PHASERSHARE® NETWORKING
Manual

Tektronix®

Tektronix®

PhaserShare® Networking Manual

Contents

Network Printing with Tektronix Color Printers

This manual provides information for system administrators and others who need to install Tektronix Phaser 840, Phaser 740, Phaser 780, and Phaser 360 printers equipped with PhaserShare Series B network interfaces.

■ Before using this manual, unpack and set up your printer. Install the appropriate drivers on any PC and Macintosh computers on your network. Instructions for unpacking, set-up, and installation are contained in your printer's user documentation.

■ After your printer is set up, use this manual in conjunction with your printer's PhaserShare Administrator or PhaserLink Printer Management Software to configure the printer on the network.

This manual covers the following hardware and software versions:

■ PhaserShare Series B interfaces

■ PhaserShare Administrator version 3.9

Key components for networking Tektronix color printers

The following items are key components for networking your Tektronix printer:

■ **PhaserShare Series B network interface.** This brings ease-of-use, superb shareability and broad compatibility to Tektronix Phaser color printers. For more information, see "PhaserShare Series B network interface" on page 2.

■ **PhaserShare Administrator software.** PhaserShare Administrator software makes it easy to install, configure, and manage Phaser printers on a NetWare network. For more information, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

■ **PhaserLink Printer Management Software.** PhaserLink Printer Management Software is internal printer software that provides printer status and supports printer management through a World Wide Web browser. For more information, see Chapter 12, "PhaserLink Printer Management Software".

■ **PhaserPrint for UNIX software.** PhaserPrint for UNIX software provides a driver with push-button control of printer features and fast raster file printing capability from UNIX workstations. For more information, see "Tektronix PhaserPrint for UNIX software" on page 10.

PhaserShare Series B network interface

The Phaser 840, 740, 780, and 360 printers support the PhaserShare Series B network interface. These printers are equipped with a built-in PhaserShare Series B network interface with a 10BaseT Ethernet connector. This printer can be equipped with these optional PhaserShare Series B network cards:

■ **PhaserShare Series B Fast Ethernet card.** This card is equipped with a combined 10BaseT and 100BaseTx connector and a 10Base2 (BNC) connector. The combined 10BaseT/100BaseTx connector can be connected to either a 10BaseT or 100BaseTx network, and it will automatically adjust to the correct data rate using a process called *auto-negotiation*. If no connection is made to the 10BaseT/100BaseTx connector, the card is prepared to communicate using the 10Base2 connector.

■ **PhaserShare Series B Token Ring card.** This card is equipped with STP (Shielded Twisted Pair) and UTP (Unshielded Twisted Pair) connectors. Only one connector at a time can be used.

■ **PhaserShare Series B LocalTalk card (AppleTalk).**

PhaserShare network cards can be purchased initially with the printer as options or added later as upgrade kits. A printer can have only one card at a time installed. When a PhaserShare Series B Fast Ethernet or Token Ring card is installed, the standard 10BaseT connector on the printer's rear panel is disabled. The card and the printer's standard parallel port can be simultaneously active. All network protocols can be simultaneously active.

PhaserShare cards

PhaserShare cards work with the following printers: Phaser 380, 350, 340, 560, 550, 540, and 600. PhaserShare cards enable you to use your printer with Ethernet, Token Ring, LocalTalk, or serial connections. PhaserShare cards can be purchased initially with the printer as options or added later as upgrade kits.

A printer can have only one PhaserShare card installed at a time. When a PhaserShare card is installed, all ports on the card and the printer's standard parallel port can be simultaneously active. Also, all network protocols can be simultaneously active.

For information on networking printers with PhaserShare cards, refer to the *PhaserShare Networking System Administrator Manual*, part number 070-9789-00.

Recognizing PhaserShare Series B interfaces and earlier PhaserShare cards

On your network, you may have some Tektronix printers equipped with PhaserShare Series B interfaces and other Tektronix printers equipped with earlier PhaserShare cards. Printers equipped with earlier PhaserShare cards are supported differently in printer management software such as the PhaserShare Administrator and PhaserLink Printer Management Software. There are several ways to determine if the printer is equipped with a PhaserShare Series B interface or an earlier PhaserShare card:

■   **Printer model.** PhaserShare Series B cards work with Phaser 840, 740, 780, and 360 printers. PhaserShare cards work with the following printers: Phaser 380, 350, 340, 560, 550, 540, and 600.

■   **Card rear panel.** The cards are labeled on the rear panel.

■   **The printer's Configuration Page.** For Series B interfaces, **Series B** appears following the **Network Information** area on the printer's Configuration Page. If an earlier PhaserShare card is installed, the printer's Configuration Page reports the type of card installed in the **PhaserShare** field.

■   **The printer's Startup Page.** For Series B interfaces, **Series B** appears in the **Ethernet**, **Token Ring**, or **LocalTalk** fields on the printer's Startup Page. If a PhaserShare card is installed, the printer's Startup Page reports the available connections in the **Ports** field.

■   **PhaserLink Printer Management Software.** If the **Adobe PostScript** field reads **Adobe PostScript Level 3 Version**, the interface is Series B. If the field reads **Adobe PostScript Level 2 Version**, the printer supports PhaserShare network cards (not Series B). The **Adobe PostScript** field is on the **View Printer Information** page or on the **View and Configure General Settings** page, depending on the printer type. Links to these pages can be accessed by clicking the **Configuration** link. For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

■   **PhaserShare Administrator.** In the PhaserShare Administrator, Series B interfaces are identified in the Ethernet or Token Ring tabs, where **Series B** is displayed in the **Interface Information** area. For more information on the PhaserShare Administrator, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

Environments supported

Tektronix Phaser printers are compatible with mixed PC, Macintosh, and UNIX environments. The printer automatically switches between the printer's ports and network protocols to service all computers on the network.

Phaser printers are compatible with nearly all PC client/server environments. The printer's Ethernet and Token Ring network interfaces are compatible with the following:

- NetWare servers via the IPX (Internet Packet Exchange) protocol

- Windows NT servers over TCP/IP or EtherTalk protocols

- LANServer 4.0 servers via TCP/IP

- UNIX workstation via TCP/IP

- Macintosh computers via AppleTalk (LocalTalk, EtherTalk and TokenTalk).

- Windows 98

- Windows 95

Supported PC platforms

Any PC in the server environments listed in the previous topic, "Environments supported," can print over the network to a Phaser printer, including the following:

- Windows 98

- Windows 95

- Windows 3.1

- Windows NT

- Windows for Workgroups

- OS/2 Warp

- DOS

Phaser printers are compatible with Banyan Vines and Microsoft LAN Manager servers; however, third-party interfaces are required. Contact Tektronix Technical Support for more information (see Chapter 14, "Getting Help").

Workstations
UNIX
Macintosh
Windows 95
(peer - to - peer)

Clients
Windows 95
Windows 3.1
Windows NT
Windows for Workgroups
OS/2 Warp
DOS

Server
Novell NetWare (IPX)
Windows NT (EtherTalk
or TCP/IP)
LAN Server 4.0 (TCIP/IP)
UNIX (TCP/IP)

Phaser Color Printer
With PhaserShare
Ethernet or Token Ring
interface

9538-04c
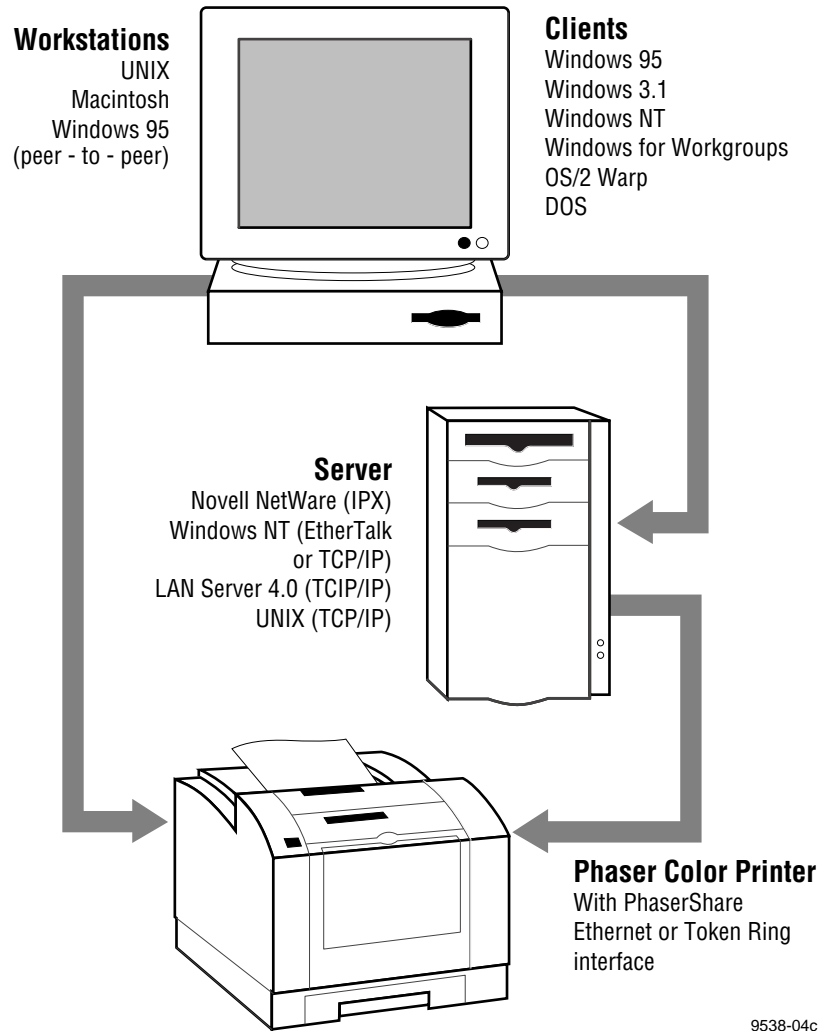
Network installation overview

Step 1	Unpack and set up the printer.	This step must be done before attempting to configure the printer on a network. Printer setup includes installing ink or toner, loading paper trays, and turning on the printer. See your printer's user documentation for information about printer setup.
Step 2	Install the network card in the printer.	This step is necessary if the printer is to be equipped with an optional network card. It is not necessary when using the printer's built-in Ethernet connector. This step is done at the factory when a network card is purchased initially with your printer.
		When a network card is purchased later as an upgrade kit, follow the installation instructions included with the card.
		Information on physically connecting the printer to networks is provided in this manual:
		For Ethernet, see "PhaserShare Series B Ethernet interface" on page 11.
		For Token Ring, see "PhaserShare Series B Token Ring card" on page 14.
		For LocalTalk, see "PhaserShare Series B LocalTalk card" on page 22.
Step 3	Network configuration.	**For LocalTalk, EtherTalk, or TokenTalk**, see Chapter 3, "EtherTalk, LocalTalk, and TokenTalk Configuration".
		For NetWare, see Chapter 4, "Novell NetWare Configuration".
		For TCP/IP, see:
		Chapter 6, "TCP/IP Configuration Overview".
		Chapter 7, "TCP/IP Printer Configuration (All Platforms)".
		Chapter 8, "TCP/IP Host Configuration (UNIX)".
		Chapter 9, "TCP/IP Configuration (OS/2 Warp/LAN Server)"
		Chapter 11, "Windows 95 and Windows 98: PhaserPort Software".
		For Windows NT, see Chapter 10, "Windows NT".

The printer's Configuration Page

Your printer can generate a Configuration Page that lists the following information:

- General printer information, including TekColor settings

- Communication and network parameters for all ports

- SCSI disk settings (if the printer has a SCSI port)

The information supplied on the Configuration Page is helpful when you are installing and configuring the printer on a network. There are two ways to print the Configuration Page:

- **Use the printer's front panel.** You can easily print the Configuration Page from the printer's front panel. Use this method if your printer is not yet configured on the network. Refer to:

    - "Printing a Configuration Page: Phaser 840 front panel" on page 7.

    - "Printing a Configuration Page: Phaser 740 and 360 front panels" on page 7.

    - "Printing a Configuration Page: Phaser 780 front panel" on page 7.

- **Use PhaserLink Printer Management Software.** With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Printing a Configuration Page: PhaserLink Printer Management Software" on page 7.

Printing a Configuration Page: Phaser 840 front panel

1. When the front panel displays `READY TO PRINT`, press the down-arrow button until `Menu` is highlighted. Press **Select**.

2. Press the down-arrow button until `Printer Configuration` is highlighted. Press **Select**.

3. Press the down-arrow button until `Print Configuration Page` is highlighted. Press **Select**.

Printing a Configuration Page: Phaser 740 and 360 front panels

1. While `Ready` is displayed, press **Menu**; the printer displays the first item in the menu:

```
Help Pages
<----    ---->      Menu
```

2. Press **Menu** to access the Help Pages; the following message appears:

```
Menu Map
<----    ---->      Print
```

3. Press `<----` or `---->` until the following message appears:

```
 Configuration Page
<----    ---->      Print
```

4. Press **Print**.

Printing a Configuration Page: Phaser 780 front panel

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

```
Printer Menu
Help Pages              Menu
```

2. Press **Menu**; the `Help Pages` menu is displayed:

```
Help Pages
Configuration Page      Print
```

3. Press **Print**.

Printing a Configuration Page: PhaserLink Printer Management Software

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, select **Configuration Page** from the pull-down list. Click **Print**.

For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

How to tell which protocols are enabled

All protocols can be enabled and disabled. The Configuration Page reports which protocols are enabled. If a protocol is enabled, the field for that protocol lists the current parameters. If the protocol is disabled, the field for that protocol contains an entry reading **Disabled**.

The printer's networking software

The printer is shipped with a software CD-ROM, which contains software that you may need to install your printer on a network. The CD-ROM also contains on-line documentation, printer drivers, and other printer software. A single integrated installer is used to install printer drivers and other software.

Obtaining networking software for Phaser 840, 740, and 780 printers

You obtain the networking software from the CD-ROM by running the installer:

1. Insert the printer's software CD-ROM into the CD-ROM drive.

   - If the Windows autorun feature is enabled, the CD-ROM launches automatically.

   - If the Windows autorun feature is disabled, double-click **My Computer**, then double click the CD icon to launch the CD-ROM.

2. View the brief introductory information, then click **Install Drivers** to launch the installer.

3. When you are prompted to select **Easy Install** or **Custom Install**, select **Custom Install**.

4. In the **Custom Install** dialog box, check the box for **Network Utilities**.

5. If you are running the installer on a computer that has NetWare software installed, you can also check the boxes to install the PhaserShare Administrator software. For more information on the PhaserShare Administrator software, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

6. To complete the installation, follow the on-screen prompts.

Obtaining networking software for Phaser 360 printers

You obtain the networking software from the CD-ROM by running the installer:

1. Locate and run the installer on the printer's CD-ROM. On a PC, the file is *SETUP.EXE*; on a Macintosh, it is *Phaser 360 Installer*.

2. When you are prompted to select **Easy Install** or **Custom Install**, select **Custom Install**.

3. In the **Custom Install** dialog box, check the box for **Network Utilities**.

4. If you are running the installer on a computer that has NetWare software installed, you can also check the boxes to install the PhaserShare Administrator software. For more information on the PhaserShare Administrator software, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

5. To complete the installation, follow the on-screen prompts.

Network administration software

The following table lists the network administration software according to environment (network protocol, platform, and printer).

Network administration software

Environment	Software
NetWare; Windows 95, Windows NT, and Windows 3.1	**Network queue configuration:** PhaserShare Administrator (Novell PCONSOLE and NWAdmin can also be used.)
	Printer configuration: PhaserShare Administrator (Over TCP/IP, PhaserLink Printer Management Software can also be used; Novell's PCONSOLE and NWAdmin cannot configure the PhaserShare network interface.)
	Printer status monitoring: Windows Print Monitor (over TCP/IP, PhaserLink Printer Management Software can also be used; PhaserLink Printer Management Software provides status on additional Tektronix printer features.)
TCP/IP; Windows 95 and Windows 3.1	**Printer configuration:** PhaserLink Printer Management Software
	Printer status monitoring: PhaserLink Printer Management Software
TCP/IP; Windows NT	**Printer configuration:** PhaserLink Printer Management Software (PhaserLink Printer Management Software does not set up queues on the print server.)
	Printer status monitoring: PhaserLink Printer Management Software
AppleTalk; Macintosh 7.x and 8.x	**Printer configuration:** PhaserLink Printer Management Software (MacTCP or Open Transport required)
	Printer status monitoring: PhaserLink Printer Management Software (MacTCP or Open Transport required)
TCP/IP; UNIX	**Printer configuration:** PhaserLink Printer Management Software (If using PhaserPrint for UNIX for printing, use PhaserPrint to set up print queues.)
	Printer status monitoring: PhaserLink Printer Management Software

Support for DOS systems

For information on installing Tektronix printers in DOS environments, see the printer's CD-ROM. They contain PostScript utility files that can be sent to the printer for network configuration in DOS environments. They also contain a DOS application, NWSET, for printer configuration on NetWare networks.

For information on how to use the DOS configuration files, see the *README* files on the printer's CD-ROM. PC users will find the *README* file for the PostScript utility files in the *UTILS* directory; the *README* file for NWSET is in the *NETWARE* directory. (Macintosh users will find the *ReadMe* file for the PostScript utility files in the *Network Utilities* folder).

Tektronix PhaserPrint for UNIX software

For UNIX environments, Tektronix offers PhaserPrint software. PhaserPrint for UNIX provides fast raster screen copy printing to Tektronix color printers. PhaserPrint for UNIX also provides a graphical user interface for push-button control of Tektronix printer features.

PhaserPrint for UNIX is available for these workstations:

■ Sun: SunOS 4.1.4, Solaris 2.3 and 2.4

■ SGI: IRIX 5.2, 5.3, 6.2, 6.3, and 6.4

■ HP 9000 700/800: HP-UX 9.0.5 and 10.2

■ IBM RS/6000: AIX 3.2 and 4.2

■ DECstation: ULTRIX 4.0 and 4.4

■ DEC Alpha AXP: OSF/1 3.0, 3.2, and Digital UNIX 4.0

PhaserPrint for UNIX works with the workstation's native spooling system to print PostScript files and raster files in these formats: Sun Raster Format (SRF), **xwd**, SGI RGB, HP Starbase, TIFF, PBM, GIF, PCX, and BMP.

Your printer's CD-ROM contains a demonstration copy of PhaserPrint for UNIX and an on-line instruction guide in the *unix/unixdemo* directory. You can also obtain a demonstration copy at this Tektronix site:

ftp.tek.com/cpid/UNIX/phaserprint2.1/demo

2 *PhaserShare Series B Network Interfaces*

PhaserShare Series B network cards work with the Phaser 840, 740, 780, and 360 printers. Printers that work with PhaserShare Series B network cards have a built-in PhaserShare Series B Ethernet interface on the rear panel. Earlier printers (Phaser 380, 350, 340, 560, 550, 540, and 600) may be equipped with earlier PhaserShare network cards; these printers have no built-in network connections on the rear panel. If you are not sure which network interface your printer has, see "Recognizing PhaserShare Series B interfaces and earlier PhaserShare cards" on page 3.

This chapter provides information on connecting PhaserShare Series B interfaces to the network; for information on installing PhaserShare Series B network cards, see the instruction sheet that is shipped with each card.

PhaserShare Series B Ethernet interface

Ethernet is a communication standard that supports very high speed data transmission. Ethernet offers significant speed improvement compared to serial, parallel, and LocalTalk connections. Speed improvement varies greatly depending on network traffic, computer hardware, and other factors.

The PhaserShare Series B Ethernet interface conforms to the IEEE 802.3 and Ethernet II standards. With the printer's built-in Ethernet interface, you can connect the printer directly to an Ethernet network using twisted pair (10BaseT) cables. With the PhaserShare Series B Ethernet card, you can connect the printer directly to an Ethernet network using twisted pair (10BaseT or 100BaseTx) or thin coax (10Base2) cables. Connecting the printer using thick coax (10Base5) requires an adapter; contact your dealer to obtain adapters, cables, and terminators.

When a PhaserShare Series B Ethernet card is installed, the built-in Ethernet connector is disabled; use the connectors on the card.

When a PhaserShare Series B card is purchased initially with the printer, it is installed at the factory. When a PhaserShare Series B card is purchased later as an upgrade kit, follow the instructions that are shipped with the card.

C AUTION

To avoid damaging the network interface, turn off the printer before making any Ethernet connections.

Ethernet connections and indicators

The printer's built-in Ethernet connector

The printer's built-in Ethernet connector has the following connections and indicators:

1. LINK indicator (Phaser 360 only); *on* indicates a working connection to a hub, *off* indicates no connection to a hub.

2. RCV indicator (green); *blinks* while the network interface is receiving.

3. XMT indicator (yellow); *blinks* while the network interface is transmitting.

4. Twisted pair (10BaseT) connector.
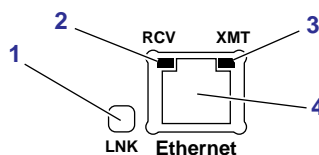
0180-01

PhaserShare Series B Ethernet card

The PhaserShare Series B Ethernet card has the following connections and indicators:

1. TX indicator (yellow); *blinks* while the network interface is transmitting.

2. RX Link indicator (green); *blinks* while the network interface is receiving.

3. Speed indicator (yellow); *on* indicates 100 Mbps, *off* indicates 10 Mbps.

4. Twisted pair connection indicator; *on* indicates a working connection to a hub, *off* indicates no connection to a hub. If the 10Base2 connector (**6**) is used, this indicator is *off*.

5. Twisted pair (10BaseT or 100BaseTx) connector.

6. Thin coax (10Base2) connector.
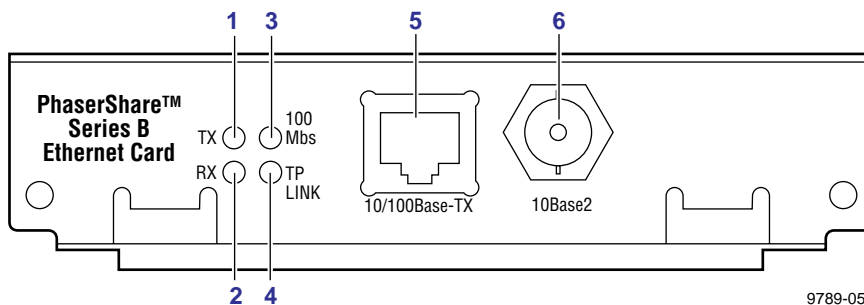
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Ethernet cables and termination

N O T E

To fully comply with EMI specifications, the use of shielded or screened cables may be required. "Shielded" describes IBM-defined cables used with the DB-9 connector. "Screened" describes cables that are electrically similar to Category 4 UTP, but with an added shield or screen.

10BaseT or 100BaseTx (Twisted Pair)

100BaseTx requires Category 5 (100-Ohm UTP) cabling.

The Ethernet standard does not allow a direct 10BaseT connection between a single computer and a single printer. Use 10Base2 (Thin Ethernet) to connect a single computer to a single printer.

C A U T I O N

Do not use "silver satin" telephone extension cables for 10BaseT networks, either as drop cords or as patch cables in the wiring closet. (Silver satin cables are flat, usually silver or gray, with 28-gauge stranded or tinsel conductors.) Do not use shielded twisted pair cable intended for IBM Token Ring networks or voice-grade (level 1 or 2) unshielded twisted pair cable for wiring runs. **These cables do not meet the requirements for 10BaseT and will lead to unreliable operation.**

10Base2 (Thin Ethernet)

Depending on the type of Ethernet cables you use and your network configuration, you may need to use terminators at certain points in the installation. Refer to the manufacturer's documentation for your Ethernet adapters and cables for details.

10Base5 (Thick Ethernet)

Connecting the printer using thick coax (10Base5) requires an adapter; contact your dealer to obtain adapters, cables, and terminators.

PhaserShare Series B Token Ring card

The PhaserShare Series B Token Ring port conforms to the IEEE 802.5 standard. With the PhaserShare Series B Token Ring card, you can connect the printer directly to a Token Ring network using shielded twisted pair (STP; IBM Type 1) or unshielded twisted pair (UTP; IBM Type 3) cables. Contact your dealer to obtain adapters and cables.

N O T E

To fully comply with EMI specifications, the use of shielded or screened cables may be required. "Shielded" describes IBM-defined cables used with the DB-9 connector. "Screened" describes cables that are electrically similar to Category 4 UTP, but with an added shield or screen.

When a PhaserShare Series B card is purchased initially with the printer, it is installed at the factory. When a PhaserShare Series B card is purchased later as an upgrade kit, follow the installation instructions that are shipped with the card.

When a PhaserShare Series B Token Ring card is installed in the printer, the printer's built-in Ethernet connector is disabled.

C A U T I O N

To avoid damaging the network interface, turn off the printer before making any Token Ring connections.

Token Ring connections and indicators

The PhaserShare Series B Token Ring card has the following connections and indicators on the rear panel:

1. Shielded Twisted Pair (STP; IBM Type 1) connector (DB-9).

N O T E

The STP port on the PhaserShare Token Ring card supports cable lengths up to 150 meters (492 feet) from the interface to the MAU (Medium Access Unit), including lobe and patch cables.

2. Unshielded Twisted Pair (UTP; IBM Type 3) connector (RJ-45).

3. Ring speed indicator (yellow); *on* indicates 16 Mbps, *off* indicates 4 Mbps.

4. TX indicator (yellow); *blinks* while the interface is transmitting.

5. Connection indicator (green); *on* indicates that the card is asserting its ring insertion control signal.

6. RX indicator (green); *blinks* while the interface is receiving.
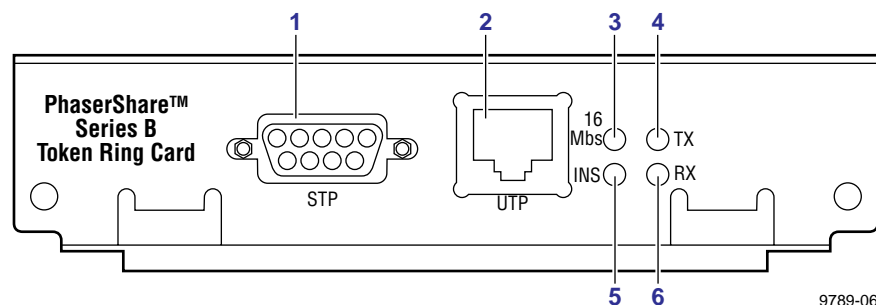
Ring speed jumper

The Token Ring card is equipped with a single three-pin jumper to set the ring speed. There are two settings: 4 Mbps and 16 Mbps.

N O T E

If you received your printer with the Token Ring card already installed, you must turn off the printer and remove the card before you change the jumper setting.

The following illustration shows a top view of the card and the location of the jumper.

1. Rear panel

2. Jumper

16 Mbps   4 Mbps

9789-03
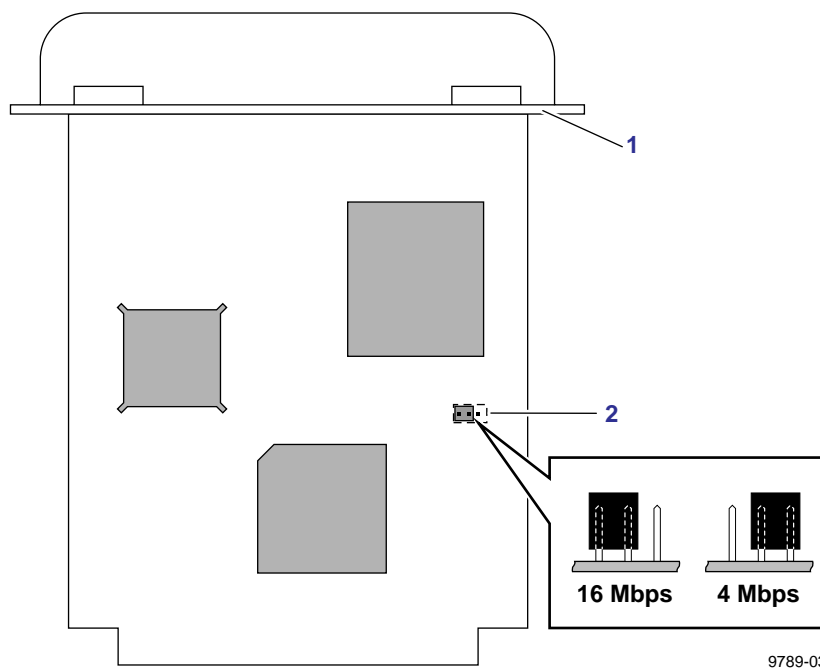
Token Ring configuration

You can set the Token Ring Frame Routing from the printer's front panel. When you have the Frame Routing set, you may want to set other Token Ring parameters. See "How to configure Token Ring parameters:" on page 19. See the table "Token Ring parameters" on page 18 for a list of all settable Token Ring parameters.

Setting the Frame Routing from the Phaser 740 and 360 front panels

When the Token Ring card is installed in the printer, you can set the Frame Routing from the printer's front panel. The choices are **Transparent** (no source routing) or **Source Route** (use source routing).

N O T E

If you are attempting to perform any front panel procedure and you don't see the expected menu choices, the front panel may be locked. For information on how to unlock it, see "If the front panel is locked" on page 167.

1. Press **Menu**; the front panel displays `Help Pages`.

2. Press `---->` or `<----` until the front panel displays `Network Settings`.

3. Access the Frame Routing menu:

   a. Press **Menu** until the front panel displays `Token Ring`.

   b. Press **Menu**; the front panel displays the first of two Frame Routing choices.

4. Select the desired Frame Routing: `Transparent` or `Source Route`:

   a. Press `---->` until the Frame Routing choice you want is displayed.

   b. Press **OK** to enter your choice into the printer; the front panel briefly displays `Selected`, then returns to the `Token Ring` display.

5. Return the printer to normal operation:

   a. Press **Exit** until the front panel displays `Network Settings`.

   b. Press **Exit** again.

      ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit**; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

      ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Setting Frame Routing from the Phaser 780 printer front panel

When the Token Ring card is installed in the printer, you can set the Frame Routing from the printer's front panel. The choices are **Transparent** (no source routing) or **Source Route** (use source routing).

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

```
Printer Menu
Help Pages              Menu
```

2. Press the left or right arrow buttons until the front panel displays `Network Settings`.

```
Printer Menu
Network Settings       Menu
```

3. Press **Menu** to enter the `Network Settings` menu; the front panel displays:

```
Network Settings
Token Ring             Menu
```

4. Press **Menu** again; the front panel displays the first of two Frame Routing choices.

5. Select the desired Frame Routing: `Transparent` or `Source Route`:

   a. Press the right arrow button until the Frame Routing choice you want is displayed.

   b. Press **Select** to enter your choice into the printer; the front panel briefly displays `Selected`, then displays the selected Frame Routing choice again.

6. Return the printer to normal operation:

   a. Press **Exit** (the far right button) until the front panel displays:

```
Network Settings
Token Ring               Menu
```

   b. Press **Exit** again.

- If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Confirm**, the printer resets. To return to normal operation without resetting the printer, press **Exit** (the far right button); `Printer Menu` appears on the top line of the display. Press **Exit** again; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

- If you have not changed any parameters that require a printer reset, press **Exit** again; the front panel displays `Ready`.

Token Ring parameters

Parameter	Description	Choices
Network Address	Token Ring Address (by default, this is a bit-swapped version of the printer's Printer ID, and it is a unique address on the network). You can supply a Locally Administered Address.	Any valid Token Ring address between 40.*xx.xx.xx.xx.xx* and 7F.*xx.xx.xx.xx.xx*.
Speed	This read-only parameter reports the ring speed set by the jumper on the card.	4 Mbps or 16 Mbps.
Early Token Release	The printer releases the token at the end of the last byte transmitted (not applicable at 4 Mbps).	Enabled (default) or Disabled
Adapter Status	This read-only parameter reports the Token Ring card status. The report is in two parts, separated by a comma: *Adapter status*, *Details* *Adapter status* reports the condition of the Token Ring card. *Details* reports additional information.	**Adapter status:** Adapter Initializing. Card is starting up. Adaptor Open. Card is connected to the network. Adapter Closed. Card is not connected to the network. Adapter Fault. Card is defective. **Details:** Ring OK. Ready for network communication. Fault. Internal error; the card is defective. Cable Disconnected. Cable is not connected to the card. Ring Error. Network problem. Removed by network management. The network administrator has disabled the connection.
Route Cache Size	The number of entries in the source route table.	10 to 300.
Route Cache Timeout	The time in seconds that an entry remains in the source route table before being updated.	5 to 65535.
Broadcast	For broadcasting to all network nodes. Changes the default frame type for source route broadcasts. **Broadcast** is ignored if **Frame Routing** is set to **Transparent**. NOTE: Some protocols (for example, IP and ARP) always use all routes, so they are not affected by this parameter.	Single Route. The printer uses single-route broadcasts for most source-route broadcasts. All Routes. The printer uses all-routes broadcasts for all broadcasts.
Unknown Route	Used when the printer is searching for a route to a specific network node. Changes the default frame type for source route broadcasts. **Unknown Route** is ignored if **Frame Routing** is set to **Transparent**. NOTE: Some protocols (for example, IP and ARP) always use all routes, so they are not affected by this parameter.	Single Route. The printer uses single-route broadcasts for most source-route broadcasts. All Routes. The printer uses all-routes broadcasts for all broadcasts.

How to configure Token Ring parameters:

■   On UNIX systems, you can use the script *config-TokenRing*, provided with the printer's network utilities software. See the next topic, "Using the config-TokenRing script".

■   On PCs, you can edit the PostScript utility file *TOKNCFG.PS* and send it to the printer. See the *README* file in the *UTILS* directory on the printer's CD-ROM for details.

■   On a Macintosh, you can edit the PostScript utility file *Configure Token Ring* and send it to the printer. See the *ReadMe* file in the *Network Utilities* folder on the printer's CD-ROM for details.

■   Windows users on NetWare networks can use the PhaserShare Administrator. See "Using the PhaserShare Administrator to configure Token Ring" on page 20.

■   With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software. See "Using PhaserLink Printer Management Software to configure Token Ring" on page 21.

Whichever method you use, you must reset the printer to make the changes take effect. For more information, see Chapter 16, "Resetting the Printer".

Using the *config-TokenRing* script

The UNIX shell script *config-TokenRing* is provided with the printer's network utilities software. The script creates a PostScript file containing the Token Ring parameters. Set the Token Ring parameters by sending the PostScript file to the printer.

Before performing this procedure, you must install the script on your host computer. If you have not already installed the file, see "Extracting files from unix.tar" on page 52. Your host spooling system must also be configured; see Chapter 8, "TCP/IP Host Configuration (UNIX)".

1.   Connect the printer to the network. ARP (Address Resolution Protocol) requires that the printer be connected on the same physical network segment as the host. You will be using the **arp** command later in this procedure.

2.   Log in.

3.   Run the script *config-TokenRing:*

   a.   Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

   b.   Type the name of the script, redirecting the output to a file. Type:

   **config-TokenRing > ** *filename*

4.   When prompted by the script, enter the Token Ring parameters.

5.   When the script is finished, log in as **root**.

6. Make an entry into the host's ARP (Address Resolution Protocol) table defining the printer's Printer Name/Token Ring address pair. In general, this requires a command corresponding to one of the following syntax examples:

> **arp -s** *printer-name   Token-Ring-address*   (for BSD systems)
>   *or*
> **arp -s ether** *printer-nam e   Token-Ring-address*   (for System V)

See the documentation for your host system for specifics of this command.

7. Turn on the printer.

8. Use the host spooling system (for example, **lpr** or **lp**) to send the file you created in Step 3b to the printer; this stores the Token Ring information in the printer's internal memory, where it is retained over a reset or power cycle.

9. You must reset the printer before the changes take effect. For more information, see Chapter 16, "Resetting the Printer".

Using the PhaserShare Administrator to configure Token Ring

1. In the PhaserShare Administrator **Main** window, select the desired printer from the **Printer List**.

2. Click **Configure Printer**; this displays the **Configure Printer** dialog box.

3. In the **Configure Printer** dialog box, click the **Token Ring** tab.

4. In the **Token Ring** tab, set the Token Ring parameters as desired.

5. Click **OK**.

6. You are prompted to reset the printer. You must reset the printer before the changes take effect. For more information, see Chapter 16, "Resetting the Printer".

For more information on the PhaserShare Administrator, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

Using PhaserLink Printer Management Software to configure Token Ring

For information on connecting to your printer via PhaserLink Printer Management Software, see "Accessing printer information from a browser" on page 124. For general information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. From the **View and Configure Interface Settings** page, click **View and Configure PhaserShare Settings (Token Ring card)**; this displays the **View and Configure PhaserShare Settings** page for Token Ring.

4. Enter your settings into the fields for **Token Ring Address**, **Speed**, and **Bridging**. If you make an error, click **Restore Initial Form Values** and start again.

5. When you are finished entering the settings, enter the **Validation Password** and click **Do/Apply**. If you are not sure of the password, contact your system administrator.

6. You must reset the printer before the changes take effect. For more information, see Chapter 16, "Resetting the Printer".

PhaserShare Series B LocalTalk card

With the PhaserShare Series B LocalTalk card, you can connect the printer to a LocalTalk network. Both the LocalTalk connection on the card and the Ethernet connector on the printer's rear panel are simultaneously active.

When a PhaserShare Series B card is purchased initially with the printer, it is installed at the factory. When a PhaserShare Series B card is purchased later as an upgrade kit, follow the installation instructions that are shipped with the card.

LocalTalk connection

N O T E
LocalTalk is sometimes referred to as AppleTalk. LocalTalk refers to the physical connection; AppleTalk is the protocol.

You can make LocalTalk connections between the printer and a single computer or a LocalTalk network. If your LocalTalk installation is complex, or if you need assistance, contact your network system administrator.

C A U T I O N
Connect your printer to a LocalTalk network **before** you turn on the printer.

The PhaserShare Series B LocalTalk card has the following connections and indicators on the rear panel:

1. TX indicator (yellow); *blinks* while the interface is transmitting.

2. RX indicator (green); *blinks* while the interface is receiving.

3. LocalTalk connector; 8-pin, circular DIN.

N O T E
Both indicators flashing together indicates a fatal software error. Turn the printer off, then on again; if the problem persists, replace the card.
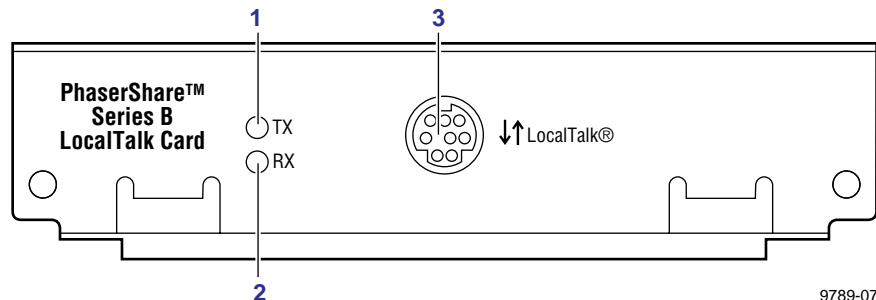
LocalTalk connectors and cables

LocalTalk connectors and cables are available through your local reseller. This illustration shows two commonly used types of LocalTalk connectors:

1. Self-terminating connector

2. Connector that requires an external terminator, depending on your network configuration
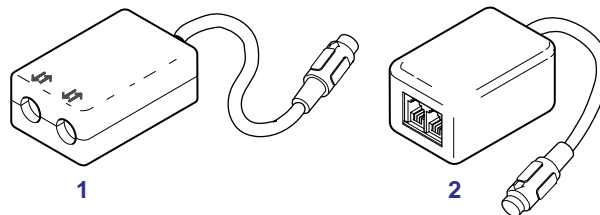
0180-02

N O T E

> Depending on the type of LocalTalk cables you use and your network configuration, you might need to use terminators at certain points in the installation. Refer to the documentation for your LocalTalk connectors and cables for details.

Connecting to a single computer

You can use LocalTalk connectors and cables to connect the printer directly to your computer, without connecting it to any other network. To avoid damaging the network interface, turn off the printer before making any LocalTalk connections.

1. Connect the short cable of a LocalTalk connector to the PhaserShare LocalTalk port.

2. Connect the short cable of another LocalTalk connector to your computer's LocalTalk port.

3. Connect a LocalTalk cable from the LocalTalk connector that you have just attached to your computer to the printer's LocalTalk connector.
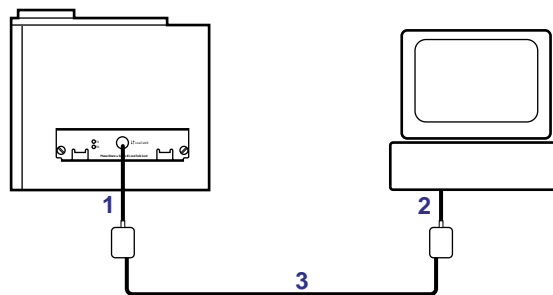
9789-08

Depending on the type of LocalTalk connectors you use and your network configuration, you might need to use external terminators. Refer to the documentation for your LocalTalk connectors and cables for details.

3 *EtherTalk, LocalTalk, and TokenTalk Configuration*

Before you begin

Before you begin the configuration, complete the following steps:

■ Your printer should be set up, connected to the network, and turned on. See your printer's user documentation for information about setting up and turning on the printer. For information about connecting the printer to the network, see Chapter 2, "PhaserShare Series B Network Interfaces".

■ Install the Tektronix driver for your printer on every Macintosh and PC that will send print jobs to the printer. For details on driver installation, see your printer's user documentation.

Configuration overview

N O T E

The printer's AppleTalk connection works with Macintosh system software, 7.0, 7.1, 7.5, 7.6, 8.0, 8.1, and 8.2.

The configuration procedure for LocalTalk, EtherTalk, and TokenTalk consists of two simple steps:

1. Print the Configuration Page. It reports the printer's default name, which you need for EtherTalk and TokenTalk configurations. For information on printing a Configuration Page, see "The printer's Configuration Page" on page 6.

2. Verify that the printer is in the **Chooser**. See "Finding the printer's name in the Chooser" on page 26.

   ■ If the printer is not in the **Chooser**, see "Troubleshooting" on page 30.

   ■ If the printer is in the **Chooser**, you may want to change the printer's name or zone. See "Changing the printer's name (optional)" on page 27 and "Changing the printer's EtherTalk/TokenTalk zone (optional)" on page 29.

N O T E

The default language for the LocalTalk, EtherTalk, and TokenTalk ports is PostScript. Refer to your printer's user documentation for information about changing the printer's default language.

Finding the printer's name in the Chooser

1. From the **Apple** menu, select **Chooser**.

2. In the upper-left corner of the **Chooser**, find the driver icon. (If the driver icon does not appear in the **Chooser**, install the printer driver.) Click the driver icon.

3. If a list of zones appears in the lower-left portion of the **Chooser**, select the proper zone.

N O T E

The printer's default zone is listed on the Configuration Page in the EtherTalk or TokenTalk field. For more information on the Configuration Page, see "The printer's Configuration Page" on page 6.

4. A list of printers appears in the right portion of the **Chooser**; find your printer's name in the list. The printer's default name is listed on the Configuration Page (see "The printer's Configuration Page" on page 6). If the name does not appear, check the cable connection between your printer and the network.

N O T E

It is possible for the **Printer Name** field on the Configuration Page to be blank. When the printer is powered up, it uses a default name and then checks to see that no other printer on the network has the same name. If enough printers with the same default name are present it can take several minutes for the printer to establish a unique name. If the name field is blank, wait a short time and reprint the Configuration Page.

Changing the printer's name (optional)

There are three ways to change the printer's name:

■ Use the *Apple Printer Utility*; see "Changing the printer's name: Apple Printer Utility" on page 28.

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Changing the printer's name: PhaserLink Printer Management Software" on page 28.

■ With a PC running Windows on a NetWare network, you can use the PhaserShare Administrator; see "Changing the printer's EtherTalk/TokenTalk zone (optional)" on page 29.

The name selected here prints on the Startup Page and Configuration Page; the name also appears in the **Chooser** on a Macintosh. The name can be up to 31 characters long. It may contain any printable characters; however, the characters @ : = * are deleted from the name used on AppleTalk. A change is persistent across printer power cycles.

Notes regarding printer names

■ If you have more than one printer in the same zone and you choose a name for one printer that is already assigned to another, the second printer registers itself on the network with the number 1 appended to the name. For example, if you attempt to assign a printer the name *TekPhaser* and another printer in the zone already has the same name, the printer you are naming appears on the network as *TekPhaser-1*.

■ The added number is recalculated each time the printer is turned on. If you have more than one printer with the same name on the network, the printers' names on the network depend on the order in which the printers are turned on. To avoid this confusion, it is recommended that you assign each printer on the network a unique name.

■ The added number appears in the **Chooser**, on the printer's front panel, and on the Startup Page. On the Configuration Page, the name, without the characters @ : = *, and with the added number, appears in the **EtherTalk**, **LocalTalk**, and **TokenTalk** areas. The **Printer Name** under **General Information** is the name as it was set, not as it appears in the **Chooser**.

Changing the printer's name: *Apple Printer Utility*

1. Locate the *Apple Printer Utility,* included with your printer's network utilities software.

2. Double-click the **Apple Printer Utility** icon; the **Printer Selector** window is displayed.

3. Select the zone (if applicable) and the printer. Click **Open Printer**; a dialog box is displayed containing **Printer Information** and **Printer Preferences**.

4. Click the triangle to the left of **Printer Preferences**. Click the triangle to the left of **Name**; this displays a dialog box containing a field for the printer's name. Enter the new name in the field.

5. Click **Send**.

6. To reselect the printer with its new name, open the **Chooser**.

Changing the printer's name: PhaserLink Printer Management Software

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **View and Configure Interface Settings**.

3. On the **View and Configure Interface Settings** page, click **View and Configure EtherTalk Settings**, **View and Configure LocalTalk Settings**, or **View and Configure TokenTalk Settings**.

4. In the **Printer Name** field, enter the desired printer name.

For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

Changing the printer's EtherTalk/TokenTalk zone (optional)

There are two ways to change the printer's zone:

■   With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Changing the printer's zone: PhaserLink Printer Management Software" on page 29.

■   You can also change the printer's zone using PostScript utility files; see the *README* files on the printer's CD-ROM. The Macintosh *README* file is in the *Network Utilities* folder; the PC *README* file is in the *UTILS* directory.

Changing the printer's zone: PhaserLink Printer Management Software

1.   From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2.   On the **View and Configure Settings** page, click **View and Configure Interface Settings** page.

3.   On the **View and Configure Interface Settings** page, click: **View and Configure EtherTalk Settings**, or **View and Configure TokenTalk Settings**.

4.   In the **Zone** field, enter the desired zone.

For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

Troubleshooting

If the printer is not in the **Chooser**, use the following troubleshooting procedure.

1. Check that the Configuration Page shows a printer name, a node number, and a zone.

- If there is no node number, verify that the printer is properly cabled to the network. Test the cable segment by plugging in a new cable segment or using the cable segment of a printer that is in the **Chooser**.

- If your network uses zones, and there is no zone name on the Configuration Page, or if the Configuration Page shows the wrong zone, see "Changing the printer's EtherTalk/TokenTalk zone (optional)" on page 29.

N O T E

The printer cannot create a zone; it must already exist.

2. If the Configuration Page shows the correct printer name, node number, and zone, and the printer is still not visible in the **Chooser**, check the following items:

- If there is a Novell NetWare server on the network, verify that the NetWare server has been configured for Phase 2 routing and addressing.

- If there is a Windows NT server on the network, verify that the printer has not been captured by a Windows NT machine.

- If the printer continually reboots when connected to the network, it is possible that a router is broadcasting a zone of *, which is an invalid zone.

- If using QuickDraw GX, the GX drivers must be installed. If you don't use QuickDraw GX, disable the QuickDraw GX, QuickDraw Helper, and ColorSync extensions.

4 *Novell NetWare Configuration*

The printer's NetWare interface

The printer's NetWare interface supports the Print Server (PSERVER) operating mode. Under the NetWare networking model, print jobs are stored in queues (directories) on a file server. A print server takes print jobs from the queues and sends them to printers. In your Tektronix printer, the print server resides within the internal interface of the printer, so the print server and the printer are one. The printer logs in to a file server using a login connection to service specified queues.

Bindery mode and NDS (NetWare Directory Services) supported

The printer's NetWare interface supports Bindery and NDS connection modes separately or simultaneously.

Supported NetWare versions

The printer's NetWare interface has been tested with NetWare versions 3.12, 4.1, and 4.11. It should work with any NetWare server that uses NetWare's QMS (Queue Management System) to manage and service print queues. These servers include 80286-, 80386-, and 80486-based servers running other versions of NetWare (for example, versions 2.15, 2.2, 3.0, 3.11, 4.0), DOS and OS/2-based systems, VMS servers, and servers running UnixWare. The PhaserShare NetWare interface is not compatible with systems running NetWare Lite.

Supported NetWare protocols

The printer's NetWare interface supports the following NetWare protocols:

- NCP (NetWare Core Protocol)

- IPX (Internet Packet Exchange)

- SPX (Sequential Packet Exchange)

- SAP (Service Advertising Protocol)

- RIP (Router Information Protocol)

- NEST (Novell Embedded Systems Technology)

- SNMP (Simple Network Management Protocol)

Other features

The printer's NetWare interface supports up to 32 queues and eight file servers in any combination when in bindery mode. No additional VAPs (Value Added Procedures), NLMs (Network Loadable Modules), or TSRs (Terminate Stay Resident programs) are required to install your Tektronix printer on the network.

N O T E

The printer's NetWare interface supports packet signature and IPX checksum automatically, that is, the print server automatically signs packets and/or calculates checksums upon request from the file server.

Passwords

If a password is used in Bindery mode, it must be set on the printer with the PhaserShare Administrator (or PhaserLink Printer Management Software) and on the file server with PCONSOLE.

If a password is used in NDS mode, it must be set on the printer with the PhaserShare Administrator (or PhaserLink Printer Management Software) and on the file server with the NWAdmin utility or PCONSOLE.

Notify lists

Use the PhaserShare Administrator to set up notify lists on NetWare 3.x servers. On NetWare 4.1, use the NWAdmin utility to set up the notify list for a printer.

Before beginning the configuration procedure

Before you begin the NetWare configuration, complete the following steps:

■ Set up the printer and connect it to the network. See your printer's user documentation for information about setting up and turning on the printer. For information about connecting the printer to the network, see Chapter 2, "PhaserShare Series B Network Interfaces".

■ Install the Tektronix driver for your printer should be installed on every computer that will be sending print jobs to the printer. For details on driver installation, see the printer's user documentation.

■ To speed the setup process and avoid conflicts, familiarize yourself with the components of your network. You should know which version(s) of NetWare are installed, which versions of client software are used, and the network topology (frame types, routers, hubs, and cabling).

Configuration software for NetWare

Windows software

■ **PhaserShare Administrator** (Tektronix). Use this application to configure the printer and the network when using NetWare 3.x and 4.x.

■ **NWAdmin** (Novell). Use this utility to manage existing queues on networks running NetWare 4.x in NDS mode.

DOS software

■ **NWSET** (Tektronix). Use this application to configure the printer with NetWare 3.x and 4.x. For more information on NWSET, see the *README* file in the *NETWARE* directory of the printer's or CD-ROM.

■ **NWCONFIG.PS** (Tektronix utility file). In DOS environments and other non-Windows environments, you can use this to configure the printer for NetWare 4.x networks. The PostScript code contained in the file *NWCONFIG.PS* is also available in a Macintosh file called *Configure NetWare*. For more information on *NWCONFIG.PS*, see the *README* file in the *UTILS* directory of the printer's or CD-ROM. For more information on *Configure NetWare*, see the *ReadMe* file in the *Network Utilities* directory of the printer's or CD-ROM.

■ **PCONSOLE** (Novell). Use this utility to manage existing queues with NetWare 3.x and 4.x (both Bindery and NDS modes).

NetWare configuration for Windows environments

This is a quick configuration procedure using the Tektronix PhaserShare Administrator. For information on installing the PhaserShare Administrator, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks". For detailed information on the PhaserShare Administrator, functions, see the PhaserShare Administrator on-line help.

Printing the Configuration Page

Your printer's Configuration Page reports information that you need for NetWare configuration. For information on printing a Configuration Page, see "The printer's Configuration Page" on page 6.

N O T E

On the printer's Configuration Page, all zeros in one or more of the **IPX Networks** fields indicates that the printer does not recognize the network connection; this probably indicates a faulty cable connection, an incorrect frame type, or **Reply to Get Nearest Server** has not been set to **on**. It must be set to **on** for at least one file server or router on the same segment as the printer.

Using the PhaserShare Administrator Quick Configuration Wizard

Log on to the file server

NetWare 3.x. Log on to the default NetWare file server as SUPERVISOR or SUPERVISOR equivalent. Many of the operations performed using the PhaserShare Administrator require SUPERVISOR privileges (for example, creating queues).

NetWare 4.x. In Bindery mode, log on to the default NetWare file server as SUPERVISOR, SUPERVISOR equivalent, or ADMIN /B. Many of the operations performed using the PhaserShare Administrator require SUPERVISOR privileges (for example, creating queues).

NetWare 4.x, NDS (NetWare Directory Services) mode. Log on to the default NetWare file server as ADMIN or ADMIN equivalent. Many of the operations performed using the PhaserShare Administrator require ADMIN privileges (for example, creating queues).

> **N O T E**
>
> While not required, it is recommended that you log in only to the file servers to be configured with this printer.

Start the PhaserShare Administrator

To start the PhaserShare Administrator, double-click the PhaserShare Administrator icon. Refer to your Windows documentation for complete information on how to start applications. For information on installing the PhaserShare Administrator, see "Installation" on page 44.

When you start the PhaserShare Administrator, the **Main** window is displayed.
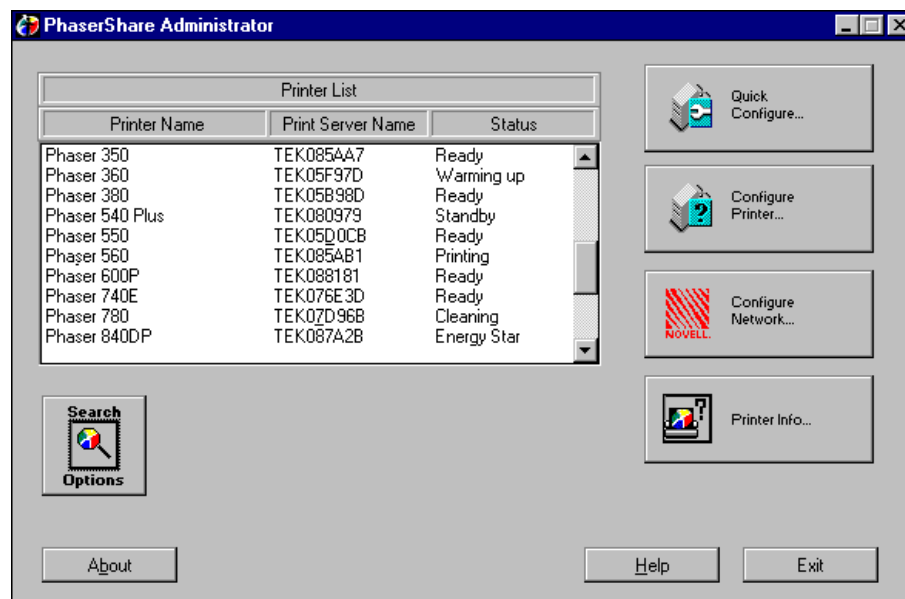
Select a print server

In the **Main** window **Printer List**, click the print server name/printer name.

N O T E

> If the printer does not show up in the list of available printers, there could be a network hardware problem, an incorrect frame type, or incorrect search options settings (see "Printer does not appear in the Main window printer list" on page 36).

Launch the Quick Configuration Wizard

Click **Quick Configuration** to launch the Quick Configuration Wizard.
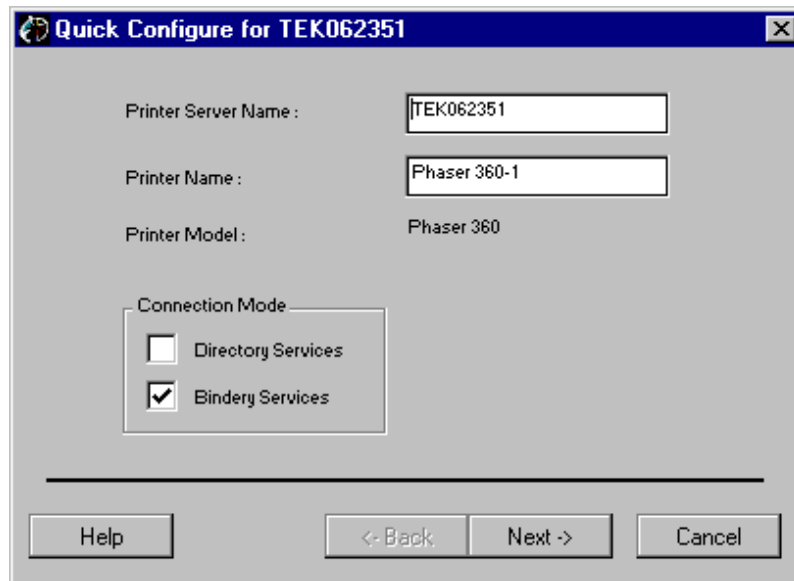
Configure the printer and set up queues

1. If desired, change the **Print Server Name** or **Printer Name**.

2. Select connection mode(s) by checking the box(es) for **Bindery Services**, **NDS Services**, or both (the Phaser 740, 780, and 360 printers support both).

3. Click **Next**. The dialogs that follow allow you to configure Bindery connections, NDS connections, or both. Supply the following information for these connections:

   Information needed for Bindery connections

   Select either the configuration file server or the preferred file server from the drop-down list; click **Next**.

   If the file server you want is not on the list, proceed with these steps:

   a. Click **File Servers** to display the **File Servers Browse** dialog box.

   b. Select the server you want. Click **OK**. You are returned to the **File Server Selection** dialog box.

   c. Select either the configuration file server or the preferred file server from the drop-down list. Click **Next**.

   Create and select a new queue, or select an existing queue; click **Finish**.

Information needed for NDS connections

- Specify the current **Directory Services Tree**; (the tree where the print server will reside).

- Specify the current **Directory Services Context**. (the location in the directory services tree where the print server will reside).

- Create and select a new queue, or select an existing queue; click **Finish**.

Verify information and finish the configuration

After you have entered the configuration information, the Quick Configuration Wizard displays the **Configured Printer Information** dialog box, which reports the information you have entered.

1. Verify that the information is correct.

   - If the information is correct, click **Apply Changes**.

   - If the information is not correct, click **Back** to return to previous dialog boxes and correct the information. Click **Next** to return to the **Configured Printer Information** dialog box. Click **Apply Changes**.

   - To exit the wizard and return to the **Main** window without making any changes, click **Cancel**.

2. After you click **Apply Changes**, the printer resets; the changes take effect when the reset is complete.

3. After the reset, you are prompted to print a test page. It is recommended that you print a test page to verify a successful installation.

Troubleshooting Windows configurations

Printer does not appear in the Main window printer list

1. Make sure that the printer is turned on and properly connected to the network. Try a different network drop or port.

2. Make sure that NetWare is enabled on the printer. This is reported on the printer's Configuration Page in the **NetWare** field. For information on enabling and disabling protocols, see Chapter 15, "Disabling Protocols".

   If you are using bindery emulation, make sure that NDS is disabled. From the PhaserShare Administrator **Print Server** tab, uncheck the **Directory Services** checkbox.

3. If your network uses a router, configure the router to not suppress NetWare SAP (Service Advertising Protocol) packets or packets of the frame type the printer is using.

Testing from the PhaserShare Administrator

The following steps provide a simple test of the Administrator:

1. Click **Search Options**.

2. In the **Search Options** dialog box, click the following radio buttons:

   a. **Sort by: Print Server Name**

   b. **Select by: All Tektronix Printers**

3. Click **OK**.

Look at the list of printers. If the **Printer Name** is listed as **<Information Not Available>**, the Administrator is unable to communicate with the printer using SNMP over IPX; this indicates that either the printer selected is an unsupported printer or the network configuration is incorrect. If the printer is not listed, check the printer's Configuration Page for network errors.

> **N O T E**
>
> The PhaserShare Administrator displays an SNMP error when the client computer running the PhaserShare Administrator is not attached to a file server with the same frame type as the printer is using. The same error is displayed if a version of the PhaserShare Administrator below 3.6 is used to configure a Phaser 740, 780, or Phaser 360 printer. The **Printer Not Responding** dialog box is displayed with the message: **This printer is not responding to SNMP queries. Please check the printer and try again**. Click **OK** and correct the problem.

Testing the file server-to-printer connection

1. First use the **CAPTURE** command to redirect an LPT port output to a network queue. For example:

   CAPTURE   NB   NFF   NT   Q=PHASER   L=1

   where:

   NB specifies **NO BANNER**
   NFF specifies **NO FORM FEED**
   NT specifies **NO TABS**
   Q=PHASER specifies **PHASER** as the queue name
   L=1 specifies port **LPT1**

2. Use any text editor to create a two-line ASCII file with the following contents:

   ```
   %!
   showpage
   ```

3. Use the **COPY** command to send the file to the printer. For example, if the file is called *SHOWPAGE*, and the printer is assigned to LPT1, type:

   COPY   SHOWPAGE   LPT1:

   If the file server-to-printer connection is functional, the printer ejects a blank page.

Cannot submit job to a queue

Use the NWAdmin to verify that the user is a queue user.

1. Log in as ADMIN and launch the NWAdmin utility. Browse the directory services tree to the location of the print queue object for this printer. Double-click the print queue object to view its properties.

2. The **identification** view is displayed by default. If it is not displayed, select it. Make sure that all of the **Operator Flags** at the bottom left corner of the window are checked.

3. Click **Users**; this view displays a list of queue users and queue user groups. Verify that the list of users, groups, and group memberships are correct. For more details, consult the NetWare Administrator documentation.

4. Click **Assignment;** this view displays the print servers and printers assigned to service this print queue. Assign the appropriate objects to this print queue.

N O T E

For the print server to attach and service the print queue, the print server object name in the tree must match the print server name in the printer.

Job appears in queue, but printer does not service it

1. Verify that the printer has been set up to service the queue.

   a. Log in as ADMIN and launch the NWAdmin utility. Browse the directory services tree to the location of the print queue object for this printer. Double-click the print queue object to view its properties.

   b. Click **Assignment**; this view displays the print servers and printers assigned to service this print queue.

   c. The **Authorized print servers** window and the **Printers servicing print queues** window should list the names of the objects linked to this print queue. If a print server object is not linked to this print queue, create or modify a print server object and assign it to this print queue. If a printer object is not linked to this print queue, create or modify a printer object and assign it to this print queue. See the NetWare user documentation for more details.

2. Check that the printer was able to log in to the file server:

   a. At the file server's console, type:

      load monitor

   b. From the **Available Options** menu, select **Connection Information**.

   If the printer has logged in, its print server name is displayed in the list. If the print server name is not on the list, continue with Steps 3 through 5.

3. Verify that there was an available connection slot for the printer. Since the printer consumes a login connection, the file server may need an available connection for the printer to log in.

4. Verify that the password the printer saved (if one was set) is the same as the one on the file server. Mismatched passwords can result if **PCONSOLE**, rather than the PhaserShare Administrator, is used to set the password. Use the PhaserShare Administrator to enter a new password to ensure that they are the same. In the **Print Server** tab, click **Set Password**; this displays the **Set Password** dialog box. Enter the password in both fields and click **OK**.

5. Verify that the printer's print server name matches the one in the NDS tree. The Configuration Page reports the printer's print server name. For information on printing a Configuration Page, see "The printer's Configuration Page" on page 6.

6. Verify that the frame type the printer is using is supported by the file server. See "Printer does not appear in the Main window printer list" on page 36.

7. Verify that at least one file server or router on the same segment as the printer has **Reply to Get Nearest Server** set to **on**.

Job is serviced, but does not print

■ Check the PhaserShare Administrator **Printer Info** dialog box for reported error conditions.

■ Download the PostScript Error Handler to the printer. For information on using the Tektronix PostScript Error Handler, see your printer's user documentation.

■ Use the correct Tektronix driver for your networked printer.

■ Verify that the Print Server protocol is enabled; use the printer's front panel or check the Administrator's **Print Server** tab.

■ Banners, form feeds, and tabs may interfere with the print job. Try disabling these from the driver/network setup.

Setting IPX frame types from the front panel

Setting IPX frame types: Phaser 840

1. When the front panel displays **READY TO PRINT**, press the down-arrow button until **Menu** is highlighted. Press **Select**.

2. Press the down-arrow button until **Printer Configuration** is highlighted. Press **Select**.

3. Press the down-arrow button until **Network Settings** is highlighted. Press **Select**.

4. Press the down-arrow button until **NetWare** is highlighted. Press **Select**.

5. Press the down-arrow button until **IPX Frame Type** is highlighted. Press **Select**.

6. Press the down-arrow button until the desired frame type is highlighted. Press **Select** until **On** is displayed. If desired, you can set more than one frame type.

7. To return the printer to normal operation, press the down-arrow button until **Exit** is highlighted. Press **Select**.

Setting IPX frame types: Phaser 740 and Phaser 360 printer

N O T E

If you are attempting to perform any front panel procedure and you don't see the expected menu choices, the front panel may be locked. For information on how to unlock it, see "If the front panel is locked" on page 167.

1. Enter the **Network Settings** menu:

    a. Press **Menu**; the front panel displays `Help Pages`.

    b. Press `---->` or `<----` until the front panel displays `Network Settings`.

    c. Press **Menu**; the front panel displays `TCP/IP`.

2. Access the menu of frame types:

    a. Press `---->` until the front panel displays `NetWare`.

    b. Press **Menu**; the front panel displays `Enable Interface`.

    c. Press `---->`; the front panel displays `IPX Frame Type`.

    d. Press **Menu**; the front panel displays the first in a menu of frame types.

3. Enable or disable the frame type:

    a. Press `---->` until the frame type you want is displayed.

    b. Press **Menu** to display the current status of the frame type: `Enabled` or `Disabled`.

    c. Press `---->` until the frame type is either `Enabled` or `Disabled`, as desired.

    d. Press **OK** to enter your choice into the printer. The front panel briefly displays `Selected`, then returns to the display of the frame type name.

4. You can set more than one frame type; to set other frame types, repeat Step 3.

5. Return the printer to normal operation:

    a. Press **Exit** (the far left button) until the front panel displays `Network Settings`.

    b. Press **Exit** again.

       ■ If you have changed any parameters that require a printer reset to take effect, you are prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit** (the far left button); the printer returns to normal operation, but the changes you have made do take effect until the next time the printer is reset.

       ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Setting IPX frame types: Phaser 780 printer

1. Enter the `Network Settings` menu:

    a. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

```
Printer Menu
Help Pages              Menu
```

    b. Press the left or right arrow buttons until the front panel displays Network Settings.

```
Printer Menu
Network Settings        Menu
```

    c. Press **Menu** to enter the `Network Settings` menu; `Network Settings` appears on the top line of the display.

2. Access the menu of frame types:

a. Press the right arrow button until the front panel displays `NetWare`.

b. Press **Menu**; the front panel displays `Interface`.

c. Press the right arrow button until the front panel displays `IPX Frame Type`.

d. Press **Menu**; the front panel displays the first in a menu of frame types.

3. Enable or disable the frame type:

a. Press the right arrow button until the frame type you want is displayed.

b. Press **Menu** to display the current status of the frame type: `On` or `Off`.

c. Press the right arrow button until the frame type is either `On` or `Off`, as desired.

d. Press **Select** to enter your choice into the printer. The front panel briefly displays `Selected`, then returns to the display of the frame type name.

e. Press **Exit** (the far right button) to return to the menu of frame types.

4. You can set more than one frame type; to set other frame types, repeat Step **3**.

5. Return the printer to normal operation:

a. Press **Exit** (the far right button) until `Network Settings` appears on the top line of the display.

b. Press **Exit** again.

■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Confirm**, the printer resets. To return to normal operation without resetting the printer, press **Exit** (the far right button); `Printer Menu` appears on the top line of the display. Press **Exit** again; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

■ If you have not changed any parameters that require a printer reset, press **Exit** again; the front panel displays `Ready`.

5 *PhaserShare Administrator Software for NetWare Networks*

PhaserShare Administrator software makes your Tektronix color printer easier to use in a NetWare environment. It provides network administrators with printer management capabilities, job accounting information, and configuration information.

This chapter provides instructions for installing the PhaserShare Administrator. This chapter also provides basic information on how to use the PhaserShare Administrator. Chapter 4, "Novell NetWare Configuration", provides quick configuration instructions. More detailed information on using the PhaserShare Administrator is available through the PhaserShare Administrator's on-line help.

Introduction to the PhaserShare Administrator

The PhaserShare Administrator is a powerful tool for network and system administrators designed to simplify administration and make Tektronix printers easy to share. The PhaserShare Administrator's key features are listed here:

■ **Printer configuration reporting.** You can control printer settings and network settings. You can remotely set the print server name, IPX frame types, and many more NetWare parameters, bringing printer control to your desktop.

■ **Printer management.** The PhaserShare Administrator is a valuable printer management tool for network administrators. With real time printer messages and access to a remote printer control panel, administrators can resolve many printing problems without leaving their desks. By using the Notify List to send printer alerts, the network administrator is the first to know if a printing problem exists.

■ **Network configuration.** The PhaserShare Administrator supports automatic driver distribution and queue management. Once you install a Tektronix printer driver on a network server, the driver is automatically available to all network users.

■ **Job accounting.** Job accounting allows you to track printer usage by individual user and job on NetWare networks.

NetWare configuration with the PhaserShare Administrator

The PhaserShare Administrator allows you to configure and administer your Tektronix printer and the queues it services, while providing functionality not available with **PCONSOLE**. The PhaserShare Administrator allows you to control parameters that can be set from **PCONSOLE**. It also allows you to control the following printer-specific parameters not supported by **PCONSOLE**:

- Printer connection type

- Frame type

- Queue scan interval

- Configuration file server

- Error notification

- Resetting the printer (Phaser 740 and 360 printers)

- Print server name

- Printer login password

- Banner printing on a per-queue basis

The PhaserShare Administrator is compatible with NetWare 3.x and 4.x.

Installation

System requirements

- A Tektronix color printer equipped with an Ethernet card or a Token Ring card.

- Microsoft Windows 3.1, 3.11 (or later), Windows for Workgroups 3.11, Windows NT 4.0, or Windows 95 installed on workstations with standard memory. The workstation must be at least an 80286 PC.

- Novell NetWare 2.x, 3.x, and 4.x networks with shells 3.26 or above and IPX version 3.10 or above.

N O T E
To determine your network IPX version, use the NetWare NVER command. The IPX version is not shown when using the IPXODI ? command.

- Supervisor or equivalent permission on all NetWare 3.*x* file servers to be configured.

  and/or

- Administrator or equivalent permission on all NetWare 4.x networks to be configured.

Installation methods

The installer supports the following installation methods:

■ **Standard install.** This is the recommended installation method; it copies the necessary files to your workstation's hard disk. All program features are installed automatically using standard settings.

■ **Network install.** This method allows you to specify a drive and directory on a NetWare file server in which to place the files needed for the installation. You can then install the software from that directory to designated workstations using the standard install.

N O T E

The drive you specify should be a NetWare shared drive. You must have write access to the directory you specify.

Installation procedure

Installation for Phaser 840, 740, and 780 printers

1. Put the printer's software CD-ROM into the CD-ROM drive.

   ■ If the Windows autorun feature is enabled, the CD-ROM launches automatically.

   ■ If the Windows autorun feature is disabled, double-click **My Computer**, then double click the CD icon to launch the CD-ROM.

2. View the brief introductory information, then click **Install Drivers** to launch the installer.

3. When you are prompted to select **Easy Install** or **Custom Install**, select **Custom Install**.

4. During custom installation, a dialog box is displayed enabling you to install the PhaserShare Administrator. Follow the on-screen prompts to complete the installation.

Installation for Phaser 360 printers

1. Locate and run the file *SETUP.EXE* on the printer's CD-ROM or on printer software diskette 1.

2. When you are prompted to select **Easy Install** or **Custom Install**, select **Custom Install**.

3. During the custom installation, a dialog box is displayed enabling you to install the PhaserShare Administrator. Follow the on-screen prompts to complete the installation.

Using the PhaserShare Administrator

Launching the PhaserShare Administrator

1. Log in to a file server as SUPERVISOR or ADMIN.

2. Start Windows.

3. The installer places (by default) the PhaserShare Administrator icon in a folder/group called *PhaserTools*. To start the PhaserShare Administrator, double-click the PhaserShare Administrator icon, or start the application using one of the standard Windows methods. Refer to your Windows documentation for complete information on how to start applications.

   The PhaserShare Administrator displays its **Main** window.

Click here to select a printer.

Click this button to control the contents of the printer list.

Click one of these buttons to perform the type of work you need to do.
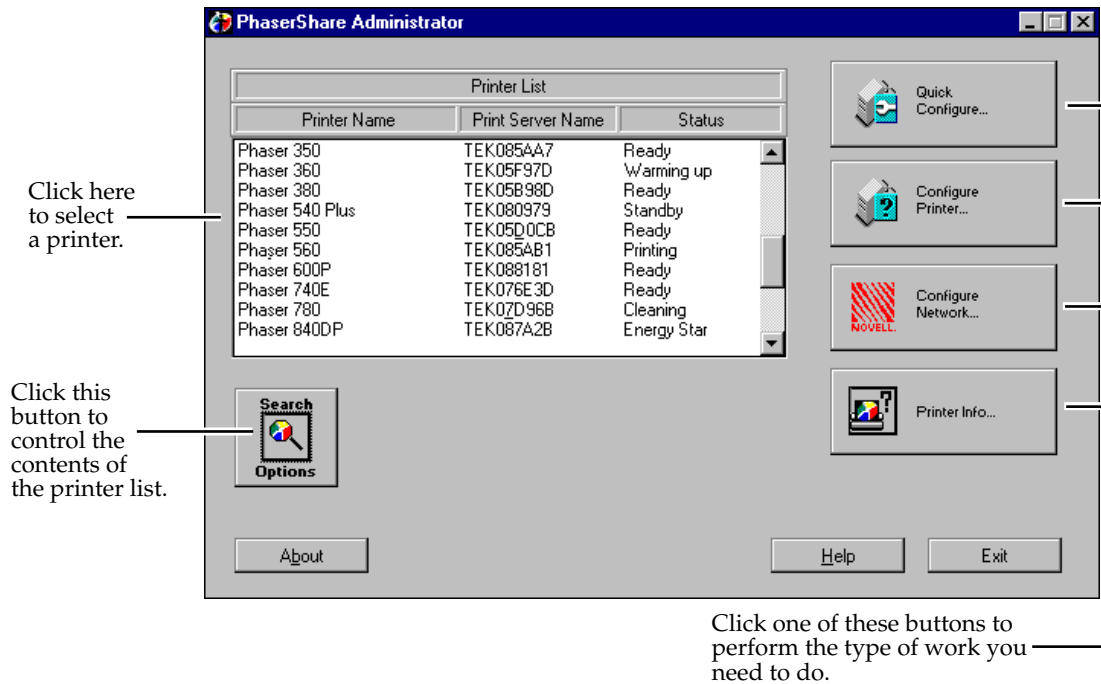
4. In the **Printer List,** locate the desired printer.

- The **Printer List** displays only Tektronix printers from the NetWare file servers that were attached when you launched the PhaserShare Administrator.

- If the list is long, you may need to use the scroll bar to scroll through the list and find the printer you want.

- The list is constructed according to the search options that are currently active. You can control the list to display only certain types of printers based on search options that you specify. To display the **Search Options** dialog box, click **Search Options**. For more information on controlling the list with search options, see "Specifying search options: the Search Options dialog box" on page 48.

5. When you see the printer that you want in the list, click it to select it.

N O T E

The list is updated each time you click **OK** in the **Search Options** dialog box.

6. Click the button you need to perform the type of work you need to do:

- For a quick, first-time installation, click **Quick Configuration**. See Chapter 4, "Novell NetWare Configuration" for more information.

- To display job accounting information or configure settings for the selected printer, click **Configure Printer**.

- To configure NetWare file servers, queues, and the notify list for the selected printer, click **Configure Network**:

  - **With NetWare 3.x servers.** The **Configure Network** button displays the **Configure Network** dialog box, which is used to manage queues, the notify list, and file server connections for the selected printer.

  - **With NetWare 4.x servers.** The **Configure Network** button opens the NWAdmin utility, if it is installed; if NWAdmin is not installed, this button is grayed-out.

- To read detailed configuration information about the selected printer, click **Printer Info**.

7. To quit the PhaserShare Administrator, click **Exit** in the **Main** window.

Specifying search options: the Search Options dialog box

1. In the **Main** window, click **Search Options**; this displays the **Search Options** dialog box.
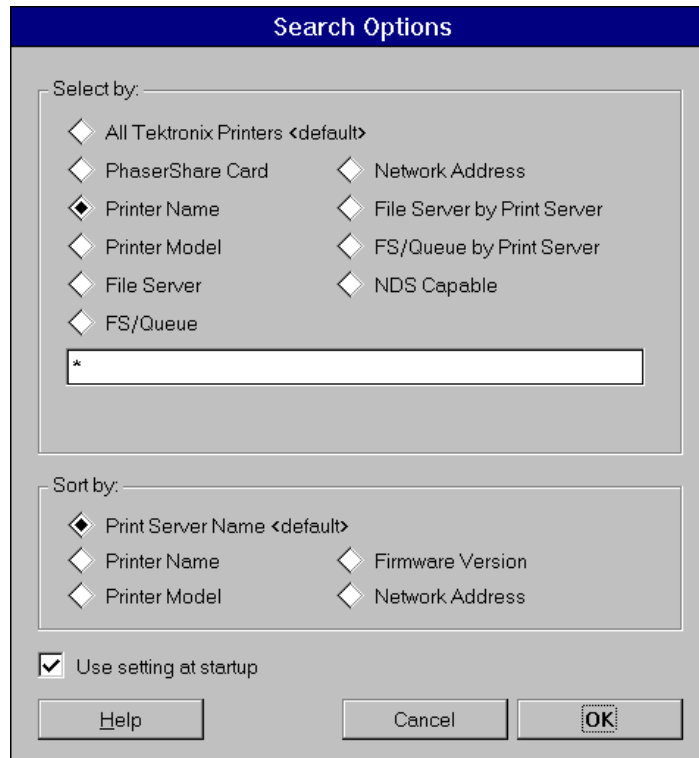
If you are logged on to an NDS file server, these buttons are grayed-out:

■ File Server

■ FS/Queue

■ File Server by Print Server

■ FS/Queue by Print Server

2. Choose a **Select by** option to limit the number of printers in the list, or choose a **Sort by** option to present all the printers in a particular order. Choose only one select or sort option. To select or sort the printers in the list, follow the procedures given here:

■ **To select the printers in the list**. In the **Select by** area, click the button for the selection option that you want to use. The selection option determines which printers appear on the list in the **Main** window.

The field at the bottom of the **Select by** area allows you to enter specific information after you have chosen a selection option. This field functions either as a fill-in field or a pull-down menu, depending on what selection option you have chosen. For example, if you choose **Printer Name**, type a printer name in the field. If you choose **File Server**, the field becomes a pull-down menu displaying the file servers your workstation is attached to. Select a file server from the pull-down menu.

N O T E

When typing the printer name or printer model, you may end any entry with a "wild card." Wild cards are an asterisk (*) to specify any group of characters and a question mark (?) to specify any single character.

■ **To sort the printers in the list.** In the **Sort by** area, click the button for the sort option you want to use. The sort option determines the order in which the printers are displayed on the list in the **Main** window.

3. If you want your chosen selection or sort option to apply each time you run the PhaserShare Administrator, check the **Use setting at startup** checkbox. If you leave the box unchecked, the next time the Administrator is started, the settings are **All Tektronix Printers** and **Print Server Name**. When the Administrator is first installed, the setting for **Select by** is **Printer Name***.

4. To rearrange the list, click **OK**. To return to the **Main** window without rearranging the list, click **Cancel**.

When you select a **Sort by** option, the **Select by** option changes to **All Tektronix Printers**. When you choose a **Select by** option, the **Sort by** option changes to **Print Server Name**.

Information Not Available in the Printer List

When using the **Sort by** options, some selections in the **Search Options** dialog box display the message **Information Not Available** in the printer list in the **Main** window. This indicates that the printer is not equipped with a PhaserShare card or is not using the PhaserShare Series B interface. The PhaserShare Administrator cannot configure these printers; use the Advanced Configuration Tool supplied with your printer's network utilities software.

Printer Not Responding dialog box

If you click a printer name and the PhaserShare Administrator displays the **Printer Not Responding** dialog box, quit and restart the PhaserShare Administrator. If you still get the same dialog box when you select the printer, there are several possible causes:

■ There is a problem with the printer, its network connection, or the PC's network setup.

■ The frame type of the computer running the PhaserShare Administrator does not match the frame type of the printer it is attached to.

■ You are attempting to configure a printer equipped with a PhaserShare Series B interface using a version of the PhaserShare Administrator below version 3.6.

■ You also get the **Printer Not Responding** dialog box if you click a printer that reports **Information Not Available** in the **Printer List** (see the previous topic, "Information Not Available in the Printer List").

PhaserShare Administrator on-line help

The PhaserShare Administrator provides Windows Help files containing detailed descriptions of all program functions and dialog boxes.

6

TCP/IP Configuration Overview

This chapter provides an overview of TCP/IP configuration. For detailed printer configuration instructions, refer to Chapter 7, "TCP/IP Printer Configuration (All Platforms)"; for host configuration instructions, refer to the chapter for your environment:

■ Chapter 8, "TCP/IP Host Configuration (UNIX)"

■ Chapter 9, "TCP/IP Configuration (OS/2 Warp/LAN Server)"

■ Chapter 10, "Windows NT"

■ Chapter 11, "Windows 95 and Windows 98: PhaserPort Software"

PhaserShare Series B Ethernet and Token Ring interfaces support the following capabilities:

■ **Print jobs.** The interface can accept print jobs sent via AppSocket, **ftp**, **telnet**, **lpr**, or **lp** with **lpr** extensions.

■ **Printer status.** The interface can report printer status through the following protocols:

  ■ **lpq/lpc** (**lpc** for UNIX BSD systems only).

  ■ **Syslog** (UNIX systems only). This protocol functions like a remote printer front panel for reporting printer status.

  ■ **SNMP** (Simple Network Management Protocol; UNIX systems only). The printer's interface responds to status queries from host-resident SNMP utilities.

  ■ **AppSocket.** This protocol allows a direct, socket-level connection to the printer.

  ■ **HTTP** (HyperText Transport Protocol). This protocol allows communication with the printer via PhaserLink Printer Management Software.

Before you begin

■ Do not turn on the printer yet. Your printer should be set up and connected to the network. See your printer's user documentation for information about setting up the printer. For information about connecting the printer to the network, see Chapter 2, "PhaserShare Series B Network Interfaces".

■ Install the files from the your printer's CD-ROM on to the hard disk of the workstation you will be using for the TCP/IP configuration. For more information, see the next topic, "Extracting files from unix.tar".

Extracting files from *unix.tar*

The file *unix.tar* contains all shell scripts and other files needed for network configuration in UNIX environments. The file is in UNIX **tar** format. The file is included with your printer's networking software.

Listing the contents of *unix.tar*

Type this command:

tar   tvf   /*directory-name***/unix.tar**

Where *directory-name* is the mount point or the directory that contains the file. For example:

```
tar   tvf   /mnt/unix.tar
```

Extracting the files

1. Change (**cd**) to the directory on your workstation where you want the files to reside.

2. Type this command:

tar   xvf   /*directory-name***/unix.tar**

Where *directory-name* is the mount point or the directory that contains the file. For example:

```
tar   xvf   /mnt/unix.tar
```

Printing the Configuration Page

Your printer's Configuration Page reports important information that you will need for TCP/IP configuration. For information on printing a Configuration Page, see "The printer's Configuration Page" on page 6.

TCP/IP configuration overview

```
┌─────────────────────────────────────┐
│    Print the Configuration Page      │
└─────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────┐
│  Configure host                      │
│  • Host table                        │
│  • Print queue                       │
└─────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────┐
│  Configure printer                   │
│  Where should the printer's IP       │
│  addressing information be stored?    │
└─────────────────────────────────────┘
```

OR

```
┌──────────────────────────────┐      ┌────────────────────────────────────┐
│  Printer                     │      │  Server                            │
│  • Use printer's front panel │      │  Host file: RARP, BOOTP, or DHCP   │
│    OR                        │      └────────────────────────────────────┘
│  • Use Tektronix-supplied    │                      │
│    UNIX shell scripts to     │                      ▼
│    generate PostScript       │      ┌────────────────────────────────────┐
│    configuration files.      │      │  Reset printer                     │
│    Send PostScript           │      └────────────────────────────────────┘
│    configuration files to    │
│    the printer.              │
└──────────────────────────────┘
```

```
┌──────────────────────────────────────────────┐
│  Set host access and control character        │
│  filtering                                     │
└──────────────────────────────────────────────┘
                    │
                    ▼
┌──────────────────────────────────────────────┐
│  Set printer status reporting (optional; UNIX only)  │
└──────────────────────────────────────────────┘
                    │
                    ▼
┌──────────────────────────────────────────────┐
│  Reset printer                                 │
└──────────────────────────────────────────────┘
```

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7

TCP/IP Printer Configuration (All Platforms)

There are two steps to printer configuration:

1. Set the printer's IP address and other addressing information. The Phaser 840, 740 and 780 printers support the use of IP host name as well as IP addresses.

2. Set the printer's other TCP/IP parameters (optional):

   ■ Set host access and control character filtering for each port.

   ■ Receiving printer status (Syslog, SNMP, or email notification)

Setting the printer's IP addressing parameters

Obtain the information listed in the following table. It might be helpful to write down this information so that you can refer to it later when you are performing the configuration.

Information for TCP/IP configuration

Information	Comments
Internet (IP) address for the printer	The format is *x.x.x.x*, where *x* represents a decimal number from 0 - 255.
Network mask	If you are unsure, leave this blank; the printer chooses an appropriate mask.
Broadcast address	If you are unsure, leave this blank; the printer computes an appropriate broadcast address. This is the address the printer uses to **send** broadcast packets. Regardless of how this parameter is set, the printer **accepts** broadcast packets from any of the commonly used broadcast address conventions.
Gateway IP address	This is the address of the router. You need this address if you want to communicate with the printer from anywhere other than the local network segment.

There are five ways to set the printer's IP address and other IP parameters:

- **Use the printer's front panel.** See "General information on setting IP parameters (front panel)" on page 57.

- **Server-based printer configuration.** This method uses RARP (Reverse Address Resolution Protocol), BOOTP (Boot Parameter Protocol), or DHCP. When turned on or reset, the printer receives its IP addressing information from a boot server. See "Setting IP parameters: RARP or BOOTP" on page 65 or "Setting IP parameters: DHCP" on page 66.

- **Printer-based printer configuration (using a downloaded configuration file).** This method can be used on hosts that do not have RARP, BOOTP, or DHCP. Use a Tektronix-provided shell script to prepare a configuration file. When you send the file to the printer, the IP addressing information is stored in the printer's memory, where the printer reads it when reset. See "Setting IP parameters: PostScript utility file (UNIX only)" on page 71.

  PC and Macintosh users can also set IP parameters using PostScript utility files; see the *README* files on the printer's CD-ROM. The PC *README* file is in the *UTILS* directory; the Macintosh *README* file is in the *Network Utilities* folder.

- **Printer-based printer configuration (using arp table entry;** *address gleaning***).** You can enter the printer's Ethernet address and IP address in your host's **arp** table, then send a **ping** command to the printer, and the printer will take it's IP address from the **ping** packet. See "Setting IP parameters: arp table entry (address gleaning)" on page 74.

- **Printer-based printer configuration (using PhaserLink Printer Management Software).** After setting the printer's IP address by one of the other three methods listed here, you can perform the rest of the TCP/IP configuration using PhaserLink software, if you have a World Wide Web browser. See "Setting IP parameters: PhaserLink Printer Management Software" on page 73.

N O T E

When two or more IP addressing methods are used simultaneously, the printer uses the first address that it successfully obtains.

General information on setting IP parameters (front panel)

You can set IP address, network mask, gateway address, and broadcast address from the front panel. See the following topics for procedures for each of the following printers:

- "Setting IP parameters: Phaser 840 printer front panel" on page 57.

- "Setting IP parameters: Phaser 740 printer front panel" on page 58.

- "Setting IP parameters: Phaser 780 printer front panel" on page 60

- "Setting IP parameters: Phaser 360 printer front panel" on page 63.

Printer defaults for network mask and broadcast address

When you set the IP address from the front panel, the printer supplies default values for network mask and broadcast address. These default values are calculated according the first octet of the IP address you set. The following table provides some examples.

1st octet of IP address	Example IP address	Printer's default network mask	Printer's default broadcast address
1 - 127	118.101.14.101	255.0.0.0	118.255.255.255
128 - 191	134.101.14.101	255.255.0.0	134.101.255.255
192 - 223	192.101.14.101	255.255.255.0	192.101.14.255

When you are setting the IP addressing parameters from the front panel, you can accept these default values or change them. However, if you return to the front panel later to change the IP address, the network mask and broadcast address are reset to these default values, and you will have to set them as well if you want values different than these defaults.

N O T E

If you are attempting to perform any front panel procedure and you don't see the expected menu choices, the front panel may be locked. For information on how to unlock it, see "If the front panel is locked" on page 167.

Setting IP parameters: Phaser 840 printer front panel

1. When the front panel displays `READY TO PRINT`, press the down arrow button until `Menu` is highlighted. Press **Select**.

2. Press the down arrow button until `Printer Configuration` is highlighted. Press **Select**.

3. Press the down arrow button until `Network Settings` is highlighted. Press **Select**.

4. Press the down arrow button until `TCP/IP` is highlighted. Press **Select**.

5. Set the IP address:

a. Press the down arrow button until **IP Address** is highlighted. Press **Select**.

b. Press the left or right arrow buttons to highlight the 3-digit part of the address that you want to set. Press the up or down arrow keys to change the numbers.

c. When the address is set, press **Select**.

6. Set the network mask:

a. Press the down arrow button until **NW Mask** is highlighted. Press **Select**.

b. Press the left or right arrow buttons to highlight the 3-digit part of the address that you want to set. Press the up or down arrow keys to change the numbers.

c. When the address is set, press **Select**.

7. Set the default router/gateway address:

a. Press the down arrow button until **Default Router/Gateway Address** is highlighted. Press **Select**.

b. Press the left or right arrow buttons to highlight the 3-digit part of the address that you want to set. Press the up or down arrow keys to change the numbers.

c. When the address is set, press **Select**.

8. To return the printer to normal operation, press the down arrow button until **Exit** is highlighted. Press **Select**.

Setting IP parameters: Phaser 740 printer front panel

N O T E
When you set the IP addressing parameters from the front panel, the selections for DHCP/BOOTP and RARP are automatically set to `Disabled`.

1. Press **Menu**; the front panel displays `Help Pages`.

2. Press `---->` or `<----` until the front panel displays `Network Settings`.

3. Press **Menu** until the front panel displays `TCP/IP`.

4. To set the IP address:

a. Press **Menu** again; the front panel displays `Interface`.

b. Press `---->` to display `TCP/IP Address`.

c. Press **Select** to display the IP address. For example:

```
    192.2.194.101
+           ---->    Set
```

N O T E

Setting the IP address to 000.000.000.000 causes the printer to use Dynamic
Address Resolution to set its IP address (see "Setting IP parameters: RARP or
BOOTP" on page 65).

d. Press **+** to set the left-most digit of the address.

e. Press `---->` to advance to the next digit. Press **+** to set this digit.

f. Use `---->` and **+** as described in Step **e** to set the remaining digits.

g. When the address is correctly set, press **Set** to enter your settings into
the printer; the front panel displays:

```
Confirm Selection
      Confirm
```

N O T E

When you press **Confirm** *to set the IP address, the printer resets the network
mask and broadcast address to the printer's defaults; see "Printer defaults for
network mask and broadcast address" on page 57.*

h. Press **Confirm**; the front panel briefly displays **Selected**, then
returns to `TCP/IP Address`. The IP address is now set in the printer.

5. To set the network mask:

a. Press `---->` until `Network Mask` is displayed.

b. Press **Select**; the front panel displays the network mask.

c. Use **+** and `---->` as described in Steps **4d** through **4f** to set the
network mask.

d. When the network mask is set, use **Set** and **Confirm** as described in
Steps **4g** and **4h** to enter the network mask into the printer.

6. To set the gateway address:

a. Press `---->` until `Gateway Address` is displayed.

b. Press **Select**; the front panel displays the gateway address.

c. Use **+** and `---->` as described in Steps **4d** through **4f** to set the
gateway address.

d. When the gateway address is set, use **Set** and **Confirm** as described
in Steps **4g** and **4h** to enter the gateway address into the printer.

7. The printer calculates the broadcast address based on the IP address and the network mask. However, the broadcast address can be viewed and set using the following procedure:

   a. Press `---->` until `Broadcast Address` is displayed.

   b. Press **Select**; the front panel displays the broadcast address.

   c. Use **+** and `---->` as described in Steps **4d** through **4f** to set the broadcast address.

   d. When the broadcast address is set, use **Set** and **Confirm** as described in Steps **4g** and **4h** to enter the broadcast address into the printer.

8. Return the printer to normal operation.

   a. Press **Exit** (the far left button) until the front panel displays `Network Settings`.

   b. Press **Exit** again.

     ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit** (the far left button); the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

     ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Setting IP parameters: Phaser 780 printer front panel

N O T E

When you set the IP addressing parameters from the front panel, the front panel selections for DHCP/BOOTP and RARP are automatically set to Disabled.

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

```
Printer Menu
Help Pages                 Menu
```

2. Press the left or right arrow buttons until the front panel displays `Network Settings`.

```
Printer Menu
Network Settings          Menu
```

3. Press **Menu** to enter the `Network Settings` menu; `Network Settings` appears on the top line of the display.

4. If TCP/IP is not already displayed, press the right arrow button until the front panel displays `TCP/IP`.

5. To set the IP address:

   a. Press **Menu** again; the front panel displays `Interface`.

   b. Press the right arrow button until the front panel displays
   `IP Address`.

   c. Press **Menu** to display the IP address. For example:

   ```
   IP Address
   192.2.194.101       Select
   ```

N O T E

Setting the IP address to 000.000.000.000 causes the printer to use Dynamic
Address Resolution to set its IP address (see "Setting IP parameters: RARP or
BOOTP" on page 65).

   d. Press the up arrow button to set the left-most digit of the address.

   e. Press the right arrow button to advance to the next digit. Press the up
   arrow button to set this digit.

   f. Use the right arrow and up arrow buttons as described in Step **e** to set
   the remaining digits.

   g. When the address is correctly set, press **Select**; the front panel
   displays the IP Address with a **Confirm** button.

N O T E

When you press **Confirm** *to set the IP address, the printer resets the network
mask and broadcast address to the printer's defaults; see "Printer defaults for
network mask and broadcast address" on page 57.*

   h. Press **Confirm**; the front panel briefly displays **Selected**, then
   displays the IP address again. The IP address is now set in the printer.

   i. Press **Exit** (the far right button); the front panel displays:

   ```
   TCP/IP
   IP Address          Menu
   ```

6. To set the network mask:

   a. Press the right arrow button until `Network Mask` is displayed.

   b. Press **Menu**; the front panel displays the network mask.

   c. Use the right arrow and up arrow buttons as described in Steps **5d**
   through **5f** to set the network mask.

   d. When the network mask is set, use **Select** and **Confirm** as described
   in Steps **5g** and **5h** to enter the network mask into the printer.

   e. Press **Exit** (the far right button); the front panel displays:

   ```
   TCP/IP
   Network Mask        Menu
   ```

7. To set the gateway address:

   a. Press the right arrow button until `Gateway Address` is displayed.

   b. Press **Menu**; the front panel displays the gateway address.

   c. Use the up arrow and right arrow buttons as described in Steps **5d** through **5f** to set the gateway address.

   d. When the gateway address is set, use **Set** and **Confirm** as described in Steps **5g** and **5h** to enter the gateway address into the printer.

   e. Press **Exit** (the far right button); the front panel displays:

      ```
      TCP/IP
      Gateway Address        Menu
      ```

8. The printer calculates the broadcast address based on the IP address and the network mask. However, the broadcast address can be viewed and set using the following procedure:

   a. Press the right arrow button until `Broadcast Address` is displayed.

   b. Press **Menu**; the front panel displays the broadcast address.

   c. Use the up arrow and right arrow buttons as described in Steps **5d** through **5f** to set the broadcast address.

   d. When the broadcast address is set, use **Select** and **Confirm** as described in Steps **5g** and **5h** to enter the broadcast address into the printer.

   e. Press **Exit** (the far right button); the front panel displays:

      ```
      TCP/IP
      Broadcast Address      Menu
      ```

9. Return the printer to normal operation:

   a. Press **Exit** (the far right button) until `Network Settings` appears on the top line of the display.

   b. Press **Exit** again.

      ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Confirm**, the printer resets. To return to normal operation without resetting the printer, press **Exit** (the far right button); `Printer Menu` appears on the top line of the display. Press **Exit** again; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

      ■ If you have not changed any parameters that require a printer reset, press **Exit** again; the front panel displays `Ready`.

Setting IP parameters: Phaser 360 printer front panel

N O T E

When you set the IP addressing parameters from the front panel, the front panel selections for DHCP/BOOTP and RARP are automatically set to Disabled.

1. Press the **Menu**; the front panel displays `Help Pages`.

N O T E

When you are in the menu, if the front panel is not used for 5 minutes, the printer returns to `Ready`.

2. Press `---->` or `<----` until the front panel displays `Network Settings`.

3. Press **Menu** until the front panel displays `TCP/IP`.

4. To set the IP address:

    a. Press **Menu** again; the front panel displays `Enable Interface`.

    b. Press `---->` until the front panel displays `TCP/IP Address`.

    c. To display the IP address, press **Menu**. For example:

```
000.000.000.000
Increment    Shift     Select
```

N O T E

Setting the IP address to 000.000.000.000 causes the printer to use Dynamic Address Resolution to set its IP address (see "Setting IP parameters: RARP or BOOTP" on page 65).

    d. To set the left-most digit of the address, press **Increment**.

    e. To advance to the next digit, press **Shift**. To set this digit, press **Increment**.

    f. To set the remaining digits, press **Shift** and **Increment** as described in Step **e**.

    g. When the address is correctly set, enter your settings into the printer by pressing **Select**; the front panel displays:

```
Confirm Selection
        Confirm
```

N O T E

*When you press **Confirm** to set the IP address, the printer resets the network mask and broadcast address to the printer's defaults; see "Printer defaults for network mask and broadcast address" on page 57.*

    h. Press **Confirm**; the front panel briefly displays `Selected`, then displays the IP address again. The IP address is now set in the printer.

    i. To return to the menu of IP addressing parameters, press **Exit**.

5. To set the network mask:

a. Press ----> until `Network Mask` is displayed.

b. Press **Menu**; the front panel displays the network mask.

c. To set the network mask, press **Increment** and **Shift** as described in Step **4d** through **4f**.

d. When the network mask is set, enter it into the printer by pressing **Select** and **Confirm** as described in Steps **4g** and **4h**.

e. To return to the menu of IP addressing parameters, press **Exit**.

6. To set the gateway address:

a. Press ----> until `Gateway Address` is displayed.

b. Press **Menu**; the front panel displays the gateway address.

c. To set the gateway address, press **Increment** and **Shift** as described in **4d** through **4f**.

d. When the gateway address is set, enter the it into the printer by pressing **Select** and **Confirm** as described in Steps **4g** and **4h**.

7. The printer calculates the broadcast address based on the IP address and the network mask as described under "Printer defaults for network mask and broadcast address" on page 57. In most cases, this calculated value is correct and there is no need to set the broadcast address. However, the broadcast address can be viewed and set using the following procedure:

a. Press ----> until `Broadcast Address` is displayed.

b. Press **Menu**; the front panel displays the broadcast address.

c. To set the broadcast address, press **Increment** and **Shift** as described in **4d** through **4f**.

d. When the broadcast address is set, enter it into the printer by pressing **Select** and **Confirm** as described in Steps **4g** and **4h**.

8. Return the printer to normal operation:

a. Press **Exit** until the front panel displays `Network Settings`.

b. Press **Exit** again.

- If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit**; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

- If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Setting IP parameters: RARP or BOOTP

With this method, configuration information is sent to the printer over the Ethernet or Token Ring connection via RARP or BOOTP, depending on which protocol your host supports. This is called Dynamic Address Resolution.

The advantage of server-based configuration is that it provides centralized administration. You can configure a number of printers from a central location. The disadvantage is that if the server is down, the printer does not appear on the network after a reset or power cycle, because the printer gets its boot information from a boot server and does not retain it in non-volatile memory.

Store the printer's configuration information on a boot server, in a configuration file such as an *ethers* or *bootptab* file. On power-up, the printer issues RARP and BOOTP requests and receives the configuration information from the server in the RARP or BOOTP response.

The RARP response contains only IP address information. After the printer has its address information, you can set other TCP/IP parameters by either of two methods:

■   With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Setting IP parameters: PhaserLink Printer Management Software" on page 73.

■   Send PostScript files to the printer using your host spooler. UNIX shell scripts for creating the PostScript files are provided with your printer's network utilities software. See "Setting IP parameters: PostScript utility file (UNIX only)" on page 71. For PC environments, the PostScript file *IPCONFIG.PS* is in the *UTILS* directory on your printer's CD-ROM.

N O T E

The printer's BOOTP and RARP implementations do not support booting across a router. The BOOTP or RARP server (host) and client (printer) must be connected to the same Token Ring or Ethernet segment, or to segments interconnected only by repeaters and/or bridges. However, with certain hosts (such as OS/2) on Token Ring networks, the server and the client must be on the same Token Ring. Furthermore, the printer's BOOTP and RARP implementations do not support booting between Token Ring and Ethernet segments.

Setting IP parameters: DHCP

DHCP (Dynamic Host Configuration Protocol) is a system in which DHCP servers can allocate IP addresses dynamically. Under DHCP, the server gives the printer (called a DHCP client) its IP address when the printer is reset.

Installing the DHCP server

1. In **Control Panel:Network**, select **Add Software**.

2. Select **TCP/IP components**.

3. In the second window that is displayed, select **DHCP server**.

Setting up a DHCP server

1. Access your DHCP management utility:

   ■ **Windows NT 4.x.** Click **Start**; select **Programs**, then **Administrative Tools (Common)**. Select **DHCP Manager**.

   ■ **Windows 3.5x.** Go to the **Network Administration** group and select **DHCP Manager**.

2. Configure DHCP with a *scope*; a scope is a range of IP addresses available to be allocated to DHCP clients. For example, the scope could be the IP addresses 192.2.194.101 through 192.2.194.254.

   Defining a scope in Windows NT 4.x

   a. Click **Start**, **Programs**, **Administrative Tools**, **DHCP Manager**.

   b. Double-click **Local Machine**.

   c. Click **Scope**, **Create**.

   d. Enter the IP information to define the scope.

   Defining a scope in Windows NT 3.5.x

   a. Open the **Network Administration** group.

   b. Double-click **DHCP Manager**.

   c. Double-click **Local Machine**.

   d. Click **Scope**, **Create**.

   e. Enter the IP information to define the scope.

3. Define the *lease*. A lease is a pre-determined time that the printer holds the IP address. When the lease time expires, the printer queries the DHCP server again to renew its lease of the IP address. It is recommended that you set the lease to **Unlimited**.

4. Define a name for the scope. You are prompted to activate the newly created scope. Answer **Yes**.

5. Restart the DHCP server:

  a. In **Control Panel:Services**, scroll down to **DHCP Server**.

  b. Click **Stop**; then click **Start**.

  c. Click **Close**.

6. Turn on the printer. The printer receives its IP address from the server. Print a Configuration Page to obtain the IP address (see "The printer's Configuration Page" on page 6).

7. Using **Add Printer Wizard** (Windows NT 4.0) or **Print Manager** (Windows NT 3.5x), verify that a Windows NT printer port refers to the printer's IP address or DNS name. See Chapter 10, "Windows NT" for more information.

8. Configure the printer's DHCP client software.

DHCP transactions

■ On power up or reset, the printer sends a *DHCP discover packet*, indicating its Ethernet address and requesting an IP address.

■ The DHCP server responds to the discover packet with a *DHCP offer packet*, which contains an IP address from within the assigned scope and the assigned lease.

■ The printer examines the DHCP offer packet and decides whether to accept the lease. The printer sends a *request packet*, accepting the IP address and the lease.

N O T E

There can be multiple DHCP servers on the same network, each defining its own scopes and leases. The printer selects the first lease offered.

■ The DHCP server sends an *acknowledgment packet* to the printer, completing the transaction.

Supported BOOTP/DHCP fields

The printer recognizes the BOOTP/DHCP fields listed in the following table.

Field	Description	Values
gw	Gateway address list	List of IP addresses separated by spaces.
ha	Hardware address	Hexadecimal; the *ha* tag must be preceded by the *ht* tag.
ht	Hardware type (see Assigned Numbers RFC)	Unsigned decimal, octal, or hexadecimal integer, or one of the following symbolic names: **For UNIX Ethernet:** *ethernet* or *ether* for 10-Mbit Ethernet (DIX encapsulation); *ieee802* for IEEE 802 Ethernet (SNAP encapsulation). **For UNIX Token Ring:** *token ring* **For OS/2 Ethernet or Token Ring:** *ether*
ip	IP address	A single IP address.
lg	Log host address(es)	A list of IP addresses separated by spaces.
sm	Subnet mask	A single IP address.
dn	IP domain name	A single domain name.
ds	DNS server IP address list	Printer recognizes up to two IP addresses, separated by spaces.

Enabling and disabling RARP and BOOTP/DHCP (front panel)

RARP, BOOTP, and DHCP can be enabled and disabled from the front panel. The default is enabled. When you set the IP addressing parameters from the front panel, the front panel selections for DHCP/BOOTP and RARP are automatically set to Disabled. To disable these protocols manually, follow the procedure for your printer:

- ■ "Phaser 740 and 360 printers" (the next topic).

- ■ "Phaser 780 printer" on page 70.

Phaser 740 and 360 printers

1. Press **Menu**; the front panel displays `Help Pages`.

2. Press `---->` or `<----` until the front panel displays `Network Settings`.

3. Press **Menu** until the front panel displays `TCP/IP`.

4. Press **Menu** again; the front panel displays `Interface`.

5. To disable DHCP/BOOTP:

   a. Press `---->` until the front panel displays `DHCP/BOOTP`.

   b. Press **Menu** again to display the current status of the protocol: `Interface:Enabled` or `Interface:Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press `---->` until the front panel displays `Interface:Disabled`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Interface`.

   e. Press **Exit** (the far left button) to return to the `Interface` display.

6. To disable RARP:

   a. Press `---->` until the front panel displays `RARP`.

   b. Press **Menu** again to display the current status of the protocol: `Interface:Enabled` or `Interface:Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press `---->` until the front panel displays `Interface:Disabled`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Interface`.

   e. Press **Exit** (the far left button) to return to the `Interface` display.

7. Return the printer to normal operation.

    a. Press **Exit** (the far left button) until the front panel displays `Network Settings`.

    b. Press **Exit** again.

        ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit** (the far left button); the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

        ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Phaser 780 printer

1. Press **Select**; the front panel displays `Help Pages`.

2. Press the right arrow or left arrow buttons until the front panel displays `Network Settings`.

3. Press **Menu** to enter the `Network Settings` menu.

4. Press the right arrow button until `TCP/IP` is displayed.

5. Press **Menu** again; the front panel displays `Interface`.

6. To disable DHCP/BOOTP:

    a. Press the right arrow button until the front panel displays `DHCP/BOOTP`.

    b. Press **Menu** again to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

    c. Press the right arrow button until the front panel displays `Off`.

    d. Press **Select** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

    e. Press **Exit** (the far right button) to return to the TCP/IP menu.

7. To return the printer to normal operation, go to Step **8**, to disable RARP, follow these steps:

    a. Press the right arrow button until the front panel displays RARP.

    b. Press **Menu** again to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

    c. Press the right arrow button until the front panel displays `Off`.

    d. Press **Select** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

8. Return the printer to normal operation:

    a. Press **Exit** (the far right button) until `Network Settings` appears on the top line of the display.

    b. Press **Exit** again.

        ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **`Confirm`**, the printer resets. To return to normal operation without resetting the printer, press **Exit** (the far right button); `Printer Menu` appears on the top line of the display. Press **Exit** again; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

        ■ If you have not changed any parameters that require a printer reset, press **Exit** (the far right button) again; the front panel displays `Ready`.

After the printer has its address information, you can set other TCP/IP parameters by either of two methods:

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Setting IP parameters: PhaserLink Printer Management Software" on page 73.

■ Send PostScript files to the printer using your host spooler. UNIX shell scripts for creating the PostScript files are provided with your printer's network utilities software. For PC environments, the PostScript files for setting other TCP/IP parameters are included with your printer's network utilities software.

Setting IP parameters: PostScript utility file (UNIX only)

Use the *config-IP* script to create a PostScript file that sets the printer's IP addressing parameters. The *config-IP* script is provided with your printer's network utilities software. Keep the following points in mind when running the *config-IP* script:

■ The output of the script is PostScript code, which you must send to the printer. When you run the script, redirect the output to a file. Then send the file to the printer.

■ The script prompts you to provide certain information. For information about these prompts, see the tables "IP parameters" on page 72.

The advantage of this method is that each printer has a permanent setup stored in its non-volatile memory and is not dependent on a boot server for boot information. The disadvantage is that you must configure each printer individually.

Before performing this procedure, install the files from your printer's network utilities software on to your host computer. If you have not already installed the files, see "Extracting files from unix.tar" on page 52.

In the printer-based configuration procedure, you use a script provided on the printer's CD-ROM to set the IP parameters listed in the following table. The procedure follows the table.

IP parameters

Parameter	Description
Use RARP	Yes/no. Specifies whether the printer should get its IP address from a RARP response at power-up. The default is **yes**. Answer **no** for a printer-based configuration; this prevents RARP packets from appearing on the network when the printer is turned on or reset.
Use BOOTP/DHCP	Yes/no. Specifies whether the printer should get its IP address from a BOOTP or DHCP response at power-up. The default is **yes**. Answer **no** for a printer-based configuration; this prevents BOOTP or DHCP packets from appearing on the network when the printer is turned on or reset.
IP address	The printer's address on the network. The format is *x.x.x.x*, where *x* represents a decimal number from 0 - 255. The value entered must be a valid IP address and not 0.0.0.0, 255.0.0.0, any address starting with 127, or any address ending with 255.
Network mask	Needed in networks that use sub-netting. If you are not using sub-netting, leave this blank; the printer will choose an appropriate mask. The format is *x.x.x.x,* where *x* represents a decimal number from 0 - 255.
Broadcast address	The address the printer uses to send broadcast packets. The format is *x.x.x.x,* where *x* represents a decimal number from 0 - 255. If you are unsure, leave this blank; the printer will choose an appropriate address.
Default gateway (router)	The address the printer uses to communicate with devices not on the same network segment. The format is *x.x.x.x,* where *x* represents a decimal number from 0 - 255.

1. Connect the printer to the network. ARP (Address Resolution Protocol) requires that the printer be connected on the same physical network segment as the host.

2. Run the script *config-IP*:

    a. Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

    b. Type the name of the script, redirecting the output to a file. Type:

    config-IP > *filename*

3. When prompted by the script, enter the information.

N O T E

   The script accepts IP addresses that have empty fields (for example, 123..40.10). The script does not detect this error. Double-check the IP addresses you enter.

4. Log in as **root**.

5. Make an entry into the host's ARP table defining the printer's IP/hardware address pair. In general, this requires a command corresponding to one of the following syntax examples:

> **arp** **-s** *printer-IP-address hardware-address* (for BSD systems)
> *or*
> **arp** **-s** **ether** *printer-IP-address hardware-address* (for System V)

See the documentation for your host system for specifics of this command.

N O T E

The hardware address in the **arp** command example is the printer's Ethernet Address for PhaserShare Ethernet interfaces or the Token Ring Address for PhaserShare Token Ring cards.

6. Turn on the printer.

7. Execute the **ping** command from the host:

> **ping** *printer-IP-address*

8. Use the host spooling system (for example, **lpr** or **lp**) to send the file you created in Step 2b to the printer. This stores the IP addressing information in the printer's internal memory, where it is retained over a reset or power cycle. (For more information on setting up queues, see "Assigning a print queue to the printer" on page 83.)

9. Reset the printer. For more information about resetting the printer, see Chapter 16, "Resetting the Printer".

Setting IP parameters: PhaserLink Printer Management Software

After setting the printer's IP address by one of the methods described previously in this chapter, you can perform the rest of the TCP/IP configuration using PhaserLink Printer Management Software, if you have a World Wide Web browser. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. From the **View and Configure Interface Settings** page, click **View and Configure TCP/IP Settings**; this displays the **View and Configure TCP/IP Settings** page.

4. Enter your printer's settings. If you make an error, click **Restore Initial Form Values** and start again.

5. When you are finished entering the settings, enter the **Validation Password** (if one has been set) and click **Do/Apply**.

6. The printer responds by displaying a dialog box that allows you to reset the printer. The new parameters will not take effect until the printer is reset.

Setting IP parameters: arp table entry (*address gleaning*)

This method sets the printer's IP address until the next printer reset. Once you have used this method to set the printer's IP address, you can use PhaserLink Printer Management Software (see "Setting IP parameters: PhaserLink Printer Management Software" on page 73) or a PostScript utility file (see "Setting IP parameters: PostScript utility file (UNIX only)" on page 71) to set the address permanently.

You can enter the printer's Ethernet address and IP address in your host's arp table, then send a **ping** command to the printer, and the printer will take it's IP address from the **ping** packet.

1. Make an entry into the host's ARP (Address Resolution Protocol) table defining the printer's IP/hardware address pair. In general, this requires a command corresponding to one of the following syntax examples:

> **arp -s** *printer-name hardware-address* (for BSD systems)
>
> *or*
>
> **arp -s ether** *printer-name hardware-address* (for System V)

See the documentation for your host system for specifics of this command.

N O T E

The hardware address in the **arp** command example is the printer's Ethernet Address for PhaserShare Ethernet cards or the Token Ring Address for PhaserShare Token Ring cards.

2. Execute the **ping** command from the host:

> **ping** *printer-IP-address*

Domain Name Services (DNS)

The Phaser 840, 740, and 780 printers support Domain Name Services (DNS) through an embedded DNS stub resolver. The DNS resolver protocol communicates with one or more DNS servers to request the IP address for a given host name or the host name for a given IP address.

To use an IP host name for the printer, the system administrator must have already configured one or more DNS servers and a local DNS domain name space data base.

To set up the printer for DNS, you must supply an IP domain name and up to two DNS name server IP addresses. There are three ways to set up the printer for DNS:

■ BOOTP. See "Setting IP parameters: RARP or BOOTP" on page 65 and "Supported BOOTP/DHCP fields" on page 68.

■ DHCP. See "Setting IP parameters: DHCP" on page 66 and "Supported BOOTP/DHCP fields" on page 68.

■ On any system that supports TCP/IP, you can use PhaserLink Printer Management Software. See the next topic, "Setting up the printer for DNS using PhaserLink Printer Management Software"."

Setting up the printer for DNS using PhaserLink Printer Management Software

After setting the printer's IP address by one of the methods described previously in this chapter, you can set up the printer for DNS using PhaserLink software, if you have a World Wide Web browser. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. From the **View and Configure Interface Settings** page, click **View and Configure TCP/IP Settings**; this displays the **View and Configure TCP/IP Settings** page.

4. Set the **Domain Name Service Resolver Enabled** field **Yes**.

5. Enter the following information:

   ■ Primary Name Server IP Address (required)

   ■ Second Name Server IP Address (optional)

   ■ IP Domain Name (required)

   ■ Additional Search Domain Name(s) (optional)

6. When you are finished entering the settings, enter the **Validation Password** and click **Do/Apply**.

7. The printer responds by displaying a dialog box that allows you to reset the printer. The new parameters will not take effect until the printer is reset.

Controlling host access

LPR (BSD systems)

You can control which hosts can access the printer through LPR. The printer's factory default is that all hosts have access to the printer.

There are two ways to set host access:

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software. See the next topic, "Controlling host access using PhaserLink Printer Management Software" for more information.

■ Send the appropriate PostScript file to the printer. See "Controlling host access using a PostScript utility file" on page 77.

Controlling host access using PhaserLink Printer Management Software

With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software to set host access. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. Click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure LPR Settings**; this displays the **View and Configure LPR Settings** page.

4. In the **Host Access List** field, enter the IP addresse(s) or DNS name(s) of the host(s) that will have access to the printer. You can enter addresses or names for multiple hosts by separating them with spaces, up to a total of 256 characters. If you do not enter any addresses, all hosts will have access to the printer.

5. Enter the validation password (if one has been assigned), and click **Do/Apply**.

Controlling host access using a PostScript utility file

To create a PostScript file to set host access, use the script *config-LPR* provided with the printer's network utilities software.

1. Make sure that the printer is connected to the network.

2. Run the script *config-LPR*:

a. Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

b. Type the name of the script, redirecting the output to a file:

**config-LPR > ** *filename*

3. When prompted, enter the IP addresse(s) of the host(s) that will have access to the printer. You can enter addresses for multiple hosts by separating them with spaces, up to a total of 256 characters. If you do not enter any addresses, all hosts will have access to the printer.

N O T E
The script accepts IP addresses that have empty fields (for example, 123..40.10). The script does not detect this error. Double-check the IP addresses you enter.

4. Send the file named in Step 2b to the printer; type:

lpr -P*queue-name filename*

AppSocket (TCP Sockets)

You can control which hosts can access the printer through AppSocket. The printer's factory default is that all hosts have access to the printer.

There are two ways to set host access:

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software. See the next topic, "Controlling Host Access using PhaserLink Printer Management Software".

■ Send the appropriate PostScript file to the printer. See "Controlling host access using a PostScript utility file" on page 78.

Controlling Host Access using PhaserLink Printer Management Software

With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software to set host access. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. Click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure AppSocket Settings**; this displays the **View and Configure AppSocket Settings** page.

4. In the **Host Access List** field, enter the IP addresse(s) or DNS name(s) of the host(s) that will have access to the printer. You can enter addresses or names for multiple hosts by separating them with spaces, up to a total of 256 characters. If you do not enter any addresses, all hosts will have access to the printer.

5. Enter the validation password (if one has been assigned), and click **Do/Apply**.

Controlling host access using a PostScript utility file

To create a PostScript file to set host access, use the script *config-sockets* provided with the printer's network utilities software.

1. Connect the printer to the network.

2. Run the script *config-sockets*:

    a. Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

    b. Type the name of the script, redirecting the output to a file:

        config-sockets > *filename*

3. When prompted, enter the IP addresse(s) of the host(s) that will have access to the printer. You can enter addresses for multiple hosts by separating them with spaces, up to a total of 256 characters. If you do not enter any addresses, all hosts will have access to the printer.

N O T E

The script accepts IP addresses that have empty fields (for example, 123..40.10). The script does not detect this error. Double-check the IP addresses you enter.

4. Send the file named in Step **2b** to the printer using **lp** or **lpr**.

Receiving printer status

Email notification through PhaserLink Printer Management Software

PhaserLink Printer Management Software provides email notification, allowing the printer to automatically send email to the system administrator and others when the printer needs attention (for example, paper jams or out of ink). This email notification capability is supplied by an SMTP client embedded in the printer's firmware. For more information, see "PhaserLink Status Notification (Email Notification)" on page 132.

Syslog (UNIX systems only)

The Syslog facility provides a dynamic path for printer status information that allows administrators to collect information from the printer. You can set a priority threshold indicating which messages from the printer will be sent to the listed log host.

The threshold is a number listed in the following table. The priorities listed in the table conform to BSD and SunOS conventions.

Priority	Number	Description
Emergency	0	Printer is no longer available
Alert	1	Printer needs immediate attention
Critical	2	Critical error message
Error	3	Error message
Warning	4	Warning message
Notice (printer's default)	5	Normal but significant message
Information	6	Informational message
Debugging	7	Debugging message

N O T E

If you are using BOOTP to set the printer's network address, the printer sends syslog messages to the hosts listed in the BOOTP log hosts field. If you are not using BOOTP or have not specified a log host in the BOOTP configuration, you must set the syslog host address as described in the next two topics.

There are two ways to set Syslog priorities:

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software. See the next topic, "Setting Syslog priorities using PhaserLink Printer Management Software" for more information.

■ Send the appropriate PostScript file to the printer. See "Setting Syslog priorities using a PostScript utility file" on page 80.

Setting Syslog priorities using PhaserLink Printer Management Software

With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software to set host access. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. Click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure Syslog Settings**; this displays the **View and Configure Syslog Settings** page.

4. On the **View and Configure Syslog Settings** page, enter the log host's IP address or DNS name and the priority level of the threshold you want to set.

5. Enter the validation password (if one has been assigned), and click **Do/Apply**.

Setting Syslog priorities using a PostScript utility file

To create a PostScript file to set Syslog priorities, use the script *config-syslog* provided on the printer's CD-ROM.

1. Connect the printer to the network.

2. Run the script *config-syslog*:

   a. Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

   b. Run the script, redirecting the output to a file. Type:

      config-syslog > *filename*

3. When prompted, enter the log host's IP address and the priority level of the threshold you want to set.

N O T E

The script accepts IP addresses that have empty fields (for example, 123..40.10). The script does not detect this error. Double-check the IP addresses you enter.

4. Send the file named in Step **2b** to the printer using **lp** or **lpr**.

SNMP (UNIX systems only)

SNMP (Simple Network Management Protocol) allows you to use an SNMP monitoring station to query the printer remotely for its status. You can provide the following information for the printer to send to your SNMP utility:

■ Printer's name.

■ Name of contact person for printer problems.

■ Printer's location.

■ **Phaser 740, 780, and 360 printers.** Trap host's IP or IPX address. Members of this list receive asynchronous SNMP traps (error and status messages) from the printer.

■ **Phaser 380, 350, 340, 560, 550, 540, and 600 printers.** Trap host's IP address and community name. Members of this list receive asynchronous SNMP traps (error and status messages) from the printer.

N O T E
> Phaser 350, 360, 550, and 560 printers support RFC 1759, The Printer MIB. Phaser 740, 780, and 360 printers support SNMP traps within RFC 1759.

There are two ways to set SNMP parameters:

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software. See "Setting SNMP parameters using PhaserLink Printer Management Software" on page 81.

■ Send the appropriate PostScript file to the printer. See "Setting SNMP parameters using a PostScript utility file" on page 82.

Setting SNMP parameters using PhaserLink Printer Management Software

With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software to set host access. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

1. Click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **View and Configure Interface Settings**; this displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure SNMP Settings**; this displays the **View and Configure SNMP Settings** page.

4. On the **View and Configure SNMP Settings** page, enter the information for the SNMP utility.

5. Enter the validation password (if one has been assigned), and click **Do/Apply**.

Setting SNMP parameters using a PostScript utility file

To create a PostScript file to control these parameters, use the script *config-SNMP* provided with the printer's network utilities software.

1. Connect the printer to the network.

2. Run the script *config-SNMP*:

   a. Change (**cd**) to the *bin* subdirectory in the directory where you placed your printer's network utilities.

   b. Run the script, redirecting the output to a file. Type:

      config-SNMP > *filename*

3. When prompted, provide the information for the SNMP utility.

4. Send the file named in Step 2b to the printer using **lp** or **lpr**.

8

TCP/IP Host Configuration (UNIX)

Configuring a host

Adding the printer to the host table

Add the printer's name to the host table and assign an IP address to the printer's name. Depending on your host system, you may do this one of three ways:

■ Use NIS (Name Information Server, formerly Yellow Pages).

■ Use DNS (Domain Name Server).

■ Edit a file (for example, */etc/hosts*). For an example, see "Example installation for a typical BSD UNIX system" on page 85.

Assigning a print queue to the printer

■ For BSD systems, edit the */etc/printcap* file and add a spool directory (for example, to */usr/spool/lpd*).

■ For System V hosts, configure the queue as a remote BSD print queue (support for TCP/IP LPR is required). Specific instructions for the following System V hosts are provided in this manual:

   ■ "Sun Solaris" on page 87.

   ■ "SGI IRIX 5.3 and 6.x" on page 89.

   ■ "IBM AIX 3.x and 4.x" on page 90.

   ■ "Hewlett-Packard HP-UX 9.x and 10.x" on page 92.

N O T E

Some UNIX hosts report an error when you configure a print queue that is not currently on the network; ignore this message.

Assigning print queues with PhaserPrint for UNIX

For UNIX environments, Tektronix offers PhaserPrint for UNIX software, which provides fast raster printing and a graphical user interface with push-button control of printer features. For more information on PhaserPrint software, see "Tektronix PhaserPrint for UNIX software" on page 10.

If you want to print using PhaserPrint for UNIX software, you must use PhaserPrint software to configure your host. Refer to the PhaserPrint for UNIX user manual or the instructions provided with the PhaserPrint for UNIX CD-ROM for configuration information. PostScript and PDF versions of the manual are available from the Tektronix ftp site:

ftp.tek.com/cpid/UNIX/phaserprint2.1/demo/MANUALS

Required remote printer queue names

The printer's internal LPR queue uses the BSD protocol; its known queues are listed in the following table. These are the only remote queue names that the printer recognizes. If you use another name, the printer automatically defaults to AUTO.

Queue name	Language
PS	PostScript
PCL	PCL (Printer Control Language)
AUTO	Automatic Language Selection (the printer automatically senses the language of the print job and processes it accordingly)

Using PostScript utility files to control printer features from queues

As you set up a spool queue for the printer, you can use the PostScript utility files provided with your printer's software to control printer features (for example, selecting upper or lower paper trays, or selecting print quality modes). See your printer's user documentation for more information on these utility files.

UNIX model files

The printer's CD-ROM contains UNIX model files. These files allow you to access printer features from the UNIX command line by using the **-o** printing option. On the printer's CD-ROM, the file *model.tar* contains the installer for the model files and model files for Sun Solaris, Hewlett-Packard, and IBM AIX workstations.

Example installation for a typical BSD UNIX system

The following procedure is an example spooler configuration that will work for many BSD systems, including SunOS 4.x and 5.x (Solaris 1.x and 2.x) and Digital UNIX.

Modify the */etc/hosts* file to identify the printer to the workstation and modify the */etc/printcap* file to describe the printer to the workstation:

1. Log on to your system as *root*.

2. Make a backup copy of the */etc/hosts* file.

N O T E

You need superuser privileges to edit this file.

3. Edit */etc/hosts* and add a line that defines the printer's IP address and its name. The IP address you enter here for the printer must be the same address you specified as the printer's IP address when it was configured. The name is the name by which your workstation identifies the printer. (You will enter this same remote name in your */etc/printcap* file in the next step.)

Example:

```
134.62.33.138  Phaser740
```

In this example, `134.62.33.138` is the printer's IP address and `Phaser740` is the printer's remote name.

4. Make a backup copy of the */etc/printcap* file.

5. Edit */etc/printcap* and add an entry for your printer. Refer to the following example and the table "Descriptions of printcap parameters" on page 86 to create your entry.

Sample printcap file

```
# Printer:  Tektronix Phaser740
# Print queue name: colorprinter
# Remote machine name:  Phaser740
# Remote printer queue name:  PS
# Spool directory:  /usr/spool/lpd/colorprinter
  colorprinter:\
    :lp=:\
    :rm=Phaser740:\
    :rp=PS:\
    :mx#0:\
    :lf=/usr/spool/lpd/ERRORLOG:\
    :sd=/usr/spool/lpd/colorprinter:
#
```

6. Set up spool directories. After you have edited the */etc/hosts* and */etc/printcap* files, create and set permissions for the spool directory you specified.

Example:

```
cd /usr/spool/lpd
mkdir colorprinter
chown daemon colorprinter
chgrp daemon colorprinter
chmod 770 colorprinter
```

Refer to your UNIX documentation for the correct command syntax for your workstation.

Descriptions of *printcap* parameters

Parameter	Description
lp	Name of the device to open; this parameter must be left empty or set to */dev/null*.
rm	Remote machine name. This is the name by which the workstation identifies the printer; it must match the name in the */etc/hosts* file.
rp	Remote printer queue name. This is the queue name that the printer recognizes. It must be one of the following: ■ PS for PostScript ■ PCL for Printer Control Language ■ HPGL for Hewlett-Packard Graphics Language ■ AUTO for Automatic Language Selection (the printer automatically senses the language of the print job and processes it accordingly) If you specify any other remote printer queue name, the printer defaults to AUTO. Your printer model may not support all languages listed here. See your printer's user documentation for information on the supported languages. With some printers, PCL must be authorized with an authorization code before it can be used. If you use PCL for the remote printer queue name, make sure that PCL has been authorized in the printer. See your printer's user documentation for more information on authorization codes and PCL.
mx	Maximum file size. Set this parameter to **0** for unlimited file size; this allows the print command to handle large PostScript or image files.
lf	Name of the log file where print command error messages are collected. Some systems have a log file for each print queue. Refer to your workstation's documentation for more information.
sd	Spool directory on your host. Make a separate spool directory for each queue.

Configuration procedures for common System V UNIX hosts

Sun Solaris

For Solaris version 2.6 and later, go to "Adding an LPD queue in Solaris" on page 88. For Solaris 2.5x and older, use the *sol_apps.tar* provided with your printer's networking software to avoid a Solaris communication problem. The *sol_apps.tar* file is also available from the Tektronix ftp site:

ftp.tek.com/cpid/UNIX/sun/sol_apps.tar

This file redirects the print jobs to the printer's AppSocket port (port 9100) instead of the LPD port (port 515).

N O T E

> If you do not want to redirect the print jobs to the printer's AppSocket port, see "Adding an LPD queue in Solaris" on page 88.

1. Untar the *sol_apps.tar* file by typing this command:

   tar -xvf phaser.sun5

   The following files are extracted into the indicated directories:

   asprint.sun5 to */usr/bin*
   tektcp.sun5 to */usr/spool/lp/model*

2. Edit the file */etc/hosts* to create an entry for the printer.

N O T E

> The network name and the queue name for your printer must be identical for the model file to work.

3. Execute the following commands:

lpadmin -p *queuename* **-v /dev/null -i /usr/spool/lp/model/tektcp.sun5 -I postscript**
enable *queuename*
accept *queuename*

> where *queuename* is the name entered for the printer in the */etc/hosts* file.

The print queue is now enabled.

Adding an LPD queue in Solaris

Add the printer to the host table. This is done by either editing the local host table */etc/hosts* (if not running **yp** or **NIS**), or updating the **NIS** data base on the **NIS** (**yp**) server.

Here is an example of how to add a PostScript queue named **phaser** printing to a printer named **tektronix** while in the Bourne shell.

> **/bin/sh**
>
> **lpsystem -t bsd tektronix**
>
> **lpadmin -p phaser -s tektronix!PS -I postscript**

The queue name can be anything you want. The printer name should be the same name used in the host table.

The **!PS** names the remote queue name. There are four valid remote printer names: PS, HPGL, PCL, and AUTO.

 Use the following commands to enable the new queue:

> **lpshut /usr/lib/lpsched**
>
> **enable phaser**
>
> **accept phaser**

If Solaris 2.2/2.3 print jobs get stuck in the queue

1. Change directory (cd) to this location:

   > **/usr/spool/lp/temp/***workstation-name*

2. To remove any jobs, type:

   > **rm**

3. Change directory (cd) to this location:

   > **/usr/spool/lp/requests/***workstation-name*

4. To remove any jobs, type:

   > **rm**

5. Type:

   > **kill -***pid*

    where *pid* is the process ID number */usr/lib/lpsched*.

6. To restart *lpsched*, type:

   > **/usr/lib/lpsched**

7. Remove any jobs that have not printed from the **Print Tool**.

SGI IRIX 5.3 and 6.x

Modify the */etc/hosts* file to identify the printer to the workstation:

You need superuser privileges to edit this file.

1. Log onto your system as root.

2. Make a backup copy of the */etc/hosts* file.

3. Edit */etc/hosts* and add a line that defines the printer's IP address and its name. The IP address you enter here for the printer must be the same address you specified as the printer's IP address when it was configured. The name is the name by which your workstation identifies the printer.

IRIX 5.3 and IRIX 6.x with Impressario Client

The following procedure describes how to use the SGI Printer Manager program to configure a workstation running IRIX 5.3 and IRIX 6.x with Impressario Client to support a color PostScript printer.

1. From the **Toolchest**, click **System/Printer Manager**, or type **printers** at the command line.

2. Click **Printer** and select **Add** from the pull-down menu.

3. Fill in the fields; refer to the following table.

Field name	Description
New Printer Name	Name of the print queue (this can be anything).
Connection Type	Select **Network**.
Remote Host Name	The name that you entered in your */etc/hosts* file as the remote machine name.
Remote Printer Name	Queue name that the printer recognizes: ■ **PS** for PostScript ■ **PCL** for text ■ **HPGL** for HP7475A ■ **AUTO** for automatic selection.

4. Click **OK**.

IRIX 6.x with Impressario Server

The following procedure describes how to use the SGI Printer Manager program to configure a workstation running IRIX 6.x with Impressario Server to support a color PostScript printer.

1. From the **Toolchest**, click **System/Printer Manager**, or type **printers** at the command line.

2. Click **Printer** and select **Add** from the pull-down menu.

3. Fill in the fields; refer to the following table.

Field name	Description
New Printer Name	Name of the print queue (this can be anything).
Printer Connected To	Select **Local Host**.
Location Code	Optional; may contain information describing the location of the printer.
Location Description	Optional; may contain information describing the location of the printer.
Printer Type	Select one of the **Generic Color PostScript** entries.
Printer is Attached to	Select **Network**.
Printer's Name (or IP Address)	The name that you entered in your */etc/hosts* file as the remote machine name.
Printer is Attached to Network With	Network card Installed in printer.

4. Click **OK**.

IBM AIX 3.x and 4.x

Modify the */etc/hosts* file to identify the printer to the workstation:

1. Log onto your system as root.

2. Make a backup copy of the */etc/hosts* file.

N O T E

You need superuser privileges to edit this file.

3. Edit */etc/hosts* and add a line that defines the printer's IP address and its name. The IP address you enter here for the printer must be the same address you specified as the printer's IP address when it was configured. The name is the name by which your workstation identifies the printer.

AIX 3.x

The following procedure describes how to use the AIX System Management program (SMIT) to configure a workstation running AIX 3.x to support a color PostScript printer.

1. Log in as root on your workstation.

2. From the command line, type **smit**.

3. Select **Devices**.

4. Select **Printer/Plotter**.

5. Select **Manage Remote Printer Subsystem**.

6. Select **Client Services**.

7. Select **Remote Printer Queues**.

8. Select **Add a Remote Queue**.

9. Fill in the fields; refer to the following table.

Field name	Description
NAME of queue to add	Name of the print queue (this can be anything).
DESTINATION HOST for remote jobs	The name that you entered in your */etc/hosts* file as the remote machine name.
Name of QUEUE on remote printer	The queue name that the printer recognizes: ■ **PS** for PostScript ■ **PCL** for text ■ **HPGL** for HP7475A ■ **AUTO** for automatic selection.
NAME of device to add	Any name.

10. To process the information, press **Enter**. Make sure that SMIT finishes with an **OK** in the upper left hand corner. To return to the first **Printer/Plotter Devices** menu, press **F3**.

AIX 4.x

The following procedure describes how to use the AIX System Management program (SMIT) to configure a workstation running AIX 4.x to support a color PostScript printer.

1. Log in as root on your workstation.

2. From the command line, type: **smit**.

3. Select **Print Spooling**.

4. Select **Add a Print Queue**.

5. Fill in the fields; refer to the following table.

Field name	Description
Attachment Type	Select **remote.**
Type of Remote Printing	Select **Local filtering before sending to print server.**
Remote Printer Type	Select **Other**, then **generic**.
Name of NEW print queues to add	Use the down-arrow key to move down to **PostScript**, then enter the print queue name on the right side. This can be anything.
HOSTNAME of remote server	The name that you entered in your */etc/hosts* file as the remote machine name.
Name of QUEUE on remote server	Queue name that the printer recognizes: ■ **PS** for PostScript ■ **PCL** for text ■ **HPGL** for HP7475A ■ **AUTO** for automatic selection.
TYPE of print spooler on remote server	Press **F4** and select **BSD**.
Send PASS-THROUGH FLAG to queue on remote server?	Select **F4** and select **no**.

6. To process the information, press **Enter**. Make sure that SMIT finishes with an **OK** in the upper left hand corner. To return to the first **Printer/Plotter Devices** menu, press **F3**.

Hewlett-Packard HP-UX 9.x and 10.x

1. Log in as root on your workstation.

2. Make a backup copy of the */etc/hosts* file.

N O T E

> You need superuser privileges to edit this file.

3. Edit */etc/hosts* and add a line that defines the printer's IP address and its remote machine name.

The IP address you enter here for the printer must be the same address you specified as the Tektronix printer IP address when you configured the printer. For example:

```
134.62.33.138   tekphaser
```

In this example, `134.62.33.138` is the printer's IP address and `tekphaser` is the printer's remote system name.

4. Use the HP System Administrator Manager program (SAM) to configure an HP workstation. From the command line, type: **sam**.

5. Perform the appropriate step for your HP-UX version:

- ■ **Version 9.x.** Highlight **Printers and Plotters** from the menu. Press **Return** or click **Open**.

- ■ **Version 10.x.** Double-click the **Printers and Plotters** icon.

6. Perform the appropriate step for your HP-UX version:

- ■ **Version 9.x.** Highlight **Printers/Plotters** from the menu. Press **Return** or click **Open**.

- ■ **Version 10.x.** Again, double-click the **Printers and Plotters** icon.

7. From the **Actions** menu, select **Add Remote Printer/Plotter**.

8. Fill in the fields. See the following table for example entries and descriptions. Access SAM's help utility for additional information about these fields.

Field name	Example entry	Description
Printer Name	phaser360PS	The name you use to access the printer. You can use any name you want.
Remote System name	tekphaser	The name that you entered in your */etc/hosts* file as the remote machine name.
Remote Printer name	PS	Queue name that the printer recognizes: ■ **PS** for PostScript ■ **PCL** for text ■ **HPGL** for HP7475A ■ **AUTO** for automatic selection.
Remote cancel model	rcmodel	-
Remote status model	rsmodel	-
Printer class (*version 9.x*)	-	Optional
Remote printer is on a BSD system?	-	Check the box for a BSD system.

9. To save your changes, click **OK** at the bottom of the window.

10. When you are asked about sending a test file to the printer, type **no**. (It is recommended that you do not let SAM send a test file because it may not be compatible with your printer.)

11. Exit SAM:

- **a.** From the **File** menu, select **Exit**.

- **b.** Click **Exit SAM**.

Troubleshooting

Testing the network connection

Execute the **ping** command from the host. For example, type:

> **ping** *printer-name*

If the **ping** test to the *printer-name* fails, try issuing the **ping** command again, specifying the printer's IP address explicitly; type:

> **ping** *printer-IP-address*

If the **ping** test succeeds using the printer's IP address, but fails using the printer's name, check the NIS database, DNS, or *etc/hosts* file to make sure that you are using the correct name for the printer. If the **ping** test fails using the printer's IP address, check the cabling and any gateways to make sure that the printer has a working connection.

Make sure that the printer's IP address and network mask are consistent with the IP address and network mask of your local subnet.

9

TCP/IP Configuration (OS/2 Warp/LAN Server)

The PhaserShare TCP/IP interface is compatible with these environments:

■   OS/2 Warp with TCP/IP V2.0 for OS/2

■   LAN Server 3.0 or later with the TCP/IP Application Kit.

Before you begin, connect the printer to the network.

Setting the printer's IP addressing parameters

For information on setting the printer's IP addressing parameters, see "Setting the printer's IP addressing parameters" on page 55.

IBM TCP/IP Version 2.0 for OS/2 includes BOOTP support. Refer to your TCP/IP documentation for installing and configuring BOOTP on a PC.

N O T E

In the OS/2 Warp environment, the OS/2 boot server and the printer must be on the same Token Ring.

Edit the *hosts* file to create an entry that identifies the printer's IP address and the printer object name (to be assigned in the next topic). The *hosts* file is in *C:\TCPIP\ETC*.

Creating an LPR queue in OS/2 Warp Connect (direct LPR connection to the printer)

OS/2 Warp Connect allows you to print directly to Tektronix printers via LPR (no server).

N O T E

It is important that *LPRPORTD.EXE* and *LPD.EXE* be running in the background. You can set these to run automatically from the **Autostart** tab of the **TCP/IP Configuration** dialog box.

1. Create a *Printer Object*. To do this, use the right mouse button to drag the **Printer** template from the **Templates** folder to the desktop; this displays the **Create a Printer** dialog box.

2. In the **Create Printer** dialog box, enter the name of the printer.

3. If the driver is already installed, select the appropriate driver; if the driver is not installed, you must install it:

   a. Click **Install new printer driver**; this displays the **Install new printer driver** dialog box.

   b. In the **Printer Driver Selection** section, select **Other OS/2 printer driver,** then specify the path to the driver. For example:

      d:\os2drv

   c. Click **Refresh**, then select the new driver from the list. Click **Install** and follow the on-screen prompts.

4. Click the right mouse button on an available **Pipe** port (**0** through **7**) and select **Settings** from the menu; the **Settings** dialog box is displayed. If ports are not selectable or are unavailable, follow these steps:

   a. Select **Install Ports** from **Settings** and enter **C:\TCPIP\DLL** where appropriate. You will only have to do this if no printers were specified when TCP/IP was installed.

   b. This is where the ports that were not available can be selected: **Lpt1-3**, **Com 1-4**, and **Pipe 0-7**.

   c. Once ports are installed, select a **Pipe**, such as **Pipe 1**, then double-click this port.

5. In the **Print Destination** section, make the following entries:

    ■ **LPD server.** The printer's IP address.

    ■ **LPD printer.** The printer's name. The printer's name should be either **PS** or **AUTO** in uppercase letters. It is recommended that you leave everything else blank.

    To return to the **Create Printer** dialog box, click **OK;** then click **Create**.

6. Set the printer as your default printer:

    a. Click the right mouse button on the printer object.

    b. Click **Set default**, then select the new printer object.

OS/2 client-to-server setup

1. Create a network printer object:use the right mouse button to drag the **Network Printer** template from the **Templates** folder; the **Access another network printer** dialog box is displayed.

2. In the **Access another network printer** dialog box, make the following selections from the list boxes:

    ■ **Network.** Network protocol.

    ■ **Server.** Name of the server for the queue.

    ■ **Resource.** Name of the queue.

    Click **OK**; this creates a network printer object.

3. Click the right mouse button on the network printer icon and select **Settings** from the menu; this displays the **Settings** dialog box.

4. In the **Settings** dialog box, select the **Printer driver** tab. If the driver is already installed, select the appropriate driver; if the driver is not installed, you must install it:

    a. Click the right mouse button on any driver and select **Install** from the menu.

    b. In the **Printer Driver Selection** section, select **Other OS/2 printer driver**, then specify the path to the driver.

    c. Click **Refresh**, then select the new driver from the list. Click **Install**.

Warp Server 4.0/Warp Connect

Warp Server is replacing OS/2 LanServer and also allows printing to Tektronix printers via LPR.

1. Use the procedure under "Creating an LPR queue in OS/2 Warp Connect (direct LPR connection to the printer)" on page 96.

2. Make the new printer available to network clients; see your OS/2 server documentation for details.

10 *Windows NT*

The procedures in this chapter are valid for Windows NT version 3.x and 4.x. For information about driver installation for later versions of Windows NT, contact Tektronix technical support or visit the Tektronix web site:

www.tek.com/Color_Printers/support

Setting the printer's IP address

There are three ways to set the printer's IP address:

■ **Use the printer's front panel.** For more information, see "General information on setting IP parameters (front panel)" on page 57.

■ **Use DHCP.** For more information, see "Setting IP parameters: DHCP" on page 66.

■ **Download a PostScript utility file.** For more information, see the *README* file on the printer's CD-ROM. The *README* file is in the *UTILS* directory.

Adding the Windows NT 4.0 driver on a Windows NT 4.0 server or workstation

The Windows NT 4.0 PostScript driver is a PPD-based driver. Follow these instructions to add or update the Tektronix Phaser PPD for use with Windows NT 4.0. Adding this support gives your printer access to Tektronix page sizes, tray selection, TekColor color corrections, and resident fonts.

This update procedure provides printer page-size information for Windows NT applications. These instructions assume a basic familiarity with Windows NT operation and terminology. For additional information about Windows NT, refer to your Microsoft Windows NT documentation.

N O T E
You may need the Windows NT 4.0 CD-ROM or your printer's software CD-ROM to complete this procedure.

Add the printer

1. Log in as Administrator or a user with administrator privileges.

2. Click **Start**, **Settings**, and **Printers**.
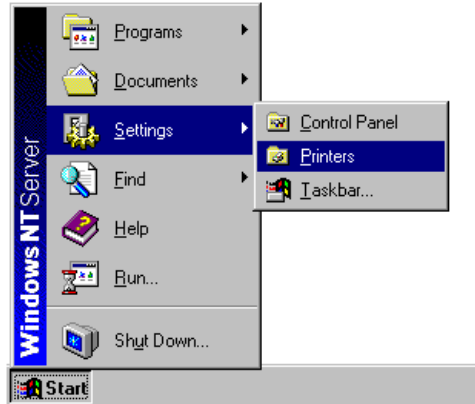
3. In the **Printers** dialog box, double-click **Add Printer**.

   ■ If you intend to do your printer management from this computer, click **My Computer**. The rest of this procedure applies when you click **My Computer**.

   ■ If you intend to do your printer management from another computer, click **Network Print Server**. In this case, you need only enter the printer's name in the **Printer** field and click **OK**. The rest of this procedure does not apply.

4. Click **Next**.

5. If the printer is connected directly to the computer, select the port the printer is connected to:

   a. **LPTx** is for a parallel-printer connection.

   b. **COM** is for a serial-connected printer.

6. If the printer is connected to a network, click **Add Port**. Tektronix printers support two types of network ports, LPR and AppleTalk. The next topic covers LPR ports; for information on AppleTalk ports, see "Creating an AppleTalk port" on page 101.

Creating an LPR port

1. To connect via TCP/IP, double-click **LPR Port** in the **Printer Ports** dialog box. If **LPR Port** is not listed in this box, the Microsoft TCP/IP Printing Service must be installed on the NT machine:

    a. Click **Start**, **Settings**, **Control Panel**, and **Network**.

    b. Click **Services**, then click **Add**.

    c. Select **Microsoft TCP/IP Printing**, then click **OK** and install this service. The original Windows NT distribution CD-ROM is needed during installation.

N O T E

    The TCP/IP protocol must also be installed on the server. Click the **Protocol** tab to verify if it is installed. See your Windows NT documentation for details. Reboot Windows NT after installing TCP/IP.

2. In the **Add LPR compatible printer** dialog box, enter the printer's IP address or DNS name in the box labeled **Name or address of server providing lpd**. In the box marked **Name of printer or print queue on that server**, enter **PS** or **AUTO** in uppercase. Click **OK**.
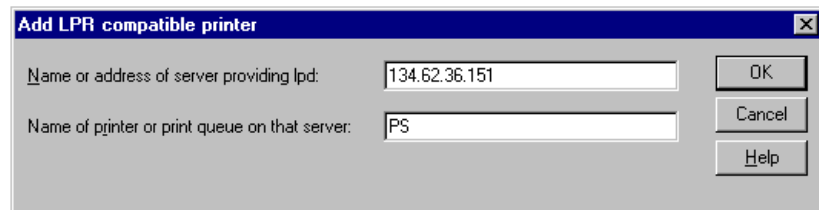
3. When returned to the **Printer Ports** box, click **Close**.

4. At the **Add Printer Wizard** dialog box, click the box next to this new port; a check mark is added. Click **Next**.

Creating an AppleTalk port

1. In the **Printer Port** dialog box, double-click **AppleTalk Printing Devices**.

2. In the **Available AppleTalk Printing Devices** dialog box, select the zone where the printer resides. If no zone name appears, double-click the zone icon.

3. Windows NT searches for all AppleTalk devices in that zone and displays a list; double click your printer.

4. Windows NT prompts you to capture the printer; click **No**. (Capturing the printer causes it to disappear from the **Chooser**.)

5. After adding the printer port, click the box next to the new port to select it; click **Next**.

Install the driver

1. In the **Add Printer Wizard** dialog box, click **Have Disk** to add a new Tektronix driver.

2. Type the path name to the driver files. This can be A:\ if the files are on a diskette. If these files were downloaded from an on-line service, type the path name where they were saved. Click **OK**.

3. Select the printer model and click **Next**.

4. If prompted that a driver is already installed for this printer, select **Replace existing driver**. Click **Next**.

Name the printer and set up sharing

1. Type the printer's name; this can be any name you want. If the Windows-based applications are to use this printer as the default printer, click the appropriate box. Click **Next**.
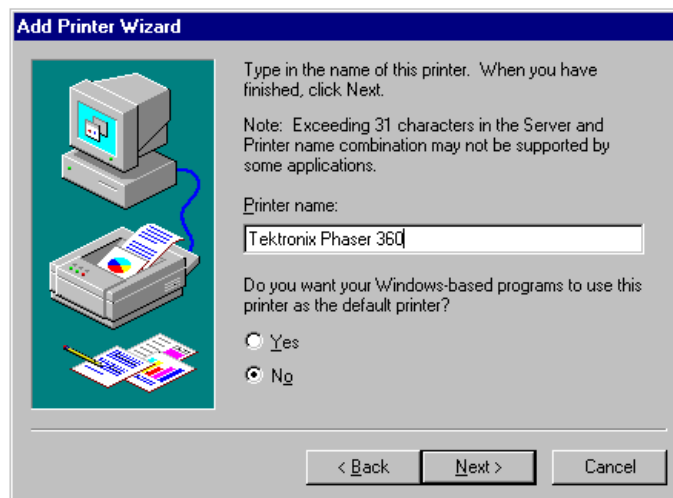
2. If this printer is to be shared on the network, click **Shared** and click all applicable platforms that may be printing to this printer. If desired, enter a **Share Name** for the printer. If the printer is a local printer only, click **Not shared**. Click **Next**.
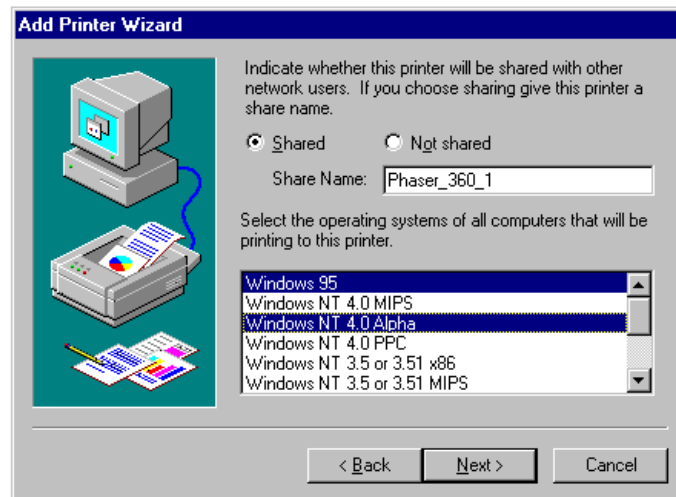
Windows NT creates the printer

1. If you want Windows NT to print a test page after installing the printer driver, click **Yes** (recommended). If you do not want the Windows NT test page, click **No**. When finished, click **Finish**.

2. At this point, Windows NT is ready to create the printer. You may need the original Windows NT distribution CD-ROM or your printer's software CD-ROM to complete this step. Once the CD-ROM is installed, type the drive letter or path name to the files requested. On the Windows NT CD-ROM, the files are usually in the *I386* directory for Intel-based Windows NT servers. Click **OK**.

3. If you chose to have a test page printed in Step **1**, check to see if it printed. If the test page printed, click **OK**.

Adding the Windows NT 4.0 driver on a Windows NT 3.51 server

N O T E

For proper installation, use the latest Windows NT 3.51 drivers and Windows NT 4.0 drivers, available from the Tektronix web site:

www.tek.com/Color_Printers/support/software.html

The following procedure describes how to set up the Windows NT 3.51 server to automatically load a Windows NT 4.0 driver on a Windows NT 4.0 client.
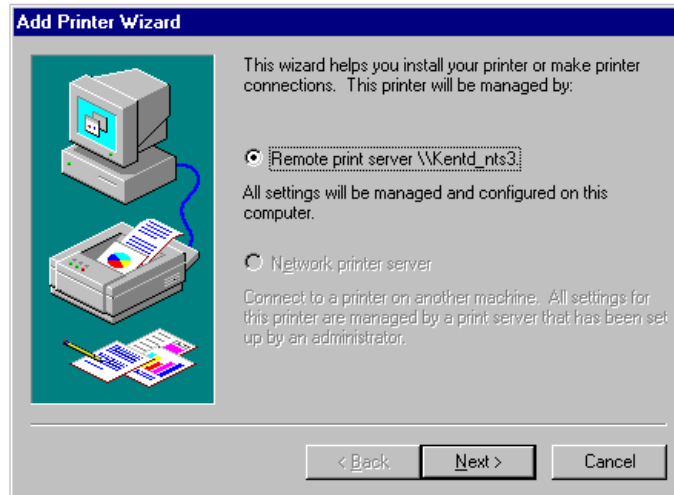
N O T E

You must have Administrator access on the Windows NT 3.51 server.

Add the printer

1. From a Windows NT 4.0 client, click the right-mouse button on **Network Neighborhood**. Select **Find Computer**.

2. Type the name of the Windows NT 3.51 server. Press **Enter**.

3. Double-click the Windows NT 3.51 server icon.

4. Double-click the Windows NT 3.51 server's **Printers** folder.
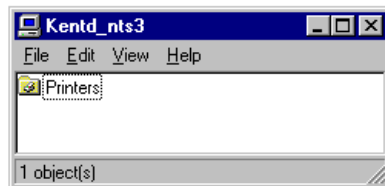
5. In the Windows NT 3.51 server's **Printers** folder, double-click **Add Printer**. (If you do not have an **Add Printer** icon, then you are not logged on with an account that has Administrator access on the Windows NT 3.51 server.) The first **Add Printer Wizard** dialog box should say **Remote print server <*3.51 server name*>**.


**6.** Select the port where the printer is connected.

N O T E

You cannot create a port on the Windows 3.51 server from the Windows 4.0 client; create the port on the Windows 3.51 server. After the port is created, you can select that port from the Windows 4.0 client.

Install the driver

1. In the **Add Printer Wizard** dialog box, click **Have Disk** to add a new Tektronix driver.

2. Type the path name to the driver files. This can be `A:\` if the files are on a diskette. If these files were downloaded from an on-line service, type the path name where they were saved. Click **OK**.
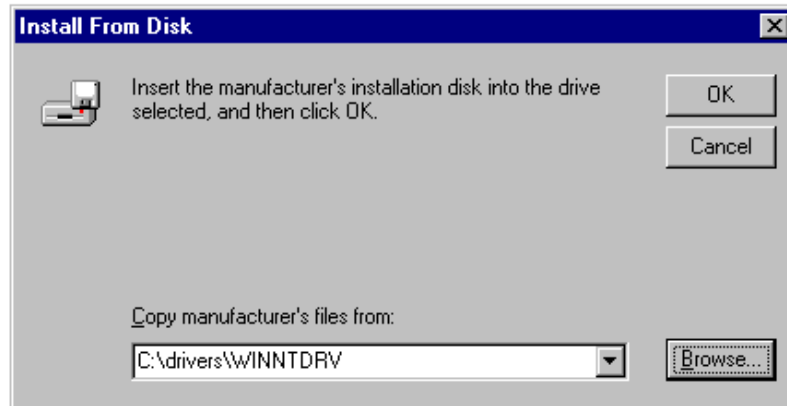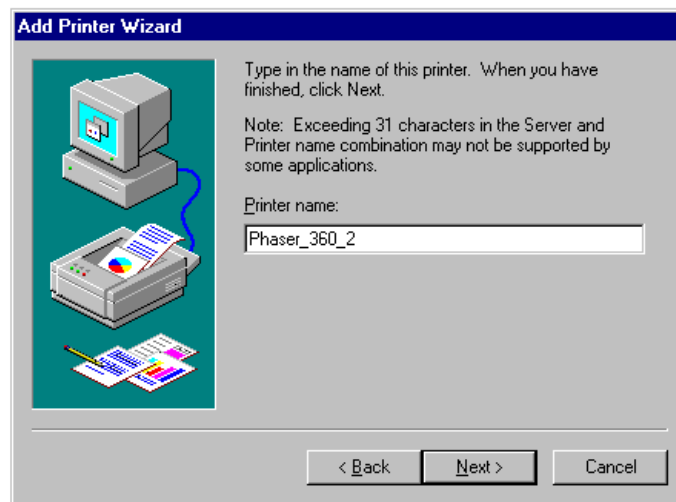

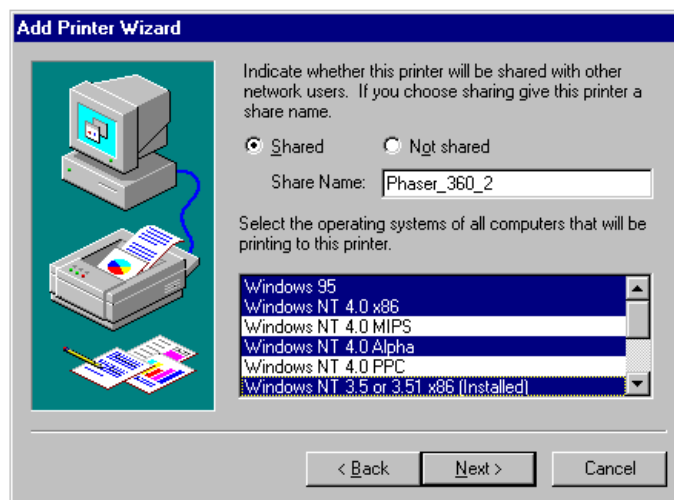3. Select the printer model and click **Next**.
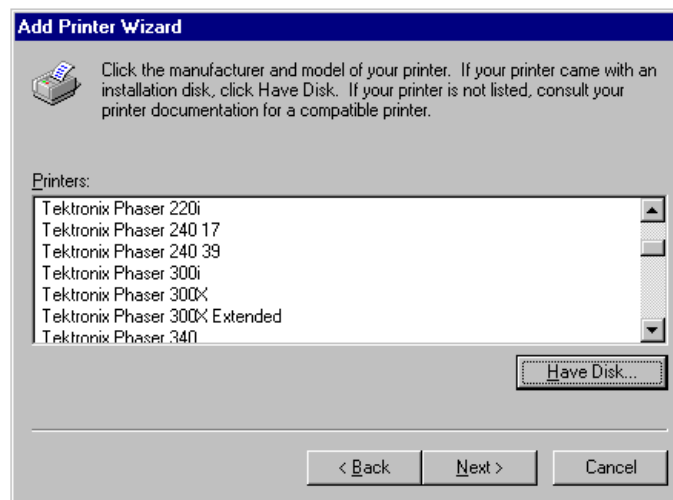
Enter the printer's name and set up sharing

1. Type the printer's name; this can be any name you want. Click **Next**.
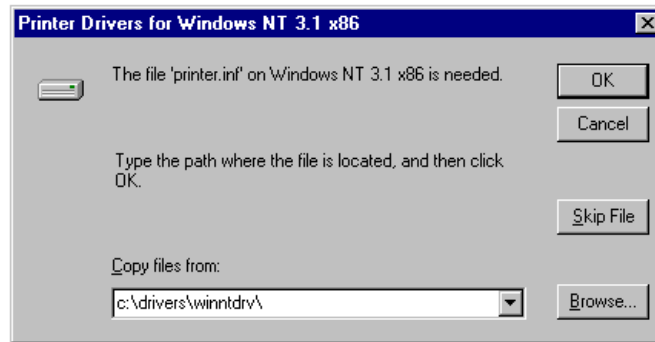

2. If this printer is to be shared on the network, click **Shared** and highlight all applicable platforms that may be connecting to this server (**Windows NT 4.0 x86** should be one). If desired, enter a **Share Name** for the printer.

Windows NT creates the printer

1. If you want Windows NT to print a test page after installing the printer driver, click **Yes** (recommended). If you do not want the Windows NT test page, click **No**. When finished, click **Finish**.

2. When prompted for the Windows NT 3.51 CD-ROM, insert it into your computer's CD-ROM drive and click **OK**.

Printer Drivers for Windows NT 3.1 x86

The file 'printer.inf' on Windows NT 3.1 x86 is needed.

OK

Cancel

Type the path where the file is located, and then click OK.

Skip File

Copy files from:

c:\drivers\winntdrv\

Browse...

3. Type the path name to the driver.

N O T E

For proper installation, you must use the latest Windows NT 3.51 drivers and Windows NT 4.0 drivers, which are available from the Tektronix web site:

www.tek.com/Color_Printers/support/software.html

The printer should now exist on the Windows NT 3.51 server and have Windows NT 4.0 drivers available. Now any Windows 4.0 client can use that shared printer, and the driver is installed automatically.

Adding a Windows NT 3.x driver

This update procedure provides printer page size information for Windows NT applications. However, TekColor color corrections and other PostScript Level 2 features are not supported by the Windows NT driver. Refer to your printer's user documentation for instructions on other ways of selecting color corrections. Refer to your Microsoft Windows NT documentation for details on features in the Windows NT driver.

These instructions assume a basic familiarity with Windows NT operation and terminology. For additional information about Windows NT, refer to your Microsoft Windows NT documentation.

1. Start your system with **Windows NT**.

2. From the **Main** window, double-click the **Print Manager** icon.

3. Install the Tektronix printer. From the **Printer** menu, select **Create Printer**; the **Create Printer** dialog box appears.

4. Under **Driver**, scroll to the end of the list and select **Other**; the **Install Driver** dialog box appears.

5. When prompted, do one of the following.

   ■ **If you are using the printer's CD-ROM:** Type the CD-ROM drive location. Click **OK**; the **Select Driver** dialog box appears.

   ■ **If you are using the printer's software for Windows diskette:** Type the diskette drive location. Click **OK**; the **Select Driver** dialog box appears.

6. Under **Printer Driver**, choose your printer from the list, then click **OK**.

N O T E

If you are using older drivers, you get a series of **Noncritical Errors** stating that Windows NT is unable to open the *PSCRIPT.DLL* file and the *PSCRIPT.DRV* files. Click **Ignore** or update your driver.

7. Under **Print to**, scroll to the end of the list and select **Other**; the **Printer port** dialog box appears. Tektronix printers support two types of network ports in Windows NT: LPR and AppleTalk. The next topic covers LPR ports; for information on creating an AppleTalk port, see "Creating an AppleTalk port" on page 111.

Creating an LPR port

1. In the **Printer Port** dialog box, click the **LPR** port. If the LPR port is not listed in the **Printer Port** dialog box, the Microsoft TCP/IP Printing Service needs to be added to the Windows NT machine:

   a. In the **Control Panel**, double-click **Network**; the **Network Settings** dialog box appears.

   b. In **Network Settings**, click **Add Software**; the **Add Network Software** dialog box appears.

   c. In the **Add Network Software** dialog box, click the drop-down menu for **Network Software**. In the list, select **TCP/IP Protocol and Related Components**, then click **Continue**; the **TCP/IP Installation** dialog box appears.

   d. In the **TCP/IP Installation** dialog box, select **TCP/IP Network Printing Support**. (Consult your Windows NT documentation for information on other TCP/IP options.)

   e. Click **Continue** to install this service. The original Windows NT distribution diskettes are needed during installation. To apply these changes, restart Windows NT.

2. In the **Add LPR compatible printer** dialog box, enter your printer's IP address in the field named **Name or address of server providing lpd**. In the field named **Name of printer or print queue on that server**, enter **PS** or **AUTO** in UPPERCASE letters.

Creating an AppleTalk port

1. In the **Printer Port** dialog box, double-click the **AppleTalk Printing Devices** port. If the **AppleTalk Printing Devices** port is not listed in the **Printer Port** dialog box, the Microsoft Services for Macintosh needs to be added to the Windows NT machine:

    a. In **Control Panel**, double-click **Network**; the **Network Settings** dialog box appears.

    b. In the **Network Settings** dialog box, click **Add Software**; the **Add Network Software** dialog box appears.

    c. In the **Add Network Software** dialog box, click the drop down menu for **Network Software**. In the list, select **Services for Macintosh**, then click **OK** to install the service. The original Windows NT distribution diskettes are needed during installation. To apply these changes, restart Windows NT.

2. In the **Available AppleTalk Printing Devices** dialog box, select the zone where the printer resides. If no zone name appears, double-click the zone icon.

3. Windows NT searches for all AppleTalk devices in that zone and displays a list; double click your printer.

4. Windows NT prompts you to capture the printer; click **No**. (Capturing the printer causes it to disappear from the **Chooser**.)

Set up sharing

If this printer is to be shared on the network, perform the following steps:

1. In the **Create Printer** dialog box, check the option **Share this printer on the network**.

2. Enter any name you want for the **Share Name**.

Windows NT network communication

TCP/IP connection

Basic concepts of TCP/IP printing

In Windows NT, printing via TCP/IP is accomplished using the LPR (Line Printer Request) protocol. Because LPR was developed for UNIX systems, comparing Windows NT and UNIX implementations may be helpful.

The LPR protocol is a host-to-host protocol, rather than a host-to-printer protocol. When printing via LPR, the computer sending the print job assumes that it is sending the job to another computer, or *print server*, which sends the job to the printer. In UNIX terminology, the print server is called a *remote host*. The print server can have several printers connected to it. The way to differentiate between different printers when spooling to the print server is to print to a specific *remote queue*.

The following table summarizes these concepts of TCP/IP printing and the terminology used in UNIX and Windows NT environments.

Concept	Description	UNIX term	NT term
Print server	An IP address or a DNS name that is mapped to this address. This is how your computer knows where to send the print job.	Remote host	**Name or address of host providing LPD**
Print queue	For Tektronix printers, this is **PS** (PostScript) or **AUTO** (AutoSelect).	Remote printer queue name	**Name of printer on that machine**

Your Tektronix printer emulates a print server. Tektronix printers are accessed by giving an NT host a remote host name that will point to the printer. This is true only if the print job is spooled directly to the printer via its internal network interface, and not through an external third-party print server. If the print job is spooled through an external third-party print server, the remote host name is the TCP/IP address of the print server and the remote queue name is the name of the queue for that print server.

Windows NT network troubleshooting

Error messages in Print Manager

When there is a problem printing from Windows NT, often print jobs stay in Print Manager with ambiguous messages like `Printer Error` or `Permission denied`. If the printer is connected via TCP/IP, there is probably a problem with the way LPR was set up.

Begin troubleshooting by opening the **Event Viewer** in the **Administrative Tools** program group. When it opens, click **Log**, scroll down, and select **Application**. Look at any of the error messages that say `LPR Print Monitor`. Double-clicking the error message tells you more information about the error. The following topics deal with specific errors reported in the **Event Viewer**.

Printer PS on host *IP-address* is rejecting your request

At the MS-DOS command prompt in Windows NT, type the ping command in the following format:

> **ping** *IP-address*

For example:

```
ping  134.62.36.134
```

- If the printer does not reply or the request times out, either the printer does not have an IP address, or the NT host cannot find the printer.

  - If the printer does not have an address, assign one as described in "Setting the printer's IP addressing parameters" on page 55.

  - If the printer has an IP Address, your printer could have a faulty network connection or a defective network card.

- If the printer does respond, disconnect the printer from the network and send the ping command again.

  - If you get a response this time, there is a duplicate IP address on the network. Make sure that all devices on the network have a unique IP address.

  - If you do not get a response this time, the printer's IP address is valid, but LPR may be disabled on the printer. Print a Configuration Page and look under LPR. For instructions on how to print a Configuration Page, see "The printer's Configuration Page" on page 6. For instructions on enabling or disabling protocols, see Chapter 15, "Disabling Protocols".

Printer *printer-name* on host *IP-address* is rejecting your request

The remote queue name is not correctly set. Refer to Step **2** in the appropriate procedure:

■ Windows NT 4.0 driver on Windows NT 4.0 server. See "Creating an LPR port" on page 101.

■ Windows NT 3.x driver. See "Creating an LPR port" on page 110.

Printer PS on host *IP-address* is unreachable

or

The LPR print monitor failed to open a temporary file while spooling output for port *IP-address*:PS

With this problem, you can print all PostScript jobs when logged into the NT Server as administrator, but users cannot print. Users cannot print because they lack the permissions to spool to the system file areas.

This problem is frequently encountered after applying Service Pack 2, 3, or 4 to a Windows NT 3.51 print server installed on an Windows NT File System (NTFS) partition. Windows for Workgroups, Windows 95, and other clients will no longer be able to print to shared LPR printers (print queues on Windows NT which are using LPR to reach their destination).

Service Pack updates change the permissions of the *SPOOL* and *PRINTERS* sub-directories to be *read-only* (write-protected). Also, an administrator could easily do this (for security reasons) without a Service Pack Update.

To fix this problem in Windows NT 4.0:

1. Log in as administrator.

2. Double-click **My Computer**.

3. Open the folder **C:\Winnt\system32**.

4. Set permissions on the **spool** folder:

   a. Click the right mouse button on the **spool** folder.

   b. In the pull-down menu, click the left mouse button on **Sharing**; this displays the **Printer Properties** dialog box.

   c. Click **Security**.

   d. Click **Permissions**; this displays the **Directory Permissions** dialog box.

   e. In the **Directory Permissions** dialog box, click **Everyone**. From the **Type of Access** pull-down list, select **Full Control**.

   f. To close the **Directory Permissions** dialog box, click **OK**.

   g. To close the **Printer Properties** dialog box, click **OK**.

5. Set permissions on the **Printers** folder:

   a. In the **C:\Winnt\system32** folder, open the **spool** folder.

   b. Click the right mouse button on the **Printers** folder.

   c. In the pull-down menu, click the left mouse button on **Sharing**; this displays the **spoolProperties** dialog box.

   d. Click **Security**.

   e. Click **Permissions**; this displays the **Directory Permissions** dialog box.

   f. In the **Directory Permissions** dialog box, click **Everyone**. From the **Type of Access** pull-down list, select **Full Control**.

   g. To close the **Directory Permissions** dialog box, click **OK**.

   h. To close the **spoolProperties** dialog box, click **OK**.

To fix this problem in Windows NT 3.1:

1. Log in as administrator.

2. In the **Main** group, double-click **File Manager**.

3. Open the folder **C:\WINNT35\system32**.

4. Set permissions on the **spool** folder:

   a. Click the **spool** folder.

   b. From the **Security** menu, select **Permissions**; this displays the **Directory Permissions** dialog box.

   c. In the **Directory Permissions** dialog box, click Everyone. From the **Type of Access** pull-down list select **Full Control**.

   d. To return to **File Manager**, click **OK**.

5. Set permissions on the **Printers** folder:

   a. In the **C:\WINNT35\system32** folder, open the **spool** folder.

   b. Click the **Printers** folder.

   c. From the **Security** menu, select **Permissions**; this displays the **Directory Permissions** dialog box.

   d. In the **Directory Permissions** dialog box, click **Everyone**. From the **Type of Access** pull-down list, select **Full Control**.

   e. To return to **File Manager**, click **OK**.

Printing from the command line via lpr

To send a Postscript file to the printer using **lpr,** type the following **lpr** command in at the MS-DOS command prompt in Windows NT:

lpr -S *IP-address* **-P PS** *filename*

For example:

```
lpr -S 134.62.36.161 -P PS FONTS.PS
```

■ If you get the following message, your printer is spooling to the wrong IP address, LPR is disabled on the printing device, or LPR on the printing device is denying access:

```
Error: print server did not accept request.
Job aborted.
```

■ If you get the following message, the printer has TCP/IP disabled or your printer is spooling to an invalid IP address:

```
Error: print server unreachable or specified
printer does not exist.
```

Print a Configuration Page and make sure that TCP/IP is still enabled. For instructions on how to print a Configuration Page, see "The printer's Configuration Page" on page 6. For instructions on enabling or disabling protocols, see Chapter 15, "Disabling Protocols".   Check to see if your printer is spooling to a correct IP address.

N O T E

When using the lpr command at a DOS command prompt when the Name of the print queue is not PS, this message is displayed: `Error: print server did not accept request. Job aborted.`

Checking the IP address of the Windows NT server

If you have tried the techniques described in this troubleshooting topic and communication is still not happening, check the IP address of the Windows NT server. If it is in a different class (possibly even a different network number in the same class), it can prevent communication from taking place.

Chapter

11

Windows 95 and Windows 98: PhaserPort Software

The Tektronix PhaserPort software is a port monitor that allows you to print directly from Windows 95 and Windows 98 to a networked Tektronix printer via TCP/IP. There is no need for third-party software or a third-party interface attached to the parallel port. PhaserPort gives your printer increased throughput without sacrificing connectivity.

TCP/IP configuration for the PC

If you don't already have a TCP/IP address configured for your PC, contact your system administrator to ensure that the configuration is made according to your company guidelines. If there is no TCP/IP network already in place, configure your PC with a unique address such as 192.1.1.1.

To check the IP address for your PC, follow these steps:

1. From the **Start** menu, click **Run**.

2. Enter:

        winipcfg

3. Click **OK**.

4. Choose your network adapter from the pulldown list.

5. The IP address is listed in the **IP Address** field.

For more information on installing and configuring TCP/IP in Windows environments, see your Microsoft Windows documentation.

Setting the printer's IP address

There are three ways to assign the printer's IP address:

■ **Use the printer's front panel.** For more information, see "General information on setting IP parameters (front panel)" on page 57.

■ **Use DHCP.** For more information, see "Setting IP parameters: DHCP" on page 66.

■ **Download a PostScript utility file.** For more information, see the *README* files on the printer's CD-ROM. PC users will find the *README* file for the PostScript utility files in the *UTILS* directory. Macintosh users will find the *ReadMe* file to the PostScript utility files in the *Network Utilities* folder.

PhaserPort software installation

Using the installer

You can install PhaserPort software using the installer on your printer's software CD-ROM. A single integrated installer is used to install printer drivers, PhaserPort, and other software.

1. Put the printer's software CD-ROM into the CD-ROM drive.

   ■ If the Windows autorun feature is enabled, the CD-ROM launches automatically.

   ■ If the Windows autorun feature is disabled, double-click **My Computer**, then double-click the CD icon to launch the CD-ROM.

2. View the brief introductory information, then click **Install Drivers** to launch the installer.

3. When you are prompted to select **Easy Install** or **Custom Install**, select **Custom Install**.

4. During custom installation, a dialog is displayed enabling you to select the options you want to install. Check the box for PhaserPort. To install the drivers and PPD files for your printer, check the box for Drivers/PPDs (this is recommended for first-time installations). Follow the on-screen prompts to complete the installation. For details, see "Create your first port and install the printer" on page 119.

Create your first port and install the printer

1. After the PhaserPort software is installed, the **Add PhaserPort** dialog is displayed. Create your first port:

    a. In the **Description** field, enter a name for the port (this can be the printer name/model, location, or any other descriptive name of your choice), such as **Phaser 740**.

    b. In the **Name/Address** field, enter the IP address or DNS name of the printer (for example, 192.1.1.2).

        If you don't know the printer's IP address or DNS name, click **Browse** to display a list of printers on the network. Double-click the printer you want; PhaserPort automatically enters the information into the **Add PhaserPort** dialog. To search the network again, click **Refresh**; to narrow down the search by using subnets, click **Advanced**.

    c. Click **OK**.

2. If you have NetWare software installed on your computer, you are asked if you want to install the PhaserShare Administrator software. If you also want to print using NetWare, choose **Yes**, then click **Next**.

3. If you chose to install drivers and PPD files earlier in the installation, the **Finish Installation** dialog displays information about the Add Printer Wizard. Read the information, then click **Next** to start the Add Printer Wizard, which allows you to install the driver for your printer. The drivers are on your printer's CD-ROM.

    If you did not choose to install drivers and PPD files earlier in the installation, go to Step 5.

4. Install the printer.

    a. In the **Add Printer Wizard**, click **Next**. Choose **Local printer**, then click **Next**.

    b. Click **Have Disk**, type the drive letter for the CD-ROM, and click **OK**.

    c. Select your printer from the list, then click **Next**.

    d. In the **Available ports** list, select the port you created during the first part of the installation and click **Next**.

    e. If desired, change the printer's name (the name that will show in your **Printers** window). You can also choose to make this printer your default Windows printer. Click **Finish**.

    f. If you are prompted to send a test page to the printer, choose **No**. Click **Finish**.

5. Complete the installation.

   a. In the **Installation Completed** dialog, click **Finish**.

   b. When prompted, finish the setup by registering your printer and restarting your computer.

The following topics provide instructions for using PhaserPort after the initial installation:

■ The next topic: "Adding a port for a new printer"

■ "Adding a port to an existing printer" on page 120

■ "Changing a port's IP address" on page 121

Adding a port for a new printer

Use this procedure to install a new printer and add a port for it.

1. Start the Add Printer Wizard:

   a. From the **Start** menu, select **Settings**, then click **Printers**.

   b. From the **Printers** window, open **Add Printer**.

2. Use the Add Printer Wizard to install the printer. When prompted, make the following choices:

   ■ When prompted to specify how the printer is attached, chose **Local Printer**.

   ■ Chose **LPT1** as the connection port.

   If you are prompted to send a test page to the printer, choose **No**.

3. When you are finished with Add Printer Wizard, follow the directions in the next topic, "Adding a port to an existing printer" on page 120.

Adding a port to an existing printer

Use this procedure to add a port after you have installed the printer.

1. Select your printer:

   a. From the **Start** menu, select **Settings**, then click **Printers**.

   b In the **Printers** window, right-mouse click on your printer.

2. From the pop-up menu, choose **Properties**.

3. When the properties dialog for the printer is displayed, click **Details**.

4. Click **Add Port**, then select **Other**.

5. Highlight **PhaserPort** and click **OK**; this displays the **Add PhaserPort** dialog.

   a. In the **Description** field, enter a name for the port (this can be the printer name/model, location, or any other descriptive name of your choice), such as **Phaser 740**.

   b. In the **Name/Address** field, enter the IP address or DNS name of the printer (for example, 192.1.1.2).

      If you don't know the printer's IP address or DNS name, click **Browse** to display a list of printers on the network. Double-click the printer you want; PhaserPort automatically enters the information into the **Add PhaserPort** dialog. To search the network again, click **Refresh**; to narrow down the search by using subnets, click **Advanced**.

   c. Click **OK**.

6. Click **OK** again to apply the changes; the printer driver is now configured to use your new **PhaserPort**.

Changing a port's IP address

If the IP address of the printer is changed, change the IP address of the corresponding port:

1. Select your printer:

   a. From the **Start** menu, select **Settings**, then click **Printers**.

   b. In the **Printers** window, right-mouse click your printer, then click **Properties**.

2. In the **Properties** dialog, click **Details**.

3. Verify that **PhaserPort** appears in the **Print to the following port** field and click **Port Settings**.

4. In the **Configure PhaserPort** dialog, enter the correct IP address or DNS name for the printer.

   If you don't know the printer's IP address or DNS name, click **Browse** to display a list of printers on the network. Double-click the printer you want; PhaserPort automatically enters the information into the **Add PhaserPort** dialog. To search the network again, click **Refresh**; to narrow down the search by using subnets, click **Advanced**.

5. Click **OK**.

6. Click **OK** again to apply the changes.

Chapter

12

PhaserLink Printer Management Software

PhaserLink Printer Management Software is a printer administration and support tool using World Wide Web technology. With PhaserLink Printer Management Software, you can access printer status and manage your printer over the network using a web browser. PhaserLink Printer Management Software gives you the following capabilities:

■   You can receive printer status and manage your printer over the network using a standard web browser.

■   You can define a link to your local web server's support page.

■   You can access on-line manuals and technical support information by using built-in links to the Tektronix web site.

PhaserLink Printer Management Software provides an easy-to-use, consistent interface that you can use to perform most of the configuration tasks described throughout this manual.

System requirements

PhaserLink Printer Management Software provides printer status and printer management, independent of network servers and operating systems.

PhaserLink Printer Management Software requires only a World Wide Web browser and a TCP/IP connection between the printer and the network. (TCP/IP and HTTP must be enabled in the printer.)

Multiple language support

PhaserLink Printer Management Software is displayed in the language selected from the printer's front panel. See your printer's user documentation for information on selecting a language.

Accessing printer information from a browser

Before you can view your printer's information pages, you must connect the printer to the network using a TCP/IP connection and set the printer's IP address.

Once the TCP/IP connection has been established and the printer's IP address is set, you can visit the printer's home page from your web browser by entering the printer's URL (Uniform Resource Locator), just as you would to visit any web site. The printer's default URL is listed here:

http://*printer's-IP-address***/**

where *printer's-IP-address* is the IP address you set for the printer during TCP/IP configuration.

N O T E

Some platforms and browsers allow you to set a name/IP address pair in the UNIX host table (or equivalent network name-server database on a non-UNIX host); the printer's name can be used in place of the IP address in the URL. For example:

http://Phaser360-Marketing/

Printer information pages

Your printer's **Current Status** page is your starting place for viewing your printer's information. From the **Current Status** page, you can access other pages internal to the printer, and you can link to a number of external web sites as well.

PhaserLink Printer Management Software pages have three components:

■   **Header.** The header is at the top of the page. It is the same for all printer pages. The header shows the Tektronix logo, a picture of the printer, and the printer's model number.

■   **Main section.** The top of the main section reports the page name and the printer name. The rest of the middle section is different for each printer.

■   **Navigation links.** Five navigation links take you to other printer pages. The following table describes the links and the pages they lead to.

PhaserLink Printer Management Software navigation links

Link/Page	Description
Status	**For Phaser 840, 740, 780, 360, 350, 380, 560, 600 printers.** Contains live printer status, which is updated according to the value specified in the **Status Refresh Display** field. If an option is not installed, no parameters are displayed for that option.
	For Phaser 340 and Phaser 550 printers. Contains read-only printer status at the time the page was requested. Status messages are not automatically updated while the page is displayed. If an option is not installed, no parameters are displayed for that option.
Configuration	Allows you to configure and manage your printer over the web.
	Also allows you to print the printer's internal help pages (for example: Startup Page, Configuration Page, sampler pages, demo pages).
Help	Allows you to print the printer's internal help pages (for example: Startup Page, Configuration Page, sampler pages, demo pages).
	Allows you to download a PostScript error handler file to the printer for help in diagnosing printing problems.
	Contains a link to the Tektronix Color Printer web server for on-line help and technical support.
	Allows you to define a link from the printer's web pages to your local web server. You can use this link to supply your own site-specific on-line help information.
Reference	Contains links to the Tektronix Color Printer web server for printer manuals and other customer publications, printer updates, product information, and new printer registration.
Smart Ideas	**Phaser 840, 740, 780, 360, 380, and 560 printers.** Provides an on-line connection to examples and templates of things you can do with your Tektronix color printer.
Gallery	**Phaser 340, 350, and 550 printers.** Provides an on-line connection to examples and templates of things you can do with your Tektronix color printer.
List Printers (Phaser 840 and 780 printers only)	Displays a list of all Tektronix printers on the same IP network as the printer you are connected to. Click on any printer in the list to view that printer's PhaserLink **Status** page.

NOTES: The link **Copyright Tektronix, Inc.** connects you to a page of copyright information on the Tektronix web server.

In the **Help** and **Reference** pages, when you click a link that connects you to the Tektronix web server, the printer sends status information back to the Tektronix server. Transmitting this information ensures the quickest connection to relevant product and update information. Tektronix may store this information to serve you better in the future. See "Information Forwarding" on page 128 for more information.

Printer status display

To display the printer's live status, click the link **Start Status Update** on the printer's Current Status Page; the Live Status page is displayed.

The page has two parts:

■ The **status summary** reports information about the printer's status and configuration.

■ The **status icon** graphically indicates the printer's status. The following table summarizes all of the status icons.

Printer status icons

Icon	Description
Ready/Standby	The printer is ready to accept data.
Busy	If the light in the lower-right corner of the icon is yellow, the printer is printing or processing data.
Jam	Paper is jammed in the printer. Check the printer to resolve the problem.
Error	The triangle in the lower-right of the icon is red, indicating that there is an error at the printer, such as ink or toner empty. Check the printer and try to resolve the problem.
Warning	The triangle in the lower-right of the icon is yellow, indicating that there is a non-critical problem at the printer, such as a paper-low or ink-low condition.
Paper	This could be caused by any of three conditions: ■ The printer is out of paper. ■ The printing application has requested a paper size not currently loaded in the printer. ■ The printing application has requested that paper be fed manually.

PhaserLink Printer Management Software help files

Most PhaserLink pages allow you to view and set printer parameters through fields. HTML files containing descriptions of the fields are supplied on the printer's CD-ROM in the *PHLINK* directory, where the file *PLHOME.HTM* is the home page for the help files. These files can be viewed using any browser that supports HTML 3.0.

If you copy these PhaserLink software help files to your local web server, then define that server as your local link, PhaserLink users can access the help files from the printer's PhaserLink software **Help** page.

To configure PhaserLink Printer Management Software Help

1. Copy the PhaserLink HTML help files from the printer's CD-ROM to your local web server. Note the URL for the PhaserLink Help home page, *PLHOME.HTM*.

2. Access the printer's **Status** page by entering the printer's URL into your browser. See "Accessing printer information from a browser" on page 124 for more information.

3. Click **Configure**; this displays the **View and Configure Settings** page.

4. Click **Define Local HTTP Link**; this displays the **Define Local HTTP Link** page.

5. Enter the URL that you have set up for the PhaserLink Help home page (don't forget the prefix **http://**). If you have configured PhaserLink to require a password, enter it into the **Password** field. Then click **Do/Apply**.

N O T E
PhaserLink passwords are not encrypted.

To access PhaserLink Printer Management Software Help

After you have defined the PhaserLink Help home page as your local link, as described in the previous procedure, users can access PhaserLink Help this way:

1. Click **Help**; this displays the **Help** page.

2. On the **Help** page, click **local HTTP link**; this displays the home page for PhaserLink software help.

Setting printer parameters: PhaserLink Printer Management Software pages

If there are read-write parameters on the page, there is a field at the bottom of the page for a validation password. By default, the password is a NULL string (no characters). The password is common across all PhaserLink Printer Management Software pages.

N O T E

PhaserLink passwords are not encrypted.

■ If you enter an invalid password, the printer reports an error. The **Validation Password** link displays the **Set Administrator Password** page, which you can use to change the password.

■ Click **Restore Initial Form Values** to restore all the values on the page to their previous settings.

■ To transmit changes to the printer, click **Do/Apply**.

Information Forwarding

When you click a link that connects you to the Tektronix web server, the Information Forwarding feature causes the printer to send the following printer status information back to the Tektronix server:

■ Printer model

■ Firmware version

■ Printer ID number

■ Page count

■ Language

■ Serial Number

Transmitting this information back to the Tektronix server ensures the quickest connection to relevant product and update information. Tektronix may store this information to serve you better in the future.

Disabling Information Forwarding

1. Display the **View and Configure Information Forwarding** page.

2. Select **No** from the **Information Forwarding Enabled** menu button.

3. If a validation password has been assigned, enter the password to make the change to take effect.

N O T E

PhaserLink passwords are not encrypted.

4. Click **Do/Apply**.

13 *Printer Management*

Job accounting

The printer can store information about jobs printed. The information, in the form of a log file, is stored either in the printer's memory or on a hard disk, if one is connected to the printer. If the log file is stored in the printer's memory, it is lost when the printer is reset; therefore, it is recommended that a hard disk be used with this job accounting feature.

The log file is a list of job accounting records stored by the printer. Each record contains fields such as user name, job name, pages printed, job times, and toner used. Not all fields are supported by all printers. For details, refer to the PhaserShare Administrator or PhaserLink Printer Management Software on-line help.

The actual job accounting values reported vary depending on the protocol and print command used when each job was printed. For example, using NPRINT over NetWare provides the printer with the most information about the job being printed. When using Windows and NetWare, the job name is often LST: or LST:BANNER. Other jobs from other ports may provide even less information about the job.

Job accounting is available through the PhaserShare Administrator and PhaserLink Printer Management Software. See the next topic, "Job accounting: PhaserShare Administrator" and "Job accounting: PhaserLink Printer Management Software" on page 130.

Job accounting: PhaserShare Administrator

1. Display the **Job Display** tab:

    a. In the **Main** window, click **Configure Printer**; this displays the **Configure Printer** dialog box.

    b. In the **Configure Printer** dialog box, click **Job Display**; this displays the **Job Display** tab.

2. When the **Job Display** tab is first displayed, the job summary list is empty and the **Total Number of Jobs** field reports the number of jobs stored by the printer. To get job information, click **Get Jobs**.

For complete information on PhaserShare Administrator job accounting, including clearing job information, exporting job information to a file, and job accounting file formats, see the PhaserShare Administrator on-line help.

Job accounting: PhaserLink Printer Management Software

1. On any PhaserLink page, click **Configuration**. This displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **Download Job Accounting Log**. This displays the **Job Accounting** page.

3. On the **Job Accounting** page, enter the proper password and click **Do/Apply** to access the **Job Accounting Links** page. See the PhaserLink Printer Management Software help files for more information about PhaserLink software passwords.

N O T E

PhaserLink passwords are not encrypted.

The **Job Accounting Links** page has links to the following pages, which you use to work with job accounting records.

■   **Browse Job Accounting Records.** Displays the 10 oldest job accounting records; the numbers at the bottom of the page are links to other pages containing the remaining records (10 to a page).

■   **Download All Job Accounting Records.** Downloads the job accounting log file from the printer to your host computer, but preserves the job summary list stored by the printer. This page displays job accounting records in plain text format. Since this data is accessed through a HyperText link and not through an HTML form, it can be saved directly to disk without interference from the browser.

■   **Clear All Job Accounting Records.** Clears the job summary list stored by the printer, clears all job accounting records in the printer, and displays a page that confirms the operation, or reports an error if the operation could not be performed.

For complete information on PhaserLink Printer Management Software job accounting, including clearing job information, downloading job information to a file, and job accounting file formats, see the PhaserLink software help files.

PhaserLink PDF Direct Printing

PhaserLink PDF Direct Printing provides drag-and-drop printing of PDF and PostScript files from your web browser in Windows 95 and Windows 98 environments. Just drag any hyperlink for a PDF or PostScript file from the browser to the PDF Direct Printing icon on the desktop to print the file on your Tektronix printer. There is no need to open the file.

To install PhaserLink PDF Direct Printing, use the installer on your printer's CD-ROM. Choose **Custom Installation** and check the box for **PhaserLink PDF Direct Printing**. Detailed instructions are provided in the *README* file and in the on-line help.

Phaser 840 Intelligent Ready

Intelligent Ready is an automated system that monitors the Phaser 840 printer's usage and warms up the printer when you are most likely to need it. You can turn Intelligent Ready on or off from the printer's front panel. Using PhaserLink Printer Management Software, you can control when the printer automatically warm s up.

Enabling and disabling Intelligent Ready from the front panel

1. In the front panel, scroll to `Menu`; press **Select**.

2. Scroll to `Printer Configuration`; press **Select**.

3. Scroll to `Default Printer Settings`; press **Select**.

4. Scroll to `Advanced Printer Settings`; press **Select**.

5. Scroll to `Intelligent Ready`. Press **Select** to turn this option on or off.

6. Scroll to `Exit`; press **Select** to return to the `Ready to Print` message.

Setting up Intelligent Ready using PhaserLink Printer Management Software

1. On any PhaserLink page, click **Configuration**. This displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Intelligent Ready Settings**. This displays the **View and Configure Intelligent Ready Settings** page.

3. Select a **Warmup Mode**:

- **Intelligent**. In this mode, the printer monitors usage patterns and warms up automatically when you are most likely to need it.

- **Scheduled**. This mode allows you to specify a warmup time for each day of the week. If you select this mode, use the **Sunday** through **Saturday** fields to select warmup times.

- **Job Activated.** In this mode, the printer warms up when it receives a print job.

4. If a validation password has been assigned, enter the password to make the change to take effect.

N O T E

PhaserLink passwords are not encrypted.

5. Click **Do/Apply**.

PhaserLink Status Notification (Email Notification)

PhaserLink Status Notification allows the printer to automatically send email to the system administrator and others under the following conditions:

■ When printer errors, warnings, and alerts occur.

■ When the printer requires attention (for example, when service is required).

■ When a reply to a PhaserLink Remote Internet Printing message is desired. See the *PhaserLink Remote Internet Printing User Manual* for more information on PhaserLink Remote Internet printing.

This status notification capability is supplied by an SMTP (Simple Mail Transport Protocol) client embedded in the printer's firmware.

Three designated users can receive messages: SysAdmin, Service, and Key User. Printer messages reporting errors, alerts, and warnings can be individually assigned to any of these users. PhaserLink Printer Management Software provides three pages for controlling email printing:

■ **View and Configure PhaserLink Status Notification (Email Notification).** Used to configure status notification parameters such as your email server's IP address; addresses for SysAdmin, Service, and Key User message recipients; and preset subject line and message texts.

■ **View and Configure Email Message Settings.** Controls which types of printer conditions generate messages to SysAdmin, Service, and Key User.

■ **View and Configure Email Custom Settings.** Provides complete control of notification for every supported printer condition.

For complete information on status notification, including descriptions of all fields on all three pages, see the PhaserLink software help files.

To display the View and Configure PhaserLink Status Notification (Email Notification) Settings page

1. On any PhaserLink page, click **Configuration**. This displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**. This displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure PhaserLink Status Notification (Email Notification) Settings**. This displays the **View and Configure PhaserLink Status Notification (Email Notification) Settings** page.

Usage Profile reports (Phaser 840, 740 and 780 printers only)

The printer can generate reports detailing printer usage. These *Usage Profile* reports include information on many aspects of printer usage, including such items as ink or toner used, number of pages printed, and media types used. You can get these reports four ways:

■ **Print reports from the printer's front panel.** You can print out reports from the printer's front panel. See the next topic, "Printing Usage Profile reports from the front panel".

■ **Print reports from PhaserLink Printer Management Software.** You can print out reports from the **View and Configure Settings** page. See "Printing Usage Profile reports from PhaserLink Printer Management Software" on page 136.

■ **Send reports via email from the front panel.** You can send reports by email from the front panel. See "Sending Usage Profile reports via email from the front panel" on page 136.

■ **Send reports via email automatically.** Using the PhaserLink Printer Management Software status notification (email notification) feature, the printer can send reports by email automatically. You can control the conditions under which reports are sent out, and you can control who receives reports. See "Controlling Usage Profile email reporting" on page 139.

Usage profile reports track over 160 individual printer parameters. With Usage Profile reports, you can gain valuable information such as:

■ Unique printer information, such as printer name, date installed, total pages printed, options installed, and network ID.

■ Consumables usage data (for example, toner or ink). By tracking consumables usage, you can order supplies in advance, so your printer will always be well-stocked with supplies.

■ Media and tray information, such as how often prints are made on paper compared to transparencies, and how often each tray is used.

■ Job characteristics, such as size and timing of jobs.

Printing Usage Profile reports from the front panel

The standard Usage Profile report contains only those fields with non-zero values. In most cases, this is the easiest format to use. However, it is also possible to print a verbose report that contains all fields, including those with zero values (see "Printing verbose Usage Profile reports from the front panel" on page 135).

Phaser 840 printer

1. When the front panel displays `READY TO PRINT`, press the down arrow button until **Menu** is highlighted. Press **Select**.

2. Press the down arrow button until `Consumable Usage` is highlighted. Press **Select**.

3. Press the down arrow button until `Print Usage Profile` is highlighted. Press **Select**.

Phaser 740 printer

1. While `Ready` is displayed, press **Menu**; the printer displays the first item in the menu:

    ```
    Help Pages
    <----    ---->        Menu
    ```

2. Press **Menu** to access the Help Pages; the following message appears:

    ```
    Consumables Page
    <----    ---->        Print
    ```

3. Press `<----` or `---->` until the following message appears:

    ```
    Usage Profile
    <----    ---->        Menu
    ```

4. Press **Menu**.

5. Press **Print Report**.

6. To return the printer to normal operation, press **Exit** (the far left button) until the front panel displays `Ready`.

Phaser 780 printer

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

    ```
    Printer Menu
    Help Pages                Menu
    ```

2. Press **Menu**; the `Help Pages` menu is displayed:

    ```
    Help Pages
    Configuration Page        Print
    ```

3. Press the right or left arrow buttons until the front panel displays `Usage Profile`:

   ```
   Help Pages
   Usage Profile           Menu
   ```

4. Press **Menu** to access the `Usage Profile` menu.

5. Press **Print**.

6. To return the printer to normal operation, press **Exit** (the far right button) until the front panel displays `Ready`.

Printing verbose Usage Profile reports from the front panel

The verbose Usage Profile report contains all fields, including those with zero values. This format can be used as a guide for interpreting email reports without labels.

Phaser 840 printer

1. When the front panel displays **READY TO PRINT**, press the down arrow button until **Menu** is highlighted. Press **Select**.

2. Press the down arrow button until **Troubleshooting** is highlighted. Press **Select**.

3. Press the left arrow button and the **Select** button at the same time.

4. Press the down arrow button until **Test Prints** is highlighted. Press **Select**.

Phaser 740 printer

1. While `Ready` is displayed, press **Menu**; the printer displays the first item in the menu:

   ```
   Help Pages
   <----    ---->       Menu
   ```

2. Press **Menu** to access the Help Pages; the following message appears:

   ```
   Consumables Page
   <----    ---->       Print
   ```

3. Press `<----` or `---->` until the following message appears:

   ```
   Usage Profile
   <----    ---->       Menu
   ```

4. Press **Menu**.

5. Press and hold **Print Report**; while holding **Print Report**, quickly press **Exit** (the far left button). Release both buttons.

6. To return the printer to normal operation, press **Exit** (the far left button) until the front panel displays `Ready`.

Phaser 780 printer

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

    ```
    Printer Menu
    Help Pages              Menu
    ```

2. Press **Menu**; the `Help Pages` menu is displayed:

    ```
    Help Pages
    Configuration Page      Print
    ```

3. Press the left or right arrow buttons until the front panel displays `Usage Profile`:

    ```
    Help Pages
    Usage Profile           Menu
    ```

4. Press **Menu** to access the `Usage Profile` menu.

5. Press and hold the up arrow button; while holding the up arrow button, quickly press **Print**. Release both buttons.

6. To return the printer to normal operation, press **Exit** (the far right button) until the front panel displays `Ready`.

Printing Usage Profile reports from PhaserLink Printer Management Software

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, select **Usage Profile** from the **Print** pull-down list. Click **Print**.

Sending Usage Profile reports via email from the front panel

N O T E
To send Usage Profile reports via email, status notification (email notification) must be properly set up for your printer. For more information, see "PhaserLink Status Notification (Email Notification)" on page 132.

Phaser 840 printer

1. When the front panel displays **READY TO PRINT**, press the down arrow button until **Menu** is highlighted. Press **Select**.

2. Press the down arrow button until **Consumable Usage** is highlighted. Press **Select**.

3. Press the down arrow button until **Email Report** or **Email Job Report** is highlighted. Press **Select**.

Phaser 740 printer

1. Press **Menu**; the front panel displays `Help Pages`.

2. Press `---->` or `<----` until the front panel displays `Network Settings`.

3. Enter the `Network Settings` menu by pressing **Menu**.

4. Press `---->` until the front panel displays `TCP/IP`.

5. Press `---->` or `<----` until the front panel displays `Usage Profile`.

6. Press **Menu**; the front panel displays the first of two Usage Profile choices.

    ■   To email a full report, press `---->` or `<----` until the front panel displays `Email Report`. Then press **OK**. The recipients of this report are specified in the PhaserLink email notification pages. A full report is sent to the users specified in the **Regular Intervals** field of the **View and Configure Email Custom Settings** page. A report is also sent to Tektronix if the **Email to Tektronix** field in the **View and Configure Email Notification Settings** page is set to **On**.

    ■   To email a job report, press `---->` or `<----` until the front panel displays `Email Job Report`. Then press **OK**. The recipients of this report are specified in the PhaserLink status notification (email notification) pages. A job report is sent to the users specified in the **Each Job** field of the **View and Configure Email Custom Settings** page.

7. To return the printer to normal operation, press **Exit** (the far left button) until the front panel displays `Ready`.

Phaser 780 printer

1. While `Ready` is displayed, press **Select**; the `Printer` menu is displayed:

    ```
    Printer Menu
    Help Pages                Menu
    ```

2. Press **Menu**; the `Help Pages` menu is displayed:

    ```
    Help Pages
    Configuration Page       Print
    ```

3. Press the left or right arrow buttons until the front panel displays `Usage Profile`:

    ```
    Help Pages
    Usage Profile             Menu
    ```

4. Press **Menu** to access the `Usage Profile` menu.

■ To email a full report, press the left or right arrow buttons until the front panel displays `Email Report`. Then press **OK**. The recipients of this report are specified in the PhaserLink email notification pages. A full report is sent to the users specified in the **Regular Intervals** field of the **View and Configure Status Notification Custom Settings** page. A report is also sent to Tektronix if the **Email to Tektronix** field in the **View and Configure Status Notification Settings** page is set to **On**.

■ To email a job report, press the left or right arrow buttons until the front panel displays `Email Job Report`. Then press **OK**. The recipients of this report are specified in the PhaserLink email notification pages. A job report is sent to the users specified in the **Each Job** field of the **View and Configure Status Notification Custom Settings** page.

5. To return the printer to normal operation, press **Exit** (the far right button) until the front panel displays `Ready`.

Sending Usage Profile reports via email: PhaserLink Printer Management Software

N O T E

To send Usage Profile reports via email, Status Notification (Email Notification) must be properly set up for your printer. For more information, see "PhaserLink Status Notification (Email Notification)" on page 132.

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, select **Usage Profile Full Report** or **Usage Profile Job Report** from the **Email** pull-down list. Click **Email**.

The recipients of this report are specified in the PhaserLink email notification pages.

■ A job report is sent to the users specified in the **Each Job** field of the **View and Configure Status Notification Custom (Email Custom) Settings** page.

■ A full report is sent to the users specified in the **Regular Intervals** field of the **View and Configure Status Notification Custom (Email Custom) Settings** page. A full report is also sent to Tektronix if the **Email to Tektronix** field in the **View and Configure Status Notification (Email Notification) Settings** page is set to **On**.

Controlling Usage Profile email reporting

Specifying when reports are to be sent and specifying the report format

1. On any PhaserLink page, click **Configuration**. This displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**. This displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure Status Notification (Email Notification) Settings**. This displays the **View and Configure Status Notification (Email Notification) Settings** page.

4. On the **View and Configure Status Notification (Email Notification) Settings** page, you can specify when full reports are to be sent, and you can specify the report format:

   ■ **Time interval.** Enter a value in hours in the **Usage Profile Time Interval** field. Reports are automatically sent at the specified time interval (for example, every 48 hours).

   ■ **Page interval.** Enter a value in pages in the **Usage Profile Page Interval** field. Reports are automatically sent at the specified page interval (for example, every 1000 pages).

   ■ **Report format.** The **Usage Profile Verbose Email** field controls the format of email reports. Select **Without Labels** to get a report that contains mostly numbers, without field labels; select **With Labels** to send reports that have the fields labeled, similar to the printed reports

The time interval and page interval settings apply as long as the **Regular Intervals** check box on the **View and Configure Email Custom Settings** page is checked.

Also on the **View and Configure Email Custom Settings** page, you can specify that reports are to be sent under other conditions:

■ When jams or errors occur (full report sent).

■ For each job (job report sent).

To display the **View and Configure Email Custom Settings** page, click **View and Configure Email Custom Settings** in the **View and Configure Email Message Settings** page.

For more information on customizing Usage Profile reporting and other status notification (email notification) features, see "PhaserLink Status Notification (Email Notification)" on page 132.

Specifying who receives reports

Usage profile reporting is part of email notification. You specify who receives reports by using the **View and Configure Status Notification Message (Email Message) Settings** page, just as you do for other email notification features. **Usage Profile** appears on the **View and Configure Status Notification Message (Email Message) Settings** page as one of the email notification condition classes. You can specify that reports are to be sent to **Admin**, **Key User**, and **Service** users, just as you do for other email notification features.

You can further customize who receives reports and under what conditions the reports are send by using the check boxes on the **View and Configure Status Notification Custom (Email Custom) Settings** page.

For more information on customizing Usage Profile reporting and other status notification (email notification) features, see "PhaserLink Status Notification (Email Notification)" on page 132.

Email to Tektronix

In addition to controlling which users at your site receive reports by email, you can allow reports to be sent to Tektronix at specific intervals or under certain error conditions. A program is currently under development at Tektronix to use this information to serve you better.

N O T E
When you allow Usage Profile reports to be sent to Tektronix, the data collected is treated confidentially, and no information is sent about the content of prints, only about how the printer is used.

To enable email to Tektronix

1. On any PhaserLink page, click **Configuration**. This displays the **View and Configure Settings** page.

2. From the **View and Configure Settings** page, click **View and Configure Interface Settings**. This displays the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click **View and Configure Status Notification (Email Notification) Settings**. This displays the **View and Configure Status Notification (Email Notification) Settings** page.

4. On the **View and Configure Status Notification (Email Notification) Settings** page, set the **Email to Tektronix** field to **On** or **Off**. Make sure that the **Status Notification (Email Notification) Enabled** field is set to **Yes**.

Reading Usage Profile reports

Two types of reports are available:

- **Full report.** The full report contains detailed printer usage information for all jobs printed during the life of the printer.

- **Job report.** The job report contains information on the last printed job. This report can only be emailed; it cannot be printed from the front panel, because printing it creates a new job that overwrites the report data. The job report is useful in environments where billing for each print job is required.

Full report format

The full report contains only those fields that have non-zero values.

Email report format

Email reports are full reports encoded into a format that uses numbers for most of the data. The encoding makes the email messages shorter and protects the security of the data in transit. Most importantly, the encoding makes it easier to import the data into a spreadsheet for analysis and charting. You can print out a verbose full report that contains all fields, even those with zero values. This report can be used as a guide to interpret the email report. See "Printing verbose Usage Profile reports from the front panel" on page 135.

It is possible to send email reports that have the fields labeled, similar to the printed reports (for details see "Specifying when reports are to be sent and specifying the report format" on page 139). However, these reports contain only those fields that have non-zero values.

Report fields

The next two tables describe the report fields.

Usage profile job report

Field	Description
Printer Name	The printer's name as it appears on the Configuration Page.
Job ID	Job identification number assigned by the printer starting from the last power-up.
	If known for a given job, these identifications are also provided: Protocol, Filename, Job Name, User Name, and Host Name; if not known, `--` is reported.
Finished at	Date and time when the job was finished.
Duration (min)	How many minutes the job took to print; rounded to the nearest minute.
Media Class	Type of media used for the job (for example: Paper, Transparency).
Media Size	Size of media used for the job (for example: Letter, Legal).
Unique Pages	The number of pages printed, not including multiple copies of pages.
Copies	The number of copies specified for the job.
Total pages	The number of unique pages times the number of copies.
Coverage	The amount of toner or ink placed on the page(s), expressed as a percentage of a fully-covered page. Values are given for Black, Yellow, Magenta, and Cyan, rounded to the nearest 0.1%.
Consumable	The amount of toner or ink used, expressed as a percentage of a full toner cartridge or ink stick. Values are given for Black, Yellow, Magenta, and Cyan, rounded to 6 places.
Pixel	The number of pixels of each color used. Values are given for Black, Yellow, Magenta, and Cyan, rounded to the nearest K (1024).

Usage profile full report - some fields not supported by all printers

Field number	Field name	Description
1	Date of Report	The date and time that the report was generated.
2	Time Stamp	The date and time that the printer was first turned on.
3	Network IDs	Serial Number, Ethernet Address, IP Address, Check Code.
4	Printer Name	The printer's name as it appears on the Configuration Page.
5	Printer Type	The printer type as it appears on the Configuration Page.
6	Printer Class	Laser or Phase Change.
7	Adobe Firmware	PostScript version number.
8	Engine Firmware	Print engine firmware version number.
9	PS Firmware	PS region firmware number.

Usage profile full report - some fields not supported by all printers (cont'd.)

Field number	Field name	Description
10	Net Firmware	Net region firmware number.
11	OS Firmware	OS region firmware number.
12	RAM (MBs)	The number of megabytes of printer RAM.
13	Installed Trays	The number of trays installed, including the multi-purpose tray.
14	Accessories	A list of all accessories installed in the printer: Duplexer, Scanner, IDE Disk, and SCSI Disk.
101	Report Intervals	Page and time intervals specified in the PhaserLink **View and Configure Status Notification (Email Notification) Settings** page.
102	Images	Number of sides printed (a single-sided print is 1 image; a duplex print is 2 images).
103	Planes	For all images, the number of colors used (cyan, magenta, yellow, black).
111	Pixels imaged (1K)	The total number of pixels printed for each color. Values are given in K (1024) for Black, Yellow, Magenta, and Cyan, rounded to the nearest K.
112	Average Coverage (%)	The average coverage per page for all images.
113	Pixels Imaged-Paper (1K)	The number of pixels printed on paper for each color. Values are given in K (1024) for Black, Yellow, Magenta, and Cyan, rounded to the nearest K.
114	Average Coverage-Paper (%)	The average coverage per page for all images on paper.
115	Pixels Imaged-transparency (1K)	The number of pixels printed on transparencies for each color. Values are given in K (1024) for Black, Yellow, Magenta, and Cyan, rounded to the nearest K.
116	Average Coverage-transparency (%)	The average coverage per page for all images on transparencies.
121	Days printed	The number of calendar days that the printer was turned on. If the printer was turned on for any amount of time during a day, that day is counted.
122	Pages / Day	A distribution of the number of pages printed for each day the printer was on, showing how much activity the printer had. A set of number pairs in the format *page-count range* **:** *number of days.* For example, **2-4:3** indicates that there were 3 days in which 2, 3, or 4 pages were printed.
123	Unique Pages / Job	A distribution of the sizes of jobs. A set of number pairs in the format *unique-page-count range* **:** *number of jobs.* For example, **2-4:3** indicates that there were 3 jobs that consisted of 2, 3, or 4 unique pages (sides).

Usage profile full report - some fields not supported by all printers (cont'd.)

Field number	Field name	Description
124	Copies / Job	A distribution of how many copies were printed for each job. A set of number pairs in the format *copy-count range* **:** *number of jobs*. For example, **2-4:3** indicates that there were 3 jobs that consisted of 2, 3, or 4 copies.
125	Minutes / Job	A distribution of how long each job took to print. A set of number pairs in the format *minutes-range* **:** *number of jobs*. For example, **2-4:3** indicates that there were 3 jobs that took 2, 3, or 4 minutes to print.
131	Job Source	A set of value pairs in the format *job-source* **:** *number of jobs*. For example, **EtherTalk:3** indicates that there were 3 jobs printed over EtherTalk.
132	Job Language	A set of value pairs in the format *job-language* **:** *number of jobs*. For example, **PostScript:3** indicates that there were 3 PostScript jobs printed.
133	Jobs Collated	A set of value pairs in the format **No :** *number of jobs*,**Yes :** *number of jobs*. For example, No:5,Yes:3 indicates that 5 non-collated jobs were printed and 3 collated jobs were printed.
134	Cancelled jobs	The number of jobs that were cancelled.
141	Duplex Prints (pages)	A set of value pairs in the format **Simplex :** *number of pages*,**Duplex :** *number of pages*. For example, Simplex:5,Duplex3 indicates that 5 single-sided pages were printed and 3 double-sided pages were printed.
142	Output Order (pages)	A set of value pairs in the format **Face Down :** *number of pages*,**Face Up :** *number of pages*. For example, **Face Down:5,Face Up:3** indicates that 5 pages were printed face down and 3 pages were printed face up.
143	Color Prints (pages)	A distribution of color vs. monochrome pages.
144	Print Quality (pages)	A distribution of images for all print qualities.
145	Color Correction (pages)	A distribution of images for all color correction modes.
151	Multi-Purpose Tray Media	A distribution of images for all possible media size and type combinations from the Multi-Purpose tray as much as the user has identified it.
152	Cassette Media	A distribution of images for all possible media size and type combinations from the cassettes.
160	Maintenance Kit Remaining (%)	The percentage of life remaining for the maintenance kit.
161	Maintenance Kit Remaining (pages) (Phaser 840)	The remaining life of the maintenance kit expressed as the number of pages that can still be printed.
	Toner Status (Phaser 740, 780)	For each toner supply, the status will be shown as **OK**, **Low**, **Replace**, or **Not Installed** just as on the Consumables Page.

Usage profile full report - some fields not supported by all printers (cont'd.)

Field number	Field name	Description
162	Fuser Remaining (%)	The percentage of life remaining in the fuser unit.
163	Imaging Unit Remaining (%)	The percentage of life remaining in the imaging unit.
164	Transfer Kit Remaining (%)	The percentage of life remaining in the transfer kit unit.
165	Fuser Roll Remaining (%)	The percentage of life remaining in the fuser roll unit.
166	Main Charge Grid Remaining	The percentage of life remaining for the main charge grid.
171	Doors Open	For each access door, the number of times it has been opened.
172	Consumables Replaced	A distribution of the conditions at which each consumable has been replaced, whether it was low or out or neither (i.e. at the user's discretion), or some other condition detected by the printer.
173	Paper Out	For each tray, the number of times it has been emptied.
174	Button Presses	The number of times any of the front panel buttons has been pressed.
175	Feature	A distribution of how many times the user has accessed front panel menu settings or printed internal help pages.
181	Power On Count	The number of times the power has been switched on.
182	Total On Time (hrs)	Total time the printer has been on, in hours.
183	Latest On Time (hrs)	Time the printer has been on since just the last time it was switched on.
184	EStar Time (hrs)	Total time the printer has been in Energy Star mode, in hours.
185	EStar Time Distribution (mins)	A distribution of the time the printer has spent in Energy Star mode. For example: 15-29:5 indicates that there were 5 periods of Energy Star lasting between 15 and 29 minutes.
186	Warmup Time (hrs)	Total time the printer has been in the warmup state, in hours.
187	Offline Time (hrs)	Total time the printer has been unavailable for printing, in hours.
188	JetStack Standby Time (hrs)	Total time the printer has been in JetStack Standby mode, in hours.
189	JetStack Standby Time Distribution (mins)	A distribution of the time the printer has spent in JetStack Standby mode. For example: 15-29:5 indicates that there were 5 periods of JetStack Standby lasting between 15 and 29 hours.
191	Temperature (C)	A distribution of hourly temperature readings. For example: <=10:2 indicates that the engine temperature was less than or equal to 10 degrees Celsius for 2 hours.

Usage profile full report - some fields not supported by all printers (cont'd.)

Field number	Field name	Description
192	Humidity (%)	A distribution of hourly humidity readings. For example: 16-35:43 indicates that the engine temperature was between 16 and 35 percent for 43 hours.
201	System Reset Count	Number of times the system has been reset by some internal condition.
202	System Reset Log	Log of the last 5 system reset addresses. (Zero indicates no event.)
203	System Reset Page#	Corresponding page numbers at which the last 5 system resets occurred.
204	Engine Error Log	Log of the last 10 engine error codes—see "Logs" on page 147. (Zero indicates no event.)
205	Engine Error Page#	Corresponding page numbers at which the last 10 engine errors occurred.
206	PostScript Error Log	Log of the last 5 PostScript error codes—see "Logs" on page 147. (Zero indicates no event.)
207	PostScript Error Page#	Corresponding page numbers at which the last 5 PostScript errors occurred.
211	Jam A (Upper Tray; Phaser 840, 740)	A distribution of jams for all media size and type combinations through the upper tray.
	Jam AB (Phaser 780)	A distribution of jams for all media size and type combinations.
212	Jam B (Middle/Lower Trays)	A distribution of jams for all media size and type combinations through the middle and lower trays.
213	Jam C (Exit Cover; Phaser 840)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.
	Jam C (Fuser; Phaser 740)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.
	Jam CD (Phaser 780)	A distribution of jams for all possible media size and type combinations.
214	Jam D (Front Cover; Phaser 840)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.
	Jam D (Flip; (Phaser 740, 780)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.
215	Jam E (Exit; (Phaser 840, 740)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.
	Jam E (Phaser 780)	A distribution of jams for all possible media size and type combinations.
216	Jam F (Duplex)	A distribution of jams for all possible media size and type combinations, as much as the user or the tray has identified it.

Usage profile full report - some fields not supported by all printers (cont'd.)

Field number	Field name	Description
217	Jam Manual Feed (Phaser 840)	A distribution of jams for all possible media size and type combinations through Manual Feed, as much as the user has identified it.
	Jam Multi-Purpose Tray (Phaser 740, 780)	A distribution of jams for all possible media size and type combinations through the Multi-purpose tray as much as the user has identified it.
221	Last Jam Location	Log of the last 5 jam locations—see "Logs" on page 147. (Zero indicates no event.)
222	Last Jam Media	Log of the last 5 jam media—see "Logs" on page 147. (Zero indicates no event.)
223	Last Jam Page #	Corresponding page numbers at which the last five jams occurred.
224	Print Head Clean Date Log	Log of the dates and times of the last five print head cleanings.
225	Print Head Clean Page #	Corresponding page numbers at which the last five print head cleanings occurred.

Logs

Several lines in the report are logs rather than counters, for example, the PostScript Error Log. Each time a PostScript error occurs (and the user has enabled the Error Handler), the PostScript error is recorded as a numerical code along with the page number on which the error occurred.

On each successive error, the log is shifted to the left, with the oldest one being removed from the left end, and the new one being added to the right end. Note that a value of 0 (zero) in the log indicates no error. There are actually two lines for each log, one for the code and one for the page number. (In the case of last jam, there are three lines—paper code, location code, and page number.)

N O T E

For information on solutions to engine errors, see the *Advanced Features and Troubleshooting Manual* on the web or on your printer's CD-ROM.

Engine Error Log (Phaser 840 printer)

Code	Description
*xx,xxx.*4*x*	Device fault
*xx,xxx.*6*x*	Software error
22,*xxx.xx*	Media jam

Engine Error Log (Phaser 740 and 780 printers)

Code	Description
1	Black cartridge movement error
2	Cyan cartridge movement error
3	Magenta cartridge movement error
4	Yellow cartridge movement error
5	Toner cooling fan error
10	Scanner motor error
11	Power supply error
12	LSync over error
13	LSync short error
20	Charger error
21	Asynchronous OPC error
22	OPC position error
30	Transfer position error
32	Blade movement error
33	Transfer roller error
40	Fuser temperature low
41	Fuser temperature high
42	Fuser thermistor open error
43	Fuser temperature raising error
50	Power supply cooling fan error
51	Ozone fan error
60	Multi-Purpose Pickup Roller movement error
61	Sleeve motor locked
62	Transport motor locked
63	Main motor locked
70	ROM check sum error
71	RAM check sum error
72	EEPROM check sum error
73	EEPROM check sum error CIK
74	EEPROM check sum error Fuser
80	VSync timeout error
81	ECU needs power
82	Engine serial timeout error
83	Engine command error

Engine Error Log (Phaser 740 and 780 printers) (cont'd.)

84	Engine parity error
85	Fuser warmup time out
86	Fuser lamp error
87	ROS motor failure
88	Process motor failure
89	Paper handling motor failure
90	CRUM communications error
91	CRUM verify error
92	CRUM used bit set
93	CRUM ID doesn't match engine ID
94	CRUM count error
95	CRUM imitation error 1
96	CRUM imitation error 2
97	Duplexer communication error
98	Bias transfer roller error
99	Abnormally high pixel coverage
100	Abnormally high patch density
101	Abnormally low patch density
102	Environment sensor error
103	Home sensor error
104	NVRAM checksum error
105	Pixel count density control error
106	Auto-density control error

Postscript Error Log (Phaser 840, 740 and 780 printers)

Code	Description
1	unregistered
2	invalidaccess
3	typecheck
4	invalidrestore
5	dictfull
6	handleerror
7	invalidexit
8	ioerror
9	limitcheck

Postscript Error Log (Phaser 840, 740 and 780 printers) (cont'd.)

Code	Description
10	interrupt
11	configurationerror
12	dictstackoverflow
13	invalidfont
14	invalidfileaccess
15	syntaxerror
16	timeout
17	undefinedfilename
18	execstackoverflow
19	unmatchedmark
20	undefinedresult
21	stackoverflow
22	VMerror
23	phandleerror
24	dictstackunderflow
25	undefined
26	rangecheck
27	nocurrentpoint
28	stackunderflow
29	undefinedresource
30	<No Match>

Last jam logs

Possible values for Last Jam Location are defined by the particular jams for the following printers:

■ "Last Jam Log - Phaser 840 printer" on page 151.

■ "Last Jam Log - Phaser 740 printer" on page 152.

■ "Last Jam Log - Phaser 780 printer" on page 153.

Last Jam Log - Phaser 840 printer

Code	Description
1	Jam A (Upper Tray)
	1 = Paper Letter 2 = Paper A4 3 = Transparency Letter 4 = Transparency A4
2	Jam B (Middle/Lower Trays)
	1 = Paper Letter 2 = Paper A4
3	Jam C (Exit Cover)
	1 = Paper Letter 2 = Paper A4 3 = Transparency Letter 4 = Transparency A4 5 = Other (Envelopes)
4	Jam D (Front Cover)
	1 = Paper Letter 2 = Paper A4 3 = Transparency Letter 4 = Transparency A4 5 = Other (Envelopes)
5	Jam E (Exit Tray)
	1 = Paper Letter 2 = Paper A4 3 = Transparency Letter 4 = Transparency A4 5 = Other (Envelopes)
6	Jam Manual Feed
	Same as 3, Jam C (Fuser)

Last Jam Log - Phaser 740 printer

Code	Description
1	Jam A (Upper Tray)
	1 = Upper-Paper-Letter 2 = Upper-Paper-A4 3 = Upper-Paper-Legal 4 = Upper-Transparency-Letter 5 = Upper-Transparency-A4 6 = Upper-Transparency-Legal
2	Jam B (Middle/Lower Trays)
	1 = Middle-Paper-Letter 2 = Middle-Paper-A4 3 = Middle-Paper-Legal 4 = Middle-Transparency-Letter 5 = Middle-Transparency-A4 6 = Middle-Transparency-Legal 7 = Lower-Paper-Letter 8 = Lower-Paper-A4 9 = Lower-Paper-Legal 10 = Lower-Transparency-Letter 11 = Lower-Transparency-A4 12 = Lower-Transparency-Legal
3	Jam C (Fuser)
	1 = Paper-Letter 2 = Paper-A4 3 = Paper-Legal 4 = Transparency-Letter 5 = Transparency-A4 6 = Coated-Letter 7 = Coated-A4 8 = Coated-Legal 9 = Card-Letter 10 = Card-A4 11 = Card-Legal 12 = Env-#10 13 = Label-Letter 14 = Label-A4 15 = Fabric Transfer-Letter 16 = Fabric Transfer-A4 17 = 2nd Side-Letter 18 = 2nd Side-A4 19 = 2nd Side-Legal
4	Jam D (Flip) - same as 3, Jam C (Fuser)
5	Jam E (Exit) - same as 3, Jam C (Fuser)
6	Jam F (Duplex) - same as 3, Jam C (Fuser)
7	Jam Multi-Purpose Tray - same as 3, Jam C (Fuser)

Last Jam Log - Phaser 780 printer

Code	Description
1	Jam AB
	1 = Paper-Letter 2 = Paper-Legal 3 = Paper-Tabloid 4 = Paper-Tabloid extra 5 = Paper-Tabloid plus 6 = Paper-SRA3 7 = Paper-A3 8 = Paper-A4 9 = Paper-A5 10 = Paper-B4 11 = Paper-B5 12 = Transparency-Letter 13 = Transparency-A4 14 = Transparency-Tabloid extra 15 = Coated-Letter 16 = Coated-Legal 17 = Coated-Tabloid 18 = Coated-Tabloid extra 19 = Coated-Tabloid plus 20 = Coated-SRA3 21 = Coated-A3 22 = Coated-A4 23 = Coated-A5 24 = Coated-B4 25 = Coated-B5 26 = Card-Letter 27 = Card-Legal 28 = Card-Tabloid 29 = Card-Tabloid extra 30 = Card-Tabloid plus 31 = Card-SRA3 32 = Card-A3 33 = Card-A4 34 = Card-A5 35 = Card-B4 36 = Card-B5 37 = Card-Postcard 38 = Label-Letter 39 = Label-A4 40 = Fabric Transfer-Letter 41 = Fabric Transfer-A4 42 = Fabric Transfer-Tabloid extra 43 = Envelope-Env #10 44 = Envelope-Env C4 45 = Envelope-Env C5 46 = Envelope-Env C6 47 = Envelope-Env dl 48 = Envelope-Env chou3 49 = Envelope-Env kaku2
2	Jam CD - same as 1, Jam AB
3	Jam E - same as 1, Jam AB

14 *Getting Help*

If you need help from Tektronix

Visit Tektronix' color printer web site for the most up-to-date information about your printer. View updated user documentation, download utility files, get answers to frequently asked questions, find a list of Tektronix dealers in your area, or contact customer support.

Tektronix Color Printer web site	**www.tek.com/Color_Printers/**
Documentation	**www.tek.com/Color_Printers/userdoc/introduction.html**
Technical support	**www.tek.com/Color_Printers/support/colcare.html**
Color use tips for novices and experts	**www.colorize.com**
PhaserLink Printer Management software	**www.tek.com/Color_Printers/products/phaserlink.html**
TekSMART™ Knowledge Base	**www2.tek.com/merlin/tko**
Anonymous FTP server	**ftp.tek.com/Color_Printers/**
email update notices	**www.tek.com/Color_Printers/support/subscribe.html**

For more information or for getting help with troubleshooting or servicing your printer, contact your local Tektronix dealer or sales representative or the following resources worldwide:

Customer Support Centers

Australia 1-800-811-177	**France** 01 69 86 8137	**New Zealand** +61 2 9888 0100
Austria 0660 5804	**Germany** 0180 525 3535	**Norway** (22) 723 801
Belgium 02 720 9602	**Hong Kong** 2585-6655	**Singapore (ASEAN)** 1-800-356-5565
Brazil 0800 16 0220	**India (South Asia)** (91) 80-227-5577	**Spain** 902 239 272
Canada 1-800-835-6100	**Italy** 02 45 287 000	**Sweden** (08) 299 071
China 10-6235-1230	**Japan** 81 3 3448 4872	**Switzerland** 155 9493
Denmark (44) 533 444	**Korea** 2-528-5299	**Taiwan** (02) 2757-1571
Eastern Europe and the Middle East +44 1908 68187	**Luxembourg** 400 847	**Thailand** 2-645-4407
Finland 0203 206 30	**Netherlands** (040) 267 0440	**U.K.** (01) 908 681 707
		U.S. 1-800-835-6100

All other locations: Contact local Tektronix dealers or Tektronix offices.
For a list of dealers in your area, visit **www.tek.com/Color_Printers/contacts**.

Using the automated fax systems

As an alternative to other resources, and to provide up-to-date information quickly, Tektronix has set up HAL (Highly Automated Library) and EuroHAL, two interactive, automated fax systems. These automated fax systems provide Macintosh, PC, and workstation users with the latest technical hints and tips (like color adjustments), solutions to common technical problems, and application notes for software problems (such as CorelDRAW! and QuarkXPress).

If you have a fax machine and a touch-tone voice telephone, you can order a HAL catalog, listing all of the information offered by HAL. You may call HAL or EuroHAL from anywhere in the world. The fax systems are available 24 hours a day, seven days a week.

Use EuroHAL to order a catalog or individual documents in Europe

EuroHAL includes many documents, some in English and some in other European languages. If a local version of the document you want is available, EuroHAL will send it in your language. Otherwise, it will send English documents.

Country	Numbers
Austria	
Belgium	
Denmark	00 44 1908 681839
Finland	
Holland	
Italy	
Norway	
Switzerland	
France	0800 90 81 86
Germany	0130 819 220
Spain	07 44 1908 681839
Sweden	009 44 1908 681839
UK	01908 681839
Other countries	+44 1908 681839 (where + is your country's International Access Code)

Receiving email update notices

Using the World Wide Web, you can register to receive email notification of new printer drivers, accessories and upgrades for your Tektronix Phaser color printer as they become available. To subscribe to this free service, simply follow these steps:

1. Point your browser to the Tektronix web site:

   www.tek.com/Color_Printers/support/subscribe.html

2. Enter your email address and select your model of Phaser color printer from the pull-down list.

3. Click **subscribe**.

15 *Disabling Protocols*

After your network configuration is complete, you may want to disable protocols that you are not using to avoid unnecessary network traffic. There are four ways to disable protocols:

■ Use the printer's front panel; see "Disabling protocols: front panel" on page 160.

■ Use the PhaserShare Administrator, if you are running NetWare; see "Disabling protocols: PhaserShare Administrator" on page 168.

■ With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Disabling protocols: PhaserLink Printer Management Software" on page 168.

■ Send the appropriate PostScript utility file to the printer. See the *README* files on the printer's CD-ROM. The PC *README* file is in the *UTILS* directory; the Macintosh *README* file is in the *Network Utilities* folder.

The procedures given here for disabling protocols only apply to EtherTalk and TokenTalk installations (using a PhaserShare Series B Ethernet or Token Ring card). The PhaserShare Series B LocalTalk card does not support the protocols discussed here, so they cannot be enabled or disabled.

You can enable protocols by the same procedures; just select the command to enable a protocol rather than disable it.

Disabling protocols: front panel

N O T E
>
> If you are attempting to perform any front panel procedure and you don't see the expected menu choices on the front panel display, the front panel may be locked. For information on how to unlock it, see "If the front panel is locked" on page 167.

Phaser 840 printer

1. When the front panel displays **READY TO PRINT**, press the down-arrow button until **Menu** is highlighted. Press **Select**.

2. Press the down-arrow button until **Printer Configuration** is highlighted. Press **Select**.

3. Press the down-arrow button until **Network Settings** is highlighted. Press **Select**.

4. **To disable EtherTalk (or TokenTalk):**

    a. Press the down-arrow button until **EtherTalk** (or **TokenTalk**) is highlighted.

    b. Press **Select** until **Off** is displayed.

        ■ To return the printer to normal operation, press the down-arrow button until **Exit** is highlighted. Press **Select**.

        ■ To disable other protocols, continue with Step 5.

5. **To disable NetWare:**

    a. Press the down-arrow button until **NetWare** is highlighted. Press **Select**.

    b. Press the down-arrow button until **NetWare** is highlighted.

    c. Press **Select** until **Off** is displayed.

        ■ To return the printer to normal operation, press the down-arrow button until **Exit** is highlighted. Press **Select**.

        ■ To disable other protocols, press the up-arrow button until **Previous Menu** is highlighted. Press **Select**. Continue with Step 6.

6. **To disable TCP/IP:**

a. Press the down-arrow button until **TCP/IP** is highlighted. Press **Select**.

b. Press the down-arrow button until **TCP/IP Interface** is highlighted.

c. Press **Select** until **Off** is displayed.

■ To return the printer to normal operation, press the down-arrow button until **Exit** is highlighted. Press **Select**.

■ To disable other protocols, press the up-arrow button until **Previous Menu** is highlighted. Press **Select**. Continue with Step 7.

7. **To disable HTTP:**

a. Press the down-arrow button until **HTTP** is highlighted.

b. Press **Select** until **Off** is displayed.

c. To return the printer to normal operation, press the down-arrow button until **Exit** is highlighted. Press **Select**.

Phaser 740 printer

1. Press **Menu**; the front panel displays Help Pages.

N OTE

When you are in the menu, if the front panel is not used for 5 minutes, the printer returns to the Ready state.

2. Enter the **Network Settings** menu by pressing ----> or <---- until the front panel displays Network Settings.

3. Press **Menu**; the front panel displays TCP/IP.

4. **Disabling TCP/IP:**

a. Press **Menu**; the front panel displays Interface.

b. Press **Menu** again to display the current status of the protocol: Interface:Enabled or Interface:Disabled. The current status is marked with an asterisk (*) in the upper-right corner of the display.

c. Press ----> until the front panel displays Interface:Disabled.

d. Press **OK** to disable the protocol; the front panel briefly displays Selected, then it displays Interface.

e. Press **Exit** (the far left button) to return to the TCP/IP display.

5. Disabling EtherTalk: To return the printer to normal operation, go immediately to Step 8; to continue and disable the EtherTalk protocol, follow these steps:

   a. Press ---->; the front panel displays `EtherTalk`.

   b. Press **Menu**; the front panel displays the current status of the protocol: `EtherTalk:Enabled` or `EtherTalk:Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press ----> until the front panel displays `EtherTalk:Disabled`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `EtherTalk`.

6. Disabling NetWare: To return the printer to normal operation, go immediately to Step 8; to continue and disable the NetWare protocol, follow these steps:

   a. Press ---->; the front panel displays `NetWare`.

   b. Press **Menu** again; the front panel displays `Interface`.

   c. Press **Menu** to display the current status of the protocol: `Interface:Enabled` or `Interface:Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   d. Press ----> until the front panel displays `Interface:Disabled`.

   e. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Interface`.

   f. Press **Exit** (the far left button) to return to the `NetWare` display.

7. Disabling HTTP: To return the printer to normal operation, go immediately to Step 8; to continue and disable the HTTP protocol, follow these steps:

   a. Press ---->; the front panel displays `HTTP`.

   b. Press **Menu**; the front panel displays the current status of the protocol: `HTTP:Enabled or HTTP:Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press ----> until the front panel displays `HTTP:Disabled`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `HTTP`.

8. Return the printer to normal operation:

   a. Press **Exit** (the far left button) until the front panel displays `Network Settings`.

   b. Press **Exit** (the far left button) again.

      ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **`Reset`**, the printer resets. If you press **`Resume`**, the front panel displays `Network Settings`. Press **Exit** (the far left button); the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

      ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Phaser 780 printer

1. Press **`Select`**; the front panel displays `Help Pages`.

2. Press the left arrow or right arrow buttons until the front panel displays `Network Settings`.

3. Press **`Menu`** to enter the `Network Settings` menu.

4. **Disabling TCP/IP:**

   a. Press the right arrow button until the front panel displays `TCP/IP`.

   b. Press **`Menu`**; the front panel displays `Interface`.

   c. Press **`Menu`** again to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   d. Press the right arrow button until the front panel displays `Off`.

   e. Press **`Select`** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

   f. Press the right arrow button twice to return to the `Network Settings` menu.

5. **Disabling EtherTalk (or TokenTalk):** To return the printer to normal operation, go immediately to Step 8; to continue and disable the EtherTalk protocol, follow these steps:

   a. Press the right arrow button until the front panel displays `EtherTalk` or `(TokenTalk)`.

   b. Press **`Menu`** to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press the right arrow button until the front panel displays `Off`.

   d. Press **`Select`** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

   e. Press **Exit** (the far right button) once to return to the `Network Settings` menu.

6. **Disabling NetWare:** To return the printer to normal operation, go immediately to Step 8; to continue and disable the NetWare protocol, follow these steps:

   a. Press the right arrow button until the front panel displays `NetWare`.

   b. Press **Menu**; the front panel displays `Interface`.

   c. Press **Menu** again to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   d. Press the right arrow button until the front panel displays `Off`.

   e. Press **Select** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

   f. Press **Exit** (the far right button) twice to return to the `Network Settings` menu.

7. **Disabling HTTP:** To return the printer to normal operation, go immediately to Step 8; to continue and disable the HTTP protocol, follow these steps:

   a. Press the right arrow button until the front panel displays `HTTP`.

   b. Press **Menu** to display the current status of the protocol: `On` or `Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press the right arrow button until the front panel displays `Off`.

   d. Press **Select** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Off` again.

   e. Press **Exit** (the far right button) twice to return to the `Network Settings` menu.

8. Return the printer to normal operation, press **Exit** (the far right button) again:

   ■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit** (the far right button); the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

   ■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

Phaser 360 printer

1. Press **Menu**; the front panel displays `Help Pages`.

2. Enter the `Network Settings` menu by pressing `---->` or `<----` until the front panel displays `Network Settings`.

3. Press **Menu**; the front panel displays `TCP/IP`.

4. **Disabling TCP/IP:**

   a. Press **Menu**; the front panel displays `Enable Interface`.

   b. Press **Menu** again to display the current status of the protocol: `Interface:On` or `Interface:Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press `---->` until the front panel displays `Interface:Off`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Enable Interface`.

   e. Press **Exit** to return to the `TCP/IP` display.

5. **Disabling EtherTalk (or TokenTalk):** To return the printer to normal operation, go immediately to Step 8; to continue and disable EtherTalk (or TokenTalk), follow these steps:

   a. Press `---->`; the front panel displays `EtherTalk` or `(TokenTalk)`.

   b. Press **Menu**; the front panel displays the current status of the protocol: `Enabled` or `Disabled`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   c. Press `---->` until the front panel displays `Disabled`.

   d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `EtherTalk` or `(TokenTalk)`.

6. **Disabling NetWare:** To return the printer to normal operation, go immediately to Step 8; to continue and disable the NetWare protocol, follow these steps:

   a. Press `---->`; the front panel displays `NetWare`.

   b. Press **Menu** again; the front panel displays `Enable Interface`.

   c. Press **Menu** to display the current status of the protocol: `Interface:On` or `Interface:Off`. The current status is marked with an asterisk (*) in the upper-right corner of the display.

   d. Press `---->` until the front panel displays `Interface:Off`.

   e. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `Enable Interface`.

   f. Press **Exit** to return to the `NetWare` display.

7. **Disabling HTTP:** To return the printer to normal operation, go immediately to Step 8; to continue and disable the HTTP protocol, follow these steps:

a. Press `---->`; the front panel displays `HTTP`.

b. Press **Menu** again; the front panel displays the current status of the protocol: `HTTP:Enabled` or `HTTP:Disabled`. The current status is marked with an asterisk (`*`) in the upper-right corner of the display.

c. Press `---->` until the front panel displays `HTTP:Disabled`.

d. Press **OK** to disable the protocol; the front panel briefly displays `Selected`, then it displays `HTTP`.

8. Return the printer to normal operation:

a. Press **Exit** until the front panel displays `Network Settings`.

b. Press **Exit** again.

■ If you have changed any parameters that require a printer reset to take effect, you will be prompted to reset the printer. If you press **Reset**, the printer resets. If you press **Resume**, the front panel displays `Network Settings`. Press **Exit**; the printer returns to normal operation, but the changes you have made will not take effect until the next time the printer is reset.

■ If you have not changed any parameters that require a printer reset to take effect, the front panel displays `Ready`.

If the front panel is locked

If you are attempting to perform any front panel procedures and you don't see the expected menu choices on the front panel display, the front panel may be locked. The following topics describe how to unlock the front panel.

Phaser 840 printer

The printer allows a system administrator to lock the front panel menu by using PhaserLink software or by downloading a utility file. In this protected mode, the **Configuration** menu does not display **Default Printer Settings** or **Network Settings**. The following procedure displays these menu choices until you leave the **Configuration** menu; the next time you return to the menu, the choices will not be displayed.

1. Display the **Configuration** menu:

    a. When the front panel displays READY TO PRINT, press the down arrow button until **Menu** is highlighted, then press **Select**.

    b. Press the down arrow button until **Printer Configuration** is highlighted, then press **Select**.

2. With the **Configuration** menu displayed, press and hold the left arrow button; while holding down the left arrow button, press **Select**, then release both buttons.

Phaser 360 printer

The printer allows a system administrator to lock the front panel menu by downloading a utility file. In this protected mode, you can print the pages in the Help Pages menu, but *cannot modify any settings in the rest of the menus*. For more information on locking the front panel menu with a utility file, refer to your printer's user documentation.

■   Press **Menu**. The front panel displays the following message:

```
Help Pages
<----   ---->   Menu
```

When the front panel is locked and you press **Menu**, the display shows only the pages in the Help Pages menu (without the heading):

```
Configuration Page
<----   ---->   Print
```

To access the entire menu with the front panel locked, you must use a special key sequence to enter the menu.

■   Press and hold down **Menu** and press **Exit**. The front panel displays the following message:

```
Help Pages
<----   ---->   Menu
```

■   You now have access to all front panel menus.

Disabling protocols: PhaserShare Administrator

1. In the PhaserShare Administrator **Main** window, select the desired printer from the **Printer List**.

2. Click **Configure Printer**; this displays the **Configure Printer** dialog box.

3. In the **Configure Printer** dialog box, click the **Ethernet** (or **Token Ring**) tab.

4. In the **Ethernet** (or **Token Ring**) tab, click **Protocol Settings**. This displays the **Protocol Settings** dialog box.

5. In the **Protocol Settings** dialog box, click the tab for the protocol you want to disable.

6. On the tab for the selected protocol, find the field for enabling or disabling the protocol. On some printers, this field is labeled **Port Enabled**; on other printers, the port name is spelled out (for example, **NetWare Enabled**). To disable the protocol, select **No**.

7. Click **OK**.

For more information on the PhaserShare Administrator, see Chapter 5, "PhaserShare Administrator Software for NetWare Networks".

Disabling protocols: PhaserLink Printer Management Software

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click the link to the **View and Configure Interface Settings** page.

3. On the **View and Configure Interface Settings** page, click the link for the protocol you want to disable; this displays the page for that protocol.

4. On the page for the selected protocol, find the field for enabling or disabling the protocol. On some printers, this field is labeled **Port Enabled**; on other printers, the port name is spelled out (for example, **NetWare Enabled**). To disable the protocol, select **No**, then click **Do/Apply**.

For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

16 *Resetting the Printer*

Several of the network configuration procedures require you to reset the printer. There are several ways to reset the printer:

- Turn the printer off, then back on again.

- With a TCP/IP connection and a World Wide Web browser, you can use PhaserLink Printer Management Software; see "Resetting the printer: PhaserLink Printer Management Software" on page 169.

- PC and UNIX users can send the PostScript file *RESET.PS* from the printer's utilities software.

- Macintosh users can reset the printer using the Apple Printer Utility. See "Resetting your printer using the Apple Printer Utility" on page 170.

Resetting the printer by any of these methods restores the printer to its power-on conditions (*not* its factory default conditions). The power-on conditions include any custom changes made to the printer that are stored in the printer's non-volatile memory and are therefore persistent across printer power cycles. For example, the printer's name is a power-on condition that is not altered by resetting the printer.

Resetting the printer: PhaserLink Printer Management Software

1. From the printer's home page, click **Configuration**; this displays the **View and Configure Settings** page.

2. On the **View and Configure Settings** page, click **Configure Authorization Codes**.

3. On the **Configure Authorization Codes** page, enter the validation password (if one has been assigned), and click **Do/Apply**.

N O T E
 PhaserLink passwords are not encrypted.

4. Wait 10 seconds, then click the browser's **Stop** button.

5. Reload the page in the browser.

For more information on PhaserLink Printer Management Software, see Chapter 12, "PhaserLink Printer Management Software".

Resetting your printer using the *Apple Printer Utility*

Macintosh users can reset the printer using the *Apple Printer Utility*.

1. Locate the *Apple Printer Utility,* which is included with your printer's network utilities software.

2. Double-click the **Apple Printer Utility** icon; the **Printer Selector** window is displayed.

3. Select the zone (if applicable) and the printer. Click **Open Printer**; a dialog box is displayed containing **Printer Information** and **Printer Preferences**.

4. From the **Utilities** menu, select **Restart Printer**.

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FTP Interface

Your printer's FTP interface is a standard FTP server. Using FTP, you can send a job to the printer, where it is printed (not stored). No password is required. You can save a PostScript file from an application and send the file to a remote printer over a network or the Internet using an FTP program.

The printer's FTP directory is *PRINTER:1*, and any files sent there are automatically passed to the printer.

The printer's FTP parameters can be changed using PhaserLink Printer Management Software. For more information on PhaserLink software, see Chapter 12, "PhaserLink Printer Management Software".

The following table lists the supported FTP commands.

Supported FTP commands

Request	Description
ABOR	Abort previous command.
HELP	Give help information.
MODE	Specify data transfer mode. NOTE: With the PhaserShare FTP interface, the only transfer mode is **Stream**.
NOOP	Do nothing.
PASS	Specify password.
PASV	Get the server's IP address and port number.
PORT	Specify data connection port.
PUT	Send a file to the printer.
PWD	Print the current working directory.
QUIT	Terminate session.
STAT	Report current status. NOTE: With the PhaserShare FTP interface, optional arguments to this command are ignored.
STOR	Store a file.
STRU	Specify a data transfer structure. NOTE: With the PhaserShare FTP interface, only **File** and **Record** structures are allowed; the default is **File**.

Supported FTP commands (cont'd.)

Request	Description
SYST	Specify operating system of server.
TYPE	Specify data transfer type. NOTE: With the PhaserShare FTP interface, only **ASCII Non-printing** and **Image** types are allowed; the default is **ASCII Non-printing**.
USER	Specify user name.

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