

User Manual

Tektronix

**Phaser™ 240
Color Printer**

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This warranty applies only to products returned to the designated Tektronix depot or the Tektronix authorized representative from which the product was originally purchased. For products returned to other locations, Customer will be assessed the applicable service charge. The above limitation shall not apply within the European Economic Area, where products may be returned for warranty service to the nearest designated service depot regardless of the place of purchase.

In order to obtain service under this warranty, Customer must provide the applicable office of Tektronix or its authorized representative with notice of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix or its representative, with shipping charges prepaid. Tektronix or its representative shall pay for the return of the product to Customer. Customer shall be responsible for paying any associated taxes or duties.

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- b. to repair damage resulting from improper use or connection to incompatible equipment;
- c. to repair any damage or malfunction caused by the use of non-Tektronix supplies or consumables;
- d. to repair a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product; or
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Users safety summary

Terms in manual: CAUTION Conditions that can result in damage to the product.
WARNING Conditions that can result in personal injury or loss of life.

Power source: Do not apply more than 250 volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. Refer to a qualified service technician for changes to the cord or connector.

Operation of product: Avoid electric shock by contacting a qualified service technician to replace fuses inside the product. Do not operate without the covers and panels properly installed. Do not operate in an atmosphere of explosive gases.

Safety instructions: Read all installation instructions carefully before you plug the product into a power source.

Terms on product: CAUTION A personal injury hazard exists that may not be apparent. For example, a panel may cover the hazardous area. Also applies to a hazard to property including the product itself.
DANGER A personal injury hazard exists in the area where you see the sign.

Care of product: Disconnect the power plug by pulling the plug, not the cord. Disconnect the power plug if the power cord or plug is frayed or otherwise damaged, if you spill anything into the case, if product is exposed to any excess moisture, if product is dropped or damaged, if you suspect that the product needs servicing or repair, and whenever you clean the product.

Ground the product: Plug the three-wire power cord (with grounding prong) into grounded AC outlets only. If necessary, contact a licensed electrician to install a properly grounded outlet.

Symbols as marked on product:

DANGER high voltage:



Protective ground (earth) terminal:



Use caution. Refer to the manual(s) for information:



WARNING: If the product loses the ground connection, usage of knobs and controls (and other conductive parts) can cause an electrical shock. Electrical product may be hazardous if misused.

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Introduction

The Tektronix Phaser 240 is a thermal-wax color printer that provides superior quality A/Letter-size and A4-size color prints. The printer provides color printing at speeds up to two pages per minute with PANTONE Color-approved and TekColor imaging enhancements.

The Phaser 240 delivers 300 x 300 dots-per-inch (dpi) color resolution in its default configuration. With a minimum of 8 Mbytes of additional memory installed, a 600 x 300 dpi resolution printing mode gives you sharper, clearer thermal-wax prints.

An optional Lower Tray Assembly is available for the printer; the optional Lower Tray Assembly provides dual-tray printing capability. Printing from two trays allows you to have paper and transparencies ready for printing at all times without switching trays. You can also load the same media in both trays.

The Phaser 240 printer provides vivid color on common laser paper, coated thermal-transfer paper, and transparencies. A specially formulated transfer roll gives prints on standard laser paper the brilliant color quality previously available only with coated thermal-transfer papers.

By using Tektronix *perforated* paper and transparencies, you can print full A/Letter-size or A4-size images with ISO (International Standards Organization) margins (5 mm; 0.2 in.).

The Phaser 240 printer works with Macintosh computers, IBM Personal Computers and compatibles, and various workstations. You can print from several computers at the same time because the printer supports simultaneous input through parallel and LocalTalk ports. An optional Ethernet interface provides Ethernet connectivity with EtherTalk and Novell NetWare protocols. The TCP/IP protocol is also available by purchasing an additional option.

The printer lets you make color prints from a variety of software applications since it incorporates Adobe's PostScript Level 2 software. The printer also accepts HP-GL (Hewlett-Packard Graphics Language) files and monochrome PCL5 (Printer Command Language) files. The Phaser 240 printer interfaces automatically switch between all of the three supported languages: PostScript, HP-GL, and PCL5.

The Phaser 240 has 17 resident PostScript fonts, upgradable to 39 fonts. The printer accepts the following types of fonts:

- Adobe Type 1
- Adobe Type 3
- TrueType
- A variety of user-defined fonts

To order supplies such as paper, transparencies, or transfer rolls, refer to the supplies information sheet that is shipped with the printer and contact your local dealer or, in the U.S.A., call Tektronix at **1-800-835-6100**.

Getting Set Up

At a glance

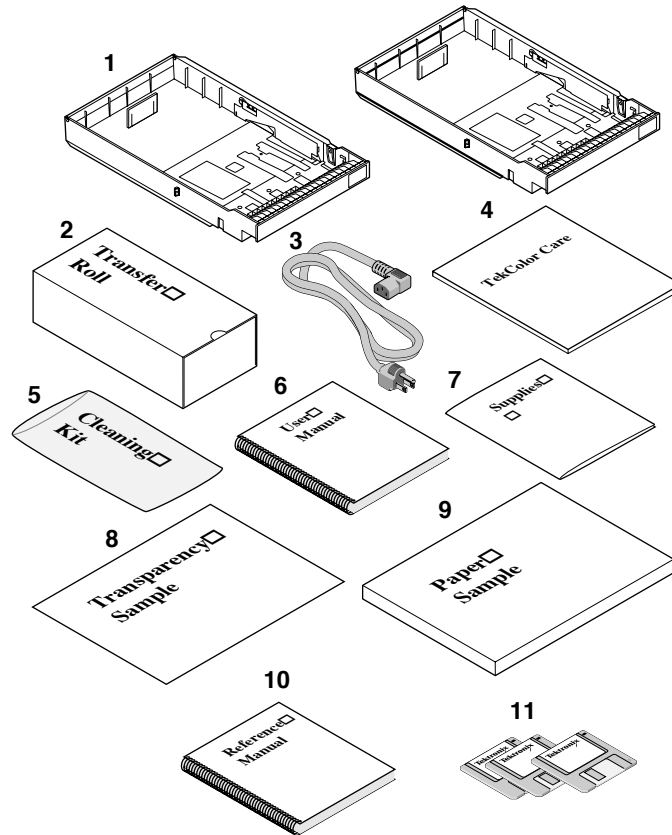
To install your printer, perform the steps listed here. The following pages provide detailed installation instructions. If you used the pictorial installation instructions, you have already performed Steps 1 and 2. Begin with Step 3; turn to “Installing a driver on your computer” on page 2-23.

- 1. Setting up the printer**
Putting all the pieces together: unpacking the printer and accessories, checking the inventory, removing the packing material, installing the optional Lower Tray Assembly, loading the transfer roll, loading the paper tray(s), setting the media switch for paper or transparencies, and installing memory, font or Ethernet options.
- 2. Connecting the printer**
Connecting all necessary cables and turning on the printer.
- 3. Installing a driver on your computer**
Using the Phaser 240 diskettes to install a driver on your computer (Macintosh or Windows).
- 4. Setting up computer ports**

Setting up the printer

What you get with your printer

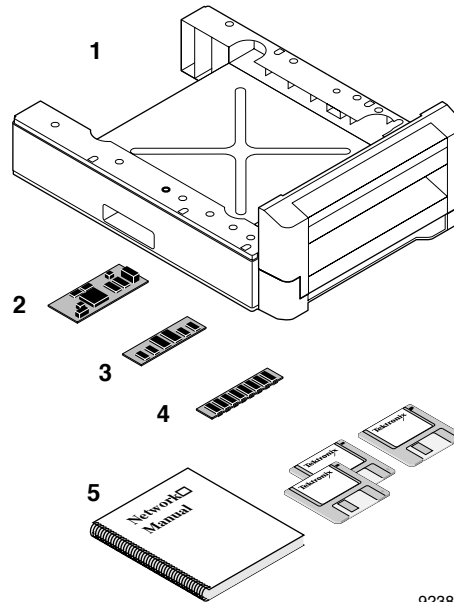
1. Paper tray(s)
2. Sample transfer roll
3. Power cord
4. TekColor Care envelope (includes the registration card)
5. Cleaning kit
6. *Phaser 240 Color Printer User Manual*
7. Supplies information sheet
8. Transparencies
9. Thermal-transfer paper
10. *Phaser 240 Drivers and Utilities Printing Reference*
11. Tektronix Phaser 240 drivers and utilities diskettes



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Printer options

1. Lower Tray Assembly
2. Ethernet SIMM
3. Font SIMM (adds 22 fonts for a total of 39 fonts)
4. Memory (add a single 4-, 8-, or 16-Mbyte SIMM)
5. *Network Utilities for Phaser Color Printers* manual and diskettes



9238-02

Installing the optional Lower Tray Assembly

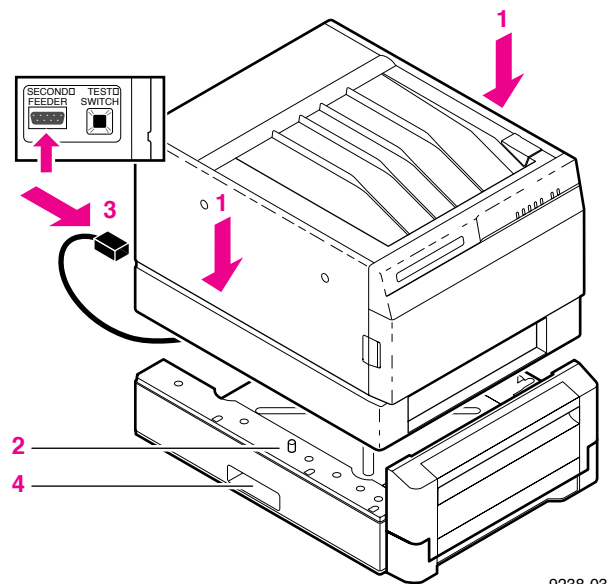
An optional Lower Tray Assembly is available for the Phaser 240 printer (Tektronix order number 4681FTA). With the optional Lower Tray Assembly installed, you can configure the printer to be dual-media capable. For example, you might want to load paper in one tray and transparency in the other.

Note *The printer weighs about 18 kg (40 lbs.). Observe standard precautions for lifting heavy objects.*

Warning *The printer is not permanently attached to the Lower Tray Assembly. Take care to move the printer and Lower Tray Assembly together by using the slots on the sides of the Lower Tray Assembly. Moving the printer incorrectly may damage it and may cause personal injury.*

If you have a Lower Tray Assembly, install it by performing these steps:

1. Place the printer on top of the Lower Tray Assembly.
2. Make sure that the left and right alignment pins fit in the holes in the base of the printer.
3. Plug the Lower Tray Assembly cable into the printer.
4. To move the printer, use the slots on either side of the Lower Tray Assembly. Observe standard precautions for lifting heavy objects. To move the printer more than a few feet, it is easier to disconnect the Lower Tray Assembly and move it separately from the printer.

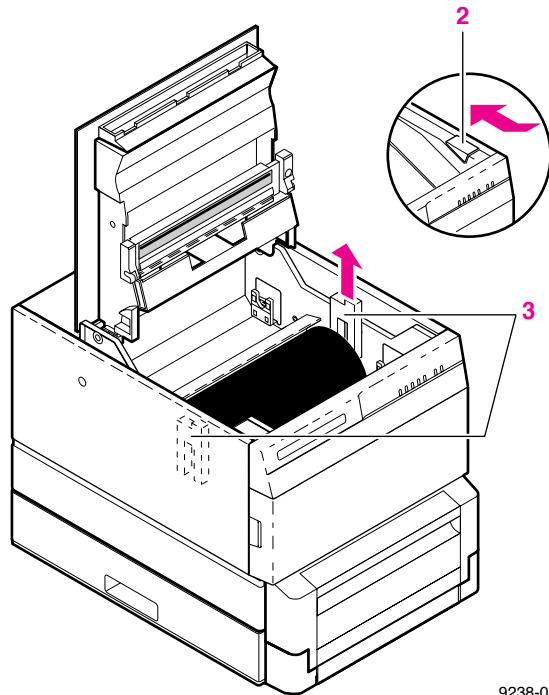


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Note When using the printer with the optional Lower Tray Assembly installed, make sure that the door covering the upper slot is closed. You cannot print from the lower tray with the door open.

Removing the packing material from inside the printer

1. Remove the packing tape from the top and front covers.
2. Press the button; open the top cover.
3. Remove the shipping material from the sides of the drum. (Keep all shipping material for storing or shipping the printer).



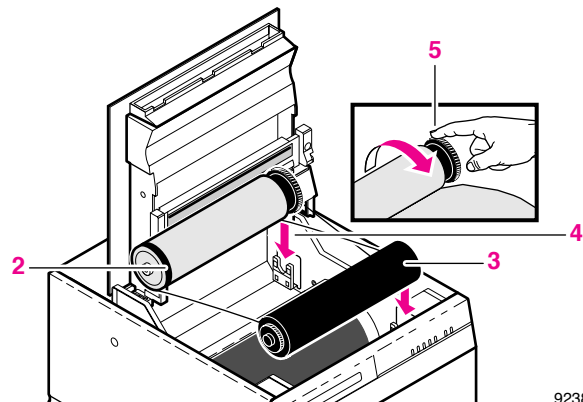
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Install the transfer roll

Note *ColorCoat™ transfer rolls are used with common laser paper and perforated premium laser paper; Black and 3-Color transfer rolls are used with Tektronix transparencies and thermal-transfer paper.*

With the top cover still open, install the transfer roll:

1. Remove the transfer roll from the box. Remove the shipping foam from the transfer roll. Remove the foam clip from the full end of the roll.
2. Hold the transfer roll so that the black band on the roll is on your left.
3. With the black band on the roll to your left, place the empty end of the roll in the slots at the front of the printer.
4. Place the full end of the roll in the slots at the back of the printer.
5. Turn the full end of the roll to remove slack.
6. Close the cover.



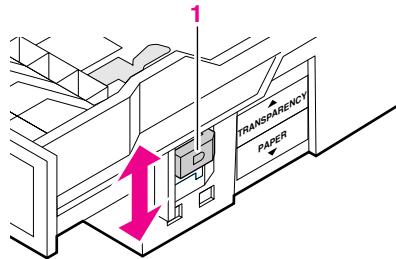
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Adding paper or transparencies

Unpack the paper tray. Be sure to remove all adhesive tape.

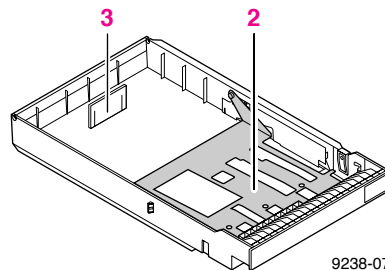
Note The printer uses a different paper tray for each paper size (Letter, Letter-perforated, A4, A4-perforated). The trays are **not** adjustable.

1. If you are using a tray for perforated paper or transparencies, set the selection switch on the tray (1) for paper or transparencies. Trays for non-perforated plain paper do not have this switch.



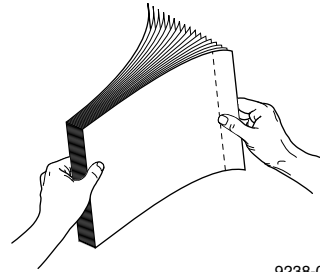
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2. Make sure that the metal plate is all the way down. If necessary, push the metal plate down until it clicks into place. Do not attempt to change the position of the vertical tab (3) at the back of the paper tray.



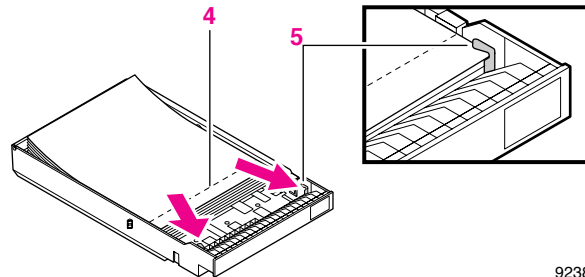
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3. Fan the paper or transparencies.



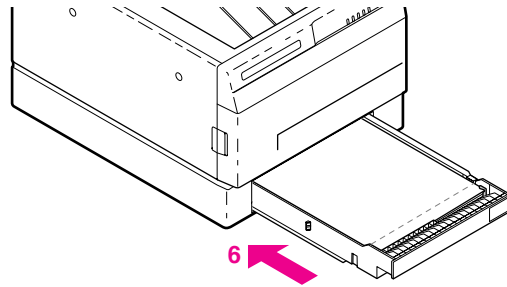
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4. Load perforated paper or transparencies with the perforations toward the front of the tray.
5. Place paper or transparencies in the tray under the hooks. Load transparencies with the film side up. Load thermal-transfer paper with the shiny side up (not applicable for laser paper).



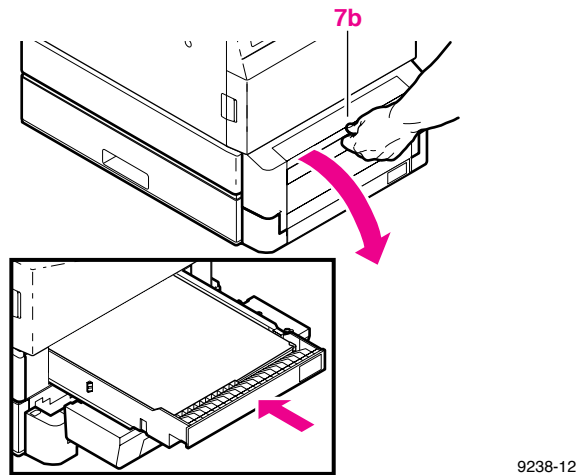
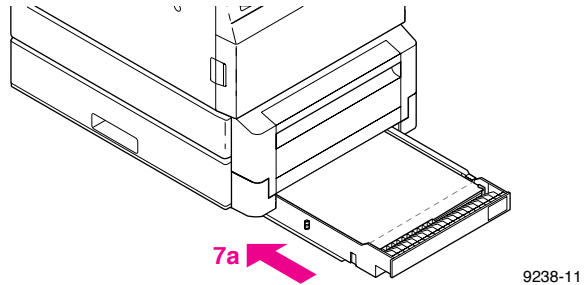
9238-09

6. If your printer has a single paper tray, push the paper tray into the slot.



9238-10

7. If your printer has a Lower Tray Assembly:
 - a. Install a tray in the lower slot.
 - b. Open the door to install a tray in the upper slot.



Installing options

When you order font, memory, or Ethernet options for the Phaser 240, they are shipped in separate boxes. These options must be installed in the printer before you make communication connections and power up the printer. Follow the instructions included with each option to complete the installation.

If you ordered the optional 22 fonts for your printer and you are using a Macintosh computer, you'll need to also install the screen fonts on the computer. Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for more information.

Connecting the printer

Printer ports

The Phaser 240 printer is shipped standard with the following data ports:

- LocalTalk
- Parallel

The Phaser 240 also has an Ethernet connector located on the rear panel. An optional Ethernet interface SIMM must be installed to activate the connector. The optional Ethernet interface provides Ethernet connectivity with EtherTalk, Novell NetWare, and TCP/IP protocols.

All ports and network protocols are simultaneously active. The printer accepts print jobs on a first-come, first-served basis.

Note *Always make connection to the printer's interface ports **before** you turn on the printer.*

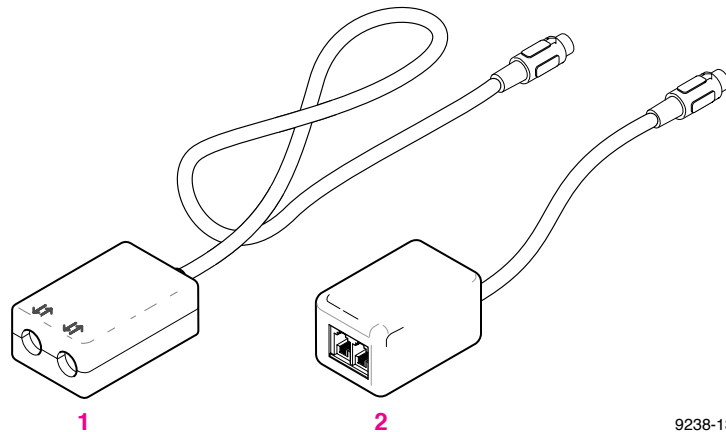
LocalTalk connection

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

LocalTalk connectors and cables are available through your dealer. 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

Note 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.



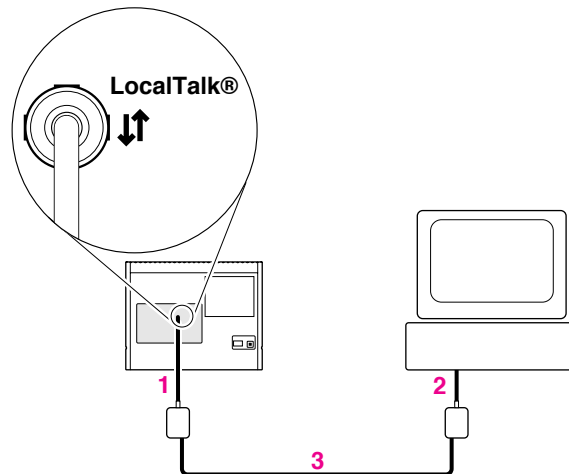
9238-13

Note LocalTalk is sometimes referred to as AppleTalk. LocalTalk refers to the physical connection; AppleTalk is the protocol.

Connecting the printer to a single computer using LocalTalk

You can use LocalTalk connectors and cables to connect the printer directly to your computer, without connecting it to any other network. Make sure that the printer is turned *off* before making any LocalTalk connections.

1. Connect the short cable of a LocalTalk connector to the printer's 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.

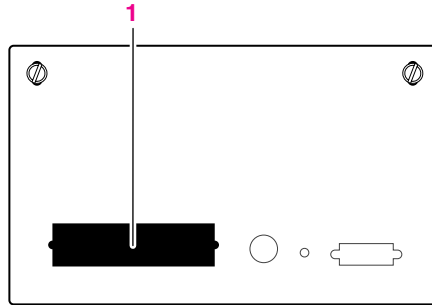


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For details on how to select the printer in the **Chooser**, change the printer's name, or set the printer's zone, refer to the manual *Phaser 240 Drivers and Utilities Printing Reference*. If you have no other connections to make, turn immediately to "Connecting the power and turning on the printer" on page 2-19.

Parallel connection

1. Connect a parallel interface cable to your computer and to the printer's parallel port.



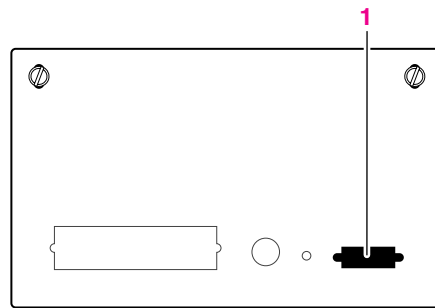
9238-15

2. If you have no other connections to make, turn immediately to “Connecting the power and turning on the printer” on page 2-19. After you turn on the printer and install a driver on your computer, you may disable timeouts on your computer's parallel port (see “Setting up PC ports (DOS)” on page 2-34).

Ethernet connection

Ethernet is a communication standard that supports very high speed data transmission. Ethernet capability is provided by an optional Ethernet SIMM that you must install before powering up the printer. For information on installing the Ethernet SIMM, refer to the documentation that accompanies the Ethernet option.

1. Connect an Ethernet interface cable to the printer's Ethernet port.



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Note For complete information on installing the Phaser 240 printer on Ethernet networks, refer to the *Network Utilities for Phaser Color Printers manual*.

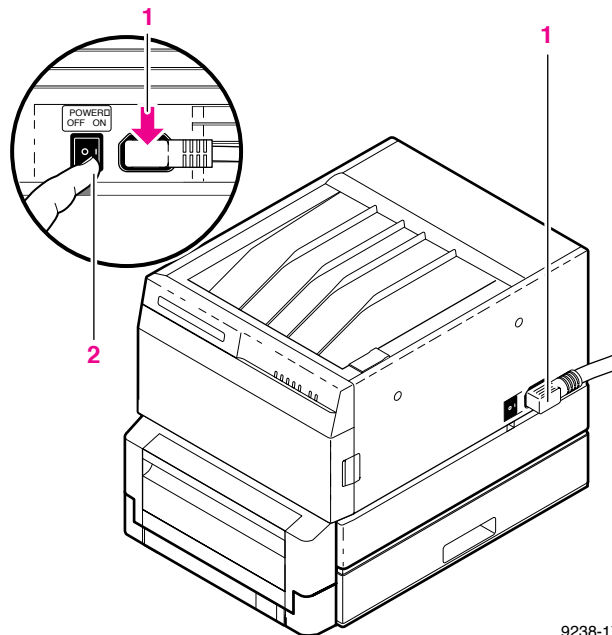
Connecting the power and turning on the printer

After you have connected all the interface cables, you are ready to connect the power cord and turn on the printer.

Caution *To avoid damaging the printer, make sure that the voltage select switch is set to match the AC line voltage for your location and that the power switch is in the **off** position before connecting the power cord.*

If you move the printer to a location that uses a line voltage other than the printer's current setting, refer to "Changing the line voltage" on page C-1 for information on changing the line voltage selection switch.

1. Plug the power cord into the printer and into a grounded outlet.
2. Turn on the printer.

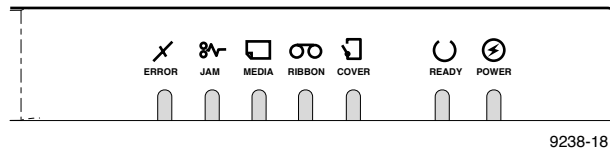


9238-17

When you turn on the printer, it executes a series of self-tests to determine if there are any problems. After running self-tests, the printer prints a startup page, if the startup page is enabled (factory default). After running self-tests and printing the startup page, the printer is ready for operation. The entire power-up sequence can last from 1 to 3 minutes, depending on the type of transfer roll installed and whether the startup page is enabled. The next few topics describe the printer's power-up sequence in detail.

Front panel at power-up

All indicators light briefly and immediately go out, except **POWER** and **READY**, which remain on for about 10 seconds. Then the **READY** indicator blinks while the **POWER** indicator remains on and the self-tests are run. When both **POWER** and **READY** are on steady (not blinking), the self-tests are complete.



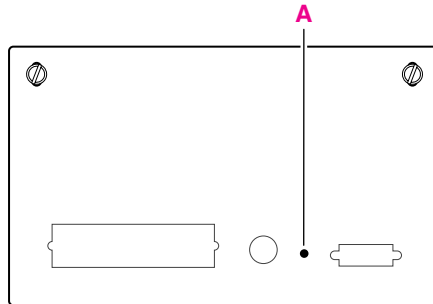
When a *standard transfer roll* is more than 75 percent used up, the front-panel **RIBBON** indicator lights, reminding you that it is time to order a new transfer roll.

When you install the *sample transfer roll* supplied with the printer, the **RIBBON** indicator may light as soon as you install it, or after you make a few prints. This is because the *sample transfer roll* contains a limited number of prints.

For complete information on the front-panel indicator lights, refer to “Front panel” on page 7-1.

Rear panel at power-up

During the first 40 - 60 seconds of the power-up sequence, the rear-panel status indicator (A) goes on and off periodically. After about 40 - 60 seconds, the status indicator blinks continuously, indicating that the printer is ready for normal operation.



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Startup page

The startup page contains information on printer configuration and error messages. The printer produces a startup page when you turn on the printer and self-tests run successfully, if the startup page is enabled (default setting).

The printer takes from 60 to 90 seconds to print the startup page, depending on the type of transfer roll installed. The **READY** indicator blinks while the startup page is printing.

The startup page can be enabled and disabled by sending a utility file to the printer from the printer's utilities diskettes. For information, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Note *After the startup page prints, a registration page prints if the printer has made between six and eight prints since it was built. If you have not already registered your printer, please do so by filling out this page and sending it in.*

When the printer is ready for operation

When the power-up sequence is complete, both the **POWER** and **READY** indicators remain on, indicating that the printer is ready for operation.

Installing a driver on your computer

Phaser 240 drivers and utilities diskettes

Packaged with your printer are the Phaser 240 drivers and utilities diskettes for PC and Macintosh. The drivers and utilities let you select between printer media trays, print quality modes, color correction modes and other features.

For complete details on the contents of the Phaser 240 drivers and utilities diskettes and how to use them, refer to the manual *Phaser 240 Drivers and Utilities Printing Reference*, which is shipped with the diskettes.

PC users

Microsoft Windows

The Phaser 240 diskettes include a Tektronix driver for Windows 3.1 for this printer. If you want to use Microsoft Windows applications with this printer, install the driver onto your PC.

The *Phaser 240 Drivers and Utilities Printing Reference* provides a more detailed driver installation procedure as well as complete information on using the Tektronix driver with the printer.

To install the Tektronix Windows 3.1 driver:

1. Start Windows on your PC.
2. Insert the Tektronix Windows 3.1 Driver and Printer Utilities diskette into your computer's disk drive.
3. In the main window, double-click on the **Control Panel**.
4. Double-click the **Printers** icon; the **Printers** dialog box appears.
 - a. Click the **Add** button.
 - b. In the **List of Printers**, select **Install Unlisted or Updated Printer**.
 - c. Click the **Install** button.
5. Type in the name of the disk drive that the PC diskette is in (for example, drive **B**) and click **OK**.
6. To install your printer, do the following:
 - a. Print a startup page to determine the printer's configuration. If there are 17 resident fonts, you have the standard font configuration. If you have 39 fonts, your printer has the font upgrade. Refer to "Startup page" on page 2-22 for instructions on printing a startup page.

- b. If you have the standard 17 fonts, select **Tek Phaser 240 (TekColor) 17**.

If you have the optional font upgrade (Tektronix order number 4681F1F) with 22 additional fonts (a total of 39 fonts), select **Tek Phaser 240 (TekColor) 39**.

Note *If the printer has the font upgrade, you must install the **Tek Phaser 240 (TekColor) 39** driver for Windows to recognize and use all of the printer's fonts.*

*If you select **Tek Phaser 240 (TekColor) 39** and you only have the standard 17 printer fonts, any of the additional fonts selected within an application are printed in the Courier font.*

- c. Click **OK**. The driver software you need is automatically installed.

Note *The printer's configuration page contains the information you need to set up the printer port. For information on printing a configuration page, see "Printing the configuration page" on page 6-13.*

- 7. Assign the printer to a port:
 - a. Select the printer from the list of **Installed Printers**.
 - b. Click **Set As Default Printer** if you want this printer to be the default.
 - c. Click **Connect** to display the **Connect** dialog box.
 - d. In the **Connect** dialog box, set the **Transmission Retry** value to **850**. Refer to your Windows documentation for details.

- e. In the **Connect** dialog box, select a port:

<u>Interface</u>	<u>Select</u>
Parallel	LPT1 or LPT2
Network	Network button

If you selected a parallel port, go on to Step **f**.

If you clicked on the **Network** button, the **Printers – Network Connections** dialog box appears. Fill in each item according to the printer's configuration page. Refer to your Windows documentation for details or ask your network administrator for help.

- f. Click **OK** in the **Connect** dialog box and close the **Printers** dialog box.

DOS

Check the list of supported printers in your DOS application for support of the Phaser 240 printer. If the list does not include this printer, check to see if other Tektronix Phaser series printers are listed and choose one of those. Otherwise, use a generic color PostScript driver. Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for more information.

Note *Generic PostScript printer drivers do not have information about this particular printer, for example, its page sizes or its image area size. Using a standard Letter- or A4-size media selection should produce acceptable results.*

Macintosh users

Install the Phaser 240 driver onto your Macintosh to make the best use of the printer. Phaser 240 driver allows you to select Tektronix Phaser page sizes, upper and lower paper trays, and TekColor color corrections for a Phaser 240 printer.

- Use the **Phaser 240** driver if you are using System Software 6.0.7, or 7.0 and later. The Phaser 240 driver is a Tektronix-modified version of Apple's LaserWriter 7.1.2 printer driver. If you are using System Software 7.5 with QuickDraw GX, you must disable QuickDraw GX before using this driver; the Phaser 240 driver does not work with QuickDraw GX.
- Use the **Phaser 240 GX** driver if you are using QuickDraw GX and System Software 7.5. The Phaser 240 GX driver works with QuickDraw GX applications and with non-QuickDraw GX applications.

The *Phaser 240 Drivers and Utilities Printing Reference* provides detailed driver installation procedures and complete information on using the Tektronix drivers with your printer.

In addition to installing a driver, you may also need to install PPDs (PostScript printer description files) for applications such as Aldus PageMaker and QuarkXPress. For details on printing from an application, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Installing the Phaser 240 driver

1. Make sure that your Macintosh is turned on with System Software version 6.0.7, 7.0 or later installed.
2. Insert the Macintosh Driver and Printer Utilities diskette into the disk drive. When the diskette appears on the desktop, it should be open, showing the icons inside.
3. Drag the **Phaser 240** driver icon from the diskette to the **closed System Folder** icon on your Macintosh hard disk.
 - **System 7.0 and later users:** at the alert message, click **OK** to automatically install the driver in the *Extensions* folder.
 - **System 6.0.7 users:** the driver is installed in the *System Folder*.
4. **System 6.0.7 users:** LaserWriter 7.1.2 software is required to use the Tektronix driver with system 6.0.7. If you need this software, do the following steps:
 - a. Open the *Old System Items* folder on the Macintosh Driver and Printer Utilities diskette.
 - b. Drag the **Backgrounder V1.3** and **PrintMonitor V7.0** from the diskette to the **closed System Folder** icon on your Macintosh hard disk. At the alert message, click **OK** to automatically install these items in their proper places.
 - c. Restart your Macintosh to activate the software.
5. Select **Chooser** from the **Apple** menu.

6. Click the **Phaser 240** printer driver icon on the left side of the **Chooser**. A list appears with the printers you have connected to your Macintosh or printers that are available on a network. (If the printer driver icon does not appear, **Restart** your Macintosh, and repeat the printer driver installation procedure; also check the cable connections on your computer and printer.)
7. Click on your Phaser 240 printer in the list of printers on the right side of the **Chooser**.
8. Close the **Chooser** by clicking its close box.
9. Store the printer diskette in a safe place.

Installing the Phaser 240 GX driver

1. Make sure that your Macintosh is turned on with QuickDraw GX and System Software version 7.5 installed.
2. Insert the Macintosh Driver and Printer Utilities diskette into the disk drive.
3. When the diskette appears on the desktop, it should be open, showing the icons inside.
4. Drag the **Phaser 240 GX** driver icon from the diskette to the **closed System Folder** icon on your Macintosh hard disk. At the alert message, click **OK** to automatically install the driver in the *Extensions* folder.
5. Select **Chooser** from the **Apple** menu.
6. Click the **Phaser 240 GX** printer driver icon on the left side of the **Chooser**. A list appears with the printers you have connected to your Macintosh or printers that are available on a network. (If the printer driver icon does not appear, **Restart** your Macintosh, and repeat the printer driver installation procedure; also check the cable connections on your computer and printer.)
7. In the **Connect via** field's pop-up menu, select your printer's communication method:
 - The **AppleTalk** option is the standard network connection.
 - The **Servers** option is used to select a shared desktop printer. See the *Phaser 240 Drivers and Utilities Printing Reference* for details.

8. Click on your Phaser 240 in the list of printers on the right side of the **Chooser**.
9. Click the **Create** button to create a desktop printer. An icon of the printer appears on the desktop with the same name as the printer selected in the **Chooser**.
10. Close the **Chooser** by clicking its close box.
11. Store the printer diskette in a safe place.

Workstation users

The printer-control PostScript files that are on the Windows 3.1 Driver and Printer Utilities diskette (PC format) can be used with Unix and VMS workstations. These files let you set up your spooling system to select between media trays, print quality modes, color correction modes and other features. Unix workstation users can access utility files in the following ways:

- Mount the PC diskette on your workstation.
- Download utility files from the Tektronix Bulletin Board Service (BBS).
- Request utility files from the Tektronix Color Printer Information Server over the Internet.

Most workstations with 3.5-inch disk drives provide a device driver that allows you to mount a PC floppy diskette. Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for information about mounting PC diskettes.

Refer to Chapter 6, "Troubleshooting," for information about accessing Tektronix' Bulletin Board Service or Color Printer Information Server.

Setting up PC ports (DOS)

Parallel port setup

If you are using the printer's parallel port, you should disable timeouts on your computer's parallel port. Disabling timeouts ensures that large files will print, even if data transmission is slow.

The DOS **MODE** command is used to disable timeouts on your computer's parallel port. Type this command at the DOS prompt (if LPT1 is not available, use LPT2):

```
MODE LPT1:,,P
```

See your DOS documentation for details on the **MODE** command.

You may want to add the **MODE** command to your *AUTOEXEC.BAT* file, so that it takes effect every time you turn on your computer.

Turning on and off the startup page

You can enable and disable the startup page by sending utility files from the printer's utilities diskette to the printer. For details on controlling the startup page, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Even when the startup page is enabled, you can still keep it from printing by removing the paper tray(s) at power-up. Put the paper tray(s) back in after the **READY** light stops blinking.

What next?

- Once you have set up all the hardware and connectors, installed any options, installed the software on your computer, and turned on the power, you are ready to print. Chapter 3, "Printing," contains useful information on printing features such as color corrections, fonts, and printing hints. For detailed information on printing options, refer to *Phaser 240 Drivers and Utilities Printing Reference*.

2 *Getting Set Up*

Printing

Which computer?

You can print to your printer from any of the following computers, providing the printer has the appropriate interface port. Refer to “Printer ports” on page 2-14 for more information.

- PC — in Windows and in DOS
- Macintosh
- Unix and VMS Workstations

To print from a PC running Windows or from a Macintosh, you should have first installed a Tektronix driver for your computer. Tektronix printer drivers contain page size information and selections specifically for the type of media or tray being used with your printer. For information on installing the drivers, see “Installing a driver on your computer” on page 2-23. For detailed information on the drivers, refer to the *Phaser 240 Drivers and Utilities Printing Reference*. If you are printing from a PC running DOS, you must first set up the driver in your application software.

Use the following instructions to set up printing from your computer.

Printing from a PC (Windows)

1. Make sure that the Tektronix driver for Windows has been installed.
2. From the **File** menu, select the **Print Setup** command or the similar command in your application. Select the **Tek Phaser 240 (TekColor)** driver (the 17-font or 39-font version according to the installation you performed under “Microsoft Windows” on page 2-24) and select **Setup**. If you have previously set the printer as the default printer, it will already be selected on the list.
3. Use the **Setup** dialog box to select the paper size, paper source (**Upper tray**, **Lower tray**, or **Auto Select**), and other printing options.
4. Click on the **Options** button to display the **Options** dialog box.
 - a. Click on the **Printer Features** button to display the **Tektronix Printer Features** dialog box.
 - b. Use the **Tektronix Printer Features** dialog box to select TekColor color corrections and print quality.

If the **Printer Features** button does not appear in the **Options** dialog box, the Tektronix Windows driver probably is not installed or the printer has not been selected.

For details on the Tektronix driver, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Printing from a PC (DOS)

1. In your application software, set up the printing options for a color printer driver. For more information on making these selections, refer to your application software's user manual.
2. Make sure that the PC communication ports have been set up correctly. Refer to "Setting up PC ports (DOS)" on page 2-34 for instructions.
3. Select the printer driver for the Phaser 240, a Tektronix Phaser printer, or a generic color PostScript driver.

Note *Generic PostScript printer drivers do not have information about your Phaser 240 printer, for example, its page sizes and its image area size. Using a standard Letter- or A4-size media selection should produce acceptable results.*

- a. Select the appropriate port (an LPT port for parallel or one of the network connections).
 - b. Set the page margins in your application software as needed. For details on the printer's paper and margin sizes, refer to "Margins and print area" on page 3-9.
4. Execute the application software's print command. Refer to the application software's user manual for details.

Printing from a Macintosh

The Macintosh Driver and Printer Utilities diskette includes two Macintosh printer drivers that allow you to select printer features.

Using the Phaser 240 driver

1. Install the Tektronix printer driver for the Macintosh if needed. Refer to “Macintosh users” on page 2-28 for instructions.
2. Select the driver in the **Chooser**.
3. To print a file, use the **Page Setup** and **Print** commands from the **File** menu within your application:
 - a. In the **Page Setup** dialog box, select the desired paper size from the pop-up menu so that the application uses the correct margins for the printer. To see the choices, use the pop-up menu to the right of the standard **Paper** sizes.
 - b. In the **Print** dialog box, click the **TekColor** button to open the **TekColor Options** dialog box, in which you can select the TekColor color corrections, print quality, and paper trays. For more details on the driver, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Using the Phaser 240 GX driver

1. Install the Tektronix printer driver for the Macintosh if needed. Refer to “Macintosh users” on page 2-28 for instructions.
2. Select a desktop printer.
3. Print from the driver using one of the following methods:
 - **For QuickDraw GX applications**
Select the desktop printer you want to use, then use the **Print** dialog box (select **Print** from the **File** menu).
 - **For non-QuickDraw GX applications**
You can print to the *default* desktop printer from the **Print** dialog box (select **Print** from the **File** menu). To change the default desktop printer, select (highlight) the desktop printer you want to use, then select **Set Default Printer** from the **Printing** menu.

Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for more information on using the Phaser 240 GX printer driver.

Printing from a Unix or VMS workstation

You can print from a workstation through Ethernet or parallel interfaces. Workstation users can print from any application that generates color PostScript.

For Unix and VMS environments, Tektronix offers Phaser Print. Phaser Print provides fast raster file and screen copy printing to Tektronix color printers. Phaser Print also provides a graphical user interface for push-button control of Tektronix printer features.

Phaser Print software is available for these workstations:

Workstation	Operating System
Sun	Sun OS 4.1.X, Solaris 2.X
SGI	IRIX 4.0.5 and 5.2
HP 9000 700/800	HPUX 9.X
IBM RS/6000	AIX 3.2
DECstation	Ultrix 4.X
DEC Alpha	OSF/1 1.3

Note *Tektronix offers a similar solution for DEC OpenVMS VAX and DEC OpenVMS AXP.*

Phaser Print works with the workstation's native spooling system to print PostScript files and raster files in these formats: Sun Raster Format (SRF), **xwd**, and SGI RGB.

If you ordered the TCP/IP Ethernet option for your printer, you received a demonstration copy of Phaser Print on a compact disk (CD). If you did not receive a demonstration CD but would like one, or if you would like to purchase a licensed version of Phaser Print, contact your dealer, local Tektronix office, or in the United States, call **1-800-835-6100**.

For VMS environments, Tektronix also offers PhaserSym, a VMS print symbiont. Refer to Appendix B for ordering information.

For information on printing from workstations and setting up spooling systems, you can contact HAL, the Tektronix automated fax system by calling direct (503) 682-7450 or, in the United States or Canada, by calling toll-free 1-800-835-6100. Refer to "Using the automated fax systems" on page 6-16 for details on using the HAL system.

For workstation users who prefer not to use Phaser Print, the printer-control PostScript files that are on the Windows 3.1 Driver and Printer Utilities diskette (PC format) can be used for Unix workstations. These files let you set up your spooling system to select between media trays, print quality modes, color correction modes and other features. Most workstations with 3.5-inch disk drives provide a device driver that allows you to mount a PC floppy diskette.

If you don't have the means of transferring utility files to control printer features from the PC diskette, you can download utilities and files from the Tektronix Bulletin Board Service (BBS) or request files from the Tektronix Color Printer Information Server, an automatic file serving program on the Internet. Refer to "Whom to call for help" on page 6-14 for information about accessing Tektronix' Bulletin Board Service or Color Printer Information Server.

Printing from specific applications

Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for information on PostScript printer description files required by some applications.

In addition, you can get tips on printing from certain applications (such as QuarkXPress and PageMaker) by contacting HAL or EuroHAL, the Tektronix automated information systems. HAL and EuroHAL fax you information immediately on applications and other topics. To receive a HAL FAX catalog, call toll-free in the U.S. **1-800-835-6100** or dial direct, **(503) 682-7450**. For a EuroHAL catalog, use the telephone numbers provided in "Whom to call for help" on page 6-14. For more information on HAL and EuroHAL, see "Using the automated fax systems" on page 6-16.

Margins and print area

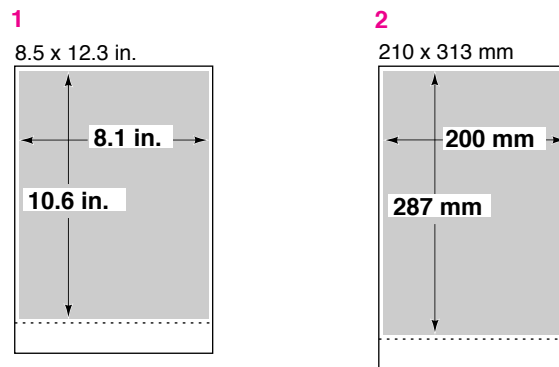
When the printer places an image on paper, the image is a bit smaller than the paper size. You may need to adjust the page margins in your application software to match the print area.

Perforated paper and transparencies

Use Tektronix perforated paper or transparencies and the Tektronix Phaser 240 driver to get the largest image areas. With Tektronix perforated paper or transparencies, you can print the largest area and tear off the excess at the perforation. This gives full A or A-4 Letter-size images within ISO margins.

This illustration shows the largest image areas for perforated paper and transparencies. All margins are 5 mm (0.2 in.). The bottom margin is 5 mm (0.2 in.) after the perforated area is removed.

1. American A-size (LETTER PERF)
2. Metric A4-size (A4 PERF)



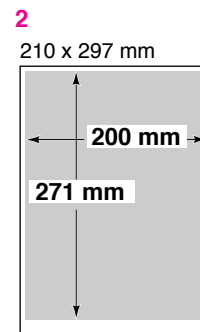
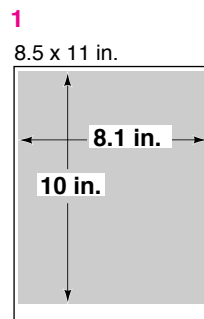
9238-20

Non-perforated plain paper

This illustration shows the largest image areas for non-perforated plain paper. All margins are 5 mm (0.2 in.), except the bottom margin (21 mm for A4-size, 0.83 in. for A-size).

Note *The standard trays supplied with the printer are for Tektronix perforated paper and transparencies; they are not adjustable for plain paper. Trays for plain paper must be ordered separately.*

1. American A-size (LETTER)
2. Metric A4-size (A4)



9238-21

Using two paper trays

Note *When using a printer with a Lower Tray Assembly, make sure that the door covering the upper slot is closed before you try to make a print from the lower tray. You cannot print from the lower tray with the door open.*

Recommended paper tray selections

Use	If
Upper or Lower tray	You use different media in each tray or different sizes in each tray. Some examples: <ul style="list-style-type: none"> ■ Paper in one tray and transparency in the other. ■ Standard paper in one tray and special letterhead in the other. ■ Perforated paper in one tray and non-perforated in the other.
Auto Select	You use the same media in both trays.

You can select the **Upper** or **Lower** tray by using a Tektronix Phaser 240 driver or utility files provided on the printer's utility diskettes. If you select the upper or lower tray by one of these methods, the printer will pick paper from the selected tray until the tray is empty. When the tray is empty, printing stops until the selected tray is filled.

You can also select **Auto Select** by using a Tektronix Phaser 240 driver or a utility file provided on the printer's utility diskettes. If you select **Auto Select** by one of these methods, the printer will pick paper from the tray that contains the selected paper size. When that tray is empty, the printer will automatically pick from the other tray if it also contains the selected media size.

Note *Paper tray selections made in the driver take priority over selections made by sending utility files to the printer.*

In all cases, you can change the printer's tray-switching behavior by sending the appropriate utility file to the printer. For more information, see the *Phaser 240 Drivers and Utilities Printing Reference*.

Selecting driver features

You can use the Phaser 240 drivers to select Phaser 240 features:

- Page sizes
- Paper trays
- Color corrections
- Print quality modes

For complete instructions on installing and using the Phaser 240 drivers, see the *Phaser 240 Drivers and Utilities Printing Reference*.

Print modes

You can select between the printer's print quality modes using a Phaser 240 printer driver or utility files provided on the Phaser 240 drivers and utilities diskettes. Refer to the *Phaser 240 Drivers and Utilities Printing Reference* for complete details.

- **Standard** mode is the default. It provides high-quality 300 x 300 dpi prints with the fastest print time.
- **Enhanced** mode provides improved 300 x 300 dpi prints; print time is increased by 10 seconds over **Standard** mode.
- **High Resolution** mode provides exceptionally high-quality 600 x 300 dpi prints. In **High Resolution** mode, image processing time is about 30% longer than with **Standard** mode. Also, the printer's *paper-marking* speed can be up to twice as long as **Standard** mode. (The *paper-marking* speed is the time it takes the printer to put the colored wax on the paper after it has processed the image).

Note *High Resolution print mode is only available when an 8- or 16- Mbyte memory option is installed.*

Color corrections

The default color correction for the Phaser 240 is Vivid Color. You can select between the printer's other TekColor color correction modes using a Phaser 240 printer driver or utility files provided on the Phaser 240 drivers and utilities diskettes. For complete information on color correction, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

If you are using TekColor Dynamic Correction in the Phaser 240 drivers, the settings you choose in the drivers override any color correction set by DIP Switches inside the printer's rear panel door. Refer to Chapter 7, "Front and Rear Panels," for more information on DIP Switches.

Note *The print driver help window provides a short description of each color correction mode. To access information, click on the **Help** button (for a Macintosh, in the **TekColor Options** dialog box; for Windows, in the **Tektronix Printer Features** dialog box).*

Fonts

Resident typefaces (PostScript)

The Phaser 240 supports 17 fonts in its standard configuration. An additional 22 fonts can be added by installing font upgrade kit 4681F1F.

1. Printer's resident typefaces.
2. Additional 22 resident typefaces available with a font SIMM provided in upgrade kit 4681F1F.

1

Courier
Courier Bold
Courier Oblique
Courier Bold Oblique

Helvetica
Helvetica Bold
Helvetica Oblique
Helvetica Bold Oblique

Helvetica Narrow
Helvetica Narrow Bold
Helvetica Narrow Oblique
Helvetica Narrow Bold Oblique

Times Roman
Times Bold
Times Italic
Times Bold Italic

Symbol (Σ ψ μ β ο λ)

2

ITC Avant Garde Gothic Book
ITC Avant Garde Gothic Book Oblique
ITC Avant Garde Gothic Demi
ITC Avant Garde Gothic Demi Oblique

ITC Bookman Light
ITC Bookman Light Italic
ITC Bookman Demi
ITC Bookman Demi Italic

Helvetica Condensed
Helvetica Condensed Bold
Helvetica Condensed Oblique
Helvetica Condensed Bold Oblique

New Century Schoolbook
New Century Schoolbook Bold
New Century Schoolbook Italic
New Century Schoolbook Bold Italic

Palatino
Palatino Italic
Palatino Bold
Palatino Bold Italic

ITC Zapf Chancery
 ITC Zapf Dingbats (✧ * ❖ ❖ ❖ ❖ ❖ ❖)

9238-22

Resident typefaces (PCL5)

For monochrome PCL5 (Printer Command Language) printing (HP LaserJet III emulation), the printer supports Courier, Times, and Univers typefaces in the following styles and stroke weights: medium, bold, italic medium, and bold italic.

Downloading fonts

The fonts resident in the printer are stored in the printer as outlines and are always available for printing. The PostScript interpreter in the printer can also accept and store additional fonts known as downloadable fonts. If you want to print PostScript outline fonts that are not built into the printer, you can transfer or download outline fonts from your computer to the printer. Downloading fonts saves print time if you plan to print several documents or a large document using those fonts.

When you download a font, it is stored in the printer's memory. You can download as many outline fonts as the printer's memory allows. Adding more memory expands the number of fonts that can be downloaded to the printer.

The printer accepts Type 1 and Type 3 downloadable fonts including those from Adobe, AGFA, Bitstream, Microsoft, Apple, and many others.

The printer also accepts TrueType downloadable fonts which can be scaled to any point size. TrueType fonts look the same on the screen as they do when printed.

You download a font from a PC or Macintosh the same way you download fonts to any PostScript printer. Follow the documentation that was shipped with your fonts.

Installing Macintosh screen fonts

The Phaser 240 Macintosh diskette includes screen fonts corresponding to the printer's fonts. If these screen fonts are not already installed on your system, you must install them if you want to see the printer's resident typefaces on the Macintosh screen. For information on how to install these screen fonts, see the *Phaser 240 Drivers and Utilities Printing Reference*.

Printer languages: PostScript, HP-GL, PCL5

With Adobe IntelliSelect™ technology, Phaser 240 printers automatically sense the language of the print job and process it accordingly. This is called *automatic language selection*. You can also set up any printer port to receive one language only. If you set up a port to receive a particular language only, the port will only accept jobs of that type. The printer reports an error if another language is sent to that port. For more information, see the *Phaser 240 Drivers and Utilities Printing Reference*.

The default language setting for all ports is PostScript.

Enabling and disabling automatic language switching

To enable or disable automatic language selection on a port, send the appropriate utility file to the printer. For more information, see the *Phaser 240 Drivers and Utilities Printing Reference*.

Printing hints

Getting the largest printed picture

Use the Tektronix Phaser 240 driver and perforated paper or transparencies to get the largest print areas. You may also have to adjust the margins in your application software.

Why should I use perforated paper?

By using Tektronix perforated paper (and transparencies), you can print full A-size or A4-size images with standard ISO margins (5 mm; 0.2 in.).

How long does it take to make a print?

The total print time depends on the image complexity, the type of port used, and the printer's paper-marking speed. The paper-marking speed is the time it takes the printer to put the colored wax on the paper, once it has received the processed image.

Of these three elements, only the printer's paper-marking speed is predictable; the others can vary greatly depending on your system configuration and the type of image you are printing. However, the Phaser 240 PostScript interpreter combines very fast image processing and communication with sophisticated memory management to keep the total print time to a minimum. For details on the printer's paper-marking speed, see "Specifications" on page A-3.

Caring for Your Printer

Overview

To ensure the best print quality and the most reliable printer operation, follow these two simple guidelines:

- Use *only* Tektronix transparencies and transfer rolls. When printing with a 3-Color or Black transfer roll, use *only* Tektronix thermal-transfer paper. When printing with a ColorCoat™ transfer roll on common laser paper, use paper that conforms to the guidelines given in “Recommended paper types” on page 5-4.
- Perform the regular cleaning described in this chapter.

Importance of cleaning

By performing regular cleaning, you can ensure that your printer produces the highest quality prints. Regular cleaning also helps prevent paper jams, smudged prints, skewed images, and misregistration. If you clean the printer at intervals listed under the next topic, “When to clean,” you will experience fewer paper problems, improved print quality, and less downtime.

Cleaning the printer is easy. Follow the cleaning procedures given in the next few pages, or use the *Cleaning Instructions* that come with each cleaning kit.

When to clean

Every time you replace the transfer roll, clean these printer parts:

- Thermal head and transfer roll guide
- Paper-feed rollers
- Paper-pick rollers

Clean these printer parts every 5,000 prints, or as needed to prevent smudging on prints:

- Transfer roll sensor pad
- Drum
- Exit rollers

A preventive check by a Tektronix field service representative is recommended every 10,000 prints or every year. The startup page and the configuration page report the number of prints made since the printer was shipped from Tektronix.

Cleaning kit

A cleaning kit comes with the printer. The cleaning kit contains these items:

- Lint-free cleaning wipes
- A plastic bottle for isopropyl alcohol
- A cleaning tray for cleaning paper-pick rollers
- Cleaning instructions (you may use those instructions, or follow the instructions in the next few pages)

For the cleaning kit that is shipped with the printer, you must supply isopropyl alcohol (available at pharmacies); shipping regulations prohibit supplying alcohol or presoaked cleaning materials with the printer.

In general, you should use the purest isopropyl alcohol available to you. 99% pure is best, and 90% also works well.

Caution *Do not use rubbing alcohol because it can contain water and oils that leave undesirable residue on the printer parts.*

Note *To order a new cleaning kit, call your dealer or Tektronix (order number 016-1233-00). You can also order a cleaning kit containing presoaked alcohol cleaning wipes (order number 016-1276-00).*

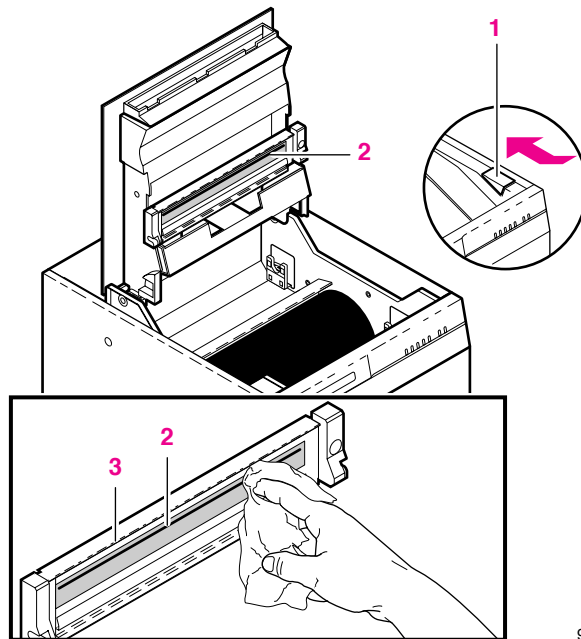
Cleaning the printer (with every transfer roll change)

Perform the next three cleaning procedures every time you replace the transfer roll.

Note Turn off the printer before cleaning the thermal head and the paper-feed rollers. The printer must be turned on to clean the paper-pick rollers.

Cleaning the thermal head and transfer roll guide

1. Press the button to open the top cover. Dampen a lint-free cleaning wipe with isopropyl alcohol.
2. Wipe the full width of the thermal head several times. Remove any dust, dirt, and wax.
3. Wipe the full width of the transfer roll guide several times. Close the top cover when you are finished.

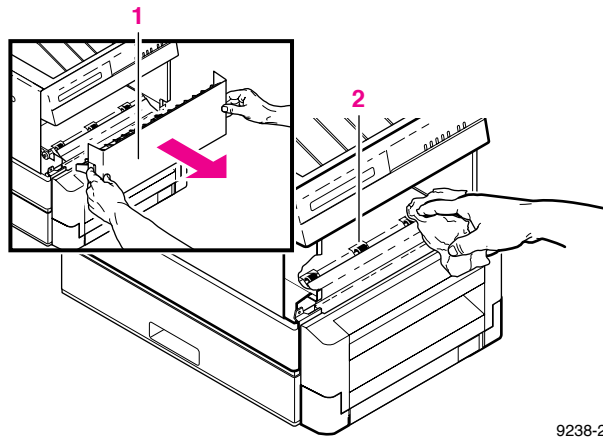


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Cleaning the paper-feed rollers

Caution *Be careful not to scratch the curved plastic parts inside the front cover. Scratches in this area could cause paper jams.*

1. Slide out the front cover and remove it. Dampen a lint-free cleaning wipe with isopropyl alcohol.
2. Wipe the paper-feed rollers. Be sure to clean all three rollers. It is not necessary to move the rollers as you clean them; clean only the exposed surface of the rollers.
3. Slide the front cover back into place.



9238-24

Cleaning the paper-pick rollers

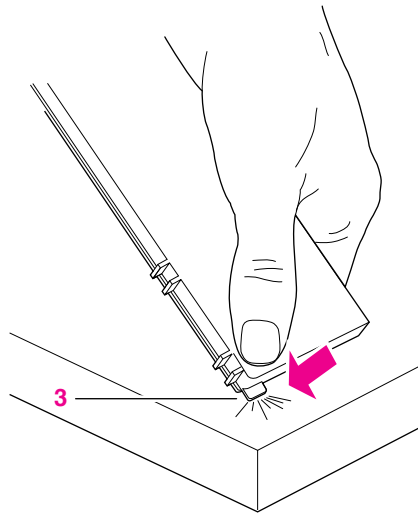
Make sure that the transfer roll is installed before you begin this cleaning procedure.

To clean the paper-pick rollers, you must use the cleaning tray from the cleaning kit.

1. Turn the printer off, then on again.
2. Remove the paper tray(s), and remove the paper or transparencies from one of the trays.

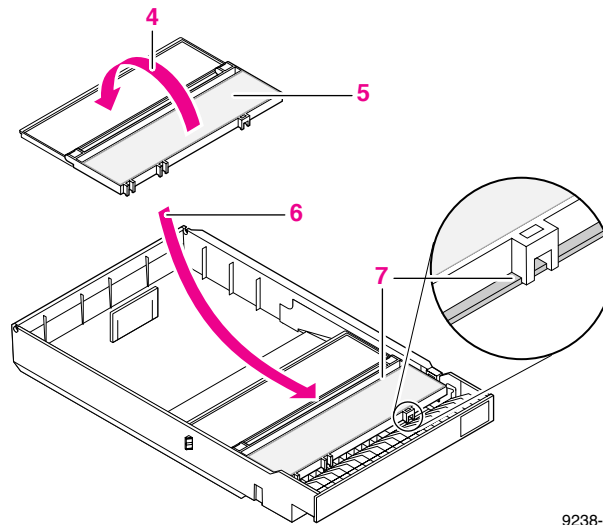
When removing paper or transparencies, do not push the paper tray's metal plate down. (If the metal plate is down, put the paper tray into the slot and pull it out; this returns the metal plate to the up position.)

3. If you are using an A4-size (metric) paper tray, break off the tabs on the sides of the cleaning tray. The allows the cleaning tray to fit into the metric paper tray. **Do not break off the tabs if you are using an A-size (U.S.) paper tray.**



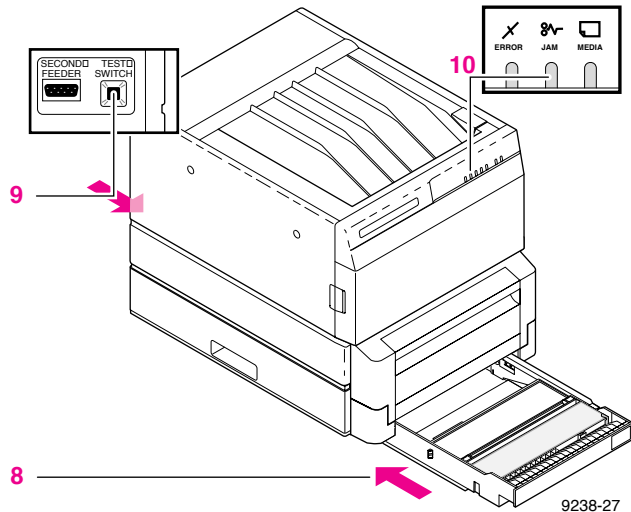
9238-25

4. Open the cleaning tray.
5. Dampen the pad on the cleaning tray with isopropyl alcohol. Dampen the entire surface of the pad.
6. Slide the cleaning tray into the paper tray. As you slide the cleaning tray into position, press down the paper tray's metal plate slightly. When the cleaning tray is properly installed, the paper tray's metal plate presses up against the cleaning tray, holding it in place.
7. Make sure that the flanges on the front of the cleaning tray overlap the front of the metal plate.



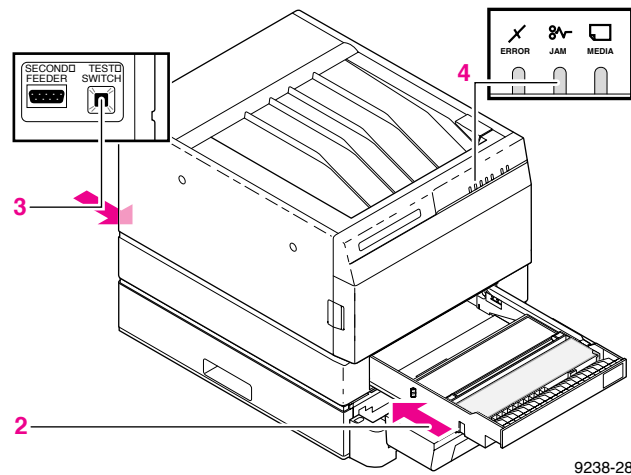
9238-26

8. Slide the paper tray (containing the cleaning tray) into the slot. If your printer has a Lower Tray Assembly, slide the tray into the **lower** slot.
9. Press the **TEST** button on the back of the printer for 3 seconds. The printer attempts to load paper, bringing the paper-pick rollers in contact with the alcohol-dampened pad in the cleaning tray.
10. The **JAM** indicator blinks, indicating that the rollers have been cleaned.
 - a. If your printer has a single paper tray, the procedure is complete. Slide out the paper tray, remove the cleaning tray, and replace the paper or transparencies. Slide the paper tray back into the slot. If paper-picking problems occur, repeat this cleaning procedure.
 - b. If your printer has a Lower Tray Assembly, pull out the paper tray a few inches and then push it back in to clear the **JAM** indicator. Then perform the steps on the next page to complete the procedure.



To complete the paper-pick roller cleaning for printers with a Lower Tray Assembly:

1. Remove the paper tray (containing the cleaning tray) from the lower slot. Dampen the pad on the cleaning tray again.
2. Insert the paper tray (containing the cleaning tray) into the upper slot. (Leave the lower slot empty for now.)
3. Press the **TEST** button on the back of the printer for 3 seconds. Again, the printer attempts to load paper, bringing the paper-pick rollers in contact with the alcohol-dampened pad in the cleaning tray.
4. The **JAM** indicator blinks, indicating that the rollers have been cleaned.
5. Pull out the paper tray. Remove the cleaning tray from the paper tray, and replace the paper or transparencies. Put both paper trays back into their slots.



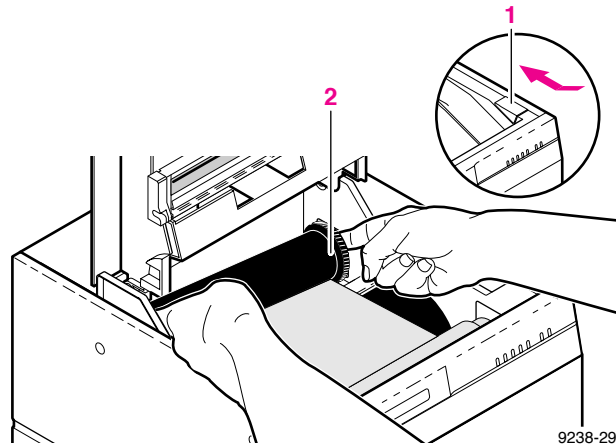
Cleaning the printer (every 5,000 prints)

Perform the next three procedures every 5,000 prints.

Note *Turn off the printer before performing the next three cleaning procedures.*

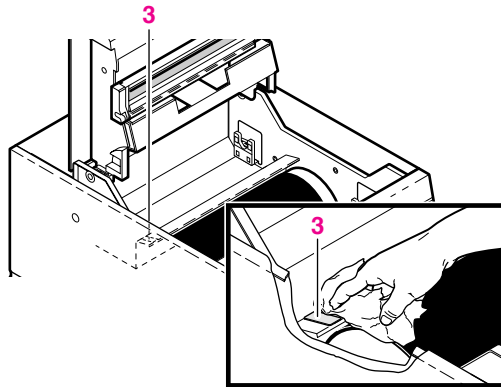
Cleaning the transfer roll sensor pad

1. Press the button to open the top cover.
2. Remove the transfer roll.



9238-29

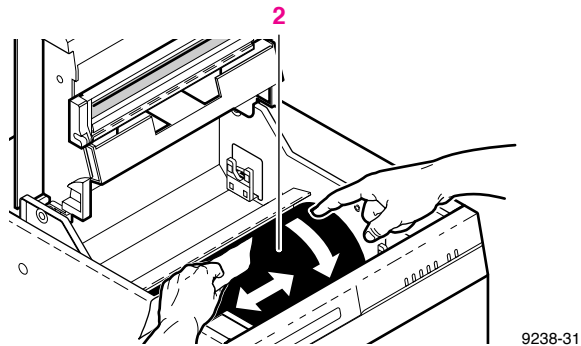
3. Dampen a lint-free cleaning wipe with isopropyl alcohol. Wipe the transfer roll sensor.
4. Leave the transfer roll out and the top cover open. Go on to the next procedure.



9238-30

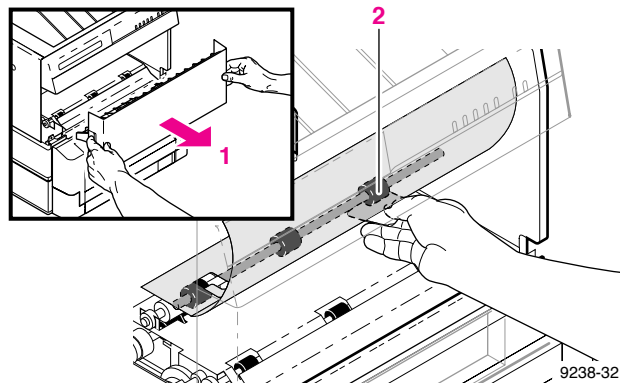
Cleaning the drum

1. To clean the drum, you must have the top cover open and the transfer roll removed.
2. Dampen a lint-free cleaning wipe with isopropyl alcohol. Wipe the drum. Move the drum toward the front of the printer to access the entire surface of the drum as you clean.
3. When the alcohol on the drum is dry, put the transfer roll back into the printer and close the top cover.



Cleaning the exit rollers

1. Slide out the front cover and remove it.
2. Dampen a lint-free cleaning wipe with isopropyl alcohol. Wipe the exit-feed rollers. Be sure to clean all three rollers. It is not necessary to move the rollers as you clean; clean only the exposed surface of the rollers.
3. Replace the front cover.



4 *Caring for Your Printer*

Supplies

Always use Tektronix supplies

Tektronix supplies for the Phaser 240 printer are developed and tested as a total *system*: printer, transfer rolls, and media. These components work together to produce consistent, high-quality color images.

Use *only* Tektronix transparencies and transfer rolls. When printing with a 3-Color or Black transfer roll, use *only* Tektronix thermal-transfer paper. When printing with a ColorCoat™ transfer roll on common laser paper, use paper that conforms to the guidelines given in “Recommended paper types” on page 5-4.

Ordering information

To order supplies or upgrade kits, refer to the supplies information sheet that came with the printer and contact your local dealer or, in the U.S.A., call Tektronix at **1-800-835-6100**.

Supplies kits

4681FSS	Plain-paper startup kit including ColorCoat transfer roll, paper tray for non-perforated plain paper, and perforated premium laser paper. Order Option 01 to get a metric paper tray and metric paper.
4681FTA	Lower Tray Assembly (including paper tray for perforated paper). Order Option 01 for a metric paper tray.

Using plain paper

Note *When printing on plain paper, the sound of the printer is louder than for thermal-transfer paper. This is normal.*

The Phaser 240 printer produce prints on standard laser paper with the brilliant color quality previously available only with coated thermal-transfer papers. The excellent plain-paper printing capability of the Phaser 240 printer is possible through Tektronix' proprietary ColorCoat technology. This topic provides details on the Phaser 240 plain-paper printing capabilities.

ColorCoat™ transfer roll

Plain-paper printing requires a special ColorCoat transfer roll. The ColorCoat transfer roll uses a fourth panel to put a specially formulated *precoat* on the paper, allowing it to accept the thermal-wax inks and retain their vivid colors. The printer's image processing software determines where the precoat is needed and avoids placing the precoat where there is no color (for example, white areas).

The ColorCoat transfer roll also prints well on coated thermal-transfer paper and on transparencies. (When the selection switch on the paper tray is set to TRANSPARENCY, the precoat is not applied.) The standard thermal-wax transfer roll does not print well on plain paper.

Use the correct paper tray for plain-paper printing

If you use common laser paper for plain-paper printing, you must use a LETTER- or A4-size paper tray. The standard trays supplied with the printer are for Tektronix perforated paper and transparencies (they are labeled LETTER PERF and A4 PERF). LETTER and A4 trays for plain paper must be ordered separately. If you use Letter- or A4-size plain paper in a LETTER PERF or A4 PERF paper tray, the printer reports an error condition.

Paper trays and media types

Tray	Media
LETTER A4	Common laser paper
LETTER PERF A-4 PERF	Tektronix premium laser paper (perforated) Tektronix thermal-transfer paper (perforated) Tektronix transparencies (perforated)

Plain-paper startup kit

For first-time startup using plain-paper printing capability, order the plain-paper startup kit (4681FSS), which contains everything you need for plain-paper printing.

Recommended paper types

Observe the following guidelines when selecting plain paper for use with the printer:

- Many types of Bond, Text, and Book paper work well with the printer. For Bond paper, use a basis weight of 75 - 90 g/m² (20 - 24 lb.); 75 g/m² (20 lb.) is best. For Book paper, 75 g/m² (50 lb.) is best. In general, avoid paper with a high rag content.
- In general, smoother papers work better. Avoid using “fuzzy” papers with loose fibers. This type of paper does not produce the best image quality and leaves more paper residue inside the printer, requiring you to clean the printer more frequently.
- Don't use watermarked paper. The watermark may show through as dropout on the print.
- You can recycle plain-paper prints with other mixed paper.

Tektronix offers a premium laser paper that gives excellent print quality for plain-paper printing. Like Tektronix thermal-transfer paper, this premium laser paper is larger than standard Letter or A4 size paper and perforated, which allows you to print the largest possible image area (for details, see “Margins and print area” on page 3-9). For information on ordering Tektronix premium laser paper and other printer supplies, refer to the supplies information sheet that is shipped with the printer.

The following table lists a selection of papers that provide good results. Some office papers, especially in Europe, may be too rough to provide good print quality. For best results on plain paper, use Tektronix perforated premium laser paper.

Recommended paper types

Paper	Basis weight
Aussedat Rey Rdeerey (France)	100 g/m ²
Boise Cascade Laser	20 lb.
Boise Cascade Laser	24 lb.
Boise Cascade Xerographic	20 lb.
Champion Bond	20 lb.
Cross Point Laser/Recycled	24 lb.
Hammermill Laser Print	24 lb.
Nashua Dual Purpose	20 lb.
Nekoosa Laser 1000	24 lb.
Neusiedler Color Copy (Austria)	100 g/m ²
Nymoella MultiCopy Art (Sweden)	100 g/m ²
Western Red Label (HM)	20 lb.
Xerox 4024 Smooth	20 lb.
Zellerbach Matrix Plus	20 lb.

Handling supplies

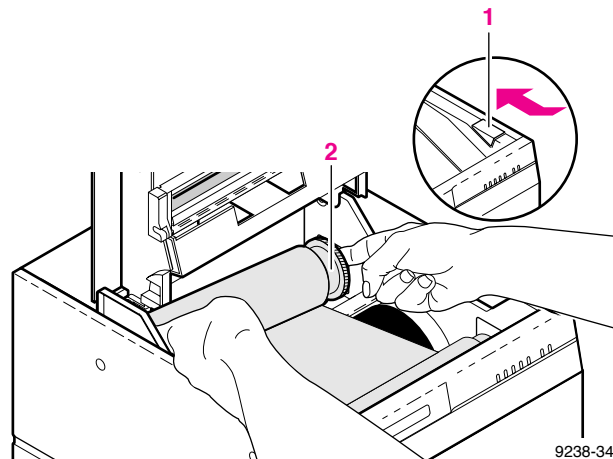
- Make sure that the paper trays are free of dust. Dust and dirt in a paper tray can be transferred to the paper, resulting in poor print quality.
- Handle paper and transparencies at the edges to avoid fingerprints.
- Store paper and transparencies in their original, dust-free package.
- Handle transparencies with both hands to avoid creases, which can result in poor print quality.
- To avoid having transparencies or perforated paper stick together, fan them before loading into the paper tray.
- If you switch transfer rolls temporarily, be sure to store the partially used transfer roll so that it will not be exposed to dust or dirt. The best way to store a partially used transfer roll is to put it back into its original packing material and plastic bag.

Removing a used transfer roll

Note *Negative images of all prints remain on the used transfer roll. If this is a security risk, dispose of the used transfer roll properly.*

Every time you replace a transfer roll, you must clean three printer components. This cleaning is user care that helps ensure reliable operation and uniformly high print quality. Cleaning instructions are provided with each transfer roll. You may also refer to Chapter 4, or refer to the *Phaser 240 Color Printer Cleaning Instructions* that come with each cleaning kit.

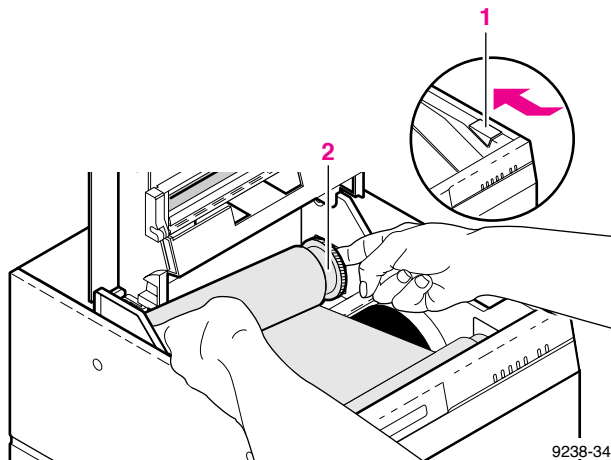
1. Push the button and open the printer's top cover.
2. Lift out the back spool of the used transfer roll.
3. Lift out the front spool of the used transfer roll.
4. To install the new transfer roll, follow the instructions on the sheet that comes with each transfer roll, or refer to "Install the transfer roll" on page 2-8.



Troubleshooting

Clearing transfer roll jams

1. Push the button and open the printer's top cover.
2. Lift out the transfer roll. Check the roll for tears and wrinkles. (If the roll is damaged, replace it with a new one.) Straighten the roll and put it back in. Make sure the transfer roll is properly installed: the black band is on the left, with the unused end in the back of the printer.



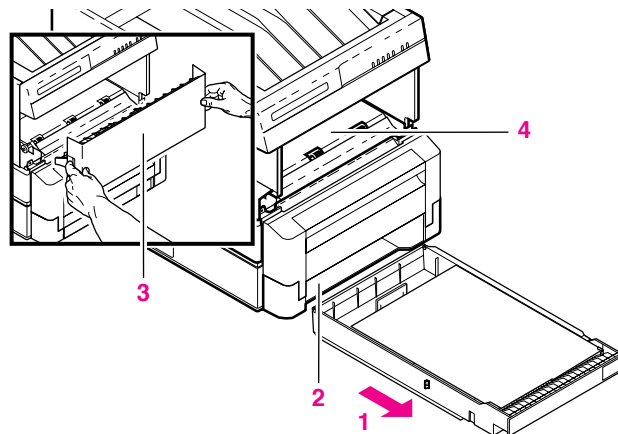
Clearing paper jams

If a paper jam occurs, the JAM indicator shows the condition. Follow these steps to remove the jam:

1. Remove the paper tray(s).
2. Carefully remove any jammed paper from the paper tray slot(s) and replace the tray(s).

Caution *Be careful not to scratch the curved plastic parts inside the front cover. Scratches in this area could cause paper jams.*

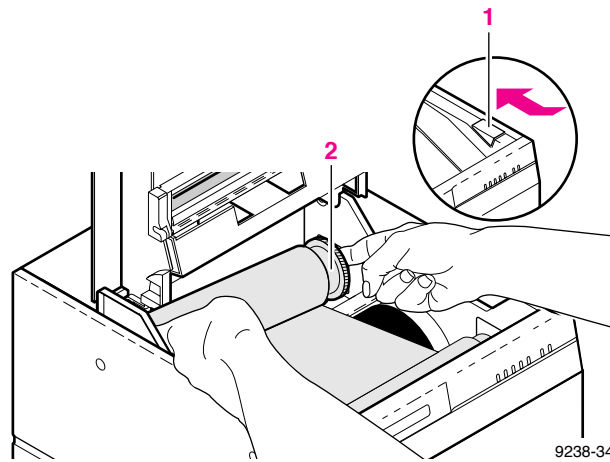
3. Slide out the front cover and remove it.
4. Remove any jammed paper from inside the printer and replace the front cover. If you did not find paper jammed in the paper tray slot(s) or inside the printer, it is wrapped around the drum, and you must go to the next procedure.



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To remove paper from the drum:

1. Push the button and open the printer's top cover.
2. Remove the transfer roll.



Caution *Be careful not to scratch the drum. Scratches can affect print quality.*

Note *If your printer jams frequently when printing on thermal-transfer paper or transparencies, make sure you are using Tektronix media (order from the supplies information sheet that is shipped with your printer).*

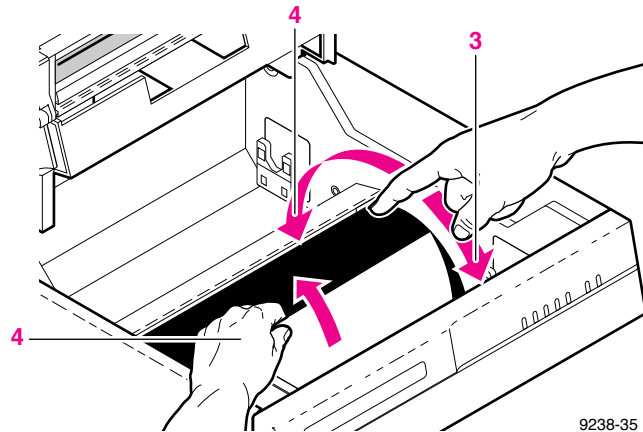
3. Turn drum toward the front of the printer until the edge of the paper is visible.

Note *If you have not yet found any paper jammed in the printer, the printer has failed to pick up the paper (reported as a paper jam). cleaning the paper-pick rollers should fix the problem. See “Cleaning the paper-pick rollers” on page 4-6.*

4. The paper is clamped to the drum. If you pull the paper out without releasing the clamp, you may tear the paper and leave some pieces inside the printer.

To open the clamp, move the drum toward the back of the printer until it stops. Then gently continue the motion until you hear a click; now the clamp is open and you can remove the paper without tearing it.

5. Replace the transfer roll and close the top cover.



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Problems and solutions

If you can't make a print

Note *When using a printer with a Lower Tray Assembly, make sure that the door covering the upper slot is closed before you try to make a print from the lower tray. You cannot print from the lower tray with the door open.*

Printer not operating

Make sure that you have plugged in the printer and turned it on. Make sure that you connected the interface cable properly. Make sure that the line voltage selector switch is set properly.

Press the **TEST** button on the back of the printer for three seconds. If the printer produces a test print, the printer is functional and the next step is to verify that your computer can communicate with the printer. If the printer fails to produce a test print, make sure that paper is loaded and a transfer roll is installed. If you have paper and transfer roll installed and the printer does not produce a test print, the printer requires service.

Note *When you have checked all possible causes and your printer is still not operating, you can call for service at **1-800-835-6100** in the U.S.A. and Canada, or call your Tektronix dealer.*

To verify that your computer can communicate with the printer, use one of these methods:

- If you have a Macintosh, make sure that you have the correct driver installed and that you have selected the printer in the **Chooser**. If the printer's name does not appear in the Chooser, your LocalTalk or EtherTalk connection may be faulty. (See also "Printer doesn't appear in the Chooser" on page 6-7.)

You can use the **Print Desktop** or **Print Window** commands to send a file to the printer without using an application. If the communication link between your computer and the printer is working, the printer produces a directory listing of the active window on the desktop.

- If you have a PC, use this DOS **echo** command:

```
echo %! > port
```

```
echo showpage[ctrl-d] > port
```

Where **[ctrl-d]** indicates pressing the **d** key while holding down the **ctrl** key. Substitute the name of the printer port (for example **LPT1:** or **LPT2:**) for the variable *port* in this command. For example, if you are testing a parallel connection on **LPT1**, type:

```
echo %! > LPT1:
```

```
echo showpage[ctrl-d] > LPT1:
```

If the communication link between your computer and the printer is working, the printer ejects a blank page. If this works, but you cannot print from your application or through Windows, make sure that the appropriate driver is installed and that you have selected the printer correctly.

Printer doesn't appear in the Chooser

Make sure the printer is turned on and the cables are correctly attached. Check the termination (refer to the documentation for your Ethernet adapter or LocalTalk connector for information on termination). Turn the printer off before connecting to the printer's LocalTalk port.

Make sure you have the correct zone selected in the **Chooser** before looking for the printer's name in the list of printers. If you have changed the printer's name, make sure you have given it a unique name (not the same as any other printer in the zone).

Make sure that you have selected the appropriate network type (LocalTalk or EtherTalk) in the Network control panel. The Phaser 240 supports EtherTalk Phase 2 only.

READY light blinks, but the file does not print

This is probably the result of a PostScript error. Download the PostScript error handler file from the Phaser 240 utility diskettes. For more information on using the PostScript error handler, see the *Phaser 240 Drivers and Utilities Printing Reference*.

MEDIA light blinks, and no print is produced

You have the wrong size paper in the paper tray (non-perforated paper in a tray for perforated paper).

Print job does not finish (the printer times out)

If you are using the parallel port from a PC, make sure that you used the **MODE** command to set the PC's communication parameters. For example:

```
MODE LPT1:,,P
```

The **P** parameter in these commands sets the port timeout to **Infinite Retry** and must be part of the command.

If you are using Windows 3.1, make sure the Transmission Retry value for the printer's assigned port is set to **850**. For more information, see "PC users" on page 2-24.

Media problems

Frequent paper-picking errors

Be sure to fan the paper or transparencies before installing them in the paper tray. This is especially important for transparencies and perforated paper. If your printer is still experiencing paper-picking errors, clean the paper-pick rollers. For details, see “Cleaning the paper-pick rollers” on page 4-6.

Frequent paper jams

If you are using thermal-transfer paper or transparencies, make sure that you use the Tektronix paper and transparency film listed in the supplies information sheet. Also, do not overfill the paper tray, as indicated by the red line on the right side of the tray. If your printer is still experiencing paper jams, clean the printer. For information on cleaning the printer, see Chapter 4.

You feel resistance when installing the paper tray

If you try to install a paper tray and you find it won't go in, look in the slot. If you see the paper-pick rollers in the way, rotate the rollers toward the front of the printer until the slot is clear.

Problems with image size and position

Off-set images

Check your application for correct image sizing.

Cut-off images

Check your application for image sizing.

If you are using non-perforated plain paper, make sure you are using a Phaser 240 driver and have selected **Letter** or **A4** as the paper size. If you select **Letter Perf** or **A4 Perf** and print on non-perforated paper, the image may be cut off.

Image prints over perforations

Reverse the direction of the paper or transparencies in the tray. The perforated portion of the paper or transparencies must be in the front of the tray. (The front of the tray is the part that has the paper-size label: LETTER, LETTER PERF, A4, A4-PERF.)

Margins are too big with perforated paper or transparencies

Make sure that you are using a Phaser 240 driver and have selected **Letter Perforated** or **A4 Perforated** as the paper size.

Image shifts or margins are incorrect (Macintosh)

For details on how to print from a Macintosh, refer to “Printing from a PC (Windows)” on page 3-2. You should install the Phaser 240 printer driver onto your Macintosh so you can select the correct page sizes from the driver. For details on the Phaser 240 driver, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

For applications that require PPD or PDF files, install these files as appropriate according to the application’s instructions. For additional details, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.

Print quality problems

Plain paper prints have dull, faded colors and significant dropout

If plain paper prints have dull, faded colors and significant dropout (areas where the wax does not adhere to the paper), make sure that you are using a ColorCoat transfer roll; the thermal-wax transfer roll does not print well on plain paper. If a transfer roll has a clear panel after every three colored panels, it is a ColorCoat transfer roll.

If you are using Tektronix perforated premium laser paper, make sure you have the selection switch on the paper tray set to PAPER and not TRANSPARENCY.

If you have installed the correct transfer roll and set the correct switch selections but the prints still have dull, faded colors and dropout, you may be using a paper that is too rough. Try another type of plain paper. Refer to “Recommended paper types” on page 5-4. You can achieve excellent results with Tektronix perforated premium laser paper.

Prints on thermal-transfer paper have dull colors

Make sure that the switch on the paper tray is set to PAPER, not TRANSPARENCY. If you are using thermal-transfer paper, make sure that you load the paper in the tray with the whiter, shinier side up.

Streaks or spots

Most spots and streaks are caused by dust introduced into the printer during transfer roll installation or paper loading. To prevent dust from getting inside of the printer, make sure the surface where you unpack transfer rolls, paper, and transparencies is free of dust. Keep supplies in a covered area or a closed box.

To get rid of spots or streaks, clean the printer’s thermal head (see “Cleaning the thermal head and transfer roll guide” on page 4-4).

Black-and-white instead of color

- Make sure that a color transfer roll is installed in the printer.
- If you have a Macintosh, make sure that you are using the Phaser 240 driver or the latest Apple LaserWriter printer driver (version 6.0.7 or higher), which supports color PostScript. Make sure that **Color/Grayscale** is selected in the **Print** dialog box. Some applications require special files (PPDs or PDFs) to print in color. Make sure that these files are properly installed. For information, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.
- If you have a PC, be sure to use a driver that supports color PostScript. If you are using Windows 3.1, use the Phaser 240 driver. If you are using Windows, make sure that the **Color** box in the **Options** dialog box is checked. For information on the drivers, refer to the *Phaser 240 Drivers and Utilities Printing Reference*.
- Make sure that a color transfer roll is installed in the printer.
- The PCL5 printing language supports monochrome printing only.

Startup page prints even though it is disabled

The printer's power-up self-test can detect problems that do not necessarily make the printer completely inoperable. Examples of these *non-fatal* errors include faulty printer ports and some memory failures.

If the printer detects a non-fatal error at power-up, the startup page prints, even if you have disabled it. In this case, the page contains one or more of the error messages listed in the following table. Depending on your needs, you may not need to call for service immediately.

Error messages on the startup page

Message	Description
Parallel Port failed LocalTalk Port failed Ethernet Port failed	The named port is not working. The other ports can still be used.
Font SIMM failed	The optional FONT SIMM is not working. The printer can still be used, but only the standard 17 fonts are available.
DRAM SIMM 2 failed	Memory SIMM 2 is not working. Since the printer's base memory is still working, the printer can still be used, but 600 x 300 dpi printing is not possible, large image files may not print, and throughput may suffer.

Printing the configuration page

The Phaser 240 can print a configuration page that contains useful information for installation and troubleshooting.

There are two ways to print the configuration page:

- **Send a utility file to the printer.** For information on how to print the configuration page by sending a utility file to the printer, see the *Phaser 240 Drivers and Utilities Printing Reference*.
- **Use the DIP Switches inside the printer's rear panel door.**
 1. Power up the printer and wait for the **READY** indicator to be on (not blinking).
 2. Remove the rear panel door and note the current DIP Switch settings. Set Switches 1, 2, 3, and 4 *down*.
 3. After about five seconds, set Switch 4 *up*. The printer prints the configuration page as soon as the switch is set (you do not have to reset the printer). After the configuration page prints, return the DIP Switches to their original positions. Refer to Chapter 7, "Front and Rear Panels," for more information on DIP Switches.

Whom to call for help

If you need assistance, contact your local Tektronix dealer or sales representative, Tektronix Customer Support Hotline, the Tektronix Bulletin Board Service (BBS), or Tektronix' interactive fax system (HAL).

Customer Support Hotline

If your problem is still not resolved after first trying the suggestions in this Troubleshooting chapter, call the Tektronix Customer Support Hotline in the United States and Canada at **1-800-835-6100** (from 6:00 am to 5:00 pm PST).

For technical support outside the United States and Canada, contact your local Tektronix dealer or local Tektronix office.

Printer service

If your printer needs service, call **1-800-835-6100** in the United States, from 6:00 am to 5:00 pm PST. Outside the U.S., contact your Tektronix dealer or local Tektronix office.

The Tektronix Bulletin Board Service

The Tektronix Bulletin Board Service (BBS) is available for direct downloading of the latest versions of printer drivers, utilities, and files. If you have a Macintosh or PC, communication software, and modem, you can call the system and use the menus to locate and download the files you want.

To access the BBS 24 hours a day, 7 days a week, call **(503) 685-4504**.

For a detailed instruction guide on system requirements, terminal settings, protocol, modem, connecting to our BBS, and downloading files, request a document catalog from HAL, the Tektronix automated fax system. Refer to "Using the automated fax systems" on page 6-16 for instructions.

Online services

Tektronix color printer information is also available through online services.

- Technical support: support@ColorPrinters.tek.com
- World Wide Web: <http://www.tek.com/CPID/>
- America Online: keyword Tektronix
- eWorld: shortcut Tektronix

Downloading files from the Tektronix Color Printer Information Server

Unix and VMS workstation utility files included with the printer on a PC diskette let you set up the printer to select between media trays, print quality modes, color correction modes and other features. If you don't have the means of transferring these files from the PC diskette, you can request files from the Tektronix Color Printer Information Server, an automatic file serving program on the Internet that responds to requests for files.

If you can exchange electronic mail with other Internet sites, you can access the Tektronix Color Printer Information Server. From this server you can retrieve driver and utility files and color printer information.

Send your electronic mail requests for files to the following address:

color_printer_info@TEKTRONIX.TEK.COM

To receive the list of information available on the server, type the following at the **Subject** prompt:

send index

To examine the full index for any library, type:

send index from *library-name*

To request a single file from a directory, type:

send *filename* from *library-name*

To determine file size, type:

send list of *filename* from *library-name*

Using the automated fax systems

As an alternative to the Customer Support Hotline, 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).

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 HAL to order a catalog or individual documents in the U.S.A. and Canada

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, by calling **(503) 682-7450** (direct) or, in the U.S. and Canada, call **1-800-835-6100**.

1. Before you call, write down the area code and telephone number for your fax machine. HAL will ask you to key this number through the keypad on your voice telephone. If you are calling from outside the United States or Canada, you'll need to know the international access code to reach your country from the United States. Without a complete fax number, HAL cannot call your fax machine.
2. Call only from a touch-tone voice telephone.
3. Follow through the voice-prompted menu.
4. Order individual documents by entering the desired document's number as listed in the HAL catalog. Enter the number by using the telephone's keypad.
5. You can order up to three documents per call.
6. The HAL catalog or documents you request are faxed to you in a matter of minutes.

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.

If you have a tone-dial telephone and a fax machine, then you can use EuroHAL. If your telephone has star (*) and hash mark (#) keys then it can probably use tones; ask your local telephone supplier if you are not sure.

If your telephone does not have these keys or has a dial, you will need to buy a *tone dialer* from your local telephone or electronics shop. This small box is held to the phone and will send the standard tones that you need to talk to EuroHAL.

1. To use EuroHAL, dial one of the numbers listed in the following table.

Country	Number
Austria	00 44 1628 478 347
Belgium	00 44 1628 478 347
Denmark	00 44 1628 478 347
Finland	990 44 1628 478 347
France	05 90 81 86
Germany	0130 819 220
Holland	00 44 1628 478 347
Italy	00 44 1628 478 347
Norway	0 95 44 1628 478 347
Spain	07 44 1628 478 347
Sweden	0 09 44 1628 478 347
Switzerland	00 44 1628 478 347
UK	01628 478 347
Other countries	+44 1628 478 347 (where + is your country's International Access Code)

2. EuroHAL answers and asks which language you want to use.

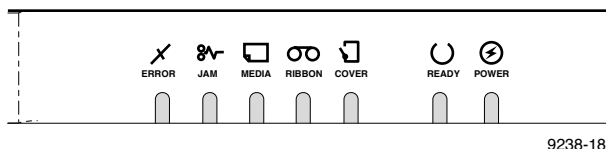
For English	Press 1
For French	Press 2
For German	Press 3

3. The first time you use EuroHAL, you should order a catalog. This lists all the documents that are available and is constantly updated.
4. EuroHAL asks you for your fax machine number. If you are calling from outside the UK, add your country code first, as shown in the following table.

Country	Country code	Your area code and fax number	Press # when finished
Austria	00 43	area code fax number	#
Belgium	00 32	area code fax number	#
Denmark	00 45	area code fax number	#
Finland	00 358	area code fax number	#
France	00 33	area code fax number	#
Germany	00 49	area code fax number	#
Holland	00 31	area code fax number	#
Italy	00 39	area code fax number	#
Norway	00 47	area code fax number	#
Spain	00 34	area code fax number	#
Sweden	00 46	area code fax number	#
Switzerland	00 41	area code fax number	#
UK		just enter your fax number	#
Other countries	00 xx	area code number	#

Front and Rear Panels

Front panel



Front panel status descriptions

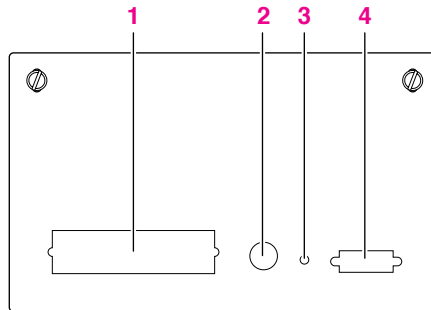
Indicator	On	Blinking	Off
POWER	The POWER switch is on.	Not applicable.	The POWER switch is off, the printer is unplugged, or the power supply has failed.
READY	The printer is ready for operation.	The printer is processing or printing an image.	The printer is not ready, or there is an error.
ERROR	The print engine has an error that is not user-correctable. If this indicator lights at any time other than power-up, turn the printer off, wait 30 seconds, then turn it on again. If the indicator lights again, the printer requires service.	The printer's controller board has an error that is not user-correctable. If this indicator lights at any time other than power-up, turn the printer off, wait 30 seconds, then turn it on again. If the indicator lights again, the printer requires service.	Normal operation: there are no print engine or controller board errors.

Front panel status descriptions (cont'd.)

Indicator	On	Blinking	Off
JAM	Media is jammed inside the printer.	The printer has failed to pick up the media for a print job. Remove the paper tray and put it back in to clear the error. It may be necessary to clean the paper pick rollers. See "Cleaning the paper-pick rollers" on page 4-6.	Normal operation: there are no media jams.
MEDIA	There is no media in the selected tray, or the selected tray is not installed.	The media in the selected tray is the wrong size for that tray.	Media is ready to feed.
COVER	The top cover or the front cover is open. The printer does not print while covers are open.	Not applicable.	Normal operation: the top cover and front cover are closed.
RIBBON	At least 75% of the transfer roll is used up. The printer can make prints with the remainder of the transfer roll.	Transfer roll is used up or not installed. This light will also blink if a non-Tektronix transfer roll is installed.	Normal operation: less than 75% of the transfer roll is used up. The transfer roll is ready to make prints.

Rear panel

1. Parallel connector
2. LocalTalk connector
3. Status indicator
4. Ethernet connector



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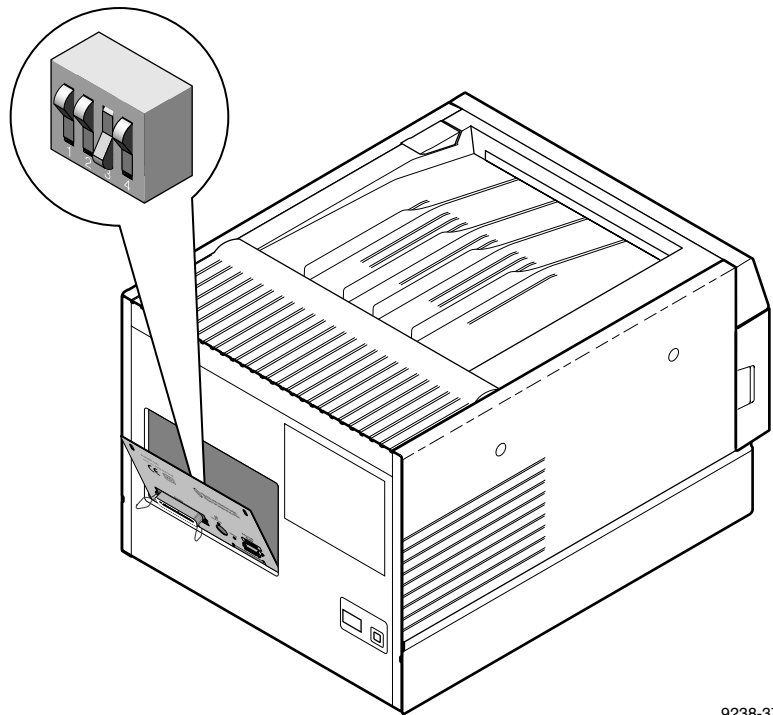
Static Precautions

If you remove the rear panel door to access memory, font, and Ethernet SIMMs or the DIP Switches, you should follow these static precautions:

- Turn off the printer's power, however leave the printer plugged into a properly grounded power outlet. This preserves a ground path for static discharges.
- Touch the printer's bare metal frame often to discharge static electricity from you body.
- Handle circuit boards by their edges only. Do not lay circuit boards on plastic or metal surfaces.
- Make the least possible movements to avoid generating static electricity.
- Avoid wearing nylon or polyester clothing; they generate static electricity.

DIP switches inside rear panel door

Note *If your printer is on a network and you have changed switch settings for color correction, make sure you tell other users on the network, since the color correction affects **all** prints made with non-Tektronix drivers. Color correction selections made in the Phaser 240 driver take priority over the selection made by setting the printer's DIP switches.*



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In the following tables, ↑ indicates that the DIP switch is *up* or *pressed in at the top*, depending on the package style of the DIP switch. ↓ indicates that the switch is *down* or *pressed in at the bottom*.

Phaser 240 rear panel DIP switches

Switch	Function	Switch settings
1	Reset/run	↑: The printer resets and does not accept data while the switch is in the up position. ↓: The printer runs a self-test, then proceeds to run normally. Leave the switch down for normal operation.
2, 3, and 4	See the next table.	See the next table.

Phaser 240 DIP Switch combinations

Switches				Operation
1	2	3	4	
↓	↓	↓	↓	Color corrections disabled*
↓	↑	↓	↓	Not Used
↓	↓	↑	↓	Color corrections enabled* (factory default)
↓	↑	↑	↓	For service personnel only
↓	↓	↓	↑	Print configuration page**
↓	↑	↓	↑	Sample prints enabled
↓	↓	↑	↑	For service personnel only
↓	↑	↑	↑	For service personnel only

* The default color correction is Vivid Color. Color correction utility files downloaded to the printer alter this setting. Switch 3 must be in the up position for downloaded color corrections to take affect.

To print the configuration page, the **READY indicator must first be on steady (not blinking). Note current Switch settings, then set Switches 1, 2, 3, and 4 down. After about 5 seconds, set Switch 4 up to activate the print. After the print, return the DIP switches to their original positions.

A

Technical Notes

Printer ports

Parallel port

The printer has a standard unidirectional, byte-wide parallel, synchronous port. When you use the parallel port, be sure to type this command at the PC (if **LPT1** is not available, use **LPT2**):

MODE LPT1:.,P

The table on the next page shows the parallel port's connected pins. Other pins are not connected. Signal names ending with a dash (-) are asserted low.

Parallel port signal descriptions

Signal name	Pin #	Return pin	Signal source	Description
PSTRB-	1	19	Host	Pulsed low for .5 microseconds; clocks data into printer
DATA1	2	20	Host	Positive true data input
DATA2	3	21	Host	Positive true data input
DATA3	4	22	Host	Positive true data input
DATA4	5	23	Host	Positive true data input
DATA5	6	24	Host	Positive true data input
DATA6	7	25	Host	Positive true data input
DATA7	8	26	Host	Positive true data input
DATA8	9	27	Host	Positive true data input
ACK-	10	28	Printer	Data acknowledge pulsed low for 3-4 microseconds; ends bus transaction
BUSY	11	29	Printer	Positive true = cannot accept data
PE	12	-	Printer	Positive true = out of paper or transfer roll
SLCT	13	-	Printer	Positive true = printer selected
PIPRIME-	31	30	Host	Negative true = printer port reset
PFAULT-	32	-	Printer	Negative true = printer fault indicator
Frame Gnd	-	17	Printer	Frame ground
SGnd	-	14,16,33	Printer	Signal ground

Specifications

Temperature

Operating: 15° C to 35° C (59° F to 95° F)

Non-operating: 0° C to 40° C (32° F to 104° F)

Storage: (without paper, transparencies, or transfer roll): -20° C to +60° C (-4° F to +140° F)

Humidity

Operating: 20% to 80% Relative Humidity, non-condensing

Non-operating: 10% to 90% Relative Humidity, non-condensing

Altitude

Operating: 0.8942 kg/m. Minimum air density (about 0 to 15,000 feet at 25° C)

Non-operating: 0 to 50,000 ft. pressure alt.

Primary voltage ranges (switch-selectable)

87 - 128 VAC, 115 VAC nominal

174 - 250 VAC, 220 VAC nominal

Frequency range

48 to 66 Hz

Primary fusing

115 VAC, 5 Amps

220 VAC, 5 Amps

(Not user-accessible)

Heat dissipation

800 BTU/hour (235 Watts)

Dimensions without Lower Tray Assembly

Height: 27.9 cm (11.0 ins.)

Depth: 44.4 cm (17.5 ins.)

Width: 34.0 cm (13.4 ins.)

Dimensions with Lower Tray Assembly

Height: 36.8 cm (14.5 ins.)

Depth: 47.6 cm (18.8 ins.)

Width: 34.0 cm (13.4 ins.)

Weight without Lower Tray Assembly

18.1 kg (40 lbs.)

Weight with Lower Tray Assembly

23.6 kg (52 lbs.)

Printing

300 x 300 dots-per-inch (Standard mode)

300 x 300 dots-per-inch (Enhanced mode)

600 x 300 dots-per-inch (High Resolution mode)

Print speed (paper-marking speed)

The speeds listed in the following table represent the printer's paper-marking speed in standard print mode. The paper-marking speed is the time it takes the printer to put the colored wax on the paper, once it has received the processed image. NA indicates a combination of transfer roll and paper that is not recommended.

Media type	With Black transfer roll	With 3-Color transfer roll	With ColorCoat™ transfer roll
Transparency	16 sec.	30 sec.	36 sec.
Tektronix perforated thermal-transfer paper	16 sec.	30 sec.	49 sec.
Tektronix perforated premium laser paper	NA	NA	49 sec.
Non-perforated plain paper	NA	NA	46 sec.

Note *In Enhanced mode, the paper-marking speed is increased by 10 seconds over Standard mode. In High Resolution mode, image processing time is about 30% longer than with Standard mode. Also, the printer's paper-marking speed can be up to twice as long as Standard mode.*

Standard transfer roll capacities

Black transfer roll: 880 prints

3-Color transfer roll: 342 prints

ColorCoat™ transfer roll: 214 prints

Safety and emissions standards

FCC Part 15, Subpart J “Class B” certified.

CISPR 22 Class B, verified

UL 1950, listed.

CSA 220, certified.

EN60950/IEC 950, TUV licensed.

EN55022.

Immunity standards

EN50082-1

B

Expanding Your Printing System

Customizing your printer

Tektronix offers upgrade and accessory kits to expand your printer's capabilities. To order upgrade kits, refer to the supplies information sheet that was shipped with the printer and contact your local dealer or Tektronix office. In the United States, call Tektronix at **1-800-835-6100**.

Upgrade kits

4690F4M	4-Mbyte SIMM for adding memory. (See “Advantages of adding memory” on page B-3.)
4681F8M	8-Mbyte SIMM for adding memory. (See “Advantages of adding memory” on page B-3.)
4685F16	16-Mbyte SIMM for adding memory. (See “Advantages of adding memory” on page B-3.)
4681FTA	Lower Tray Assembly with A-size (U.S.) paper tray. For metric A4-size paper tray, order 4681FTA Option 01.
4681F1F	Font SIMM (adds 22 fonts for a total of 39).
4680FP1	Ethernet hardware upgrade kit; includes EtherTalk and Novell NetWare protocols.
4680FP2	Add TCP/IP support (requires 4680FP1 already installed).
4681FSS	Plain-paper supplies startup kit. Includes: ColorCoat transfer roll, paper tray for non-perforated plain paper, and non-perforated premium laser paper. Order Option 01 for a metric paper tray.

Advantages of adding memory

The printer is shipped with 5 Mbytes of memory in its standard configuration. The following table summarizes the benefits of upgrading the printer's memory.

Memory configurations for Phaser 240 printer

Memory	Total Memory	Benefits of upgrade
Add one 4-Mbyte SIMM	9 Mbytes	Fast print throughput Storage for downloadable fonts Fast computer offload of print jobs Processing of complex image files
Add one 8-Mbyte SIMM	13 Mbytes	600 x 300 dpi printing Faster print throughput More storage for downloadable fonts Faster computer offload of print jobs Processing of complex image files
Add one 16-Mbyte SIMM	21 Mbytes (max.)	600 x 300 dpi printing Fastest print throughput Most storage for downloadable fonts Fastest computer offload of print jobs Processing of complex image files

The total amount of memory installed in the printer is reported on the startup page and on the configuration page.

Phaser Print

For printing in Unix and VMS environments, Tektronix offers Phaser Print. Phaser Print provides fast raster file and screen copy printing to Tektronix color printers. Phaser Print also provides a graphical user interface for push-button control of Tektronix printer features. Phaser Print works with the workstation's native spooling system to print PostScript files and raster files in these formats: Sun Raster Format (SRF), **xwd**, and SGI RGB. Refer to "Printing from a Unix or VMS workstation" on page 3-6 for more information.

Note *To order Phaser Print, use Tektronix order number 4690F20.*

PhaserSym

For printing in VMS environments, Tektronix offers PhaserSym. PhaserSym is a VMS print symbiont for DEC OpenVMS VAX, and DEC OpenVMS AXP machines.

Note *To order PhaserSym, use Tektronix order number 4690F41.*

C

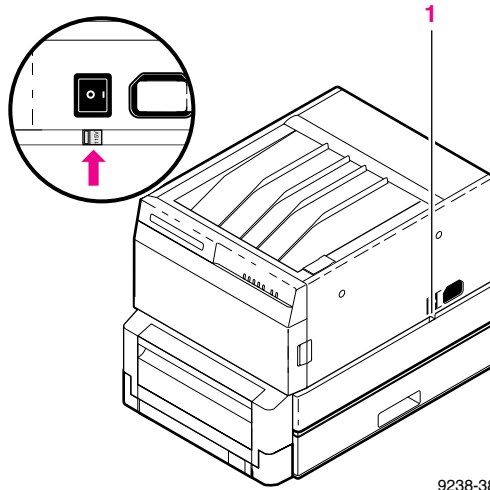
Moving Your Printer

Changing the line voltage

If you move the printer to a country that uses a line voltage different from the printer's factory setting, you can change the line voltage to the appropriate setting by using the line voltage selector switch.

Do not plug in the printer until the line voltage selector switch is properly set. For your safety, *do not* remove the cover from the printer. The line voltage selector switch is located next to the **On/Off** switch. Also, the new location may require a different power cord and fuse; see your dealer for details.

1. Line voltage selector switch.



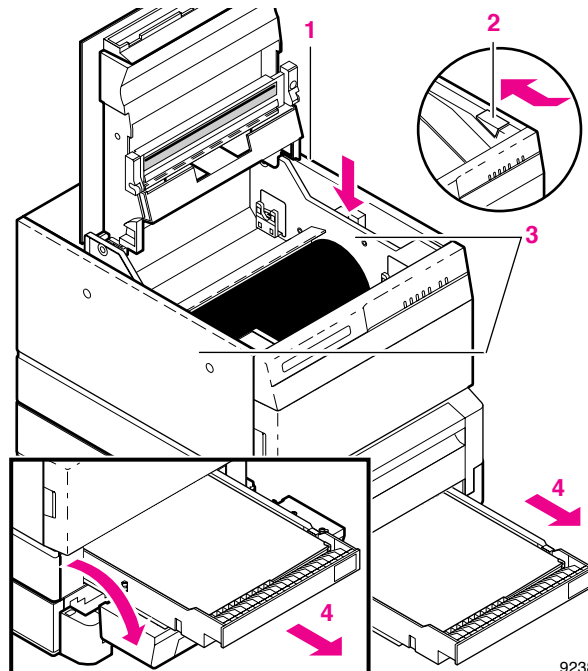
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Repacking your printer

1. Turn off the printer; remove all cords and cables.
2. Push the button to open the top cover.

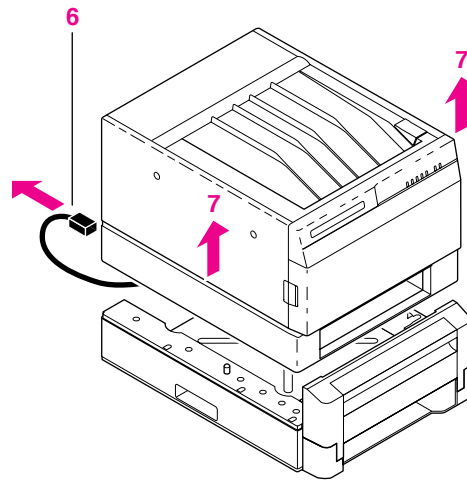
Note To keep your warranty valid, you must ship the printer in its Tektronix shipping box. Call Tektronix if you need a replacement box. Also, if you are returning the printer for service, call Tektronix for a return authorization number.

3. Replace the packing material on both sides of the drum.
4. Remove the paper tray(s) and transfer roll. Pack these for shipping or storage.
5. Close the top cover. Secure the top and front covers with masking tape.



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6. If the printer has a Lower Tray Assembly, make sure that the Lower Tray Assembly cable is disconnected.
7. Lift the printer up and away from the Lower Tray Assembly.
8. Repack the printer in the Tektronix shipping box. Keep the printer level when moving.



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D

Regulatory Information

Canadian EMC (Electromagnetic Compatibility) regulatory standards

- This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
- Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Declaration of conformity

Tektronix, Inc.
Color Printing and Imaging Division
P.O. Box 1000
Wilsonville, Oregon 97070-1000 U.S.A.

declares, under our sole responsibility, that the product

Phaser 240

to which this declaration relates, are in conformity with the following standard(s) or other normative document(s):

For the EC EN60950	Safety of Information Technology Equipment including Electrical Business Equipment
-----------------------	---

For the EC EN55022	Limits and methods of measurement of radio Interference characteristics of Information Technology Equipment
-----------------------	--

For the EL EN50082-1	Generic immunity standard: Residential, Commercial, and Light Industry
-------------------------	---

following the provision of the

Low Voltage Directive 73/23/EEC, the Electromagnetic Compatibility Directive 89/336/EEC, Machinery Directive 89/392/IEEC, and the law governing the operation of radio-frequency equipment (HFfG) 9 August 1949.

FCC Class B device (for 115 VAC equipment)

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly in strict accordance with Tektronix' instructions, it may cause interference with radio and television reception.

This equipment has been tested and certified to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interferences in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning *Changes or modifications not expressly approved by Tektronix can affect emission compliance and could void the user's authority to operate this product. To ensure emission compliance, use shielded interface cables.*

Material Safety Data Sheets

Proper management of environmental resources protects the well-being of our employees, customers, shareholders, and the communities we are a part of worldwide.

Tektronix establishes and maintains sound environmental management practices to accomplish this goal and to assure compliance with the laws, regulations, and orders of the responsible governmental authorities wherever Tektronix and its subsidiaries operate.

Tektronix, Incorporated is complying with government regulations by providing Material Safety Data Sheets for our products.

*Color Printing and Imaging Division
Tektronix, Incorporated*

Section I – Product identification

Trade name and Tektronix part number:

<i>Black Transfer Roll</i>	016-1188-00
<i>3-Color Transfer Roll</i>	016-1262-00
<i>ColorCoat™ Transfer Roll</i>	016-1222-00

Product use: Used in Phaser 240 color printers.

Section II – Information on ingredients

Ingredients	CAS No.
Polyester film*	25038-59-9
Paraffin wax	8002-74-2
Coloring material	
Resin	

* Polyethylene Terephthalate

Hazardous Ingredients: None.

Section III – Hazards identification

Potential Health Effects:

Eyes: Non-irritating.

Skin: Non-irritating.

Inhalation: Not considered a route of exposure.

Ingestion: Not considered a route of exposure.

Section IV – First aid measures

This material is a coated film. No medical emergency is foreseen when product is used as intended.

Section V – Fire fighting measures

Flammable Properties:

Flash point: Not applicable.

Fire & explosion hazards: The film will burn when in contact with fire. Products of combustion include carbon dioxide, carbon monoxide, and water which are similar to combustion of other products found in an office setting.

Section VI – Accidental release measures

Spill Or Leak: This section is not applicable to this product, which is a dry film.

Section VII – Handling and storage

Handling: No special precautions necessary.

Storage: Store away from excessive heat.

Section VIII – Exposure control – personal protection

Exposure Guidelines: No PEL or TLV established.
Engineering Controls: No special controls necessary.
Eye Protection: None needed.
Skin Protection: None needed.

Section IX – Physical and chemical properties

Appearance: Coated, flexible film.
Odor: None.
Solubility: Not soluble in water.

Section X – Stability and reactivity

Stability: Stable.
Incompatibility With Other Materials: None expected.
Hazardous Polymerization: Not applicable.

Section XI – Toxicological information

No data available.

Section XII – Ecological information

No data available.

Section XIII – Disposal considerations

Dispose in accordance with all Federal, State or Local regulations. This film is not considered a hazardous waste under RCRA 40 CFR 261.

Section XIV – Transport information

D.O.T.: Not a hazardous material for DOT shipping.

Section XV – Regulatory information

SARA Title III:

311/312 Hazard Categories: None applicable.

313 Reportable Ingredients: None.

California Prop. 65: None of the components of this film appear on the California Proposition 65 list of chemicals known to cause cancer or reproductive toxicity.

Canadian WHMIS: The film meets the requirements of a “manufactured article” under Canadian Workplace Hazardous Materials Information System, and therefore no MSDS or label is required.

TSCA: All components of this film are included in the Toxic Substances Control Act inventory as verified by our suppliers.

OSHA: This film meets the definition of an article under 29 CFR 1910.1200 Hazard Communication and therefore it is exempt from its requirements. We are supplying this data sheet as a courtesy to our customers.

Section XVI – Other information

Original preparation date: 11/19/93 R.C.

Tektronix, Incorporated
P.O. Box 500
Chemical Documentation
Mail stop 55-769
Beaverton, Oregon 97077
Printer information: 1-800-835-6100
MSDS information: (503) 627-7255

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