOM1 (Mexico)	CE (European Union)
PSB (Singapore)	GOST (Russia)
TUV-GS (Germany)	B mark (Poland)
UL (USA)	GOST (Russia)
SABS (South Africa)	BCIQ (Taiwan)
JUN (Korea)	RRL (Korea)
EMI	FCC Class B when used with a Class B computing device (USA)

Specifications

Media Sizes Supported

The following are the media sizes supported by the printer.

General type	Sizes (mm)	Sizes (inch)	Remarks
Tray 1 (Input / Output Tray)			
Post Card	100x148	3.94x5.83	Minimum Size
Including all media sizes in Tray 2 (Upper Tray) / Tray 3 (Lower Tray)			
Tray 2 (Upper Tray) / Tray 3 (Lower Tray)			
ISO-A4	210x297	8.27x11.7	
US-Letter	215.9x279.4	8.5x11	
US-Legal	215.9x355.6	8.5x14	
JIS-B4	257x364	10.11x14.33	
US-B (Ledger)	279.4x431.8	11x17	
ISO-A3	297x420	11.69x16.53	
Super B	330.2x482.6	13x19	Maximum Size

Note

1. There are sensors mounted on Tray 2 (Upper Tray) and Tray 3 (Lower Tray) of the printer to detect the sizes of paper in use on each tray.
2. The printer is capable of printing on custom-sized media provided that its dimensions conform to the minimum and maximum size definition.
3. Envelopes are not supported on the HP2500C/CM.

Specifications

Recommended Media Weight

Paper	60 to 135 g/m ² (16 to 36 lb. Bond)
Cardstock	110 to 200 g/m ² (110 lb. Index) (up to 0.012 in. or 0.3 mm thickness for straight paper path)