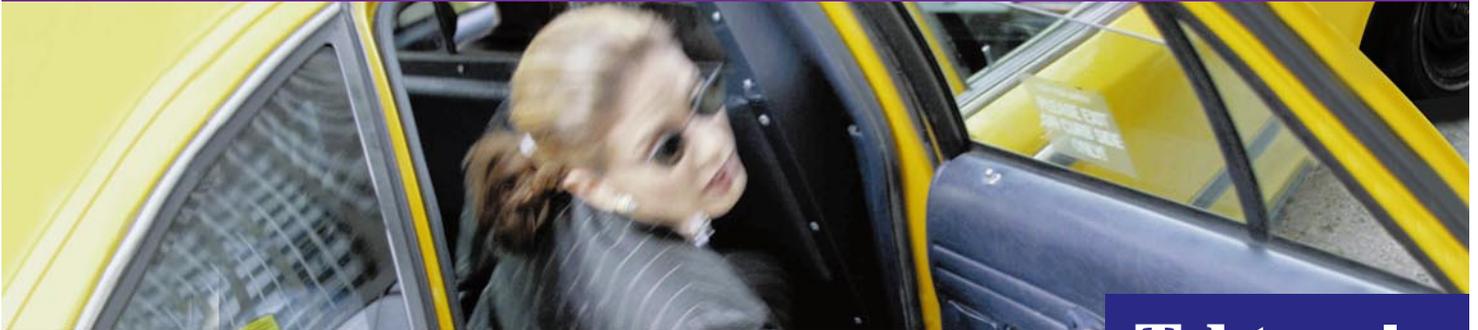




PHASERMATCH™ ICC

COLOR MANAGEMENT SOFTWARE
USER GUIDE



Tektronix®

www.tektronix.com/Color_Printers/





**PhaserMatch™ ICC
Color Management Software
User Guide**

First printing: October 1998
070-9478-00

Copyright © Tektronix, Inc. Unpublished rights reserved under the copyright laws of the United States. Contents of this publication may not be reproduced in any form without permission of Tektronix, Inc.

Tektronix[®], Phaser[®], PhaserShare[®], the TekColor[®] icon, and Made For Each Other[®] are registered trademarks of Tektronix, Inc. PhaserLink[™], PhaserPrint[™], PhaserSym[™], PhaserTools[™], PhaserMatch[™], TekSMART[™], and the TekColor[™] name are trademarks of Tektronix, Inc. TekColor CareSM and RealSUPPORTSM are service marks of Tektronix, Inc.

Adobe[®], Acrobat[®], Acrobat[®] Reader, Illustrator[®], PageMaker[®], Photoshop[®], and PostScript[®], ATM[®], Adobe Garamond[®], Birch[®], Carta[®], Mythos[®], Quake[®], and Tekton[®] are registered trademarks and Adobe Jenson[™], Adobe Brilliant Screens[™] technology, and IntelliSelect[™] are trademarks of Adobe Systems Incorporated or its subsidiaries which may be registered in certain jurisdictions.

Apple[®], LaserWriter[®], LocalTalk[®], Macintosh[®], Mac[®] OS, AppleTalk[®], ColorSync[®], TrueType2[®], Apple Chancery[®], Chicago[®], Geneva[®], Monaco[®], and New York[®] are registered trademarks, and QuickDraw[™] is a trademark of Apple Computer Incorporated.

Marigold[™] and Oxford[™] are trademarks of AlphaOmega Typography.

Avery[™] is a trademark of Avery Dennison Corporation.

FTP[®] Software is a registered trademark of FTP Software, Incorporated.

PCL[®] is a registered trademark of Hewlett-Packard Corporation.

Hoefler Text was designed by the Hoefler Type Foundry.

ITC Avant Guard Gothic[®], ITC Bookman[®], ITC Lubalin Graph[®], ITC Mona Lisa[®], ITC Symbol[®], ITC Zapf Chancery[®], and ITC Zapf Dingbats[®] are registered trademarks of International Typeface Corporation.

Bernhard Modern[™], Clarendon[™], Coronet[™], Helvetica[™], New Century Schoolbook[™], Optima[™], Palatino[™], Stempel Garamond[™], Times[™], and Univers[™] are trademarks of Linotype-Hell AG and/or its subsidiaries.

MS-DOS[®] and Windows[®] are registered trademarks of Microsoft Corporation.

Wingdings[™] in TrueType[®] format is a product of Microsoft Corporation. WingDings is a trademark of Microsoft Corporation and TrueType is a registered trademark of Apple Computer, Inc.

Albertus[™], Arial[™], Gill Sans[™], Joanna[™], and Times New Roman[™] are trademarks of Monotype Corporation.

Antique Olive[®] is a registered trademark of M. Olive.

Eurostile[™] is a trademark of Nebiolo.

Novell[®] and NetWare[®] are registered trademarks of Novell, Incorporated.

Sun[®], Sun Microsystems[®], and Sun Microsystems Computer Corporation[®] are registered trademarks of Sun Microsystems, Incorporated. SPARC[®] is a registered trademark of SPARC International, Incorporated. SPARCstation[™] is a trademark of SPARC International, Incorporated, licensed exclusively to Sun Microsystems, Incorporated.

Ethernet[®] is a registered trademark of Xerox Corporation.

UNIX[®] is a registered trademark in the US and other countries, licensed exclusively through X/Open Company Limited.

Other marks are trademarks or registered trademarks of the companies with which they are associated.

PANTONE[®] Colors generated by the Phaser 780 Printer are four- and/or three-color process simulations and may not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate colors.

PANTONE Color simulations are only obtainable on this product when driven by qualified Pantone-licensed software packages. Contact Pantone, Inc. for a current list of qualified licensees.

All trademarks noted herein are either the property of Tektronix, Inc., Pantone, Inc., or their respective companies.

Contents

Installing PhaserMatch ICC Software

- System requirements 1
- Running the Installer 1

Introduction to PhaserMatch ICC Software

- About PhaserMatch ICC software 2
- Device link profiles 2
- Target device profiles 3
- Printer profiles 3
- The ICC standard 3

Creating a Device Link Profile: Overview

- 1 — Start the application 4
- 2 — Select your target (press) device and printer profiles 4
- 3 — Save and name the device link profile 5
- 4 — Print 5

Using PhaserMatch ICC Software: Advanced Features

- Using the previewing tools 6
 - “Before” and “after”: Using the eyedropper 6
 - Using the magnifying glass 7
- Creating and customizing a new device link profile 8
 - Customizing new device link profiles with the color controls 9
 - Previewing your image (Caps/Lock toggle) 9
 - Adjusting the rendering intent 10
- Editing device link profiles with the curves tool 11
- Opening a new preview image 12
 - Changing the size and resolution of the preview image 12
 - Changing the default preview image 13
- Setting preferences 14
 - Selecting the location of the target (press) profiles 14
- Printing with a custom device link profile 15
 - Printing without device link profiles 15
- Using Driver Updater 16
 - Automatic vs. manual updating 16
 - Launching Driver Updater 16
 - Disabling Driver Updater 17
 - Adding profiles to and deleting profiles from the driver 17

Installing PhaserMatch ICC Software

System requirements

- Apple® Power Macintosh computer
- MAC® OS 7.6.1 or later operating system
- Color monitor
- Apple ColorSync® 2.5 or later
- Apple LaserWriter® 8.5.1 or later printer driver
- 32 Mbytes RAM



PhaserMatch ICC software works only with the Tektronix Phaser 780 Color Laser Printer.

Running the Installer

1. Close all open applications.
2. Place the PhaserMatch ICC software CD-ROM in your computer's CD-ROM drive.
3. For updated installation instructions, open the Read Me file.
4. To run the Installer, double-click the installer icon.

The PhaserMatch ICC folder can be found inside the PhaserTools folder on your computer's hard drive.

Introduction to PhaserMatch ICC Software

About PhaserMatch ICC software

PhaserMatch ICC software is a Tektronix color management application designed to turn your Tektronix Phaser[®] 780 Color Laser Printer into a preproofing device. Using PhaserMatch ICC software, you can create your own custom color profiles (device link profiles, discussed below) that let your printer simulate the colors of the target press of your choice to provide high-quality, accurate design comps and prepress proofs.

By using PhaserMatch ICC software and your Phaser 780 printer for soft proofing, you can eliminate many of the rounds of expensive “hard” proofing required for four-color film production.

“What you see is what you print” – PhaserMatch ICC software provides an on-screen preview so that the colors you see on your computer monitor are those that will be printed by the Phaser 780 printer and in turn by your selected press. Editing tools allow you to adjust the colors and see the changes on your monitor as you make adjustments to the color profile.

Device link profiles

PhaserMatch ICC software provides color matching between two devices: your Tektronix Phaser 780 color printer and a printing press or other output device of your choice. It does this through the creation of a “device link profile,” or a color profile that combines the color information provided by the printer and press device profiles. You can modify and fine tune these profiles for your printing needs.

PhaserMatch ICC software automatically updates your LaserWriter print driver with the device link profiles you create (up to six) so that you can select the right color correction when you print an image on the Phaser 780 printer.

Target device profiles

Target device profiles are the ICC color profiles for press standards. In addition to the profiles included by ColorSync, PhaserMatch ICC software includes ICC device profiles for U.S. and European presses as follows:

- LOGO
- CB (ColorBlind)

Printer profiles

Printer profiles are the ICC color device profiles for the Phaser 780 printer. The profile names reflect the print-quality settings that you can choose for the printer and the type of paper on which you wish to print. PhaserMatch ICC provides both LOGO and CB (ColorBlind) profiles.

The ICC standard

The International Color Consortium (ICC) was founded in 1993 by a group of companies in the computer, graphic arts, and printing industries to create and promote an objective color standard independent of a specific platform, device (scanners, monitors, printers, presses), or application. Tektronix is a member of the ICC, and PhaserMatch ICC software uses ICC standards to ensure the accurate rendition of press colors from your printer.

Creating a Device Link Profile: Overview

The following instructions show you the basics of using PhaserMatch ICC software to create a device link profile for the Phaser 780 Color Laser Printer and a target press. To learn more about the application's custom features, see "Using PhaserMatch ICC Software: Advanced Features" on page 6.

1 — Start the application

- a. Double-click the PhaserMatch ICC icon. A preview image appears.



Note the green "idle" bar on the right side of the preview image dialog box. When PhaserMatch ICC software is computing an adjustment, a "busy" message with a pink bar appears until the preview image is updated.

- b. From the **File** menu, select **Create Device Link**.

2 — Select your target (press) device and printer profiles

- a. From the **Target Device** pull-down menu, select the press or proofing system whose color you wish to match.
- b. From the **Printer Profile** pull-down menu, select the Phaser 780 printer profile that reflects your desired settings for print-quality mode (Enhanced, Photo) and type of paper (Bond, Coated). (See page 22 of the Phaser 780 printer User Guide for information on print-quality modes.)
- c. Click **OK**.

3 — Save and name the device link profile

The image window title bar changes to **PhaserMatch™ ICC: Creating Device Link**. Note that the names of the press and printer ICC profiles appear.

- a. From the **File** menu, select **Save Device Link**.
- b. When the next screen appears, name your device link profile. Click **Save**.



Name your device link profile to reflect the press target, printer settings, and paper type for which you are creating the profile. For optimal color in your prints, make sure that you select the corresponding settings in the driver when you print.

4 — Print

- a. To print your document, switch to a graphics application.
- b. From the **File** menu, select **Print**. From the Print dialog box, select **Printer Specific Options**.
- c. From the **Print Quality** pull-down menu, select the print quality you used in Step 2b.
- d. From the **Color Corrections** pull-down menu, select the PhaserMatch ICC software device link profile you just created.
- e. Click **Print**.

Using PhaserMatch ICC Software: Advanced Features

The power and flexibility of PhaserMatch ICC software lie in the editing or color-correcting tools that you can use to get just the colors you want. There are two color-editing opportunities: during the creation of the device link profile and then again once it is saved. The editing functions are as follows:

- The **Color Controls** function allows you to adjust lightness, contrast, and/or saturation and change the rendering intent (in Creating Device Link mode only).
- The **Curves** editor lets you fine tune the tone reproduction curves of the target device being simulated by the printer (in Editing Device Link mode only).

The following additional features are available:

- View the color values of any point in the preview image.
- Enlarge or shrink the preview image.
- Change the size and resolution of the preview image.
- Open a different preview image or change the default preview image.
- Select a location for the target (press) profiles.

Using the previewing tools

PhaserMatch ICC software uses two of the image-previewing tools commonly found in graphic arts applications: the eyedropper and the magnifying glass.

“Before” and “after”: Using the eyedropper

Use the eyedropper tool to actively view the color values of any point in your image. Click the eyedropper icon to activate it; the cursor becomes an eyedropper.

The “Before” color values on the far left side of the window display the color values of the original preview image. The “After” values reflect the values that would be printed if you saved the current color adjustments. When you edit the device link profile, the “after” reflects any changes you make.

The values are displayed in CMYK (cyan, magenta, yellow, black) plus “T” for total ink and LCH (lightness, chroma, hue).

Using the magnifying glass

Use the magnifying glass (zoom) tool to enlarge or shrink the preview image.

Enlarging the preview image

1. Click the magnifying glass icon.
2. Place the magnifying glass cursor over the region of the image you wish to enlarge.
3. Click the mouse, and select the percent magnification. The size of the image is noted next to the file name, for example, "Default CMYK Image" (CMYK) - 200%.
 - Alternatively, press-and-hold the mouse button until the magnification menu appears. Then select the percentage.

Shrinking the preview image

1. Click the magnifying glass icon.
2. Place the magnifying glass cursor over the region of the image you wish to enlarge.
3. Hold down the **Option** key and click the mouse. Then select the percent magnification. The size of the image is noted next to the file name, for example, "Default CMYK Image" (CMYK) - 25%.
 - Alternatively, hold down the **Option** key and press-and-hold the mouse button until the magnification menu appears. Then select the percentage.

Creating and customizing a new device link profile

1. From the **File** menu, select **Create Device Link**.
2. From the **Target Device** pull-down menu, select the press whose color you wish to match.
3. From the **Printer Profile** pull-down menu, select the Phaser 780 printer profile that reflects your desired settings for print-quality mode (Enhanced, Photo) and type of paper (Bond, Coated).
4. Click **OK**.

 Note that the names of the press and printer ICC profiles appear at the top of the image window.

5. From the **Edit** menu, select **Color Controls**.
6. Adjust the settings. Press the **Caps/Lock** key if you wish to see how your image looked before you changed the settings. Press the **Caps/Lock** key again to resume. (See “Previewing your image (Caps/Lock toggle)” on page 9.)
7. To accept your settings, click **OK**. To start over at the “zero” default settings, click **Reset**.
8. Now you can save a device link profile reflecting your profile selections and color adjustments. From the **File** menu, select **Save Device Link**.
9. When the next screen appears, name your device link profile. Click **Save**.

Customizing new device link profiles with the color controls



Note that this function is available only when the image window title bar indicates **Creating Device Link**. To edit a profile after you have created it, you must use the Curves tool. See “Editing device link profiles with the curves tool” on page 11.

You can adjust the following characteristics of the profile before you save it:

- **Darkness/Lightness:** Add more black or more white.
- **Contrast:** Increase or decrease the contrast.
- **Saturation:** Increase or decrease color saturation.
- **Rendering Intent:** Choose the appropriate intent.

Previewing your image (Caps/Lock toggle)

PhaserMatch ICC software lets you preview in the display image any changes you make using the color controls.

Use the Caps/Lock key on your keyboard to toggle between the image as it appears when first opened and the image after it reflects your adjustments to lightness, contrast, and saturation.

1. Make your adjustments. Wait until the “Idle” message returns to the window.
2. Press the **Caps/Lock** key. The preview image that is now displayed is how the image looked before you changed the controls. Note that the controls are disabled.
3. Press the **Caps/Lock** key again to unlock it. Now you see the effects of your changes in the preview image.

Adjusting the rendering intent

You can also adjust the rendering intent for a particular device link profile. The rendering intents are defined as follows:

- **Perceptual:** The most commonly used rendering intent, especially for the reproduction of photographic images. Generally gives the most visually appealing reproduction.
- **Absolute (Colorimetric):** Similar to Relative, except that this rendering intent does not adjust to the surrounding white of the paper. Whites may be reproduced as off-white.
- **Relative (Colorimetric):** Accounts for the ability of the human eye to visually readjust absolute colors in response to the presence of white, especially the surrounding white of the paper. Most commonly used for reproducing logo colors where the exactness of the color is most important.
- **Saturation:** Not recommended for general graphic arts/prepress applications. May be useful for some simple business graphics.

The default rendering intent is **Perceptual**. To change the rendering intent:

1. In the Color Controls dialog box, click one of the other selections: **Absolute, Relative, Saturation**.
2. To save the setting, click **OK**.

Editing device link profiles with the curves tool

The curves tool allows you to modify any of the device link profiles that you create. You can save your edits in the same profile or create and save a new profile that reflects your adjustments.

 Note that the curves tool is available only when the image window title bar indicates **Editing Device Link**.

1. To open an existing profile: From the **File** menu, select **Edit Device Link**.
2. From the **Device Link** pull-down menu, select the profile you wish to modify; the Editing Device Link window opens.
3. From the **Edit** menu, select **Curves**; the Curves window opens.
4. Adjust the curves as follows:
 - Select individual **CMYK** channels or **All** channels using the radio buttons on the left.
 - Adjust a point on the curve by clicking and dragging the point to the desired setting.
 - **Add points** (up to six) anywhere on a curve by clicking it. (The cursor has a plus sign).
 - **Delete points** by holding down the **Control** key and clicking the point you wish to delete. (The cursor has a minus sign.)

CAUTION

Points added to or deleted from one curve result in the same points being added to deleted from the other curves.

 Points in the upper right area of the Curves graph adjust shadows, or the dark areas of the image. Points in the lower left area adjust highlights or whites. Points in the middle area affect contrast.

5. Preview the image in the display window. Use the **Caps/Lock** key to toggle between the original preview image and the modified image. To restore the original settings, click **Reset**.

 Curves show incremental change from the previously saved version of the device link profile (not the total change since the creation of the link).

6. Click **OK** when done.
7. To save the edited profile: From the **File** menu, select **Save Device Link**.

Opening a new preview image

You can open CMYK images in PhaserMatch ICC software in the following formats:

- TIFF (non-LZW compressed only)
- EPS
- YCC
- JPEG
- Scitex CT

Change the image you are previewing as follows:

1. From the **File** menu, select **Open Image**.
2. In the dialog box that appears, select the folder where the image is stored. Select the image file. Click **Open**.
3. You can now create a new device link profile while viewing this image or edit an existing profile. Follow the directions in “Creating a Device Link Profile: Overview” on page 4 or go to “Editing device link profiles with the curves tool” on page 11.

Changing the size and resolution of the preview image

The size of the image used for the preview affects how much memory is allocated for the preview. It gets calculated based on the monitor’s pixel resolution. Large images require more memory and take longer to load.

High Quality mode is also for very large images. When this box is checked, every pixel is read, the image is displayed with fewer “jaggies,” and the image loading time is longer due to the extra processing required.

1. From the **File** menu, select **Preferences**.
2. From the Preferences dialog box, select the preview size (Half, Full Screen, or Double Screen).
3. To reduce jaggies in zoomed-out views of a large preview image, click the **High Quality** check box.
4. Click **OK**.

Changing the default preview image

You can change the preview image that is displayed whenever PhaserMatch ICC software is opened.

1. From the **File** menu, select **Preferences**.
2. When the Preferences dialog box opens, in the **Default Image** area, click **Select**. Browse until you find the image file you want.
3. Select the image, and click **Open**. The location and image file name now appear in the Preferences dialog box.
4. Click **OK**.

Setting preferences

The **Preferences** dialog box allows you to do the following:

- Control the amount of memory used for, and the sampling quality of, the preview image. See “Changing the size and resolution of the preview image” on page 12.
- Change the default preview image. This image will appear automatically whenever you open the PhaserMatch ICC software application. See “Changing the default preview image” on page 13.
- Specify a location for your target (press) profiles.

Selecting the location of the target (press) profiles

You can select an additional location for your target (press) profiles. The ColorSync Profiles folder is always selected.

1. Click **Select**, and navigate to the folder in which your target profiles are stored.
2. Click the check box next to the location. (Box is checked.)
3. Click **OK**.

Printing with a custom device link profile

1. In your graphics application, open the document you wish to print. From the **File** menu, select **Print**.
2. From the Print dialog box, select **Printer Specific Options**.
3. From the **Color Corrections** pull-down menu, select the appropriate device link profile. From the **Print Quality** pull-down menu, select the appropriate print-quality mode. Make sure that you are using the media type specified in the device link profile.
4. Click **Print**.



See “Using Driver Updater” on page 16 for instructions on adding or deleting device link profiles from the Color Corrections list.

Printing without device link profiles

To prevent non-graphics applications from accessing the device link profiles for printing, you can “hide” the profiles in the Color Corrections menu as follows:

1. From the **File** menu, select **Update Driver**.
2. From the Driver Updater dialog box, check the **Hide custom TekColor™ corrections** box.
3. Click **Done**.



If you have trouble printing from an application, “hide” the device link profiles as described above.

Using Driver Updater

Driver Updater is a helper for the PhaserMatch ICC software application that makes the device link profiles (DLPs) you create or modify available in your system's print driver or other application-based print managers.

When you save a device link profile, Driver Updater automatically modifies the PPD (PostScript Printer Description) files for a printer family and puts the name of your DLP in the Color Corrections pull-down menu of the Print dialog box. (For example, the Phaser 780 printer family includes the Standard, Graphics, and Plus models. Driver Updater modifies the PPDs for all these models.) Your printer's LaserWriter driver uses these PPDs to communicate your print settings (including your custom color profiles) to the Tektronix printer in producing your prints.

Driver Updater lets you include up to six user-created or user-modified DLPs per printer family at a time in the Color Correction menu (from the **File** menu, select **Print**, then **Printer Specific Options**). To change which profiles are available when you print, use Driver Updater to add or delete profiles.

Automatic vs. manual updating

Driver Updater **automatically** opens and loads a device link profile into your LaserWriter driver whenever you save a DLP **and** the "Add to Driver List" box is checked in the dialog box that opens when you save. However, you can disable Driver Updater so that it does not affect your driver. When Driver Updater is disabled, you must then launch it independently to add or delete profiles from the driver.

Launching Driver Updater

Driver Updater is automatically installed when you install PhaserMatch ICC software from the CD-ROM. Driver Updater is launched in the following ways:

- From within the PhaserMatch ICC software application, Driver Updater is automatically launched when you **save** a device link profile **and** the "Add to Driver List" box is checked in the dialog box that opens when you save.
- From within the PhaserMatch ICC software application: From the **File** menu, select **Update Driver**.
- From the Finder:
 1. Open the **PhaserTools** folder.
 2. Open the **PhaserMatch ICC** folder.
 3. Double-click the Driver Updater icon.

Disabling Driver Updater

You can disable the automatic driver-updating feature from within the PhaserMatch ICC software application when you save after creating or editing a device link profile.

1. After creating or editing a device link profile: From the **File** menu, select **Save Device Links**.
2. To disable Driver Updater's automatic update feature, click (uncheck) the **Add to Driver List** check box.
3. Click **Save**. (You can also cancel out of the dialog box to preserve the setting.)

To re-enable automatic updating, check the **Add to Driver List** check box from the dialog box that opens when you save a device link. (You can save or cancel out of the dialog box to preserve the setting.)

Adding profiles to and deleting profiles from the driver

1. From the **File** menu, select **Update Driver**.
2. Select the profile you wish to add to or delete from the driver.
3. Click **Add** or **Delete**.
4. Click **Done**.



Note that manually deleting a device link profile file from its location on your computer's hard drive using the Finder will not affect the PPD file. To delete a device link profile from the PPD, you must use Driver Updater.