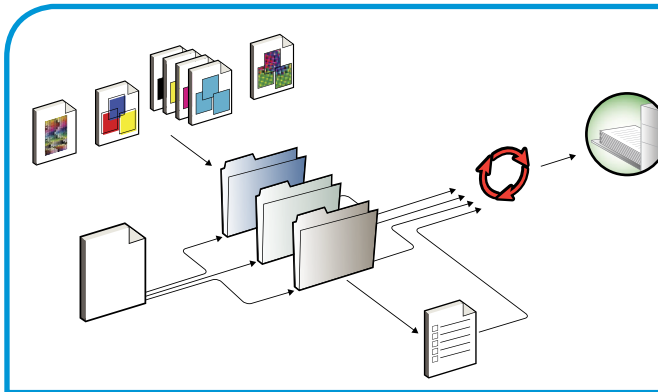




Fiery® E100 Color Server

Color Printing



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INTRODUCTION

This document explains how to manage color output on the Fiery E100 Color Server and provides information about calibration and color profiles.

This document is part of a set that includes documentation for users and system administrators. For a complete description of your Fiery E100 Color Server, see the other documents available at your site.

For more information about supported operating systems and system requirements, see [Welcome](#).

This document covers the following topics:

- Setting values for ColorWise print options
- Managing color profiles and other color files
- Calibrating the Fiery E100 Color Server to achieve consistent color output
- Using the Spot-On spot color editor in Command WorkStation

This feature is available with the Productivity Package option.

- Using the Auto Trapping print option

Configuration of Auto Trapping in Command WorkStation is available with the Productivity Package option.

- Using ImageViewer in Command WorkStation

This feature is available with the Productivity Package option.

- Using the Control Bar feature in Command WorkStation

This feature is available with the Productivity Package option.

- Using the Paper Simulation print option, with white point editing in Command WorkStation

This feature is available with the Productivity Package option.

- Using the Postflight print option

This feature is available with the Productivity Package option.

- Importing calibration measurement data from a text file

NOTE: The Glossary in the *Fiery Color Reference* defines words in bold, for example, **output profile**, that appear throughout this document. Color terms and concepts, such as “color space,” “spot color,” “gamut,” and “source profile,” are used throughout this document. If you are new to desktop color, or if any terms are unfamiliar, see the *Fiery Color Reference*.

Terminology and conventions

This document uses the following terminology and conventions.

Term or convention	Refers to
Aero	E100 (in illustrations and examples)
Copier	TASKalfa XX50ci
E100	Fiery E100 Color Server
Titles in <i>italics</i>	Other documents in this set
Windows	Microsoft Windows XP, Windows Vista, Windows 7, Windows Server 2003/2008/2008 R2
	Topics for which additional information is available by starting Help in the software
	Tips and information
 WARNING	A warning concerning operations that may lead to death or injury to persons if not performed correctly. To use the equipment safely, always pay attention to these warnings.
 CAUTION	A caution concerning operations that may lead to injury to persons if not performed correctly. To use the equipment safely, always pay attention to these cautions.
IMPORTANT	Operational requirements and restrictions. Be sure to read these items carefully to operate the equipment correctly, and avoid damage to the equipment or property.

Key features of ColorWise

ColorWise is the **color management system (CMS)** built into the E100 and designed to provide both casual and expert users with the best color output for a variety of purposes. The ColorWise default settings provide high-quality, out-of-box color from many Windows and Mac OS applications. This allows casual users to achieve quality output without knowing about or changing any color settings on the E100. ColorWise also allows expert users to obtain the best color output.

ColorWise features allow you to modify printing results. Depending on your particular needs, you can:

- Set the behavior of **CMYK** printing to emulate offset press standards.
- Match PANTONE and other **spot colors** for the best match when printing using four-color press conditions or presses with extra, custom plates.
- Select a rendering intent for **RGB** printing. Rendering intents allow for rich, saturated printing of **presentation graphics**, smooth, accurate printing of photographs, and relative or absolute colorimetric rendering for specialized needs.
- Define the source of incoming RGB color data for better color conversion of RGB data with no source information.
- Determine whether RGB data is converted into the full gamut of the copier or is first converted into the gamut of another device, such as a press standard. This feature is useful for making one device behave like another for RGB data. It also allows you to evaluate the appearance of an RGB file under different printing conditions without having to convert the RGB file to CMYK first.

ColorWise **color management (ColorWise)** offers an open color architecture, allowing users to customize the E100 to meet new printing needs as they arise. ColorWise supports **ICC profiles**, which are industry standard color profiles that describe the color behavior of a device. Note that ICC specification version 4 profiles (profile version 4.2.0.0) are supported as well as version 2. Downloading ICC profiles to the E100 enables the E100 to simulate a custom press (or another copier), as well as accurately print colors from a particular monitor or scanner. In addition, you can create customized ICC profiles for the copier.

Color management in Command WorkStation

Designed to give flexible control of color printing, Command WorkStation includes the following color management and color-related tools:

- Color management

Command WorkStation allows you to set the default settings of the ColorWise print options for the E100. These default settings are applied to all print jobs sent to the E100, unless a user overrides them for an individual job by changing settings in the printer driver or in Job Properties.

- Profiles

Command WorkStation allows you to manage all of the ICC profiles used in E100 workflows. You can also create custom profiles by editing existing CMYK source or output profiles and saving them as new profiles. The AutoGray feature allows you to adjust the gray balance of output profiles.

- Calibrator

For consistent color, calibrate the E100 on a regular basis. Command WorkStation includes an easy-to-use calibrator, which allows you to calibrate using either the scanning unit that is part of the copier or an optional [spectrophotometer](#) or [densitometer](#) (see “[Calibration](#)” on page 41).

Command WorkStation also allows you to use any [Status T](#) densitometer by importing data in a standard file format (see “[Importing Density Measurements](#)” on page 77). In this case, it is important to note that the quality of the instrument used determines the quality of the [calibration](#).

- Spot-On (Spot Colors)

Spot-On is offered as part of the optional Productivity Package.

Spot-On is a spot color (named color) manager. You can adjust and manage lists of spot colors and their CMYK equivalents. The matching lists of spot colors and CMYK values are known as spot color dictionaries. Spot-On allows you to edit spot color definitions on the E100 and create custom spot color definitions and dictionaries.

- Customizable Auto Trapping

Customizable Auto Trapping is offered as part of the optional Productivity Package.

The customizable Auto Trapping feature provides you with advanced settings for the Auto Trapping print option. The E100 is shipped with values that are optimized for the copier using regular paper, but if these values do not provide the results necessary for the media that you use, you can modify the values to meet your requirements.

- ImageViewer

ImageViewer is offered as part of the optional Productivity Package.

ImageViewer allows you to soft proof and adjust colors in a job before it is printed. You can use the preview in ImageViewer to verify job placement, orientation, and content, as well as general color accuracy.

- Control Bar

Control Bar is offered as part of the optional Productivity Package.

The Control Bar feature allows you to add a static color bar and dynamic job information to each printed page at a user-defined location. The feature can be set as a server default or overridden on a per-job basis.

- Paper Simulation with White Point Editing

Paper Simulation is offered as part of the optional Productivity Package.

The white point editing feature allows you to perceptually adjust the hue, brightness, and saturation of the simulated paper white defined in an ICC profile.

Installing and starting Command WorkStation on a Windows or Mac OS computer is described in [Utilities](#). Command WorkStation can be installed from the User Software DVD.

COLORWISE PRINT OPTIONS

The **ColorWise** color management system provides print options that affect the output of objects in various color spaces. By specifying the appropriate settings for each print option, you can obtain the expected results for your jobs.

About this chapter

This chapter provides an overview of the ColorWise management system, which controls color on the E100 (see [page 13](#)), and detailed explanations of each print option. For the location of each print option, see the following table.

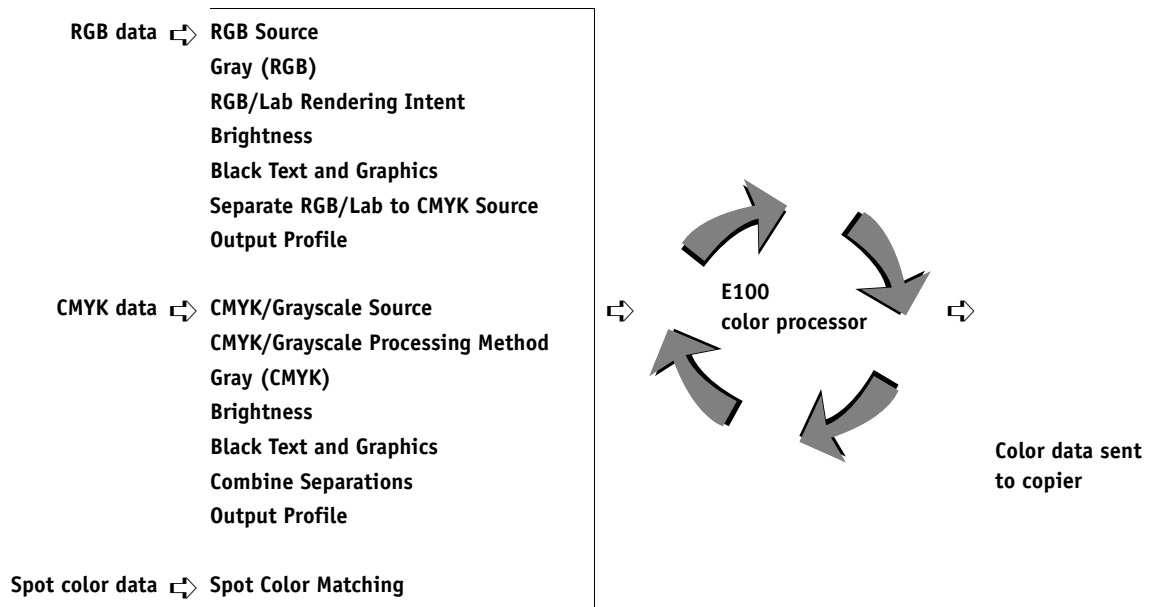
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This chapter also provides information about **PostScript** printer drivers and instructions for setting the ColorWise print options for Windows and Mac OS computers. For information about printer drivers, see [page 31](#).

Managing color on the E100

Applications allow you to generate color data for the E100 in many different **color spaces**. The most common type of color data produced from **office applications** is **RGB**, while prepress applications generally produce **CMYK** data. Desktop applications also generate **spot colors**, such as PANTONE colors. To complicate matters, a single page may contain a mix of RGB, CMYK, and spot colors. The E100 allows you to control the printing of mixed-color documents with features that apply specifically to RGB, CMYK, or spot color data.

The following diagram illustrates the print options in the E100 color management process that affect color data conversions. You can access these print options when you send a print job to the E100. Most of these options and settings are described in subsequent sections of this chapter.



RGB Source or Device Link is the only color option that applies strictly to RGB color data. The other options that affect RGB color also affect the more rarely used Lab, XYZ, and other calibrated color spaces.

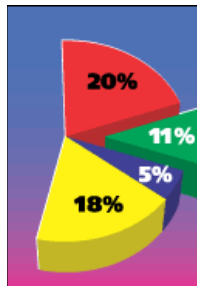
NOTE: If a job contains calibrated CMYK (or CIEBasedDEFG) data, the CMYK processing options are not used. Instead, the RGB/Lab Rendering Intent print option, which normally affects only RGB data, is used to process the calibrated CMYK data. For more information, see “[Use Embedded Profile If Present \(RGB and CMYK\)](#)” on page 27.

Descriptions of ColorWise print options

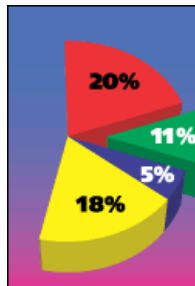
The following sections provide detailed explanations of the ColorWise print options and how these options affect print jobs.

Auto Trapping

Trapping is a technique where the size of objects is modified so that colors printed next to each other overlap slightly, to prevent white spaces between two colors. These white spaces, or “halos,” can be caused by factors such as misregistration, the physical properties of the toners, and the stiffness of the media. This illustration shows the same image with and without trapping.



Auto Trapping Off



Auto Trapping On

If you enable the Auto Trapping option, trapping is applied to all of the objects in a job.

The E100 is shipped with trapping values that are optimized for a Fiery-driven print device using regular paper. If these values do not provide the results necessary for the media that you use, and if Productivity Package is configured on the E100, you can modify the values to meet your requirements. For more information, see [Auto Trapping Customization](#).

Black Detection

The Black Detection option allows you to specify whether or not to detect black-and-white pages before printing your job.

- **Off:** Select Off if your job consists of black-and-white text pages combined with a significant number of color pages.
- **On:** Select On if you are printing a predominantly black-and-white job. Black-and-white only pages will print with the proper billing information.

Black Overprint

The Black Overprint option allows you to specify whether or not black text or black text and graphics, defined as RGB=0, 0, 0, or as CMYK=0%, 0%, 0%, 100%, overprints colored backgrounds.

- **Text:** Black text overprints colored backgrounds, eliminating white gaps and reducing the halo effect or misregistration of colors. You can choose this setting only if the Black Text and Graphics option is set to Pure Black On.
- **Text & Graphics:** Black text and graphics overprint colored backgrounds, eliminating white gaps and reducing halo effects or misregistration of colors. You can choose this setting only if the Black Text and Graphics option is set to Pure Black On.
- **Off:** Black text or text/graphics knocks out colored backgrounds.

NOTE: Before sending the print job to the copier, PostScript applications may perform their own black overprint conversions.

One example of how you might use this setting is a page that contains black text on a light blue background. The background blue is CMYK=40%, 30%, 0%, 0%. The black text is CMYK=0%, 0%, 0%, 100%.

- With Black Overprint set to Text or Text & Graphics, the final text or text/graphic portions of the page are overprinted, or combined with the underlying color. Black colors generated by applications (for example, RGB=0, 0, 0 or CMYK=0%, 0%, 0%, 100%) are printed using the black toner. This means that black text and line art does not exhibit halftone artifacts (as long as the copier is calibrated correctly). No transition in cyan and magenta toners occurs. The quality of the output is improved, because it does not show artifacts near the edges of the black text.
- With Black Overprint Off, the border of the text or text/graphics is on an edge that has cyan and magenta toners on one side (outside the text) and black toner on the other side (inside the text). This transition may cause visible artifacts due to the practical limitations of the copier.

NOTE: The reproduction of CMYK components is affected by the CMYK/Grayscale Source setting and calibration curve when CMYK is not 0%, 0%, 0%, 100%.

Black Text and Graphics

The Black Text and Graphics option affects black text and [vector graphics](#). Under most circumstances, set this option to Pure Black On. When Black Text and Graphics is set to Pure Black On, black colors generated by applications (for example, RGB=0, 0, 0 or CMYK=0%, 0%, 0%, 100%) are printed using black toner only. The black text and line art do not exhibit halftone [artifacts](#) (as long as the copier is calibrated correctly) and are not misregistered, since one toner is used. In addition, this setting eliminates [blasting](#). This option must be set to Pure Black On if you want to set the Black Overprint option to Text or Text/Graphics.

For some jobs, it is preferable to set this option to Normal, for example, if the page includes [gradient](#) fills that use black. The following table describes the behavior of the Black Text and Graphics option with black data defined in different color spaces.

NOTE: Use the Black Text and Graphics option only when printing composites, not when printing separations.

Color	Black Text and Graphics = Normal	Black Text and Graphics = Pure Black On or Rich Black On
RGB=0,0,0 (All other RGB values are unaffected by the Black Text and Graphics setting.)	RGB=0,0,0 is printed according to the definition for RGB=0,0,0 in the output profile. This may be a rich black using all toners if the output profile specifies a rich black, or may be K-only if the output profile specifies K-only for RGB=0,0,0. The output is affected by the calibration curve.	RGB=0,0,0 is printed as K-only, using the black toner (Pure Black On) or 100% K plus 50% Cyan (Rich Black On) using black and cyan toners. All other RGB values are unaffected by the Black Text and Graphics setting.
CMYK=0%,0%,0%,100% (All other CMYK values are unaffected by the Black Text and Graphics setting.)	CMYK=0%,0%,0%,100% may be printed as K-only or as a rich black using all toners, depending on the CMYK/Grayscale Source setting. If CMYK/Grayscale Processing Method is Pure Primaries or if CMYK/Grayscale Source is Bypass Conversion, CMYK=0%,0%,0%,100% prints as 100% K and the amount of black toner is limited by the CMYK/Grayscale Source profile and the calibration curve. If CMYK/Grayscale Processing Method is Full (Output GCR), CMYK=0%,0%,0%,100% is printed as a rich black using all toners according to the output profile. The output is affected by the calibration curve. If CMYK/Grayscale Processing Method is Full (Source GCR), CMYK=0%,0%,0%,100% is printed as a rich black using all toners according to the CMYK/Grayscale Source profile. The output is affected by the calibration curve. Setting CMYK/Grayscale Source to ColorWise Off disables the CMYK Source profile and the calibration curve. In this case, the black toner is not limited by the calibration curve.	CMYK=0%,0%,0%,100% is printed as K-only, using the black toner (Pure Black On) or 100% K plus 50% Cyan (Rich Black On) using black and cyan toners, regardless of the CMYK/Grayscale Source and CMYK/Grayscale Processing Method settings. All other CMYK values are unaffected by the Black Text and Graphics setting. Setting CMYK/Grayscale Source to ColorWise Off disables the CMYK source profile and the calibration curve. In this case, the black toner is not limited by the calibration curve.
Spot Colors (Spot colors are unaffected by the Black Text and Graphics setting.)	Standard spot color processing	Standard spot color processing

NOTE: PostScript applications, such as QuarkXPress, may convert elements defined as RGB=0,0,0 to four-color CMYK black before sending the job to the E100. These elements are not affected by the Black Text and Graphics option. For more information, see [Fiery Color Reference](#).

CMYK/Grayscale Processing Method

The CMYK/Grayscale Processing Method allows you to define your preferred CMYK-to-CMYK conversion technique.

- **Pure Primaries** prints primary colors in a job (C only, M only, or Y only) as primary colors, using only a single colorant. The result is pure looking primary colors, with minimal banding in gradients.

Pure Primaries compromises overall color accuracy. Do not use Pure Primaries if color accuracy is important, such as when printing press proofs.

- **Full (Source GCR)** provides a complete and accurate simulation based on colorimetric transformations. Hues are preserved, even for primary colors. The **Gray Component Replacement** level specified in the original (source) document is preserved. Process black expressed in CMY is reproduced using CMY toner. Full (Source GCR) is recommended for the highest quality press proofing applications.
- **Full (Output GCR)** is a complete and accurate simulation method based on colorimetric transformations. Hues are preserved, even for primary colors. With this method, the Gray Component Replacement (GCR) level that was specified in the original document is not preserved. Instead, all CMYK data is re-separated using the GCR level specified by the output profile. This simulation technique is similar to traditional ICC color matching methods and is more appropriate than Full (Source GCR) for full color printing designed for the press, but reproduced on your copier.

NOTE: When you specify Pure Black On for Black Text and Graphics and Full (Output GCR) or Full (Source GCR) for CMYK/Grayscale Processing Method, the black text and graphics in your document are printed with 100% black-only toner.

CMYK/Grayscale Source or Device Link

The CMYK/Grayscale Source or Device Link print option allows you to print press proofs or simulations. This setting specifies the offset press standard or other color printing device that you want to simulate. This option affects CMYK data only.

When you specify a setting other than Bypass Conversion or ColorWise Off for the CMYK/Grayscale Source, the E100 overrides [source color space](#) definitions or profiles that other color management systems may have specified. In cases where you do *not* want this setting to override another specified source color space, choose Bypass Conversion.

If your document contains an embedded CMYK profile that you want to use, select the Use Embedded Profile If Present (CMYK) option (see [“Use Embedded Profile If Present \(RGB and CMYK\)”](#) on page 27). In this case, the CMYK/Grayscale Source setting is ignored and the embedded profile is used instead.

In the printer driver, you can view an unlimited number of custom Full simulations created using Command WorkStation. The number of custom simulations is limited by the available disk space on the E100.

The CMYK/Grayscale Source setting that you specify depends on the press standard for which the CMYK data was separated.

- For images that were separated using a custom separation (such as a separation produced with an ICC profile), choose the corresponding profile on the E100 with the CMYK/Grayscale Source setting.
- For images that were separated for [SWOP](#), choose SWOP as the CMYK/Grayscale Source setting.



To properly simulate a printed image that was separated using an ICC profile, the same profile must be present on the E100. For more information about importing ICC profiles to the E100, see Command WorkStation Help.

Two settings are available if you want no CMYK simulation:

- The Bypass Conversion setting sends your original CMYK data to the copier with calibration applied, but without conversions to simulate another printer.

The Bypass Conversion setting is recommended if you use another color management system instead of ColorWise (for example, ColorSync or Photoshop). In this case, the E100 is expecting to receive CMYK data already in the device color space of the E100. The E100 will not convert the data, but it will apply calibration.

- The ColorWise Off setting sends your original CMYK data to the copier without calibration applied and without conversions to simulate another printer. The CMYK data is still subject to maximum density constraints, however.

The ColorWise Off setting is not available as a setting in Command WorkStation Color Setup or in Server Setup and cannot be the default CMYK/Grayscale Source setting. You choose this setting for a specific job.

NOTE: When you print with the ColorWise Off setting, make sure that the options you choose in your application do not cause the application to modify CMYK data. If you enable PostScript Color Management or include an embedded profile, the color data sent by the application is similar to Lab color. When you print with settings like Let Printer Determine Colors or Let Photoshop Determine Colors, the application either converts the CMYK data or tags it for color management. You must specify No Color Management in the application when you print with the ColorWise Off setting.

Combine Separations

The Combine Separations setting specifies how to print separated CMYK data. It supports: Cyan, Magenta, Yellow, Black.

- **Off** prints each separation individually.
- **On** combines separations as a single, composite-color document, and automatically makes the settings for the following print options: Color Mode (CMYK) and Black Overprint (Off).

The results of combining the multiple plates are predictable and accurate, regardless of the original application used. This feature also fully supports DCS 2.0 file formats when included in a PostScript print job from a page layout application.

The following applications have been tested with Mac OS and Windows for compatibility with the Combine Separations option:

- Adobe Illustrator
- Adobe InDesign
- Adobe PageMaker
- Adobe FreeHand
- QuarkXPress

For information about using the Combine Separations option with applications such as Photoshop, see *Fiery Color Reference*.

Composite Overprint

When overlapping objects are printed, the foreground object can either overprint or knock out the background object. With overprinting, the color of the background object shows through the foreground object where they overlap, and the resulting color is a combination of the colors of the two objects. With a knockout, the foreground object hides the background object where they overlap.

The Composite Overprint print option allows you to print overprinted objects as specified in the source file. By default, the Composite Overprint print option is off and overlapping objects print as knockouts.

NOTE: The Composite Overprint option does not overprint the foreground object if it is an RGB object.

The Composite Overprint print option is supported for PostScript and PDF jobs produced by the following applications:

- Adobe Acrobat
- Adobe Illustrator
- Adobe InDesign
- Adobe FreeHand
- QuarkXPress
- CorelDRAW

Gray (RGB) and Gray (CMYK)

When Gray (RGB) is enabled, any RGB color where R=G=B is printed using only black toner instead of processed black. Similarly, when Gray (CMYK) is enabled, any CMYK color where C=M=Y=0 and K=any value is printed using only black toner instead of processed black.

You can choose to apply the Gray (RGB) or Gray (CMYK) option to either Text and Graphics or to Text, Graphics, and Images.

The following limitations apply:

- The Gray (RGB) or Gray (CMYK) option has no effect on a job that is pre-separated.
- If CMYK/Grayscale Processing Method is set to Quick, the Gray (CMYK) setting does not affect the output.
- If Separate RGB/Lab to CMYK Source is enabled, the Gray (RGB) option is set to Off. Likewise, if the Gray (RGB) option is not set to Off, you cannot enable Separate RGB/Lab to CMYK Source.
- If Black Text and Graphics is set to Pure Black On or Rich Black On, it takes precedence over Gray (RGB) or Gray (CMYK) for 100% black text and graphics.
- If a gray is specified as a spot color, the Gray (RGB) or Gray (CMYK) option does not affect that gray.

Output Profile

Because the output profile is applied to all data in the print job, make sure the profile you select is the right one for your job. The default output profile consists of a profile for your copier that describes its color characteristics and a [calibration target](#) that describes the expected behavior of the copier.

Use Command WorkStation to import your own output profile to the E100. Imported output profiles that do not already include a calibration target are at first associated with the calibration target that is tied to the default output profile. You can edit calibration target D-Max values separately.

Select the Use Media Defined Profile setting to automatically apply the output profile associated with the media type used in a print job rather than setting a specific output profile. For more information, see Command WorkStation Help.



Paper Simulation

The Paper Simulation option gives you the benefit of the absolute colorimetric rendering that renders the white point of the source color space as a visible color in the output profile color space.

The Paper Simulation feature is available with the Productivity Package option on the E100.

You can customize the paper simulation by editing the white point values with Command WorkStation. For more information, see [Paper Simulation White Point Editing](#).

You can print a job with the Paper Simulation feature set to On from the printer driver without customizing paper simulation. Many jobs may print satisfactorily with the fixed default Paper Simulation setting.

The Paper Simulation option has two settings:

- **Enabled:** Performs Absolute Colorimetric rendering.
- **Disabled (Default):** Performs Relative Colorimetric rendering.

RGB/Lab Rendering Intent

The RGB/Lab Rendering Intent option specifies a rendering intent for color conversions. To control the appearance of images, such as prints from office applications or RGB photographs from Photoshop, select the appropriate rendering intent. The E100 allows you to choose from the four rendering intents currently found in industry standard ICC profiles.

E100 rendering intent	Best used for	Equivalent ICC rendering intent
Photographic: Typically results in less saturated output than presentation rendering when printing out-of-gamut colors. This style preserves tonal relationships in images.	Photographs, including scans and images from stock photography CDs and digital camera images.	Image, Contrast, and Perceptual
Presentation: Creates saturated colors but does not match printed colors precisely to displayed colors. In-gamut colors, such as flesh tones, are rendered well. This style is similar to the Photographic rendering intent.	Artwork and graphs in presentations. In many cases, this style can be used for mixed pages that contain presentation graphics and photographs.	Saturation, Graphics
Relative Colorimetric: Provides white-point transformation between the source and destination white points. For example, the bluish white color (gray) of a monitor is replaced by paper white. This style avoids visible borders between blank spaces and white objects.	Advanced use when color matching is important, but you prefer white colors in the document to print as paper white. This style may also be used with PostScript color management to affect CMYK data for simulation purposes.	Relative Colorimetric
Absolute Colorimetric: Provides <i>no</i> white point transformation between the source and destination white points. For example, the bluish white color (gray) is not replaced by paper white.	Situations when exact colors are needed and visible borders are not distracting. This style may also be used with PostScript color management to affect CMYK data for simulation purposes.	Absolute Colorimetric

RGB Source or Device Link

The RGB Source or Device Link setting allows you to define the characteristics of the RGB data in your document so that the appropriate color conversion occurs on the E100. Commonly used monitor color spaces are available from the printer driver and the E100. For others, use Command WorkStation to download custom monitor or scanner profiles.

When you specify a setting for the RGB Source, the E100 overrides [source color space](#) definitions or profiles that other color management systems may have specified. Because the color space definitions are overridden, the output from the E100 is consistent across platforms.

If your document contains an embedded RGB profile that you want to use, select the Use Embedded Profile If Present (RGB) option (see [“Use Embedded Profile If Present \(RGB and CMYK\)”](#) on page 27). In this case, the RGB Source setting is ignored and the embedded profile is used instead.

The E100 RGB Source options are as follows:

- **EFIRGB** specifies an EFI-defined color space recommended for users who have no detailed information about their RGB data.
- **sRGB (PC)** specifies the definition of a Windows computer monitor profile used as the default.
- **Apple Standard** specifies the definition of a Mac OS computer monitor profile used as the default.
- **Adobe RGB (1998)** is an Adobe-defined color space, used in prepress as the default working space in Photoshop 5.
- **eciRGB** is the European Color Initiative (ECI) recommended space for use as an RGB working color space and color data exchange format for ad agencies, publishers, reproduction, and printing houses.
- **Fiery RGB** is an EFI-defined color space recommended for users of office applications. This color space is similar to EFIRGB but is larger and can provide a more desirable blue output.

With the Use Embedded Profile When Present (RGB) option enabled, RGB data that contains an embedded RGB profile is converted using the embedded profile and the RGB/Lab Rendering Intent option (see [“RGB/Lab Rendering Intent”](#) on page 23).

Separate RGB/Lab to CMYK Source

The Separate RGB/Lab to CMYK Source option determines how RGB colors (as well as Lab and XYZ colors) are converted to CMYK. The name of this option is meant to be descriptive, because the option defines the color spaces that are used by the E100 to “separate” the RGB data into CMYK values.

The two choices available for this option determine whether RGB data is converted into the full gamut of the copier (Separate RGB/Lab to CMYK Source disabled) or is first converted into the gamut of another digital printer or press standard (Separate RGB/Lab to CMYK Source enabled). This feature helps make one device behave like another for RGB data. For example, if a high-quality ICC profile is available for another print device, the copier can simulate the behavior of that device.

Separate RGB/Lab to CMYK Source is also useful for prepress applications. For example, it allows you to experiment with the appearance of an RGB scan under different press printing conditions, without having to convert the RGB data to CMYK data for each condition. When the desired printing condition is found, convert the file to CMYK, using the same CMYK/Grayscale Source that you used during the experimentation.

NOTE: Use the Separate RGB/Lab to CMYK Source print option in conjunction with the Output Profile or CMYK/Grayscale Source print options.

- **Enabled** converts all RGB colors into the CMYK color space for a specified simulation (select the desired simulation with the CMYK/Grayscale Source print option).
- **Disabled** converts all RGB colors into the CMYK color space of your copier.

Spot Color Matching

The Spot Color Matching option provides automatic matching of spot colors with their best CMYK equivalents.

- **On:** The E100 uses a built-in table to generate the closest CMYK matches of spot colors your copier can produce. (New tables are generated when you add new output profiles.)

With Spot-On, the E100 uses the CMYK matches determined through Spot-On (see [page 52](#)).

- **Off:** The E100 processes the spot color as CMYK data and uses CMYK equivalents defined by the spot color manufacturer, such as PANTONE. These are the same CMYK equivalents used by applications that include spot color libraries.

NOTE: Spot colors that are not included in the built-in table are treated as CMYK.

For jobs that include spot colors, set Spot Color Matching to On unless you are printing press simulations. In that case, set Spot Color Matching to Off and choose the appropriate CMYK/Grayscale Source (see [page 19](#)).

For a PDF job that includes spot colors that are not included in the built-in table, setting Spot Color Matching to On retains the original spot colors. The E100 references the built-in table to generate the closest CMYK matches of the original spot color.

NOTE: Use Spot Color Matching only when printing composites, not when printing separations.

Spot Color Matching and the PANTONE Coated Color Reference

The PANTONE Coated Color Reference prints differently depending on the Spot Color Matching setting (see [Fiery Color Reference](#)).

- **On:** The E100 uses a built-in table or, with Spot-On, the Spot-On color dictionaries to generate the best matches for the PANTONE colors that your copier can produce. The PANTONE number is displayed below each swatch.

For more information about Spot-On, see [page 52](#).

- **Off:** The E100 prints swatches using the CMYK values recommended by Pantone, Inc. (and used by applications that provide PANTONE color libraries). The CMYK values used to generate the color, as well as the PANTONE number of the color, are printed below each swatch. These CMYK values are printed through the selected CMYK/Grayscale Source and Output Profile settings.

Substitute Colors

Spot-On allows you to create a list of substitute colors. These are colors that, when called for in a document by their RGB or CMYK values, are substituted with a different color having the CMYK values from the Spot-On color dictionary. This permits exact color control and overrides individual RGB and CMYK colors.

To enable substitute colors for a job, select the Substitute Colors option.



For more information about creating and using substitute colors, see Command WorkStation Help.

Use Embedded Profile If Present (RGB and CMYK)

If the Use Embedded Profile If Present (RGB) option is enabled, the E100 ignores the RGB Source option and uses the RGB profile embedded in the print job as the RGB source profile. If the Use Embedded Profile If Present (RGB) option is disabled, the E100 uses the profile specified in the RGB Source option.

Similarly, if the Use Embedded Profile If Present (CMYK) option is enabled, the E100 ignores the CMYK/Grayscale Source option and uses the CMYK profile embedded in the print job as the CMYK source profile. If the Use Embedded Profile If Present (CMYK) option is disabled, the E100 uses the profile specified in the CMYK/Grayscale Source option.

When a CMYK profile is embedded in a job and the Use Embedded Profiles When Present (CMYK) option is enabled for the job, or when a job is sent with PostScript Color Management, the job contains calibrated CMYK (or CIEBasedDEFG) data. For jobs containing calibrated CMYK, the CMYK processing options are not used. Instead, the RGB/Lab Rendering Intent print option (see [“RGB/Lab Rendering Intent”](#) on page 23), which normally affects only RGB data, is used to process the calibrated CMYK data. The RGB Source or Device Link setting does not affect calibrated CMYK data.

Specifying ColorWise print options

To modify E100 printing behavior, do any of the following:

- Specify default values for ColorWise options in Color Setup in Command WorkStation. You can also set default values from E100 Setup, as described in [Configuration and Setup](#). The defaults apply to all subsequent print jobs unless you override them.

A job uses the E100 default settings (unless otherwise specified) at the time it is processed for printing, and not at the time it is sent to the E100 Hold queue.

- Specify ColorWise options for an individual print job using the menus that appear in the printer driver.
- Specify ColorWise options for a job printed through Hot Folders using the Job Properties settings in Hot Folders.
- Specify ColorWise options for a job already submitted and held at the E100 using the Job Properties settings in Command WorkStation.

For the location of each print option, see the following table.

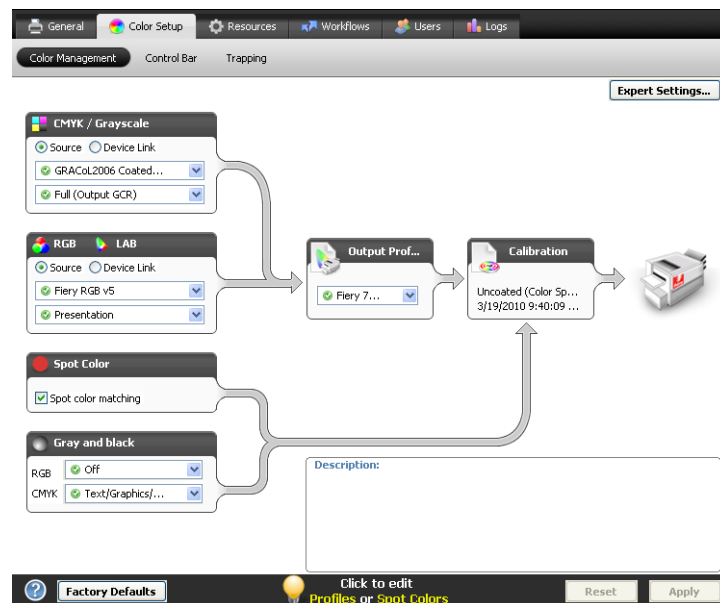
ColorWise print option	Color window of printer driver or Job Properties	Basic Settings of printer driver, Job Properties, or Color Setup	Expert Settings of printer driver, Job Properties, or Color Setup
Auto Trapping	✓		
Black Detection	✓		
Black Overprint			✓
Black Text and Graphics			✓
CMYK/Grayscale Processing Method		✓	✓
CMYK/Grayscale Source or Device Link		✓	✓
Combine Separations	✓		
Composite Overprint	✓		
Gray (RGB and CMYK)		✓	✓
Output Profile		✓	✓
Paper Simulation			✓
RGB/Lab Rendering Intent		✓	✓
RGB Source or Device Link		✓	✓
Separate RGB/Lab to CMYK Source			✓
Spot Color Matching		✓	✓
Substitute Colors	✓		
Use Embedded Profile If Present			✓

Setting default values in Command WorkStation

Command WorkStation allows you to set the default values for the ColorWise print options and print settings for the E100.

These settings are applied to all print jobs sent to the E100, unless a user overrides them for an individual job by changing settings in the printer driver. These default settings can also be overridden using Command WorkStation Job Properties. In addition, the defaults set in Command WorkStation are automatically reflected in the printer driver and in E100 Setup (for those options that can be set in Setup).

The ColorWise print option settings are on the Color Management area under the Color Setup tab in the Device Center. For more information, see Command WorkStation Help.



Setting print options in the printer driver

The printer driver writes a PostScript file containing the instructions generated by your application and the settings for the ColorWise print options you selected. The printer driver then sends the PostScript file to the E100. The E100 performs PostScript processing and color conversions and sends raster color data to the copier.

Setting print options for Windows

This section explains how to set color management print options with the Adobe and Microsoft PostScript printer drivers for Windows, PostScript 3 printer drivers that take full advantage of the color features of the E100.

Before you proceed, do the following:

- Install the printer driver and the E100 PPD (see [Printing](#)).
- Set up the E100 for printing (see [Printing](#)).

NOTE: Many applications, such as Adobe PageMaker, Photoshop, Adobe Illustrator, QuarkXPress, and CorelDRAW, have other color management options in addition to those presented in the printer driver. For information about specific applications, see [Fiery Color Reference](#).

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

Setting print options in Mac OS

This section explains how to set color management print options with the printer drivers for Mac OS.

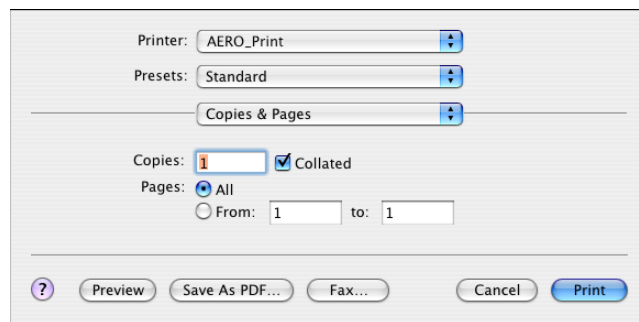
Before you proceed, do the following:

- Install the E100 PPD (see [Printing](#)).
- Set up the E100 for printing (see [Printing](#)).

TO SET PRINT OPTIONS FOR MAC OS X COMPUTERS

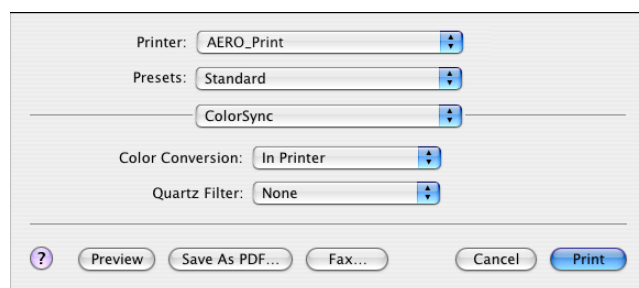
1 Choose Print in your application.

The Print dialog box appears.

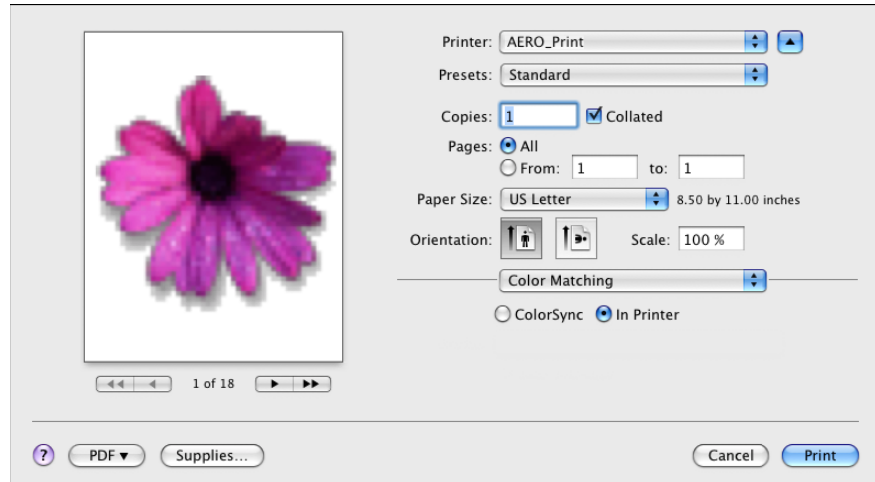


2 Mac OS X v10.5 and 10.6: Expand the dialog box, if necessary, by clicking the arrow next to the Printer name.

3 Mac OS X v10.3.9 and 10.4.x: Click Copies & Pages, choose ColorSync from the drop-down list, and choose In Printer from the Color Conversion list.



Mac OS X v10.5 and 10.6: Click Preview, choose Color Matching from the drop-down list, and click In Printer.



- 4 Choose Fiery Features from the drop-down list.
- 5 Set the print options related to color, as well as any other print options needed, and then click Print to send your job.

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

COLOR PROFILES

The E100 includes by default a number of RGB and CMYK profiles that you can use for printing through the RGB Source, CMYK/Grayscale Source, and Output Profile settings for a job. For more information about these options, see [ColorWise Print Options](#).

You can manage the profiles on the E100 using Command WorkStation. You can import or delete other profiles as well.

Color files

The User Software DVD includes a number of files, including color profiles, that are useful for color management. To add color profiles to the E100:

- Install them on your computer.
- Use Command WorkStation to import them to the E100.



For information about importing profiles to the E100 using Command WorkStation, see Command WorkStation Help.

Installing additional ICC profiles on your computer

You can install (copy) additional ICC profiles from the User Software DVD to your computer. Use the ICC profiles with applications that support ICC standards, such as Adobe Photoshop.

Location on User Software DVD

Adobe ICC Profiles folder
(inside the Windows Color Files\ICC Profiles folder or Mac Color Files: ICC Profiles folder)

Profiles

These profiles were created by Adobe Systems, Inc. For more information, see the documents included in the folder.

CMYK Profiles:

- EuropeISOCoatedFOGRA27.icc
- EuroscaleUncoated.icc
- JapanColor2001Coated.icc
- JapanColor2001Uncoated.icc
- JapanColor2002Newspaper.icc
- JapanWebCoated.icc
- USSheetfedCoated.icc
- USSheetfedUncoated.icc
- USWebCoatedSWOP.icc
- USWebUncoated.icc

RGB Profiles:

- AdobeRGB1998.icc
- AppleRGB.icc
- ColorMatchRGB.icc
- sRGB Color Space Profile.icm

**Location on User
Software DVD**

ECI folder
(inside the Windows
Color Files\ICC
Profiles folder or
Mac Color Files:
ICC Profiles folder)

Profiles

These profiles were created by the European Color Initiative (ECI). For more information, see the documents included in the CMYK Profiles folder and the RGB Profiles folder, as well as the ECI web site at www.eci.org.

CMYK Profiles:

- ISOcoated_v2_300_eci.icc
- ISOcoated_v2_eci.icc
- ISOuncoated.icc
- ISOuncoatedyellowish.icc
- ISOwebcoated.icc
- SC_paper_eci.icc

RGB Profiles:

- ECI-RGB.V1.0.icc
- eciRGB_v2.icc
- eciRGB_v2_ICCv4.icc

**Location on User
Software DVD**

EFI Support folder
(inside the Windows
Color Files\ICC
Profiles folder or
Mac Color Files:
ICC Profiles folder)

Profiles

These profiles were created by EFI. For more information, see the General Requirements for Applications in Commercial Offset Lithography (GRACoL) web site at www.gracol.org, the Fogra web site at www.fogra.org, and the Specifications Web Offset Publications (SWOP) web site at www.swop.org.

CMYK Profiles:

- EFIEURO.icc
- EFISWOP.icc
- Enterprise CMYK.icc
- GRACoL2006_Coated1_EFI.icc
- ISOCoated.icc
- ISOCoated_FOGRA39L_EFI.icc
- ISOUncoated_FOGRA29L_EFI.icc
- SWOP2006_Coated3_EFI.icc
- SWOP2006_Coated5_EFI.icc

Japan Profiles:

- EFIDIC.ICC
- EFIJMPA2.icc
- JC2001_type1_EFI.icc
- JC2001_type2_EFI.icc
- JC2001_type3_EFI.icc
- JC2001_type4_EFI.icc
- TOYO Offset Coated 2.0.icc

RGB Profiles:

- EFISRGB.ICC
- Fiery RGB v2.icc
- Fiery RGB v4.icc
- Fiery RGB v5.icc
- RGB D65 (Splash).icc

For most ICC-aware applications, you must install the files in a folder named Color (Windows) or a folder named Profiles in the Library: ColorSync folder (Mac OS). For use with the E100, you can copy the files to a folder of your choice.

TO INSTALL ICC PROFILES ON A WINDOWS COMPUTER FROM THE USER SOFTWARE DVD

- 1 **Insert the User Software DVD into the DVD drive.**
- 2 **Open the folder containing the profile.**
- 3 **Right-click the profile that you want, and then click Install Profile.**

The profiles are installed automatically to the Windows\System32\spool\drivers\color folder on your computer.

TO INSTALL ICC PROFILES ON A MAC OS COMPUTER FROM THE USER SOFTWARE DVD

- 1 **Insert the User Software DVD into the DVD drive.**
- 2 **Open the folder containing the profile.**
- 3 **Copy the profiles into Library: ColorSync: Profiles.**

NOTE: You must log on with Administrator privileges.

On Mac OS, see the ColorSync documentation for setting ColorSync profiles, such as EFIRGB.

Other color files

You can copy additional color files from the User Software DVD. These files are useful for color matching and for calibration.

Windows Color
Files folder

or

Mac Color
Files folder

CMYK Color Reference.ps: An 11-page, Letter-size PostScript file used for reference when defining CMYK colors in applications.

PANTONE Book.ps: A 20-page, Letter-size PostScript file that indicates the closest equivalent of PANTONE coated colors that the E100 and your copier model can produce. The method used to print the PANTONE Book.ps file differs, depending on the Spot Color Matching setting. For more information, see [“Spot Color Matching”](#) on page 26.

RGB page 01.doc: A Microsoft Word file that you can print to view available RGB colors.

RGB page 02.ppt: A Microsoft PowerPoint file that you can print to view available RGB colors.

Color Bars folder
(inside the Windows
Color Files folder
or
Mac Color Files
folder)

FieryColorBar.eps, Ugra Fogra-MediaWedge V2.2x_EFIv1.eps, Ugra Fogra-MediaWedge V3.0a_EFIv1.eps: Used for the Control Bar feature. For more information about Control Bar, see [Control Bar](#).

PS Files folder
(inside the Windows
Color
Files\Calibration
Files folder
or
Mac Color Files:
Calibration Files
folder)

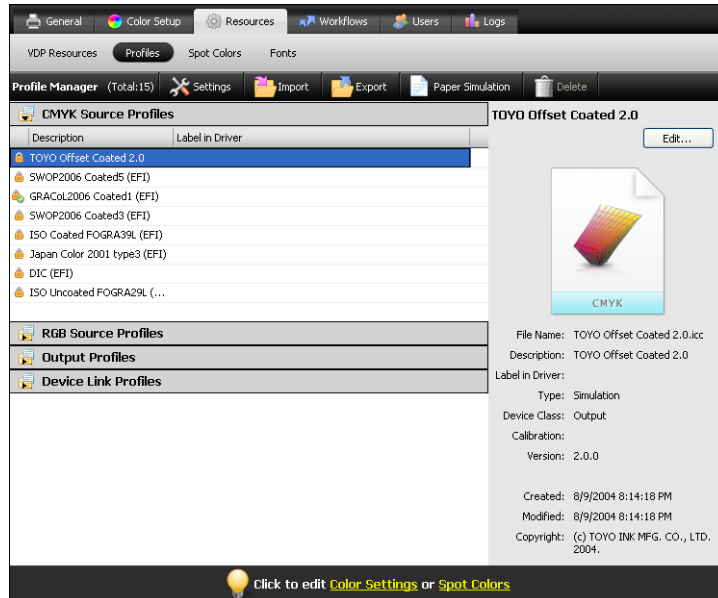
Custom21.ps, Custom34.ps, Standard21.ps, and Standard34.ps: PostScript files of color patches for obtaining measurements.

The numbers in the file names refer to the number of patches on the page. The Custom files allow you to download measurement patches that incorporate the current calibration set of the copier. The Standard files allow you to download standard measurement patches that bypass the current calibration set of the copier.

NOTE: These files are provided for expert users and should not be used for day-to-day calibration.

Managing profiles on the E100

Command WorkStation allows you to import ICC profiles to the E100, export profiles, delete profiles (except for default profiles), and set the properties of profiles. You can also create custom CMYK source or output profiles by editing an existing profile and then saving it as a new profile. These features are on the Profiles tab under the Resources tab in the Device Center. For more information, see Command WorkStation Help.



CALIBRATION

Calibrating the E100 ensures consistent and reliable color output. Calibrate the E100 using the Calibrate feature in Command WorkStation with the copier’s built-in scanner, a densitometer or a spectrophotometer.

Changing calibration has the potential to affect *all* jobs for *all* users, so consider limiting the number of people authorized to perform calibration. Set an Administrator password to control access to calibration (see [Configuration and Setup](#)).

Calibration methods

You can calibrate the E100 using the following methods:

Term	Refers to
ColorCal (in Command WorkStation)	Calibration method that uses the copier’s built-in scanner to measure toner density values
ColorCal from the copier touch panel	Calibration method that uses the copier’s built-in scanner to measure toner density values
DTP32 or DTP32 Series II	X-Rite DTP32 or DTP32 Series II automatic densitometer
DTP41	X-Rite DTP41 automatic spectrophotometer
ES-1000	Spectrophotometer ES-1000 hand-held spectrophotometer



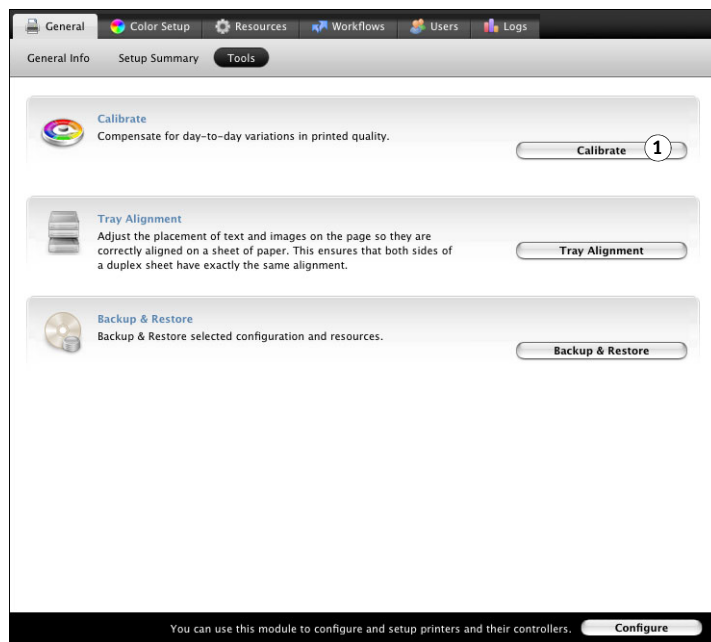
All of these calibration methods except for ColorCal from the copier touch panel are performed through Command WorkStation. For more information about each of these methods, see Command WorkStation Help.

Calibrating with Command WorkStation



1 Click to start calibration

The Calibrate feature in Command WorkStation allows you to calibrate the E100 using the measurement method of your choice. The Calibrate feature is on the Tools tab under the General tab in the Device Center. For more information, see Command WorkStation Help.



NOTE: Multiple users can be connected to one E100 with Command WorkStation, but only one user at a time can use the Calibrate feature. If you try to calibrate when another user is using Command WorkStation to calibrate, an error message appears.

NOTE: You can disable calibration (and color management) for CMYK data in a job by using the ColorWise Off setting for the CMYK/Grayscale Source option. You might want to disable calibration for testing purposes, for example. For more information, see [“CMYK/Grayscale Source or Device Link”](#) on page 19.

When you calibrate the E100 using Calibrator in Command WorkStation, by default Calibrator calibrates the copier before printing the measurement page. You can disable this feature in Configure (see [Configuration and Setup](#)). We recommend that you calibrate the copier before calibrating the E100, but if the copier has been calibrated recently, you might choose to skip copier calibration.

Calibrating from the copier touch panel

You can calibrate the E100 from the copier touch panel using ColorCal, without using Command WorkStation.

If an Administrator password has been set, you will need it to perform calibration from the copier touch panel. For instructions on using the copier touch panel, see [Configuration and Setup](#).

NOTE: Custom calibration sets are not available when you calibrate the E100 from the copier touch panel. You must use Command WorkStation to calibrate using a custom calibration set. For more information about custom calibration sets, see “[Managing calibration sets](#)” on page 44.

It is also possible to remove calibration measurements from the E100 and restore the factory default measurements from the copier touch panel.

TO USE COLORCAL FROM THE COPIER TOUCH PANEL

- 1 **When the copier is Idle, press the Applications button and then press Fiery to enter the E100 display.**
- 2 **Press the Tools tab, and then press Calibrator Settings.**
- 3 **If desired, change the Prepare Scanner for ColorCal setting.**

We recommend that you prepare the scanner for ColorCal after the copier has been serviced or any time the copier output has been altered.

- If Prepare Scanner for ColorCal is On, the ColorCal Scanner page is printed along with the ColorCal Calibration page, and you must measure (scan) the ColorCal Scanner page before you measure the ColorCal Calibration page.
- If Prepare Scanner for ColorCal is Off, the scanner preparation is skipped. Only the ColorCal Calibration page is printed and measured.

- 4 **On the Tools tab, press Calibrator.**
- 5 **Choose the paper source for printing the page(s), and then press Print.**

The ColorCal Calibration page is comprised of swatches of color that are measured by the copier's scanner and then compared to the target color values.

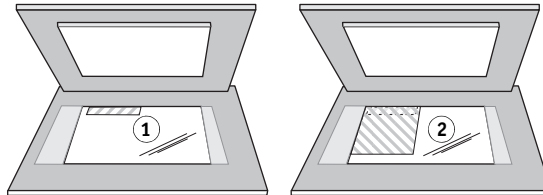
- 6 **Retrieve the page(s).**
- 7 **If you printed the ColorCal Scanner page, place the grayscale strip and Color Control patches according to the instructions on the ColorCal Scanner page, and then press Measure to initiate the scan.**

Wait for the scan to complete.

8 Place the grayscale strip according to the instructions on the ColorCal Calibration page.

Place the grayscale strip face-down on the copier glass (platen). Place the strip along the top edge of the copier so that it is centered between the paper width marks on the copier.

- 1 Place grayscale strip face down
- 2 Place color measurement page face down over grayscale strip



Place the color measurement page face-down over the grayscale strip. Make sure the patches on the grayscale strip do not overlap the color patches. Close the platen glass cover, being careful not to move the grayscale strip and color measurement page.

9 Press Measure to initiate the scan.

Wait for the scan to complete.

10 To print a test page, press Test Print.

You can examine the test page to decide if the calibration was successful.

11 If the calibration was successful, press Apply to save the measurements.

TO RESTORE FACTORY DEFAULT MEASUREMENTS FROM THE COPIER TOUCH PANEL

- 1 When the copier is Idle, press the Applications button, and then press Fiery to enter the E100 display.
- 2 Press the Tools tab, and then press Calibrator Settings.
- 3 For Restore Measurements, press Next.
- 4 Press Yes to confirm.

Managing calibration sets

Every output profile on the E100 must be associated with a calibration set. The calibration set provides the E100 with measurements of the density response of the copier toners for specific printing conditions (for example, media type). This data, along with the expected density response of the copier, allows the E100 to apply corrections to color values that are sent to the copier, to achieve the calibrated output. For more information, see [“An overview of calibration”](#) on page 49.

An output profile can be associated with only one calibration set, but the same calibration set can be used by more than one output profile.

A calibration set must be associated with at least one output profile, otherwise the calibration set will never be used for printing.

Using the output profiles and calibration sets

The E100 is shipped with one or more output profiles. You may obtain good color quality with the factory-supplied output profiles and their associated calibration sets (see scenarios 1 and 2 in the following table). However, you may need to create custom calibration sets and output profiles depending on your situation (see scenarios 3 and 4 in the following table).

	Your paper	Action	See
1	Recommended paper for a factory-supplied output profile (the paper that the profile is based on)	You will obtain acceptable color when you print with the output profile. You do not need to create a calibration set or custom profile.	See “Recommended paper” on page 46 to find out the recommended paper for an output profile.
2	Paper similar to a factory-supplied profile’s recommended paper	You might be able to use the output profile. The print settings required for your paper (for example, media type and media weight) must match the print settings required by the recommended paper. If the color quality is sufficient, you do not need to create a calibration set or custom profile.	The output profile name usually indicates the general type of paper (for example, plain, coated, or heavy). To find out the print settings required for the recommended paper, see “Recommended paper” on page 46.
3	Paper that is similar to a factory-supplied profile’s recommended paper but uses different print settings	You might still be able to use a factory-supplied output profile, if you create a custom calibration set and use it to calibrate the E100 with your paper.	For more information, see “Adding custom calibration sets” on page 47.
4	Paper that does not yield acceptable color with any factory-supplied profile	You must create a custom calibration set and a custom profile.	For more information, see “Adding custom calibration sets and output profiles” on page 47.

NOTE: Recommended papers are chosen for quality, as well as other factors, such as feeding reliability and quality of transfer.

Recommended paper

You can check the recommended paper for a particular output profile using Command WorkStation and Calibrator.

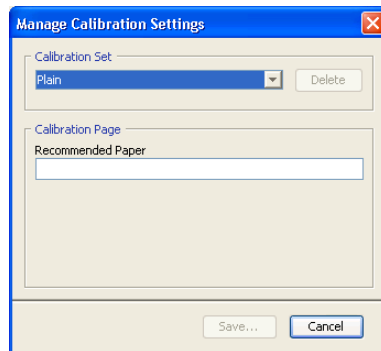
TO FIND THE RECOMMENDED PAPER AND PRINT SETTINGS FOR AN OUTPUT PROFILE

- 1 In Command WorkStation, in Device Center, go to Color Setup > Color Management.
- 2 Select the Output Profile and note the name of the calibration set displayed to the right.
- 3 In Device Center, go to General > Tools and click Calibrate.

Calibrator starts in a separate window.

- 4 Under Calibration Set, select Manage.

The Manage Calibration Settings window appears.



- 5 Select the calibration set from the list.

The recommended paper is displayed.

- 6 Click Cancel to close the window.

Adding custom calibration sets

If you are printing on a paper that is similar to the recommended paper but uses different print settings, you might still be able to use the output profile, but you must create a custom calibration set. If the color quality is sufficient, you do not need to create a custom profile (see scenario 3 in the table under [“Using the output profiles and calibration sets”](#) on page 45).

You can add a new calibration set that you can then select when performing calibration. You can delete a custom calibration set. You cannot delete a factory-supplied calibration set.



For instructions on adding a custom calibration set, see Command WorkStation Help.

Adding custom calibration sets and output profiles

If you determine that none of the factory-supplied output profiles yields acceptable color with your paper, you must create a custom calibration set in Calibrator and a custom profile using profile-generating software such as Fiery Color Profiler Suite (see scenario 4 in the table under [“Using the output profiles and calibration sets”](#) on page 45).

NOTE: Before creating a custom calibration set and custom output profile, make sure that the copier is calibrated (if calibration is supported on the copier). For information about performing copier calibration, see the documentation that accompanies the copier.

Calibration on the E100 requires that each output profile contains a calibration target. If you use Fiery Color Profiler Suite to create a custom output profile, you do not have to perform any procedures to add a calibration target to the output profile. Color Profiler Suite can create a profile that contains a calibration target.

- First, create a custom calibration set using Calibrator in Command WorkStation.
- Next, create a custom output profile using Color Profiler Suite and install it on the E100.

TO CREATE A CUSTOM CALIBRATION SET ON THE E100

- 1 **In Command WorkStation, in Device Center, go to General > Tools and click Calibrate.**

Calibrator starts in a separate window.

- 2 **For Calibration Set, select Manage.**

The Manage Calibration Settings window appears.

- 3 **Choose a calibration set from the list.**

Choose the calibration set that is the most similar to your paper. For example, the calibration set might be for the same brand of paper but a different weight.

- 4 **Type a new Recommended Paper description and click Save.**

- 5 **Type a name for the custom calibration set and select an output profile to associate it with.**

Select any output profile for now. You will change this association to your custom output profile after you create the profile.

- 6 **Click OK.**

A copy of the selected output profile is created and associated with the new calibration set. The copy has the name of the calibration set appended to it.

The custom calibration set will be used when you print with its associated output profile.

TO CREATE A CUSTOM OUTPUT PROFILE IN COLOR PROFILER SUITE V3.0

- 1 **In Color Profiler Suite, start Printer Profiler and click Print Patches.**

- 2 **In the Welcome screen, click Select Fiery Server and choose the E100.**

The E100 must be connected to your network.

- 3 **Print and measure the measurement page(s) and process the measurements.**

- 4 **In the Apply Settings screen, make sure that “Include ColorWise calibration goal” is selected.**

You are using Color Profiler Suite to create the calibration target (goal).

- 5 **In the Save Profile screen, click Install on Fiery Server and make sure that the E100 is selected.**

- 6 **In the Profile Settings window that appears when you save the profile, under Calibration, choose the custom calibration set that you created and click OK.**

The custom output profile is installed on the E100 and associated with your custom calibration set. When you print a job using this output profile, the calibration set is used as well.

You can delete the copy of the output profile that was initially associated with the custom calibration set. This profile is no longer needed.

- 7 **Click Done to exit Printer Profiler.**

Understanding calibration

The following sections describe important concepts and suggestions for understanding calibration.

An overview of calibration

Calibration generates curves that adjust for the difference between the actual toner densities (measurements) and the response expected by the output profile.

- Measurements represent the actual color behavior of the copier.
- Calibration sets are sets of measurements that represent the output of specific combinations of media-related options.
- Each output profile contains a calibration target that describes the expected behavior of the copier.

After you calibrate the E100, a calibration set is stored. This calibration set is used when it is associated with an output profile. Every output profile has an associated calibration set. If you have not specified one, the calibration set associated with the default output profile is used.

If you change the calibration after a saved job has been processed (RIPped), you do not have to reprocess (reRIP) the job. The new calibration affects the job without reprocessing.

How calibration works

Although the needs of most users are met by the default calibration set, the E100 allows you to choose a calibration set to customize calibration for specialized jobs.

Calibration allows you to:

- Maximize the color reproduction capabilities of the E100.
- Ensure consistent color quality over time.
- Produce consistent output across E100 servers.
- Achieve better color matches when reproducing **spot colors**, such as PANTONE colors or other **named color** systems.
- Optimize the E100 for using ColorWise rendering intents, CMYK simulations, and ICC profiles.

Success in obtaining satisfactory print quality from the E100 depends on many factors. Among the most important are establishing and maintaining optimal toner densities. The **density** is the measure of the light absorbed by a surface. By carefully regulating toner densities, you obtain consistent printed color.

Even with a calibrated system, toner density is affected by the settings of copier, humidity, and temperature. Density also tends to drift over time. Uneven toner density on paper affects calibration results. Regular measurement detects day-to-day variations in density, gradation, and color reproduction, and calibration corrects them.

Calibration works by creating calibration curves on the E100 that compensate for the difference between actual (measured) and desired (target) density values. These calibration curves are the graphic equivalent of transfer functions, which are mathematical descriptions of changes that are made to the initial data. Transfer functions are often graphed as input or output curves.

The E100 generates calibration curves after comparing measured values to the final target values for each of the four toner colors. The target values are based on the output profile specified.

Measurements

Measurement files contain numerical values that correspond to the toner density produced by the copier when it prints solid cyan, magenta, yellow, and black, and graduated tints of those colors.

To create a measurement file, print a page of color patches. Measure the patches using a color measurement instrument connected to a computer on the network, or if it is available, the print device's scanner. The new measurements are automatically downloaded to the E100.

Output profiles and calibration sets

Output profiles and calibration sets define desired calibration results. One or more output profiles and calibration sets are provided with the E100. When you calibrate the E100, select the calibration set that corresponds to the typical printing jobs at your site. This same calibration set can be associated with one or more output profiles. For more information about output profiles, see [page 22](#).

Scheduling calibration

Calibrate the E100 at least once a day, depending on the volume of print jobs.

If it is very important to maintain consistent color, or your copier is subject to wide fluctuations in temperature or humidity, calibrate every few hours. For optimal performance, calibrate whenever there is a noticeable change in print quality or printing results are not as expected.

If you must split a print job into two or more batches to print at different times, it is important to calibrate before you print each batch. You should also calibrate the E100 after copier maintenance. However, because the copier may be less stable immediately after maintenance, wait until you have printed approximately 50 pages before you calibrate.

NOTE: Because printed output from the copier is very sensitive to changes in temperature and humidity, do not install the copier near a window, in direct sunlight, or near a heater or air conditioner. Paper is also sensitive to climate changes. Store it in a cool, dry, stable environment, and keep reams sealed until they are used.

To monitor print quality, print the following color pages:

- Color Charts (from Command WorkStation or the copier touch panel)
- Color reference pages included in the User Software DVD (see [page 39](#))

These pages include fully saturated color patches and pale tints of cyan, magenta, yellow, and black. Images with skin tones offer a good basis for comparison. Save and periodically compare the pages you print. If a noticeable change in appearance occurs, calibrate the E100.

When you examine the Test Page, all color patches should be visible, even though they may be very faint in the five to two percent range. Each patch set should show uniform gradation from patch to patch as the color lightens from 100% to zero.

If the solid density patches (100% cyan, magenta, yellow, or black) look less saturated over time, show the pages to your copier service technician to determine whether adjusting the copier can improve output.

Checking calibration status

To verify whether the E100 is calibrated, which calibration set and output profile were used, and when the copier was last calibrated, perform the following:

- Print a Configuration page or Test Page from the copier touch panel or Command WorkStation.

For instructions on printing the Configuration page, see [Configuration and Setup](#).

- In the Calibrate feature of Command WorkStation, select a calibration set. The last calibration and the user who performed it are displayed.

SPOT-ON

The Spot Color Matching print option automatically matches spot colors with their best CMYK equivalents so that spot colors can be simulated using the CMYK toner of the copier. However, you may want to adjust the default CMYK equivalents to achieve a better match for your specific printing conditions. You can modify spot colors using the Spot-On spot color editor in Command WorkStation.

NOTE: Spot colors are also called “named” colors because a color name is used to represent a specific CMYK value.

Spot-On in Command WorkStation is part of the Productivity Package option on the E100.

Substitute Colors

In addition to managing “named” colors, Spot-On allows you to create a list of “substitute” colors. These are colors that, when called for in a document by their RGB or CMYK values, are substituted with a different color having the CMYK values from the Spot-On color dictionary. This permits exact color control and overrides individual RGB and CMYK colors.

NOTE: You cannot use the Substitute Colors and Postflight features at the same time. These print options are constrained from the printer driver.

How Spot-On works

Spot-On allows you to adjust and manage lists of spot colors and their CMYK equivalents. The matching lists of spot colors and CMYK values are known as Spot Color Dictionaries. Spot-On allows you to maintain multiple Spot Color Dictionaries for each output profile on the E100.

In Spot-On, you specify the job properties you will use to print. Based on the settings, Spot-On determines the output profile and its associated Spot Color Dictionary.

If you select Output profile X and redefine PANTONE 123 from 30%M to 50%M using Spot-On, you will get 50%M when you print a job with Output profile X. If you print a job with Output profile Y, you will get the original value.

If you select Output profile X and create a custom color named “My Purple” and define it as 80%C 40%M, ColorWise automatically calculates the Lab values using Output profile X and creates new CMYK values for use with Output profile Y.

To use the Spot-On features with named colors, you must enable the Spot Color Matching print option. For more information about this option, see [page 26](#).

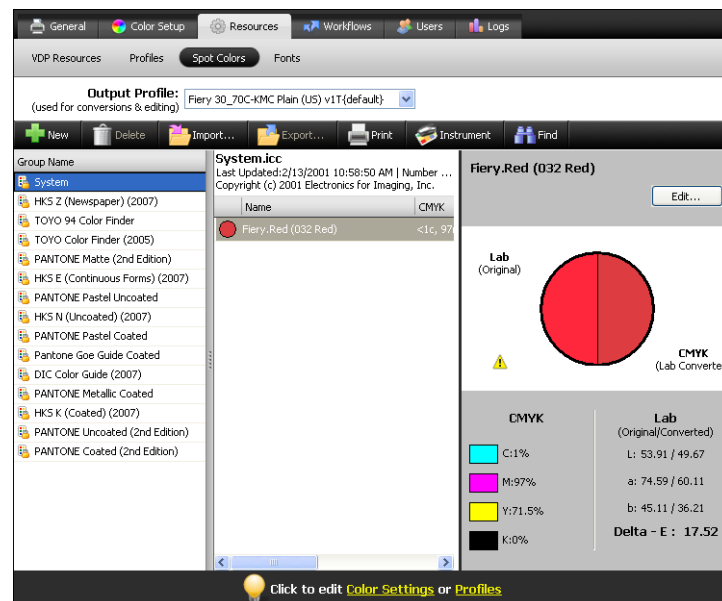
NOTE: Spot colors identified by names are printed with their defined CMYK values. Edits to an output profile made in Command WorkStation do not affect how spot colors print.

NOTE: The edits to a job made with the color adjustment features in ImageViewer affect all colors in the job, including spot colors. For more information about ImageViewer, see [ImageViewer](#).

Where to find Spot-On



The Spot-On feature is on the Spot Colors tab under the Resources tab in the Device Center. For more information about using Spot-On, see Command WorkStation Help.



Monitor settings with Spot-On

Some Spot-On features require that a job be displayed with correct colors on your monitor. To display the colors correctly on your monitor, you must set up the monitor display according to the manufacturer's recommendations, and specify the correct monitor profile for your monitor.

Specify the following settings for the monitor display:

- At the monitor: Brightness, Contrast, and Color Temperature
- From the control panel of the operating system: Resolution, Refresh rate, and Number of colors

For more information about setting up your monitor and the monitor profile, see the documentation that accompanies the monitor.

AUTO TRAPPING CUSTOMIZATION

Trapping is a technique where some objects are printed slightly larger or smaller than you have specified in an application, in order to prevent white edges around the objects. These white edges, or “halos,” can be caused by factors such as misregistration, the physical properties of the toners, and the stiffness of the media.

The Auto Trapping customization feature provides you with advanced trapping settings and gives you full control over their values. The E100 is shipped with values that are optimized for the print device using regular paper, but if these values do not provide the results necessary for the media that you use, modify the values to meet your requirements.

The Auto Trapping customization feature is available with the Productivity Package option on the E100.

Printing with Auto Trapping

You can print a job with Auto Trapping enabled with or without customizing the trapping values first.

TO PRINT A JOB WITH AUTO TRAPPING

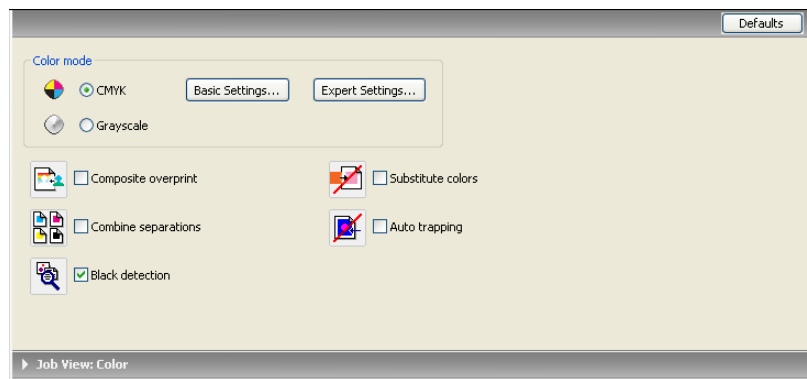
1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Color tab, select the Auto Trapping print option.



3 Print the job.

If you have not customized the trapping values with Command WorkStation, your job is printed with the default trapping values. If you edited the values, your job is printed with the custom trapping values.

Auto Trapping customization



In Command WorkStation, the Auto Trapping customization feature is on the Trapping tab under the Color Setup tab in Device Center. For more information about using Trapping, see Command WorkStation Help.

The screenshot shows the 'Trapping' tab in the 'Color Setup' section of the 'Device Center' application. The interface includes a 'Control Bar' with tabs for 'General', 'Color Setup', 'Resources', 'Workflows', 'Users', and 'Logs'. Below the tabs, there are sections for 'Trap width', 'Trap color reduction', 'Trap shape', and 'Trap object types'. The 'Trap width' section shows a diagram of a trap with 'Horizontal' and 'Vertical' settings, both set to 1 Pixel. The 'Trap color reduction' section shows sliders for Cyan, Magenta, Yellow, and Black, all set to 0%. The 'Trap shape' section has radio buttons for Ellipse, Diamond, and Rectangle, with Rectangle selected. The 'Trap object types' section has checkboxes for 'Trap Objects to Images' and 'Trap Images Internally', both of which are unchecked. At the bottom, there are 'Factory Defaults', 'Reset', and 'Apply' buttons.

General Color Setup Resources Workflows Users Logs

Color Management Control Bar Trapping

☐ Use trap settings by default

Trap width

Horizontal: 1 Pixels

Vertical: 1 Pixels

Trap color reduction

Cyan: 0 %

Magenta: 0 %

Yellow: 0 %

Black: 0 %

Trap shape

☐ Ellipse

☐ Diamond

☒ Rectangle

Trap object types

☐ Trap Objects to Images

☐ Trap Images Internally

Factory Defaults Reset Apply

IMAGEVIEWER

ImageViewer allows you to soft proof and adjust colors in a job before it is printed. You can use the preview in ImageViewer to verify job placement, orientation, and content, as well as general color accuracy. If the job contains halftone screened settings, the preview shows a composite view of all separations at the dot level. You can select to display the plate data for each process color independently or in combination with the other colors, allowing inspection of individual plate data or a combination of any range of plates.

ImageViewer is available with the Productivity Package option on the E100.

Accessing ImageViewer

Start ImageViewer from the Actions menu or Preview window of Command WorkStation.

TO START IMAGEVIEWER FROM THE ACTIONS MENU

- 1 In Job Center in Command WorkStation, select the job that you want to preview.

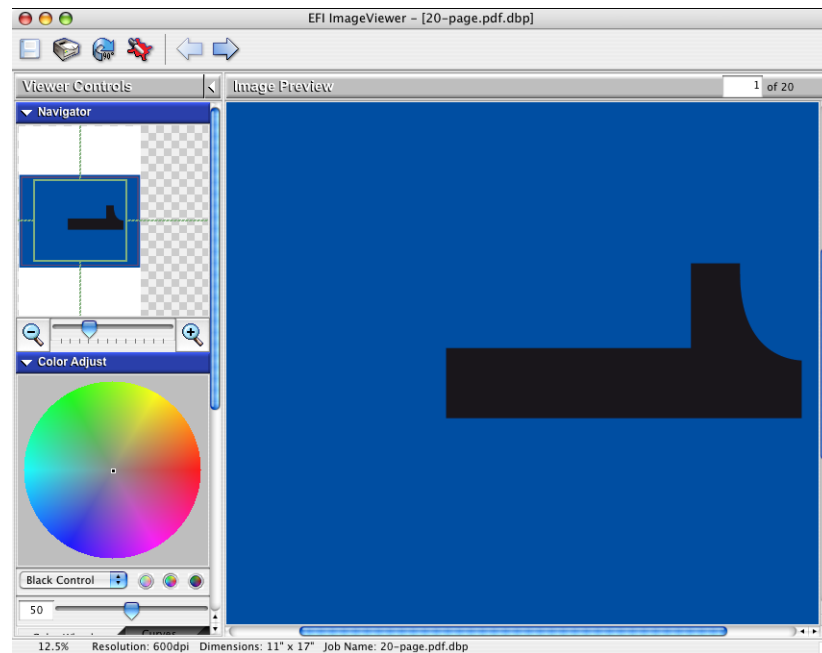
NOTE: ImageViewer recognizes only jobs that show processed/held (dark yellow) status. Processed/held jobs are also indicated by the raster job icon (page icon ringed with a halo).

- 2 If needed, choose Process and Hold from the Actions menu to move the job to processed/held status.

- 3 To start ImageViewer, do one of the following:

- Choose ImageViewer from the Actions menu.
- Right-click the selected job and choose ImageViewer from the menu that appears.

The ImageViewer main window appears.



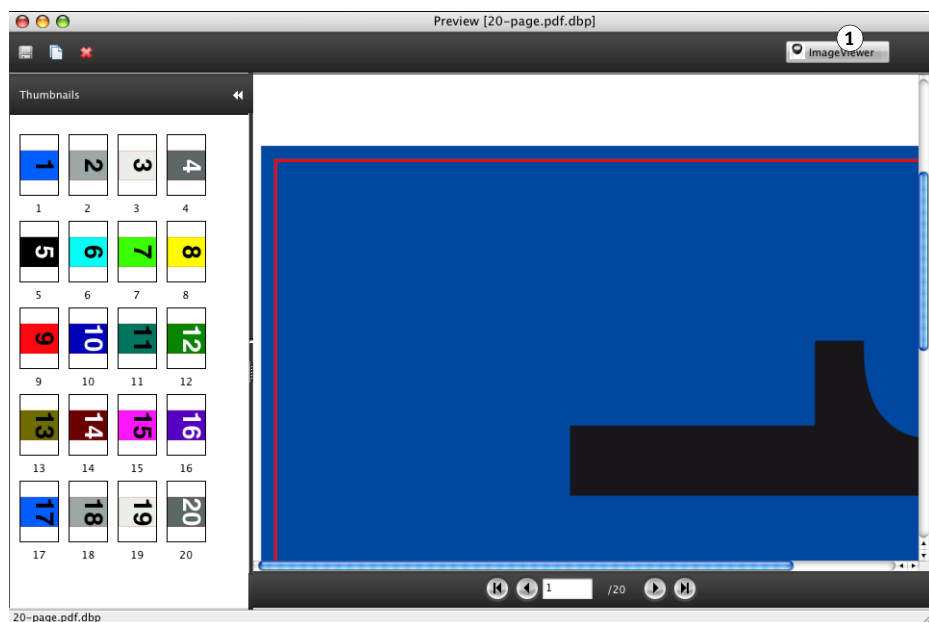
TO START IMAGEVIEWER FROM THE PREVIEW WINDOW

- 1 In Job Center in Command WorkStation, select the job that you want to preview.

NOTE: ImageViewer recognizes only jobs that show processed/held (dark yellow) status.

- 2 If needed, choose Process and Hold from the Actions menu to move the job to processed/held status.
- 3 Choose Preview from the Actions menu.

Page thumbnails appear in the Preview window.

1 ImageViewer button

- 4 To start ImageViewer, select the thumbnail of the page that you want to soft proof and click ImageViewer.

The ImageViewer main window appears.

For information about using ImageViewer, see Command WorkStation Help.



CONTROL BAR

Control Bar allows you to add a static color bar and dynamic job information to each printed page at a user-defined location.

The default Control Bar is designed to fit the E100 default paper size, Letter/A4, or larger. You can create Control Bars for other paper sizes.

The Control Bar feature is available with Productivity Package option on the E100.

NOTE: If a Control Bar does not fit on the page, it will be clipped.

NOTE: If a background color is defined as “white” for a user-defined Control Bar, it must be defined in the CMYK color space for the Paper Simulation feature to take effect. For more information about Paper Simulation, see [Paper Simulation White Point Editing](#).

The default Control Bar provides a color bar and dynamic job information. Many jobs print satisfactorily with the default Control Bar, but if you require your own Control Bar, create it by defining custom values on the Control Bar tab in Color Setup.

Printing with a Control Bar

Print a job with the default Control Bar by setting the Control Bar print option to On from the printer driver.

You can print a job with a Control Bar by setting the Control Bar print option to On.

TO PRINT A JOB WITH A CONTROL BAR

1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

- 2 On the Job Info tab, under Reporting, select the Control Bar print option.



- 3 Click OK.

- 4 Print the job.

If you have not set up a custom Control Bar with Command WorkStation, your job is printed with the default Control Bar. If you set up a custom Control Bar, your job is printed with the custom Control Bar.

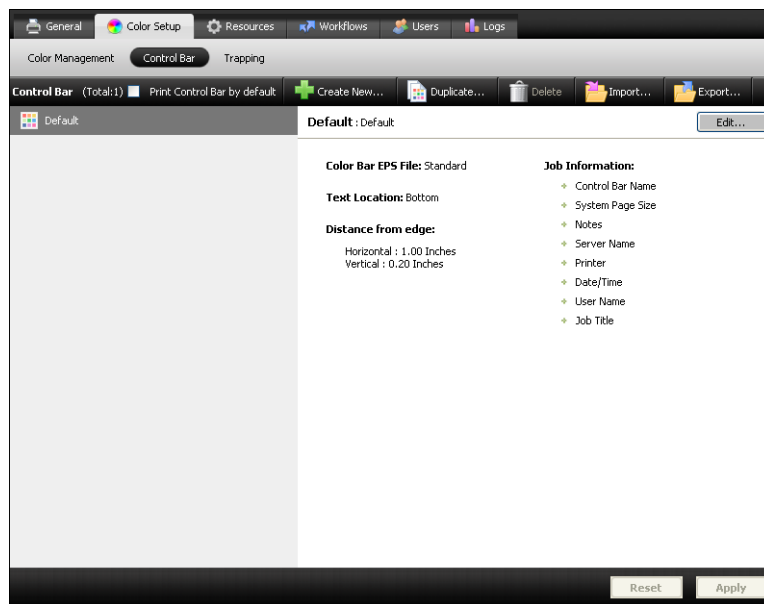
- 1 Static color bar
- 2 Job information



Custom Control Bar



The custom Control Bar feature is on the Control Bar tab under the Color Setup tab in the Device Center. For more information about using Control Bar, see Command WorkStation Help.



PAPER SIMULATION WHITE POINT EDITING

Although an ICC profile contains a definition of “white,” the white may not always visually match the human eye, requiring a perceptual adjustment. The Paper Simulation White Point editing feature allows you to perceptually adjust the hue, brightness, and saturation of the simulated paper white defined in the ICC profile.

When the Paper Simulation print option is enabled, the E100 simulates the white of the paper using CMYK values rather than leaving the paper white areas of the page unprinted. You can print a job with Paper Simulation without customizing paper simulation. Many jobs may print satisfactorily with the fixed default Paper Simulation setting. However, you can customize the paper simulation by editing the white point values with Command WorkStation before printing with Paper Simulation.

The Paper Simulation feature is available with the Productivity Package option on the E100.

Printing with Paper Simulation

You can print a job with Paper Simulation enabled with or without customizing paper simulation first.

TO PRINT A JOB WITH PAPER SIMULATION

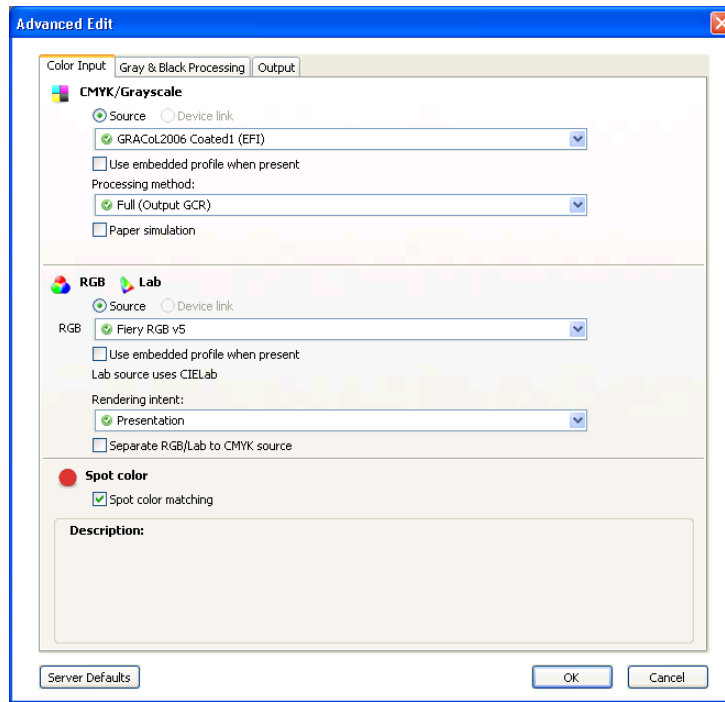
1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Color tab, click Expert Settings and then select Paper Simulation.



3 If you edited the Paper Simulation White Point values, select the following settings as well.

- For CMYK/Grayscale Source, select the custom profile that you saved after editing the Paper Simulation White Point values,
- For CMYK/Grayscale Processing Method, select Full (Output GCR).
- On the Output tab, for Output Profile, select the profile that you linked to the custom CMYK Source profile when you edited the Paper Simulation White Point values.

4 Print the job.

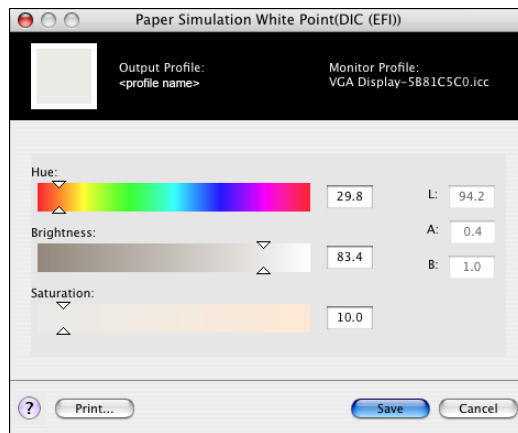
If you have not edited the Paper Simulation White Point values with Command WorkStation, your job is printed with the default Paper Simulation values. If you edited the values, your job is printed with the custom Paper Simulation values.

Paper Simulation White Point editing

Your job may print satisfactorily with the fixed Paper Simulation setting. However, you can customize the Paper Simulation setting by editing the Paper Simulation White Point values with Command WorkStation.



To access the Paper Simulation White Point dialog box, see the instructions in Command WorkStation Help.



When you edit the Paper Simulation White Point values, you save them in a custom profile, which you create by editing an existing CMYK Source Profile in Color Editor. You must also link the CMYK source profile to an output profile.



NOTE: To display the colors correctly with your monitor, you must set the monitor and monitor settings correctly. For more information, see Command WorkStation Help.



NOTE: If Paper Simulation is set to On, and you have defined a substitute color as C=0, M=0, Y=0, K=0, the values defined in Substitute Colors override those for Paper Simulation. For information about Substitute Colors, see Command WorkStation Help.

POSTFLIGHT

The Postflight feature helps you determine why some printed jobs may not deliver expected color. Acting as a diagnostic and training tool for all users, it provides helpful global and object-specific information about how a job is actually received and processed by the E100.

The Postflight feature is available with the Productivity Package option on the E100.

Use Postflight to troubleshoot color problems with a previously printed job or as a preventive measure. You can print the original document (or RIPPed and previewed) with all objects (images, graphics, and text) color-coded. A report explains what color spaces are used in the job and what print options affect those spaces. The report also provides information about the printing environment, such as calibration date, time, and method. Print a Test Page to verify the condition of the printing environment.

Postflight is a powerful analysis tool that enumerates in its reports not only those color spaces that are used by visible objects, but any color space called by a job. This can be very useful in diagnosing puzzling situations that may require correction. For example: using one specific combination of a printer driver, an OS, and a desktop publishing application emitting separations for plates, you *might* find that: 1) the Postflight color-coded pages show the Cyan, Magenta, and Yellow separations in the “DeviceGray” color space, while the Black separation is shown in the “DeviceCMYK” color space and 2) the Postflight report enumerates: DeviceGray, DeviceCMYK and DeviceRGB. What once required a PostScript expert to decipher can now be interpreted in minutes using Postflight reports. The Cyan, Magenta, and Yellow pages are defined in “DeviceGray”, the Black page is using the “K” channel of DeviceCMYK, and the job is calling for the RGB color space, without applying it on any user-visible object.

About Postflight

When the Postflight print option is set to values other than Off, it provides the following information to help you identify possible problems: Postflight Test Page, Postflight color-coded pages, and Postflight reports.

Postflight Test Page

You can print the Postflight Test Page alone or in combination with the color-coded pages. The Test Page is printed using the exact same media and global settings (such as calibration) as your job. However, color objects on this page are printed independently of the user-specified source color definitions (such as CMYK simulation and RGB).

If the color on this page is not accurate, the problem lies with the printing environment (such as the calibration, output profile, or print device).

If the color on this page prints correctly but objects in your job do not print in expected colors, it is likely that the problem lies with the color setting specific to these objects. Problems with objects can be: wrong color values for text and graphics, bad quality images, or out-of-gamut colors.

Postflight color-coded pages

With this option, Postflight prepares a color-coded version of the original document that displays each object with a color corresponding to the color space that the E100 received for the object.

The colors used to represent the color spaces for objects are as follows:

- Gray objects: Gray
- CMYK objects: Cyan
- RGB objects: Red
- Device-Independent objects: Indigo
- Spot color objects: Yellow

By reviewing the colors for all objects, you can identify the print option settings that affect the color conversion of the objects and make appropriate modifications.

Postflight reports

You can print reports on color-coded pages, either alone or combined with the color-coded document. These reports are printed on the E100 default paper size (Letter for US, A4 for metric) and use the default calibrated color mode.

The reports provide a document header with information (such as job name, date and time printed, and user name), a ColorWise global settings page, and object-specific settings pages. All pages include the job name, postflight date/time, and pagination in the bottom margin.

- **ColorWise global settings page** provides information that affects every object in a job, such as Calibration Set, the date the E100 was calibrated, the method used for calibration, and the output profile that was used.
- **Object-specific settings pages** provide a list of the settings that were used to process every object in each color space, thus suggesting the locations to correct problems. For example, if you see a problem with an object that is displayed in Cyan in a color-coded page, review the settings listed in the CMYK Objects page and try changing those settings.
- **Spot colors page** lists all spot colors.

For spot colors, the Postflight report lists the colors that are used in a job. It also indicates whether these colors are defined in the E100. When a spot color is defined in the E100, a patch is printed next to the color name. When a color is not defined in the E100, a white patch with an X is printed.

Understanding Postflight reports

The main purpose of Postflight is to help you detect, diagnose, and prevent color-related problems. In contrast to generic preflight software, which attempts to predict how a job would be processed, a postflighted job is fully processed by the E100, allowing accurate reporting on the settings with which the job processed.

This Postflight feature is especially useful in cases where a workflow that was used to submit a job inadvertently converts colors. This conversion occurs with some printer drivers, printing options, and conversions to PDF.

This report focuses on color processing and does not list every printing option that affects your job. For more information about the ColorWise print options, see [ColorWise Print Options](#).

NOTE: Postflight reports list only those color spaces that were submitted to the E100 with your job. You may occasionally find that a job produces a Postflight report that includes information about color spaces that you cannot locate in the job's color-coded pages. This occurs when an object in the color space is used in the job but is masked by another object, when an object is very light (for example, 0% of a spot color), or when the specific application or printer driver asks the E100 to process a particular color space but does not use it for user-visible objects.

NOTE: A Postflight report contains only one page on global settings, and it can include only one Test Page. Therefore, Postflight cannot describe an entire job accurately unless all pages are printed with the same options and on the same media. This is the case, for instance, with Mixed Media jobs, because they can use multiple output profiles, up to one profile per media in the job. If the page range is set to the pages that use one media only, Postflight produces reliable results for the specified range.

NOTE: Postflight is a “reporting” feature that is designed for diagnostic purposes. It is not designed for use with production features such as VDP and Imposition. For high-volume applications in production environments, use Postflight only on the individual pages that need testing.

Postflight print option

Access the Postflight feature through the Postflight print option. The following values are available for the Postflight print option:

- Off (Default)
- Concise Report
- Test Page
- Color-Coded Pages
- All Components (Color-Coded document pages, Test Page, and Concise Report)

NOTE: Select a portion of a job to print the Postflight pages by selecting the appropriate page range of a job from the printer driver.

Postflight is a procedure performed after you print a document and receive unexpected or inadequate color. If you have access to Command WorkStation, Postflight also helps you catch color problems before you actually print. Postflight processes your job and collects information about the color objects throughout. The information is then displayed in Color-Coded document pages, a Test Page, and a Concise Report.

NOTE: The background defined in the Paper Simulation is not indicated as a CMYK object in the Postflight reports. For more information about Paper Simulation, see [Paper Simulation White Point Editing](#).

NOTE: You cannot use Postflight at the same time that you use Substitute Colors or Combine Separations. Constraints are set for these print options from the printer driver.

Postflight examples

The following scenarios show how Postflight can be helpful to users who demand high color quality.

To diagnose an unexpected color (see [page 72](#))

Use Postflight to diagnose unexpected color in a job, or determine which print or calibration settings apply to a job.

To check the calibration status prior to printing a job (see [page 74](#))

Consider the following before printing a job:

- The E100 may include many Calibration Sets. Which Calibration Set applies to my job?
- When was the E100 last calibrated?
- Which instrument was used for the last calibration?

To check the quality of the output profile (see [page 75](#))

If you are considering using a new paper for which you do not have a custom profile, or if you suspect that the output profile for your print device may not precisely describe its color behavior, check your output profile by printing the Postflight Test Page.

To diagnose a color problem of a specific object (see [page 76](#))

When experts have verified that the calibration is correct and that the global settings, including the output profile, are correct, but the color of a specific object is still not as intended, you can print a color-coded document and diagnose the problem.

The detailed procedures of these scenarios are described in the following sections.

NOTE: For each of the following procedures, instead of printing the report to the E100, you can also send it to the Hold queue of the E100 and preview the information (of a job with raster data) in ImageViewer. For more information about ImageViewer, see [ImageViewer](#). To view the color of a job correctly, you must set your monitor and monitor profile correctly. For more information about the monitor and monitor profiles, see the section about Preferences in Command WorkStation Help.

NOTE: The procedures for printing a job from a Windows and a Mac OS computer are similar.

Scenario 1: Diagnose an unexpected color

Use the following procedure to print a job with Postflight set to Off.

TO PRINT A JOB

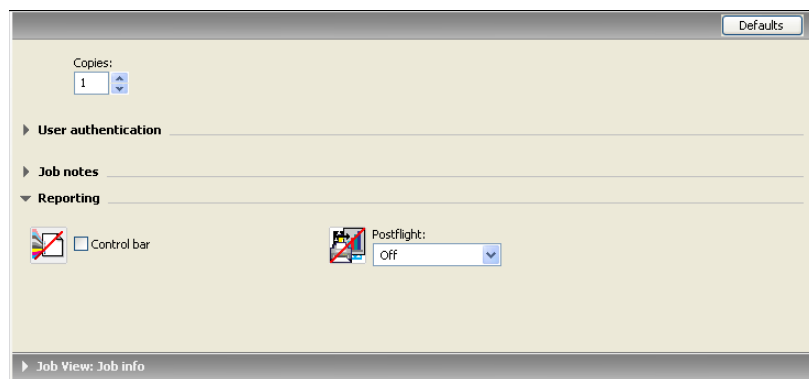
1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Job Info tab, choose Off from the Postflight menu.



3 Print the job.

The job is printed to the E100.

After you print a job, use the following procedure to diagnose an unexpected color and print the job with edited color settings.

TO DIAGNOSE AN UNEXPECTED COLOR AND PRINT WITH EDITED COLOR SETTINGS**1 Print the same job and choose All Components from the Postflight menu.**

Postflight Test Page, color-coded document pages, and Postflight Reports are printed.

For information about the components of Postflight, see [page 68](#).

2 Review all Postflight pages.

For information about the Postflight pages, see [page 68](#).

3 Make appropriate changes based on all Postflight pages.

Depending on your printing environment, the condition of the print device, and the color settings, possible changes are as follows:

- Correct problems with the print device (see the documentation that accompanies the print device).
- Calibrate the E100 (see [Color Printing](#)).
- Edit the colors of the output profile with Command WorkStation (see Command WorkStation Help).
- Change the default settings in Command WorkStation (see Command WorkStation Help).

Change the job specific print option settings using Command WorkStation Job Properties.

4 Print the job and choose Off from the Postflight menu.

The job with the edited color settings is printed to the E100.

5 Repeat these steps, if needed.

Repeat the steps until you get satisfactory color results.

Scenario 2: Check the calibration status

Use the following procedure to check the calibration status prior to printing a job.

TO CHECK THE CALIBRATION STATUS AND PRINT WITH THE OPTIMUM CALIBRATION CONDITION

1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Job Info tab, choose Concise Report from the Postflight menu.

For information about Postflight reports, see [page 69](#).

3 Print the job.

The Concise Report page is printed.

4 Review the information in the ColorWise global settings page.

5 Perform calibration, if needed.

If service has been performed on the print device since the last calibration, or calibration has not been performed, perform calibration using the Calibration Set specified in the Postflight report.

For more information about calibration, see [Calibration](#).

6 Print the job and choose Off from the Postflight menu.

The job is printed to the newly calibrated E100.

Scenario 3: Check the quality of the output profile

Use the following procedure to check the quality of the output profile of the print device.

TO CHECK THE QUALITY OF THE OUTPUT PROFILE AND PRINT WITH THE OPTIMUM OUTPUT PROFILE

1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Job Info tab, choose Test Page from the Postflight menu.

3 Print the job.

The Postflight Test Page is printed to the E100.

4 Review the quality of the color on the Postflight Test Page.

NOTE: Make sure that this page was printed with the same media and print option settings as the job.

5 Review the instructions on the Postflight Test Page.

6 Edit the color of the output profile, or create a profile, if needed.

It may be necessary to customize the output profile or create one to get optimal results on the media the job is using.

7 Print the job and choose Off from the Postflight menu.

The job is printed to the E100 with the edited or newly created output profile.

Scenario 4: Diagnose a color problem of a specific object

Use the following procedure to diagnose a color problem.

TO DIAGNOSE A COLOR PROBLEM OF A SPECIFIC OBJECT AND PRINT WITH THE EDITED COLOR SETTINGS

1 Print the job from an application and set the print options.

For information about how to set print options with the Adobe and Microsoft PostScript printer drivers for Windows, see [Printing](#).

For information about how to set print options with the printer drivers for Mac OS, see [Printing](#).

Alternatively, submit the job to the E100 Hold queue and then set print options in Job Properties in Command WorkStation.

2 On the Job Info tab, choose Color-Coded Pages from the Postflight menu.

For information about Postflight color-coded pages, see [page 68](#).

3 Print the job.

Postflight color-coded pages are printed to the E100.

NOTE: Alternatively, you can send the Postflight color-coded pages to the Hold queue of the E100 and preview them using ImageViewer. To preview the pages using ImageViewer, make sure that your monitor is set up according to the manufacturer's recommendations and that the correct monitor profile is specified for your monitor. For information about monitor profiles, see the section about Preferences in Command WorkStation Help.

4 Review the Postflight color-coded pages.

5 Make changes to the color settings, if needed.

For information about the ColorWise print options for various color spaces, see [ColorWise Print Options](#).

NOTE: Use the Color-Coded Pages Only setting to send a job to another print device that has a specific color-space requirement. For example, a document targeted to a CMYK-only press must have only Cyan-colored objects.

6 Print the job and choose Off from the Postflight menu.

The job is printed to the E100 with the edited color settings.

IMPORTING DENSITY MEASUREMENTS

This chapter describes Simple ASCII File Format (SAIFF), which you can use to import density measurements from measurement devices into Command WorkStation for calibration. To use your own measurement data from an alternate measurement instrument, rather than make measurements directly in Command WorkStation, record your individual readings in a text file, structured as described in this chapter. You can then import the data by clicking From File under Get Measurements in the Calibrate feature of Command WorkStation.

Simple ASCII Import File Format

This format describes [Status T](#) measurement data for import into Command WorkStation. The three possible file formats are:

- 1D Status T density for EFI 21 patch page
- 1D Status T density for EFI 34 patch page
- 1D Status T density for other pages (maximum of 256 patches per toner)

The file format is ASCII and has no tabs. A single space or multiple spaces are used as delimiters. Blank lines are not allowed. Each line in the file represents four patches (C, M, Y, K) of a specific toner value. Comments may be on any line in the file. Comment lines must start with a pound sign (#) followed by a space. (A line with a pound sign followed by any character other than a space has been reserved.) Comments must be on a line by themselves.

Each line of data contains five values. The first number is the sequential patch number (for EFI 21 and EFI 34 pages) or the toner value percentage (for other pages). The four values that follow are the density values of C, M, Y, and K of the corresponding patch. Lines are ordered either by increasing sequential patch numbers, or by increasing the toner percentage.

For Windows computers, the file extension must be .cm0 or cm1. For Mac OS computers, the file type must be 'TEXT'.

Measurement data in EFI 21 and EFI 34 are paper-relative. For other pages, if the first line corresponds to zero toner value, Command WorkStation assumes that the measurement data is absolute and adjusts it to become paper-relative by subtracting the density values of the first line from the remaining patches.

Example of 1D Status T density for EFI 21 patch page

This file format is used to specify the Status T density measurements of the EFI 21 patch page. The value in the first column is the patch number. The first patch must be 1 and the last must be 21.

```
#!/EFI 3
# EFI ColorWise 2.0 Data
type: 1DST21
# Cyan   Magent Yellow Black
1 0.0300 0.0400 0.0200 0.0400
2 0.0600 0.0700 0.0800 0.0700
3 0.1000 0.1000 0.1000 0.1000
(...more data...)
20 1.6700 1.3400 0.8900 1.6700
21 1.7200 1.4300 0.9300 1.7500
```

Example of 1D Status T density for EFI 34 patch page

This file format is used to specify the Status T density measurements of the EFI 34 patch page. The value in the first column is the patch number. The first patch must be 1 and the last must be 34.

```
#!/EFI 3
# EFI ColorWise 2.0 Data
type: 1DST34
# Cyan   Magent Yellow Black
1 0.0300 0.0400 0.0200 0.0400
2 0.0600 0.0700 0.0800 0.0700
3 0.1000 0.1000 0.1000 0.1000
(...more data...)
33 1.6700 1.3400 0.8900 1.6700
34 1.7200 1.4300 0.9300 1.7500
```

Example of 1D Status T density for an arbitrary page

This file format is used to specify the Status T density measurements of a user-defined patch page. The value in the first column is the toner percentage of the patch. The first percentage must be 0 and the last percentage must be 100. The percentages must increase in between.

```
#!/EFI 3
# EFI ColorWise 2.0 Data
type: 1DST
# percent Cyan Magent Yellow Black
0.0000 0.0300 0.0400 0.0200 0.0400
0.3922 0.0600 0.0700 0.0800 0.0700
1.1765 0.1000 0.1000 0.1000 0.1000
(...more data...)
98.0000 1.6700 1.3400 0.8900 1.6700
100.0000 1.7200 1.4300 0.9300 1.7500
```


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