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COLOR SERVICES

NEED TO KNOW

CREATIVE SUITE® 6 ICC COLOR SETTINGS

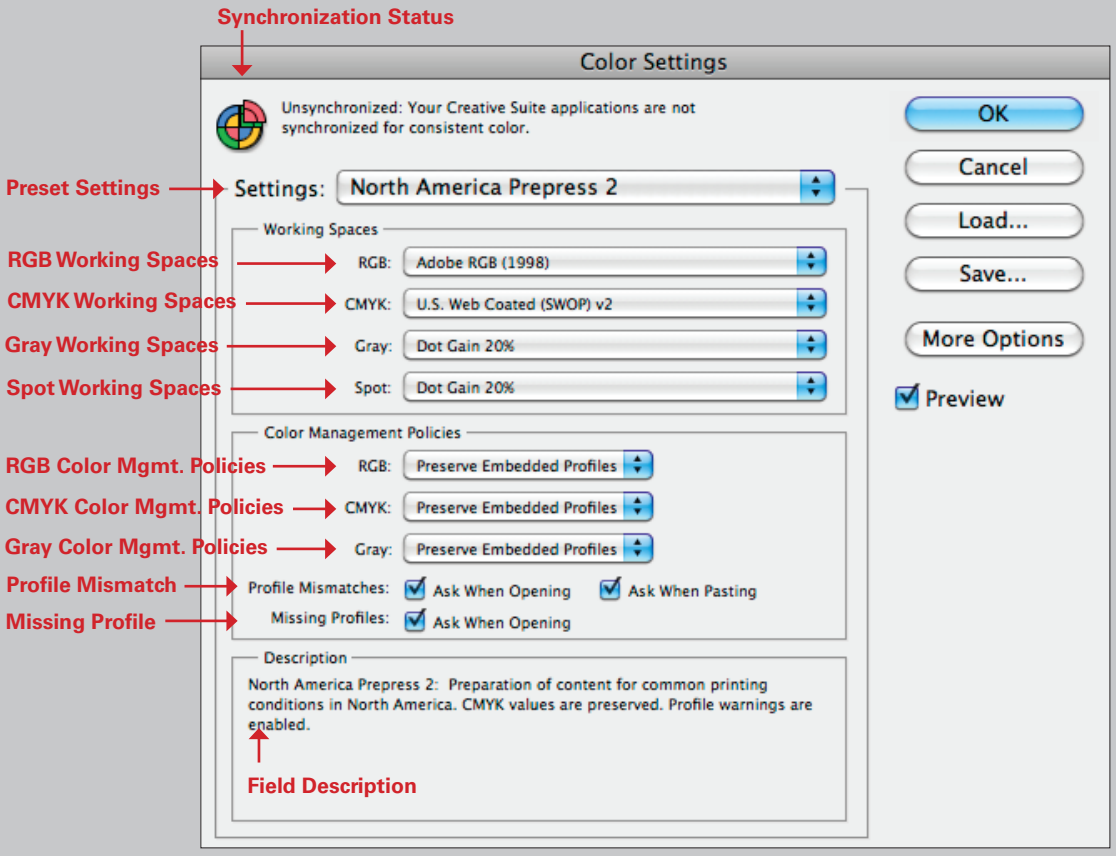
BASIC ICC PROFILE SETTINGS IN ADOBE® CS6

Adobe® Creative Suite® 6 utilizes ICC Color Management profiles to ensure your color management settings match between documents and Adobe applications. This document explains the purpose of each of the basic settings in the "Color Settings" window, how to choose the best settings for your particular color managed workflow, and how to synchronize your settings to match between applications in the Adobe Bridge®.

Reference

Although this document uses screen images from Photoshop® CS6, all of the Adobe application dialogs in CS2 and higher are similar.

Adobe Photoshop CS6 Color Settings Window



Photoshop's "Color Settings" dialog box lets you specify working space profiles for RGB, CMYK, grayscale, and spot colors. You can also specify color management policies for how to handle files and what to do if a profile is missing or mismatched.

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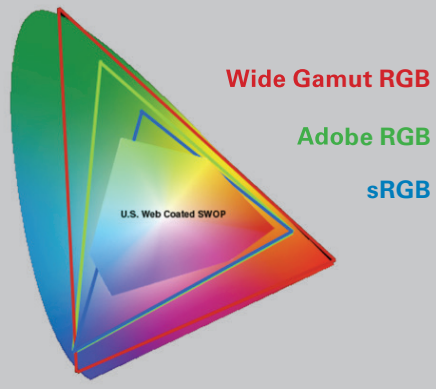
Working Spaces



This Chromaticity Diagram represents the gamut of human vision. The labeled areas show the colors these working spaces (U.S. Web Coated SWOP, Wide Gamut RGB, Adobe RGB and sRGB) are able to reproduce.

ICC Profile Terms

ICC—The International Color Consortium (www.color.org), standards body governing profiles.

Profile—A Mac- and PC-compatible file describing the color characteristics of a device in terms of CIE LAB, a mathematical model of human vision.

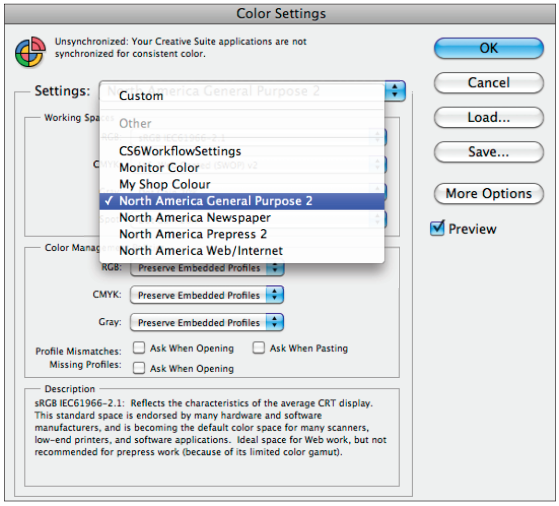
Source Profile—A profile describing the imaging device (scanner, digital camera) that was used to scan or capture the image, or the standard working space profile to which it was converted after scanning or capture.

Standard Working Space—A color space used to store data until final output. Select a standard profile as a working space, never your monitor profile.

Destination Profile—An ICC profile for an output device or process, such as a digital printer, conventional printing press or print standard.

SETTINGS DROP-DOWN

Under the "Settings" drop-down you will find presets that Adobe Creative Suite offers to fit the most common workflows. Simply select a preset setting and the fields below will automatically fill to work best in the given scenario.



- **Custom**: Allows you to customize your own settings and save them for future use. As you can see in this screen image drop-down, we have customized and saved "CS6 Workflow Settings" and "My Shop Colour."

IMPORTANT

If you start with a Settings preset, such as North America General Purpose 2" and make a change to fit your workflow, the edited settings will be titled "Custom". See the "Saving Custom Settings" section for more information.

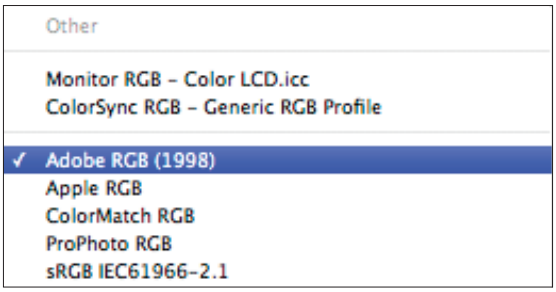
- **Monitor Color**: Preparation of content for video and on-screen presentation. Emulates color behavior of most video applications. This setting is not recommended for documents with CMYK data.
- **North America General Purpose 2**: These are the default settings. General-purpose color settings for screen and print in North America. Note that profile warnings are disabled.

- **North America Newspaper**: Preparation of content for common newspaper press conditions in North America. CMYK values are preserved and profile warnings are enabled.
- **North America Prepress 2**: Preparation of content for common printing conditions in North America. Profile warnings are enabled.
- **North America Web/Internet**: Preparation of content for non-print usage like the web in North America. RGB content is converted to sRGB.

WORKING SPACE OPTIONS

The working space specifies the working color profile for each color model. Using the drop-downs, you can select a specific working space for RGB, CMYK, Grayscale and Spot Colors.

RGB



RGB working space options include:

- **Monitor RGB**: Sets the RGB working space to your current monitor space. This setting causes Photoshop to behave as if color management settings are turned off. Use this setting if other applications in your workflow do not support color management.
- **ColorSync RGB**: Matches the RGB space specified in the Apple ColorSync control panel.
- **Adobe RGB (1998)**: Provides a fairly large gamut of RGB colors and is well-suited for documents that will be converted to CMYK. Use this space if you need to do print production work with a broad range of colors.
- **Apple RGB**: Reflects the characteristics of older Apple CRT displays using Gamma 1.8. Use this space for files that you plan to display on older Mac OS systems, or for working with legacy (older) desktop publishing files.
- **ColorMatch RGB**: Matches the native color space of Radius Pressview monitors. This space provides a smaller gamut alternative to Adobe RGB (1998) for print production work.
- **ProPhoto RGB**: Provides a very large gamut that encompasses the entire range of photographic materials. ProPhoto is only used for editing or archiving your images. You should always convert to a smaller working space before sending to print.
- **sRGB IEC61966-1.2**: Reflects the characteristics of the average CRT display. This standard space is endorsed by many hardware and software manufacturers, and is becoming the default color space for many scanners, low-end printers, and software applications. Ideal space for web work, but not recommended for prepress.

CMYK

Of the CMYK working spaces, some are specific to your location, such a Europe or Japan, and the standards to which you print. The following are the most common in the US:

- **Coated GRACoL 2006 (ISO 12647-2:2004)**: Uses the GRACoL 2006 specification. It is designed to produce quality separations for standard ISO printing using: 340% total ink coverage, CTP plates and coated, grade 1 paper.
- **U.S. Web Coated SWOP v2**: Uses specifications designed to produce quality separations using U.S. inks under the following printing conditions: 300% total area of ink coverage, negative plate, coated publication-grade stock.

- **US Newsprint (SNAP 2007):** Uses specifications designed to produce quality separations under the following printing conditions: 220% total area of ink coverage, CTP plates, and newsprint stock.
- **Web Coated SWOP 2006 Grade 3 Paper:** Uses the SWOP 2006 specification for grade 3 paper. It is designed to produce quality separations using ISO-defined inks under the following printing conditions: 310% total ink coverage, CTP plates and coated, grade 3 paper.
- **Web Coated SWOP 2006 Grade 5 Paper:** Uses the SWOP 2006 specification for grade 5 paper. It is designed to produce quality separations using ISO-defined inks under the following printing conditions: 300% total ink coverage, CTP plates, groundwood coated, grade 5 paper.

Gray

Select Gray if you are working with images that will be sent to a printer, and you need to adjust to a specific dot gain defined by the printer. If you are working on a monitor or designing for the web, you may want to use the gamma settings instead. If you are not sending to print, or you are not sure, leave Gray at the default.

The Gray working space options include:

- **ColorSync Gray-Generic Gray Profile:** Matches the gray space specified in the Apple ColorSync control panel.
- **Dot Gain 10% (also 15%, 20%, 25%, 30%):** Uses a space that reflects a dot gain of the selected percentage.
- **Gray Gamma 1.8 or 2.2:** Uses the grayscale equivalent of a monitor gamma of 1.8 (or 2.2), the default for legacy Macintosh computers. The gamma setting of your monitor defines the brightness of the midtones.

About Paper

When selecting or creating color settings for a print job, it is important to define the correct paper type. Here are some basic guidelines to get you started.

Grade

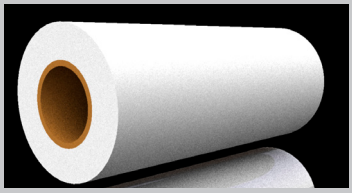
Paper is classified by grade, based on brightness. Grade 1 is highest quality, Grade 3 is mid-line, and grade 5 is the lowest. You will see these choices in the CMYK Working Space options.

Coated vs. Uncoated

When selecting your Working Space options, you will see coated and uncoated. The one you choose will depend upon your application and printing media.

Coated Paper is covered with an agent that provides a smooth surface to improve brightness and opacity and ensure uniform printing. Coated paper can be shiny (glossy) or flat (matte). It also comes in various grades, based on the application. Coated paper is often used for magazines, books, and photos.

Uncoated Paper is not as smooth as coated, and because it is more porous, it generally absorbs more ink. Uncoated paper is classified as offset, cardstock, newsprint, etc.



Spot

Select Spot if you are working with spot colors that will be sent to a printer, and you need to adjust to a specific dot gain defined by the printer. If you are working on a monitor or designing for the web, you may want to use the gamma settings instead. If you are not sending to print, or you are not sure, leave Spot at the default.

The Spot working space options include:

- **Dot Gain 10% (also 15%, 20%, 25%, 30%):** Uses a space that reflects a dot gain of the selected percentage.

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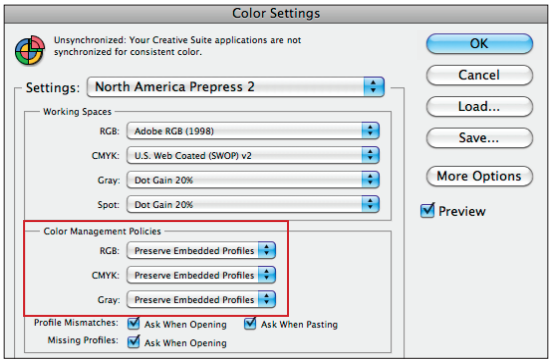
COLOR MANAGEMENT POLICIES

Color Management Policies specify how you want colors in a particular color model managed. Policies handle the reading and embedding of color profiles, mismatches between embedded color profiles and the working space, and the moving of colors from one document to another.



RGB, CMYK AND GRAY

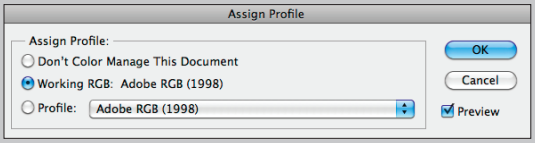
- **Off**: We do not recommend this setting. "Off" turns off color management for newly created documents and for newly opened documents that have embedded color profiles different from the current working space. If a newly opened document's embedded color profile matches the current working space, that profile is preserved. When importing colors into a document, the numeric values of the colors take precedence over the color appearance.

- **Preserve Embedded Profiles**: Preserves the embedded color profile in a newly opened document even if the color profile does not match the current working space. When importing colors into an RGB or grayscale document, color appearance takes precedence over the numeric values of the colors. When importing colors into a CMYK document, numeric values take precedence over the appearance.

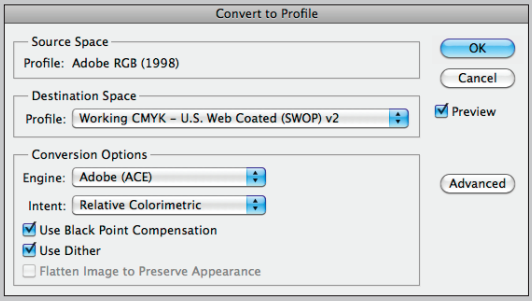
Assign vs. Convert

Not sure whether to assign or convert?

Edit > Assign Profile refers to the source profile, meaning the device from which the image came (scanner, camera, or standard color working space). Use this command to apply scanner or camera ICC profiles to scanned or captured images if the capture utility doesn't already assign a profile. This will give the correct appearance.



Edit > Convert Profile refers to destination profile, the device to which files are going to be output, such as printers or proofers. These are represented by destination profiles. Use "Convert to Profile" to convert an image to a profile. This will change the color numbers but maintain the appearance.



- **Convert to Working RGB (or CMYK, or Gray)**: Converts a newly opened document to the current working space if that document's embedded color profile does not match the working space. When importing colors into a document, color appearance takes precedence over the numeric values of the colors.

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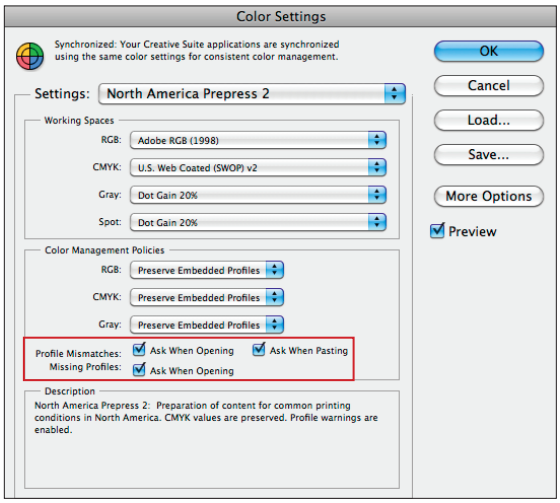
Missing Profile/ Profile Mismatch

When opening an image without an embedded profile or with a profile that's different from the current working space, Photoshop can warn that there is no profile or a profile mismatch. This is recommended.

If the profile is missing, check with the creator if possible to find out which working space was used, and assign that profile. If there is a profile mismatch, preserving the embedded profile or converting to the current working space will keep the color looking the same.

When saving a file, Photoshop can embed the ICC profile. The advantage is that when transferred to another user, that user will see it just as you do.



Profile Mismatch - Ask When Pasting

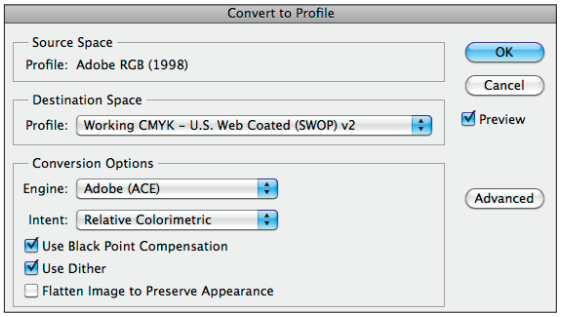
When enabled, you will be notified whenever color profile mismatches occur as colors are imported into a document (via pasting, drag-and-drop, etc.) and given the option to override the policy's default mismatch behavior.

Profile Mismatch - Ask When Opening

When enabled, you will be notified whenever the working color profile in a newly opened document does not match the current working space, and given the option to override the policy's default mismatch behavior.

Missing Profile - Ask When Opening

To ensure all images have a profile, if your document is missing a profile, a pop-up window will ask what you would like to do. If you do not know the correct profile, ask the creator.



SAVING CUSTOM COLOR SETTINGS

With Adobe Color Settings, you can start with a preset that closely resembles your workflow, then make small changes to create a custom setting. For instance, you can start with the North America Prepress 2, which uses CMYK of U.S. Web Coated SWOP v2; then change the CMYK to U.S. Web Uncoated to accommodate your stock.

1. From your CS application, select **Edit - Color Settings**.
2. From the "Settings" drop-down, choose the preset that most closely resembles your workflow.
3. Make any necessary changes to fit your custom workflow. This will now change the preset to "Custom." From the window click the **Save** button to send to others or apply in your applications.

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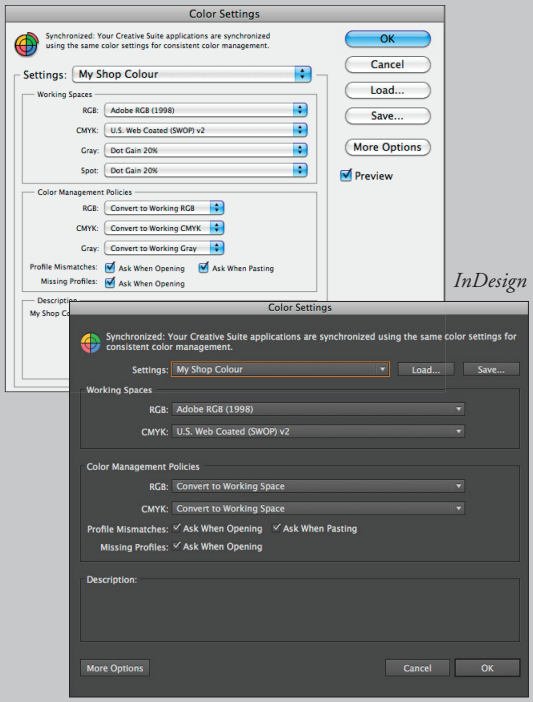
4. Give the setting a name that describes it and that you will remember. Leave it in the default location and click **Save**.

5. If you want to add comments, you can give specific instructions to the person who will be using the custom settings. Click **OK**.

Color Settings Window



The "Color Settings" window looks slightly different between InDesign and Illustrator. Here you see the settings are synchronized to "My Shop Colour."

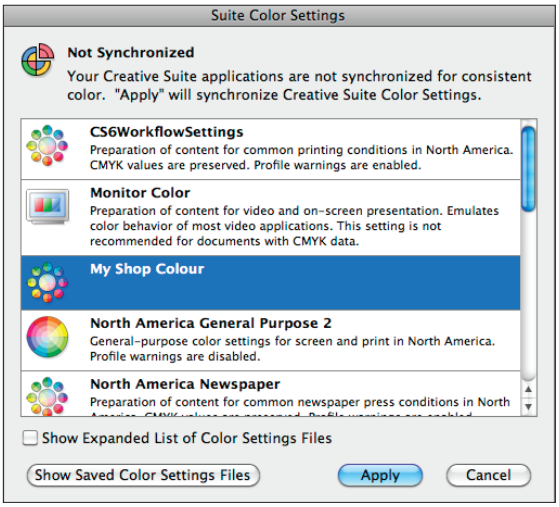
USING THE BRIDGE TO SYNC BETWEEN APPS

Once you choose the Creative Suite settings that work best for your workflow, whether it be a preset or custom, you can synchronize the settings within all of your CS applications to ensure your color is consistent.

1. Launch Adobe Bridge.

2. Select **Edit - Creative Suite Color Settings.**

3. Choose the settings you wish to sync between your Creative Suite applications.



4. Click **Apply**.

5. Now when you launch any of the Adobe CS applications, it will access and use your custom color settings.

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