

*Single Port
Multiprotocol
Ethernet/Fast Ethernet
Print Server*

Hardware User Guide

Rev. 02 (March 2001)

Wichtige Sicherheitshinweise

1. Bitte lesen Sie sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den spätern Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine Flüssig- oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Um eine Beschädigung des Gerätes zu vermeiden sollten Sie nur Zubehöerteile verwenden, die vom Hersteller zugelassen sind.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sichern Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
9. Die Netzanschlußsteckdose muß aus Gründen der elektrischen Sicherheit einen Schutzleiterkontakt haben.
10. Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
11. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
12. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
13. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. Elektrischen Schlag auslösen.
14. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
15. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
 - a- Netzkabel oder Netzstecker sind beschädigt.
 - b- Flüssigkeit ist in das Gerät eingedrungen.
 - c- Das Gerät war Feuchtigkeit ausgesetzt.
 - d- Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - e- Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
 - f- Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
16. Bei Reparaturen dürfen nur Originalersatzteile bzw. den Orginalteilen entsprechende Teile verwendet werden. Der Einsatz von ungeeigneten Ersatzteilen kann eine weitere Beschädigung hervorrufen.
17. Wenden Sie sich mit allen Fragen die Service und Repartur betreffen an Ihren Servicepartner. Somit stellen Sie die Betriebssicherheit des Gerätes sicher.
18. Zum Netzanschluß dieses Gerätes ist eine geprüfte Leitung zu verwenden, Für einen Nennstrom bis 6A und einem Gerätegewicht größer 3kg ist eine Leitung nicht leichter als H05VV-F, 3G, 0.75mm² einzusetzen.

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

注意

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ABOUT THIS GUIDE

This guide describes the single port Multiprotocol Ethernet/Fast Ethernet Print Server features, installation procedures, and troubleshooting methods are explained in detail.

The software and related documentation included with your Print Server are important parts of the Print Server package. For information on installing and using the included software, see the *PS Admin Program User Guide*.

INTRODUCTION

The Print Server is a pocket-sized device for connecting a printer directly to an Ethernet or Fast Ethernet local-area network (LAN). The Print Server will manage the flow of data from networked computers to the connected printer, delivering jobs to the printer much faster than a computer acting as a file server or print server can.

Product Capabilities

The single port Print Server improves network printing services in three ways:

- ◆ The Print Server picks up the workload of managing print file traffic to the connected printer. This provides workload relief to your file servers, and allows the file servers' full capacity to be used for file access and other direct services to network users. On peer-to-peer networks, workstations can print directly to the Print Server without increasing the load of another workstation or server.
- ◆ The Print Server's IEEE 1284-compliant high-speed bi-directional parallel printer port can transmit data much faster than a computer's parallel printer port can. A high-speed laser printer can be driven at its full capacity.
- ◆ Because the Print Server is very portable (pocket-sized) and inexpensive compared to a computer-based print server, and because the Print Server connects to your file servers through

the network, the printer can be stationed at the location of maximum convenience to users.

The Print Server offers extraordinary flexibility, and works with all major network operating systems and protocols:

◆ **IPX/SPX**

Novell NetWare 3.x, 4.x and 5.x (using either bindery emulation or native NDS)

◆ **TCP/IP**

Unix lpr/lpd (HP-UX, SunOS, Solaris, SCO, UnixWare, IBM AIX), Windows NT, Windows 2000

◆ **NetBEUI**

Windows NT, Windows 95/98 , Windows for Workgroups, Microsoft LAN Manager, IBM LAN Server

◆ **AppleTalk**

MacOS EtherTalk

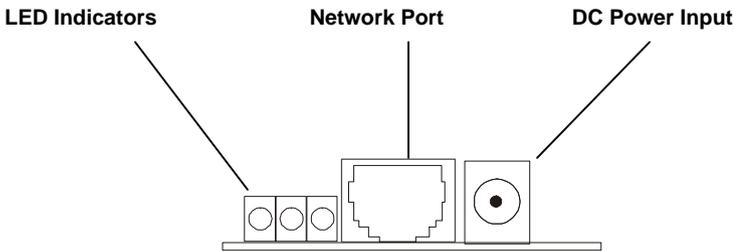
Your Print Server package includes *PS Admin*, a Windows-based setup and administration program, which makes configuration and management of your print servers quick and easy. The Print Server also has a Telnet interface for management communications. If Windows is not available on the station you choose for print server administration, then all configuration and management commands can be issued to the Print Server, and all console messages and management report information will be returned, via Telnet.

External Features

This section describes the visible parts of the print server.

Front

The panel on which the Print Server network port, DC power jack, and light-emitting diode (LED) indicators appear is referred to in this guide as the device front section.



Network Port

The network port, an RJ-45 jack in the middle of the Print Server front section, provides for connection to the network through an appropriate twisted-pair cable (Category 3 or higher for 10Base-T Ethernet, Category 5 or higher for 100Base-TX Fast Ethernet).

DC Power Jack

The DC power jack is designed for a 5V power supply. The power adapter included in your Print Server package is correct for the Print Server. Substitution of other equipment may void warranty.

Indicators

The Print Server front panel includes three indicator lights. See "Power-up and Self-Test," Chapter 2, for a description of indicator behavior upon device startup. During operation following a normal startup, the indicators provide the following status signals:

- ◆ **Pw/Tx**

Steady or flashing green confirms power on.

This indicator blinks (goes off briefly) when the Print Server is transmitting to the network.

◆ **Lk/Rx**

Steady or flashing green confirms that the Print Server has a good connection to the network.

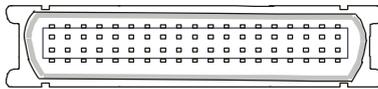
This indicator blinks (goes off briefly) when the Print Server is receiving from the network.

◆ **LPT**

This indicator shows steady green whenever the Print Server is transferring print data through its printer port.

Back

The back section of the Print Server consists entirely of the device printer port.



Back End

Printer Port

The printer port can be configured using the *PS Admin* program, or by commands issued to the Print Server via Telnet. See the *PS Admin Program User Guide* for configuration procedures.

UNPACKING AND INSTALLATION

This chapter explains how to install your Print Server and connect it to the network. It also describes the automatic power-on self-test.

Unpacking and Inspection

Carefully remove all items from the package. In addition to this *Hardware Guide*, be certain that you have:

- ◆ One single port print server
- ◆ One AC power adapter suitable for AC power in your area
- ◆ One *Print Server Installation CD*
- ◆ One Quick Installation Guide

If any item is missing, or if you find any damage or mismatch, promptly contact your dealer for assistance.

Installing the Print Server

Follow these steps for a trouble-free start of print server operations with your Print Server. Please take particular notice of the warning in step 4: *the network connection should be made before supplying power to the Print Server.*

1. Confirm proper operation of the printer to be connected to the Print Server.
2. When you have confirmed proper operation of the printer, switch its power off.
3. Confirm that your network is operating normally.
4. Connect the Print Server to the network through the RJ-45 jack on the print server front panel.

WARNING: *Configuration problems may result if the Print Server is powered up without first establishing its network connection. Follow this procedure to avoid complications at the configuration stage.*

5. While the printer is off, connect the Print Server directly to the printer parallel port.
6. Switch printer power on.
7. Plug the AC power adapter output plug into the Print Server DC power input jack.
8. Plug the AC power adapter into an AC power outlet. This will supply power to the Print Server. (The Print Server has no power switch.) The Print Server self-test routines will proceed automatically.

Power-up and Self-test

Whenever the Print Server is powered up, two testing procedures follow automatically. The first procedure is a programmed series of flashes intended to confirm proper operation of the three LED indicators. The second procedure comprises programmed tests of the Print Server internal circuitry. If any fault is found during the circuitry tests, testing stops and a continuous pattern of flashes signals the nature of the fault.

Indicator Test

Immediately upon power-up, all three indicators will show steady green for several seconds. Then the LPT indicator will flash three times while the Pw/Tx and Lk/Rx indicators remain steady. Irregularity of any indicator during this test indicates that there is a problem with the indicators themselves. Contact your dealer for correction of any indicator problems before proceeding.

Circuit Tests

The circuit tests immediately follow the indicator test. A normal (no fault) result is signaled by three flashes of the LPT indicator and the start of normal print server operation.

If any error condition is found during the circuit tests, testing will halt with the LPT indicator continuously signaling the particular error according to the following table.

LPT Indicator Flash Pattern	Error Type
steady long flashes	Firmware Reload Required
continuously on	DRAM Error
One long, two short flashes	Timer INT Error
One long, three short flashes	Flash Protected
One long, four short flashes	Flash ID Error
One long, five short flashes	Flash Erase / Program Error
One long, six short flashes	LAN Controller Error
One long, seven short flashes	LAN Memory Error
One long, eight short flashes	Parallel Controller Error
One long, nine short flashes	LPT Error
steady short flashes	EEPROM Error
One long, eleven short flashes	LAN I/O Base error

In the event of a Firmware Reload Required error at startup, proceed according to instructions given in the *PS Admin Program User Guide*

("PS Admin Administration" section, under the heading "Upgrading the Print Server's Internal Firmware").

In the event that any of the other listed error conditions is encountered on startup, contact your dealer for correction of the fault.

Operational Test

The *PS Admin* software includes a Print Test function for confirmation of print server connections and functions. This operational test can be performed after you have installed the *PS Admin* software and completed the *PS Admin* procedures for configuring the Print Server. See the instructions given in the *PS Admin User Guide* ("Getting Started Setting up Your Print Server" section, under the heading "Testing your Print Server").



PRODUCT SPECIFICATIONS

Printer Connection

Printer Port: IEEE 1284 standard bidirectional parallel interface with 36-pin connector.

Bidirectional Communication: Hewlett-Packard P JL (Printer Job Language) standard for bidirectional communication.

Network Connection

Network Standards: IEEE 802.3 10Base-T Ethernet and IEEE 802.3u 100Base-TX Fast Ethernet.

Network Data Transfer Rate: 10 or 100 megabits per second (auto-detecting)

Network Connector: RJ-45 connector for 10Base-T or 100Base-TX twisted-pair connection.

Network Protocols

Ethernet Frame Types: 802.2, 802.3, Ethernet II, SNAP (auto-switching)

Transport Protocols: IPX/SPX, TCP/IP NetBEUI, AppleTalk/EtherTalk

TCP/IP Protocols Supported: BOOTP, SNMP, Telnet, TFTP, FTP, lpd, RARP, DHCP

Management and Diagnostics

Standard: SNMP

MIBs: MIB-II (RFC 1213)

Diagnostic LED Indicators: Pw/Tx, Lk/Rx, LPT

Environmental and Physical

Power Supply: External AC power adapter providing 5V DC power

Dimensions: 92.8mm × 58mm × 25.3mm

Weight: approx. 65g

Operating Temperature: 0 to 50°C

Storage Temperature: -25 to 55°C

Humidity: 5% to 95% non-condensing

Emissions: FCC Class A, CE Class A, VCCI Class A

Safety: UL(UL 1950), CSA(CSA 950), TÜ V/GS (EN 60950)



PORT PIN OUTS

The following table lists the pinouts of the Print Server 36-pin parallel port connector (identical to the parallel port connector used on most printers.)

Signal names beginning with *n* are active-low signals.

Pin #	Signal	Source
1	nStrobe	H
2	Data 1 *	Bi-Di [▲]
3	Data 2	Bi-Di [▲]
4	Data 3	Bi-Di [▲]
5	Data 4	Bi-Di [▲]
6	Data 5	Bi-Di [▲]
7	Data 6	Bi-Di [▲]
8	Data 7	Bi-Di [▲]
9	Data 8*	Bi-Di [▲]
10	nAck	P
11	Busy	P
12	PError	P
13	Select	P
14	nAutoFd	H
15	Not Defined	
16	Logic Gnd	
17	Chassis Gnd	
18	Peripheral Logic High	P
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	nInit	H
32	nFault	P
33	Not Defined	
34	Not Defined	
35	Not Defined	
36	nSelectIn	H

* Least Significant Bit

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

*Most Significant Bit

