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Before You Begin

- Which Color Model to Use
- Color Consistency
 - Adobe Creative Suite
 - Freehand
 - QuarkXPress
- Soft Proofing

Which Color Model to Use?

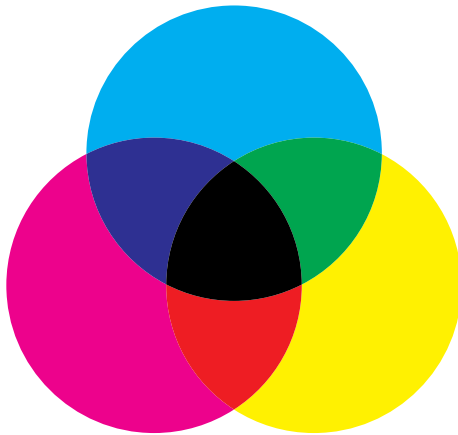
Each color space has a defined gamut—a range of possible colors. There is no single color space that can reproduce all the possible colors from the entire spectrum. Some color spaces can reproduce more shades of red, but fewer blues, while other spaces can produce a wide range of blues but fewer reds.

A digital press can produce many colors that are outside the gamut of traditional SWOP offset systems such as vivid blues, bright purples and brilliant magentas. Keeping to an RGB color space such as Adobe RGB allows designers to take advantage of the digital press's wider color gamut. The answer is not so simple, however, because there are benefits to working in CMYK as well.

CMYK

CMYK color spaces typically have color gamuts that are smaller than RGB spaces. That means fewer colors and usually less vivid colors. The benefit, however, is that a color space such as SWOP CMYK has a color gamut that is achievable by most CMYK printing devices. This is helpful in terms of color consistency if jobs are to be printed across different print devices. Preserving or editing the black channel (or curve) is also possible when the color space is CMYK.

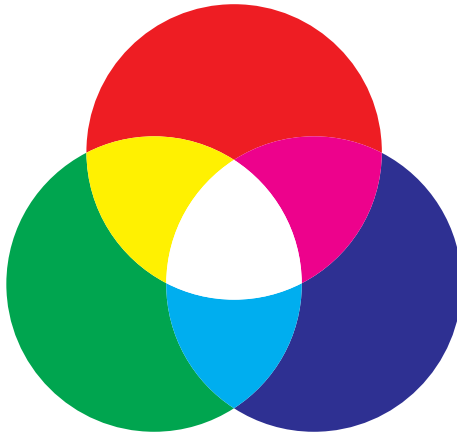
Figure 2-1 CMYK



RGB

RGB color spaces are typically larger than CMYK spaces and are becoming more popular as the preferred color space to use when jobs are sent to the printer. Generally, larger color spaces are able to reproduce more colors that are brighter and saturated in color. Keeping files in RGB also allows for greater repurposing to a diverse range of output processes such as web, digital media or printing. Most print devices use CMYK inks, so at some point the RGB elements will be converted to CMYK. The print shop can do the conversion at the RIP just prior to printing and this will generally yield the most pleasing results.

Figure 2-2 RGB



Color Decisions

When in doubt, always consult with the printer and use their recommendations. Sometimes it's possible to design artwork using CMYK colors to yield more precise matches and yet keep images in RGB spaces in order to retain more vivid color when repurposing. RGB and CMYK elements can then be placed into page layout applications such as QuarkXPress® or Adobe InDesign® and output in such a way that no colors get converted until they get to the digital press. In optimized workflows, color conversions are generally delayed as late as possible. Be sure to discuss the details with the print provider.

Figure 2-3 Example of CMYK and RGB image color spaces



CMYK



RGB

photo credit: Michael Ribeseth

Color Consistency

You will have greater predictability and consistency of what the output will look like when you use color preference settings that are consistent with the print provider's recommendations. When the print provider is unknown or not available, apply the following Adobe® Creative Suite 3 (CS3) recommendations to all of your Adobe applications and other graphics applications.

Color Settings for Adobe CS3

1. Launch the Bridge application and click on [Color Management] located at the bottom center of the window or from the Bridge menu [Edit: Creative Suite Color Settings...].
2. Choose [North American Prepress 2]. This is a good color setting to use for high-end printing when you want to have all your images and/or documents in one particular color space. Using this default setting will always prompt you when an image or document is tagged with an ICC profile that does not match the current application working space.
3. Click [Apply] to activate these settings for all of the Adobe CS3 applications (with the exception of Adobe Acrobat® 7.0; it is not yet synchronized so you will have to set your color preferences manually).

Figure 2-4 Adobe Bridge (CS3), Suite Color Settings

**Notes:**

- You can also create your own custom setting file within Adobe Photoshop® and apply that setting throughout the suite (with the exception of Acrobat) using the Bridge application.
- If you are using the Adobe® Creative Suite 1, you will need to set up all of the applications individually.

Create Your Own Custom Color Settings for Adobe CS3

Sometimes you may need to modify the default settings to better fit your needs. Only do so if you've discussed the workflow with your print provider first.

1. Use Photoshop CS3 to create a custom color setting as it provides the most complete set of parameters to set. From the menu bar in Photoshop, select [Edit: Color Settings...].
2. Make settings adjustments as directed by your print provider.
3. [Save...] this set of options using a name such as "XeroxDigitalPress."
4. Be sure to check the [Preview] box so that images will display correctly.
5. Use the Bridge application to synchronize all of the Adobe CS3 applications (with the exception of Adobe Acrobat 7.0; it is not yet synchronized so you will have to set your color preferences manually).

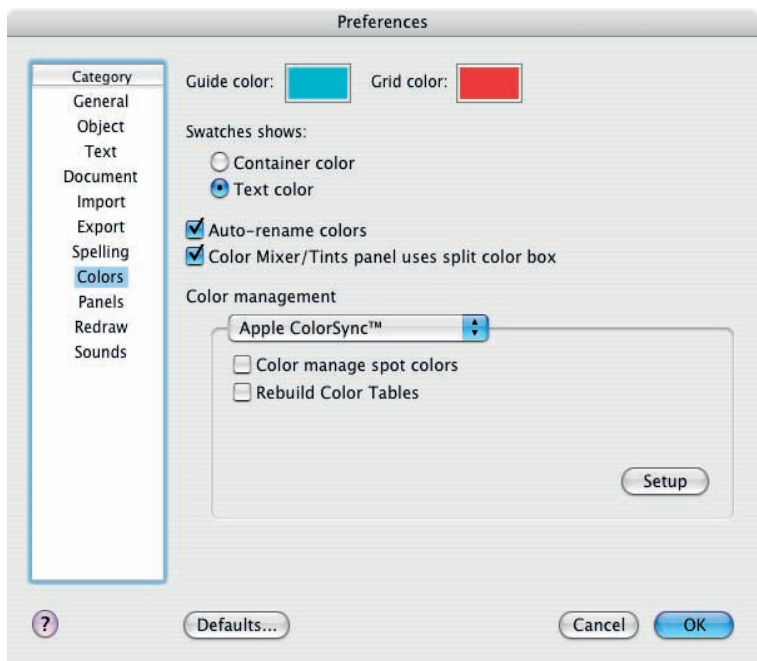
Figure 2-5 An example of Adobe CS3 custom Color Settings based on North American Prepress2



Freehand® MX Color Settings

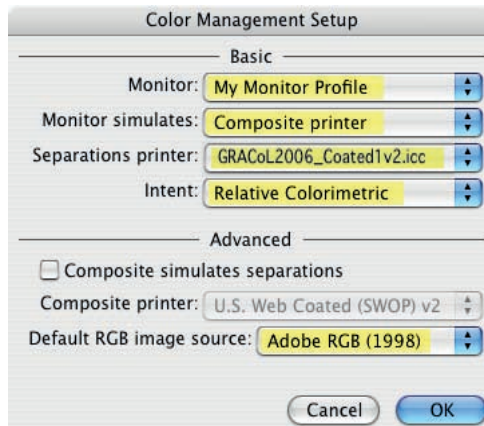
For consistency, apply the same color settings from the Adobe Creative Suite color settings to Freehand (make sure all the profiles are the same).

Figure 2-7 Freehand color preferences



Color Preferences can be found by selecting [Freehand MX: Preferences: Colors]. Select Apple ColorSync (or Kodak Digital Science for PC clients) for the Color Management type and then click the Setup button to set the specific color spaces.

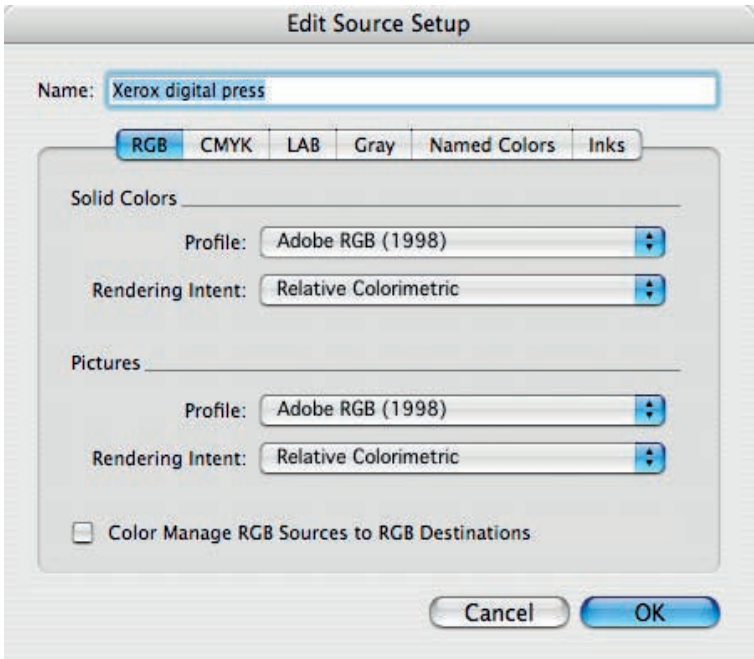
Figure 2-8 Freehand Color Management



QuarkXPress 7 Color Settings

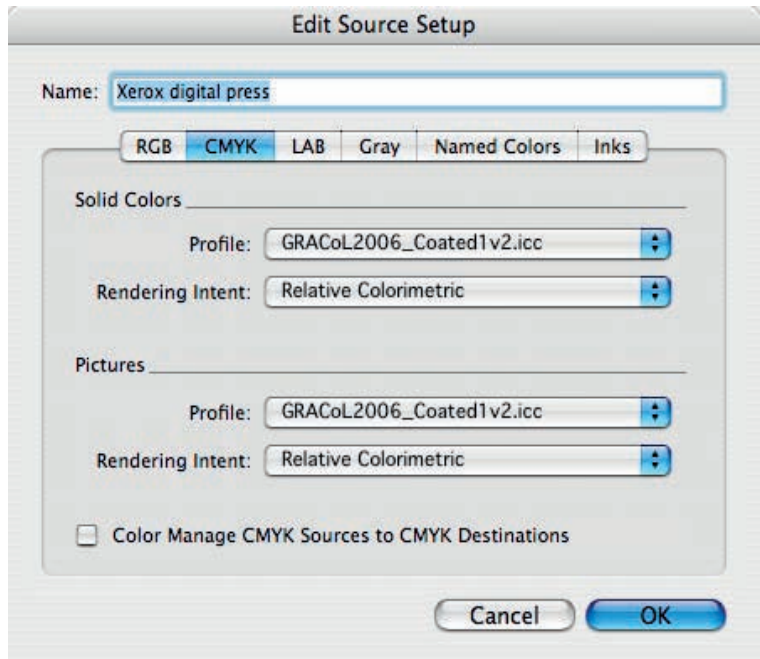
For consistency, apply the same color settings from the Adobe Creative Suite color settings to QuarkXPress.

Figure 2-9 QuarkXPress color source set-up – RGB



The Color Management window can be found by selecting [QuarkXPress: Preferences: Quark CMS].

Figure 2-10 QuarkXPress color source set-up – CMYK



Soft Proofing

Soft proofing is often used to make color-critical decisions from the monitor by both designers and prepress operators. Computer monitors use the RGB (additive) model to display colors. In order to display correctly, a captured image is translated into pixels (picture elements) that can be projected as rays of red, green and blue light. Since not all monitors are exactly the same, you will see differences in color from one monitor to another.

Digital presses use the CMYK (subtractive) model to produce colors. Cyan, magenta and yellow inks are placed on white reflective paper. Each then absorbs, or subtracts, its opposite color from the white light that it reflects back. Black (K) is primarily used to change the color's luminosity value (lightness or darkness). With the inherent differences between additive and subtractive systems, you will see differences in color from the monitor to the printed output.

Since most print providers have unique workflows, check with your print provider for the best method on implementing soft proofing in your environment.

Monitor Calibration and Characterization

To achieve optimal soft proofing, you should calibrate and characterize the monitor. Calibration can generally be done through a tool resident in the operating system. Characterization generally requires special color management software and hardware (e.g., colorimeter), though it is well worth the small investment and is usually easy to use.

Your print provider may be able to provide recommendations on which tools or methods to use.

Figure 2-11 Example of a poor monitor to print match. Use of monitor characterization may improve situations like these.

