Thin Net Print Server
Thick Net Print Server
TWPR Print Server

$5.00

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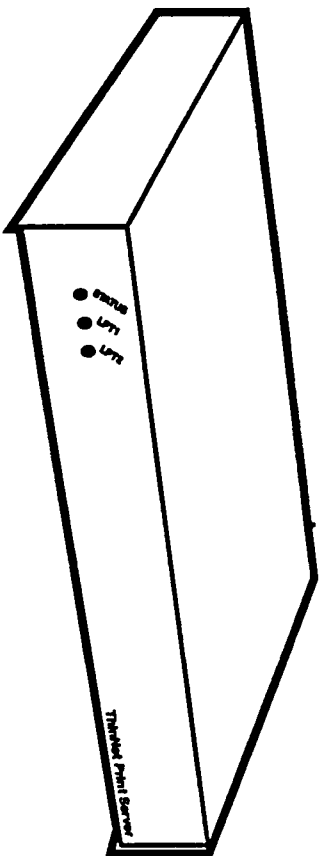
ThinNet Print Server

FEDERAL COMMUNICATIONS COMMISSION
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This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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1.0 Specifications

Interface — NOVELL• NetWare® 286 (v. 2.1x or higher) and NOVELL
NetWare 386, running IEEE 802.3 Ethernet protocols

Indicators — (3) LEDs: Status, LPT1, LPT2

Connectors — (2) DB25 female connectors

Power — 12 VDC external transformer, 110-120 VAC/60 Hz or
220-240 VAC/50Hz

Size — 1.3"H x 7.9"W x 6.3"D (3.3 x 20 x 16 cm)

Weight — 1.5 lb. (0.7 kg)

2.0 Introduction

The Print Server allows you to add one or two printers anywhere on a NOVELL NetWare network. The unit is easy to install, and operation is transparent to the user.

Some of the features of the Print Server are listed below.

- Fast and easy installation.

- Printers can be located anywhere on a network—not only near file servers.

- Can be installed while network is running.

- NOVELL NetWare Value-Added Process (NetWare 286) or NetWare Loadable Module (NetWare 386) not required.

- Optional second printer port.

- Models available for thin-wire, thick-wire, and twisted-pair Ethernet networks.

- A 5 1/4" floppy disk comes with the Print Server. This disk includes the Print Server Configuration Program, PSCONFIG.EXE, which allows you to easily configure your network for operation with the Print Server.
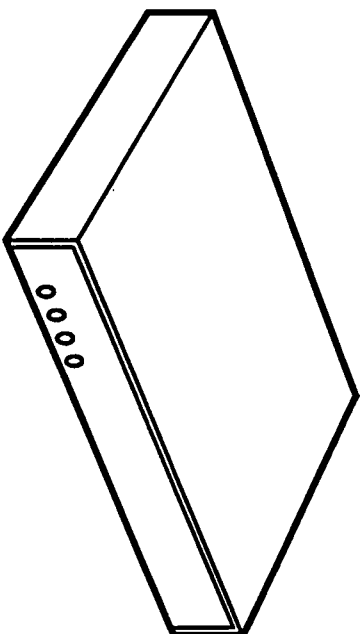

Figure 2-1. The Print Server.

The Print Server comes with two printer ports. Models are available for thin wire, thick wire, or twisted-pair connections.

2.1 Network Compatibility

The Print Server complies with the IEEE 802.3 Ethernet standards. It operates as a standard NOVELL print server and is compatible with the following NetWare versions:

- NetWare 386 — version 3.0 or higher

- NetWare 286 — version 2.1x or higher

The Print Server supports networks with the NOVELL frame type set to Ethernet 802.3.

> **NOTE**
>
> **Print Servers are intended for installation by NOVELL LAN administrators. The installer should be familiar with the following:**

- MS-DOS* commands and directories

- Basic operation of the NOVELL PCONSOLE program

2.2 Printer Compatibility

The Print Server works with any printer equipped with a Centronics* standard parallel interface. Here are some examples:

- Hewlett-Packard* LaserJet* Series II and III

- Hewlett-Packard Deskjet

- EPSON* dot matrix

- EPSON DFX 5000

- QMS PS810

Listed below are the maximum allowable cable lengths.

- **Thin Wire** — 185 meters, end to end

- **Twisted Pair** — 100 meters, Print Server to hub

- **Thick Wire** — 50 meters, Print Server to external transceiver

3.0 Installation

Follow the instructions in this chapter to connect the Print Server to your network and to your printers.

The items listed below are included with each Print Server:

• Print Server

• Power supply

• Print Server Configuration Program, on a 5.25" floppy diskette

• VELCRO® strips for attaching the Print Server to a wall, the side of a network printer, or appropriate surface

3.1 Print Server Identification

Each Print Server is identified with its own serial number, consisting of four hexadecimal digits (0-9, A-F). The number is printed on the label on the bottom of the unit. Please record the number; you will need to refer to it when you run the configuration program.

3.2 Network Connection

Place the Print Server near the printers that will be connected to it.

Go to one of the three sections below, depending upon your network's cable type.

• Section 3.2.1 — Thin Net Print Server (10BASE2)

• Section 3.2.2 — Thick Net Print Server (10BASE5)

• Section 3.2.3 — Twisted Pair Print Server(10BASE-T)

3.2.1 THIN NET PRINT SERVER (10BASE2)

The Thin Net Print Server uses coaxial cable with BNC connectors, as shown in Figures 3-1 and 3-2.

The Ethernet cable must be "tapped" with a BNC "T" adapter. Connect the "T" adapter directly to the Print Server. Secure each cable by pressing the ring on the BNC connector and turning it clockwise until the connector is locked in place.
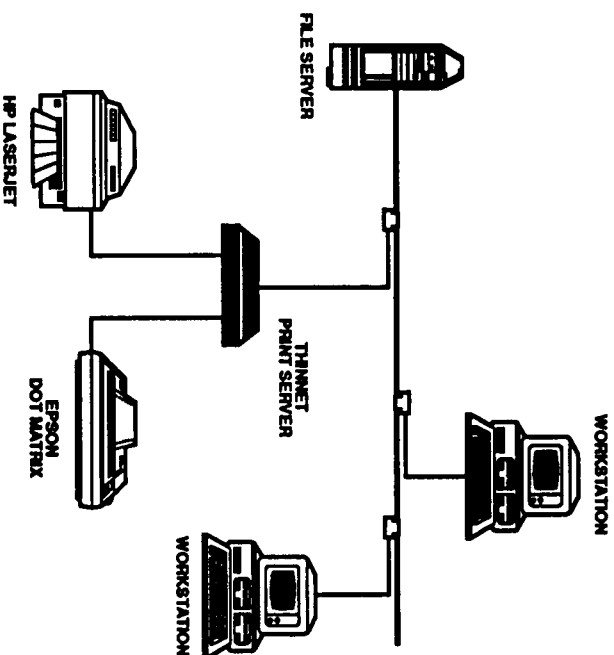
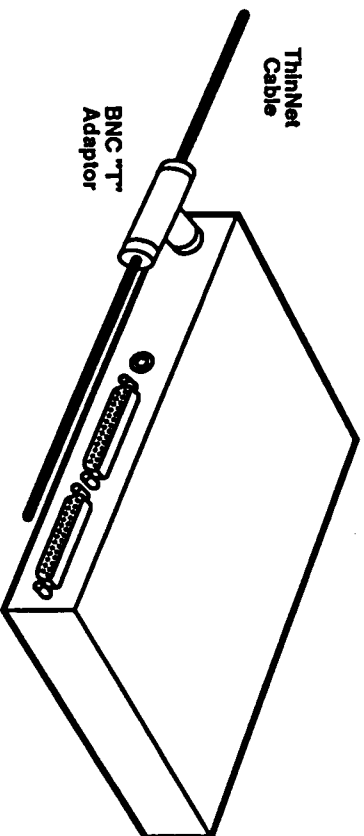Figure 3-1. Typical Installation of the Thin Net Print Server.

Figure 3-2. Thin Net Print Server Network Connection.

3.2.2 THICK NET PRINT SERVER

Thick Net Print Servers operate with any Ethernet media, such as thin wire, thick wire, or fiber-optic. An external Ethernet transceiver is required. The transceiver connects to the Print Server via an Attachment Unit Interface (AUI) drop cable with a DB15 (15-pin) connector (see Figure 3-3).

Plug the drop cable into the AUI connector on the Print Server. Secure the cable to the Print Server with the slide lock on the connector (see Figure 3-4).
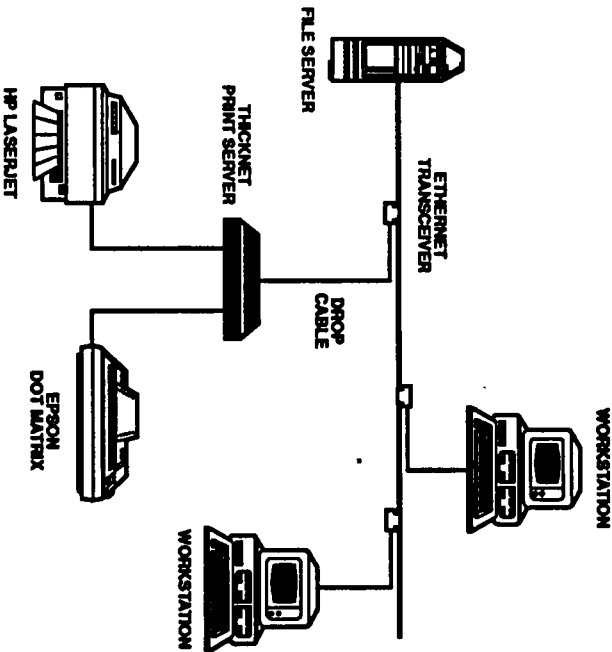
Figure 3-3. Typical Installation of the Thick Net Print Server.
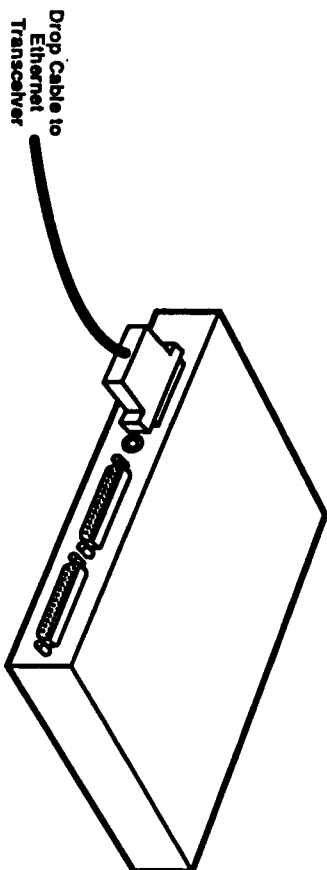
Figure 3-4. Thick Net Print Server Network Connection.

3.2.3 TWISTED PAIR PRINT SERVER (10BASE-T)

The Twisted Pair Print Server uses twisted-pair cable with RJ-45 connectors on both ends, similar to modular telephone cables (see Figure 3-5).

Locate (or install) a twisted-pair cable connected to a 10BASE-T hub. Plug the RJ-45 connector from the cable into the Print Server, as shown in Figure 3-6.

Figure 3-5. Typical Installation of the Twisted Pair Print Server.

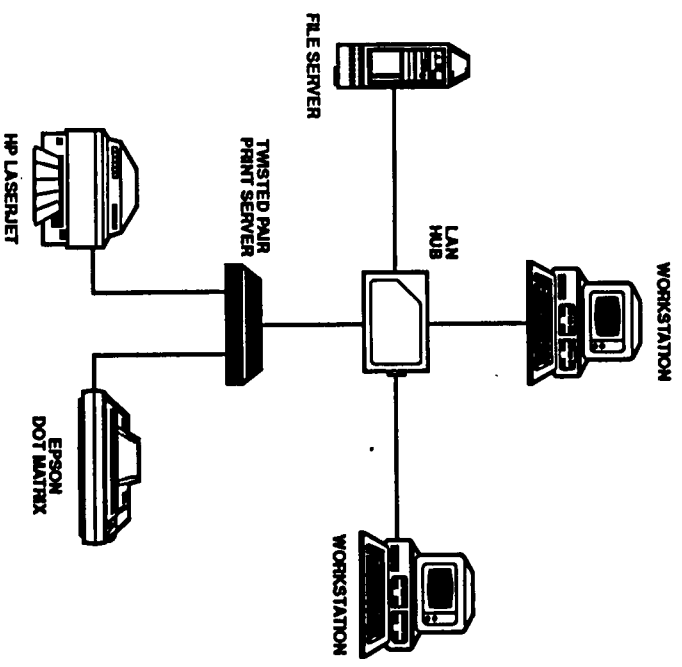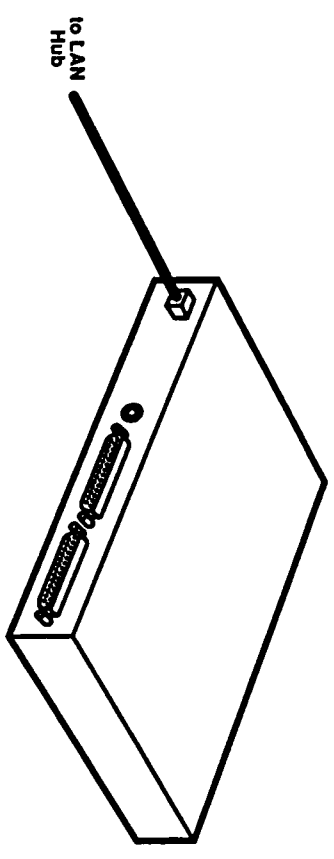**Figure 3-6. Twisted Pair Network Connections.**

3.3 Printer Connection

Use the DB25S female connectors labeled LPT1 and LPT2 to attach printers to the Print Server. The printer ports are parallel ports with standard IBM® signal assignments.

To connect a printer to the Print Server, use a standard IBM PC printer cable. Plug the DB25 end of the printer cable into the Print Server's printer connector. Secure the cable to the Print Server with the retaining screws on the cable's connector. Plug the other end of the cable into the printer parallel port.

3.4 Power Connection

The power transformer plugs into any standard outlet (Figure 3-7). The small plug on the end of the cable fits into the power jack on the Print Server.

Do not connect the power transformer until you have run the configuration program PSCONFIG. EXE (see Chapter 4).
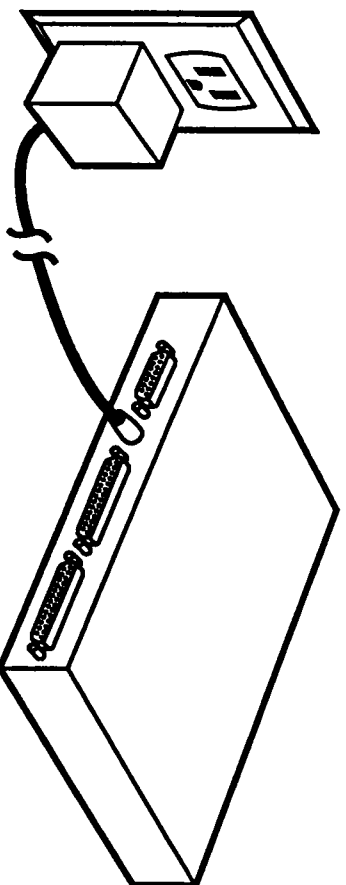

Figure 3-7. Power Connection.

4.0 Network Configuration

The Print Server configuration program configures your network for operation with the Print Server. You must run this program any time a Print Server is added to your network or whenever you change the Print Server configuration.

The configuration program provides an easy method for the following tasks:

• Assigning a new name to the Print Server.

• Assigning Print Server printers to network print queues.

4.1 Installing the Configuration Program

The programs on the supplied floppy diskette must first be installed on the network hard drive. Use the DOS COPY command or any other file copy program to copy the files on the diskette to a public directory on the network. For example:

MKDIR SYS:\SER8000<Enter>
COPY A:*.* SYS:\SER8000<Enter>

You might want to include the directory containing the Print Server programs as a search drive so the programs can be run from any DOS prompt.

4.2 Running The Configuration Program

The configuration program is named PSCONFIG.EXE. After installation, log onto the network as a supervisor. Run the configuration program by entering the appropriate path and PSCONFIG, followed by a space and the four-digit serial number printed from the bottom of the Print Server. For example:

SYS:\SER8000\PSCONFIG
PS23B5 <Enter>

4.2.1 MENU OPERATION

To select an item from a list of choices, use the up arrow or down arrow key to highlight the item and press <Enter> to select it.

To enter an item other than the list of items shown, press <Ins>. When prompted to enter text, type in the text and press <Enter> to close the dialogue box. Press <ESC> to close a window.

4.2.2 GETTING HELP

To get help information for each item, press <F1>. Press <ESC> to exit a help screen.

4.2.3 EXITING THE PROGRAM

When the opening screen is shown, pressing <ESC> exits the program.

You are prompted for a confirmation to exit the program. Select YES to continue exiting.

PSCONFIG then prompts you to save the configuration changes. Select YES to save the changes and exit the program. Select NO to exit without saving the changes.

4.3 Configuring the Print Server for your Network

These step-by-step procedures are for entering the configuration information.

4.3.1 PRINT SERVER NAME

A default print server name is displayed. Press the down arrow key to accept the displayed name and move to file server selection. If you want to change the name, press <Enter>. Type in the new name, and press <Enter> again.

4.3.2 FILE SERVER NAME

The name displayed is that of the file server to be serviced by the Print Server. Press the down arrow key to accept the displayed file server and move to print queue selection. Press <Enter> to select another file server.

If you press <Enter>, a list of available file servers on your network is displayed. Press the up arrow or down arrow to high-light the name of the file server on which the LPT1 print queue resides. Press <Enter> to accept the file server selection.

You are prompted to log onto the new file server. Enter your user name at the prompt. Press <Enter> after typing in your name.

The program also requests your password, if required. After logging onto the new file server, the program presents a list of possible print queues. Highlight the desired print queue and press <Enter>, or press <Ins> to create a new print queue.

4.3.3 PRINT QUEUE NAME

The print queue to be serviced by the Print Server is displayed. Press the up arrow or down arrow to accept the print queue selection, or press <Enter> to change the print queue. If you press <Enter>, a list of available print queues on the selected file server is displayed. Press the up arrow or down arrow to highlight the name of the desired print queue, then press <Enter> to accept the selection. Select LPT1 Disabled to disable the printer port.

To create a new print queue, press <Ins>. Type in the name of the new print queue, then press <Enter>.

Press <ESC> when you have finished, to exit the program and save the new information.

Run the configuration program again if there are more Print Servers on your network. Each print server has a unique name.

4.4 Unencrypted Passwords

If you are using NetWare 386, unencrypted passwords must be enabled at each file server serviced by the Print Server. At each file server.enter the following:

SET ALLOW UNENCRYPTED PASSWORDS = ON

You may choose to add SET ALLOW UNENCRYPTED PASSWORDS = ON to the AUTOEXEC.NCF file on the file server to enable unencrypted passwords every time the file server is booted.

4.5 The Print Server Notify List

The Print Server will notify users and/or groups on the Notify List when a printer connected to either LPT1 or LPT2 needs servicing. For example, users/groups can be selected to receive a message when a printer connected to LPT1 needs paper. Follow these steps to create a Notify List:

1.Log into the file server being serviced by the Print Server as a supervisor.

2.Run the NetWare program PCONSOLE.

3.From the main menu, select PRINT SERVER INFORMA-TION. If this menu item does not appear, your version of NetWare does not support Notify Lists. Connect your NOVELL Dealer for more information.

4.Select the Print Server from the list of available print servers.

5.Select PRINT SERVER CONFIGURATION.

6. Configure the Printer Server for one or two printers as follows:

a. Select PRINTER CONFIGURATION.

b. Select the first item from the list of Configured Printers (Printer 0). In the Printer 0 Configuration Screen, enter a name of LPT1 and press <Enter>. Press <Esc> and SAVE the changes.

c. Select the second item from the list of Configured Printers (Printer 1). In the Printer 1 Configuration Screen, enter a name of LPT2 and press <Enter>. Press <Esc> and SAVE the changes.

d. Exit the Printer Configuration menu.

7. From the Print Server Configuration Menu, select NOTIFY LIST FOR PRINTER.

8. To set up a Notify List for LPT1, select LPT1 from the list of printers.

9. To add a user to the list, press <Ins>. Select the desired user or group. Enter the desired notification intervals. Press <Esc> and SAVE the changes.

10. To delete a user from the notify list, highlight the user and press <Dell. Select YES to delete the user.

11. Press <Esc> to exit the NOTIFY LIST menu for LPT1.

12. To set up a Notify List for LPT2, select LPT2 from the list of printers in the NOTIFY LIST menu and repeat Steps 9-11.

13. Exit PCONSOLE.

5.0 Operation

This chapter describes power-up and operation of the Print Server.

5.1 LEDs

The Print Server has a green Status LED, and one red LPT LED for each printer port.

Within several seconds after power is applied, the Status LED should be on steady. The LPT1 and LPT2 LEDs should be lit if a printer is connected to the associated port and is ready for printing. During printing, the LPT1 and LPT2 LEDs blink.

5.2 Power Up

Plug the power transformer into any standard outlet (Figure 5-1). The small plug on the end of the cable plugs into the power jack on the Print Server. Every time power is applied to the Print Server, a diagnostic self-test is performed for two seconds.

All LEDs flash on and off at the beginning of the test. If all tests pass, the green Status LED lights steady. The Print Server attempts to print "Self Test Passed" on the printer attached to LPT1 and LPT2. It also prints out its config-uration, which includes the ROM version level, Print Server name, and print queues serviced by the Print Server.
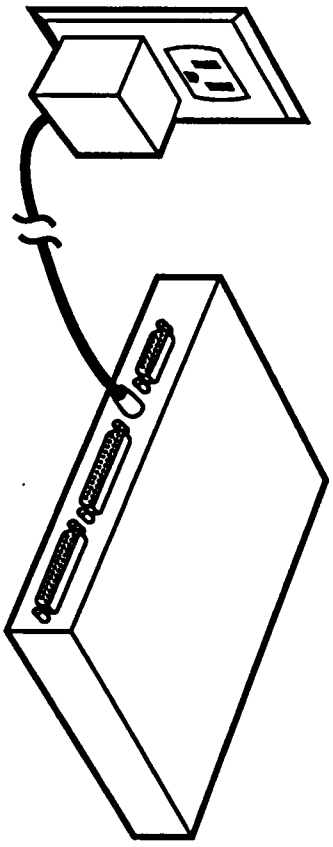

Figure 5-1. Connecting the Print Server to a Wall Outlet.

If the Print Server fails the power-up self test, the green Status LED blinks. Please refer to Chapter 6.

5.3 Printing

Use the Print Server as if it were a NOVELL print server.

One way to print is to use the NOVELL CAPTURE command to capture the print job to a Print Server print queue. For example:

capture s=market q=PRINTQ_0

In the example above, *market* is the file server name and *PRINTQ_0* is the print queue name.

You can also use the NPRINT command:

nprint prntfile.txt s=market q=PRINTQ_0

In the above example, *prntfile.txt* is the file name, *market* is the file server name, and *PRINTQ_0* is the print queue.

CAPTURE, NPRINT, PCONSOLE, and other NetWare print commands are described in the NOVELL documentation.

NOTE

The Print Server does not provide support for forms the NOVELLcommands NPRINT, CAPTURE, or PCONSOLE.

6.0 Troubleshooting

Listed below are several common error conditions and their probable causes.

6.1 Print Server Self-Test

Every time power is applied to the Print Server, a diagnostic self-test is performed for two seconds.

All LEDs flash on and off at the beginning of the test. If all tests pass, the green Status LED lights steady. The Print Server attempts to print "Self Test Passed" as well as its configuration to the printer attached to LPT1 and LPT2.

If the self-test fails, the Print Server Status LED blinks and attempts to print the cause of the failure to the printer attached to LPT1 and LPT2.

6.2 Error Conditions

The following is a list of different error conditions and the LEDs which identify them.

- **Status LED Off** — may indicate a loss of power at the AC outlet or a defective power transformer.

- **Status LED Quickly Blinking (a series of blinks followed by a pause)** — a diagnostic test has failed. An attempt is made to print the name of the failed test to LPT1. The number of blinks corresponds to the number of the failed test:

  1 — CPU

  2 — ROM checksum

  3 — RAM, shorts and opens on adjacent lines

  4 — internal loopback test on printer port(s)

  5 — Ethernet tests

- **Status LED Slowly Blinking (50% on, 50% off)** — the Print Server cannot communicate over the network. Check for bad network connections.

- **Link Off** — For LE379A only. The Print Server is not receiving the link bit from the 10BASE-T hub. Check for bad network connections.

- **LPT1 and LPT2 Steady Off** — the Print Server cannot communicate with the printer (Printer busy is a steady On). Check that the printer is powered on, is online, and has paper. Swap the printer cable if the LED is still off.