User's Guide

FIERY 500 COLOR
PRINTING SYSTEM

FINAL DRAFT
5/2/99

Software License Agreement

Before using the Software, please carefully read the following terms and conditions. BY USING THIS SOFTWARE, YOU SIGNIFY THAT YOU HAVE ACCEPTED THE TERMS OF THIS AGREEMENT. If you cannot or do not accept these terms, you may return the entire package within ten (10) days to the Distributor or Dealer from which you obtained them for a full refund.

Electronics For Imaging, Inc. grants to you a non-exclusive, non-transferable license to use the software and accompanying documentation ("Software") included with the Fiery 500 you have purchased, including without limitation the PostScript® software provided by Adobe Systems Incorporated.

You may:

a. use the Software solely for your own customary business purposes and solely with Fiery 500;

c. use the trademarks used by Electronics For Imaging to identify the Coded Font Programs and Typefaces reproduced therefrom ("Trademarks"); and

d. assign your rights under this Agreement to a transferee of all of your right, title and interest in and to Fiery 500 provided the transferee agrees to be bound by all of the terms and conditions of this Agreement.

You may not:

a. make use of the Software, directly or indirectly, to print bitmap images with print resolutions of 600 dots per inch or greater, or to generate fonts or typefaces for use other than with Fiery 500;

b. make or have made, or permit to be made, any copies of the Software, Coded Font Programs, accompanying documentation or portions thereof, except as necessary for use with the Fiery 500 unit purchased by you; provided, however, that under no circumstances may you make or have made, or permit to be made, any copies of that certain portion of the Software which has been included on the Fiery 500 hard disk drive. You may not copy the documentation;

c. attempt to alter, disassemble, decrypt or reverse engineer the Software, Coded Font Programs or accompanying documentation.

d. rent or lease the Software.

Proprietary Rights

You acknowledge that the Software, Coded Font Programs, Typefaces, Trademarks and accompanying documentation are proprietary to Electronics For Imaging and its suppliers and that title and other intellectual property rights therein remain with Electronics For Imaging and its suppliers. Except as stated above, this Agreement does not grant you any right to patents, copyrights, trade secrets, trademarks (whether registered or unregistered), or any other rights, franchises or licenses in respect of the Software, Coded Font Programs, Typefaces, Trademarks or accompanying documentation. You may not adapt or use any trademark or trade name which is likely to be similar to or confusing with that of Electronics For Imaging or any of its suppliers or take any other action which impairs or reduces the trademark rights of Electronics For Imaging or its suppliers. The trademarks may only be used to identify printed output produced by the Coded Font Programs. At the reasonable request of Electronics For Imaging, you must supply samples of any Typeface identified with a trademark.

Confidentiality

You agree to hold the Software and Coded Font Programs in confidence, disclosing the Software and Coded Font Programs only to authorized users having a need to use the Software and Coded Font Programs as permitted by this Agreement and to take all reasonable precautions to prevent disclosure to other parties.

Remedies

Unauthorized use, copying or disclosure of the Software, Coded Font Programs, Typefaces, Trademarks or accompanying documentation will result in automatic termination of this license and will make available to Electronics For Imaging other legal remedies.

Limited Warranty And Disclaimer

Electronics For Imaging warrants that, for a period of ninety (90) days from the date of delivery to you, the Software under normal use will perform without significant errors that make it unusable. Electronics For Imaging's entire liability and your exclusive remedy under this warranty (which is subject to you returning Fiery 500 to Electronics For Imaging or an authorized dealer) will be, at Electronics For Imaging's option, to use reasonable commercial efforts to attempt to correct or work around errors, to replace the Software with functionally equivalent software, or to refund the purchase price and terminate this Agreement. Some states do not allow limitations on duration of implied warranty, so the above limitation may not apply to you.

Except for the above express limited warranty, Electronics For Imaging makes and you receive no warranties or conditions on the Products, express, implied, or statutory, and Electronics For Imaging specifically disclaims any implied warranty or condition of merchantability or fitness for a particular purpose.

For warranty service, please contact your authorized service/support center.

EXCEPT FOR THE ABOVE EXPRESS LIMITED WARRANTY, ELECTRONICS FOR IMAGING MAKES AND YOU RECEIVE NO WARRANTIES OR CONDITIONS ON THE SOFTWARE OR CODED FONT PROGRAMS, EXPRESS, IMPLIED, STATUTORY, OR IN ANY OTHER PROVISION OF THIS AGREEMENT OR COMMUNICATION WITH YOU, AND ELECTRONICS FOR IMAGING SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Electronics For Imaging does not warrant that the operation of the software will be uninterrupted or error free or that the Software will meet your specific requirements.

Limitation Of Liability

IN NO EVENT WILL ELECTRONICS FOR IMAGING OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES, INCLUDING LOSS OF DATA, LOST PROFITS, COST OF COVER OR OTHER SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES ARISING FROM THE USE OF THE SOFTWARE, CODED FONT PROGRAMS OR ACCOMPANYING DOCUMENTATION, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF ELECTRONICS FOR IMAGING OR ANY AUTHORIZED DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. YOU ACKNOWLEDGE THAT THE PRICE OF THE UNIT REFLECTS THIS ALLOCATION OF RISK. BECAUSE SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Export Controls

You agree that you will not export or re-export the Software or Coded Font Programs in any form without the appropriate United States and foreign government licenses. Your failure to comply with this provision is a material breach of this Agreement.

Government Use

Use, duplication or disclosure of the Software by the United States Government is subject to restrictions as set forth in subdivision (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or in subparagraphs (c) (1) and (2) of the Commercial Computer Software—Restricted Right Clause at 48 CFR 52.227-19, as applicable.

Third Party Beneficiary

You are hereby notified that Adobe Systems Incorporated, a California corporation located at 345 Park Avenue, San Jose, CA 95110-2704 (“Adobe”) is a third-party beneficiary to this Agreement to the extent that this Agreement contains provisions which relate to your use of the Fonts, the Coded Font Programs, the Typefaces and the Trademarks licensed hereby. Such provisions are made expressly for the benefit of Adobe and are enforceable by Adobe in addition to Electronics For Imaging.

Contents

Chapter 2: Printing from Macintosh Computers

Chapter 3: PostScript Printing from PC-Compatible Computers

Chapter 4: PCL Printing from PC-Compatible Computers

Chapter 5: Application Notes

Chapter 6: Managing Print Jobs

Appendix A: Fonts and Font Utilities

Index

Preface

Welcome to the *User's Guide* for the Fiery 500. This manual gives an overview of desktop color concepts and issues and describes how to maintain and calibrate the printer. It explains how to configure and print from various platforms—PostScript printing from the Macintosh and PostScript and PCL printing from Windows 95/98 and Windows NT 4.0.

The audience for this manual is anyone who needs to maintain color consistency and print to the printer at your site.

The following major topics are included:

- Color printing
- Printing from Macintosh and PC-compatible computers
- Printing from popular applications
- Using Fiery WebTools to manage print jobs
- Fonts and additional font utilities

Related documentation

This guide is part of a set of printed documentation for the printer that also includes the following:

- *Quick Installation Guide* describes the procedures for installing your printer.
- *Printer Reference* describes the necessary information on using your printer and its optional equipment.
- *Getting Started* provides step-by-step instructions on how to set up your Fiery 500 and how to install user software onto client workstations.
- *User's Guide* provides an introduction to desktop color printing, how to print from various computers and workstations, what you need to know about using the printer in a networked environment, and how to use the software provided.
- Printed *Release Notes* describe last-minute product information and workarounds for some of the problems you may encounter.

Conventions

Indicates functionality for which a hard disk drive is required.

Chapter 1: Working with Color

This chapter introduces concepts that are basic to color theory. You will encounter some of these concepts (such as hue, saturation, and brightness) when you work with color in applications; others provide useful background information. *Color is a complex topic, so consider this a starting point for experimentation and further research.*

The properties of color

What we call "color" is really a perceptual ability unique to humans and a small number of animal species. Color theory is an attempt to systematize the properties of color perception, which by nature is relative and changeable. A color appears different depending on the other colors around it, and individuals vary in their abilities to perceive color.

The physics of color

The human eye can see electromagnetic radiation at wavelengths between 400 nanometers (purplish blue) and 700 nanometers (red). This range is called the visible spectrum of light. We see pure **spectral light** as intensely saturated or pure colors. Sunlight at midday, which we perceive as white or neutral light, is composed of light from across the visible spectrum in more or less equal proportions. Shining sunlight through a prism separates it into its spectral components, resulting in the familiar rainbow of colors.

Like the sun, most light sources we encounter in our daily environment emit a mixture of many light wavelengths, although the particular distribution of wavelengths can vary considerably. Light from a tungsten light bulb, for example, contains much less blue light than sunlight. Tungsten light appears white to the human eye which, up to a point, can adjust to the different light sources. However, color objects appear different under tungsten light than they do under sunlight because of the different spectral makeup of the two light sources.

The mixture of light wavelengths emitted by a light source is reflected selectively by different objects. Different mixtures of reflected light appear as different colors. Some of these mixtures appear as relatively saturated colors, but most appear to us as grays or impure hues of a color.

CIE color model

In the 1930s, the Commission Internationale de l'Eclairage (CIE) defined a standard **color space**, a way of defining colors in mathematical terms, to help in the communication of color information. This color space is based on research on the nature of color perception.

By mixing any two spectral colors in different proportions, we can create all the colors found between them. For example, it is possible to create the same gray by mixing blue-green and red light or by mixing yellow-green and blue-violet light. This is possible because of a phenomenon peculiar to color vision called **metamerism**. The eye does not distinguish individual wavelengths of light. Therefore, different combinations of spectral light can produce the same perceived color.

Hue, saturation, and brightness

A color can be described in terms of three varying characteristics:

- Hue, or tint (the qualitative aspect of a color—red, green, or orange)
- Saturation, or the purity of the color
- Brightness, or relative position between white and black.

Many computer applications include dialog boxes in which you choose colors by manipulating hue, saturation, and brightness. For example, Photoshop uses a square Color Picker which can be reconfigured according to your preference.

Additive and subtractive color systems

Color devices used in desktop publishing and printing *simulate* the range of visible colors using a set of primary colors that are combined to create other colors. There are two methods of creating a range of colors from a set of primary colors. Computer monitors and scanners use the **additive color model**. Printing technologies, including Fiery 500 print devices and offset presses, use the **subtractive color model**.

Additive (RGB) color

Color devices that use the additive color model make a range of colors by combining varying amounts of red, green, and blue light. These colors are called the **additive primaries**. White is created by adding the maximum amount of red, green, and blue light available. Black occurs wherever all three colors are absent. Grays are created by adding varying amounts of all three colors together. Combining varying amounts of any two of the additive primaries creates a third, saturated hue.

A familiar device that uses this color model is the computer monitor. Monitors have red, green, and blue **phosphors** that emit varying amounts of light to display a given color. Scanners create digital representations of colors by measuring their red, green, and blue components through colored filters.

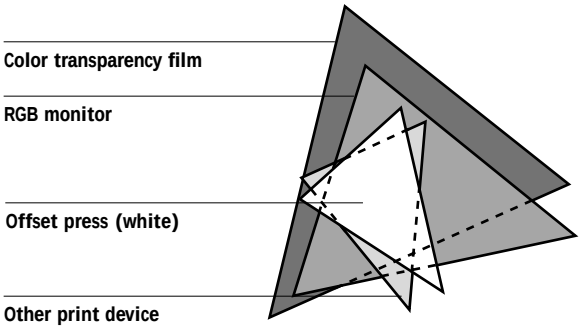
Subtractive (CMY and CMYK) color

The subtractive color model is used in color printing, and in color photographic prints and transparencies. While the additive color model simulates the visible spectrum of color by adding light of three primary hues, the subtractive color model uses a "white" or neutral light source containing light of many wavelengths. Inks, toners, or other **colorants** are used to selectively absorb (subtract) certain wavelengths of light that otherwise would be reflected or transmitted by the media in question.

The **subtractive primaries** are cyan, magenta, and yellow; they absorb red, green, and blue light, respectively. Combining any two subtractive primaries creates a new color that is relatively pure or saturated. For example, you can make red by combining magenta and yellow, which absorb green and blue light, respectively. White occurs when no colorant is applied. Combining all three subtractive primaries in theory yields black, but due to deficiencies of cyan, magenta, and yellow colorants, combining these three primaries actually yields a muddy brown. Black colorant is added to compensate for the deficiencies of cyan, magenta, and yellow colorants, and consequently color printing uses four **process colors**: **C**yan, **M**agenta, **Y**ellow, and blac**K** (CMYK). The use of black ink helps in producing rich solid blacks and also allows for improved rendition of black text.

Print device gamut

Different color reproduction techniques have different color capabilities, or gamuts. Color transparency films have comparatively large gamuts, as do color monitors. The color gamut that can be produced using CMYK toners on paper is smaller. This is why some colors that can be displayed on a color monitor, especially bright saturated colors, cannot be reproduced exactly by your Fiery 500 print device—nor, for that matter, can they be reproduced on press using process colors. Moreover, different print devices have different gamuts—some colors that your print device can produce cannot be reproduced on an offset press, and vice versa. The following illustration provides a graphical representation of this concept.



You need to account for the gamut of your print device when designing on a color monitor. When printed, colors that fall outside the print device's gamut are "mapped" to printable colors. This process, referred to as **gamut mapping**, takes place when color data is converted or adjusted to meet the color space and gamut requirements of a print device.

The Fiery 500 is specially designed to perform gamut mapping at high speed with high quality results. It provides these color management features automatically, using either built-in default settings or settings that you specify for a particular print job. For added flexibility, the Fiery 500 color management system can also be used in combination with color management systems on Macintosh and Windows computers See "Rendering styles" on page 1-18.

Controlling printed color

When working with color materials, whether they be presentations, illustrations, or complicated page designs, you make aesthetic decisions about the colors you use. Once you have decided on your goal, you then need to realize it in print. Your color printing system becomes an ally in this creative process to the extent that you can get results that are *predictable*.

- If you have designed a brochure to print on the Fiery 500, you want the printed colors to match the design specification.
- If you are printing presentations on the Fiery 500, you want to preserve the vivid colors in the monitor display.
- If you are working with color that will print on press, you want the Fiery 500 output to match prepress proofs.

The type of print job and the final print device either the Fiery 500 printer or an offset press, determine the methodology you use to achieve optimal results.

No matter what your goals are, two hardware factors always impact color print output: print device consistency and the range of colors the print device can print, known as its **gamut**. These factors are covered briefly in this chapter. Creating successful color documents and presentations also requires an understanding of color management software as it is implemented by the Fiery 500 and on your desktop computer. Most of this chapter is devoted to discussing the various elements of color management that contribute to predictable color results.

Maintaining print device consistency

The factors described below affect print device consistency, as well as color fidelity and overall output quality.

Paper stock and toner

The paper and toner used by the print device can greatly affect printed color. For best results, use the consumables recommended by the manufacturer of your printer.

Maintenance

Problems such as streaking and insufficient or excessive amounts of one or more toners arise when a print device does not receive periodic maintenance. In addition to having it serviced regularly, monitor the color production of your printer by making standard test prints at regular intervals. You can do this easily by printing the Fiery 500 Test Page from the operation panel. Save the prints and show them to your system or site administrator if recalibration becomes necessary.

Calibrating the printer

VisualCal calibration

VisualCal is a calibration method that allows you to recalibrate your printer to an ideal color output standard defined by the printer's manufacturer. The calibration calculations performed by the controller software are based on a series of values entered on the operation panel. The values used in the calculations are determined by evaluating toner densities and color combinations produced on two specially designed calibration pages printed from the operation panel.

For information on how to use the operation panel, see *Getting Started*.

Limits and 30% Match

The first VisualCal page, "Limits and 30% Match," provides the basis for calculating the most acceptable luminosity (brightness) of the toners. This page consists of rows of CMYK dots in a graduated range of toner densities.

The variables needed to recalculate the *density* of the colored toners are determined by identifying the leftmost dots that can be fully distinguished against their fields in each row, and sequentially entering their corresponding numeric values on the operation panel. The variable needed to recalculate the *luminosity* of the toners is determined in a slightly different way—you identify the black dot which best matches a 30% dot gain field. When all values have been entered, the printer's toner density and luminosity settings are recalculated.

Gray Balance

The second VisualCal page, "Gray Balance," provides the basis for calculating a "neutral gray balance," that is, a CMY gray that as closely as possible matches a pure K (BlacK) gray produced by the printer's engine. This page consists of rows of CMY gray patches on a field of gray produced solely from black.The variables needed to calculate the printer's most neutral gray balance are determined by identifying the CMY patch that best matches this field, and entering its row and column location on the operation panel. When the values have been entered, the printer's gray balance is recalculated.

TO PERFORM VISUALCAL CALIBRATION:

1. **From the READY screen, press the Menu key and then the up arrow key to advance to the VISUALCAL screen.**

   NOTE: If the printer is in ENERGY SAVE MODE, you must wait for the printer to warm up before you can perform calibration.

2. **Press Enter to advance to the PRINT LIMITS screen. To print the Limits and 30% Match page, use the up and down arrow keys to select YES. Press Enter to print the page.**

   To reset the printer's toner density and luminosity settings, follow the instructions provided on the Limits and 30% Match page.When you have finished entering all values, the PRINT GRAYS screen appears.

   NOTE: Zero (0) and 9 are unacceptable values for color calibration. If you select 0 for any of the colors, the resulting calibration will be inaccurate. If the entered value for any color is 9, the Limits and 30% Match page is reprinted automatically. Re-enter values for all color rows starting with Black Start.

3. **To print the Gray Balance page, use the up and down arrow keys to select YES. Press Enter to print the page.**

   To reset the printer's gray balance, follow the instructions provided on the Gray Balance page. When you have finished entering all values, the PRINT COLOR TEST screen appears.

   NOTE: If the Gray Balance page is printed after the Limits calculations have been made, the gray field on which the CMY patches appear on the Limits page will use the new density and luminosity calibration settings.

4. **To print a Color test that uses the original values (CURRENT COLOR TEST PAGE) and a Color test that uses the new values (NEW COLOR TEST PAGE), use up and down arrows to select YES, and press Enter to print the pages.**

   The Color Test pages are in the same format as the Test page which you can print from the PRINT PAGES FROM LIST menu.

   Before applying the calibration changes compare the Color test that uses the original calibration values against the Color test that uses the new values.

5. **If you are satisfied with the printer's calibration based on the new values, select YES from the APPLY CHANGES screen that appears, and press Enter to recalibrate the printer based on the previously entered values.**

Adjusting VisualCal values

Consider the following suggestions for adjusting VisualCal for your specific preferences:

- If your print seem to be color balanced but too dark, enter a lower value for the 30% Match entry on the Limits and 30% Match page, last row.
- If your print seems too light, enter a higher value.
- If light areas on your prints have a color cast, enter a lower value in the Start row for that toner.
- If dark areas on your prints have a color cast, enter a higher value in the End row for that toner.

Color adjustment

The printer's color adjustment feature provides additional creative control over printer's color production. The color adjustment screens, accessible via the operation panel, allow you to override the printer's current toner density and brightness settings.

Using the color adjustment controls, you can also increase or decrease the brightness of an image, or you can increase or decrease the density of each the following colors: red, yellow, green, cyan, blue or magenta. For example, you may choose to emphasize the bright, blue sky in an image by increasing the density of the blue and the cyan in the image, and increasing the brightness setting.

TO PERFORM COLOR ADJUSTMENT:

1. **From the READY screen, press the Menu key and then the up arrow key to advance to the COLOR ADJUSTMENT screen. Press Enter.**

   NOTE: If the printer is in ENERGY SAVE MODE, you must wait for the printer to warm up before you can perform color adjustment.

2. **Use the up and down arrow keys to specify an increase or decrease in the overall brightness of printed documents. Press Enter.**

   Negative values are darker, positive values are lighter.

3. **Use the up and down arrow keys to select a color to be adjusted, and press Enter.**

4. **Use the up and down arrow keys to increase or decrease the density of the selected color. Press Enter.**

   Negative values are lighter, positive values are darker.

5. **To print a Color test that uses the original values (CURRENT COLOR TEST PAGE) and a Color test that uses the new values (NEW COLOR TEST PAGE), use up and down arrows to select YES. Press Enter to print the pages.**

   The Color Test pages are in the same format as the Test page which you can print from the PRINT PAGES FROM LIST menu.

6. **To apply the new color and brightness values, use the up and down arrow keys to select YES.**

   NOTE: Changes made using Color Adjustment are retained until the printer is recalibrated. You can reset the adjusted colors to the last calibration made using the RESET ALL TO 0 option in the Adjust Color screen; recalibrate the printer using VisualCal, or reset the printer's color production to factory defaults using the operation panel's RESETS>RESET COLOR option.

Using color effectively

The ability to print in color can greatly increase the effectiveness of your message, whether you are printing a presentation or a newsletter, or proofing an ad concept that will later be printed on press. Some potential benefits of using color include:

- Conveying information rapidly by using color cues
- Making use of the emotive aspects of different colors
- Increasing impact and message retention

Color can also be a source of distraction and discord if it is used poorly. This section outlines some tips and concepts that will prove useful as you approach designing color materials.

A few rules of thumb

Try some of the following strategies for creating successful color materials:

- Rather than applying colors indiscriminately, use color to aid comprehension. In presentations, graphs, and charts, use color to highlight patterns and emphasize differences.
- In general, fewer colors work better than many colors.
- Use red as an accent color. Red is particularly effective when used in otherwise monochromatic materials.
- Consider the tastes of your target audience when choosing colors.
- Keep a file of printed color pieces that appeal to you or strike you as effective. Refer to it for ideas when designing your own documents.

Color wheel

A color wheel is a helpful tool for understanding the interrelation of colors. The colors on one side of the color wheel, from magenta to yellow, appear to most people to be warm colors, while those on the other side, from green to blue, appear to be cool. The distance between two colors on the color wheel can help predict how they will appear when seen side by side. Colors opposite one another on the wheel are called complements, and create a striking contrast side by side. This can be the basis for a bold graphical design, but it is an effect you should use with discretion since it can be visually fatiguing. Other bold combinations to consider are split complements (a color and the two colors adjacent to its complement) and triads (three colors evenly spaced on the color wheel). Colors adjacent to one another on the color wheel result in subtle harmonies.

The color wheel simplifies color relationships for the purpose of clarity, showing only saturated or pure colors. Adding the myriad variations of each hue to the palette (more or less saturated, darker or lighter) creates a wealth of possibilities. Taking a pair of complements from the color wheel and varying the saturation and brightness of one or both colors produces a very different result from the pure complements. Combining a light tint of a warm color with a darker shade of its cooler complement often gives pleasing results. Combining a darker shade of a warm color with a light tint of its cooler complement produces an unusual effect you may like.

Once you have mastered the concept of the color wheel, you have a good framework for experimenting with color combinations. Many books targeted at graphic designers show groups of preselected color combinations. Some are organized by themes or moods, and some are based on a custom color system such as PANTONE. The more you develop a critical facility for judging color combinations, the more you will be able to trust your own eye for color.

Color and text

It is not a coincidence that the overwhelming majority of text you see is printed in black toner on white paper. Text in black on white is highly legible and is not fatiguing to read for extended periods. For many color materials, using black text on a white background and confining color to graphic elements and headings is a good choice.

Color text can add flair to documents printed on paper when used skillfully, and is widely used in presentations. When using color text, avoid dazzling text and background combinations created from primary complements, especially red and cyan or red and blue; they are visually fatiguing and hard to read. Color text is more legible when distinguished from its background by a difference in lightness—for example, dark blue text on a light beige background. In addition, using many different colors in a string of text makes for a confused appearance and is hard to read. However, using a single highlight color is an effective way to draw the reader's eye to selected words.

When using color text, keep in mind that small font sizes typically do not print in color with the same sharpness as in black. In most applications, black text prints exclusively in black toner while color text usually prints with two or more toners. Any misregistration between the different toners on paper causes color text to lose definition. You can make test prints to find the smallest point size at which color text prints clearly. When using high-end graphics applications that allow you to specify color as percentages of cyan, magenta, yellow, and black, you can create pure cyan or pure magenta text that prints with the same sharpness as black text. (Pure yellow text is extremely hard to read on anything but a dark or complementary background.)

Raster images and vector images

Two broad categories of artwork can be printed from a personal computer to a color printer: raster and vector images.

A **raster image**, also referred to as a bitmap, is composed of a grid of **pixels**, each assigned a particular color value. The grid, when sufficiently enlarged, resembles a mosaic made from square tiles. Examples of raster images include scans and images created in painting or pixel-editing applications, such as Photoshop and Painter.

The amount of information found in a raster depends on its **resolution** and **bit depth**. The resolution of a raster describes the density of the pixels and is specified in pixels per inch (ppi). The bit depth is the number of bits of information assigned to each pixel. Black and white rasters require only one bit of information

per pixel. For photographic quality color, 24 bits of RGB color information are required per pixel, yielding 256 separate levels of red, green, and blue. For CMYK images, 32 bits per pixel are required.

When printing raster artwork, the quality of the output depends on the resolution of the raster. If the raster's resolution is too low, individual pixels become visible in the printed output as small squares. This effect is sometimes called "pixelation."

In **vector images**, picture elements are defined mathematically as lines or curves between points—hence the term "vector." Picture elements can have solid, **gradient**, or patterned color fills. Vector artwork is created in illustration and drawing applications such as Illustrator and CorelDRAW. Page layout applications such as QuarkXPress also allow you to create simple vector artwork with their drawing tools. PostScript fonts are vector-based as well.

Vector artwork is resolution-independent; it can be scaled to any size without danger of pixels becoming visible in printed output.

Optimizing files for processing and printing

The following sections provide tips on how to create image files that produce the highest possible print quality while minimizing the processing time and disk space they require.

Resolution of raster images

While a 72 ppi raster image appears sharp on a monitor, the same image would likely appear pixelated when printed to the Fiery 500. Color print devices are capable of much greater detail than monitors, and require correspondingly higher resolution image files. However, high-resolution files can be large, and therefore cumbersome to transmit over a network, process for printing, store on disk, and edit.

Beyond a certain threshold, a higher image resolution greatly increases file size while having a minimal effect on output quality. The optimal image resolution depends on the resolution of the final print device. Aim for the resolution that optimizes both file size and output quality.

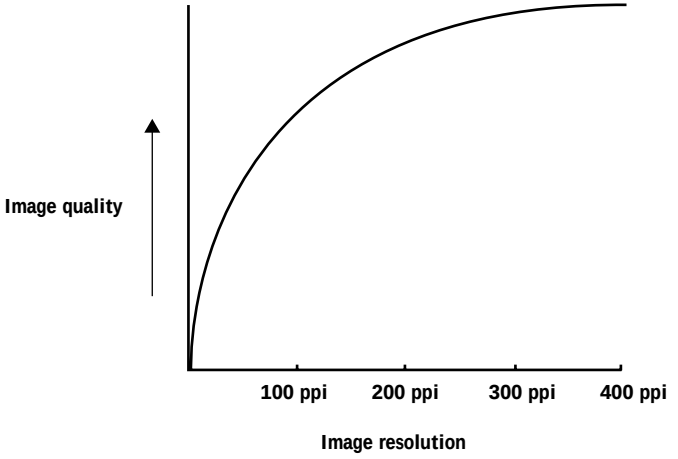
The resolution of a raster, along with its bit depth and physical dimensions, determine its file size. The following table shows the file sizes of color raster images at different dimensions and resolutions.

Image size	File size at:			
	100 ppi	150 ppi	200 ppi	400 ppi
	RGB/CMYK	RGB/CMYK	RGB/CMYK	RGB/CMYK
3" x 4"	0.4/0.5 MB	0.8/1.0 MB	1.4/1.8 MB	5.5/7.3 MB
5" x 7"	1.0/1.3 MB	2.3/3.0 MB	4.0/5.3 MB	16.0/21.4 MB
8.5" x 11"	2.7/3.6 MB	6.0/8.0 MB	10.7/14.3 MB	42.8/57.1 MB

In this table, the shaded areas indicate that 200 ppi is typically the best trade-off between image quality and file size. However, higher resolutions (e.g., 250 to 300 ppi) may be needed for offset printing, when quality is of the utmost importance, or for images containing sharp diagonal lines.

To find the best image resolution for your purposes, make test prints of some raster artwork at different resolutions. Start with a high-resolution image (400 ppi) and save versions at progressively lower resolutions, down to 100 ppi, using a pixel-editing application such as Photoshop. Always save a copy of the original high-resolution version in case you need to revert to it. The high-resolution data cannot be recreated from a lower resolution version.

Print the files and examine the output. You will likely begin to see a marked deterioration in output quality at resolutions below 200 ppi, while above 200 ppi the improvement may be very subtle.



Raster images prepared for offset printing may need to be at higher resolutions than needed for proofing on your Fiery 500.

Scaling

Ideally, each raster image should be saved at the *actual* size it will be placed into the document and at the *optimal resolution* for the print device. If the image resolution is correct for the print device, there is no quality advantage to be gained by scaling an image down to a percentage of its actual size. If you scale a large image down to a percentage of its actual size, you incur unnecessary file transfer time because the image data for the entire large image is sent to the printer. If an image is placed multiple times at a markedly different sizes in a document, save a separate version of the image at the correct size for each placement.

If you need to place an image at greater than 100% in a document, remember that the output image resolution is affected. For example, if you scale a 200 ppi image to 200%, the image is printed at 100 ppi.

Color management on the Fiery 500

The Fiery 500 uses a simple and flexible color architecture that produces excellent color results with default settings. It also allows you to customize your color results using various color controls.

Settings for the following Fiery 500 options can be specified using print dialog box options when you send a job. Some can also be set as defaults during Fiery 500 Setup on the operation panel. Settings specified in the print dialog box override equivalent settings in the printer setup on the operation panel.

Color print option:	What it does:
RGB Source EFIRGB/sRGB (PC)/ Apple Standard/Off (Default value is sRGB)	Applies an RGB source space definition to RGB data (see page 1-17). **NOTE:** RGB Source is available only with the PostScript printer driver.
Color Rendering Dictionary Photographic/Presentation/ Transparency (OHP)	Applies a Fiery 500 color rendering dictionary (CRD) to objects (text, photographs and illustrations) in a RGB data file (see page 1-18).
Brightness 85% to 115% (Default value is 100%)	Performs a color adjustment on all color channels to make the printed output lighter or darker.
CMYK Simulation SWOP-Coated/DIC/Euroscale/ None (Default value is None)	Adjusts CMYK color data to simulate an offset press standard or a custom color gamut defined at your site. Choosing None bypasses simulation. **NOTE:** CMYK Simulation is available only with the PostScript printer driver.

Explanations of how these settings affect your print jobs are provided in the following sections.

RGB Source and Rendering Style

The RGB Source option is used to provide a source color space definition for RGB data in your document. The setting you specify for this option overrides any source color space profiles you may have specified using other color management systems. For example, if you specified a ColorSync System Profile on the Macintosh computer, the RGB Source setting specified in the Print dialog box overrides it. In cases where you don't want this setting to override another specified source color space, choose Off.

RGB Source:	Description:
EFIRGB	The source color space defined by this setting is optimal for color conversions that will be sent to a Fiery 500 print device. It also allows for consistent output across different operating systems.
sRGB (PC)	The sRGB (PC) setting specifies the source space of a generic Windows computer monitor.
Apple Standard	The Apple Standard setting specifies the source space of all standard Macintosh computer monitors.

PostScript RGB data is converted to CMYK data using the CRD specified by the Rendering Style option (see page 1-18). This type of RGB data contains its own source color space information which is used as a reference point for the conversion.

NonPostScript RGB data does not contain source color space information and so cannot be converted using a CRD. NonPostScript RGB data is converted using a general under-color-removal conversion method.

Rendering styles

The Color CRD options are used to specify a CRD for color conversions. The following table describes the color rendering styles (CRDs) for Fiery 500 software and provides guidelines on when to use each one. Each color rendering style uses a different gamut mapping method, such as Photographic or Presentation, designed for a particular kind of color usage.

Rendering style:	Best used for:
Photographic—Preserves tonal relationships in images rather than exact colors. This rendering style maps out-of-gamut RGB colors to printable colors in a way that retains differences in lightness. Color accuracy is sacrificed slightly in favor of presenting color relationships in the way the human eye perceives them. Photographic rendering typically gives less saturated output when printing out-of-gamut RGB colors than Presentation Color rendering does.	Continuous tone photographs, including scans and images from stock photography CDs
Presentation—Creates bright saturated colors. This rendering style does not try to match printed colors precisely to displayed colors but instead provides vibrant, dense colors. Photographic images, however, are treated the same way as by the Photographic rendering style.	Artwork and graphs in presentations and continuous tone photographs
Transparency (OHP)—Improves the correspondence between monitor colors and printed color on transparency paper.	Artwork and graphs printed on transparency paper

NOTE: The rendering styles in the table cannot be used when specifying a target device profile with a color management system such as ColorSync or ICM.

CMYK Simulation

If you are using the Fiery 500 to print proofs for an offset press job or to simulate another print device, choose the appropriate CMYK Simulation setting. The CMYK Simulation setting specifies the offset press standard or other color gamut that you want to simulate.

The CMYK Simulation setting you should specify depends on the press standard for which the CMYK data was separated. For example, for images that were separated for SWOP-Coated paper, choose SWOP-Coated as the CMYK Simulation setting. Select SWOP-Coated to simulate printing to a standard American offset press; Euroscale to simulate a European offset press, or DIC to simulate a standard Japanese offset press. For images that were separated using a custom separation (such as a device-specific separation or a separation produced with an ICC-profile), choose None as the CMYK Simulation setting.

Chapter 2: Printing from Macintosh Computers

This chapter describes installing software and setting up printing from a Macintosh computer.

Serial port printing from Macintosh computers is not supported by the Fiery 500. For instructions on how to connect your printer to a network, see *Getting Started*.

General steps for installing Macintosh software

The general steps for installing the Fiery 500 software from the CD and setting up printing from a Macintosh computer are:

- Enable Ethernet and AppleTalk from the printer's operation panel.
- Enable AppleTalk in the Chooser on the Macintosh.
- Install the Adobe PostScript Printer Driver.
- Set up the Fiery 500 in the Chooser.
- Copy additional color reference files, sample files and font files from the User Software CD as needed.

See *Getting Started* for details on installing Macintosh software.

Printing from a Macintosh application

On the Macintosh, custom print options are specified in the Page Setup and Print dialog boxes.

TO PRINT FROM A MACINTOSH APPLICATION:

1. **Make sure that any printer description files needed by the application are installed on your Macintosh.**

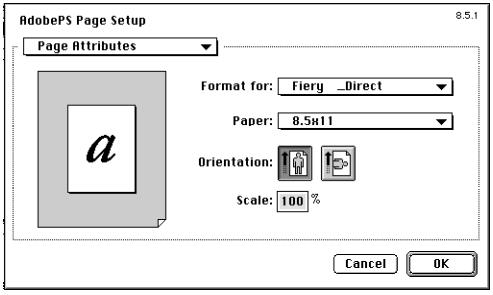
   See *Getting Started* for instructions.

2. **Open the file you want to print from within the application.**

3. **Choose Page Setup from your application's File menu.**

4. **Select the Fiery 500 from the Format for: pop-up menu.**

5. **Select the print options you want from the dialog box.**

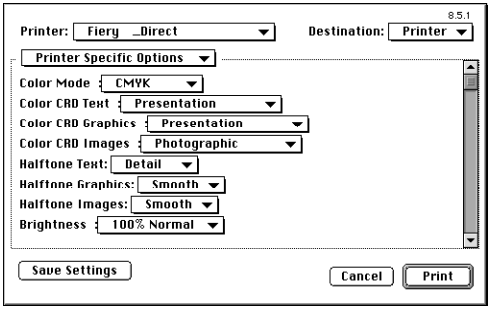


PostScript and Page attribute options can be specified from this dialog box.

6. **Choose Print from the application's File menu.**

Choose the number of copies you would like to print, the range of pages to print, and the paper source (tray) to print from.

7. **Choose additional Printer Specific Options from the Print dialog's pop-up menus.**



Each printer specific print option is described in the following section.

Options selected from the Print dialog override any duplicate settings specified in the Printer Setup on the printer.

Macintosh print options

The PostScript drivers that come with your printer have been customized to provide additional print options specific to your Fiery 500 printer. These options have been transparently integrated into the PostScript driver interface.

Fiery 500 PostScript print options are described in the following table.

Printer Specific Option:	Description:
Brightness 85% to 115% (Default value is 100%)	Adjust the color production on all color channels to make the printed output lighter or darker.
Check and Print (Default is No)	This option is only available if your printer has an optional hard disk drive installed. Check and Print allows you to print a single copy of a multiple copy job that can be visually checked before printing additional copies. When the Check and Print copy has been printed, you can specify the number of additional copies of the job to print using the Check and Print screens at the printer's operation panel. You can also use the Fiery WebSpooler to print remaining copies of spooled check and print jobs. This option is effective when the number of copies specified is greater than one.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** For Check and Print to take effect, the copy count must be greater than 1 and the Collate option for the application print dialog box should be turned Off.
CMYK Simulation SWOP-Coated/DIC/ Euroscale/None (Default value is None)	CMYK simulation settings can be used to simulate popular offset printing press standards. Select SWOP to simulate printing to a standard American offset press; Euroscale to simulate a European offset press, or DIC to simulate a standard Japanese offset press. For more information see "CMYK Simulation" on page 1-19

Printer Specific Option:	Description:
Color CRD Text Color CRD Graphics Color CRD Images None/Photographic/ Presentation/ Transparency (OHP) Default values: Text: Presentation Graphics: Presentation Images: Photographic	Before an RGB image can be printed, the file's color data must be converted to the printer's CMYK color space. Color rendering dictionaries apply optimal gamut mapping methods to documents that contain text, photographs and illustrations. The Photographic CRD optimizes the range of colors on the printer to produce the best results for photographic or bitmapped images. The Presentation CRD optimizes the output of pure, saturated colors such as those used in business presentations. The Transparency (OHP) CRD improves the correspondence between monitor colors and printed color on transparency paper. For additional information regarding Color Rendering Dictionaries, see "Rendering styles" on page 1-18. **NOTE:** Color rendering dictionaries cannot be used with CMYK files.
Color Mode CMYK/Grayscale (Default value is CMYK)	By default your printer is set to print documents in color (CMYK). Select Grayscale to optionally print documents in grayscale.
Color Matching ColorSync Color Matching PostScript Color Matching Black and White Color/Grayscale	The Adobe PostScript 8.5.1 driver can convert RGB colors of a file to a specified CMYK device target using ICC technology. Choose this option to specify the use of an ICC device profile installed on your computer. For more information on rending styles, see "Color management on the Fiery 500" on page 1-16. For information on how to install and use the Fiery 500 ICC printer profile, see *Getting Started*.
Electronic Collation (Default value is No)	This option is only available if your printer has an optional hard disk drive installed. Electronic Collation allows the pages of each copy of a print job to be printed in sequence. If this option is off, multiple copies of each page of a print job are printed in sequence. To avoid unexpected results, always select collation in the print driver and turn off any collation option that may exist in your application.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** The Collate option in the application print dialog box must be turned Off when selecting the Electronic Collation option from the printer driver.
Halftone Text Halftone Graphics Halftone Images (Default is Detail for Text and Smooth for Graphics and Images)	This option determines which type of halftone screening is used for various elements in your print job. Use the Detail setting for printing of fine lines and details that are sometimes fuzzy or unclear. Use the Smooth setting for gradients or tones which blend together. **NOTE:** When printing graphics with thin or fine lines, such as CAD data, you should select the Detail setting for Halftone Graphics.

Printer Specific Option:	Description:
Media Type (Default value is Plain Paper)	Paper types supported by the printer can be specified by name: Plain Paper, Transparency, and Thick Paper. Choosing the correct media optimizes the fuser's application of toner.
Paper	Paper and envelope sizes supported by the printer can be specified by name. Paper options are located in the Page Setup dialog box.
Paper Source (Default value is Auto Select)	Paper trays can be specified by name. Options include: Auto Select, Bypass Tray, Tray 1, Tray 2 and Tray 3. You can select Tray 2 or Tray 3 only if they are installed on your printer. Paper source options are located under the General menu of the Print dialog box.
RGB Source EFIRGB/sRGB (PC)/ Apple Standard/Off (Default value is sRGB)	RGB source profiles allow you to define the color space characteristics (such as the white point, gamma and type of phosphors) of the image's source. When a source is specified, the image's RGB data can be optimally converted to the color space and gamut of the Fiery 500 printer. The EFIRGB setting is optimal for color conversions that will be sent to the Fiery 500 printer. The sRGB (PC) setting specifies the source space of a generic Windows computer monitor. The Apple Standard setting specifies the source space of all standard Macintosh monitors. **NOTE:** The RGB source setting overrides any source color space profile you may have specified using other color management systems. In cases where you don't want this setting to override another specified source color space, choose Off. For additional information regarding source profiles, see "RGB Source and Rendering Style" on page 1-17.

Chapter 3: PostScript Printing from PC-Compatible Computers

The following chapter describes where to set print options available using the PostScript printer driver if you are running Windows 95/98 or Windows NT 4.0 operating systems.

PostScript printing

Custom print options available from the PostScript printer driver are described in "Windows print options" on page 3-8. For additional information on using Fiery 500 color management options, see Chapter 1.

For information on installing the appropriate driver for your system and setting up the environment for parallel printing with the Fiery 500, see *Getting Started*. This manual also describes how to connect to the printer over the network, how to set up networking for all supported network types, and how to install additional Fiery 500 user software.

For information about achieving the best printing results from specific applications, see Chapter 5, "Application Notes."

Configuring PostScript printing options with Windows 95/98

This section describes configuring printing options for Windows 95/98 using the Adobe PostScript printer driver provided on the User Software CD.

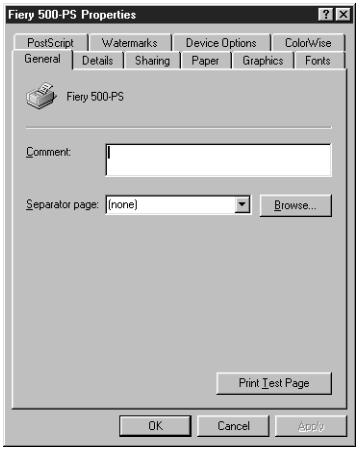
Print options are specified from the Printer properties dialog box. This dialog box can be accessed using the steps described below, or by selecting File>Print from within your application and clicking the Properties button to display the Printer Properties dialog box.

TO CONFIGURE POSTSCRIPT PRINTING OPTIONS:

1. **From the Windows Start menu, choose Settings>Printers.**
2. **Click the Fiery 500-PS icon to select it and choose Properties from the File menu.**

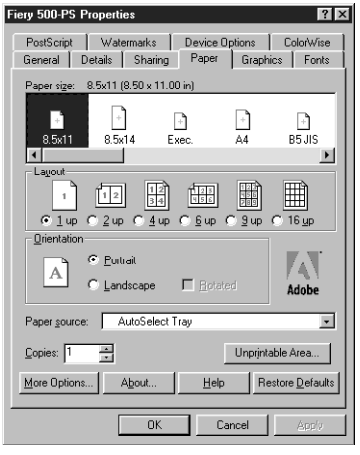
   The Printer Properties dialog box appears, with the General tab displayed.

   Set PostScript printing options from tabs in this dialog box.



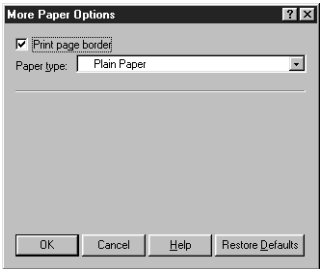
3. **Choose the Paper tab.**

   Specify print job options.



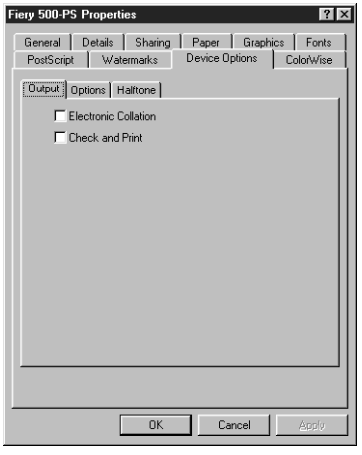
4. Click the More Options button in the Paper tab.

Specify the type of media and page border setting for your print job.



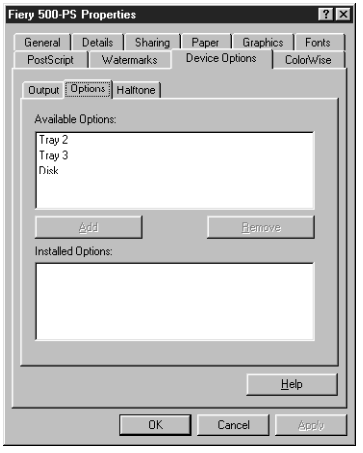
5. Choose the Device Options tab and the Output tab.

Specify the use of features related to optional devices installed on your printer.



6. Choose the Options tab in the Device Options tab.

Specify optional print devices installed on your printer.

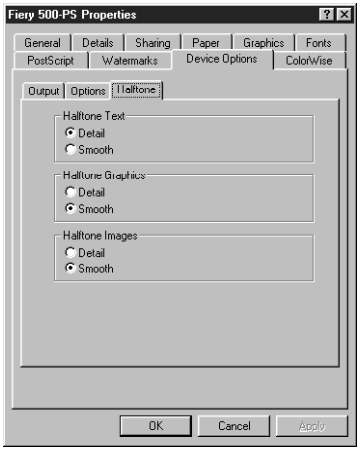


7. **To add an option, select a device option in the Available options list, and click Add. To remove an option, select a device option from the Installed options list and click Remove. Click OK.**

   NOTE: Features related to optional devices, such as a paper tray or hard disk drive, are enabled in Windows printer drivers only when you have specified installed options in this tab.

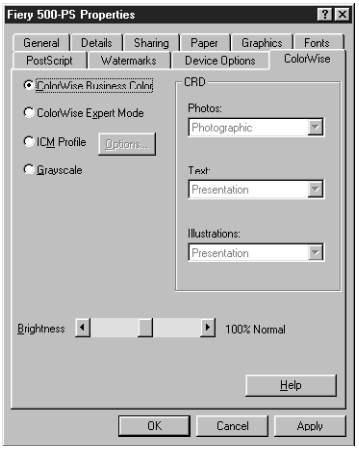
8. **Choose the Halftone tab in the Device Options tab.**

   Specify halftone settings for text, graphics, and images.

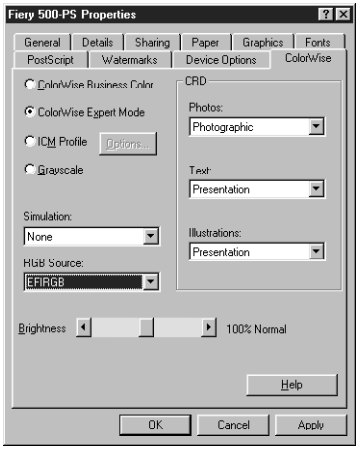


9. Choose the ColorWise tab.

Specify color control settings for your print job. For example, choose ColorWise Business Color to apply the default Color Rendering Dictionaries (CRDs) to Photos, Text, and Illustration objects in a document.



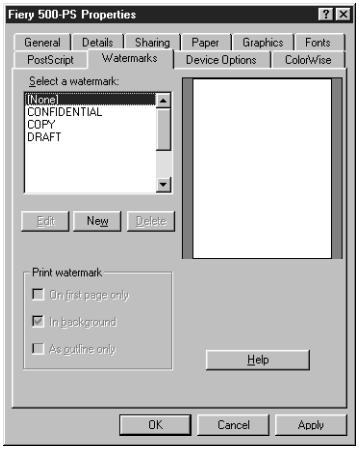
Choose ColorWise Expert Mode to enable the application of Color Rendering Dictionaries (CRDs) of your choice to Photographic, Text, and Illustration objects in a document.



You can also choose ICM Profile to assign a specific profile to this print job or choose Grayscale to print this job in black and white.

10. Choose the Watermarks tab.

Use options in this tab to print a watermark on the copies of a print job. Supplied watermarks can also be edited from this tab.



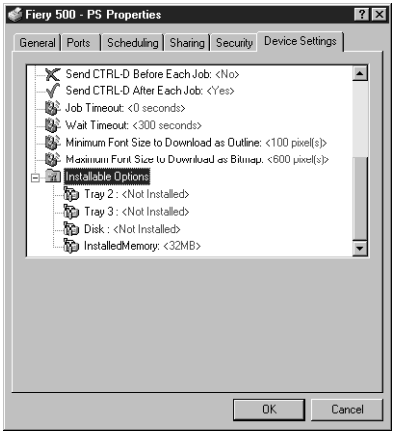
Configuring PostScript printing options with Windows NT

This section describes configuring printing options for Windows NT 4.0 systems. On Windows NT 4.0, PostScript printing options are set from the Printer Properties dialog box and the Default Document Properties dialog box.

TO CONFIGURE POSTSCRIPT PRINTING OPTIONS:

1. From the Windows NT 4.0 taskbar, click on Start, choose Settings, and then Printer. Right-click the Fiery 500-PS icon and choose Properties from the pull down menu.

2. Click the Device Settings tab.

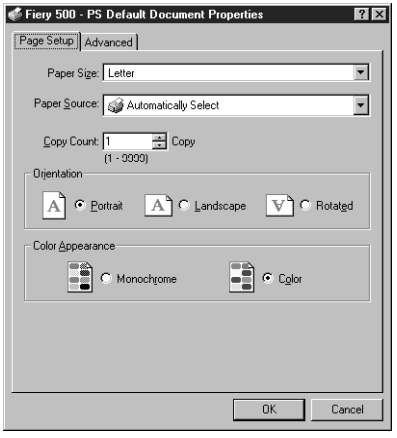


All print options, including custom print options, can be set from tabs and scroll lists in this dialog.

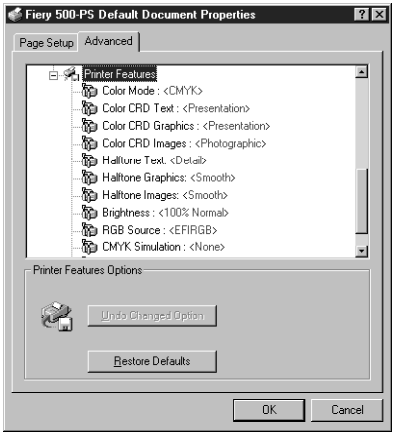
NOTE: You can also set custom print options from the Default Document Properties dialog box.

3. Right-click the Fiery 500 PostScript printer icon and choose Document Defaults from the pull down menu.

The Document Defaults dialog appears. Note that when printing from applications this dialog appears when you choose Print, and click the Properties button in Print dialog box.



4. **To view options, double click an item. To change a setting, select an option, choose a setting from the submenu and click OK.**



Windows print options

The printer drivers that come with your printer have been customized to provide additional print options specific to your Fiery 500 printer. These options have been integrated into the driver interface. Although the PCL and PostScript printer driver interfaces vary between Windows 98, Windows 95, and Windows NT 4.0 operating systems, the printing features available from each driver, on each platform are the virtually the same.

The following table describes custom print options available using the PostScript printer driver using Windows 95/98.

Print option:	Description:
Brightness 85% to 115% (Default value is 100%)	Adjust the color production on all color channels to make the printed output lighter or darker.
Check and Print (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Check and Print allows you to print a single copy of a multiple copy job that can be visually checked before printing additional copies. When the Check and Print copy has been printed, you can specify the number of additional copies of the job to print using the Check and Print screens at the printer's operation panel. This option is effective when the number of copies specified is greater than one.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** For Check and Print to take effect, the copy count must be greater than 1 and the Collate option for the application print dialog box should be turned Off.
ColorWise Business Color (Default values: Text: Presentation Graphics: Photographic Images: Presentation)	Before an RGB image can be printed, the file's color data must be converted to the printer's CMYK color space. Color rendering dictionaries allow you to apply optimal gamut mapping methods for text, photographs and illustrations. ColorWise Business Color specifies the application of the Photographic color rendering dictionary to photographic objects, and the Presentation color rendering dictionary to illustration and text objects in a document. Use this option if you are printing documents created in office applications that include color charts or mixed graphic and text elements. For additional information on Color Rendering Dictionaries, see "Rendering styles" on page 1-18. **NOTE:** When ColorWise Business Color is selected CRD settings are disabled. Color rendering dictionaries cannot be used with CMYK files.
ColorWise Expert Mode	ColorWise Expert Mode enables CRD settings.You may select any combination of these settings to customize the printing of text graphic and illustration objects in your documents. Use this option if you are printing documents with a natural range of colors as in a continuous tone photograph. For additional information on Color Rendering Dictionaries, see "Rendering styles" on page 1-18.
Device Options	Optional printer accessories installed on your printer must be specified from the printer driver to enable their related features. Options include: Tray2, Tray 3, Disk.

Print option:	Description:
Electronic Collation (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Electronic Collation allows the pages of each copy of a print job to be printed in sequence. If this option is off, multiple copies of each page of a print job are printed in sequence.To avoid unexpected results, always select collation in the print driver and turn off any collation option that may exist in your application.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** The Collate option in the application print dialog box must be turned Off when selecting the Electronic Collation option from the printer driver.
Grayscale	By default your printer is set to print documents in color (CMYK). Select Grayscale to print documents in grayscale. Note many applications offer black and white or grayscale printing options. Use the application's grayscale option, if available, for more efficient processing time.
Halftone Text Halftone Graphics Halftone Images (Default value is Detail for Text, Smooth for Graphics and Images)	This option determines which type of halftone screening is used for various elements in your print job. Use the Detail setting for printing of fine lines and details that are sometimes fuzzy or unclear. Use the Smooth setting for gradients or tones which blend together. **NOTE:** When printing graphics with thin or fine lines, such as CAD data, you should select the Detail setting for Halftone Graphics.
Paper Size	Paper and envelope sizes supported by the printer can be specified by name.
Paper Source	Paper trays can be specified by name. Options include: Auto Select, Bypass Tray, Tray 1, Tray 2, and Tray 3. Tray 2 and Tray 3 can be specified only if they are installed on your printer. (See 'Device Options'.)
Paper Type	Media types supported by the printer can be specified by name. Options include: Plain Paper, Transparency, and Thick Paper. Choosing the correct media optimizes the fuser's application of toner.

Print option:	Description:
RGB Source EFIRGB/sRGB (PC)/ Apple Standard/Off (Default value is sRGB)	RGB source profiles allow you to define the color space characteristics (such as the white point, gamma and type of phosphors) of the image's source. When a source is specified, the image's RGB data can be optimally converted to the color space and gamut of the Fiery 500 printer. The EFIRGB setting is optimal for color conversions that will be sent to the Fiery 500 printer. The sRGB setting specifies the source space of a generic Windows computer monitor. The Apple Standard setting specifies the source space of all standard Macintosh monitors. **NOTE:** • The RGB source setting overrides any source color space profile you may have specified using other color management systems. In cases where you don't want this setting to override another specified source color space, select Off. For additional information on source profiles, see "RGB Source and Rendering Style" on page 1-17. • This option is visible only if you have selected ColorWise Expert Color.
Simulation SWOP-Coated/DIC/ Euroscale/None (Default value is None)	CMYK simulation settings adjust CMYK color data to simulate printing to an offset press standard. Select SWOP-Coated to simulate printing to a standard American offset press; Euroscale to simulate a European offset press, or DIC to simulate a standard Japanese offset press. For more information see "CMYK Simulation" on page 1-19. **NOTE:** This option is visible only if you have selected ColorWise Expert Color.
Watermarks	This option is available from the Windows 95/98 driver only. A watermark is message that can be printed on the pages of a document to convey additional information to the reader about its content. You can print a water mark on the first page of the print job, or all pages of the print job. The supplied watermarks can be edited, or you can create new watermarks for your documents.

The following table describes the custom print options available using the PostScript printer driver and Windows NT 4.0.

Print option:	Description:
Brightness 85% to 115% (Default value is 100%)	Adjust the color production on all color channels to make the printed output lighter or darker.

Print option:	Description:
Check and Print (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Check and Print allows you to print a single copy of a multiple copy job that can be visually checked before printing additional copies. When the Check and Print copy has been printed, you can specify the number of additional copies of the job to print using the Check and Print screens at the printer's operation panel. This option is effective when the number of copies specified is greater than one.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** For Check and Print to take effect, the copy count must be greater than 1 and the Collate option for the application print dialog box should be turned Off.
CMYK Simulation SWOP-Coated/DIC/ Euroscale/None (Default value is None)	CMYK simulation settings adjust CMYK color data to simulate printing to an offset press standard. Select SWOP-Coated to simulate printing to a standard American offset press; Euroscale to simulate a European offset press, or DIC to simulate a standard Japanese offset press. For more information see "CMYK Simulation" on page 1-19.
Collate (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Collate allows the pages of each copy of a print job to be printed in sequence. If this option is off, multiple copies of each page of a print job are printed in sequence.To avoid unexpected results, always select collation in the print driver and turn off any collation option that may exist in your application.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** The Collate option in the application print dialog box must be turned Off when selecting the Collate option from the printer driver.
ColorCRD Text/Graphics/ Images (Default values: Text: Presentation Graphics: Presentation Images: Photographic)	Before an RGB image can be printed, the file's color data must be converted to the printer's CMYK color space. Color rendering dictionaries allow you to apply optimal gamut mapping methods for text, photographs and illustrations. ColorCRD Images specifies the application of a color rendering dictionary to photographic objects. ColorCRD Graphics and ColorCRD Text specify the use of color rendering dictionaries with illustration and text objects in a document. Use the default settings if you are printing documents created in office applications that include color charts or mixed graphic and text elements. For additional information on Color Rendering Dictionaries, see "Rendering styles" on page 1-18.

Print option:	Description:
Color Mode	By default your printer is set to print documents in color (CMYK). Select Grayscale to print documents in grayscale. Note many applications offer black and white or grayscale printing options. Use the application's grayscale option, if available, for more efficient processing time.
Halftone Text Halftone Graphics Halftone Images (Default value is Detail for Text, Smooth for Graphics and Images)	This option determines which type of halftone screening is used for various elements in your print job. Use the Detail setting for printing of fine lines and details that are sometimes fuzzy or unclear. Use the Smooth setting for gradients or tones which blend together. **NOTE:** When printing graphics with thin or fine lines, such as CAD data, you should select the Detail setting for Halftone Graphics.
Installable Options	Optional printer accessories installed on your printer must be specified from the printer driver to enable their related features. Options include: Tray2, Tray 3, Disk.
Media (Default value is Plain Paper)	Media types supported by the printer can be specified by name. Options include: Plain Paper, Transparency, and Thick Paper. Choosing the correct media optimizes the fuser's application of toner.
Paper Size	Paper and envelope sizes supported by the printer can be specified by name.
Paper Source	Paper trays can be specified by name. Options include: Auto Select, Bypass Tray, Tray 1, Tray 2, and Tray 3. Tray 2 and Tray 3 can be specified only if they are installed on your printer. (See 'Device Options'.)
RGB Source EFIRGB/sRGB (PC)/ Apple Standard/Off (Default value is sRGB)	RGB source profiles allow you to define the color space characteristics (such as the white point, gamma and type of phosphors) of the image's source. When a source is specified, the image's RGB data can be optimally converted to the color space and gamut of the Fiery 500 printer. The EFIRGB setting is optimal for color conversions that will be sent to the Fiery 500 printer. The sRGB setting specifies the source space of a generic Windows computer monitor. The Apple Standard setting specifies the source space of all standard Macintosh monitors. **NOTE:** The RGB source setting overrides any source color space profile you may have specified using other color management systems. In cases where you don't want this setting to override another specified source color space, select Off. For additional information on source profiles, see "RGB Source and Rendering Style" on page 1-17.

Chapter 4: PCL Printing from PC-Compatible Computers

The following chapter describes where to set print options available using the PCL printer driver if you are running Windows 95/98 or Windows NT 4.0 operating systems.

PCL printing

Custom print options available from the PCL and PostScript printer drivers are described in “Windows print options” on page 4-10.

For information on installing the appropriate driver for your system and setting up the environment for parallel printing with the Fiery 500 PCL, see *Getting Started*. This manual also describes how to connect to the printer over the network, how to set up networking for all supported network types and how to install additional Fiery 500 user software.

For information about achieving the best printing results from specific applications, see Chapter 5, “Application Notes.”

Configuring PCL printing options for Windows 95/98

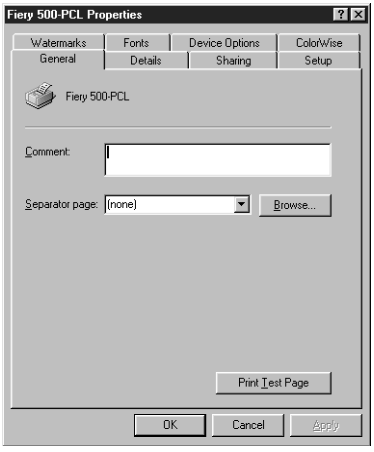
This section describes configuring printing options for Windows 95/98 using the PCL printer driver. You can also specify custom print options for your print job by choosing File>Print from within an application. In the dialog box that appears, click Properties to display the Printer Properties dialog box.

TO CONFIGURE PRINTING OPTIONS FOR WINDOWS 95/98:

1. **From the Windows Start menu, choose Settings>Printers.**
2. **Click the Fiery 500 PCL icon to select it and choose Properties from the File menu.**

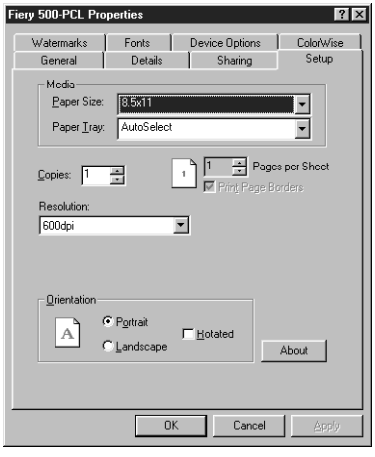
   The Printer Properties dialog box appears, with the General tab displayed.

   Set PCL printing options from tabs in this dialog box.



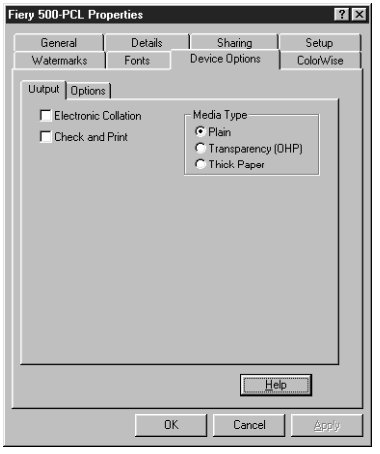
3. **Choose the Setup tab.**

   Specify print job options.



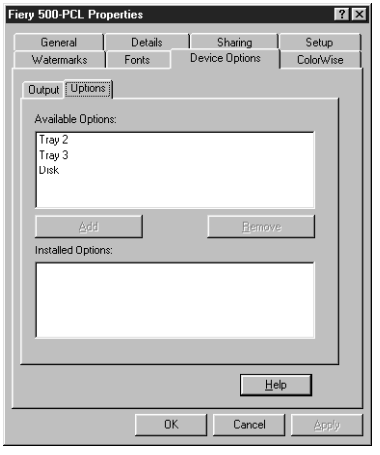
4. Choose the Device Options tab and the Output tab.

Specify the type of media and use of features related to optional devices installed on your printer.



5. Choose the Options tab.

Specify optional print devices installed on your printer.



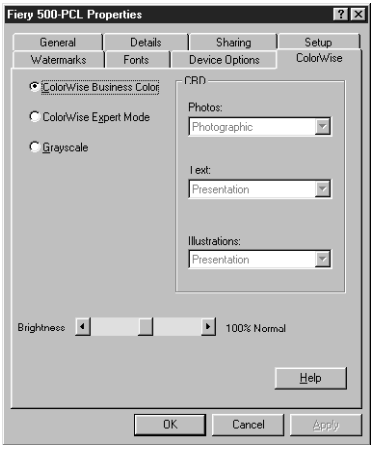
6. **To add an option, select a device option in the Available options list, and click Add. To remove an option, select a device option from the Installed options list and click Remove. Click OK.**

   NOTE: Features related to optional devices, such as a paper tray or hard disk drive, are enabled in Windows printer drivers only when you have specified installed options in this tab.

   For more information about the Fiery 500 PCL printer driver, click the Help button.

7. **Choose the ColorWise tab.**

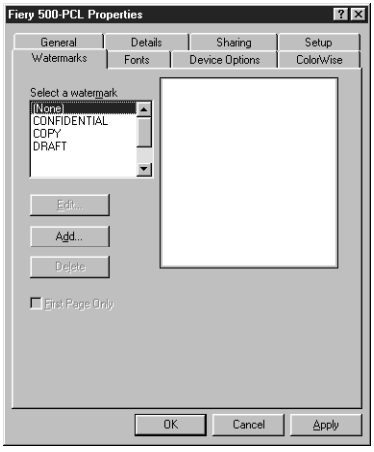
   Specify color control settings for your print job. For example, choose ColorWise Business Color to apply the default Color Rendering Dictionaries (CRDs) to Photos, Text, and Illustration objects in a document.



   Choose ColorWise Expert Mode to enable the application of Color Rendering Dictionaries (CRDs) of your choice to Photographic, Text, and Illustration objects in a document.

8. Choose the Watermarks tab.

Use options in this tab to print a watermark on the copies of a print job. Supplied watermarks can also be edited from this tab.



NOTE: You cannot use a comma (,) in any watermark text.

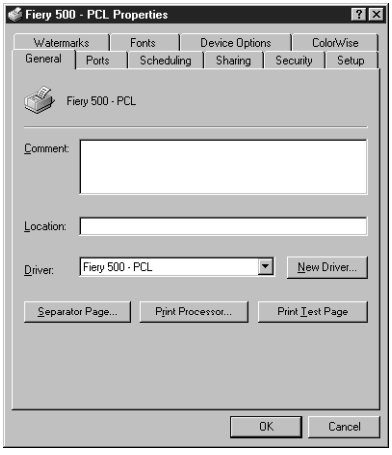
Configuring PCL printing options with Windows NT

This section describes configuring printing options for Windows NT 4.0 systems using the PCL printer driver provided on the User software CD. On Windows NT 4.0, PCL printing options are set from the Printer Properties dialog box and the Default Document Properties dialog box.

TO CONFIGURE PCL PRINTING OPTIONS FOR WINDOWS NT:

1. **From the Windows NT 4.0 taskbar, choose Settings and then Printers. Right-click the Fiery 500 PCL icon and choose Properties from the File menu.**

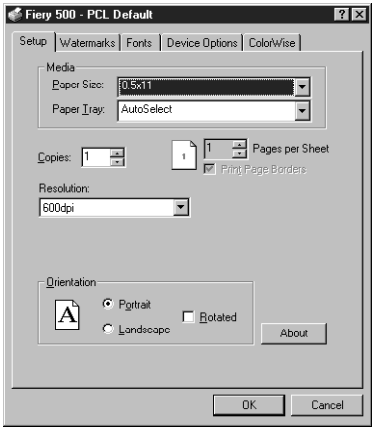
   The printer properties dialog appears. All print options, including custom print options, can be set from tabs in this dialog box.



   Custom print options can also be set from the Default Document Properties dialog box, which includes options specific to the Fiery 500 printer.

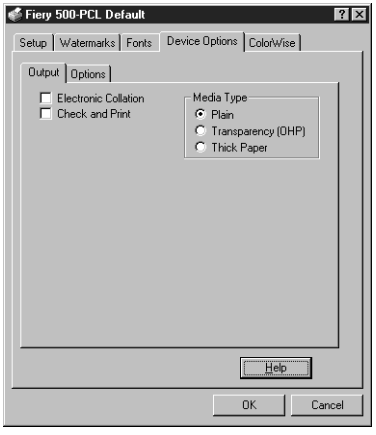
2. Right-click the Fiery 500 PCL printer icon, and choose Document Defaults from the File menu.

The Document Defaults dialog box appears. When printing from applications, this dialog box appears when you click the Properties button in the Print dialog box.



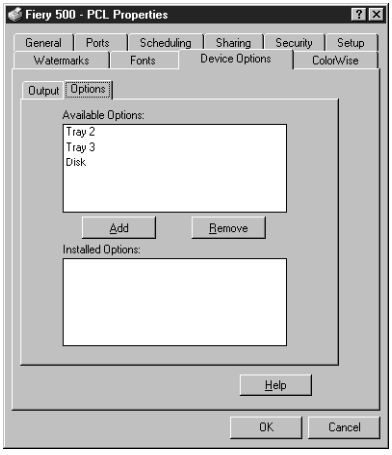
3. Choose the Device Options tab and the Output tab.

Specify the type of media and use of features related to optional devices installed on your printer.



4. Choose the Options tab.

Specify optional print devices installed on your printer.



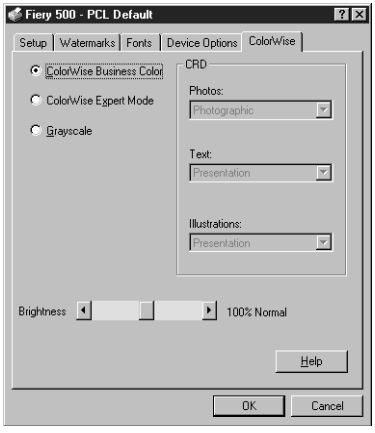
5. To add an option, select a device option in the Available options list, and click Add. To remove an option, select a device option from the Installed options list and click Remove. Click OK.

NOTE: Features related to optional devices, such as a paper tray or hard disk drive, are enabled in Windows printer drivers only when you have specified installed options in this tab.

For more information about the Fiery 500 PCL printer driver, click the Help button.

6. Choose the ColorWise tab.

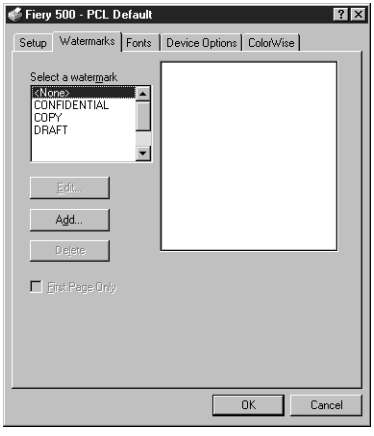
Specify color control settings for your print job. For example, choose ColorWise Business Color to apply the default Color Rendering Dictionaries (CRDs) to Photos, Text, and Illustration objects in a document.



Choose ColorWise Expert Mode to enable the application of Color Rendering Dictionaries (CRDs) of your choice to Photographic, Text, and Illustration objects in a document.

7. Choose the Watermarks tab.

Use options in this tab to print a watermark on the copies of a print job. Supplied watermarks can also be edited from this tab.



NOTE: You cannot use a comma (,) in any watermark text.

Windows print options

The printer drivers that come with your printer have been customized to provide additional print options specific to your Fiery 500 printer. These options have been integrated into the driver interface. Although the PCL and PostScript printer driver interfaces vary between Windows 98, Windows 95, and Windows NT 4.0 operating systems, the printing features available from each driver, on each platform are virtually the same.

The following table describes custom print options available using the PCL printer driver using Windows 95/98 and Windows NT 4.0.

Print option:	Description:
Brightness 85% to 115% (Default is 100%)	Adjust the color production on all color channels to make the printed output lighter or darker.
Check and Print (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Check and Print allows you to print a single copy of a multiple copy job that can be visually checked before printing additional copies. When the Check and Print copy has been printed, you can specify the number of additional copies of the job to print using the Check and Print screens at the printer's operation panel. This option is effective when the number of copies specified is greater than one.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** For Check and Print to take effect, the copy count must be greater than 1 and the Collate option for the application print dialog box should be turned Off.

Print option:	Description:
ColorWise Business Color (Default values: Text: Presentation Graphics: Photographic Images: Presentation)	Before an RGB image can be printed, the file's color data must be converted to the printer's CMYK color space. Color rendering dictionaries allow you to apply optimal gamut mapping methods for text, photographs and illustrations. ColorWise Business Color specifies the application of the Photographic color rendering dictionary to photographic objects, and the Presentation color rendering dictionary to illustration and text objects in a document. Use this option if you are printing documents created in office applications that include color charts or mixed graphic and text elements. For additional information on Color Rendering Dictionaries, see "Rendering styles" on page 1-18. **NOTE:** When ColorWise Business Color is selected CRD settings are disabled. Color rendering dictionaries cannot be used with CMYK files. This option is available only if your printer has a hard disk drive installed.
ColorWise Expert Mode	ColorWise Expert Mode enables CRD settings.You may select any combination of these settings to customize the printing of text graphic and illustration objects in your documents. Use this option if you are printing documents with a natural range of colors as in a continuous tone photograph. For additional information on Color Rendering Dictionaries, see "Rendering styles" on page 1-18.
Device Options	Optional printer accessories installed on your printer must be specified from the printer driver to enable their related features. Options include: Tray 2, Tray 3, Disk.
Electronic Collation (Default is No)	This option is available only if your printer has an optional hard disk drive installed. Electronic Collation allows the pages of each copy of a print job to be printed in sequence. If this option is off, multiple copies of each page of a print job are printed in sequence. To avoid unexpected results, always select collation in the print driver and turn off any collation option that may exist in your application.  **NOTE:** This option is available only if your printer has an optional hard disk drive installed. **NOTE:** The Collate option in the application print dialog box must be turned Off when selecting the Electronic Collation option from the printer driver.
Grayscale	By default your printer is set to print documents in color (CMYK). Select Grayscale to print documents in grayscale. Note many applications offer black and white or grayscale printing options. Use the application's grayscale option, if available, for more efficient processing time.

Print option:	Description:
Media Type (Default value is Plain Paper)	Paper types supported by the printer can be specified by name: Plain Paper, Transparency, and Thick Paper. Choosing the correct media optimizes the fuser's application of toner.
Paper Size	Paper and envelope sizes supported by the printer can be specified by name.
Paper Tray	Paper trays can be specified by name. Options include: Auto Select, Bypass Tray, Tray 1, Tray 2, and Tray 3. Tray 2 and Tray 3 can be specified only if they are installed on your printer. (See 'Devices Options'.)
Watermarks	A watermark is message that can be printed on the pages of a document to convey additional information to the reader about its content. You can print a water mark on the first page of the print job, or all pages of the print job. The supplied watermarks can be edited, or you can create new watermarks for your documents.

Chapter 5: Application Notes

This chapter provides instructions for printing color documents from QuickDraw and GDI applications such as presentation, spreadsheet, and word processing applications and from PostScript applications such as illustration and page layout applications.

NOTE: These notes are applicable if you are printing using PostScript or PCL printer drivers.

Working with office applications

The Fiery 500 color management system provides complete color management for jobs printed from office applications. Before printing from these applications, make sure the appropriate printer driver is installed on your computer as described in *Getting Started*.

Office applications

Printers such as the Fiery 500 must receive PostScript or PCL instructions to print an image or a document. Many applications do not create these instructions by themselves, and instead rely on the printer driver to create them. Included in this category are most word processors, spreadsheets, and presentation packages. These applications use Apple **QuickDraw** to display and print when running on Macintosh computers; they use the Windows **Graphics Device Interface (GDI)** to display and print when running under Windows. We refer to these QuickDraw and GDI applications as "office applications."

All office applications handle color similarly, using the same RGB color model used for the color monitor display. Most office applications allow you to choose colors from a palette of preselected colors; some allow you to add new colors to the palette using a color picker. Although some applications allow you to specify color using the CMY, HSL, and HSB color models, these applications always send RGB color data to the Fiery 500. (An exception to this is a CMYK EPS file placed in the document, which is sent as CMYK data.)

When working with color in office applications, keep in mind that:

- The range of colors that can be displayed in RGB on your monitor is much larger than the range of colors that can be printed on your print device. When you print the document, out-of-gamut RGB colors are mapped to colors your print device can produce.
- These applications send only RGB data to the Fiery 500. You control the **rendering intent** of the color conversion with your selection of a CRD.

Each CRD uses a different color rendering style, and therefore has a different way of mapping unprintable colors to your print device's color gamut. Fiery 500 color rendering styles are described on page 1-18.

Working with imported files

Use EPS format files for all raster images you import into office applications. They print at their full resolution on the Fiery 500 (not at the low resolution used for the screen preview).

Although your application may allow you to import a variety of file formats, EPS format files are recommended for all raster images you want to import; some applications have printing problems when using file formats such as TIFF and PICT. For more information regarding raster images see "Raster images and vector images" on page 1-12.

All RGB images placed in your document are affected by your RGB Source and Rendering Style settings.

Tip for advanced users

If you place multiple RGB images, some non-photographic and some photographic, a single CRD may not be suitable for all the images. In this case you may want the photographic images to bypass the CRD altogether. To accomplish this, separate the image to CMYK data with a pixel-editing application such as Photoshop and perform color correction on it. Then save it as an EPS file and import it into the document. When specifying print option settings, set the CMYK Simulation option to None so that the Rendering Style setting will not be applied to CMYK data (see "Rendering styles" on page 1-18).

Selecting options when printing

There are few differences between office applications with regard to Fiery 500 printing. The instructions in this chapter apply to all office applications. Use the instructions in “Color management on the Fiery 500” on page 1-16 to specify print options and color management settings. To specify these options, you must use a Fiery 500 PostScript or PCL printer driver.

Because these applications send RGB data to the Fiery 500, your choices of RGB Source and Rendering Style settings are important. Be sure to specify the appropriate CRD for the color effect you want (see “Rendering styles” on page 1-18).

Microsoft Office 97

Before printing from Microsoft Office 97 on Windows 95/98, make sure the Fiery 500 ICM profile is *not* installed in the Windows\System\Color folder. If the ICM profile is installed, JPEG, BMP, and TIFF images print incorrectly from Microsoft Office 97.

Browse to the Windows\System\Color folder and locate the Fiery 500 ICM profile. If the icon is white, the profile is installed; if it is gray, it is not installed. If the profile is installed, select the profile and choose the right-mouse Uninstall command.

NOTE: The standard format for digital color management systems developed by the Image Color Consortium (ICC) is implemented in Image Color Matching (ICM) on Windows 95/98 computers and in ColorSync on Mac OS computers. The term “ICM profile” is used to refer to the ICC-standard device profile provided for Windows 95/98 computers.

Working with Photoshop 5.0

This following sections cover features of Photoshop version 5.0 for Macintosh and Windows. The illustrations show only Macintosh-version dialog boxes, but the information and instructions apply equally to the Windows version of Photoshop.

Before you begin

Because Photoshop 5.0 uses a sophisticated color management system, there are several setup steps you should take before you begin working. These steps include calibrating your monitor, adjusting Photoshop 5.0 color settings, and setting ColorSync defaults (Mac OS only).

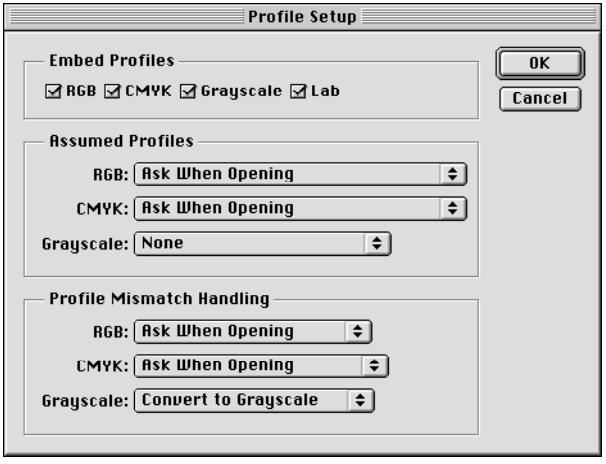
For information on monitor calibration, see your Adobe Photoshop 5.0 documentation.

Photoshop 5.0 settings

Photoshop 5.0 has three setup dialogs which control how color is managed when opening and saving RGB and CMYK images. Profile Setup, RGB Setup, and CMYK Setup should all be completed before you begin working in Photoshop.

Profile Setup

From the Photoshop 5.0 File menu, select Color Settings>Profile Setup.



In the Embed Profiles area, check all boxes. This will embed the appropriate profile when saving a file. Photoshop will then know for which specific device the file has been designed, tagging your file as device specific.

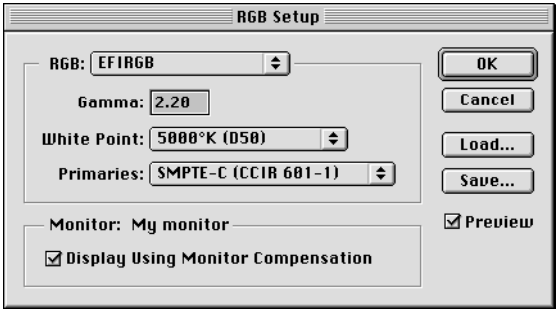
In the Assumed Profiles area, select Ask When Opening for RGB and CMYK. When opening files that do not contain an ICC profile, you will have the choice to convert the file to your current Photoshop working space setting or leave the file unconverted. The latter is usually preferred, but you should make sure that the current Photoshop working space setting matches the intended color space of the image.

In the Profile Mismatch Handling area, select Ask When Opening for RGB and CMYK. When opening a file that contains an ICC profile that does not match your current Photoshop working space setting, you will have the choice to convert from the embedded profile or not convert. If you want to preserve the full gamut of the image source, choose not to convert. If your working space is set to your output device, you may want to convert.

RGB Setup

Photoshop 5.0 allows you to simultaneously use two RGB spaces, one for the monitor and one for the Photoshop RGB working space. The monitor RGB space setting does not affect the image data in the file; it only affects the way the image is displayed on the monitor. Even if an RGB image has been prepared with different monitor settings, it will still be correctly displayed on your monitor, without changes to the original values in the file.

From the Photoshop 5.0 File menu, select Color Settings>RGB Setup.



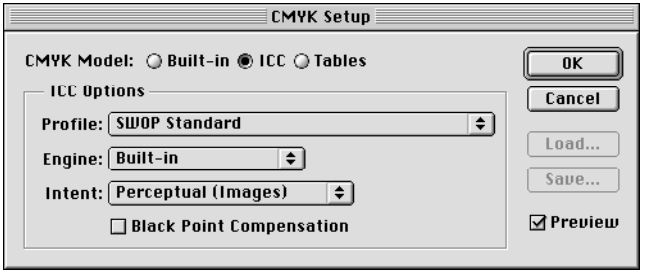
From the RGB pop-up menu, select your current Photoshop RGB color space. This should reflect the color space of the RGB files you will be opening. If you create new RGB files, or if you want to standardize your RGB files, select

EFIRGB. Click Load if the file is not visible in the RGB pop-up menu. You can load the Calibrated RGB setup file, EFIRGB ICC ColorSync file, or the EFIRGB.ICM file. All describe the same RGB space and automatically set the Gamma, White Point, and Primaries. sRGB may be considered if you are using non-professional color software on a PC and you rely on a Windows operating system to manage the color of your monitor. You will then get more consistent results as long as you also print with the RGB Source option set to sRGB.

The Monitor area shows the currently selected profile in the ColorSync Control Panel. Turn on the Display Using Monitor Compensation and Preview options.

CMYK Setup

From the Photoshop 5.0 File menu, select Color Settings>CMYK Setup.



For CMYK Model, select ICC. Previous versions of Photoshop used Photoshop Separation Tables, and these can be loaded for Photoshop 5.0. However, you will get better results using ICC profiles and the built-in color management system.

In the ICC Options area, select Profile, Engine, and Intent settings. For Profile, select your final output printer ICC profile. Pre-press users will select an ICC describing their target press (i.e. SWOP). A variety of press ICC profiles are available at http://www.colorsync.com. Office users should select the ICC profile describing the copier connected to the Fiery 500. In this case, you should avoid converting RGB to CMYK in Photoshop. Instead, leave images in RGB and allow the Fiery 500 to convert them to CMYK.

For Engine, select Built-in. This indicates that the Photoshop engine will be used which is highly recommended for normal Photoshop usage.

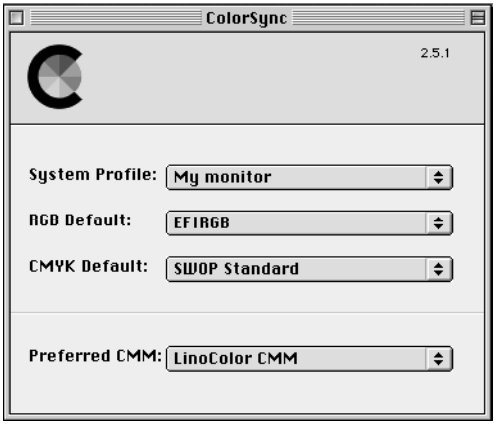
For Intent, select Perceptual (Images). This is appropriate for photographs which are normally edited in Photoshop. If you are creating synthetic colors, you may want to use Colormetric or Saturation.

Black Point Compensation should be unchecked for richer, denser CMY blacks. Preview should be checked.

ColorSync defaults

You should have ColorSync 2.5 installed on your Mac OS computer. The ICC profiles used by ColorSync are saved in System Folder:ColorSync Profiles. Under the Apple menu, select Control Panel>ColorSync. Use the following settings:

- System Profile—select the customized ICC profile for your monitor
- RGB default—select the same RBG working color space that you set in Photoshop 5.0
- CMYK default—select the same CMYK working color space that you set in Photoshop 5.0
- Preferred CMM—select LinoColor CMM (both ColorSync 2.0 and Microsoft ICM 2.0 are based on this color management module)



Defining colors

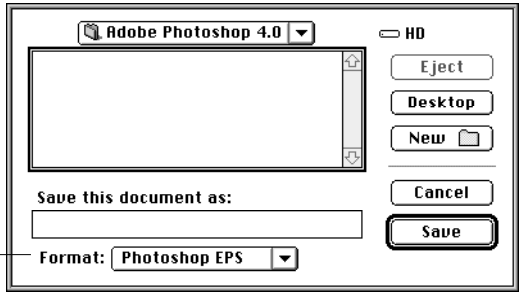
You can choose colors in Photoshop with various color models including HSB, Lab, RGB, and CMYK. You can also choose named colors from the PANTONE

Coated color library in Photoshop. For best results, use the color definition methods described in Chapter 1.

Saving files for importing into other documents

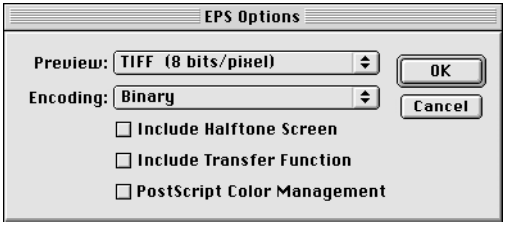
Before saving any file, perform any rotating, cropping, and resizing needed. This speeds processing when printing from the application in which the image is placed.

It is recommended that you use the EPS or TIFF file formats to save RGB images that will be imported into other documents and printed to the Fiery 500. EPS and TIFF files can be imported into virtually all page layout applications.



Choose Photoshop EPS or TIFF

In the EPS Format dialog box, choose binary encoding and do *not* include transfer functions, halftone screens, or PostScript Color Management. A TIFF preview is compatible with both Mac OS and Windows computers.



If you experience problems printing the document in which you place the image, substitute an ASCII-encoded version of the same image, and print the document again. Binary encoding is much more compact than ASCII encoding, but occasionally causes printing problems with some system configurations.

NOTE: If you choose to try JPEG encoding, keep a backup of the original image saved with binary encoding until you have seen the printed results of the JPEG-encoded file. The compression used for JPEG encoding may produce unwanted artifacts in the file. If you see unexpected results in the printed output of a JPEG-encoded file, use a binary-encoded version instead.

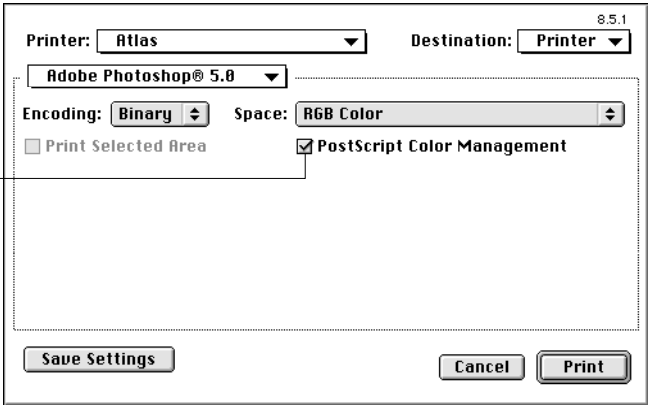
Selecting options when printing

You can print RGB or CMYK images from Photoshop.

- When you print RGB images, you can choose whether the conversion to CMYK data is performed by the Fiery 500 (using a CRD) or by Photoshop (using PostScript Color Management).
- When you print CMYK images, you can print composites or **color separations**.

Printing RGB images

Use the following instructions to print RGB images.



Click to print using the PostScript color management system

Choose a color space and whether to use PostScript Color Management. (With the AdobePS 8.5.1 printer driver for Mac OS, these options appear in the Adobe Photoshop pane of the Print dialog box.)

NOTE: Only PostScript Level 3 printers support PostScript Color Management. If you select this option, the PostScript Color Management system will perform any color space conversion specified in the Space option before the image is sent to the Fiery 500.

If you select an RGB color space, Photoshop sends RGB data to the Fiery 500 and a CRD is used to perform color conversion. Choose the appropriate print option settings for RGB data. (For information on print options, see Chapter 2 if you use a Macintosh; Chapters 3 and 4 if you use a PC.)

If you select a CMYK color space, Photoshop performs a color conversion and sends CMYK data to the Fiery 500. With this setting, RGB Source and Rendering Style settings have no effect.

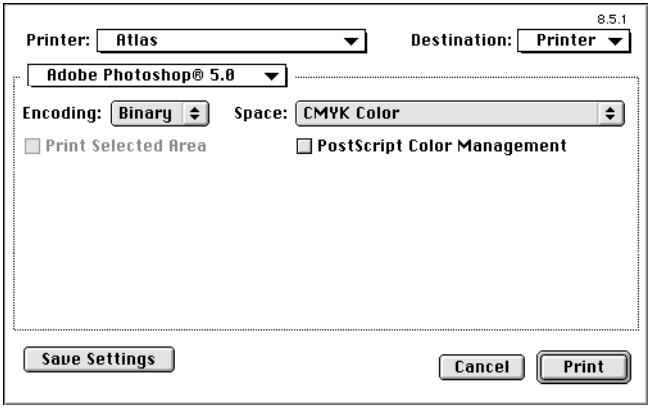
- If Photoshop is configured for separating to an offset press standard, apply the corresponding CMYK Simulation setting. For example, if Photoshop is configured for separating to SWOP, choose SWOP-Coated as the CMYK setting.
- If Photoshop is configured for a custom separation (not a press standard), choose None as the CMYK Simulation setting or choose the corresponding custom simulation target if one has been created.

For fastest print times, select JPEG encoding. You should, however, check the printed output carefully for unwanted artifacts that can appear as a result of JPEG compression. If you see unexpected results in the printed output when printing with JPEG encoding, print the job again using Binary encoding.

Choose any other print options you want to use. (For information on print options, see Chapter 2 if you use a Macintosh; Chapters 3 and 4 if you use a PC.)

Printing CMYK images

Use the following instructions to print CMYK images.



Choose an encoding method. (With the AdobePS 8.5.1 printer driver for Mac OS, these options appear in the Adobe Photoshop pane of the Print dialog box.) For fastest print times, select JPEG encoding. You should, however, check the printed output carefully for unwanted artifacts that can appear as a result of JPEG compression. If you see unexpected results in the printed output when printing with JPEG encoding, print the job again using Binary encoding.

Choose a color space and whether to use PostScript Color Management.

Choose any other print options you want to use. RGB Source and Rendering Style settings have no effect on CMYK images. (For information on print options, see Chapter 2 if you use a Macintosh; Chapters 3 and 4 if you use a PC.)

- If the image was separated for an offset press standard, apply the corresponding CMYK Simulation setting. For example, if the image is separated for SWOP, choose SWOP-Coated as the CMYK Simulation setting.
- If the image was separated using a custom separation (not a press standard), choose None as the CMYK Simulation setting or choose the corresponding custom simulation target if one has been created.

Working with page layout applications

This section provides instructions for printing color documents from Adobe PageMaker 6.5 and QuarkXPress 3.32.

Before printing from these applications, make sure the appropriate printer driver and the Fiery 500 PPD are installed on your computer as described in *Getting Started*.

Defining colors

Page layout applications generally use the CMYK color model. Some allow you to define colors with other color models and may be able to send that data to the Fiery 500 in those other color models. For predictable results, use the CMYK Color Reference page when defining colors in page layout applications. See "Using the CMYK color reference page" on page 5-30.

Importing images

EPS and TIFF are the recommended formats for images imported into page layout documents. Support for importing other file formats may be provided by individual applications.

All RGB images placed in your document are affected by the RGB Source and Rendering Style settings. The Fiery 500 color management system applies the specified RGB Source setting to all RGB data and then uses the specified Rendering Style (CRD) to perform a color conversion. An exception to this occurs if you assign ICC profiles to RGB images using the application's color management tools (see "Tips for advanced users" on page 5-12). In this case, the application performs the color conversion of the image and sends CMYK data to the Fiery 500.

Tips for advanced users

If you place multiple RGB images, some non-photographic and some photographic, a single CRD may not be suitable for all the images. In this case you may want the photographic images to bypass the CRD altogether. To accomplish this, separate the image to CMYK data with a pixel-editing application such as Photoshop and perform color correction on it. Then save it as an EPS or TIFF file and import it into the document. When specifying print

option settings, set the CMYK Simulation option to None so that the Rendering Style setting will not be applied to CMYK data (see “CMYK Simulation setting” on page 5-30).

Alternatively, you can save the RGB image in TIFF format and assign it an ICC profile and rendering intent when you import it into the document, if your application supports this feature.

CMYK Simulation

You can specify a press simulation target for the job with a print option (see “CMYK Simulation setting” on page 5-30). The CMYK Simulation setting affects all CMYK color data sent by the page layout application.

- If the document contains CMYK images that were separated for an offset press standard, apply the corresponding CMYK Simulation setting. For example, for images separated for SWOP-Coated, choose SWOP-Coated as the CMYK Simulation setting.
- If the document contains CMYK images that were separated for a custom separation (not a press standard), choose None as the CMYK Simulation setting.

Adobe PageMaker 6.5 for Macintosh and Windows

The Windows and Macintosh versions of PageMaker 6.5 are similar. The illustrations in this section show only the Windows version, with the exception of instances where differences exist between the two versions.

PostScript Level 2 interface

PostScript Level 2 features, including color management, are incorporated into the PageMaker 6.5 application interface. When you print from PageMaker 6.5, you specify print options and color settings using PageMaker print dialog boxes. However, you must use a PostScript Level 2 (or higher) printer driver to access Fiery 500 print options when printing from PageMaker.

Windows version requirement

For the Windows version of PageMaker 6.5, make sure a copy of the Fiery 500 PPD file is in both of the following folders:

PM65\RSRC\USENGLSH\PPD4
Windows\System

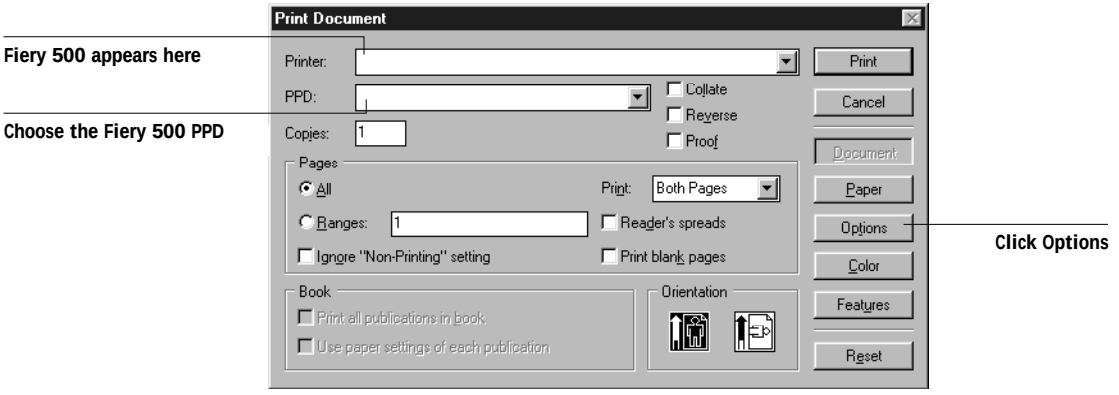
Importing images

All RGB images placed in your document are affected by your RGB Source and Rendering Style settings. For best results with placed images, use the instructions in “Importing images” on page 5-12 and “CMYK Simulation” on page 5-13.

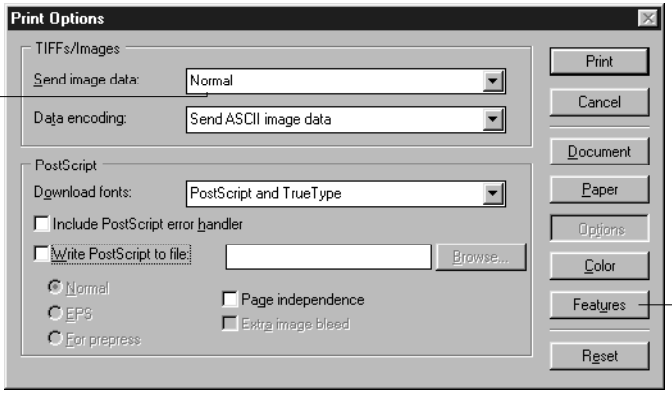
Advanced users can use PageMaker’s color management tools for added flexibility with placed RGB images (see “Assigning ICC profiles to RGB images” on page 5-16).

Selecting options when printing

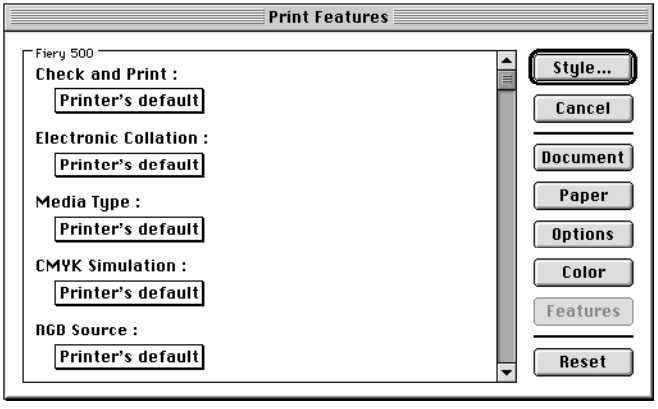
All print settings are specified from the various Print dialog boxes in PageMaker 6.5. The printer driver interface is not used.



In the Print Document dialog box, select the Fiery 500 PPD from the PPD menu.



In the Print Options dialog box, choose Normal (not the Optimized Subsampling default) from the Send image data menu. This setting ensures that TIFF images print at their full resolution.



If your document contains RGB placed images or colors defined in RGB that will not be separated to process colors, choose RGB Source and Rendering Style settings in the Print Features dialog box. Choose any other Fiery 500 print options you wish.

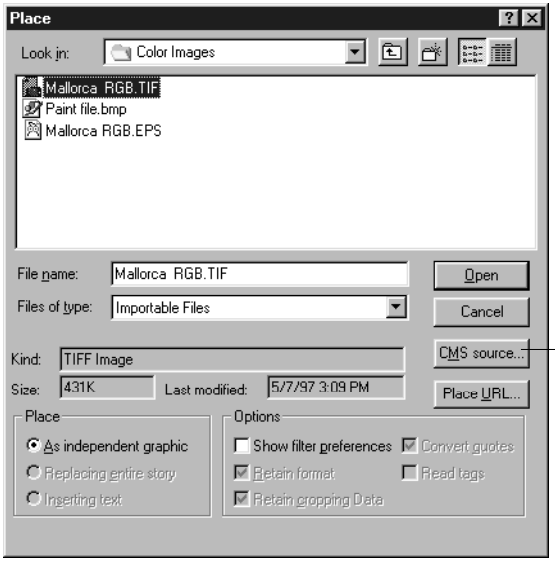
When you click Print from any of the PageMaker 6.5 dialog boxes the job is sent to the Fiery 500.

Assigning ICC profiles to RGB images

When you place a non-EPS RGB image (such as a TIFF, JPEG, or GIF image), you can specify an ICC target profile and a rendering intent for the image. You can assign a unique rendering intent to each image you import.

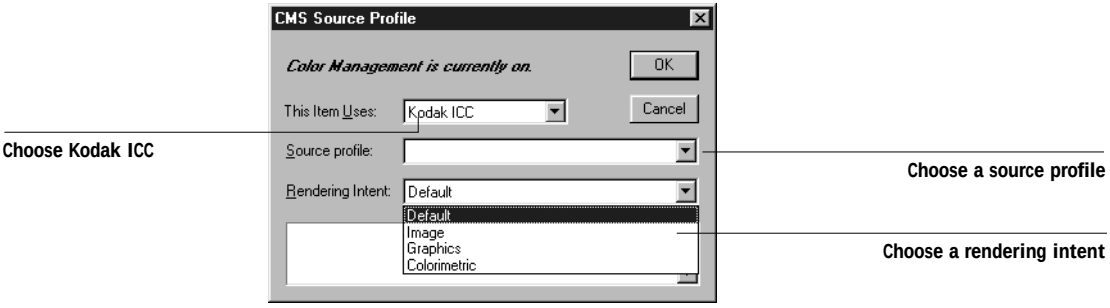
When you use this feature, PageMaker controls the color conversion of the RGB images (using the specified ICC profiles) and sends CMYK data to the Fiery 500. The CMYK data produced by these conversions is not separated for offset press standards; therefore you should set the CMYK Simulation print option to None (see "CMYK Simulation" on page 5-13). The RGB Source and Rendering Style settings have no effect on these images (unless you specify a CMYK Simulation setting other than None).

After selecting an image to import with the Place command, the CMS Source button becomes active in the Place dialog box.

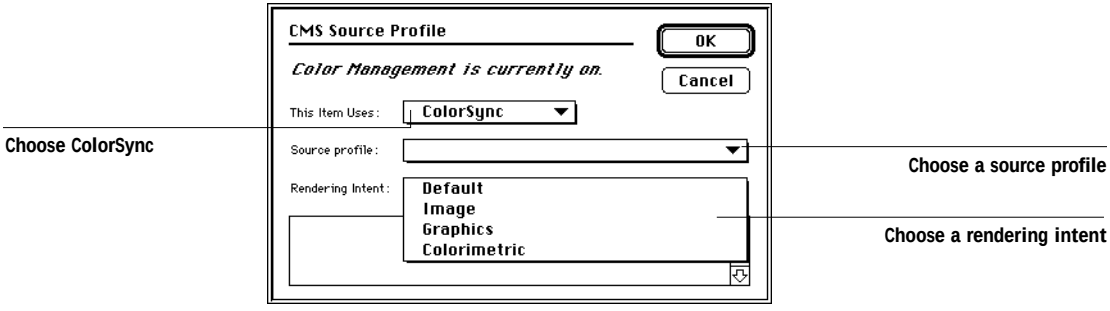


Click CMS Source and choose settings in the CMS Source Profile dialog box.

Windows



Macintosh



With the Macintosh version of PageMaker, choose ColorSync from the This Item Uses menu; with the Windows version, choose Kodak ICC.

The rendering intents correspond to Fiery 500 CRDs as follows:

- **Image**—similar to the Photographic CRD.
- **Graphics**—similar to the Presentation CRD.
- **Colormetric**—no corresponding CRD in the printer driver; best used for spot colors such as PANTONE colors.

The **Default** setting uses the profile's rendering intent.

You can also display this dialog box by selecting the image and choosing Image>CMS Source from the Element menu.

QuarkXPress 3.32 for Macintosh and Windows

Before starting QuarkXPress, make sure the EfiColor XTension is *not* loaded in the XTensions folder. EFICOLOR profiles are not currently provided with Fiery 500 printers. Without the correct EFICOLOR profile, the EfiColor XTension does not perform color conversions on placed images.

Windows version requirement

For the Windows version of QuarkXPress, make sure a copy of the Fiery 500 PPD file is in the XPRESS\PDF folder.

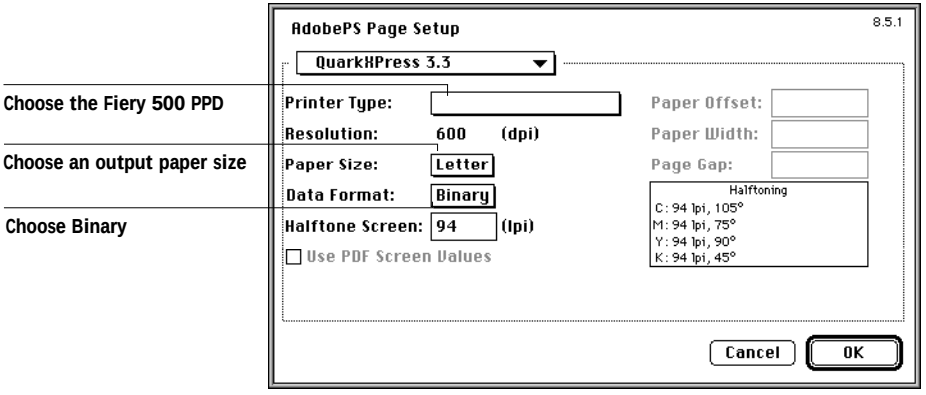
Importing images

All RGB images placed in your document are affected by your RGB Source and Rendering Style settings. For best results with placed images, see "Rendering styles" on page 1-18.

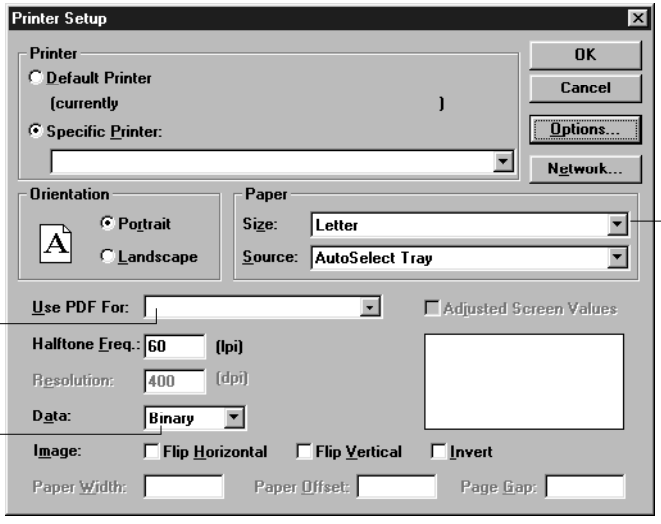
Selecting options when printing

You must select the Fiery 500 PPD from the Printer Type menu in the Page Setup (Macintosh) or Printer Setup (Windows) dialog box.

Macintosh



Windows



If your document contains RGB placed images or colors defined in RGB that will not be separated to process colors, choose RGB Source and Rendering Style settings. Choose any other Fiery 500 print options you wish.

Working with illustration applications

This section provides instructions for using Illustrator 7.0 for Macintosh and Windows, FreeHand 7.0 for Macintosh and Windows, and CorelDRAW 7.0 for Windows.

Before printing from these applications, make sure the PostScript and/or PCL printer driver is installed on your computer as described in *Getting Started*.

You can print directly from an illustration application or use it to create and save files that will be imported into a page layout document.

NOTE: These application notes provide instructions for printing composites only. For instructions on printing color separations, refer to the documentation for your application.

As a general rule, use the EPS file format when saving files from an illustration application.

Defining colors

All illustration applications use the CMYK color model. While some also allow you to define colors using other color models, they all send CMYK data to the Fiery 500. For predictable results, use the CMYK Color Reference page when defining colors. See “Choosing colors in PostScript applications” on page 5-29.

Importing images

In general, all images placed into illustration application documents should be in EPS format.

All RGB images placed in your document are affected by the RGB Source and Rendering Style settings. The Fiery 500 color management system applies the specified RGB Source setting to all RGB data and then uses the specified Rendering Style (CRD) to perform a color conversion. An exception to this occurs if you assign ICC profiles to RGB images using the application’s color management tools (see “Tips for advanced users”). In this case, the application performs the color conversion of the image and sends CMYK data to the Fiery 500.

If you apply any CMYK Simulation setting other than None to the job, CMYK data is also affected by the specified Rendering Style setting (“Rendering styles” on page 1-18).

Tips for advanced users

If you place multiple RGB images, some non-photographic and some photographic, a single CRD may not be suitable for all the images. In this case you may want the photographic images to bypass the CRD altogether. To accomplish this, separate the image to CMYK data with a pixel-editing application such as Photoshop and perform color correction on it. Then save it as an EPS or TIFF file and import it into the document. When specifying print option settings, set the CMYK Simulation option to None so that the Rendering Style setting will not be applied to CMYK data.

Alternatively, you can save the RGB image in TIFF format and assign it an ICC profile and rendering intent when you import it into the document (see the individual application notes in this chapter).

CMYK Simulation

You can specify a press simulation target for the job with the print option: "CMYK Simulation". The CMYK Simulation setting affects all CMYK color data sent by the illustration application. For information on CMYK Simulation settings, see "CMYK Simulation setting" on page 5-30.

- If the document contains CMYK images that were separated for an offset press standard, apply the corresponding CMYK Simulation setting. For example, for images separated for SWOP-Coated, choose SWOP-Coated as the CMYK Simulation setting.
- If the document contains CMYK images that were separated for a custom separation (not a press standard), choose None as the CMYK Simulation setting.

CorelDRAW 7.0 for Windows

Defining colors

Any colors defined in CorelDRAW are sent to the printer in CMYK—even those defined using other color models. For best results, use the color definition methods described in "Choosing colors in PostScript applications" on page 5-29.

You can control the conversion of RGB colors defined in CorelDRAW by specifying settings with the Color Manager (page 5-23).

Importing images

All RGB images placed in your document are affected by your RGB Source and Rendering Style settings. For best results with placed images, use the instructions on page 5-20.

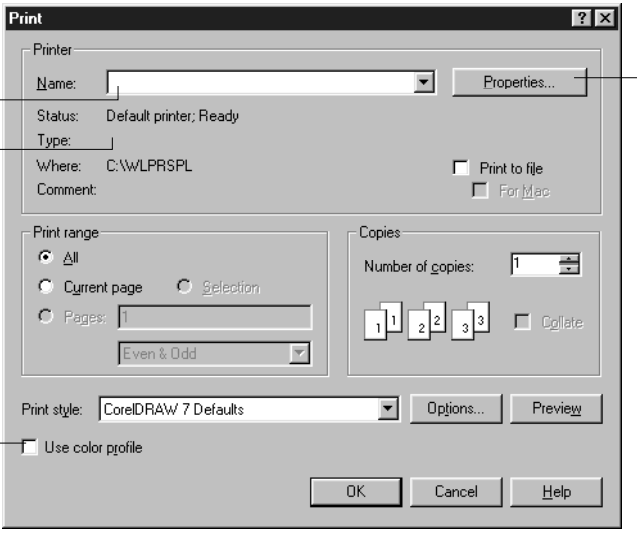
Advanced users can use CorelDRAW's color management tools for added flexibility with placed RGB images (see page 5-23).

Selecting options when printing

In the Print dialog box, make sure the correct printer and PPD are selected.

To use Fiery 500 color management, make sure the "Use color profile" option is *not* turned on. If this option is turned on, CorelDRAW's color management settings are used to convert RGB colors and images to CMYK (see page 5-23).

Click Properties to specify Fiery 500 print options.



Printer name appears here

Printer driver/PPD name appears here

Turn off to use Fiery 500 color management

Click to access Fiery 500 print options

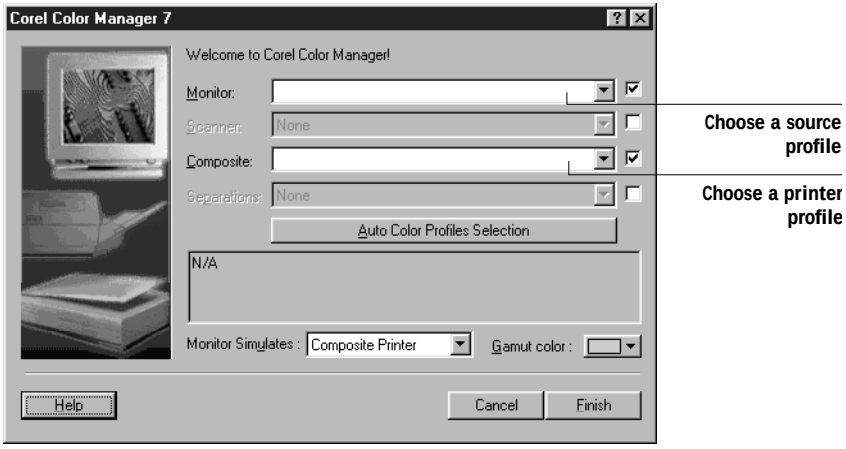
Saving files for importing into other documents

When saving files in CorelDRAW for importing into other types of documents, use the EPS file format.

CorelDRAW saves all color information in CMYK, so CRDs have no effect on color output of artwork saved with CorelDRAW and imported into other kinds of documents. In the case of CorelDRAW files imported into Photoshop, however, vector data from the CorelDRAW file is rasterized into bitmaps in Photoshop, and the final color space of the bitmap data is determined by the color mode you set in Photoshop.

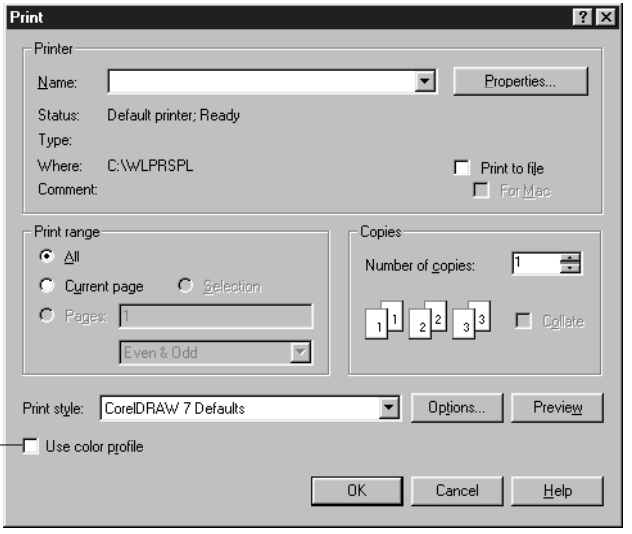
For advanced users—CorelDRAW color management

If the document contains RGB images or colors defined in RGB, you can use the CorelDRAW Color Manager to specify ICC profiles.



In the Color Manager dialog box, select ICC profiles from the four menus. Refer to your CorelDRAW 7.0 documentation for instructions on setting the options in this dialog box. These settings affect only RGB images and colors defined in RGB—they have no effect on RGB EPS images.

In the Print dialog box, turn on the “Use color profile” option. The printer profile you selected appears to the right of this checkbox.



Turn on to use CorelDRAW’s color management

Adobe Illustrator 7.0 for Macintosh and Windows

The Windows and Macintosh versions of Illustrator 7.0 are similar. The illustrations in this section show only the Macintosh version, with the exception of instances where differences exist between the two versions.

Defining colors

Any colors defined in Illustrator are sent to the printer in CMYK—even those defined using other color models. For best results, use the color definition methods described on “Choosing colors in PostScript applications” on page 5-29.

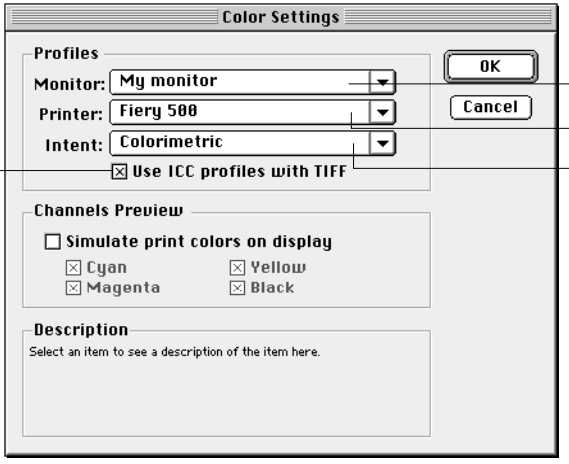
Color Settings

You can control the conversion of RGB colors defined in Illustrator by specifying settings in the Color Settings dialog box.

With Macintosh computers, you can specify the EFIRGB ICC profile as the Monitor profile. This defines the same source color space for RGB data defined in Illustrator as is defined by the Fiery 500 RGB Source setting of EFIRGB (see page 1-17).

If the “Use ICC profiles with TIFF” option is checked, you can specify an ICC profile and a rendering intent for each RGB TIFF image you place in the document (see “For advanced users—Illustrator color management” on page 5-28).

Macintosh



Importing images

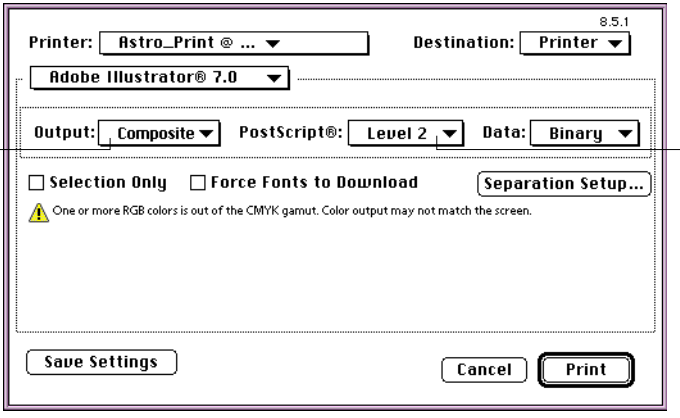
All RGB images placed in your document are affected by your RGB Source and Rendering Style settings. For best results with placed images, use the instructions in “Importing images” on page 5-20 and “CMYK Simulation” on page 5-21.

Advanced users can use Illustrator’s color management tools for added flexibility with placed RGB images (see “For advanced users—Illustrator color management” on page 5-28).

Selecting options when printing

Choose Composite output and, if you are using the PostScript printer driver, PostScript Level 2.

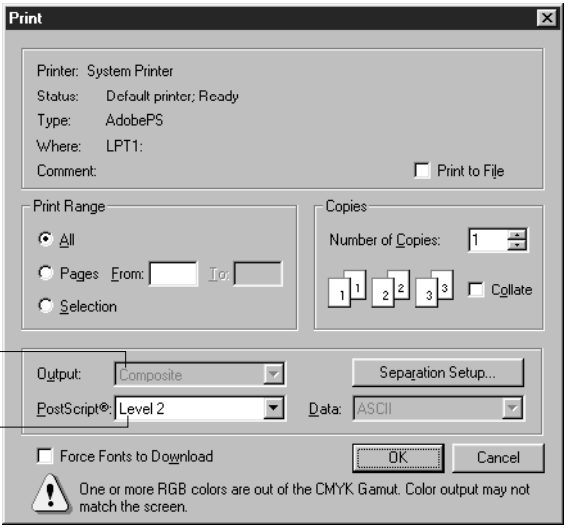
Macintosh



Choose Composite

Choose PostScript Level 2

Windows



Choose Composite

Choose PostScript Level 2

If your document contains placed RGB images, choose RGB Source and Rendering Style settings. With the exception of placed RGB images, these settings have no effect on colors printed with Illustrator 7.0 (unless you specify a CMYK Simulation setting other than None).

The PostScript Color Matching setting (made from the Macintosh printer driver) has no effect on colors printed from Illustrator 7.0. The effect of CRDs on placed RGB images is independent of this setting.

For information on print options, see Chapter 2 if you use a Macintosh; Chapters 3 and 4 if you use a PC.

Saving files for importing into other documents

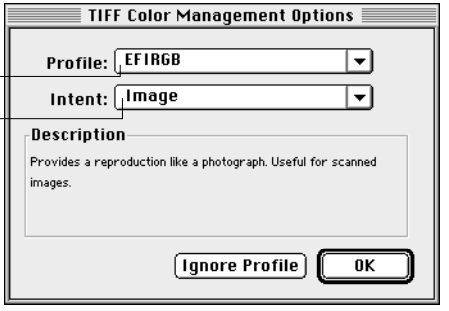
When saving files in Illustrator 7.0 for importing into other types of documents, use the EPS file format.

Illustrator saves all color information in CMYK, so RGB Source and Rendering Style settings have no effect on color output of artwork saved with Illustrator and imported into other kinds of documents. (An exception occurs if you apply a CMYK Simulation setting other than None to the CMYK data; see “For advanced users—Illustrator color management” on page 5-28.) In the case of Illustrator files imported into Photoshop, however, vector data from the Illustrator file is rasterized into bitmaps in Photoshop, and the final color space of the bitmap data is determined by the color mode you set in Photoshop.

For advanced users—Illustrator color management

When you place an RGB TIFF image, you can specify an ICC profile and a rendering intent for the image. You can assign a unique rendering intent to each image you import. To use this feature, make sure the "Use ICC profiles with TIFF" option is checked in the Color Settings dialog box. (See page 5-24)

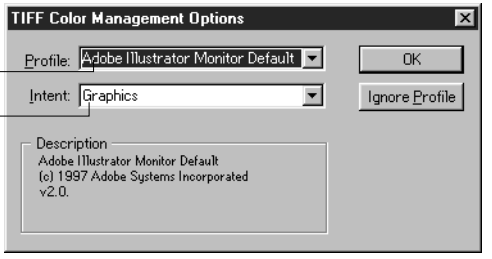
Macintosh



Choose an ICC profile

Choose a rendering intent

Windows



Choose an ICC profile

Choose a rendering intent

The rendering intents correspond to Fiery 500 CRDs as follows:

- **Image**—similar to the Photographic CRD.
- **Graphics**—similar to the Presentation CRD.
- **Colorimetric**—no corresponding CRD in the printer driver; best used for spot colors such as PANTONE colors.

The **Default** setting uses the profile's rendering intent.

For more information on Illustrator's color management features, see your Illustrator documentation.

Choosing colors in PostScript applications

With PostScript applications, you can create colors using any of the color models supported by the application. All PostScript applications support the CMYK model; some also support the RGB model and other color models based on monitor display values. PostScript applications also allow you to choose named colors using one or more color libraries, such as PANTONE.

The important thing to remember when creating or choosing colors is that the displayed versions of those colors may not match Fiery 500 output or the output of identically defined colors from other color print devices. For this reason, you should use color matching to ensure predictable color printing results with the Fiery 500.

Color Reference files

Two color reference files have been included on the User Software CD, a CMYK and a PANONE color reference file.

Insert the User Software CD into your CD-ROM drive and use the installer's Custom option to select the reference files to copy to disk. You can also navigate to the Color Reference (Macintosh) or Clrfiles (Windows) directory, and manually copy the files to your hard disk.

Using the CMYK color reference page

The CMYK color reference pages let you see how various cyan, magenta, yellow, and black combinations look when printed on your particular printer. The CMYK color reference file is an 11-page, letter- or A4-size PostScript file.

To print the CMYK pages, download the file using WebDownloader (Windows) or Adobe Downloader (Macintosh). (For instructions on using WebDownloader, see Chapter 7.) The printed pages display groups of color patches in graduated combinations of yellow, magenta, and cyan, and smaller patches that include 25, 50, and 75% black. Refer to these pages to pick colors and specify process color values in your application.

Using the PANTONE color reference pages

The PANTONE color reference pages let you see how the PANTONE named color patches look when printed on your particular printer. The PANTONE color reference file is a 19-page, letter- or A4-size PostScript file.

To print the PANTONE pages, download the file using WebDownloader (Windows) or Adobe Downloader (Macintosh). (For instructions on using WebDownloader, see Chapter 7.)

CMYK Simulation setting

If you are using the Fiery 500 to print proofs for an offset press job or to simulate another print device, choose the appropriate CMYK Simulation setting. The CMYK Simulation setting specifies the offset press standard that you want to simulate.

The CMYK Simulation setting you should specify depends on the press standard for which the CMYK data was separated. For example, for images that were separated for SWOP-Coated paper, choose SWOP-Coated as the CMYK Simulation setting. Select SWOP-Coated to simulate printing to a standard American offset press, Euroscale to simulate a European offset press, or DIC to simulate a standard Japanese offset press. For images that were separated using a custom separation (such as a device-specific separation or a separation produced with an ICC-profile), choose None as the CMYK Simulation setting.

Chapter 6: Managing Print Jobs

Fiery WebTools allow you to manage your printer from the Internet or your company's intranet. The Fiery 500 has its own home page, from which you can select a variety of tools.

About Fiery WebTools

You can access the Fiery WebTools over the network from a variety of platforms. The Fiery 500 functions as an Internet or intranet server, and has a home page that lets remote users view server functions and manipulate jobs. The client computer requires an Internet browser that supports Java. The recommended browser versions are:

- For Macintosh computers, Netscape Navigator 4.06 and later,
- For Windows computers, Netscape Communicator 4.06 and later or Microsoft Internet Explorer 4.x and later.

Netscape and Microsoft continue to release frequent updates to their browsers. As support cannot be guaranteed for all versions, use the versions specified above for best results.

NOTE: Windows NT 4.0 users must download the Windows NT 4.0 Service Pack 3 or later, to run Fiery WebDownloader with Netscape Communicator 4.06. Fiery WebDownloader is available only for Windows computers.

For information about preparing the Fiery 500 for Fiery WebTools access, see *Getting Started*.

You can access Fiery WebTools from the Fiery 500 home page.

WebTool:	Description:
Status	Shows you the jobs currently processing and printing.
WebSpooler	Allows you to view, manipulate, reorder, reprint, and delete jobs currently spooling, processing, or printing on the Fiery 500. Allows you to print the remainder of spooled Check and Print jobs and to view, print, and delete the Job Log. **NOTE:** WebSpooler is available only if your printer has an optional hard disk drive installed.
WebLink	Provides a link to another web page, provided you have a valid Internet connection. You can set the WebLink destination.
WebDownloader	Allows you to download a PostScript or PCL file or PostScript Type 1 font file directly to the printer, without first opening the file in an application. **NOTE:** WebDownloader is available only for Windows computers.
WebSetup	Allows you to view and change printer setup options, including: System Setup, Network Setup, and Printer Setup.

Accessing Fiery WebTools

To use the Fiery WebTools via the Internet or your site's intranet, you need an Internet browser and the IP address or DNS name of the Fiery 500.

TO ACCESS THE FIERY WEBTOOLS:

1. **Start up your Internet browser application.**
2. **Enter the IP address or the DNS name of the Fiery 500 in the URL line of your browser.**

Get the IP address or DNS name from your network administrator.

3. The Fiery WebTools home page appears.

The individual Fiery WebTools are listed on the left. To display information about a particular tool, click the question mark next to its name. To launch one of the Fiery WebTools, click its name.

Using Fiery WebSpooler

If your printer has an optional hard disk drive installed, Fiery WebSpooler lets you monitor and manipulate print jobs sent to the Fiery 500. All jobs sent to the printer appear in the Fiery WebSpooler window. You can view information about jobs, or copy, delete, or move jobs between queues.

NOTE: Fiery WebTools for Macintosh and Windows computers are fundamentally the same; differences are noted in this chapter.

Print jobs can be in one of the following queues:

Print	Normal print jobs sent to the Fiery 500 appear in the Print queue. You can move and manipulate these jobs as described below.
Hold	Jobs sent to the Hold queue remain in the Hold queue until they are moved to the Print queue or deleted. If you need to print the same document frequently, you can send it to the Hold queue and move a copy of the job to the Print queue every time you need to print it. You can also print large jobs to the Hold queue and then move them to the Print queue when other users are not printing.
Printed	The jobs most recently sent to the Fiery 500 are saved in the Printed queue. You can drag these jobs back to the Print queue to print additional copies. By default the maximum number of jobs that can be saved in the Printed queue is 10. This number can be changed using the printer's operation panel.
Check and Print	Jobs specified from the printer driver as Check and Print also appear in the WebSpooler window. These jobs can be moved to the Print queue. **NOTE:** You can set the number of copies using the Override Print Settings option in the Edit menu.

NOTE: Job spooling requires a printer with an optional hard disk drive. All jobs are stored on the Fiery 500 hard disk until sent to the Print queue.

You can use the Fiery WebSpooler Job Log to view information about jobs printed to the Fiery 500 for job accounting or reference purposes. The Job Log can be printed to the Fiery 500 or exported as a file and viewed in other applications.

TO USE FIERY WEBSPOOLER:

1. **On the left side of the Fiery WebTools home page, click the WebSpooler button.**

   The Fiery WebSpooler main window appears.

Icons appear on buttons above the scroll list:

Update — Click this button to update the information in the Fiery WebSpooler main window.

Duplicate and Print — Drag a document onto this button or select the document and click this button to duplicate it and put the duplicate in the Print queue.

	Print	Drag a document onto this button or select the document and click this button to move it to the Print queue.
	Hold	Drag a document onto this button or select the document and click this button to save it in the Hold queue.
	Delete/ Cancel	Drag a file onto this button or select the document and click this button to delete the file, or cancel its processing or printing. To eliminate the deletion verification notice, turn off the **Confirm file deletion** option in the Preferences window.

The window is divided into regions that correspond to the different queues.

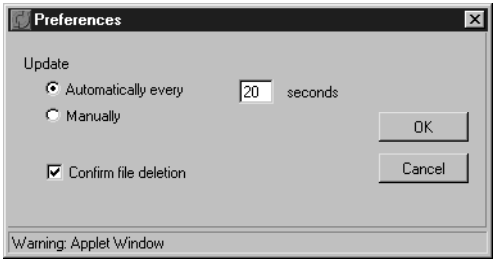
Each job listed includes the document name, user name, page description language (PCL or PS), and file size.

The icons to the left of the job provides at a glance information about the jobs in each queue:

Printing 	Print icon	The job that is currently printing appears in this list. It can be deleted to cancel printing.
Waiting 	Print icon	Jobs that have been processed and are waiting to be printed appear in this list. To cancel these jobs, you can delete them. They are dimmed because their settings cannot be changed. Processing jobs can't be moved or canceled.
Ripping 	RIP icon	Jobs that are processing appear in the Ripping list. They are dimmed because their settings cannot be changed. Processing jobs can't be moved or canceled.
Print 	Print icon	Jobs that are waiting to be printed that have not been processed appear with the Print icon. Jobs in the Print list appear in the order they will be printed.
Hold 	Hold icon	Jobs in the Hold queue appear with the Hold icon. You can move a job to the Print queue to print it.

Printed		Printed icon	Jobs that have been printed are saved in the Printed queue and appear with the Printed icon. By default the number of jobs that may be stored in the Printed queue is 10. This number can be changed in the Printer Setup menu from the printer's operation panel
Check and Print		Check and Print icon	If you selected the Check and Print option for your job, it will appear in the Check and Print area of the WebSpooler window with this icon. Once you have checked the job, you can use the Override Print Settings option of the Edit menu to send the other copies.
Printed		Alert icon	If a PostScript error occurred while a job was printing, the error appears in the Printed queue with an Alert icon next to it. You can double-click the Alert icon to display the error message.

2. Choose Preferences from the Edit menu to specify how Fiery WebSpooler operates.



You can use this window to specify that the Fiery 500:

Update **Automatically every *n* seconds** or update **Manually—**This option lets you specify whether the Fiery WebSpooler main window is automatically updated at a specified interval, or whether it is updated only when you choose the Update command from the Window menu or click the Update icon. By default, the Fiery WebSpooler main window is updated automatically every 20 seconds.

NOTE: When automatic updating is on, data is coming from the Fiery 500 across the network very frequently. This data adds to the network traffic, and might slow down other network jobs. For optimal network performance, turn off automatic updating. When you want to view updated informations, choose Update from the Window menu or click the Update icon.

Confirm file deletion—Check this option if you want a confirmation dialog box to appear before you delete a file.

NOTE: This option applies to the current session only.

Duplicating, copying, moving, and deleting jobs

Users can copy, move, delete, and configure jobs for all users, and can reorder jobs within a queue. You can select more than one job at a time. To select multiple, adjacent jobs in the list, use Shift-click. To select multiple, non-adjacent jobs, use Ctrl-click (Shift-Ctrl-click on Macintosh).

Duplicating jobs

You can duplicate jobs in the Print, Printed, and Hold queues. When you duplicate a job, the Fiery 500 creates a reference to the original file, so duplicate files do not require the full amount of disk space on the Fiery 500. As long as one of the duplicates remain, the Fiery 500 saves the file, so you can delete all but one reference to a file.

TO DUPLICATE A JOB WITHIN A QUEUE:

1. **Select the job that you want to copy by clicking its name.**

   The selected job is highlighted.

2. **Choose Duplicate Job from the Edit menu.**

   The job appears at the bottom of the queue.

TO DUPLICATE AND PRINT A JOB:

1. **Select the job that you want to copy by clicking its name.**

   The selected job is highlighted.

2. **Click the Duplicate and Print icon, or drag the job to the Duplicate and Print icon.**

   The job appears at the bottom of the Print queue.

Copying and moving jobs

You can move your jobs from the Hold queue and the Printed queue to the Print queue. If you frequently print the same file, for example a fax cover sheet, you can

send it to the Hold queue and later drag a copy of the file to the Print queue. By copying rather than moving a job, you leave a copy of the job in the Hold queue so that you can easily print the job again later.

TO COPY A JOB TO ANOTHER QUEUE:

1. **Select the job that you want to copy by clicking its name.**

   The selected job is highlighted.

2. **Hold down the Option (Macintosh) or Ctrl (Windows) key as you drag the job to either the Hold or Print queue icon or to the Hold or Print section of the job list.**

   A copy of the job is moved to the queue you have selected, but the original job still appears in the Hold or Printed queue so that you can print the job at another time.

TO MOVE A JOB WITHIN A QUEUE:

1. **Click the name of the job that you want to move.**

   The selected job is highlighted.

2. **Drag the file to the new location in the queue.**

TO MOVE JOBS BETWEEN QUEUES:

1. **Select the job that you want to move by clicking its name.**

   The selected job is highlighted.

2. **Move the selected job to another queue by dragging it to the queue icon of your choice or to the Hold or Print section of the job list.**

   For example, move a job that is currently in the Hold queue to the Print queue by dragging the job to the Print queue icon.

TO DELETE A JOB FROM ANY OF THE QUEUES:

1. **Select the job that you want to delete by clicking its name.**
2. **Drag the selected job to the Delete icon or click the Delete icon.**

   You can also choose Delete from the Edit menu to delete a selected job.

   You can delete only your own jobs; system administrators who enter the password can delete any job.

Changing print settings

You can change the copy count for only Check and Print jobs in the Fiery WebSpooler main window.

You can override the copy count of a Check and Print job in the Override print settings dialog box. The settings in this dialog box override the settings in the operation panel Printer Setup menu.

TO CHANGE PRINT SETTINGS FOR A JOB:

1. **Double-click a Check and Print job or select the job and choose Override Print Settings from the Edit menu.**

   The Override Print Settings window appears.
2. **Choose the new settings from the pop-up menus.**
3. **Click OK.**

Using the Job Log

With Fiery WebSpooler, you can view and print a log of all the jobs printed to the Fiery 500. You can also export the Job Log as a tab-delimited text file and import into a database, spreadsheet or word processing application for job accounting purposes. All jobs printed to queues and to the direct connection are listed in the Job Log. Although jobs sent to the direct connection do not appear in the Printed queue, they do appear in the Job Log.

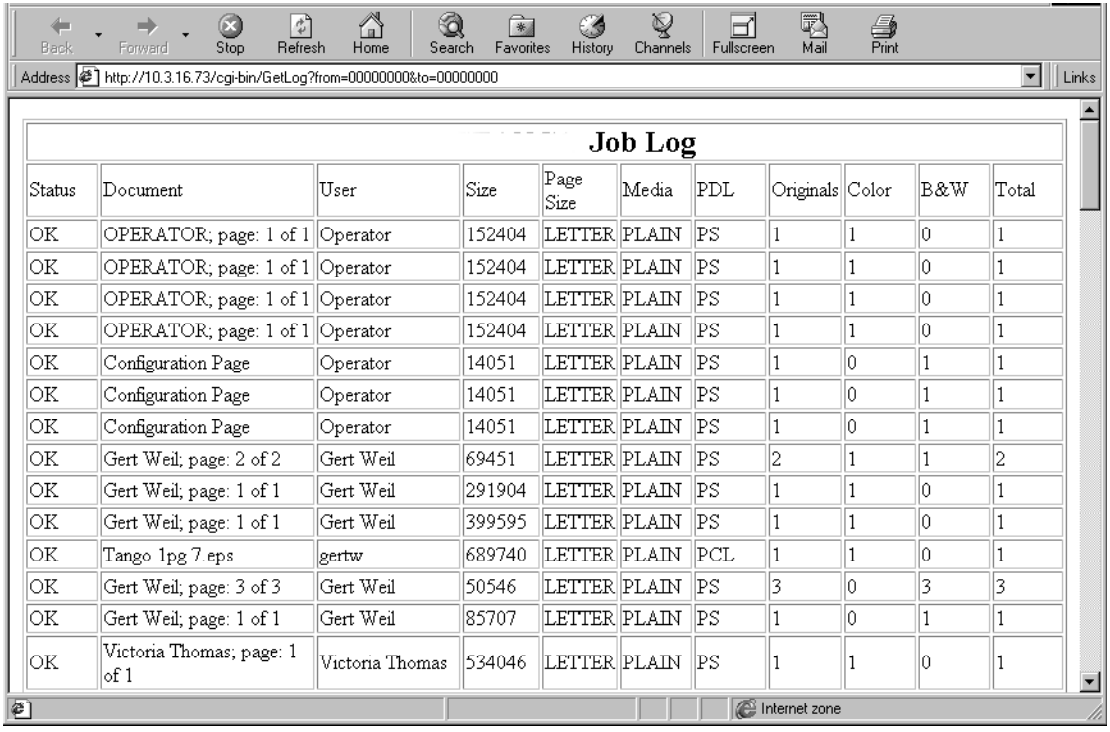
TO DISPLAY, PRINT, AND SAVE THE JOB LOG:

1. **Choose Show Job Log from the Window menu.**

   The Job Log window appears in a new browser window.

   The Job Log window displays a list of all the jobs and the following information about them: status, document name, user name, file size, media type, number of color pages, page description language, number of originals, number of black and white or color pages, and total number of pages.

   Use the scroll bar at the right of the window to view all fields in the Job Log window.



Job Log

Status	Document	User	Size	Page Size	Media	PDL	Originals	Color	B&W	Total
OK	OPERATOR; page: 1 of 1	Operator	152404	LETTER	PLAIN	PS	1	1	0	1
OK	OPERATOR; page: 1 of 1	Operator	152404	LETTER	PLAIN	PS	1	1	0	1
OK	OPERATOR; page: 1 of 1	Operator	152404	LETTER	PLAIN	PS	1	1	0	1
OK	OPERATOR; page: 1 of 1	Operator	152404	LETTER	PLAIN	PS	1	1	0	1
OK	Configuration Page	Operator	14051	LETTER	PLAIN	PS	1	0	1	1
OK	Configuration Page	Operator	14051	LETTER	PLAIN	PS	1	0	1	1
OK	Configuration Page	Operator	14051	LETTER	PLAIN	PS	1	0	1	1
OK	Gert Weil; page: 2 of 2	Gert Weil	69451	LETTER	PLAIN	PS	2	1	1	2
OK	Gert Weil; page: 1 of 1	Gert Weil	291904	LETTER	PLAIN	PS	1	1	0	1
OK	Gert Weil; page: 1 of 1	Gert Weil	399595	LETTER	PLAIN	PS	1	1	0	1
OK	Tango 1pg 7 eps	gertw	689740	LETTER	PLAIN	PCL	1	1	0	1
OK	Gert Weil; page: 3 of 3	Gert Weil	50546	LETTER	PLAIN	PS	3	0	3	3
OK	Gert Weil; page: 1 of 1	Gert Weil	85707	LETTER	PLAIN	PS	1	0	1	1
OK	Victoria Thomas; page: 1 of 1	Victoria Thomas	534046	LETTER	PLAIN	PS	1	1	0	1

The text in the Status column provides information about the job:

OK	The job was printed normally.
ERROR	A PostScript error occurred while a job was processing. You can double-click ERROR to display the error message. A dialog box displays the PostScript error. Click OK to close the dialog box.
CANCEL	The job was canceled before printing was completed.

2. **To print the Job Log, choose Print Job Log from the WebSpooler File menu or click the Print icon above the list of jobs.**

   The information displayed in the Job Log window prints to the current Fiery 500. When you print the Job Log, totals are printed for all appropriate columns.

3. **To save the Job Log as a file that you can view with a different application, choose Export Job Log from the WebSpooler File menu.**

4. **Enter a name for the log file, and click Save.**

   The Job Log is saved as a text file, and the Job Log window reappears.

   You can view the information in any application that can read a text file. Items are separated by tabs.

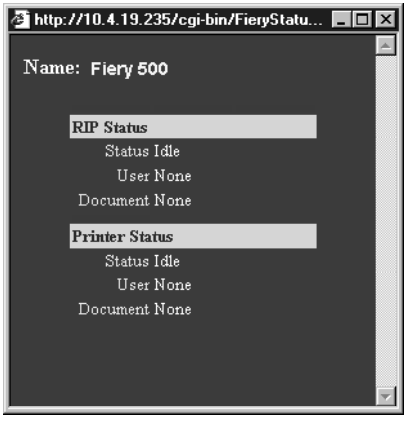
Checking the printer status

You can see what jobs are currently processing and printing with the Status WebTool.

TO ACCESS THE STATUS WEBTOOL:

- **On the left side of the Fiery WebTools home page, click the Status button.**

  The Status window appears in a new browser window.



You can close other browser windows and leave the Status window open to continue checking the status of the Fiery 500. As long as you keep the Status window open, it is dynamically updated.

The messages displayed in the Status window are explained in the following list:

Check input tray.	The paper path is open. Check tray to make sure they are closed and in place.
Close front cover.	The front cover is open. Close the cover to continue printing.
Close left cover.	The left cover is open. Close the cover to continue printing.
Close paper exit cover.	The rear cover is open. Close the cover to continue printing.

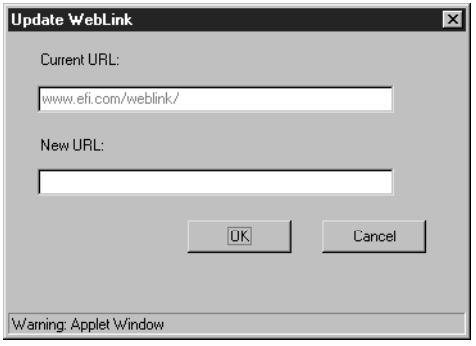
Cover open.	The lower front cover or top cover is open. Close the cover to continue printing.
Door open. Check all doors.	One or more doors is open. Close the door to continue printing.
Idle	The Fiery 500 is not processing or printing any jobs.
Load __ __ __.	Load the appropriate media size and type in the corresponding tray.
Load Bypass __ __.	Load the appropriate media size and type in the Bypass tray.
Open front cover. Remove misfeed.	A paper jam has occurred. Remove jammed paper from drum to continue printing.
Paper misfeed.	A paper jam has occurred. Removed jammed paper to continue printing.
Paper size error __. Open and close cover to clear.	The incorrect paper size was loaded in the indicated tray. Check the paper size setting for the indicated tray.
Paper too long. Clear jam. Load MP Tray __.	The media loaded in the MP Tray is longer than specified. Removing the remaining media and load the correct media type and size in the MP Tray.
Paper too short. Load MP Tray __ __.	The media loaded in the MP Tray is shorter than specified. Removing the remaining media and load the correct media type and size in the MP Tray.
Printing	The Fiery 500 is printing a job.
Processing	The Fiery 500 is processing a job so that it can be printed.

Remove misfeed from input tray.	A paper jam has occurred. Removed jammed paper from input tray to continue printing.
Remove misfeed from output tray.	A paper jam has occurred. Removed jammed paper from feed area to continue printing.
Unexpected paper size MP Tray. Load __ __.	The paper size specified for this job does not match the size or type of media in the MP Tray. Printing stops until the problem is resolved.

NOTE: For a list of messages which appear on the operation panel, see *Printer Reference*.

Linking to other web sites

WebLink links you to the EFI home page (www.efi.com), provided a valid Internet connection is available. You can change the WebLink destination by holding down the Control key and clicking the WebLink button. In the New URL field, type the new WebLink address and click OK.



NOTE: Any change to the WebLink destination remains permanent until changed again.

Viewing and modifying Setup options

You can remotely view and modify the current configuration of your printer using Fiery WebSetup, which provides remote access to the printer's setup menu options: System Setup, Network Setup, and Printer Setup.

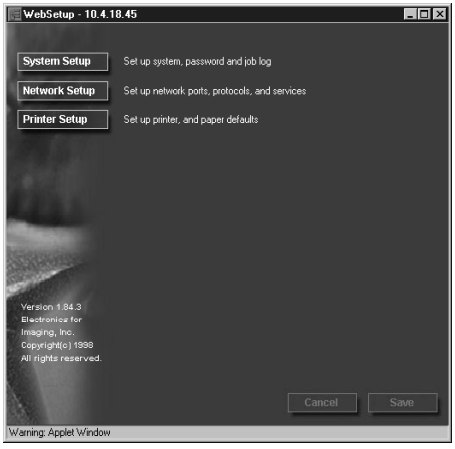
NOTE: Initial Printer Setup, specifically, setting the printer's IP address, as well as its gateway, subnet mask, and password (if they are used), must be performed from the printer's operation panel. Additional options may be specified using the control panel, or Fiery WebSetup.

For information on setting up the printer from the operation panel, see *Getting Started*.

TO ACCESS FIERY WEBSETUP:

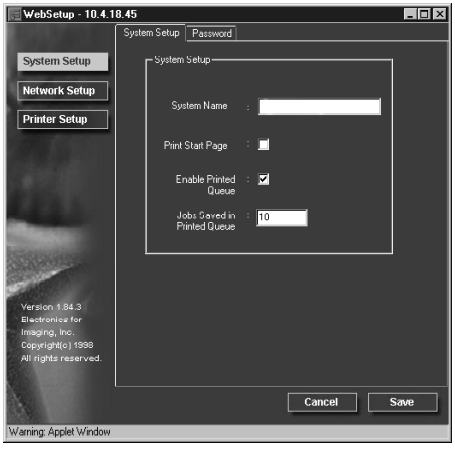
1. **On the left side of the Fiery WebTools home page, click the WebSetup button.**

   If a password has been set on the printer, you will be prompted to enter it before you can access Fiery WebSetup.



   For detailed information about Setup options, see *Getting Started*.

2. Click the System Setup button.



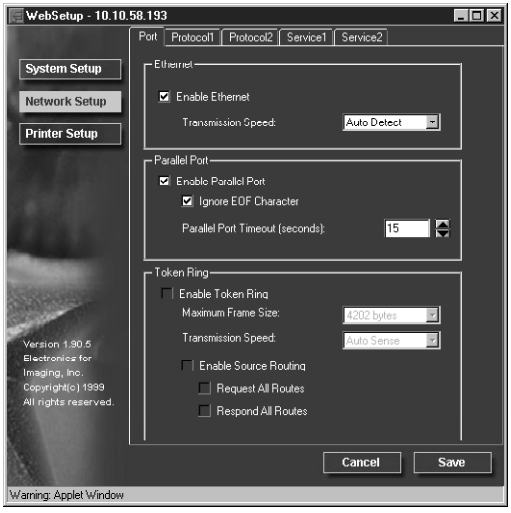
System Setup options appear in the System Setup tab. You can also access the Password from this window.

When you change an option, the Cancel and Save buttons flash on the screen.

- Click Save to save a change made to the setting.
- Click Cancel to cancel the change.

NOTE: You must select either Cancel or Save before you can proceed to a different setup section or exit the WebSetup screen.

3. Click the Network Setup button.



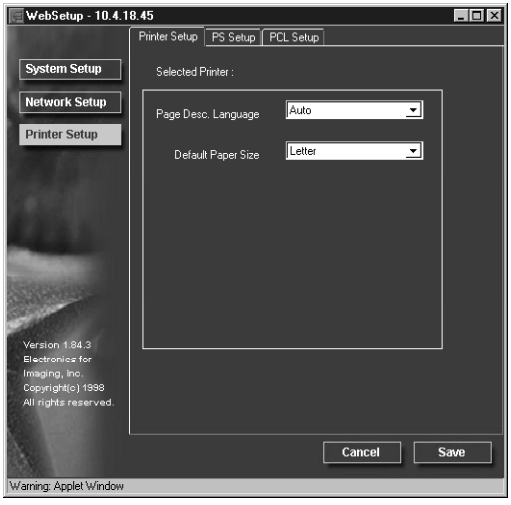
Network Setup options appear in the Port Setup tab. You can also access Protocol Setup and Service Setup from this window.

When you change an option, the Cancel and Save buttons flash on the screen.

- Click Save to save a change made to the setting.
- Click Cancel to cancel the change.

NOTE: If the Token Ring option is not installed in your printer, Token Ring options are dimmed.

4. Click the Printer Setup button.



Printer Setup options appear on the Printer setup tab. You can also access PS and PCL Setup from this window.

When you change an option, the Cancel and Save buttons flash on the screen.

- Click Save to save a change made to the setting.
- Click Cancel to cancel the change.

NOTE: You must click either Save or Cancel before you can proceed or exit Fiery WebSetup.

Using Fiery WebDownloader

Using Fiery WebDownloader, you can send PostScript, PCL, or text files to the printer without first opening the file in an application. You can also download PostScript and Adobe Type 1 fonts (*.pfb). When downloading fonts, be sure to check the Font box.

You can print a list of all resident printer fonts from the operation panel. See *Getting Started* for instructions on how to print a list of fonts. Appendix A of this manual lists all resident printer fonts included with the Fiery 500.

NOTE: If your document uses TrueType fonts, they can be correctly printed by first converting them to Adobe Type 1 fonts.
For the Adobe PostScript printer driver for Windows 98 and Windows 95, click the Fonts tab and set up the Font Substitution table as necessary.

Appendix A: Fonts and Font Utilities

This appendix lists the built-in fonts included with your Fiery 500 printer.

NOTE: This product includes UFST font scaling technology under license from Agfa Division, Bayer Corporation.

The PCL font number appears in parentheses to the right of the font's name.

PCL fonts

The Fiery 500 includes 46 fonts.

Intellifont Typfaces:

- Albertus Medium (27), Albertus Extra Bold (28)
- Antique Olive (19), Antique Olive-Bold (20), Antique Olive-Italic (21)
- CG Omega (5), CG Omega-Bold (6), CG Omega-Italic (7), CG Omega-BoldItalic (8)
- CG Times (1), CG Times-Bold (2), CG Times-Italic (3), CG Times-BoldItalic (4)
- Clarendon Condensed (10)
- Coronet (9)
- Garamond Antiqua (22), Garamond Halbfett (23), Garamond Kursiv (24), Garamond Kursiv Halbfett (25)
- Letter Gothic (42), Letter Gothic-Bold (43), Letter Gothic-Italic (44)
- Marigold (26)
- Univers Medium (11), Univers Bold (12), Univers Medium Italic (13), Univers BoldItalic (14)
- Univers Medium Condensed (15), Universe Bold Condensed (16) Univers Medium Condensed Italic (17), Universal Bold Condensed Italic (18)

Bitmap font:

- Line Printer (45)

True Type fonts:

- Arial (29), Arial-Bold (30), Arial-Italic (31), Arial-BoldItalic (32)
- Courier (0), Courier-Bold (39), Courier-Italic (40), Courier-BoldItalic (41)
- Symbol (37)
- Times New Roman (33), Times New Roman-Bold (34), Times New Roman-Italic (35), Times New Roman-BoldItalic (36)
- Wingdings (38)

PostScript fonts

Listed below are the 136 built-in PostScript printer fonts on the Fiery 500.

NOTE: All fonts that are pre-installed on your printer have also been included on the User Software CD. For information on how to install these fonts on your computer, see *Getting Started*.

Adobe Type 1 PostScript fonts

The Fiery 500 includes 117 Adobe Type 1 fonts:

- AlbertusMT, AlbertusMT-Italic, AlbertusMT-Light
- AntiqueOlive-Roman, AntiqueOlive-Bold, AntiqueOlive-Compact, AntiqueOlive-Italic
- AvantGarde-Book, AvantGarde-BookOblique, AvantGarde-Demi, AvantGarde-DemiOblique
- Bodoni, Bodoni-Bold, Bodoni-Italic, Bodoni-BoldItalic, Bodoni-Poster, Bodoni-PosterCompressed
- Bookman-Demi, Bookman-DemiItalic, Bookman-Light, Bookman-LightItalic
- Carta
- Clarendon, Clarendon-Bold, Clarendon-Light
- CooperBlack, CooperBlack-Italic
- Copperplate-ThirtyThreeBC, Copperplate-ThirtyTwoBC
- Coronet

- Courier, Courier-Bold, Courier-Oblique, Courier-BoldOblique
- Eurostile, Eurostile-Bold, Eurostile-ExtendedTwo, Eurostile-BoldExtendedTwo
- GillSans, GillSans-Bold, GillSans-Italic, GillSans-BoldItalic, GillSans-Condensed, GillSans-BoldCondensed, GillSans-Light, GillSans-LightItalic, GillSans-ExtraBold
- Goudy, Goudy-Bold, Goudy-Italic, Goudy-BoldItalic, Goudy-ExtraBold
- Helvetica, Helvetica-Bold, Helvetica-BoldOblique, Helvetica-Oblique
- Helvetica-Condensed, Helvetica-Condensed-Bold, Helvetica-Condensed-BoldOblique, Helvetica-Condensed-Oblique
- Helvetica-Narrow, Helvetica-Narrow-Bold, Helvetica-Narrow-BoldOblique, Helvetica-Narrow-Oblique
- JoannaMT, JoannaMT-Bold, JoannaMT-Italic, JoannaMT-BoldItalic
- LetterGothic, LetterGothic-Bold, LetterGothic-BoldSlanted, LetterGothic-Slanted
- LubalinGraph-Book, LubalinGraph-BookOblique, LubalinGraph-Demi, LubalinGraph-DemiOblique
- Marigold
- MonaLisa-Recut
- NewCenturySchlbk-Roman, NewCenturySchlbk-Bold, NewCenturySchlbk-Italic, NewCenturySchlbk-BoldItalic
- Optima, Optima-Bold, Optima-Italic, Optima-BoldItalic
- Oxford
- Palatino-Roman, Palatino-Bold, Palatino-Italic, Palatino-BoldItalic
- StempelGaramond-Roman, StempelGaramond-Bold, StempelGaramond-Italic, StempelGaramond-BoldItalic
- Symbol
- Tekton
- Times-Roman, Times-Bold, Times-Italic, Times-BoldItalic

- Univers, Univers-Bold, Univers-BoldExt, Univers-BoldExtObl, Univers-BoldOblique, Univers-Condensed, Univers-CondensedBold, Univers-CondensedBoldOblique, Univers-CondensedOblique, Univers-Extended, Univers-ExtendedObl, Univers-Light, Univers-LightOblique, Univers-Oblique
- ZapfChancery-MediumItalic
- ZapfDingbats

TrueType fonts

The Fiery 500 includes 19 TrueType fonts:

- Apple-Chancery
- ArialMT, Arial-BoldMT, Arial-ItalicMT, Arial-BoldItalicMT
- Chicago
- Geneva
- HoeflerText-Regular, HoeflerText-Black, HoeflerText-Italic, HoeflerText-BlackItalic, HoeflerText-Ornaments
- Monaco
- NewYork
- TimesNewRomanPSMT, TimesNewRomanPS-BoldMT, TimesNewRomanPS-ItalicMT, TimesNewRomanPS-BoldItalicMT
- Wingdings-Regular

Glossary

additive color model
A system in which color is produced by combining primary lights additively. The additive primaries are red, green, and blue. When added together in proper amounts, these colors produce white. An RGB video monitor is based on an additive color model.

additive primaries
Red, green, and blue light that is used in additive color systems. The additive primaries combine to produce white.

banding
Visible steps between shades in a gradient.

bit depth
Amount of information required for each pixel in a raster image. Black and white images require only one bit per pixel. Photographic quality color images can require 24 or 32 bits per pixel.

Calibrated RGB
An RGB color space used by Fiery 500 color management software as an interchange standard. The Calibrated RGB color space is defined according to the following specifications for a color monitor: SMPTE phosphors, a white point D50, and gamma of 2.2.

calibration
The process of ensuring that a device behaves consistently with respect to a set of specifications.

color gamut
See gamut.

color rendering dictionary (CRD)
A feature found in color printers that gives improved matching between the monitor and printed output. Color rendering dictionaries are used by the printer's interpreter when converting RGB data sent to the printer to CMYK data used by the print engine.

color rendering style
A feature of Fiery 500 color management software that allows you to maintain the best possible translation of color from one color device to another. The Fiery 500 color rendering styles are: photographic, transparency and presentation.

color space
A model for representing color in terms of measurable values, such as the amount of red, green, and blue in an image. RGB and CMYK color spaces are based on color devices—monitors and printers respectively. Other color spaces, such as CIELAB are based on mathematical models, and are device-independent—they are not based on the color response of a particular device.

colorant
An ink, die, toner, paint or other pigment that modifies the color of what it is applied to.

composite printer
Any printer that can print directly in color without first creating color separations. A composite is an early proof of a printing job.

continuous tone
An image containing gradient tones.

custom color system
A system of named color swatches that can be matched on press using process or spot colors. PANTONE and TruMatch are examples of custom color systems.

density
A precise measurement of the light energy transmitted or reflected by a surface in the presence of a standard light source.

densitometer
An instrument that measures density according to a specified standard. Status T densitometers are commonly used in the graphic arts industry.

four-color printer
A printing device that uses cyan, magenta, yellow, and black ink or toner.

gamut
A range of colors. A device gamut is the range of colors that a device, such as a printer, can produce. An image gamut is the range of colors in a particular image.

gamut mapping
The process whereby Fiery 500 color management software compresses—"maps"—the colors in a digital image to fit the color gamut of a particular device.

gradient fill
A color or grayscale fill made of smooth transitions between two different colors or shades.

graphics device interface (GDI)
Graphics and display technology used by computers running Windows. GDI applications rely on GDI rather than the PostScript language to send words and pictures to printers.

halftoning
A method for representing an original continuous tone image using a pattern of dots of various sizes. The pattern is determined by the line frequency, screen angle, and dot shape.

metamerism
Phenomenon where two colors composed of different combinations of light wavelengths appear identical. The colors are called "metamers."

moiré
An undesirable pattern in images made using halftone screens. Moiré can be caused by improper screen angles, improper alignment of halftone screens, or by certain types of patterns in the image itself.

monitor color rendering
A color rendering style that matches printed colors to colors displayed on your computer's monitor. Compared to presentation rendering, monitor rendering produces lighter, less purple blues as well as lighter, more olive greens. Use this style when you want to match monitor colors to printed output.

named color
A color that is defined according to a custom color system. For example, PANTONE 107 C is a named color.

offset lithography
Printing in which ink is transferred from printing plates to a rubber blanket and then from the blanket to paper.

photographic rendering
A color rendering style that preserves tonal relationships in images. Unprintable colors are mapped to printable colors in a way that retains differences in lightness, slightly sacrificing color accuracy as necessary.

pixel
The smallest distinct element of a raster image or an image displayed on a monitor.

PostScript 3
Current version of Adobe Systems PostScript language, which is used to print and display pictures and text. PostScript 3 includes many enhancements to older versions of PostScript, including improved quality and color with Enhanced Image Technology, faster performance with Advanced Page Processing, and ease of use and setup with NetWorks System.

prepress proof
A print made from a set of film separations, or from an electronic file, to simulate the results of printing. A film proof is the last opportunity to catch problems before the final printing.

presentation graphics rendering
A color rendering style that does not try to precisely match printed colors to displayed colors. It is appropriate for bright saturated colors used in illustrations and graphs.

process colors
The four ink colors used to simulate full-spectrum color images: process yellow, magenta, cyan, and black.

QuickDraw
Graphics and display technology built into Macintosh computers. QuickDraw applications rely on QuickDraw rather than the PostScript language to send words and pictures to printers.

raster image
Electronic representation of a page or image using a grid of points (called pixels) that are numerically defined. Raster images can be black and white, grayscale, indexed color, or photographic quality color.

separation
The process of separating a color image into the primary color components for printing—cyan, magenta, yellow, and black. Also used to refer to the four sheets of film that result from the process of separating a color image.

solid color rendering
A color rendering style used when color accuracy is crucial. Unprintable colors are mapped to the closest printable colors. It does the best job of preserving the saturation of displayed colors.

source profile
A profile used by Fiery 500 to determine the context for the color values specified in a digital image.

spot color
A color that is printed on its own separation plate when separations are specified. A spot color is printed using a special ink for that color, in contrast to process colors that are printed using combinations of cyan, magenta, yellow, and black.

subtractive color model
A system in which color is produced by combining colorants such as paint, inks, or dyes on media such as paper or transparent film or acetate. The subtractive primaries are cyan, magenta, and yellow. All printing devices use the subtractive color model, as do photographs and transparency film. Many printers use cyan, magenta, yellow, *and* black colorants.

subtractive primaries
Cyan, magenta, and yellow colorants used in subtractive color systems. Combining the subtractive primaries produces darker colors.

SWOP
The abbreviation for Specifications for Web Offset Publications. A standard of specifications for separations, proofs, and color printing usually designed for magazine production.

vector image
Graphic illustration created on computers where picture elements are defined mathematically as lines or curves between points. Includes artwork created in illustration and page layout applications.

Index

N

O

P

Q

R

S

T

V

W