Printing Reference

Tektronix

Phaser™ 220 Drivers and Utilities

First printing December 1993
070-8870-00

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Chapter

1 Before You Begin

The Tektronix software diskettes for Macintosh and PC environments are packaged together for shipment with Phaser 220i and 220e printers. This printing reference explains how to use the drivers and utilities on the diskettes to get the best color prints from your printer.

Checking the diskettes

Note *If you need PC software in 5.25-inch format diskettes, contact your reseller or local Tektronix office. Or, in the U.S., call 1-800-835-6100 and ask for the sales department. Request part number 063-1734-00.*

The following diskettes are shipped with the Phaser 220i and 220e:

- **For the Macintosh**
  - Macintosh Printer Driver
  - Macintosh Printer Utilities
- **For the PC**
  - Windows 3.1 Printer Driver
  - Printer Utilities

Note *If you are using a workstation, refer to Chapter 4, "Printing from a Workstation," for instructions on obtaining the utility files.*

Using this manual

Refer to the chapters in this manual depending on the type of computer you are using and the information you are looking for.

Printing reference chapters

Chapter title	Chapter contents	For Macintosh users	For PC users	For Workstation users
1 Before You Begin	Explains how to use the diskettes.	✔	✔	✔
2 Printing From a Macintosh	Explains how to install and use the Tektronix driver and printer description files for Macintosh applications.	✔		
3 Printing From a PC	Explains how to install and use the Tektronix driver and printer description files for PC Windows applications, and includes information on printing from DOS.		✔	
4 Printing from a Workstation	Explains how to obtain utility files, and includes PostScript code for some utility files on the Printer Utilities diskette.			✔
5 Selecting Media and Image Options	Explains how to make paper size and image orientation selections in the Macintosh and Windows drivers.	✔	✔	
6 Selecting Color Corrections	Explains how to make color corrections with driver settings, utility files, and printer switches, and how to print and use the color sampler charts.	✔	✔	✔
7 Using Fonts and SCSI Hard Disks	Explains how to use fonts, format a SCSI disk for font storage, and control Sys/Start Job execution.	✔	✔	✔
8 Modifying Printer Operation	Explains how to perform specialized tasks to modify the printer's behavior, such as turning off the printer's startup page.	✔	✔	✔
9 Using Different Printer Language Modes	Explains how to switch between PostScript, HP-GL, and PCL®5.		✔	✔
10 Troubleshooting	Gives solutions to a variety of problems and special cases.	✔	✔	✔
Index	A detailed cross-reference to help you find the information you need.	✔	✔	✔

Using the printer

The Tektronix Phaser 220i and 220e Color Printers use Adobe's PostScript Level 2 language. You can take advantage of the Level 2 features and special color corrections by using one or more of the following methods:

- A Tektronix printer driver
  (Available for Macintosh and PC Windows applications)
- The utility files
- The printer's built-in color correction switches

When to use the drivers

Most Macintosh and Windows applications can take advantage of the Tektronix drivers. Use the drivers to select printing options, such as media size. In most cases you use the options in a driver's dialog box to select color corrections. Refer to Chapter 6, "Selecting Color Corrections," for details.

When to use the utility files

The utility files perform such tasks as color corrections, changing the printer name, and printing a configuration page. Some of these adjustments change the printer's default settings and are intended for use in the following cases:

- With applications that don't use Tektronix drivers.
- With applications that use their own drivers.
- When printing the Tektronix color sampler charts.
- When printing from a workstation.

When to use the switches

The printer's rear panel switches can be used to change the printer's default color correction state. Refer to Chapter 6, "Selecting Color Corrections" for details.

Where to find the drivers, utility files, and built-in switches

- **Printer drivers**
  - Macintosh driver software is located on the Macintosh Printer Driver diskette and is described in Chapter 2, "Printing from a Macintosh."
  - Windows driver software is located on the Windows 3.1 Printer Driver diskette and is described in Chapter 3, "Printing from a PC."
- **Utility files**
  - Macintosh utility files are located on the Macintosh Printer Utilities diskette in the *Phaser 220 Utilities.sea*, *Phaser 220 Apps.sea*, and *Phaser 220 Samplers.sea* archive files, and are described in several chapters of this manual.
  - PC utility files are located on the Printer Utilities diskette in the *PHSR220*, *APPLSPEC*, and *SAMPLERS* directories, and are described in several chapters of this manual.
- **Built-in switches**
  - Switches labeled "Color Corrections," are located on the printer's rear panel and are described in Chapter 6, "Selecting Color Corrections." Refer to the printer's user manual for information on the rear panel switches.

Understanding driver and utility file interactions

Selections made in the driver affect only those prints made from the driver. However, selections made with utility files and switches change the printer's default settings and can affect prints made by other users. Refer to the topic "If you are sharing the printer on a network" in Chapter 10, "Troubleshooting," for driver, utility file, and switch interactions.

For Macintosh users

Opening the READ ME files on the diskettes

Each Macintosh diskette contains a *READ ME* file providing information that arrived too late to be included in this manual. These *READ ME* files were written in the *TeachText* program. You must have a copy of *TeachText* installed on your hard disk to read these files. If you don't have a copy already installed, copy *TeachText* from the same Apple system software diskettes you last used to upgrade your computer.

Using the Macintosh driver

Install the Tektronix Macintosh driver according to the instructions in Chapter 2, "Printing from a Macintosh." Then refer to other chapters in this manual to perform common tasks, such as making color corrections. Chapter 2 also contains instructions for using the LaserWriter 8.0 printer driver with the Phaser 220 printer.

Using the Macintosh utility files

The Macintosh Printer Utilities diskette contains compressed archive files with **.sea** extensions. These compressed files each contain a group of files. For example, the *Phaser 220 Utilities.sea* file contains the printer utility files for performing such tasks as turning off the printer's startup page. You need to decompress an entire archive file onto your hard disk, then delete the individual files you don't want to use.

Decompressing the Macintosh utility files

1. Insert the Macintosh Printer Utilities diskette into your computer's disk drive.
2. Double-click one of the compressed files.
3. At the **Self-Extracting Archive** dialog box, click **Continue**.

4. In the dialog box, select the location, such as your hard drive, where you want the decompressed files saved.

(illustration)

5. At the prompt `Install software as:` you are asked to name the folder where you want the decompressed files to reside. Use either the default folder name listed in the edit box or type in the name you want for the folder. Then click **Save**.

6. At the **Installation was successful** dialog box, click **Quit**.

   The contents of the decompressed file are saved in the folder you specified and are ready for use.

Decompressing Screen Fonts.sea

Refer to Chapter 7, "Using Fonts and SCSI Hard Disks," for special instructions on decompressing fonts.

Using the utility files

The utility files change the way the printer operates. First, decompress the archive file from the diskette to a folder on your hard disk. Install the Tektronix driver (or a LaserWriter driver) and select the appropriate printer in the Chooser, then send the files to the printer. There are two ways to send files to the printer:

- **Self-sending files**: If the file has a self-sender arrow icon, the file is automatically sent to the currently chosen printer when you double-click on the icon.

(illustration)

- **LaserWriter Utility**: If the file does not have the self-sending icon, use the *LaserWriter Utility* to send the file to the printer.

(illustration)

Using self-sending files

Certain Macintosh files, designated by a self-sender arrow icon, are automatically sent to the currently selected printer when you double-click on the icon. Most of the files in the *Phaser 220 Samplers.sea* and *Phaser 220 Utilities.sea* archive files are self-sending.

After double-clicking on the self-sender icon, a dialog box appears with the name and a short description of the file you selected and the printer you are sending the file to. Select **Cancel** or **OK** from this dialog box to continue.

Using the LaserWriter Utility to send files to the printer

The *LaserWriter Utility* is an Apple utility that you use on the Macintosh to send PostScript files and fonts to the printer.

The following files are not self-sending; use the *LaserWriter Utility* to send these files to the printer:

- *PANTONE®-Tek Phaser 220* (PANTONE color sampler chart)
- *Reset Printer*

1. Decompress the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette to a folder on your hard disk.
2. Install the Tektronix driver according to instructions in Chapter 2, "Printing from a Macintosh."
3. Select the appropriate printer in the **Chooser**.
4. Locate the *LaserWriter Utility* in the folder of decompressed files. Double-click on the **LaserWriter Utility** icon to start the application.
5. Select **Download PostScript File** from the **Utilities** menu.
6. Select the file that you want sent to the printer, and click **Open**.
7. At the prompt `Save PostScript output as:` you are asked for a file name for saving printer output. Use the default name given in the edit box or type in a new name. Then click **Save** to send the file to the printer. (Printer output includes status messages generated by the printer reporting such conditions as out of paper.)
8. If no output is returned by the printer, the *LaserWriter Utility* displays a dialog box; click **OK** in the box to continue. If output is returned by the printer, you won't see this dialog box; check your hard disk for the file the utility created for the printer's output.

For PC users

Using the Windows driver

Install the Tektronix Windows 3.1 printer driver according to the instructions in Chapter 3, "Printing From a PC." Then refer to other chapters in this printing reference to perform common tasks, such as making color corrections and selecting media size.

About Control-D characters in Windows print jobs

Windows automatically puts Control-D characters at the beginning and end of each print job. If your computer is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your computer is connected to an Ethernet network such as Novell® NetWare® or TCP/IP™, you should delete the Control-D characters. Refer to Chapter 8, "Modifying Printer Operation," for instructions on deleting Control-D characters from Windows print jobs.

Using the PC utility files

The utility files change the way the printer operates. To use the files, send them to the printer from the communications port your printer is connected to. First, locate the files you want to use on the Printer Utilities diskette. Then use the DOS **COPY** command to send the desired file to the printer. You can copy the files to your computer's hard disk, or use the files directly from the diskette.

For example, to reset the printer you would send the *RESET.PS* file to the printer. If your printer is connected to a parallel (LPT) port, type the following command (where ***X*** is 1, 2, or 3):

COPY RESET.PS LPT*X*:

If your printer is connected to a serial (COM) port, type the following command (where ***X*** is 1, 2, or 3):

COPY RESET.PS COM*X*:

If your printer is connected to a Novell or TCP/IP network, you should follow the instructions provided with your network software.

About Control-D characters in PC utility files

The utility files on the Printer Utilities diskette all begin and end with Control-D characters. If your computer is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your computer is connected to an Ethernet network such as Novell NetWare or TCP/IP, you should delete the Control-D characters from each utility file you plan to use. Refer to Chapter 8, "Modifying Printer Operation," for instructions on adding and deleting Control-D characters in utility files.

For workstation users

If you are using a workstation, refer to Chapter 4, "Printing from a Workstation." Chapter 4 provides information about using the PC utility files on workstations, explains the different ways to obtain the files, and includes the PostScript code for the most often used utility files.

About Control-D characters

The utility files on the Printer Utilities diskette for PC/DOS, all begin and end with Control-D characters. If your workstation is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your workstation is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters from each utility file you plan to use. Refer to Chapter 4, "Printing From a Workstation," for instructions on adding and deleting Control-D characters from utility files.

Chapter

2 Printing From a Macintosh

Using the Macintosh printer driver

System requirements

The Tektronix printer driver for the Macintosh requires the following hardware and software:

- An Apple Macintosh II computer (or later)
- At least 4 Mbytes of memory
- System Software version 6.0.7 or 7.0 and higher

Installing the driver

The Phaser 220 driver is a Tektronix-modified version of Apple's LaserWriter 7.1.2 printer driver. This driver includes special paper sizes and TekColor color correction options. This installation procedure uses Apple's *Installer* program to load the software for the Phaser 220 Driver onto your computer's hard disk. The *Installer* also loads the LaserWriter 7.1.2 software if you are using system software 6.0.7.

If the printer is shared on a network, install the same version of the Tektronix driver on all Macintosh computers connected to the network.

Note *LaserWriter 7.1.2 software is required to operate the Tektronix driver. It is automatically installed for system software 6.0.7 users. If you have system software 7.0 with LaserWriter 7.1.2 already installed, the Installer does not update these files.*

1. Make sure that your Macintosh is powered up with system software version 6.0.7, or 7.0 or higher, installed.

2. Close all applications and disable virus protection software. Some virus protection software (such as Gatekeeper) may interfere with driver installation. Refer to the program's documentation for instructions.

3. Insert the Macintosh Printer Driver diskette into the disk drive. When the diskette appears on the desktop, you'll see several icons.

4. Double-click on the **Installer** icon to start the *Installer* program. Read the introduction screen, then click **OK**. You'll see **Easy Install** in the *Installer* window with the software listed.

(illustration)

5. Click the **Install** button. All the necessary printer software is automatically installed onto your hard disk.
6. Click the **Quit** button in the dialog box that appears.
7. Store the printer driver diskette in a safe place.

Selecting the printer in the Chooser

Note *After changing printer drivers, always check* **Page Setup** *in all open applications.*

1. Select **Chooser** from the **Apple** menu.
2. Click the **Phaser 220** printer driver icon located on the left-hand 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.)
3. Click on the Tektronix printer you want to print to. The list of Tektronix printers is located on the right side of the Chooser.
4. Close the **Chooser** by clicking its close box.

Using the Tektronix driver

Note *If you change printer drivers in the* **Chooser**, *always check for the appropriate paper selection in* **Page Setup**. *Different drivers have different page sizes listed in the pull-down menu.*

Use the **Page Setup**, **Print**, and **TekColor Options** dialog boxes to select printing options. Refer to other chapters in this printing reference for instructions on performing common tasks with the driver.

Applications that use their own drivers

Some Macintosh applications, such as Aldus PageMaker, use their own printer drivers. The best way to obtain the TekColor color corrections on your prints is to use the Phaser 220 printer driver. For example, you can force PageMaker to use the Tektronix driver by holding down the **Option** key and choosing **Print** from the **File** menu. For other applications, refer to the software's documentation for the correct procedure.

Making selections in the Page Setup dialog box

Choose **Page Setup** from the **File** menu to see the **Page Setup** dialog box. Make printer selections in the fields described in the following table.

(illustration)

Page Setup dialog box options

Dialog box options	Option description
Paper	Select a paper size from the pop-up menu. Refer to the "Phaser 220 special paper sizes" table in Chapter 5, “Selecting Media and Image Options” for a list of paper sizes and image areas.
Reduce or Enlarge	Type in the percentage to reduce or enlarge your printed image.
Orientation	Select one of the following options to determine how an image is placed on the paper: ■ **Portrait** ■ **Landscape**
Printer Effects	Select one or more of the following options (refer to Apple's documentation for details on these options): ■ **Font Substitution** ■ **Text Smoothing** ■ **Graphics Smoothing** ■ **Faster Bitmap Printing**
Options	Refer to Apple's documentation for details on this feature.

Making selections in the Print dialog box

Choose **Print** from the **File** menu to see the **Print** dialog box. Make printer selections in the fields described in the following table.

(illustration)

Print dialog box options

Dialog box options	Option description
Copies	Type in the number of prints that you want.
Pages	Type in the range of document page numbers that you want printed, or select **All**.
Cover Page	Select one of the following options: ■ **No** ■ **First Page** ■ **Last Page**
Paper Source	Use the tray selection options in the TekColor Options dialog box.
Print	Select one of the following options: ■ **Black & White:** to print in black-and-white only. ■ **Color/Grayscale:** to print in color.
Destination	Select one of the following options: ■ **Printer**: to send a document to the printer ■ **PostScript File**: to save a document to a file
TekColor button	Click this button to see the **TekColor Options** dialog box.

Making selections in the TekColor Options dialog box

Click the **TekColor** button in the **Print** dialog box to see the **TekColor Options** dialog box. Make printer selections in the fields described in the following table. Refer to Chapter 5, "Selecting Media and Image Options," and Chapter 6, "Selecting Color Corrections," for details on these options.

(illustration)

TekColor Options dialog box options

Dialog box options	Option description
Color Corrections	Select one of the following options: ■ **None** ■ **Vivid Blue** ■ **Simulate Display** ■ **Simulate Press** ■ **Use Printer Setting**
Tray Selection	Select one of the following options: ■ **Upper:** prints on the paper loaded in the printer's upper tray. ■ **Lower:** prints on the paper loaded in the printer's lower tray. ■ **Auto Select:** prints first from the lower tray until it is empty, then prints from the upper tray.
Print Quality	Select one of the following Options ■ **Standard** ■ **Enhanced** ■ **High Resolution**

Using the LaserWriter 8.0 printer driver

You can use Apple's LaserWriter driver version 8.0 with a Phaser 220 printer, but the options you select in the LaserWriter 8.0 driver's **Page Setup** and **Print** dialog boxes must be reselected for every print request.

Installing the LaserWriter 8.0 driver

Note *During installation, the LaserWriter 8.0 driver leaves other versions of the LaserWriter driver intact, so that this driver can co-exist with the Tektronix driver.*

Refer to the LaserWriter driver's documentation, *LaserWriter 8.0 Update Guide*, for instructions on installing the driver.

Using the LaserWriter 8.0 driver with a Phaser 220

The LaserWriter 8.0 driver uses printer-specific 4.1 PPDs (PostScript printer description files) for information on a printer's page sizes, TekColor color corrections, and media type options. To use the LaserWriter 8.0 driver with a Phaser 220 printer, do the following steps. If the printer is busy, it may take some time to complete this configuration procedure; you may want to do this procedure when the printer is idle. You only have to configure a printer once.

1. The *Phaser 220 Apps.sea* archive file on the Macintosh Printer Utilities diskette contains printer description files for Phaser 220 printers. Follow the instructions in Chapter 1, "Before You Begin," to decompress these files.

2. Locate the *PPD4.1* file for the Phaser 220 in the folder on your hard disk containing decompressed files. Place the file with other PPDs for the LaserWriter 8.0 driver in the *Printer Descriptions* folder, in the *Extensions* folder, inside the *System Folder*.

3. Open the **Chooser**.

4. Select the **LaserWriter 8.0** driver icon.

5. Select your printer from the list.
6. Still in the **Chooser**, click the **Setup** button to see a list of options.
7. In the dialog box that appears, click the **More Choices** button to see the full range of options.

(illustration)

8. Click the **Printer Info** button, then click the **Update info** button in the next dialog box.
9. Record the information on **PostScript Version** and **Total Memory Installed**; you will need this information later. Click **OK**.
10. Click the **Select PPD** button. The *Printer Descriptions* folder in the *Extensions folder*, inside the *System Folder*, is displayed.

(illustration)

11. Select your printer's PPD file, for example, *TKP220I1.PPD*. Make sure that the information under **Printer Model** matches the printer you have and the **PostScript Version** information you got in Step 9. Click **Select**.

Note *If the information under Printer Model is not an exact match, use the closest printer name, and call Tektronix Customer Support in the U.S. and Canada at 1-800-835-6100 for the latest PPD file. Outside the U.S. and Canada, contact your local Tektronix reseller. You can also download the latest PPD files from the Tektronix Bulletin Board Service (BBS) at (503) 685-4504.*

12. Click **Configure**. In the field for **Memory Configuration** under **Installable Options**, select the amount of memory your printer has installed. Check other options either **Installed** or **Not Installed** as appropriate.

13. Click **OK** in two dialog boxes and close the **Chooser**.

14. Open the **Page Setup** dialog box to see a pop-up menu with all of the printer's supported paper sizes.

15. Open the **Print** dialog box to select the paper source, either **upper**, **lower**, or **auto select**.

16. In the **Print** dialog box, click the **Options** button to see the **Print Options** dialog box. There are printer-specific features, **MediaType** and **TekColor**, listed at bottom of the dialog box. Refer to Chapter 5, "Selecting Media and Image Options," and Chapter 6, "Selecting Color Corrections," for details on these options.

Note *The LaserWriter 8.0 driver's standard 13 fonts include four fonts each in the Times, Helvetica, and Courier typefaces, plus the Symbol character set.*

Auto Setup error message

If you click the **Auto Setup** button you may receive the following error message:

```
There is a problem with the PPD file
“filename”.  Use “Select PPD” to choose
another Printer Description File.
```

The solution is to change the PPD file name for the printer you are using to match the “filename” specified in the error message.

Printing from an application

Note *For hints and tips on printing from a specific application, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to Chapter 10, "Troubleshooting," for details on using the HAL system.*

The *Phaser 220Apps.sea* archive file on the Macintosh Printer Utilities diskette contains printer description files for Phaser 220 printers. Follow the instructions under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin," to decompress these files. These files are required by some applications; *refer to your application's documentation to determine if you need to use one or more of these files*.

A few applications and their corresponding printer description files are listed in the table below; refer to the following paragraphs for details on each printer description file. Applications that use PDX files also use PPD files.

Printer Description Files for Phaser 220 Printers

Application and version number	Phaser 220i Printer Description Files	Phaser 220e (17 fonts) Printer Description Files	Phaser 220e (39 fonts) Printer Description Files
Aldus PageMaker 4.0 or 4.01	Tek Phaser 220.APD*	Tek Phaser 220.APD*	Tek Phaser 220.APD*
Aldus PageMaker 4.2 (use both PPD and PDX)	TKP220I1.PPD (3.0) TKP220I1.PDX	TK220171.PPD (3.0) TK220171.PDX	TK220391.PPD (3.0) TK220391.PDX
Aldus PageMaker 4.2A (use both PPD and PDX)	TKP220I1.PPD (4.1) TKP220I1.PDX	TK220171.PPD (4.1) TK220171.PDX	TK220391.PPD (4.1) TK220391.PDX
Aldus FreeHand 2.0	Tek Phaser 220.APD*	Tek Phaser 220.APD*	Tek Phaser 220.APD*
Aldus FreeHand 3.0 or 3.1 (use both PPD and PDX)	TKP220I1.PPD (3.0) TKP220I1.PDX	TK220171.PPD (3.0) TK220171.PDX	TK220391.PPD (3.0) TK220391.PDX
Aldus FreeHand 3.1	TKP220I1.PPD (3.0)	TK220171.PPD (3.0)	TK220391.PPD (3.0)
QuarkXPress 3.11	Phaser 220 311.PDF	Phaser 220 311.PDF	Phaser 220 311.PDF
QuarkXPress 3.2	Phaser 220 32.PDF	Phaser 220 32.PDF	Phaser 220 32.PDF
Canvas 3.0	TKP220I1.PPD (3.0)	TK220171.PPD (3.0)	TK220391.PPD (3.0)

*An APD file is not shipped with the printer. Check the Tektronix Bulletin Board Service (BBS) at (503) 685-4504 for an APD file; refer to Chapter 10, "Troubleshooting," for instructions on using the BBS. Or, call Tektronix Customer Support in the U.S. and Canada at 1-800-835-6100, for details on this file. Outside the U.S. and Canada, contact your local Tektronix reseller.

Note *You should always use the most current printer description file. To determine the* ***date*** *of the file you are using, select (highlight) the file and choose* ***Get Info*** *from the* ***File*** *menu. Then check the Tektronix Bulletin Board Service (BBS) for the most current printer description files; refer to Chapter 10, "Troubleshooting," for instructions on using the BBS.*

PDF printer description files

The *Phaser 220 32.PDF* is a printer description file for QuarkXPress 3.2, and *Phaser 220 311.PDF* is a printer description file for QuarkXPress 3.11. QuarkXPress lets you install support for additional printers beyond those shipped with the application. These files add the Phaser 220i or 220e printer to the QuarkXPress list of supported printers.

Note *In QuarkXPress, if you select the 60 lines-per-inch halftone screen, you will get Tektronix' halftone screens optimized for the media type you select.*

To install a PDF file, do the following:

1. Place the file that you need in the same folder as the QuarkXPress application on your computer's hard disk.
2. Open QuarkXPress and select **Page Setup** in the **File** menu.
3. The printer's name appears alphabetically in the list of installed printers in the QuarkXPress custom **Page Setup** dialog box.

Note *To avoid printing errors, use the correct PDF file for the version you are using. Also, for hints and tips on printing from QuarkXPress, request a document catalog from HAL, the Tektronix automated fax system. Call (503)-682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to Chapter 10, "Troubleshooting," for details on using the HAL system*

PDX printer description files

The *TKP220I1.PDX* (for Phaser 220i), *TK220171.PDX* (for the 17-font version of Phaser 220e), and *TK220391.PDX* (for the 39-font version of Phaser 220e) files are extended PostScript printer description files for Aldus applications. Use one of these files (depending on which printer you have) with Aldus FreeHand 3.1 and with all new versions of Aldus applications.

Note *In Aldus FreeHand, if you select the 60 lines-per-inch halftone screen, you will get Tektronix' halftone screens optimized for the media type you select.*

To install a PDX file, do the following:

- Drag the file to the *PPDs* folder that may be located in the *Aldus* folder in the *System Folder* on your hard disk. This file is used automatically by applications that require the information. For best results, copy the corresponding PPD file into the same folder.

Note *Also included on the Macintosh Printer Utilities diskette is the TKP220J1.PDX file for use with the Japanese Kanji language version of the printer.*

PPD printer description file

There are 3.0 and 4.1 versions of the PPD files; use the version required by your application. Each version is located in a separate folder. However, if you need to check the file's version number (3.0 or 4.1), open the file in a text editor and check the ***FormatVersion** line near the beginning of the file.

Note *Also included on the Macintosh Printer Utilities diskette are 3.0 and 4.1 TKP220J1.PPD files for use with the Japanese Kanji language version of the printer.*

Version 3.0 PPDs

The Phaser 220i *TKP220I1.PPD* file (*TK220171.PPD* for the 17-font version of the Phaser 220e; *TK220391.PPD* for the 39-font version of the Phaser 220e) in the *3.0 PPDs* folder is a PostScript Printer Description file for Aldus, Adobe, and other applications. This file is based on the *Adobe Printer Description Files Specification Version 3.0*. Refer to your application's documentation to see if this is the version PPD you should use.

- Use the appropriate PPD file with Aldus PageMaker version 4.x, Canvas 3.0, and with Aldus FreeHand 3.1.
- Place the appropriate 3.0 PPD file with your other PPD files on your hard disk according to application needs. Typically, PPD files are located in the *PPDs* folder, in the *Aldus* folder, inside the *System Folder*. Refer to your application's documentation for details. This file is used automatically by applications that require the information.
- If you are using Canvas 3.0, drag the appropriate 3.0 PPD file into the *PPDs* folder on your computer's hard disk. The *PPDs* folder may be found in the *Canvas* folder if you don't have any Aldus applications.

Version 4.1 PPDs

The Phaser 220i *TKPH220I1.PPD* file (*TK220171.PPD* for the 17-font version of the Phaser 220e; *TK220391.PPD* for the 39-font version of the Phaser 220e) in the *4.1 PPDs* folder is a PostScript Printer Description file for Aldus, Adobe, and other applications. This file is based on the *Adobe Printer Description Files Specification Version 4.1*. Refer to your application's documentation to see if this is the version PPD you should use.

- The 4.1 PPD files are provided for support of future applications and may not work with current applications that require the 3.0 PPD file. *Do not use a 4.1 PPD file unless your application requires it.*
- Place the appropriate 4.1 PPD files are with your other PPD files on your computer's hard disk according to application needs. Typically, PPD files are located in the *PPDs* folder, in the *Aldus* folder, inside the *System Folder*. Refer to the application's documentation for details.
- If you are using the LaserWriter 8.0 printer driver, place the appropriate 4.1 PPD file in the *Printer Descriptions* folder, in the *Extensions folder*, inside the *System Folder*.

PANTONE Color Template for Adobe Illustrator

The *PANTONE Tek Phaser 220.AI* file lets you customize PANTONE Colors in Adobe Illustrator 3.0 and higher for the Phaser 220 printers. This file is application-specific and printer-specific.

1. Drag the file to the Illustrator application folder on your hard disk.
2. Use this file as a template to create documents to send to the printer.

PANTONE Color Library for Aldus FreeHand

The *PANTONE Tek Phaser 220.clib* file is used by the application to properly specify PANTONE Colors for Aldus FreeHand and Phaser 220 printers. This file is application-specific and printer-specific. Do the following procedure to load the color library file.

For FreeHand 3.0, refer to the *Aldus FreeHand User Manual Version 3.0 for Apple Macintosh computers* for more information on color libraries.

For FreeHand 3.1, refer to the *Aldus FreeHand Guide to Installation, System 7.0 Compatibility, and Feature Updates: Version 3.1 for Apple Macintosh computers* for more information on color libraries.

1. Open FreeHand.
2. Open the **Colors** palette in FreeHand (Command + 9).
3. For FreeHand 3.0: choose **Library** from the **Colors** palette submenu; a dialog box appears listing available color libraries.

   For FreeHand 3.1: choose **Import** from the **Colors** palette submenu; a dialog box appears listing available color libraries.
4. Select and open the *PANTONE®-Tek Phaser 220.clib* color library file for your printer. A dialog box appears with a list of available colors.
5. Select color type, either **Process** or **Spot**.
6. Select the colors you want to use, then click **OK**. Select one color at a time, or hold down the shift key and click to select several colors, or press **Command + A** to select all colors in the list.

   Selected colors are added to the **Colors** palette, the **Colors** dialog box, and all **Colors** pop-up menus.

Chapter

3 Printing From a PC

Using the Tektronix printer driver for Windows

System requirements

The Tektronix Windows printer driver requires the following hardware and software:

- An IBM or compatible computer, with a 386 or higher processor.
- One floppy-disk drive (3.5-inch drive with 1.44-Mbyte capacity), and a hard disk.
- Two Mbytes of memory.
- MS-DOS 5.0 or higher operating system, and Windows 3.1.

Accessing on-line help

On-line help is available in two ways:

- For general Windows 3.1 information about printers and setting options, select **Help** from the **Control Panel** menu bar and choose a topic from the **Help** menu. A **Help** window appears, offering information on the selected topic and listing other related topics.

- The Tektronix driver uses the Microsoft help file *PSCRIPT.HLP*. This file is shipped with the Microsoft PostScript driver and must be installed before you can use **Help**. After installing this file, you can get information about the Tektronix driver by choosing **Help** in the **Setup** dialog box. (Access this dialog box through the **Printers** dialog box then the **Printers-Configure** dialog box.)

If you already have Tektronix printers installed

If you have any Tektronix printers installed with an earlier version of the Tektronix Windows driver, you can remove the old files you no longer need. Then, use the latest Tektronix Windows driver to reinstall all your Tektronix printers with the latest driver software. There are two ways to remove the old files: either with the installer program on older versions of the Tektronix Windows driver, or by deleting specific files. Also, there are instructions for removing the files for the TekColor PS Previewer.

Automatically deinstalling printers

If you still have an earlier version of the Tektronix Windows driver, you can use the *INSTALL.EXE* program on that diskette to remove the older driver software.

1. Start Windows.
2. Insert your older Tektronix Windows driver diskette into your computer's disk drive, for example, drive **B**.
3. Click **File**.
4. Click **Run**.
5. Type the following command:

   B:INSTALL

   The **Install Tektronix® Printers** dialog box appears.
6. Select **All Tektronix Printers**, and choose the **Deinstall** button.
7. When the program finishes removing the old files, choose the **Exit** button, and eject the diskette.
8. If you have the TekColor PS Previewer still installed, refer to the topic "Removing the TekColor PS Previewer software" in this chapter, to delete the files.
9. When you are finished removing the old driver files, restart Windows.
10. Go on to the topic "Installing the Tektronix driver" in this chapter, to install all of your Tektronix printers with the latest driver software.

Deleting files

You can delete individual files if you don't have access to an older version of the Tektronix Windows driver with the installer program. You can perform this procedure either from Windows or from DOS.

Note *There are two separate TEK.INI files described in the following procedure.*

1. Delete the *TEK.INI* file in your main Windows directory by typing this command; for example:

   DEL C:\WINDOWS\TEK.INI

2. Go to your Windows\System subdirectory, for example:

   CD \WINDOWS\SYSTEM

   a. Delete the *TEK.DLL* file; for example:

   DEL TEK.DLL

   b. Open the *TEK.INI* file and look for the path for the subdirectory where other Tektronix driver files are located. (*TEKCOLOR* is the default subdirectory name used by the driver installer program, but you may have used a different name.)

   [FilePath]
   Path=*C:\TEKCOLOR*

   c. Go to the *TEKCOLOR* subdirectory and delete the following files:

   TEKPS.EXE
   TEKPREV.DLL
   README.TXT
   **.PSD*
   **.TRI*

   d. If the *TEKCOLOR* subdirectory is now empty, you can remove it.

3. If you have the TekColor PS Previewer still installed, refer to the topic "Removing the TekColor PS Previewer software" in this chapter, to delete the files.

4. When you are finished removing the old driver files, restart Windows.

5. Go on to the topic "Installing the Tektronix driver" in this chapter, to install all of your Tektronix printers with the latest driver software.

Removing the TekColor PS Previewer software

The TekColor PS Previewer application is no longer supported. If you have this software automatically loading whenever you start Windows, you need to edit your *WIN.INI* file and delete the TekColor PS icon to clear the software off your system. You may get system errors if you have not deleted everything listed below.

1. Open the *WIN.INI* file in a text editor, such as Notepad, and delete just the entry **c:\tekcolor\tekps.exe** from the **load=** line under the **[windows]** topic; do *not* delete anything else on the **load=** line:

```
[windows]
load=c:\tekcolor\tekps.exe, c:\afterdrk\ad.exe
```

2. Open the **Accessories** group and look for any **TekColor PS** icons. Select each one and press the **Delete** key.

3. When you are finished removing the old driver files, restart Windows.

4. Go on to the topic "Installing the Tektronix driver" in this chapter, to install all of your Tektronix printers with the latest driver software.

Installing the Tektronix driver

The Tektronix Windows driver is a Windows PostScript driver customized for Tektronix printers. These instructions assume a basic familiarity with Windows operation and terminology. For additional information about Windows, refer to your Microsoft Windows documentation.

1. Insert the Tektronix Windows 3.1 Printer Driver diskette into your computer's disk drive, for example, drive **B:**.
2. Start **Windows**.
3. Open the **Control Panel**. Double-click on the **Printers** icon; the **Printers** dialog box appears.
4. Select the **Add>>** button.
5. In the **List of Printers**, select **Install Unlisted or Updated Printer**.

(illustration)

Note *Printers using the Tektronix driver for Windows will have (TekColor) listed in their name. Printers without this designation are using the standard Microsoft Windows PostScript driver and the WPD file.*

6. Select the **Install** button.

7. Type in the drive containing the PC diskette, for example, drive **B:**, and select the **OK** button.

(illustration)

8. Select your printer and choose **OK**.

(illustration)

The driver software you need is automatically installed. Continue with the next topic, "Configuring the Tektronix driver."

Configuring the Tektronix driver

1. Open the **Printers** dialog box if it is not still displayed.
   - To get to the **Printers** dialog box, double-click the **Printers** icon in the **Control Panel**.
2. Choose your printer from the list.
3. Choose the **Set As Default Printer** button if you want to select your printer as the default.
4. Choose the **Connect** button; the **Connect** dialog box appears.

(illustration)

5. Select the port the printer is connected to. Your printer is connected to your computer through one of the computer's communications ports. You need to tell the driver which port your printer uses so that the driver can print your documents.

   The two main types of communications ports are parallel ports and serial ports; your computer may have one or more of each. Generally, your printer is connected through **LPT1:** if it is connected to a parallel port, or through **COM1:** if it is connected to a serial port. If you have multiple ports, your printer may be connected to another, such as **COM2:**.

Note *The printer's configuration page contains the information you need to setup the printer's port. Refer to Chapter 8, "Modifying Printer Operation," for instructions on printing the configuration page.*

- **For a parallel port setup in Windows:** Select your parallel (LPT) port in the list.
- **For a serial port setup in Windows:** Select your serial (COM) port in the list. Choose the **Settings** button to see the **Settings** dialog box. Fill in each item according to your configuration, then choose the **OK** button. Refer to your Windows documentation for details, or ask your network administrator for help.
- **For a network port setup in Windows:** Select your network (LPT or COM) port in the list. Choose the **Network** button to see the **Printers-Network Connections** dialog box. Fill in each item according to your configuration, then choose the **OK** button. Refer to your Windows documentation for details, or ask your network administrator for help.

Other communications ports may include **EPT:** (an interface for the IBM Page-Printer, which requires the installation of a special card in your computer), and **LPT1.OS2** and **LPT2.OS2**, which Windows may require if you are using certain spoolers or other add-on software programs. The port **FILE:** lets you send a PostScript document to a file instead of to the printer. For more information about communication ports, refer to your Windows documentation.

6. Set the **Timeouts**. These options regulate your computer's communications with its printer ports.

   - **Device Not Selected:** Type a value of **0**, or between **15** and **999**, in this text box to change the number of seconds Windows waits before notifying you that a printer is off-line. The default is **15** seconds.

   - **Transmission Retry:** You can change the number of seconds Windows waits after a print job has begun sending characters to the printer before sending an Alert message that the printer is no longer accepting data. Type a value between **45** and **999** in this text box (the default setting is **45** seconds). When using the Print Manager with a shared printer, you should set this option to a larger value, such as **600** (10 minutes) to avoid the alert message when printing multiple page documents, or **999** to avoid unnecessary timeouts during multiple page jobs.

7. Choose the **OK** button to return to the **Printers** dialog box, then choose the **Setup** button. A dialog box appears with the name of the printer you selected across the top. Use this dialog box to select paper source, paper size, image orientation, and the number to print.

8. Choose the **Options** button to see the **Options** dialog box. Make sure that the **Color** box is checked to print in color.

9. From the **Options** dialog box, choose the **Advanced** button to see the **Advanced Options** dialog box. Make sure that the **Use PostScript Level 2 Features** check box is checked **on**.

   This option affects the print time of bitmapped (raster) images by improving the image transfer time from the computer to the printer, and by improving the image processing time in the printer. This option is only available to applications that use this Tektronix driver with Tektronix PostScript Level 2 printers, such as the Phaser 220. When this box is checked, the **Compress Bitmaps** option is unavailable (grayed out). Choose the **OK** button to return to the **Options** dialog box.

10. Choose the **OK** button to return to the dialog box that lists your printer's name across the top.

11. Choose the **OK** button to return to the **Printers** dialog box.

12. Choose the **Close** button.

Installing the Tektronix driver on a network

1. Install the Tektronix Windows driver as described in the topic "Installing the Tektronix driver" in this chapter.

2. Edit the *CONTROL.INF* file as follows to make the driver available to other users:

   a. Start **Notepad**, or a similar text editor.

   b. Insert the Tektronix Windows 3.1 Windows Driver diskette into your computer's disk drive, for example drive **B**.

   c. In **Notepad**, open the *CONTROL.ADD* file on the Tektronix diskette.

   d. Locate the entries for Tektronix Phaser printers. Select your printer (highlight the line with your printer), and copy the line to the **Clipboard** by selecting **Copy** from the **Edit** menu. If desired, you can select and copy all of the Tektronix printers listed.

   e. In **Notepad**, open the *CONTROL.INF* file located in the network Windows System directory, by selecting **Open** from the **File** menu.

   f. Search for the string *Phaser* to find the existing Tektronix printer entries.

   g. Paste the printer information from the **Clipboard** into the *CONTROL.INF* file above the existing Tektronix printer entries, by selecting **Paste** from the **Edit** menu.

   h. If desired, the existing Tektronix printer entries can be deleted or commented-out by placing a semicolon (**;**) at the beginning of each line. It might be less confusing to users to have only one Tektronix printer to choose from in the driver.

3. Windows users can add the Tektronix printer to their Printers Control Panel in the usual way.

Using the Tektronix driver

Use the following dialog boxes to select printing options. Refer to other chapters in this printing reference for instructions on performing common tasks with and without the driver.

Making selections in the Setup dialog box

To reach the **Setup** dialog box without running an application, open the **Control Panel**, double-click on the **Printers** icon, then choose the **Setup** button. Make printer selections in the fields described in the following table.

(illustration)

Setup dialog box options

Dialog box options	Option description
Paper Source	If your printer has two trays, select the upper tray, lower tray, or Auto Select option: ■ **Upper Tray:** prints on the paper loaded in the printer's upper tray. ■ **Lower Tray:** prints on the paper loaded in the printer's lower tray. ■ **Auto Select:** prints first from the lower tray until it is empty, then prints from the upper tray.
Paper Size	Select a paper size from the pop-up menu. Refer to the "Phaser 220 special paper sizes" table in Chapter 5, "Selecting Media and Image Options," for a list of paper sizes and image areas.
Orientation	Select one of the following options to determine how an image is placed on the paper: ■ **Portrait** (vertical) ■ **Landscape** (horizontal)
Copies	Type in the number of copies (prints) that you want of a document.

Note *If you are printing multiple copies, make sure that the* ***Transmission Retry*** *(described in the topic "Configuring the Tektronix driver" in this chapter) is set for at least 600 seconds (10 minutes). Also, you may want to set the number of copies from your application because the number of copies in the Setup dialog box remains the same until you change it again.*

Making selections in the Options dialog box

From the **Setup** dialog box, choose the **Options** button to see the **Options** dialog box. Refer to your Microsoft Windows documentation for details on the options in this dialog box. Make printer selections in the fields described in the following table.

(illustration)

Options dialog box options

Dialog box options	Option description
Print To:	Select one of the following options: ■ **Printer** ■ **Encapsulated PostScript File**
Scaling	Type in a percentage value to scale the printed image.
Margins	Select one of the following options: ■ **Default** ■ **None**
Color	Check this box **on** to print in color.
Send header with each job	Check this box **on** to send the Windows PostScript header with each print job.
Printer Features button	Select this button to see the Tektronix Printer Features dialog box.

Making selections in the Tektronix Printer Features dialog box

From the **Options** dialog box, choose the **Printer Features** button to see the **Tektronix Printer Features** dialog box.

Make printer selections in the fields described in the following table. Refer to Chapter 6, "Selecting Color Corrections," for details on these options.

(illustration)

Tektronix Printer Features dialog box options

Dialog box options	Option description
Color Correction	Select one of the following options: ■ **None** ■ **Vivid Blue** ■ **Simulate Display** ■ **Simulate Press** ■ **Use Printer Setting**
Print Quality	Select one of the following options: ■ **Standard** ■ **Enhanced** ■ **High Resolution**

Updating the standard Microsoft Windows PostScript driver

If you prefer to use the standard Microsoft Windows PostScript printer driver instead of the Tektronix Windows driver, follow these instructions. This update procedure provides printer page size information for Windows applications using the standard Microsoft driver. However, color corrections and other PostScript Level 2 features are available only with the Tektronix Windows 3.1 driver and are not supported by the standard Microsoft driver. Refer to Chapter 6, "Selecting Color Corrections," for information on color correction alternatives, such as with utility files and printer switches.

These instructions assume a basic familiarity with Windows operation and terminology. For additional information about Windows, refer to your Microsoft Windows documentation.

1. Insert the Tektronix Windows 3.1 Printer Driver diskette into your computer's disk drive, for example, drive **B:**.
2. Start **Windows**.
3. Open the **Control Panel**. Double-click on the **Printers** icon; the **Printers** dialog box appears.
4. Choose the **Add>>** button; a list of printers is displayed.
5. Select **Install Unlisted or Updated Printer**.
6. Choose the **Install** button.

7. When prompted, insert the Tektronix Windows 3.1 Printer Driver diskette into your computer's disk drive.

8. Type in the disk drive location of the diskette, and type in the *\WPD* subdirectory on the diskette:

   B:\WPD

9. Choose **OK**.

10. Choose your printer from the list, then choose the **OK** button.

Note *Printers using the Tektronix Windows driver have (TekColor) listed in their name. Printers without this designation are using the standard Microsoft Windows PostScript driver and the WPD file.*

11. When asked to insert a diskette with the updated PSCRIPT.DRV file, enter the path for your Windows System directory, or insert the appropriate Microsoft Windows diskette, so that the current PSCRIPT.DRV file is used. (The PSCRIPT.DRV file is not included on the Tektronix diskettes.)

Using DOS drivers

Note *Driver-selectable TekColor color correction features are available only through the Tektronix drivers for the Macintosh and PC with Windows as described in this manual. To obtain Tekcolor corrections with another driver you must use the printer's switches or downloadable utility files. See Chapter 6, "Selecting Color Corrections" for more information.*

Many DOS applications include printer drivers for Tektronix printers. Check the application you are using for a printer driver for a Phaser 220. Install and use the driver according to the applications' documentation. Then refer to Chapter 6, "Selecting Color Corrections," to use the printer's switches and downloadable utility files to obtain TekColor corrections on your prints.

Below is a partial list of software vendors that offer Phaser PostScript printer support. Drivers for these popular DOS software packages are available from the Tektronix bulletin board, (503) 685-4504. If you do not see a driver specifically for the Phaser 220, you may use a Phaser 200 driver.

- Freelance 4.0
- Harvard Graphics 3.05
- WordPerfect 5.1

If the application you are using does not have a driver for your Tektronix printer, you can use a generic PostScript printer driver. However, these drivers do not have information on the printer's page sizes and image areas, and images may be clipped or shifted when printed.

If your application does not have a driver for use with your printer, contact the application vendor to see if an update is available.

Refer to the printer's user manual for information on using the DOS MODE command to disable timeouts on a parallel port and set communications parameters on a serial port.

Printing from an application

This topic describes the printer description files available for the Phaser 220. These files are located in the *APPLSPEC* directory on the Printer Utilities diskette. Refer to your application's documentation to determine if you need to use one or more of these files.

Applications that use PDX files also require PPD files. Use both files if your application requires them.

Note *For hints and tips on printing from a specific application, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to Chapter 10, "Troubleshooting," for details on using the HAL system.*

PDX printer description files

The Phaser 220i *TKP220I1.PDX* file (*TK220171.PPD* for the 17-font version of the Phaser 220e; *TK220391.PPD* for the 39-font version of the Phaser 220e) is a printer description file for Aldus applications. Use this file with Aldus FreeHand 3.0 and 3.1.

Copy the appropriate file to the PPDs directory that may be located in the Aldus application directory on your computer's hard disk. Refer to your application's documentation for information on placing printer description files.

Note *Also included on the Printer Utilities diskette is a TKP220J1.PDX file for use with a Japanese Kanji language version of the printer.*

PPD printer description files

There are 3.0 and 4.1 versions of the PPD files; use the version required by your application.

Note *Also included on the Printer Utilities diskette are 3.0 and 4.1 TKP220J1.PPD files for use with a Japanese Kanji language version of the printer.*

Version 3.0 PPDs

The *\PPD3.0* subdirectory on the Printer Utilities diskette contains the Phaser 220i version 3.0 *TKP220I1.PPD* (*TK220171.PPD* for the 17-font version of the Phaser 220e; *TK220391.PPD* for the 39-font version of the Phaser 220e) printer description files that may be required by some Windows applications, such as Aldus FreeHand and PageMaker. Copy this file to the directory on your computer's hard disk where other PPD files are located. For example, the subdirectory in FreeHand's File Manager containing printer description files may be called *ALDUS\USENGLISH\PPDS*. Refer to your application's documentation for details on using printer description files. These version 3.0 PPD files are based on the *Adobe Printer Description Files Specification Version 3.0*. Refer to your application's documentation to see if 3.0 is the version you should use.

Version 4.1 PPDs

The *\PPD4.1* subdirectory on the diskette contains the Phaser 220i version 4.1 *TKPH220I1.PPD* (*TK220171.PPD* for the 17-font version of the Phaser 220e; *TK220391.PPD* for the 39-font version of the Phaser 220e) printer description files. These files are provided for support of Windows applications, such as newer Aldus applications. These files are based on the *Adobe Printer Description Files Specification Version 4.1*.

Copy the appropriate file to the directory on your hard disk where other PPD files are located. For example, the subdirectory in FreeHand's File Manager containing printer description files may be called *ALDUS\USENGLISH\PPDS*. Refer to your application's documentation for details on using printer description files.

PANTONE Color library file for Adobe Illustrator

The *TEK_220.AI* file is located in the *PANTONE* subdirectory, in the *APPLSPEC* directory, on the Printer Utilities diskette. This file lets you customize PANTONE Colors for Adobe Illustrator and a Phaser 220 printer. This file is application-specific and printer-specific.

1. Copy the *TEK_220.AI* file to your computer's hard disk, for example, to Adobe Illustrator's *Color* directory.
2. Open the Illustrator program.
3. From the **File** menu, select the **Open** command.
4. In the dialog box that appears, locate the directory and file location of the *TEK_220.AI* file, and open the file.
5. When you are working on an image, use the **Paint** menu and either the **Paint Style** or **Custom Color** commands to select PANTONE Colors.

PANTONE Color library file for Aldus FreeHand

The *TEK_220.CLB* file is located in the *PANTONE* subdirectory, in the *APPLSPEC* directory, on the Printer Utilities diskette. This file is a look-up table used by the Aldus FreeHand application to properly specify PANTONE Colors for a Phaser 220 printer. This file is application-specific and printer-specific.

1. Copy the *TEK_220.CLB* file to your computer's hard disk, for example, to the FreeHand application's directory.

2. Open FreeHand.

3. **In FreeHand 3.0:** Choose **Library** from the **Colors** palette submenu; a dialog box appears listing available color libraries.

   In FreeHand 3.1: Choose **Import** from the **Colors** palette submenu; a dialog box appears listing available color libraries.

4. Select and open the *TEK_220.CLB* color library; a dialog box appears with a list of available colors.

5. Select the colors you want to use, then click **OK**. Selected colors are added to the **Colors** palette, the **Colors** dialog box, and all **Colors** menus.

PANTONE Color palette file for CorelDRAW!

The *TEK_220.PAL* file is located in the *PANTONE* subdirectory, in the *APPLSPEC* directory, on the Printer Utilities diskette. This file is a look-up table used by the CorelDRAW! application to properly specify PANTONE Colors for a Phaser 220 printer. This file is application-specific and printer-specific.

1. Copy the *TEK_220.PAL* file to your computer's hard disk, for example, to the CorelDRAW! application's directory.
2. Open CorelDRAW!.
3. Open the document file that you want to work in.
4. Select the item that you want filled with a PANTONE Color, then select the **Fill tool** icon (paint bucket).
5. Select the **Fill tool** icon again, then select the **Open** button under **Palette**.
6. In the dialog box under **Path**, specify the location of the *TEK_220.PAL* file.
7. Under **Files**, select the *TEK_220.PAL* file and select the **Load** button.

Chapter

4 Printing from a Workstation

Printing files

You can send files from your workstation to the Phaser 220 as you would to any PostScript printer, for example, the Apple LaserWriter II NTX. Workstation users can print from any application that generates PostScript Level 1 or Level 2.

For more information on printing from a workstation, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to the topic "Using the automated fax system" in Chapter 10, "Troubleshooting," for instructions on using HAL.

Also available from Tektronix is Phaser Print, a driver that allows workstation users to control Tektronix color printer features. Phaser Print also provides Sun SRF, xwd, and SGI RGB raster file printing to Tektronix color PostScript printers. For more information about Phaser Print, contact your reseller or local Tektronix office. Or, in the U.S. and Canada, call 1-800-835-6100 and ask for the sales department.

Using the utility files

The utility files perform such tasks as color corrections, changing the printer name, and printing a configuration page. The utility files on the Printer Utilities diskette for PC/DOS are written in the PostScript Level 2 programming language, and in a few cases you may have to edit the files to change the default parameters.

About PostScript Level 2 operators

These utility files use PostScript Level 2 operators that are not supported under PostScript Level 1. Each file contains code that checks whether PostScript Level 2 is supported by the printer before making a change to printer performance. It is recommended that you only use these files with Level 2 printers. If you send one of these files to a Level 1 printer, it won't make the requested change and it won't generate an error.

About Control-D characters

All PostScript utility files, except *RESET.PS*, must end with a Control-D character when sent from a workstation over a serial or parallel interface. In the file descriptions, Control-D is denoted as **CTRL-D**. For more information about PostScript programming, refer to the *PostScript Language Reference Manual*, second edition, Adobe Systems Incorporated.

If your workstation is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters from each utility file that you plan to use.

Removing Control-D characters from utility files

1. Locate the *delctrld* UNIX shell script in the *PHSR220* directory on the Printer Utilities diskette for PC/DOS. You must copy this file to your workstation before you can use it. (Or, obtain this shell script through one of the methods described in the topic "Obtaining the utility files," in this chapter.)

2. To remove all Control-D characters from a file, type the following command:

   delctrld *filename1.ps filename2.ps*

   where *filename1.ps* is the utility file you want to remove Control-D characters from, and *filename2.ps* is the revised file with a new name. (Both *filename1.ps* and *filename2.ps* can have the same name, but the original file will be overwritten by the revision.)

3. Send the utility file to the printer in the usual manner.

Adding Control-D characters to utility files

1. Locate the *addctrld* UNIX shell script in the *PHSR220* directory on the Printer Utilities diskette for PC/DOS. You must copy this file to your workstation before you can use it. (Or, obtain this shell script through one of the methods described in the topic "Obtaining the utility files," in this chapter.)

2. To add Control-D characters to the beginning and end of a file, type the following command:

   addctrld *filename1.ps filename2.ps*

   where *filename1.ps* is the utility file you want to add Control-D characters to, and *filename2.ps* is the revised file with a new name. (Both *filename1.ps* and *filename2.ps* can have the same name, but the original file will be overwritten by the revision.)

3. Send the utility file to the printer in the usual manner.

Obtaining the PC utility files

Mounting the files from a PC DOS diskette

Note *If your computer is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters from each utility file you plan to use. Refer to the topic "About Control-D characters" in this chapter for instructions.*

You can use the files on the Printer Utilities diskette for PC/DOS on a Unix workstation by mounting the diskette according to the following procedure. Then use the **lpr** command to send the files to the printer.

Note *You must be "superuser" or "root" to perform this procedure.*

1. Create a directory for the utility files, for example:

   /tmp/utilities

2. Place the diskette into the workstation's disk drive.
3. To mount the diskette, type the following command:

   mount –r –t pcfs /dev/fd0 /pcfs

4. Change the directory to the diskette by typing the following command:

   cd /pcfs

5. Copy the files to your workstation to the directory you created in Step 1:

   cp –r * /tmp/utilities

6. When you have finished copying the files that you want, change back to the top directory by typing **cd** and pressing **return**.
7. Unmount the diskette by typing the following command:

   umount –av –t pcfs

8. Eject the diskette by typing **eject** and pressing **return**.

Downloading files from the Tektronix Color Printer Information Server

If you don't have the means of transferring files from the Printer Utilities diskette for PC/DOS, you can request files from the Tektronix Color Printer Information Server, an automatic file serving program 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.

In the following mail requests, substitute the library of your choice for ***library-name***, and the file of your choice for ***filename***.

Send your requests for files to the following electronic mail 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 this command:

```
send index from library-name
```

To request a single file from a directory, type this command:

```
send filename from library-name
```

To determine file size, type this command:

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

Using the Tektronix Bulletin Board System

The Tektronix Bulletin Board System (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, how to connect to our BBS, and how to download files, request a document catalog from HAL, the Tektronix automated fax system. Refer to the topic "Using the automated fax system" in Chapter 10, "Troubleshooting," for instructions on using HAL.

PostScript code for Tektronix utility files

The following sections describe the utilities on the Phaser 220 Color Printer: Printer Utilities (DOS) diskette.

ANYTRAY.PS (to print on media from either tray)

Use this file if you want the printer to automatically pick paper from an upper tray when the lower tray (if you ordered the optional lower tray assembly) is empty. This applies only when the same kind of media is loaded in both trays and you are not using the Tektronix driver.

The contents of ANYTRAY.PS is shown here:

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  currentpagedevice/InputAttributes get {1 get}
stopped
  {pop pop}
  {2 dict begin
    /InputAttributes 1 dict begin /Priority [1 0]
def currentdict end def
    /TraySwitch true def
   currentdict end setpagedevice
  } ifelse
} stopped cleartomark

false (0) startjob pop
```

CONFIG.PS (setting PostScript job and wait timeouts)

In the following example, the timeouts are set to their default values.

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  %  The Job and Wait Time Outs can be set to any
integer.
  3 dict begin
    /Password () def
    /JobTimeout 0 def
    /WaitTimeout 40 def
  currentdict end setsystemparams
} stopped cleartomark

false (0) startjob pop
```

DEVPARAM.PS (configuring a serial port)

To modify *DEVPARAM.PS* you should be familiar with the PostScript **setdevparams** command, and you should know how to use PostScript dictionaries and key value pairs. When you change the settings for the serial port, Switch 7 on the printer's rear panel must be *down* for the change to take effect.

```
%!
systemdict/languagelevel known {languagelevel 2
eq}{false}ifelse
not {quit} if

mark
{
  % Port Settings:
  %FlowControl:Dtr/Dsr (Dtr) or Xon/Xoff (XonXoff)
  %Parity:Even, Odd, None or Space
  %DataBits:7 or 8
  %StopBits:1 or 2
  %Baud:300,600,1200,2400,4800,9600,19200 or 38400
  %                    (Note: 38400 not valid for
the Phaser II PXe)
  % Defaults:
  % FlowControl:XonXoff
  %  Parity:Space
  %  DataBits:8
  %  StopBits:2
  %  Baud:9600
  (%Serial_NV%) 6 dict begin
    /Password () def
    /FlowControl (XonXoff) def
    /Parity (None) def
    /DataBits 8 def
    /StopBits 2 def
    /Baud 9600 def
  currentdict end setdevparams
} stopped cleartomark
```

HPGLPENS.PS (set HP-GL pen colors)

The *HPGLPENS.PS* file changes the color and width of the default pen colors. The HP 7475A plotter has only six pens, but the printer's emulation supports up to 256 pens. In *HPGLPENS.PS*, pen number, pen width, red value, green value, and blue value are listed in parentheses after **ColorSetup**. **/ColorSetup (***pen_number width red_value green_value blue_value...***)**

The pen color change is persistent across jobs but not across printer power cycles; it affects all HP-GL jobs that immediately follow it until the next printer reset. In the example below, all pen widths are set to 0.35 millimeters. Pen 0 is white (this is the background pen color), pen 1 is black, pen 2 is red, pen 3 is green, pen 4 is blue, pen 5 is cyan, pen 6 is magenta, and pen 7 is yellow.

The contents of HPGLPENS.PS is shown here:

```
%!
CTRL-D
systemdict/languagelevel known{languagelevel 2 eq}
{false} ifelse
{
(%HP7475A%) << /Password (0)
               /ColorSetup (0 0.35 1.0 1.0 1.0
                            1 0.35 0.0 0.0 0.0
                            2 0.35 1.0 0.0 0.0
                            3 0.35 0.0 1.0 0.0
                            4 0.35 0.0 0.0 1.0
                            5 0.35 0.0 1.0 1.0
                            6 0.35 1.0 0.0 1.0
                            7 0.35 1.0 1.0 0.0)
            >> setdevparams
} if
CTRL-D
```

Allowable values for pen numbers are **0** through **255**. Pen width is measured in millimeters. Red, green, and blue values can be any number between **0.0** and **1.0**. The following table shows the red, green, and blue combinations for each of the eight basic colors.

HPGLTEST.PLT (test HP-GL mode)

The *HPGLTEST.PLT* file is an HP-GL file that prints a single line of text if the printer is operating in HP-GL mode. Send this file to the printer (with the DOS **COPY** command) after you send *PS2HPGL.PS* to make sure that the change was made correctly.

The contents of HPGLTEST.PLT is shown here:

```
;IN;PC 0,0,0,0.35,1;SP 1;PU6000,7000;RO90;PD;

LBThe Phaser is in HP-GL mode.;AF;
```

PSTEST.PS (test PostScript mode)

The *PSTEST.PS* file is a PostScript file that prints a single line of text if the printer is operating in PostScript mode.

The contents of PSTEST.PS is shown here:

```
%!
CTRL-D
initclip clippath pathbbox newpath 20 sub 3 index
exch 10 add moveto

/Helvetica findfont 14 scalefont setfont

(The Phaser is in PostScript mode.) show showpage
CTRL-D
```

RESET.PS (resetting the printer)

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
{ systemdict begin quit } if
```

LOWRTRAY.PS (to print on media from the printer's lower tray)

Use the *LOWRTRAY.PS* file when you want the printer to pick media from the lower paper tray, if your printer has one.

The contents of LOWRTRAY.PS is shown here:

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  currentpagedevice/InputAttributes get {1 get}
stopped
  {pop pop}
  {2 dict begin
    /InputAttributes 1 dict begin /Priority [1] def
currentdict end def
    /TraySwitch false def
   currentdict end setpagedevice
  } ifelse
} stopped cleartomark

false (0) startjob pop
```

NOSTRTPG.PS (turn off startup page)

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  2 dict begin
    /Password (0) def
    /DoStartPage false def
  currentdict end setsystemparams
} stopped cleartomark

false (0) startjob pop
```

STARTPG.PS (turning on startup page)

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  2 dict begin
    /Password (0) def
    /DoStartPage true def
  currentdict end setsystemparams
} stopped cleartomark

false (0) startjob pop
```

UPPRTRAY.PS (to print on media from the printer's upper tray)

Use this file if you want the printer to pick media from the upper tray when printing.

The contents of UPPRTRAY.PS is shown here:

```
%!
systemdict/languagelevel known{languagelevel 2
eq{true (0) startjob dup not
 {/exitserver errordict/invalidaccess get
exec}if}{false}ifelse}{false}ifelse
not {quit} if

mark
{
  currentpagedevice/InputAttributes get {1 get}
stopped
  {pop pop}
  {2 dict begin
    /InputAttributes 1 dict begin /Priority [0] def
currentdict end def
    /TraySwitch false def
   currentdict end setpagedevice
  } ifelse
} stopped cleartomark

false (0) startjob pop
```

Chapter

5

Selecting Media and Image Options

This chapter explains how to select the paper size that you want to print on, and how to select the image orientation that you want for your prints. These selections are only available through the Tektronix Macintosh and Windows drivers.

If you don't use one of these drivers, check your application's documentation for instructions on selecting paper size and orientation.

The following tables describe each task and give the appropriate driver settings you use to complete the task.

The instructions in this chapter give the driver option and appropriate dialog box. Refer to Chapter 2, “Printing From a Macintosh,” or Chapter 3, “Printing From a PC,” for information on opening driver dialog boxes.

Printing tasks for Macintosh users

Macintosh users

Task	Utility file	Macintosh driver dialog box	Driver selection field	Driver options
Selecting a paper size	N/A	Page Setup	Paper	Letter Letter Perf A4 A4 Perf
Selecting the paper source	Use Either Tray Use Upper Tray Use Lower Tray	TekColor	Tray Selection	Upper Lower Auto Select
Selecting print orientation	N/A	Page Setup	Orientation	Portrait Landscape
Selecting a print quality mode	Standard Quality Enhanced Quality High Resolution	TekColor	Print Quality	Standard Enhanced High Resolution

Printing tasks for PC users

PC users

Task	Utility file	Windows driver dialog box	Driver selection field	Driver options
Selecting a paper size	N/A	Printer Setup	Paper Size	Letter Letter Perf A4 A4 Perf
Selecting the paper source	ANYTRAY.PS UPPRTRAY.PS LOWRTRAY.PS	Printer Setup	Paper Source	Upper Lower Auto Select
Selecting print orientation		Printer Setup	Orientation	Portrait Landscape
Selecting print quality	STANDARD.PS ENHANCED.PS HIGHRES.PS	Printer Setup	Print Quality	Standard Enhanced High Resolution

Selecting a paper size

The **Paper** or **Paper Size** option in the Tektronix Macintosh and Windows drivers lets you choose the paper size that you want to print on. The drivers support both US and metric media sizes. The default is **Letter** (8.5 x 11 inches). Refer also to the *Phaser 220 User Manual* for information about media trays.

Phaser 220 special paper sizes

Paper sizes	Dimensions	Image area
Letter	8.5 x 11 ins.	8.1 x 9.96 ins.
Letter Perf	8.5 x 12.3 ins.	8.1 x 10.58 ins.
A4	210 x 297 mm	200 x 270 mm
A4 Perf	210 x 313 mm	200 x 286 mm

Macintosh driver

The **Paper** options are in the **Page Setup** dialog box. The first four selections are the standard LaserWriter paper sizes (US Letter, US Legal, A4 Letter, and B5 Letter). The fifth **Paper** option field is a pop-up menu with both Macintosh and special Tektronix paper sizes. The printer's maximum image area is not available with the standard LaserWriter paper sizes; use the Tektronix Phaser page sizes in the pop-up menu to print the maximum image area. Refer to the "Phaser 220 special paper sizes" table for image area information. Refer to your Apple documentation for details on the other LaserWriter driver features in this dialog box.

Some applications override the Tektronix Phaser page sizes with their own extensions to this dialog box. These application-specific page sizes use page size and image area information about the Tektronix printer from the printer description files. Refer to the topic "Printing from an application," in Chapter 2, "Printing from a Macintosh," for information on these files.

Windows driver

The **Paper Size** options are in the **Printer Setup** dialog box. All paper sizes listed may not be available for every Windows application. For example, Excel 3.0 can print only on the paper sizes listed in its own **Page Setup** dialog box.

Selecting the paper source

Using a driver

You can use the Tektronix driver to make paper tray selections, or you can make these selections by sending to the printer one of the utility files. Tray selection made from the driver overrides the utility file sent to the printer. For Phaser 220 printers with one tray, the tray selection buttons in the driver have no effect.

If you select the upper or lower tray by one of these methods, the printer picks paper from the selected tray until the tray is empty. When the tray is empty, printing stops until the selected tray is filled, or until you select the other tray. If you use a driver that doesn't allow you to select the upper or lower tray, the printer picks from the lower tray. If the lower tray is empty, the printer automatically picks from the upper tray if both trays contain the same size and type of media.

The **Paper Source** option in the Tektronix drivers lets you select which paper tray the printer takes paper from. The Phaser 220i and 220e printers come standard with one perforated-paper tray for metric or U.S. paper sizes. A lower tray assembly can be added and other tray types can be used (call the Tektronix Graphics Supplies Order Desk at 1-800-835-6100).

- **Upper Tray**
  Paper or transparency film is automatically loaded from the upper tray.

- **Lower Tray**
  Paper or transparency film is automatically loaded from the lower tray.

- **Auto Select**
  Paper or transparency film is automatically loaded first from the lower tray and then from the upper tray when the lower is empty.

Using a utility file

Macintosh file name	PC file name	Notes
Use Upper Tray Use Lower Tray Use Either Tray	UPPRTRAY.PS LOWRTRAY.PS ANYTRAY.PS	When sent to the printer, these files have the following features: ■ With Use Upper Tray (UPPRTRAY.PS) and Use Lower Tray (LOWRTRAY.PS) the printer chooses only the tray selected with the file, and the printer will not automatically switch to the other tray when the selected tray is empty. ■ With Use Either Tray (ANYTRAY.PS) the printer automatically switches to the upper tray when the lower tray is empty, if both trays contain the same media. ■ File settings are overridden by the driver setting for prints made from the driver. ■ File settings persist across print jobs and across printer power cycles.

Macintosh users

1. The *Use Upper Tray, Use Lower Tray,* and *Use Either Tray* files are compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use them. To decompress these files, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing these files, continue with the steps listed below.

2. Select the appropriate printer in the **Chooser**.

3. Locate the *Use Upper Tray, Use Lower Tray,* and *Use Either Tray* files in the folder on your hard disk containing decompressed utility files.

4. Double-click on each file's self-sending arrow icon. Click **OK** in the dialog box to send each file to the printer.

PC and workstation users

1. Locate the *UPPRTRAY.PS*, *LOWRTRAY.PS*, and *ANYTRAY.PS* files in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the desired file to your hard disk, or use the desired file from the diskette.

3. **PC users**: Use the DOS **COPY** command to send the desired file to the printer. For example, if you want to send the file to the parallel port, type the following at the DOS prompt:

   COPY *filename* **LPT1:**

   (or **COM1** if you want to send the file to the serial port).

   Workstation users: Make sure that the printer port is configured to receive PostScript, then send the desired file to the printer.

Selecting image orientation

The **Orientation** option in the Tektronix Macintosh and Windows drivers lets you choose the direction in which your document is placed on the paper. Refer to your printer's user manual for more information on image placement and paper loading.

Select the orientation option you want.

- **Portrait**
  This choice places your image vertically on the media.

- **Landscape**
  This choice places your image horizontally on the media.

Selecting media type

The paper tray for perforated media (which comes standard with the Phaser 220i and 220e) has a selection switch that you must set for paper or transparencies. As you hold the tray for insertion into the printer, locate the media switch on the tray's right side. Set the switch to match the type of media in the tray — push *up* for transparencies or push *down* for paper.

The optional Letter and A4 trays have no switch; they are set for paper.

Selecting print quality

These three print modes affect the quality of printed images and the time they take to print. The higher quality modes, **High Resolution** and **Enhanced**, typically take longer to print than **Standard** mode.

- **Standard**
  This is the fastest full-color mode and is useful for many applications. The **Standard** mode prints two pages per minute at a resolution of 300 lines by 300 pixels and is the default print mode for the Phaser 220 printers.

- **Enhanced**
  This mode produces higher quality prints than **Standard** mode. The **Enhanced** mode prints a page in about 40 seconds (60 seconds for transparencies).

- **High Resolution**
  This mode produces the best quality prints, but at the expense of processing and print time. The **High Resolution** mode prints a page at a resolution of 600 lines by 300 pixels in 60 seconds or more.

Using a Tektronix Driver

Select a print quality mode from the Macintosh or Windows driver dialog box.

Using a utility file

Send one of the following utility files to the printer to use an option.

Macintosh file name	PC file name
Standard Quality	STANDARD.PS
Enhanced Quality	ENHANCED.PS
High Resolution	HIGHRES.PS

Macintosh users

The print quality mode files are compressed into the archive file *Phaser 220 Utilities.sea* on the Macintosh Printer Utilities diskette, and must be decompressed before you can use them. To decompress this file, follow the steps listed in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.

1. Locate the print quality mode files in the folder on your hard disk containing decompressed utility files.
2. Select the printer in the Chooser.
3. Double click the file's self-sending arrow icon and click **OK** in the dialog box to send the file to the printer.

PC and workstation users

1. Locate the print quality files in the *PHSR220* directory on the *Printer Utilities* diskette.
2. Copy the files to your hard disk, or use the files from the diskette.
3. **PC users**: Use the DOS **COPY** command to send a file to the printer.

   Workstation users: Make sure that the printer port is configured to receive PostScript, then send the file to the printer.

Chapter

6 Selecting Color Corrections

This chapter explains how to make color corrections on your prints and how to print and use the color sampler charts provided with the printer. Color correction selections let you specify how colors are printed. Included in this chapter are instructions for making color corrections with and without the Tektronix Macintosh and Windows printer drivers.

TekColor Dynamic Correction

The TekColor color corrections provide simulations of different color devices, such as Vivid Blue and Simulate Display corrections for business, engineering, and scientific imaging applications, and printing press standards for graphic arts use.

All color corrections are driver-selectable from Macintosh and Windows applications using the Tektronix printer drivers. Color corrections can also be set with the printer's rear panel switches or downloadable utility files to change the printer's default color selection.

Note *TekColor color corrections do not affect CIE (Commission Internationale de l'Eclairage) colors.*

How to use color

Good sources of color information are the manuals that came with your application software package. Applications specify color in different ways, for example as CMYK (cyan, magenta, yellow and black) or RGB (red, green and blue), or they may give you a choice. Get to know your software so you can get the most out of it.

Correcting printed colors

The TekColor color corrections are for use when the colors in your prints are not coming out the way you expected. Refer to the following table for the description that best fits your printing situation, and try the suggested color correction.

Printing objective or problem	Color correction to use	Where to find details
Overhead transparency presentations	Vivid Blue	Page 6-14
Blue colors are printing too purple	Vivid Blue	Page 6-14
Using PANTONE Colors	None	Page 6-18
Using EFI Color profile	None	Page 6-18
Colors should match computer display screen	Simulate Display	Page 6-13
Colors should match a printing press standard	Simulate Press	Page 6-20
Magenta is printing too dark	Simulate Press	Page 6-20
Colors are too dark	Simulate Display	Page 6-13
Colors are washed out or faded	Vivid Blue	Page 6-14

Making color corrections

The following tables outline the color correction options. Included is the appropriate driver setting, utility file, or printer switch you use to select each color correction. Workstation users may use the PC utility files.

Color corrections for Macintosh users

Task	Macintosh driver setting	Macintosh utility file*	Phaser 220i switch settings	Phaser 220e switch settings
Turn off all color corrections	**None**	No Color Correction	Switch 8 down; Switch 9 down	Switch 3 down
Print a truer blue	**Vivid Blue**	Vivid Blue	Switch 8 up; Switch 9 down	
Simulate display colors	**Simulate Display**	Simulate Display	n/a	n/a
More closely match printing press colors	**Simulate Press**	Simulate Press	Switch 8 down; Switch 9 up	n/a
Use printer's current color defaults	**Use Printer Setting**	n/a	n/a	n/a
Use simple CMYK conversion	n/a	Raw CMYK Colors	n/a	n/a
Use simple RGB conversion	n/a	Raw RGB Colors	n/a	n/a

*For the utility file color corrections to take effect on a Phaser 220i, Switches 8 and 9 must both be in the up position before the utility file is downloaded to the printer. On a Phaser 220e, Switch 3 must be up before the utility file is downloaded to the printer.
n/a = This option is not available in this format.

Color corrections for PC and workstation users

Task	Windows driver setting	PC utility file*	Phaser 220i switch settings	Phaser 220e switch settings
Turn off all color corrections	**None**	NOCORECT.PS	Switch 8 down; Switch 9 down	Switch 3 down
Print a truer blue	**Vivid Blue**	VIVDBLUE.PS	Switch 8 up and Switch 9 down	
Simulate display colors	**Simulate Display**	DISPLAY.PS	n/a	n/a
More closely match printing press colors	**Simulate Press**	SIMPRESS.PS	Switch 8 down; Switch 9 up	n/a
Use printer's current color defaults	**Use Printer Setting**	n/a	n/a	n/a
Use simple CMYK conversion	n/a	RAWCMYK.PS	n/a	n/a
Use simple RGB conversion	n/a	RAWRGB.PS	n/a	n/a

*For the utility file color corrections to take effect, Switches 8 and 9 must both be in the up position before the utility file is downloaded to the printer. On a Phaser 220e, Switch 3 must be up before the utility file is downloaded to the printer.
n/a = This option is not available in this format.

Using the driver selections

The instructions in this chapter give the driver option and appropriate dialog box selections for making color corrections. Refer to Chapter 2, "Printing From a Macintosh," or Chapter 3, "Printing From a PC," for information on installing Tektronix drivers and opening driver dialog boxes.

Tektronix Macintosh driver, TekColor Options dialog box

(illustration)

Tektronix Windows driver, Tektronix Printer Features dialog box

(illustration)

If your Phaser 220 printer is shared by other users on a network

Another user may use the utility files or printer switches to change the printer's default color correction setting. If this situation occurs, the prints you make through a non-Tektronix driver may not print as expected. Refer to the topic "Sharing the printer on a network" in Chapter 10, "Troubleshooting," for details on how the color correction utility files interact with the driver settings for either Tektronix or non-Tektronix drivers.

Application color corrections

Some applications perform color corrections to improve screen-to-printer color matching. The color correction options in the Tektronix drivers adjust colors in the printer after the application has performed its color corrections. If the application uses CIE (Commission Internationale de l'Eclairage) colors, the Tektronix corrections will not be applied. If you select a color correction option in the driver other than **None**, the selection may override some application features. If you try one of the driver's other options and the printed results are not what you expected, then select the **None** option and try reprinting your image with the new setting.

If you are using a non-Tektronix driver

To use the color corrections with a non-Tektronix driver, refer to the topics "Using the utility files and switches" and "Using the switches on the printer's rear panel" in this chapter, for instructions.

Using the utility files and switches

When you download a color correction utility file to the printer, certain rear panel switches must be positioned accordingly for the color correction to take effect.

- **Phaser 220i:**
  Switches 8 and 9 on the printer's rear panel must be in the *up* position before you download a color correction utility file, for example the *Simulate Display* (*DISPLAY.PS*) file. Both switches must remain in the *up* position for the downloaded color correction to be available. If the position of either switch is changed, the default color correction changes. Refer to the topic "Using the switches on the printer's rear panel" for more information.

- **Phaser 220e:**
  Switch 3 on the printer's rear panel must be in the *up* position before you download a color correction utility file, for example the *Simulate Display* (*DISPLAY.PS*) file. This switch must remain in the *up* position for the downloaded color correction to be available. If the position of the switch is changed, the default color correction changes. Refer to the topic "Using the switches on the printer's rear panel" for more information.

Utility file features

- A utility file color correction is used when you select the **Use Printer Setting** option in the Tektronix driver or if you are using a non-Tektronix driver.

- A utility file color correction is overridden by all Tektronix driver color correction options, except **Use Printer Setting**.

- A utility file color correction remains in effect between print jobs and between printer power cycles.

- To change any utility file color correction, download another utility file to the printer.

- A utility file color correction is overridden if certain rear panel switches are changed to another position.
  - On the Phaser 220i, if Switches 8 and 9 are both *up*, the current utility file color correction is used; if Switch 8 or Switch 9, or both switches, are placed in the *down* position, the utility file color correction is disabled.
  - On the Phaser 220e, if Switch 3 is *up*, the current utility file color correction is used; if Switch 3 is *down*, the utility file color correction is disabled.

Sending utility files to the printer

All of the color correction utility files described in this chapter are sent to the printer by the same method; use the following instructions for your computer type to send files to the printer.

Sending Macintosh files to the printer

1. The color correction utility files are compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use them. To decompress the files, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the files, continue with the steps listed below.

2. **Phaser 220i:** Place both Switch 8 and Switch 9 in the *up* position.

   Phaser 220e: Place Switch 3 in the *up* position.

3. Select the printer in the **Chooser**.

4. Locate the file you want in the folder on your hard disk containing decompressed utility files.

5. Double-click the file's self-sending arrow icon. Click **OK** in the dialog box to send the file to the printer.

(illustration)

Sending PC files to the printer

1. **Phaser 220i:** Place both Switch 8 and Switch 9 in the *up* position.

   Phaser 220e: Place Switch 3 in the *up* position.

2. Locate the color correction utility files in the *PHSR220* directory on the Printer Utilities diskette.

3. Copy the files to your hard disk, or use them from the diskette.

4. **PC users**: Use the DOS **COPY** command to send a file to the printer.

   Workstation users: Ensure that the printer port is configured to receive PostScript, then send the file to the printer.

Using the switches on the printer's rear panel

Note *If you use the printer's rear panel switches, refer to the topic "Sharing the printer on a network" in Chapter 10, "Troubleshooting," for details on how these switches interact with the Tektronix driver's color correction settings.*

You can use the printer's rear panel switches in different ways to set default color corrections. A change to a switch setting takes effect immediately; there is no need to reset the printer.

Using the switches alone (without a utility file)

- To select no color corrections:
  Phaser 220i: Place both Switches 8 and 9 in the *down* position.
  Phaser 220e: Place Switch 3 in the *down* position.

- To use the **Vivid Blue** color correction on the Phaser 220i:
  Place Switch 8 *up* and Switch 9 *down*. This correction makes printed blues look less purple.
  (This setting does not apply to the Phaser 220e.)

- To use the **Simulate Press** color correction on the Phaser 220i:
  Place Switch 8 *down* and Switch 9 *up*. This correction makes printed colors more closely resemble printing press output.
  (This setting does not apply to the Phaser 220e.)

- To use factory default color corrections:
  Phaser 220i: If both Switches 8 and 9 are in the *up* position, the factory default is Vivid Blue if no color correction utility file has been downloaded.
  Phaser 220e: If Switch 3 is *up* and Switches 1, 2, and 4 are *down*, the factory default is Vivid Blue if no color correction utility file has been downloaded.

Using the switches with a utility file

- **Phaser 220i:** Place Switch 8 and Switch 9 in the *up* position, then send a color correction utility file to the printer to set a user-defined color correction. Refer to the tables under the topic "Making color corrections," in this chapter for a list of available corrections.

- **Phaser 220e:** Place Switch 3 in the *up* position, then send a color correction utility file to the printer to set a user-defined color correction. Refer to the tables under the topic "Making color corrections," in this chapter for a list of available corrections.

Simulate display colors

The **Simulate Display** option makes printed colors approximate the colors on a standard display screen. This selection should improve the screen-to-printer color accuracy for most applications that don't perform their own color corrections. This selection is best for applications that define colors as *RGB* (red, green, blue), *HLS* (hue, lightness, saturation), or *HSB* (hue, saturation, brightness).

Printing from a Macintosh

Choose *one* of the following methods to use the Simulate Display color correction.

- **Macintosh driver:** Select the **Simulate Display** option in the **TekColor Options** dialog box.
- **Macintosh utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *Simulate Display* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *Simulate Display* utility file to the printer.

Printing from a PC

Choose *one* of the following methods to use the Simulate Display color correction.

- **Windows driver:** Select the **Simulate Display** option in the **Tektronix Printer Features** dialog box.
- **PC utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *DISPLAY.PS* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *DISPLAY.PS* utility file to the printer.

Print a truer blue

The **Vivid Blue** option makes printed blue appear less purple by reducing the amount of magenta used to print blue colors. Other colors in the cyan-blue-purple-magenta range in the image are also adjusted to compensate for the adjusted blue. Colors in the red-orange-yellow-green range are not affected. This selection is good for making presentation graphics, such as overhead transparencies, and for bright-looking colors that don't need to match the screen's colors or printing press colors.

This adjusts CMYK (cyan, magenta, yellow, and black) colors using a method that adds black to other components. This option prints more saturated (darker) colors and may be useful for printing overhead transparencies for presentations from some applications, such as Microsoft PowerPoint. Use this option if you have specified a color in the CMYK system, *and* the color has a black component, *and* the color appears lighter than you expected when printed.

Printing from a Macintosh

Choose *one* of the following methods to use the Vivid Blue color correction.

- **Macintosh driver:** Select the **Vivid Blue** option in the **TekColor Options** dialog box.
- **Macintosh utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *Vivid Blue* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *Vivid Blue* utility file to the printer.
- **Phaser 220i rear panel switches:** Place Switch 8 *up* and Switch 9 *down* to use the **Vivid Blue** color correction.

Printing from a PC

Choose *one* of the following methods to use the Vivid Blue color correction.

- **Windows driver:** Select the **Vivid Blue** option in the **Tektronix Printer Features** dialog box.
- **PC utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *VIVDBLUE.PS* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *VIVDBLUE.PS* utility file to the printer.
- **Phaser 220i rear panel switches:** Place Switch 8 *up* and Switch 9 *down* to use the **Vivid Blue** color correction.

Use printer's current color defaults

The **Use Printer Setting** option is available only in the Tektronix Macintosh and Windows drivers. This option sends no color correction to the printer. The **Use Printer Setting** option uses the current default in the printer to process colors for printing. The printer's defaults can be one of the following.

- On the Phaser 220i, if Switch 8 is *up* and Switch 9 is *down*, **Vivid Blue** color correction is enabled.

  On the Phaser 220e, if Switch 3 is *up*, **Vivid Blue** color correction is enabled if the vivid blue utility file has been sent to the printer.

- On the Phaser 220i, if Switch 8 is *down* and Switch 9 is *up*, **Simulate Press** color correction is enabled (there is no equivalent switch setting on the 220e).

- On the Phaser 220i, if Switches 8 and 9 are both *up* and a color correction utility file is sent to the printer, the utility file changes the printer's default setting. If no utility file has been sent to the printer, the factory default, **Vivid Blue**, is used.

  On the Phaser 220e, if Switch 3 is *up* and a color correction utility file is sent to the printer, the utility file changes the printer's default setting. If no utility file has been sent to the printer, the factory default, **Vivid Blue**, is used.

- On the Phaser 220i, if Switches 8 and 9 are both *down,* no color corrections are performed unless you select a color correction option from the Tektronix driver.

  On the Phaser 220e, if Switch 3 is *down*, no color corrections are performed unless you select a color correction option from the Tektronix driver.

Printing from a Macintosh

Use the following method to use the printer's default color correction.

- **Macintosh driver:** Select the **Use Printer Setting** option in the **TekColor Options** dialog box.

Printing from a PC

Use the following method to use the printer's default color correction.

- **Windows driver:** Select the **Use Printer Setting** option in the **Tektronix Printer Features** dialog box.

Turning off all color corrections

If you do not want to use any Tektronix color corrections, you can specify no corrections either from a Tektronix driver or with utility files and switches. Select no corrections when you are using applications that do their own color adjusting.

Printing from a Macintosh

Choose *one* of the following methods to turn off all color corrections.

- **Macintosh driver:** Select the **None** option in the **TekColor Options** dialog box.
- **Macintosh utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *No Color Correction* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *No Color Correction* utility file to the printer.
- **Rear panel switches:**
  - **Phaser 220i:** Place both Switches 8 and 9 *down* to turn off all color corrections.
  - **Phaser 220e:** Place Switch 3 *down* to turn off all color corrections.

Printing from a PC

Choose *one* of the following methods to turn off all color corrections.

- **Windows driver:** Select the **None** option in the **Tektronix Printer Features** dialog box.
- **PC utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *NOCORECT.PS* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *NOCORECT.PS* utility file to the printer.
- **Rear panel switches:**
  - **Phaser 220i:** Place both Switches 8 and 9 *down* to turn off all color corrections.
  - **Phaser 220e:** Place Switch 3 *down* to turn off all color corrections.

Closely match printing press colors

Use the **Simulate Press** option if you are previewing work for an offset printing press.

Printing from a Macintosh

Choose *one* of the following methods to use a press color correction option.

- **Macintosh driver:** Select the following option in the **TekColor Options** dialog box: **Simulate Press**.
- **Macintosh utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *Simulate Press* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *Simulate Press* utility file to the printer.
- **Phaser 220i rear panel switches:** Place Switch 8 *down* and Switch 9 *up* to use the **Simulate Press** color correction. (The Phaser 220e has no equivalent switch setting.)

Printing from a PC

Choose *one* of the following methods to use a press color correction option.

- **Windows driver:** Select the following option in the **Tektronix Printer Features** dialog box: **Simulate Press**.
- **PC utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send the *SIMPRESS.PS* utility file to the printer.
  - **Phaser 220e:** Place Switch 3 *up* and send the *SIMPRESS.PS* utility file to the printer.
- **Phaser 220i rear panel switches:** Place Switch 8 *down* and Switch 9 *up* to use the **Simulate Press** color correction. (The Phaser 220e has no equivalent switch setting.)

Using simple color conversions

The following utility files communicate to the printer the type of output device you want the printer to simulate, using Adobe's standard color conversions.

- *Raw CMYK Colors* (*RAWCMYK.PS*): Converts all colors (CMYK, RGB, grays) to CMYK colors. Use this file if your application specifies colors as CMYK (cyan, magenta, yellow, and black).
- *Raw RGB Colors* (*RAWRGB.PS*): Converts all colors (CMY, CMYK, grays) to RGB colors. Use this file if your application specifies colors as RGB (red, green, and blue).

Printing from a Macintosh

Use the following method to use the simple color conversion options.

- **Macintosh utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send either the *Raw CMYK Colors* or the *Raw RGB Colors* utility file to the printer. If you are printing from the Tektronix Macintosh driver, select the **Use Printer Setting** option in the **TekColor** dialog box.
  - **Phaser 220e:** Place Switch 3 *up* and send either the *Raw CMYK Colors* or the *Raw RGB Colors* utility file to the printer. If you are printing from the Tektronix Macintosh driver, select the **Use Printer Setting** option in the **TekColor** dialog box.

Printing from a PC

Use the following method to use the simple color conversion options.

- **PC utility file:**
  - **Phaser 220i:** Place both Switches 8 and 9 *up* and send either the *RAWCMYK.PS* or the *RAWRGB.PS* utility file to the printer. If you are printing from the Tektronix Windows driver, select the **Use Printer Setting** option in the **Tektronix Printer Features** dialog box.
  - **Phaser 220e:** Place Switch 3 *up* and send either the *RAWCMYK.PS* or the *RAWRGB.PS* utility file to the printer. If you are printing from the Tektronix Windows driver, select the **Use Printer Setting** option in the **Tektronix Printer Features** dialog box.

Printing the color sampler charts

The following files print color sampler charts made up of areas of color with each color's components listed below it. You can select colors within an application using these component values. Which file you print and use depends on how the application you are using selects color. Refer to the application's documentation for instructions on color selection.

Each color sampler chart is several pages long; they are printed in panels that can be connected to form a wall chart or placed in a binder for easy reference. On Letter-size (A / A4-size) paper, the CMYK chart prints about 18 pages; the RGB chart prints about 12 pages; the HSB chart prints about 12 pages; and the PANTONE chart prints about 36 pages.

(illustration)

- The Macintosh files are located in the compressed *Phaser 220 Samplers.sea* archive file on the Macintosh Printer Utilities diskette.
- The PC files are located in the *SAMPLERS* directory on the Printer Utilities diskette.

Sampler chart files

Sampler	Macintosh file name	PC file name
Print a sample of CMYK colors	CMYK Sampler	CMYK.PS
Print a sample of RGB colors	RGB Sampler	RGB.PS
Print a sample of HSB colors	HSB Sampler	HSB.PS
Print a sample of Pantone Colors	PANTONE®-Tek Phaser 220	PANT220.PS

Before you print the CMYK, RGB, and HSB color charts

To match colors on the charts to colors selected within an application, use the same printer color correction to print the charts that you are going to use when selecting and printing these colors within an application. The following table lists the driver color correction settings with their corresponding utility files or switch settings. For example, if you are going to print from an application with the driver's **Vivid Blue** option selected, then print the color chart with the *Vivid Blue* (*VIVDBLUE.PS*) utility file or set Switch 8 *up* and Switch 9 *down* on the Phaser 220i, or set Switch 3 *up* on the Phaser 220e. Or, if you are not using a Tektronix driver, use the same utility file or switch setting to print the chart and to print from an application.

Driver/File/Switch

Driver setting (Macintosh and Windows)	Macintosh utility file name*	PC utility file name*	Phaser 220i alternate switch setting	Phaser 220e alternate switch setting
Simulate Display	Simulate Display	DISPLAY.PS		
Vivid Blue	Vivid Blue	VIVDBLUE.PS	Or, for Vivid Blue: Switch 8 up and Switch 9 down	
Use Printer Setting	(standard defaults, or any utility file)**	(standard defaults, or any utility file)**		
Simulate Press	Simulate Press	SIMPRESS.PS	Or, for Simulate Press: Switch 8 down Switch 9 up	
None	No Color Correction	NOCORECT.PS	Or, for no color corrections: Switch 8 down and Switch 9 down	Or, for no color corrections: Switch 3 down

*For the utility file color corrections to take effect, Switches 8 and 9 on a Phaser 220i must both be in the up position (Switch 3 up on the Phaser 220e) before the utility file is downloaded to the printer.
**Make sure you use the same color correction to print the chart and to print the colors from an application.

Printing the CMYK, RGB, and HSB color charts

Macintosh users

1. Decompress the *Phaser 220 Samplers.sea* and the *Phaser 220 Utilities.sea* archive files from the Macintosh Printer Utilities diskette onto your hard disk. Follow the instructions in the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin."

2. Determine which color correction utility file or switch you want to use by examining the "Driver/File/Switch" table.

3. If you are sending a utility file to the printer, do the following:

   a. Select the appropriate printer in the **Chooser**.

   b. Locate the color correction file that you want in the folder on your hard disk containing the decompressed utility files.

   c. Double-click the color correction file's self-sending arrow icon; click **OK** in the dialog box to send the file to the printer.

4. To print the color sampler charts, do the following steps:

   a. Select the same printer in the **Chooser** you used in Step 3a.

   b. Double-click the file's self-sending arrow icon; click **OK** in the dialog box to send the file to the printer.

5. Select colors within an application using the colors on the chart.

6. **If you are printing from a Tektronix driver:** Print your document using the Tektronix printer driver with the same color correction option selected in the driver that you used to print the chart. Any other color correction selection in the driver can cause the colors to print differently.

   If you are not using a Tektronix driver: Print your document with the same color corrections utility file sent to the printer that you used to print the chart.

PC and workstation users

1. Copy the color sampler chart files that you want to use from the *SAMPLERS* directory on the Printer Utilities diskette onto your computer's hard disk. You may want to place these files in a Utilities directory. Or, you can print these files directly from the diskette.

2. Determine which color correction utility file you need to use by examining the "Driver/File/Switch" table.

3. Send the appropriate utility file to the printer following these steps:

   a. Locate the color correction file you want in the *PHSR220* directory on the Printer Utilities diskette.

   b. Use the DOS **COPY** command to send the color correction file to the printer.

4. **PC users**: To print the color sampler charts, use the DOS **COPY** command to send the sampler file to the printer.

   Workstation users: To print the color sampler charts, send the file to the printer.

5. Select colors within an application using the colors on the chart.

6. **If you are printing from a Tektronix driver:** Print your document using the Tektronix printer driver with the same color correction option selected in the driver that you used to print the chart. Any other color correction selection in the driver can cause the colors to print differently.

   If you are not using a Tektronix driver: Print your document with the same color correction utility file sent to the printer that you used to print the chart.

Printing the PANTONE® Color chart

Note *Do not use any color corrections in a driver, or with switches, or with downloadable utility files, when printing the PANTONE color chart or when selecting PANTONE Colors in an application.*

The *PANTONE®-Tek Phaser 220* (*PANT220.PS*) file prints a PANTONE Color sampler chart (about 36 pages in length). Use the chart to select colors within an application that allows you to specify PANTONE Colors.

Macintosh users

Note *If you don't want to use a utility file, place Switch 8 and Switch 9* ***down*** *for no color correction on the Phaser 220i, or place Switch 3* ***down*** *for no color correction on the Phaser 220e.*

1. Decompress the *Phaser 220 Samplers.sea* and the *Phaser 220 Utilities.sea* file from the Macintosh Printer Utilities diskette onto your hard disk. Follow the instructions in the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin."
2. Send the *No Color Corrections* file to the printer.
   a. Phaser 220i: Place both Switch 8 and Switch 9 in the *up* position.

      Phaser 220e: Place Switch 3 in the *up* position.
   b. Select the appropriate printer in the **Chooser**.
   c. Locate the *No Color Corrections* file in the folder on your hard disk containing decompressed files.
   d. Double-click the file's self-sending arrow icon; click **OK** in the dialog box to send the file to the printer.

3. To print the charts, do the following steps:

   a. Locate the *LaserWriter Utility* in the folder on your hard disk containing decompressed files. Double-click the *LaserWriter Utility* icon to start the application.

   b. Select **Download PostScript File** from the **Utilities** menu.

   c. Select the *PANTONE®-Tek Phaser 220* file, and click **Open**.

   d. At the prompt `Save PostScript output as:` you are asked for a file name for saving printer output. Use the default name given in the edit box or type in a new name. Then click **Save** to send the file to the printer.

   e. If no output is returned by the printer, the *LaserWriter Utility* displays a dialog box. Click **OK** in the box to continue.

4. Select PANTONE Colors within an application using the colors on the chart.

5. **If you are printing from a Tektronix driver:** Print your document with the **None** option selected. Any other color correction selection in the driver will cause the PANTONE Colors to print differently.

   If you are not using a Tektronix driver: Print your document with no color correction on a Phaser 220i with Switches 8 and 9 in the *down* position (Switch 3 in the *down* position on a Phaser 220e).

PC and workstation users

Note *If you don't want to use a utility file, you can place Switch 8 and Switch 9 on the Phaser 220i, or Switch 3 on the Phaser 220e, down for no color correction.*

1. Copy the *PANT220.PS* sampler file from *SAMPLERS* directory on the Printer Utilities diskette onto your computer's hard disk. You may want to place this file in a *Utilities* directory. Or, you can print this file directly from the diskette.

2. Send the *NOCORECT.PS* file to the printer.

   a. Phaser 220i: Place both Switch 8 and Switch 9 in the *up* position.

      Phaser 220e: Place Switch 3 in the *up* position.

   b. Locate the *NOCORECT.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

   c. Use the DOS **COPY** command to send the file to the printer.

3. **PC users**: To print the PANTONE Color chart, use the DOS **COPY** command to send the sampler file to the printer.

   Workstation users: To print the PANTONE Color chart, send the file to the printer.

4. Select PANTONE Colors within an application using the colors on the chart.

5. **If you are printing from a Tektronix driver:** Print your document with the **None** option selected. Any other color correction selection in the driver will cause the PANTONE Colors to print differently.

   If you are not using a Tektronix driver: Print your document with no color correction on a Phaser 220i with Switches 8 and 9 in the *down* position (Switch 3 in the *down* position on a Phaser 220e).

Chapter

7 Using Fonts and SCSI Hard Disks

This chapter explains how to use fonts and SCSI hard disks connected to the printer. The first few topics tell you how to use fonts in the Macintosh and PC environments and print a font sampler. The following topics are tasks that let you format a SCSI disk (for Phaser 220i only; the Phaser 220e does not have a SCSI port) for font storage, and control Sys/Start Job execution.

Note *For general information on fonts, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to Chapter 10, "Troubleshooting," for details on using the HAL system.*

The following table for Macintosh, PC, and workstation users describes each task and gives the appropriate file names you use to complete the task. Workstation users should use the PC utility files. The Phaser 220i and 220e can use the following files except as noted in the following table.

Macintosh, PC, and workstation users

Task	Macintosh file name	PC file name
Installing fonts	(see topic "Using Macintosh screen fonts")	(see topic "Using fonts with Windows")
Printing a font sampler	Font Sampler	FONTS.PS
Downloading fonts to the printer	LaserWriter Utility	PSDOWN.EXE (COM port) PCSEND.EXE (LPT port)
Formatting a SCSI hard disk connected to the printer	Format Printer Disk*	FRMTDISK.PS*
Initalizing a formatted SCSI hard disk	LaserWriter Utility	INITDISK.PS*
Enabling Sys/Start job execution	Set SysStart Job*	SYSTART.PS*
Disabling Sys/Start job execution	No SysStart Job*	NOSYSTRT.PS*

* Available only on the Phaser 220i; the Phaser 220e does not have a SCSI port.

Using Macintosh screen fonts

Note *If you already have these fonts installed on your computer, you don't need to install them again.*

The *Screen Fonts.sea* archive file on the Macintosh Printer Utilities diskette contains screen fonts in the following typeface families: Courier, Helvetica, Helvetica Condensed, Helvetica Narrow, ITC Avant Garde Gothic, ITC Bookman, ITC Zapf Chancery, ITC Zapf Dingbats, New Century Schoolbook, Palatino, Symbol, and Times.

You need to decompress and install the screen fonts on your computer if you want to see the printer's resident typefaces on the Macintosh screen. If you select a font the printer doesn't have, the Macintosh creates a representative font for printing.

Decompressing the fonts

The file *Screen Fonts.sea* is an archive file containing a group of fonts.

1. Insert the Macintosh Printer Utilities diskette into your computer's disk drive.
2. Select an archive file with a **.sea** extension you want to decompress. Double-click on the *ScreenFonts.sea* archive file.
3. At the **Self-Extracting Archive** dialog box, click **Continue**.
4. In the dialog box, select the drive where you want the decompressed fonts saved.
5. At the prompt `Install software as:` you are asked to name the folder where you want the decompressed fonts to reside. Use either the default folder name listed in the edit box or type in the name that you want for the folder. Then click **Save**. Do not decompress fonts directly into the **System Folder**; they must be properly installed *after* they have been decompressed onto your hard disk.
6. At the **Installation was successful** dialog box, click **Quit**. The decompressed fonts are saved in the folder you specified.

Using the decompressed fonts

For System 6.0.7 users: Use the Font/DA Mover (located on your Apple system software diskettes) to install the fonts you want from the **Phaser Screen Fonts** suitcase.

For System 7.0 users: Drag the fonts you want from the **Phaser Screen Fonts** suitcase to the **System Folder**.

Select the printer font you want to use within an application and see the same font on the screen.

Using fonts with Windows

Before printing, you need to make sure that the fonts specified in your document are installed in the printer. If you request a font in an application that is not resident in the printer, the text is printed in the Courier typeface. Or, to use fonts that are not resident in the printer, do one of the following steps:

- Using a font downloader supplied with your font package (or one provided on the Printer Utilities diskette) download the desired font to the printer.
- Edit your *WIN.INI* file so that the Tektronix Windows driver automatically downloads the fonts you want as part of a print job. Refer to your Windows documentation for details on this procedure.

  Some font packages automatically update the PostScript port entries in your *WIN.INI* file when you reinstall the fonts. Refer to the font package's documentation for instructions.

Printing a font sampler

You can print a sample of the printer's resident fonts, including fonts on a SCSI hard disk connected to the printer.

Use one of the following files depending on your computer type.

Macintosh file name	PC file name
Font Sampler	FONTS.PS

Macintosh users

1. The *Font Sampler* is compressed into the *Phaser 220 Samplers.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.
2. Select the appropriate printer in the **Chooser**.
3. Double-click the *Font Sampler* self-sending arrow icon.
4. Click **OK** in the dialog box to send the file to the printer.

PC and workstation users

1. Locate the *FONTS.PS* file in the *SAMPLERS* directory on the Printer Utilities diskette.
2. Copy the file to your hard disk, or use the file from the diskette.
3. **PC users**: Use the DOS **COPY** command to send the file to the printer.

   Workstation users: Configure the printer port to receive PostScript, then send the file to the printer.

Downloading fonts to the printer

The fonts resident in Phaser 220 printers 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 or on a SCSI hard disk attached to the printer. You can download as many outline fonts as the printer's memory or hard disk allow.

A font downloader is an interactive program that lets you transfer Adobe fonts and other PostScript files to the printer. Use one of the following files depending on your computer. There are separate font downloading instructions for Macintosh and PC users.

Macintosh file name	PC file name
LaserWriter Utility	PSDOWN.EXE (COM port) PCSEND.EXE (LPT port)

Downloading Macintosh fonts

1. The *LaserWriter Utility* is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.

2. Select the appropriate printer in the **Chooser**.

3. Locate the *LaserWriter Utility* file in the folder on your hard disk containing decompressed utility files. You may want to place this utility in a Utilities folder, or leave the utility on your desktop if you use it often.

4. Double-click on the **LaserWriter Utility** icon.

5. To send fonts to the printer, use the **Download Fonts** command in the **File** menu.

   (To send PostScript files to the printer, refer to the topic "Using the LaserWriter Utility to send files to the printer" in Chapter 1, "Before You Begin.")

6. Select the font then click **Open**. The font is sent to the printer. The font remains available until the printer is reset or switched off.

Downloading PC fonts

The *PSDOWN.EXE* file is the font downloader you use if your printer communicates with your computer through the serial interface.

The *PCSEND.EXE* file is the font downloader you use if your printer communicates with your computer through the parallel interface.

Refer to the Adobe document *Adobe Type Library User Guide* (IBM-PC Version) for details on using these downloaders.

PSDOWN (COM)

1. Insert the Printer Utilities diskette into your computer's disk drive; for example, drive **B:**.

2. To access the file, type the following command:

   B:\PHSR220\PSDOWN

   and press **Return**.

3. Type **D** to display the **PSDOWN Main Menu**. Use the **Main Menu** to download outline fonts, restart the printer, or print a font directory.

PCSEND (LPT)

To see the *PCSEND.EXE* explanation screen, do the following steps:

1. Insert the Printer Utilities diskette into your computer's disk drive: for example, drive **B**.

2. To access the file, type the following command:

   B:\PHSR220\PCSEND

   and press **Return**.

An explanation screen appears showing command format and a list of flags.

To use *PCSEND.EXE*, do the following procedure:

- This font downloader uses the DOS command line format to download fonts and other PostScript files to the printer. You need to specify three parameters. For example, to download a font to the printer's virtual memory, type:

  PCSEND *–2 –v CN_____.PFB*

  where:

  –2 is the number of the computer's port the printer is connected to;

  –v is the flag specifying downloading a *.PFB* file to the printer's virtual memory;

  CN_____.PFB is the font software.

Formatting a SCSI hard disk connected to the printer

Use this procedure to format a SCSI hard disk connected to a Phaser 220i printer, then follow the instructions in the topic "Initializing a SCSI hard disk connected to the printer." Some hard disks are formatted at the factory and do not require this formatting procedure; check the documentation that came with your hard disk to see if the disk needs formatting.

Caution *This procedure erases all data from all SCSI hard disks connected to the printer. Disconnect from the printer any hard disk you do not want reformatted, for example, a disk containing fonts.*

This procedure formats all SCSI hard disks connected to the printer so the disks are usable with the PostScript Level 2 Phaser 220i printer. The formatting process erases all information already on the disk; be sure you want the disk formatted before you use this procedure. If you have a disk containing information you want to keep, such as fonts, turn off all devices, then disconnect the disk from the printer before using this file to format other disks.

The Phaser 220i can use most SCSI hard disks that support the full SCSI command set. Also, most SCSI hard disk that works with an Apple LaserWriter should work with a Phaser 220i.

Note *For additional information on SCSI hard disks, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to Chapter 10, "Troubleshooting," for details on using the HAL system.*

Use one of the following files depending on your computer type.

Note *Once you start the formatting procedure, there is no way to cancel the formatting process.*

Macintosh file name	PC file name
Format Printer Disk*	FRMTDISK.PS*

*Available only on the Phaser 220i.

Macintosh users

1. The *Format Printer Disk* file is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.

2. Select the appropriate printer in the **Chooser**.

3. Locate the *Format Printer Disk* file in the folder on your hard disk containing decompressed utility files.

4. Double-click the *Format Printer Disk* self-sending arrow icon to send the file to the printer.

5. Click **OK** in the dialog box to format the SCSI hard disk.

PC and workstation users

1. Locate the *FRMTDISK.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the file to your hard disk, or use the file from the diskette.

3. **PC users:** Use the DOS **COPY** command to send the file to the printer.

   Workstation users: Send the file to the printer.

Initializing a formatted SCSI hard disk

Use this procedure to initialize a formatted SCSI hard disk connected to a Phaser 220i printer. Use one of the following files depending on your computer type.

Macintosh file name	PC file name
LaserWriter Utility	INITDISK.PS*

*Available only on the Phaser 220i.

Macintosh users

1. The *LaserWriter Utility* is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.

2. Locate the *LaserWriter Utility* file in the folder on your hard disk containing decompressed utility files. You may want to place this utility in a Utilities folder, or leave the utility on your desktop if you use it often.

3. Select the appropriate printer in the **Chooser**.

4. Double-click the *LaserWriter Utility* icon.

5. Choose **Initialize Printer's Disk** from the **File** menu. (This option is grayed out (unavailable) if no SCSI disk is connected to the printer.)

6. Select the file name then click **Open**.

PC and workstation users

1. Locate the *INITDISK.PS* file in the *PHSR220* directory on the Printer Utilities diskette.
2. Copy the file to your hard disk, or use the file from the diskette.
3. **PC users:** Use the DOS **COPY** command to send the file to the printer.

   Workstation users: Send the file to the printer.

Enabling and disabling Sys/Start Job execution

The following files control Sys/Start Job execution and apply only to the Phaser 220i.

- The *Set SysStart Job* (*SYSTART.PS*) file enables automatic execution of a file named *SysStart* (if one is found) on a hard disk connected to the printer's SCSI port, each time the printer is turned on or reset. The Sys/Start job is similar to an Init file; it executes automatically each time the printer is switched on.
- The *No SysStart Job* (*NOSYSTRT.PS*) file disables automatic execution of the Sys/Start job.

Send one of these files to the printer to control Sys/Start Job execution.

Macintosh file name	PC file name
Set SysStart Job*	SYSTART.PS*
No SysStart Job*	NOSYSTRT.PS*

*Available only on the Phaser 220i.

Note *Switch 5 on the printer's rear panel affects the operation of these files. If Switch 5 is **up**, Sys/Start files are bypassed; if Switch 5 is **down**, you can use these files to control Sys/Start execution.*

Macintosh users

1. The *Sys/Start Job* files are compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use them. To decompress these files, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing these files, continue with the steps listed below.
2. Select the appropriate printer in the **Chooser**.
3. Locate the Sys/Start Job files in the folder on your hard disk containing decompressed utility files.

4. Double-click on the file's self-sending arrow icon. Click **OK** in the dialog box to send the desired file to the printer.

PC and workstation users

Note *If your Sys/Start job fails, set Switch 5 on the printer's back panel to the **up** position. You can then reset your printer and the Sys/Start job is bypassed so that you can correct the error.*

1. Locate the *Sys/Start Job* files in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the files to your hard disk, or use the files from the diskette.

3. **PC users**: Use the DOS **COPY** command to send a file to the printer. For example, if you want to send the file to the parallel port, type the following at the DOS prompt:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send a file to the printer.

Chapter

8 Modifying Printer Operation

This chapter describes specialized tasks to modify printer operation.

The following table for Macintosh, PC, and workstation users describes each task and gives the appropriate file name you use to complete the task. Workstation users should use the PC utility files.

Both the Phaser 220i and 220e can use the file in the following table.

Specialized tasks for Macintosh, PC and workstation users

Task	Macintosh file name	PC file name
Changing the printer's name	LaserWriter Utility*	PRNTNAME.PS *
Enabling and disabling startup page	LaserWriter Utility*	STARTPG.PS * NOSTRTPG.PS *
Printing a configuration page	Configuration Page	PRNTCNFG.PS
Resetting the printer	Reset Printer	RESET.PS
Adding Control-D to files	n/a n/a	ADDCTRLD.BAT CTRLD.PS ADDCTRLD DELCTRLD
Removing Control-D from utility files and from Windows print jobs	n/a	See the topic “Removing Control-D characters”
Configuring serial port*	n/a	DEVPARAM.PS *
Setting PostScript job and wait timeouts	n/a	CONFIG.PS*

The * symbol indicates the change is persistent across printer power cycles.
n/a = This option is not available in this format.

Changing the printer's name

This procedure lets you change the printer's LocalTalk name. If the printer is also connected through EtherTalk, the name change is applied to both LocalTalk and EtherTalk names. The name selected here prints on the startup page and appears in the **Chooser** on a Macintosh. The name can be up to 31 characters long, and may contain any printable characters except @ (at sign) and : (colon).

The default printer name is **Phaser 220i** or **Phaser 220e** depending on which printer you have. A change is persistent across printer power cycles.

Use one of the following files depending on your computer.

Macintosh file name	PC file name
LaserWriter Utility	PRNTNAME.PS

Macintosh users

1. The *LaserWriter Utility* is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.

2. Select the appropriate printer in the **Chooser**.

3. Locate the *LaserWriter Utility* file in the folder on your hard disk containing decompressed utility files. You may want to place this utility in a *Utilities* folder, or leave the utility on your desktop if you use it often.

4. Double-click on the **LaserWriter Utility** icon.

5. Select **Name Printer** from the **Utilities** menu. The currently selected printer is listed in the dialog box. Type the new name in the edit box.

6. Click the **Rename** button.

7. At the confirmation dialog box, click **OK**.

8. Open the **Chooser** to reselect the printer with its new name.

PC and workstation users

1. Locate the *PRNTNAME.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the file to your hard disk so that you can edit it.

3. View the *PRNTNAME.PS* file.

4. Edit the file to substitute a different printer name for **(My Printer Name)** in the **/PrinterName** line.

5. **PC users**: Use the DOS **COPY** command to send the file to the printer. For example, if you want to send the file to the parallel port, type the following at the DOS prompt:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer ports to receive PostScript, then send the file to the printer.

Note *Some text editors add a carriage return or line feed after the last Control-D character in a file you are editing. If your computer is connected to the printer through the parallel or serial port, you need to delete the extra characters following the last Control-D.*

If your computer is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters at the beginning and end of the file. If you have a workstation, refer to Chapter 4, "Printing From a Workstation," for information on the ***delctrld*** *shell script for deleting Control-D characters.*

Enabling and disabling the startup page

You can choose to have a startup page print each time the printer is turned on or reset, or you can disable the startup page. The startup page provides general printer information, such as the printer's name, number of pages printed, available ports, version numbers, and the type of transfer roll installed. If you decide to disable the startup page, keep a copy to help you troubleshoot printing problems.

Use one of the following files depending on your computer.

Macintosh file name	PC file name
LaserWriter Utility	STARTPG.PS NOSTRTPG.PS

Macintosh users

1. The *LaserWriter Utility* is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.
2. Select the appropriate printer in the **Chooser**.
3. Locate the *LaserWriter Utility* in the folder on your hard disk containing decompressed utility files. You may want to place this utility in a Utilities folder, or leave the utility on your desktop if you use it often.
4. Double-click on the **LaserWriter Utility** icon.
5. Select the **Set Startup Page** command in the **Utilities** menu.
6. Select either the **on** or **off** button, then click **OK**.

PC and workstation users

Use the *STARTPG.PS* file to enable printing of the printer's startup page.

Use the *NOSTRTPG.PS* file to stop the printer from printing a startup page.

1. Locate the startup page files in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the files to your hard disk, or use the files from the diskette.

3. **PC users**: Use the DOS **COPY** command to send a file to the printer. For example, if you want to send the file to the parallel port, type the following at the DOS prompt:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send a file to the printer.

Printing a configuration page

A configuration page is similar to the printer's startup page, but additionally provides details on each available port.

Use one of the following files depending on your computer type.

Macintosh file name	PC file name
Configuration Page	PRNTCNFG.PS

Macintosh users

1. The *Configuration Page* file is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the file, continue with the steps listed below.
2. Select the appropriate printer in the **Chooser**.
3. Locate the *Configuration Page* file in the folder on your hard disk containing decompressed utility files.
4. Double-click the *Configuration Page* self-sending arrow icon to send the file to the printer.
5. Click **OK** in the dialog box to print the configuration page.

PC users

1. Locate the *PRNTCNFG.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the file to your hard disk, or use the file from the diskette.

3. **PC users**: Use the DOS **COPY** command to send a file to the printer.

   For example, to send the file to the parallel port, type:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send a file to the printer.

Resetting the printer

The *Reset Printer* (*RESET.PS*) file resets the printer to its power-on conditions (*not* its factory default conditions), without turning the printer's power switch off and on. The power-on conditions include any custom changes made to the printer that are stored in the printer's NVRAM, or changes that are persistent across printer power cycles. For example, if you used downloadable utility files to change the printer's name, enable or disable the printer's startup page, or configure the printer's serial port, these are power-on conditions that are not altered by resetting the printer. Resetting the printer erases changes that are not persistent across printer power cycles, such as the Tektronix error handler utility.

This file restarts the printer as soon as all the jobs in its queue are finished. The printer remains unavailable while it initializes.

Macintosh file name	PC file name
Reset Printer and LaserWriter Utility	RESET.PS

Macintosh users

Note *Do not use the **Restart Printer** command in the LaserWriter Utility's **Utilities** menu. Follow this procedure to reset the printer using the LaserWriter Utility to download the Reset Printer utility file.*

1. The *LaserWriter Utility* and the *Reset Printer* file are compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use them. To decompress these files, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the files, continue with the following steps.

2. Locate the *LaserWriter Utility* in the folder on your hard disk containing decompressed utility files. You may want to place this utility in a *Utilities* folder, or leave the utility on your desktop if you use it often.

3. Select the appropriate printer in the **Chooser**.

4. Double-click the *LaserWriter Utility* icon to start the application.

5. Choose **Download PostScript File** from the **Utilities** menu.

6. Select the *Reset Printer* file in the list then click **Open**.

7. At the prompt `Save PostScript output as:` you are asked for a file name for saving printer output. Use either the default name given in the edit box or type in a new name. Click **Save** to send the file to the printer.

Note *The process of resetting the printer takes a few minutes to complete. You will receive a message on your screen indicating that the connection has been interrupted during the reset. The connection is re-established after the reset, so you can ignore this message; click the* ***Continue*** *button.*

8. If no output is returned by the printer, the *LaserWriter Utility* displays a dialog box. Click **OK** in the box to continue.

PC and workstation users

1. Locate the *RESET.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the file to your hard disk, or use the file from the diskette.

3. **PC users**: Use the DOS **COPY** command to send the file to the printer.

   To send the file to the parallel port, type:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send the file to the printer.

Adding Control-D characters to PC files

These files are included for users who want to write their own PostScript files.

Note *If your computer is connected to the printer through a parallel or serial port, you need to have Control-D characters in your utility files or in the files you create. However, if your computer is connected to a network such as NetWare or TCP/IP, you should not add Control-D characters to a utility file.*

The non-text Control-D character is required at the end of PostScript files sent to the printer's serial or parallel port; it signals "end-of-job." A Control-D should precede and follow most PostScript data files. *ADDCTRLD.BAT* and *CTRLD.PS* help you add two Control-D characters to your files.

The *ADDCTRLD.BAT* and *CTRLD.PS* files are located in the *PHSR220* directory on the Printer Utilities diskette.

ADDCTRLD.BAT

ADDCTRLD.BAT is a batch file that adds a Control-D to the beginning and the end of a file. Use this file if you are creating your own PostScript files.

To use *ADDCTRLD.BAT*, copy *ADDCTRL.BAT* and *CTRLD.PS* to your directory. Type the following command:

ADDCTRLD *filename*

where *filename* is the name of the file to which you want to add Control-Ds.

CTRLD.PS

CTRLD.PS contains some PostScript comments plus the Control-D character. Copy *CTRLD.PS* to the beginning and/or end of your PostScript files before you send them to the printer. (PostScript utility files on the Printer Utilities diskette already have Control-D characters at the beginning and end.) You can send *CTRLD.PS* to the printer by itself to make sure that the printer is in the "end of job" condition.

Removing Control-D characters

From PC utility files

The utility files on the Printer Utilities diskette for PC/DOS, all begin and end with Control-D characters. If your computer is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your computer is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters from each utility file you plan to use.

To remove Control-D characters from a utility file, open the file in a text editor and delete the characters from the beginning and end of the file. You may want to give this revised file a new name. Send the file to the printer as usual, using the DOS *COPY* command.

From Windows print jobs

Windows automatically puts Control-D characters at the beginning and end of each print job. If your computer is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your computer is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters.

The following procedure removes Control-Ds (Ctrl-D) from the beginning and end of print jobs created by the Tektronix Windows driver, but only removes the first Control-D from print jobs created by the Microsoft Windows driver.

Note *For more information on removing Control-D characters, refer to the on-line document PRINTERS.WRI in your Windows directory. For more information on editing the WIN.INI file, refer to the on-line document WININI.WRI in your Windows directory.*

1. In your \Windows directory, open the *WIN.INI* file in a text editor.

2. Locate the section for each printer connected to a network port. The section is designated [*ModelName*,**Port**], where ModelName is the name of your printer.

3. Add, or change, the **CtrlD=** line as shown:

   [Tektronix Phaser 220 (TekColor),LPT1:]
   CtrlD=0

Configuring a serial port for a printer

Note *To modify **DEVPARAM.PS** you should be familiar with the PostScript **setdevparams** command. You should know how to use PostScript dictionaries and key value pairs.*

The *DEVPARAM.PS* file lets you configure your printer's serial port. Edit this file before using other files to change the printer's performance.

The following example sets flow control to *Xon/Xoff*, parity to *none*, data bits to *8*, stop bits to *2* and the baud rate to *9600*. In the example, the changes are persistent across jobs and across printer power cycles; they remain in effect until specifically changed again.

```
(%Serial_NV%) 6 dict begin
          /Password         () def
          /FlowControl      /XonXoff def
          /Parity           /None def
          /DataBits         8 def
          /StopBits         2 def
          /Baud             9600 def
currentdict end setdevparams
```

Note *When you change the settings for the serial port, **Switch 4** on the printer's rear panel must be **down** for the changes to take effect. When Switch 4 on the Phaser 220i rear panel is down (Switch 2 up and Switches 3 and 4 down on the Phaser 220e), the default conditions are these settings: flow control is Xon/Xoff, parity is space, 8 data bits, 2 stop bits, baud rate is 9600.*

1. Locate the *DEVPARAM.PS* file in the *PHSR220* directory on the Printer Utilities diskette.
2. Copy the file to your hard disk.

3. View the file and substitute the values you want for the values used in *DEVPARAM.PS*. The possible values for each parameter are listed in the table on the next page. The values are case-sensitive; they must be entered exactly as shown in the table.

   When Switch 4 on the Phaser 220i rear panel is *down* (Switch 2 *up* and Switches 3 and 4 *down* on the Phaser 220e), the default conditions are these settings: flow control is *Xon/Xoff*, parity is *space*, *8* data bits, 2 stop bits, baud rate is *9600*. Refer to the printer's user manual for more information about default serial port conditions.

4. Save the file.

5. Configure the printer port to receive PostScript.

6. **PC users**: Use the DOS **COPY** command to send the file to the printer.

   To send the file to the parallel port, type:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send the file to the printer.

Parameter values

Parameter key	Allowed values	Type
FlowControl	XonXoff (software) Dtr (hardware)	string
Parity	Even Odd None Space	string
DataBits	7 8	integer
StopBits	1 2	integer
Baud	300 600 1200 2400 4800 9600 19200 38400	integer
Enabled	true false	boolean
CheckParity	true false	boolean
On	true false	boolean
Interpreter	PostScript HP7475A	string
Protocol	Normal Raw Binary	string

Chapter

9 Using Different Printer Language Modes

This chapter is for PC or workstation users who want to use either PostScript or HP-GL (Hewlett-Packard's Graphics Language) printer languages.

The following table describes each task and gives the appropriate utility file that you use to complete the task. These files are located in the *HPGL* directory on the Printer Utilities diskette. Workstation users should use the PC utility files. Both the Phaser 220i and 220e can use these files.

Printer language tasks for PC and workstation users

PC and workstation users

Task	PC file name
Setting PostScript and HP-GL timeouts	CONFIG.PS *
Changing printer language mode	PSCRIPT.PS * HPGL.PS *
Testing printer language mode change	HPGLTEST.PLT PSTEST.PS
Setting default HP-GL pen colors	HPGLPENS.PS
Auto switching mode	AIS.PS*

The * symbol indicates the change is persistent across printer power cycles.

Setting PostScript and HP-GL job and wait timeouts

Note *The HP-GL job timeout is the same as the PostScript job timeout.*

The *CONFIG.PS* file changes the PostScript and HP-GL job and wait timeout values. Changes are persistent across print jobs but not across printer power cycles.

- The **wait timeout** is the amount of time in seconds that the printer waits for data to come from the computer during a job. If the printer pauses for longer than the specified number of seconds, the job is discarded.
- The **job timeout** is the amount of time any single job may be active before it must print. In PostScript mode, if the value is exceeded, a *timeout* error is generated. In HP-GL mode, if the timeout value is too small, an image may be split across two pages; if the value is too large, multiple-page prints may be combined on one page.

Note *This file affects printer operation. If the printer is shared on a network, using this file may affect the prints requested from other users.*

1. Configure the printer port to receive PostScript.
2. Locate the *CONFIG.PS* file in the *PHSR220* directory on the Printer Utilities diskette.
3. The default values for the printer are **0** seconds for the job timeout and **40** seconds for the wait timeout. A timeout value of **0** indicates no timeout; the printer waits indefinitely.

To change *CONFIG.PS* to specify different timeouts, substitute new values for **0** and **40** in the **JobTimeOut** and **WaitTimeOut** lines. Permitted timeout values are as follows:

- **JobTimeOut**: 0 to 999
- **WaitTimeOut**: 0, or 15 to 999
- To specify no timeout, use **0**

In the following example, the timeouts are set to their default values.

```
<< /Password      ()
   /JobTimeOut     0
   /WaitTimeOut   40
>> setsystemparams
```

4. Use the DOS **COPY** command to send **CONFIG.PS** to the printer. If the printer is connected to a parallel (LPT) port, enter the following command:

   COPY CONFIG.PS LPT*X*:

   where *X* is the number of the parallel port. If the printer is connected to a serial (COM) port, enter the following command:

   COPY CONFIG.PS COM*X*:

   where *X* is the number of the serial port.

Changing printer language mode

The Phaser 220 supports the following printer languages: PostScript Level 1 and Level 2, HP-GL (Hewlett-Packard Graphics Language), and PCL5 (Printer Command Language).

In the factory default configuration, the printer expects to receive PostScript data on all ports. If you want to use an HP-GL application, you must explicitly set up a printer port for HP-GL data, or enable Adobe IntelliSellect™ *automatic language selection*. If you want to use a PCL5 application, you must enable automatic language selection on a port.

Changing the language of the printer between PostScript, HP-GL, and PCL5 is port-specific. The ports, such as parallel, serial, or LocalTalk, can each be configured differently. You can change the default language on any port so whenever the printer is turned on it expects to receive PostScript, HP-GL, or PCL5 data on a specific port. If automatic language selection is enabled on a particular port, it becomes the default on that port, allowing you to change back and forth between PostScript, HP-GL, and PCL5. Changes to the language on any port are persistent across print jobs and across printer power cycles.

Note *The following files affect printer operation. If the printer is shared on a network, using these files may affect the prints requested from other users.*

- If you want to print PostScript files, use the *PSCRIPT.PS* file to set up a port to receive PostScript.
- If you want to print HP-GL files, use the *HPGL.PS* file to set up a port to receive HP-GL.
- If you want to print PCL5 files, use the *AIS.PS* file to set up a port for automatic language selection.

Printing PostScript files

The *PSCRIPT.PS* file changes a port to accept only PostScript data. After you copy this file to a port, the printer expects PostScript files on that port. The port's language change is persistent across print jobs and across printer power cycles.

- To use, send the *PSCRIPT.PS* file to the printer.

Printing HP-GL files

The *HPGL.PS* file changes a port to accept only HP-GL data. After you copy this file to a port, the printer expects HP-GL files on that port. The port's language change is persistent across print jobs and across printer power cycles.

- To use, send the *HPGL.PS* file to the printer.

Printing PCL5 files

The *AIS.PS* file changes a port to automatic language selection. After you copy this file to a port, the printer will accept PCL5, or PostScript, or HP-GL files on that port. The port's language change is persistent across print jobs and across printer power cycles.

- To use, send the *AIS.PS* file to the printer.

Testing printer language mode change

HP-GL mode

HPGLTEST.PLT is an HP-GL file that prints a single line of text if the printer is operating in HP-GL mode.

Send this file to the printer (with the DOS **COPY** command) after you send *HPGL.PS* to make sure that the change was made correctly.

PostScript mode

PSTEST.PS is a PostScript file that prints a single line of text if the printer is operating in PostScript mode.

Send this file to the printer (with the DOS **COPY** command) after you send *PSCRIPT.PS* to make sure that the change was made correctly.

Setting default HP-GL pen colors

The *HPGLPENS.PS* file changes the color and width of the default pen colors. The HP 7475A plotter actually has only six pens, but the printer's emulation supports up to 256 pens.

Note *HP-GL pen settings cannot be made persistent across power cycles; pen settings revert to the default when the printer is turned off.*

In *HPGLPENS.PS*, pen number, pen width, red value, green value, and blue value are listed in parentheses after **/ColorSetup** as shown below.

```
/ColorSetup (pen_number width red_value green_value
blue_value...)
```

In the example below, all pen widths are set to **0.35** millimeters. Pen 0 is white (this is the background pen color), pen 1 is black, pen 2 is red, pen 3 is green, pen 4 is blue, pen 5 is cyan, pen 6 is magenta, and pen 7 is yellow.

The pen color change is persistent across jobs but not across printer power cycles; it affects all HP-GL jobs that immediately follow it until the next printer reset.

Note *This file affects printer operation. If the printer is shared on a network, using this file may affect the prints requested from other users.*

```
CTRL-D
(%HP7475A%) << /Password ()
               /ColorSetup (0 0.35 1.0 1.0 1.0
                            1 0.35 0.0 0.0 0.0
                            2 0.35 1.0 0.0 0.0
                            3 0.35 0.0 1.0 0.0
                            4 0.35 0.0 0.0 1.0
                            5 0.35 0.0 1.0 1.0
                            6 0.35 1.0 0.0 1.0
                            7 0.35 1.0 1.0 0.0)
            >> setdevparams
CTRL-D
```

Allowable values for pen numbers are **0** through **255**. Pen width is measured in millimeters. Red, green, and blue values can be any number between **0.0** and **1.0**. The following table shows the red, green, and blue combinations for each of the eight basic colors.

HP-GL pen color values

Color	Red value	Green value	Blue value
red	1.0	0.0	0.0
green	0.0	1.0	0.0
blue	0.0	0.0	1.0
yellow	1.0	1.0	0.0
magenta	1.0	0.0	1.0
cyan	0.0	1.0	1.0
white	1.0	1.0	1.0
black	0.0	0.0	0.0

To add a new pen, you must redefine pens 0 through 7 first, then add the new pens that you want.

To set pen widths and colors to values other than those in *HPGLPENS.PS*, do the following steps:

1. Configure the printer port to receive PostScript.

2. Edit the file and substitute the values that you want for those in the file. Color values can be any decimal number between **0.0** and **1.0**.

   For example, to change pen 4 to a purple color and a width of .5 mm, edit *HPGLPENS.PS* and change the line for pen number 4 to the following:

   ```
   4 0.5 1.0 0.0 0.5
   ```

Chapter

10 Troubleshooting

Getting help

Using the Tektronix Bulletin Board System

The Tektronix Bulletin Board System (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, how to connect to our BBS, and how to download files, request a document catalog from HAL, the Tektronix automated fax system. Call (503) 682-7450 (direct) or, in the U.S. and Canada, call 1-800-835-6100. Refer to the topic "Using the automated fax system" in this chapter for instructions on using HAL.

Reaching the Technical Support staff

If your problem is still not resolved after trying the suggestions in this chapter, call the Tektronix Technical Support Hotline in the United States from 6 AM to 5 PM PST at 1-800-835-6100. Outside the U.S., contact your reseller or local Tektronix office.

Using the automated fax system

As an alternative to using the Technical Support Hotline, and to provide up-to-date information quickly, Tektronix has set up HAL, an interactive, automated fax system. This automated fax system provides Macintosh, PC, and workstation users with the latest technical hints and tips (like color matching), solutions to common technical problems, and application notes (like CorelDRAW! and QuarkXPress).

You may call HAL from anywhere in the world. The fax system is available 24 hours a day, seven days a week. 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** (at the prompt press **#3**).

To order a catalog or documents

Note *Before ordering documents from HAL, order a HAL catalog listing the numbers of available documents. You may want to replace your catalog periodically, since the system is often updated.*

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 (English) menu.
4. Order individual documents by entering the desired document's number as listed in the HAL catalog. Enter the number by using your telephone's keypad.
5. You can order up to three documents per call.
6. The HAL catalog or documents that you request are faxed to you in a matter of minutes.

Downloading files from the Tektronix Color Printer Information Server

If you don't have the means of transferring files from the Printer Utilities diskette for PC/DOS, you can request files from the Tektronix Color Printer Information Server, an automatic file serving program 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.

In the following mail requests, substitute the library of your choice for ***library-name***, and the file of your choice for ***filename***.

Send your requests for files to the following electronic mail 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 this command:

send index from library-name

To request a single file from a directory, type this command:

send filename from library-name

To determine file size, type this command:

send list of filename from library-name

Selecting a SCSI hard disk

The Phaser 220i can use most SCSI hard disks that support the full SCSI command set. Also, most SCSI hard disks that work with an Apple LaserWriter will work with a Phaser 220i. Contact your computer or printer dealer for information.

For additional information on SCSI hard disks, request a document catalog from HAL, the Tektronix automated fax system. Refer to the topic "Using the automated fax system" in this chapter for instructions on using HAL.

Resolving error or alert messages

If you receive an error or alert message, follow any instructions provided in the message. If you have a problem but do not receive an Alert message, look through the list of problems in this chapter to find the solution.

Solving printing problems

PostScript printing errors

If you get a PostScript error when printing from Aldus PageMaker, Aldus FreeHand, QuarkXPress, or Canvas, you may be using an older or incorrect version of the printer description file. Refer to the topic "Printing from an application" in either Chapter 2, "Printing from a Macintosh," or Chapter 3, "Printing from a PC," for instructions on using printer description files.

When using printer description files, it is important to match the application's version number to the printer's firmware version number. You can check the printer's firmware version number by printing a copy of the printer's startup page. Refer to the topic "Enabling and disabling the startup page" in Chapter 8, "Modifying Printer Operation," for instructions on printing the startup page. If you have upgraded your printer's firmware version, you may need a newer printer description file.

For the most current printer description files, check the Tektronix Bulletin Board System (BBS). Refer to the topic "Using the Tektronix Bulletin Board System" in this chapter for instructions on using the Tektronix BBS.

The following table lists a few Macintosh applications and the possible PostScript errors. For information on PC and other applications, request a document catalog from HAL. Refer to the topic "Using the automated fax system" in this chapter for instructions on using HAL.

Application	Error or problem	Solution
QuarkXPress 3.11 QuarkXPress 3.2	Offending Command: cblnd	You are probably using a version 3.1 PDF file; make sure that the version 3.11 PDF file or version 3.2 PDF file is selected in the application.
QuarkXPress 3.1x	Graduated fills print in black and white	You are probably using an older PDF file. Check the BBS for the most current version of this file.
FreeHand 3.1	error:typecheck offending command: put	A PostScript fill is being used with a color correction from the printer driver. Turn off any color correction in the driver and the image should print correctly.
FreeHand 3.1	TIFFs print in black and white	You are probably using the wrong PDX file. Check the BBS for the most current version of this file.

Using a PostScript error handler

The error handling utility is useful for diagnosing problems when a job doesn't print. This utility installs a PostScript error-handling function in the printer to help determine the cause of some PostScript printing problems. PostScript errors are printed on a page with other status information when an error occurs. This utility can also be used by programmers for debugging PostScript code.

Macintosh users

1. The *Tek Error Handler* file is compressed into the *Phaser 220 Utilities.sea* archive file on the Macintosh Printer Utilities diskette, and must be decompressed before you can use it. To decompress this file, follow the steps listed under the topic "Decompressing the Macintosh utility files" in Chapter 1, "Before You Begin." After decompressing the files, continue with the following steps.

2. Select the appropriate printer in the **Chooser**.

3. Locate the *Tek Error Handler* file in the folder on your hard disk containing decompressed utility files.

4. Double-click the file's self-sending arrow icon. Click **OK** in the dialog box to send the file to the printer.

PC and workstation users

1. Locate the *TEKEHAND.PS* file in the *PHSR220* directory on the Printer Utilities diskette.

2. Copy the file to your hard disk, or use it from the diskette.

3. **PC users**: Use the DOS **COPY** command to send the file to the printer. For example, if you want to send the file to the parallel port, type the following at the DOS prompt:

   COPY *filename* **LPT1:**

   (or **COM1:** if you want to send the file to the serial port).

   Workstation users: Configure the printer port to receive PostScript, then send the file to the printer.

Improving print speed

Note *There are different ways to improve print speed, such as by upgrading to EtherTalk on a Macintosh, to Novell on a PC, or to TCP/IP on a workstation. For more information, request a document catalog from HAL, the Tektronix automated fax system. Refer to the topic "Using the automated fax system" in this chapter for instructions on using HAL.*

If you tried to print a document with bitmapped images to a PostScript Level 2 printer, but are dissatisfied with the speed of the output, here are some suggestions:

- **Macintosh and Windows users:**
  - When you use any color correction option (other than **None**), your printer can take longer to process bitmapped images.
  - Try printing with the Standard print quality mode.
- **Windows users:**
  - Turn off the Print Manager; printing via the Print Manager is slower, but turning it off ties up the PC longer.
  - Select the Tektronix Phaser 220 printer in the **Printers** dialog box.
  - Verify that the **Use PostScript Level 2 Features** check box in the **Advanced Options** dialog box is turned on.
  - From your application, choose the **Tektronix Phaser 220** as your printer.
  - Try printing the document again.

If the printer isn't printing

If you've configured the Tektronix driver for your printer but your printer isn't printing, try the following suggestions:

- **Macintosh users:**
  - Open the **Chooser** and select the **Tektronix Phaser 220** driver and the printer that you want to use.
  - Send the PostScript error handler utility to your printer to determine what is wrong. Refer to the topic "Using a PostScript error handler" in this chapter for information on using the error handler.
- **Windows users:**
  - Make sure that your printer is connected to the port that you selected in the **Ports** list box of the **Printers/Connect** dialog box.
  - Check to make sure that you've configured the communications ports and the **Handshake** option correctly.
  - Try resetting the **Transmission Retry** timeout option in the **Printers/Connect** dialog box to **999** seconds.
  - Check the **Options** dialog box to make sure that **Printer**, not **Encapsulated PostScript File**, is selected in the Print To box.

If these suggestions fail to solve the problem, copy the Tektronix PostScript Level 2 error handler utility to your printer to determine what is wrong. Refer to the topic "Using a PostScript error handler" in this chapter for information on using the PostScript error handler.

For more information, refer to the HAL article on *General Troubleshooting Hints*. To call HAL, refer to the topic "Using the automated fax system," in this chapter.

If your file doesn't print

Control-D characters

The utility files on the Printer Utilities diskette for PC/DOS, all begin and end with Control-D characters. Also, Windows automatically puts Control-D characters at the beginning and end of each print job. If your computer or workstation is connected to the printer through a parallel or serial port, you need to leave these characters in the files. However, if your computer or workstation is connected to an Ethernet network such as NetWare or TCP/IP, you should delete the Control-D characters from each utility file (or Windows print job) you plan to use. Refer to Chapter 4, "Printing From a Workstation," or Chapter 8, "Modifying Printer Operation," for instructions on adding and deleting Control-D characters from utility files or Windows print jobs.

Language mode

If your file doesn't print, the language on the printer's port you are using may have been changed. First, print a copy of the printer's configuration page to see the language mode on each port. To print a configuration page, place Switches 2, 3, and 4 on the printer's rear panel in the *down* position. Then put Switch 4 *up*. After the configuration page prints, place Switch 4 down.

If the printer port you are using has the wrong language set for the type of application you are using, send one of the following utility files to the printer.

- If you want to print PostScript files, use the *PSCRIPT.PS* file to set up a port to receive PostScript.
- If you want to print HP-GL files, use the *HPGL.PS* file to set up a port to receive HP-GL.
- If you want to print PCL5 files, use the *AIS.PS* file to set up a port for automatic language selection.

If printed colors are not what you expected

If printed colors are not what you expected, try the following suggestions:

- Select another **Color Correction** option in the driver and print your image again. Refer to Chapter 6, "Selecting Color Corrections" for more information.
- If you are not using a Tektronix driver and are sharing the printer with other users on a network, another user may have changed the printer's standard color adjustment defaults. Refer to the topic "Sharing the printer on a network" in this chapter for more information.
- If you use the driver's **Use Printer's Settings** option and printed colors are not what you expected, check the **Color Correction** switches on the printer's rear panel. Switches 8 and 9 on the Phaser 220i (**Vivid Blue** and **Simulate Press**) or Switch 3 on the Phaser 220e, change the printer's default color correction. Refer to the topic "Sharing the printer on a network" in this chapter for details on how these switches affect prints made from the driver.
- If you have questions about PANTONE Color Matching, refer to the HAL article on PANTONE. To call HAL, refer to the topic "Using the automated fax system," in this chapter.
- If you have questions about images printing in black-and-white only, refer to the HAL article on that subject. To call HAL, refer to the topic "Using the automated fax system," in this chapter.

- If PANTONE Colors are not printing as expected, make sure you are printing without any color corrections as outlined below. Also, refer to the topic "Printing the PANTONE Color chart" in Chapter 6, "Selecting Color Corrections," for more information.

  From the Tektronix Macintosh driver, select the **None** option in the **TekColor Options** dialog box

  From the Tektronix Windows driver, select the **None** option in the **Tektronix Printer Features** dialog box.

  If you are not using a Tektronix driver, do *one* of the following to turn off all color corrections:

  - Using switches only
    On the Phaser 220i, place both Switch 8 and Switch 9 in the *down* position.
    On the Phaser 220e, place Switch 3 in the *down* position.

  - Using switches and a downloadable utility file:
    On the Phaser 220i, place both Switch 8 and Switch 9 in the *up* position and download the *No Color Correction* (*NOCORECT.PS*) utility file to the printer.
    On the Phaser 220e, place Switch 3 in the *up* position and download the *No Color Correction* (*NOCORECT.PS*) utility file to the printer.

Fixing timeout problems in Windows

- The options in the **Timeouts** field in the **Printers/Connect** dialog box regulate your computer's communications with its printer ports.

  - **Device Not Selected:** Type a value of **0**, or between **15** and **999**, in this text box to change the number of seconds Windows waits before notifying you that a printer is off-line. The default is 15 seconds.

  - **Transmission Retry:** Type a value between **45** and **999** in this text box to change the number of seconds Windows waits after a print job has begun sending characters to the printer before sending an Alert message that the printer is no longer accepting data. The default setting is **45** seconds. When using the Print Manager with a shared printer, you should set this option to a larger value, such as **600** (10 minutes).

Sharing the printer on a network

If your Phaser 220 printer is shared by other users on a network, using the utility files and switches to change the printer's default color correction setting can affect prints made by other users.

- All Tektronix driver selections, except **Use Printer Setting**, override the printer's switches and downloaded utility files.
- The Tektronix driver's **Use Printer Setting** option uses the printer's current default settings as set by one of the utility files or switches.
  - On the Phaser 220i, setting Switch 8 *up* and Switch 9 *down* enables the **Vivid Blue** color correction.
  - On the Phaser 220i, setting Switch 8 *down* and Switch 9 *up* enables the **Simulate Press** color correction.
  - On the Phaser 220i, setting both switches in the *down* position turns off all hardware color corrections.
  - On the Phaser 220i, if both switches are in the *up* position, the factory default is Euroscale Press if no utility file has been downloaded.
  - On the Phaser 220i, if both switches are in the *up* position, then you can send a utility file to the printer to set a color correction.
  - On the Phaser 220e, setting Switch 3 *up* causes the current utility file color correction to be used.
  - On the Phaser 220e, setting Switch 3 *down* turns off all color corrections.
  - On the Phaser 220e, if Switch 3 is *up*, the factory default color correction is Vivid Blue if no utility file has been downloaded (or, you can send a utility file to the printer to set a different color correction).

If you have problems using the paper trays

The Phaser 220i and 220e printers come standard with a paper tray configured for use with perforated paper. An optional kit which enables you to print on plain paper is available, as is a lower tray assembly (in the U.S. and Canada, call Product Information for details: 1-800-835-6100. Outside the U.S. and Canada, contact your reseller or local Tektronix office).

If you have problems with the paper trays, you may find it helpful to understand how paper tray switching works. The following list outlines paper tray behavior and makes suggestions for you to try. When your printer is equipped with only one tray, the printer automatically picks media from that tray.

- Make sure that your media selection matches your tray selection. For example, if you select A4-size paper, you must also have selected the A4-size tray in the upper or lower position.

Note *If the tray you select runs out of media during a job, and you then switch to the second tray, you may get an "empty" message until you put media into the first tray. The printer will then pick from the tray you've switched to.*

- If you have selected the upper or the lower tray from the driver and the job doesn't print, make sure that the selected tray contains media.

- The lower tray is the default. If you use a driver that doesn't allow you to select the upper or lower tray, or if you do not tell the printer which tray to pick media from (through the driver or with a utility file), it picks from the lower tray. When this tray runs out of media, the front panel media indicator lights up and printing stops until the tray is filled.

- If you select the **Upper** or **Lower** tray through the driver or with a utility file, that selection is locked onto that tray. If the tray runs out of media, the front panel media indicator lights and printing stops until the tray is filled or the other tray is selected through the driver or utility file.

- For those not using a Tektronix driver: If you send the *Use Either Tray* (*ANYTRAY.PS*) file to the printer, then, when one tray runs out of media, the printer automatically switches to the other tray *only* if it contains the same media type as the first tray. If there are two different media types in the two trays, the printer will not automatically switch.

- When two paper trays are installed in the printer and the selected tray runs out of media during a multi-page job, the printer does not continue printing from the other tray.

Also, refer to the *Phaser 220 User Manual* for more information.

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