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Colorific Color Matching Software

One of the problems with today's computers and printers is that the colors you see on your monitor often don't match the colors you see on the printed output. Now there's a solution. It's called Colorific.

Colorific software gives you accurate, predictable color matching between your screen and printer by measuring the colors on your monitor. Colorific constructs a precise description of how your monitor displays color, taking into account variable viewing conditions, monitor control settings and video card adjustments. On the Macintosh, this description is stored in a ColorSync 2.0 profile, so you get great color from any ColorSync-aware application or driver.

Colorific is designed for those who create or retouch their work on screen or who download color images from commercial services or CD-ROMs. It can be used with most color printers, and doesn't require a scanner or hardware calibration devices.

System Requirements

System 7.1 or above, 1 MB free space on hard disk. Printer must be Macintosh compatible (i.e., must support ColorSync).

Printing the Read Me File and User's Manual

Before installing Colorific, take a minute to print a copy of the Read Me file found on the installation disk. (Use a word processing application to open and print the file "Colorific Read Me.") The Read Me file contains last-minute information about your particular version of Colorific, which is not included in this manual or in the on-screen Help.

You can also print this user's manual from any word processing application. The pages are set up with standard margins and fonts to easily print on 8-1/2 by 11-inch paper.

Installing Colorific

Insert the Colorific installation disk or CD into the appropriate drive. Double-click on the Colorific Installer icon, then drag the Full Installation icon to the drive on which you want to install Colorific.

What Files Are Installed

The Full Installation option installs Colorific and its documentation to a folder called Colorific on the hard drive you select. It also installs Apple's ColorSync™ system extension and the LaserWriter 8 printer driver to your System Folder. ColorSync is required by Colorific. It includes three parts:

- The file "ColorSync™" is installed to System Folder/Extensions.

- The file "ColorSync™ System Profile" is installed to System Folder/Control Panels.

- The folder "ColorSync™ Profiles" is installed to System Folder/Preferences. This folder contains the default (Apple) monitor profiles included with ColorSync.

The LaserWriter 8 printer driver is installed to System Folder/Extensions. It is a PostScript level 2 printer driver that supports ColorSync 2, so you can use it to get great color matching with Colorific and PostScript level 2 printers. If you have a non-PostScript printer, you do not need the LaserWriter 8 driver.

Partial Installation Options

If you click on "Show Other Installations" in the Colorific Installer, you can choose from a variety of partial installations and uninstallers. You can use these options if you already have the latest version of ColorSync on your system and only want to install the Colorific program, or if you want to uninstall ColorSync before upgrading to a newer release.

Before Running Colorific

To obtain the best color matching results, do the following *before* you run Colorific:

- o Let your monitor warm up for at least 30 minutes to stabilize the colors.
- o Make sure the glass faceplate on your monitor is clean and free of dust.
- o If your monitor has a degauss button, press it.
- o If your monitor has manual R, G, B color controls or a color temperature control, adjust them to your liking. Rerun Colorific if you ever change these controls.
- o If your monitor has a color temperature control, you'll get the best results if you adjust it to 5000K or 6500K. Rerun Colorific if you ever change this control.

On-screen Help

Colorific's on-screen Help offers detailed calibration instructions. When running Colorific, choose Colorific Help from the Help menu in the upper-right corner of your screen to view the Help screen that relates to what you're doing.

Running Colorific

You should calibrate with Colorific before doing critical color work and whenever you change the color settings of your monitor. To run Colorific, double-click on the Colorific icon in the Colorific folder.

Colorific then leads you through a series of choices about what you see on your screen. On-screen instructions make running Colorific a simple task. However, if you'd like to know more about a particular step, choose Colorific Help to access the Help screen that relates to what you're doing, or read the step-by-step instructions below.

1. Monitor Setup

Choose your monitor model. If it isn't listed, contact the monitor manufacturer to obtain the appropriate version of Colorific.

2. Brightness Adjustment

Adjust the brightness control on your monitor so that both black and white boxes are crisp and don't stray into gray. (There is no wrong adjustment.) Once set, don't change the setting.

3. Monitor Gamma Measurement

Pick the square that appears to blend into the background. Feel free to pick a spot halfway between two squares if you feel that would be more precise. For best results, try to blur your vision by squinting or removing your glasses, if you wear them, to sense an overall tone and not notice the colored stripes. The 12 squares are organized in increasing brightness along an "S" shaped path.

You will perform variants of this task twice for each color—red, green and blue. Colorific uses the information from these screens to determine the monitor's gamma for each primary color.

Gamma is a measure of the relationship between the brightness of the color you see on your screen and the signal the system is sending to the monitor.

4. Black Point Measurement

Pick the place where you feel there is just a hint of color. You must choose a specific spot, for, unlike the gamma screen, there is no in-between. The 12 spots are organized in increasing brightness along an "S" shaped path.

You will perform this task once for each color—red, green, and blue.

Colorific uses the information from these screens to determine the monitor's black point cut-off value for each primary color.

5. Colorific Color Reference Cards

Depending on your version of Colorific, you now have to either: (1) choose between Colorific Color Reference Cards for different types of lighting, or (2) select a type of lighting from the menu displayed by the Colorific program. Using your chosen light source, make your work area as bright as possible. It doesn't matter if you normally work under different lighting conditions; the measurement will still be accurate. Remove the Color Reference Card from its white cardboard backing and apply it to the monitor in the space indicated on the screen. (If it doesn't stick, clean the back of the clear vinyl Color Reference Card with alcohol and the glass of your monitor with an appropriate glass cleaner.)

Turn the contrast control all the way down, then up slowly. Find a setting where the brightness of both card and screen seem about the same. (Remember, you're matching *brightness,* not color.) Squint, if that helps, and look at both edges of the card simultaneously. If the card is too dark, bring additional lights of the appropriate type closer to the monitor for this step.

Leave the Colorific Color Reference Card on your monitor for the next step.

6. White Point Measurement

Choose the square where the color on the screen best matches the color of the Colorific Color Reference Card. (Remember, now you're matching *color,* not brightness.) Choose a specific square; there is no in-between option available. Don't worry if your choice isn't an exact match. If the pointer is hard to see behind the card, use the arrow along the side as a guide.

7. Creating Your Profile

Colorific is now creating a color correction profile for your monitor and printer. Remove the card from the screen and adjust the contrast control to a comfortable level. Do *not* change the brightness control.

8. Final Screen

Congratulations! Your Colorific profile has been successfully created. Simply click on OK. The Colorific profile automatically becomes ColorSync's Active System Profile.

After Running Colorific

Colorific creates a ColorSync 2.0 monitor profile, which is used automatically each time you print with ColorSync. (See "ColorSync-compatible Printer Drivers" below.) Also, some desktop publishing and high-end graphics applications, such as Photoshop, allow you to select ColorSync profiles to improve the application's internal color management.

Enabling the Colorific Profile

Due to a bug in the current release of ColorSync, after running Colorific you should:

1. Open the ColorSync™ System Profile control panel (located in System Folder/Control Panels, or in your Apple menu under Control Panels). The control panel should display the name of your monitor model as selected when running Colorific.

2. Click on the "Set Profile" button.

3. Select your monitor from the list.

4. Close the ColorSync™ System Profile control panel.

This procedure ensures that ColorSync will work properly even with applications that are only compatible with ColorSync 1, not ColorSync 2 (the current release). Photoshop 3.0 is an example of an application that is only compatible with ColorSync 1. If you are sure that all of your applications and drivers support ColorSync 2, you can skip the above procedure.

Photoshop 3.0 and Colorific

Photoshop is the most popular example of a ColorSync-aware application. However, it is currently only compatible with ColorSync 1. Therefore, to get the best results from Photoshop and Colorific, follow these steps:

1. Enable the Colorific profile as described above.

2. Open Photoshop.

3. Go to the File menu and choose Preferences/Monitor Setup.

4. Choose your monitor profile from the list displayed. It will appear at the very top of the list.

Other Applications

Other applications and drivers can also benefit from ColorSync monitor profiles. Consult the documentation that came with your ColorSync-aware application or driver for help.

ColorSync-compatible Printer Drivers

For screen-to-printer color matching with Colorific, you must work with a printer that supports ColorSync and comes with a ColorSync profile as part of its printer driver. Examples include all Apple color printers, HP DeskWriter printers, Fargo Primera, and others. Contact your printer vendor to obtain a ColorSync profile if you do not already have one. Be sure to enable ColorSync in your printer driver to achieve good color matching.

Macintosh users can also use any PostScript level 2 color printer (not level 1 color PostScript). All PostScript level 2 printers using the PostScript v8.1 or higher printer driver support ColorSync. Examples of PostScript level 2 printers include the Kodak ColorEase, some Seiko ColorPoint printers, EFI Fiery, HP 1200C/PS, and some Tektronics and QMS printers. When using PostScript, select "Calibrated Color" in the printer driver to ensure the use of ColorSync.

Troubleshooting

The information in this section as well as the on-screen Help available when running Colorific should answer most questions. Before troubleshooting, we strongly recommend that you read the Read Me file located on the installation disk.

What to do if...

Colorific profile isn't available in the ColorSync System Profile control panel.

This usually indicates a conflict between the versions of Colorific and ColorSync installed on your system. Colorific 1.x works with ColorSync 1.0.x, and Colorific 2.0 works with ColorSync 2.0. If you upgraded to ColorSync 2.0, you must upgrade to Colorific 2.0 as well. Contact your monitor maker or Sonnetech to upgrade.

If you installed Apple's System 7.5.3 updater, check to make sure both the ColorSync system extension and the control panel are version 2.01. If not, follow the procedure below:

1. Run the Colorific Installer.

2. Click on "Show Other Installations."

3. Drag the icon "Uninstall ColorSync" to the icon representing your hard disk.

4. When the uninstaller is finished, drag the "ColorSync only" installer icon to the icon representing your hard disk. This will reinstall ColorSync.

5. Quit the Colorific Installer.

6. Re-run Colorific.

7. Open the ColorSync System Profile control panel and reselect the Colorific profile to confirm that it was properly created and enabled.

Photoshop displays the message "The default monitor profile is invalid and is being ignored."

This usually indicates a conflict between the versions of Colorific and ColorSync installed on your system. Please follow the instructions in the section above.

If reinstalling ColorSync and re-running Colorific does not solve the problem, contact Sonnetech Technical Support.

Printed colors don't match those on my monitor.

1. Make sure you're using the correct paper for your printer. Inkjet printers require special coated paper. (See the Read Me file for recommended papers.)

2. Make sure the ink cartridges are working properly and that the ink isn't running low. Use a new cartridge if necessary.

3. Make sure ColorSync is enabled in your printer driver. See the section "ColorSync-compatible Printer Drivers" earlier in this manual.

4. Re-select your Colorific profile in the ColorSync System Profile control panel. (See the section "Enabling your Colorific Profile" earlier in this manual.)

5. Try recalibrating by running Colorific again. At the White Point Measurement screen, be sure to adjust your lighting as described in this manual or on-screen <u>H</u>elp.

6. If the white on your printouts has a slight blue tint, look closely at your display. You will see that the white on your monitor does indeed have a slight blue tint and Colorific is matching accurately. Some monitors have a color temperature control that allows you to adjust your screen to a warmer (less blue) shade of white, closer to the white of paper. If your monitor does not offer this control, try re-running Colorific. Choose a square 1 to 3 places counterclockwise from the proper choice at Colorific's White Point screen. Then print again.

Uninstalling Colorific

To uninstall Colorific, drag the Colorific folder to the trash. To undo the changes Colorific made to ColorSync, open the ColorSync System Profile control panel and select a different monitor profile. The default is Apple 13".

Technical Support

Sonnetech, Ltd.

350 Townsend Street, Suite 409

San Francisco, CA 94107-1699

Fax-on-demand and voice support: (415) 957-9941

Voice only: (415) 957-0152

Fax: (415) 957-9942

E-mail: colorific@aol.com

Updated information can be obtained from Sonnetech's 24-hour fax-on-demand system. Call (415) 957-9941 from a fax machine phone to request a catalog of documents.

When calling for technical support, please have the following information available: brand and model of the monitor and printer, the version of Colorific you have installed, and a precise description of the problem.

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A Little Bit About Color

One of the most important things about color is that color perception is subjective— everyone sees color somewhat differently. Even moods can influence your perception of color. In addition, light in your surroundings will affect how you see colors, particularly in a printed image. Fluorescent light has a green tint and incandescent light has a pink tinge. If the ambient light has any tint, the printed material will reflect that bias. To view your printed output in the most neutral light, look at it in the light from a light box like those graphics professionals use.

In the process through which printed materials are produced with a computer system, there are basically two kinds of color: additive (colored light transmitted from the monitor) and subtractive (light reflected from printed material). Both have the same effect on the human eye, which identifies a color by the wavelength of light that it perceives. Mixing primary colors alters the wavelength of the color transmitted (additive) or reflected (subtractive).

Monitors, by exciting phosphors on their screens, produce red, green, and blue (RGB) light that, in various combinations, can represent millions of colors. If all three colors are combined in the right mix, you will see white light. In the absence of any color, the eye perceives black.

The inks in printed material produce color by absorbing (subtracting) portions of the spectrum from the white light that strikes them. This subtractive process uses cyan, magenta, and yellow (CMY) primary color pigments in combination to produce the colors you specify. You would think an equal combination of these inks should print black, but impurities in all inks cause the result to look more like a muddy brown. Printers typically add some black ink to produce a true black. (This, then is known as CMYK color.)

What all of this means is that color perception is not only personally subjective, but also subject to a number of outside influences, and that color matching during the reproduction process is difficult. Colorific gives you a simple means to deliver improved color matching between your monitor and your printer.

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