

# TE100-PS1

## Ethernet / Fast Ethernet Multiprotocol Print Server

### Hardware Guide

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RECYCLABLE

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## Wichtige Sicherheitshinweise

1. Bitte lesen Sie sich diese Hinweise sorgfältig durch.
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4. Um eine Beschädigung des Gerätes zu vermeiden sollten Sie nur Zubehörtteile verwenden, die vom Hersteller zugelassen sind.
5. Das Gerüst ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.
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8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußkabel.
9. Die Netzanschlußkabeldose 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 Gerüst befinden sind zu beachten.
12. Wird das Gerüst über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
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14. Öffnen Sie niemals das Gerüst. Das Gerüst darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
15. Wenn folgende Situationen auftreten ist das Gerüst vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
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  - b – Flüssigkeit ist in das Gerüst eingedrungen.
  - c – Das Gerüst war Feuchtigkeit ausgesetzt.
  - d – Wenn das Gerüst nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
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17. Wenden Sie sich mit allen Fragen die Service und Reparatur betreffen an Ihren Servicepartner. Somit stellen Sie die Betriebssicherheit des Gerätes sicher.

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# TABLE OF CONTENTS

## ABOUT THIS GUIDE

<b>INTRODUCTION</b> .....	1
<i>Service Features</i> .....	1
<i>External Features</i> .....	3
Rear Panel.....	3
LED Indicators.....	4
<b>UNPACKING AND INSTALLATION</b> .....	5
<i>Unpacking and Inspecting</i> .....	5
<i>Installing the TE100-PS1</i> .....	6
<i>Power-up and Self-Test</i> .....	7
LED Test Series.....	7
Component Test Series.....	7
Operational Test.....	8
<i>Velcro-mounting the TE100-PS1</i> .....	9
<b>PRODUCT SPECIFICATIONS</b> .....	10
<b>PORT PINOUTS</b> .....	12
<b>INDEX</b> .....	13

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# ***ABOUT THIS GUIDE***

This manual describes the TE100-PS1 Ethernet/Fast Ethernet Multiprotocol Print Server, including full descriptions of its features, detailed installation procedures, and troubleshooting information.

Your TE100-PS1 package includes important software components, and additional user manuals. The software components, and procedures for installation and setup of the software, are covered in the *TRENDnet EtherPort Admin User's Guide*.



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# ***INTRODUCTION***

The TE100-PS1 Print Server is a compact print server which connects to your Ethernet or Fast Ethernet network anywhere you wish to locate printer services. It manages the flow of print files from your workstations or file servers to its connected printers, delivering print jobs to high-performance printers much faster than a file server or a PC acting as a print server can.

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## **Service Features**

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TE100-PS1 print servers improve network printing services in three ways:

- ◆ The TE100-PS1 picks up the workload of managing print file traffic to its connected printers. This provides workload relief to your file servers, and allows the file servers' full capacity to be used for file access or other direct services to network users. On peer-to-peer networks, workstations can print directly to the TE100-PS1 without increasing the load of another workstation or server.
- ◆ The TE100-PS1's IEEE 1284 compliant high-speed bi-directional parallel printer port can transmit to high-speed laser printers much faster than a PC's parallel printer port. A high-speed laser printer can be driven at its full capacity.
- ◆ Because the TE100-PS1 is very portable and inexpensive compared to a PC-based print server, and because the TE100-

PS1 connects to your file servers through the network, the printer can be stationed at the location of maximum convenience to users.

The TE100-PS1 offers extraordinary flexibility, operating with all major network operating systems and protocols:

◆ **IPX/SPX**

Novell NetWare 3.x, 4.x (Using either bindery emulation or native NDS)

◆ **TCP/IP**

UNIX lpr/lpd (HP-UX, SunOS, Solaris, SCO, UnixWare, IBM AIX)

Windows NT

◆ **NetBEUI**

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

◆ **AppleTalk**

MacOS EtherTalk

Your TE100-PS1 package includes *TRENDnet EtherPort Admin*, a Windows-based setup and administration program, which makes configuration and management of your print servers quick and easy in a Windows environment. The TE100-PS1 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 may be issued to the TE100-PS1, and all console messages and management report information will be returned, via Telnet.



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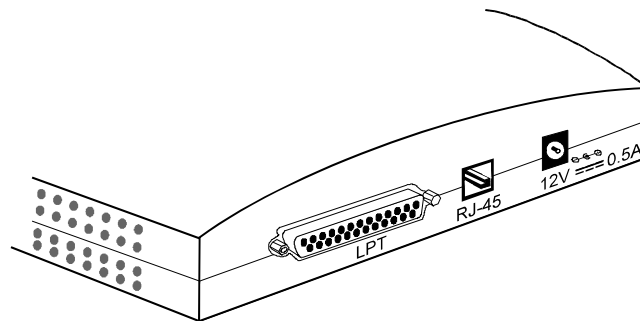
## External Features

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This section describes the external features of the TE100-PS1 print server.

### ***Rear Panel***

The TE100-PS1 printer port, network port, and power input socket are all located on the rear panel



**TE100-PS1 Rear Panel**

### **Printer Port**

The printer port, labeled LPT, is configurable by commands in the *PS Admin* program, or by commands issued to the TE100-PS1 via Telnet. See the *TRENDnet EtherPort Admin User's Guide* for configuration procedures.

## Network Port

The network port (RJ-45 receptacle) provides for connection to the network through 10Base-T Ethernet cabling, or Category 5 twisted-pair cable for 100Base-TX Fast Ethernet. This port has auto-negotiation (NWay) functionality, which enables the TE100-PS1 to automatically negotiate and set its data rate to the highest rate allowed by its network.

## DC Power Input

The DC power input socket has the label: 12V  $\equiv$  0.5A. The power supply included in your TE100-PS1 package is correct for the TE100-PS1. Substitution of other equipment may void warranty.

## LED Indicators

The front panel of the TE100-PS1 comprises three LED indicators:



See "Power-up and Self-Test," Chapter 2, for LED indications upon starting up the TE100-PS1. During operations following a normal startup, the LED indicators provide the following status signals:

◆ **Power/Tx**

Steady or flashing green confirms power on.

This indicator blinks (briefly dark) when the TE100-PS1 is transmitting to the network.

◆ **Link/Rx**

Steady or flashing green confirms that the TE100-PS1 has a good connection to the Ethernet or Fast Ethernet network.

This indicator blinks (briefly dark) when the TE100-PS1 is receiving from the network.

◆ **LPT**

This indicator shows steady green while the TE100-PS1 is transferring print data through its printer port

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# UNPACKING AND INSTALLATION

This chapter explains how to install your TE100-PS1 print server and connect it to the network. It also describes the automatic power-on self-test, and provides instructions for convenient Velcro mounting.

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## Unpacking and Inspecting

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

- ◆ One TE100-PS1 print server
- ◆ One DC power adapter suitable for your electric power service
- ◆ Two *TRENDnet EtherPort Admin for Windows* software diskettes
- ◆ One *Print Server Administration User's Guide*
- ◆ One lpr software diskette
- ◆ One lpr user's guide
- ◆ Velcro strips for optional mounting

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

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## Installing the TE100-PS1

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Follow these steps for a trouble-free start of print-server operations with your TE100-PS1. Please take particular notice of the warning in step 4: the network connection should be made before supplying power to the TE100-PS1.

1. Confirm proper operation of the printer to be connected to the TE100-PS1.
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 TE100-PS1 to the network (through the RJ-45 receptacle on the print server rear panel).

**WARNING:** *Configuration problems may result if the TE100-PS1 is powered up without first establishing its network connection. Follow this procedure to avoid complications at the configuration stage.*

5. While the printer is power off, install a printer cable to connect its parallel port to the printer port of the TE100-PS1.
6. Switch printer power on.
7. Plug the DC power adapter output plug into the DC power input socket on the rear panel of the TE100-PS1
8. Plug the DC power adapter into an electric service outlet. This will supply power to the TE100-PS1 (The TE100-PS1 has no power switch.) The TE100-PS1 self-test routines will proceed automatically.

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## **Power-up and Self-Test**

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Whenever the TE100-PS1 is powered up, two kinds of testing procedures follow automatically. The first procedure is just a programmed series of LED flashes, to confirm proper operation of the three LED indicators. The second procedure comprises programmed tests of each of the TE100-PS1's major components. If any fault is found during the component test series, testing is halted and a continuous pattern of LED flashes signals the nature of the fault.

### ***LED Test Series***

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

### ***Component Test Series***

The actual component tests immediately follow the LED tests. 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 component test series, then the test will halt with the LPT LED continuously signaling the particular error according to the following table.

LPT Flash Pattern	Error Type
steady long flashes	Firmware Reload Required
continuous 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 *Print Server Administration User's Guide* ("TRENDnet EtherPort 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 *TRENDnet EtherPort Admin* software includes a Print Test function for confirmation of connections and functions. That operational test can be performed after you have completed installation of the *EtherPort Admin* software, and the *EtherPort Admin* procedures for configuring the TE100-PS1. See instructions given in the *EtherPort Admin User's Guide* ("Getting

Started Setting up Your Print Server" section, under the heading "Testing your Print Server").

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## **Velcro-mounting the TE100-PS1**

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The TE100-PS1 can stand on the printer's tabletop, or may be Velcro-mounted to a side panel of the printer or another suitable surface next to the printer. To prepare for Velcro-mounting, separate the two parts of the supplied Velcro tape (pull the "hook" tape apart from the "loop" tape -- the hook tape has stiff little plastic hooks, which give its surface a rough feel, and the loop tape has a mat of soft plastic filaments which gives it a smooth, soft feel).

The bottom housing of the TE100-PS1 case features two corner markers which indicate the best location for applying the Velcro loop tape. Peel the white backing off of the loop tape, to expose its adhesive surface, and press it onto the bottom of the TE100-PS1, between the corner markers.

Choose a mounting surface, and mounting attitude, which will afford convenient visual access to the TE100-PS1's LED indicators, without cramping any of the wiring connected to the TE100-PS1's rear panel. Peel the white backing off of the hook tape. Align the hook tape to match the alignment of the loop tape when the TE100-PS1 is in the attitude you have chosen, and press the loop tape's adhesive back onto the mounting surface.

Mount the TE100-PS1 by pressing its case firmly against the mounting surface to engage the hooks and loops of the Velcro tapes.





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# ***PRODUCT SPECIFICATIONS***

## **Printer Connection**

**Printer Port:** IEEE 1284 standard bi-directional parallel interface with 25-pin connector.

**Bi-directional Communication:** Hewlett-Packard PDL (Printer Job Language) standard for bi-directional communication.

## **Network Connection**

**Network Standards:** IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX Fast Ethernet

**Network Data Transfer Rate:** 10Mbps and 100Mbps (megabits per second), according to network environment.

**Network Connector:** RJ-45 connector for 10Base-T or 100Base-TX twisted pair connection; NWay automatic speed negotiation supported.

## **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:** Power/Tx, Link/Rx, LPT

### **Environmental and Physical**

**Power Supply:** External power supply providing 12VDC/ 500mA

**Dimensions:** 135mm × 110mm × 282mm

**Weight:** approx. 200g

**Operating Temperature:** 0 to 50°C

**Storage Temperature:** -10 to 50°C

**Humidity:** 10% to 90% non-condensing

**Emissions:** FCC Class A, CISPR 22 Class A, VCCI Class 1, AS/NZS 3548:1995 Class A

**Safety:** UL (UL 1950), CSA (CSA950)



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## ***PORT PINOUTS***

The following table lists the pinouts of the TE100-PS1's 25-pin parallel port connector (identical to the parallel port connector used on most personal computers), and the corresponding pin numbers for the 36-pin Centronics connector as used on most printers.

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

<b>25-pin</b>	<b>Centronics</b>	<b>Signal</b>	<b>Source</b>
1	1	nStrobe	Host
2	2	Data 1	Bidirectional
3	3	Data 2	Bidirectional
4	4	Data 3	Bidirectional
5	5	Data 4	Bidirectional
6	6	Data 5	Bidirectional
7	7	Data 6	Bidirectional
8	8	Data 7	Bidirectional
9	9	Data 8	Bidirectional
10	10	nAck	Printer
11	11	Busy	Printer
12	12	PError	Printer
13	13	Select	Printer
14	14	nAutoFd	Host
15	32	nFault	Printer
16	31	nInit	Host
17	36	nSelectIn	Host
18-25	16, 17, 19-30	Ground	

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# INDEX

100Base-TX	1, 3, 4, 10	MIB	11
10Base-T	1, 3, 4, 10	NetBEUI	2, 10
12V DC	4, 11	network connector	3, 10
AppleTalk	2, 10	network port	3, 10
automatic self test	5	NWay	3, 10
autonegotiation	3, 10	pinouts	12
bidirectional printer port	1, 10	power adapter	4, 11
cabling	3, 6	power switch (none)	6
DC power adapter	4, 5, 6, 11	Power/Tx LED	4, 7, 11
diskettes	5	printing operational test	8
error condition	7, 8	protocols	2, 10, 11
Ethernet	1, 3, 4, 10	PS Admin, Print Server Administration program	3, 5, 8
EtherTalk	2, 10	reload firmware	8
Fast Ethernet	1, 3, 4, 10	RJ-45	3, 10
firmware	8	self test	5
IEEE 1284	1, 10, 12	SNMP	11
IEEE 802.3	1, 3, 4, 10	software diskette	5
IEEE 802.3u	1, 3, 4, 10	standards	10, 11
IPX/SPX	2, 10	startup tests	5
LED error signals	7, 8	TCP/IP	10
LED status signals	3, 4, 7, 8, 11	TCP/IP	2, 10, 11
Link/Rx LED	4, 7, 11	warning, network connection before power	6
lpd network printing utility	2, 11		
lpr network printing utility	2, 5		
LPT LED	3, 4, 7, 8, 11		