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Colorific Color Management 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 color management software gives you accurate, predictable color matching between your screen and printer by calibrating 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.

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

Windows System Requirements:

386 or better, Windows 3.1, 3.11 or Windows 95, 2 MB free space on hard disk, 4 MB RAM.

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 README.TXT.) 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 8½ by 11-inch paper.

Installing Colorific

Insert the Colorific installation disk into a floppy disk drive and follow the instructions for your operating system:

Windows 95—Click on the Windows 95 Start button, then choose Run. Type `a:\setup` (or `b:\setup`) and press **Enter**. (If you have version 1.x of Colorific, do *not* attempt to install it under Windows 95. To uninstall Colorific 1.x, refer to the section "Uninstalling Colorific" at the end of this manual.)

Before Running Colorific

Important: Don't use Colorific if you have already installed another third-party monitor calibration system. Using both systems will miscalibrate the monitor. If you're not sure whether your application's color management system will cause miscalibration, it can't hurt to go ahead and install Colorific. Then, open Colorific's on-screen Help and Search for the name of your application for special instructions. You can easily disable Colorific if it does not work well with your application.

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.

On-screen Help

Colorific's on-screen Help offers troubleshooting tips and detailed calibration instructions. When running Colorific, press the F1 key or choose Help (in the upper-right corner of your screen) to view the Help screen that relates to what you're doing. After calibrating, use the Help table of contents or Search command (Windows only) to find information about using Colorific with specific applications.

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:

Windows 95—Click on the Colorific Control Panel icon in the taskbar or the Colorific program group. Select **Recalibrate**.

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, press the F1 key to access the Help screen that relates to what you're doing, or read the step-by-step instructions below.

1. Monitor/Printer Setup

Windows 95—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 amount of voltage the system is feeding to the monitor.

4. Black Point Measurement

You can choose any spot on this path. 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

One Colorific Color Reference Card is provided for use with fluorescent lighting, incandescent lighting, Halogen lighting, or daylight (including "daylight fluorescent 6500° K" lighting).

Using one of these light sources, make your work area as bright as possible. Remove the Colorific Color Reference Card from its white cardboard backing. Apply it to the monitor in the space indicated on the screen. (If it doesn't stick, clean the back of the 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. Squint, looking at both edges of the card simultaneously. Find a setting where the brightness of both card and screen seems about the same. (Remember, you're matching *brightness*, not color.) If the card is too dark, bring additional lighting (of the chosen type) closer to the monitor for this step. It doesn't matter if you normally work under different lighting conditions; or even if you work in the dark, the measurement will still be accurate.

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 (Windows only)

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.

The calibration process may take a while, but the gauge will track its progress. Once the bar reaches 100 percent, you will see a final screen from which you can restart Windows. (If the final screen doesn't appear, Colorific was unable to create the profile due to insufficient memory. Read the "Troubleshooting" section in this manual to correct the problem.)

8. Final Screen

Windows 95—You must restart Windows for the color correction profile to take effect. (If you decide not to restart now, your corrections will go into effect the next time you start Windows.)

After Running Colorific

In most cases, Colorific color correction is automatically enabled as soon as you complete calibration and reboot Windows.

Colorific creates a custom profile for your monitor for use with the ICM (Image Color Matching)

module built into Windows 95. This profile automatically replaces Windows' default profile and is used at print-time whenever ICM is enabled. (If you don't see an ICM option in your color printer's driver, contact your printer vendor to obtain the latest Windows 95-compatible printer driver.) For more information about ICM, see on-screen Help.

The Colorific Control Panel displays information that Colorific gathered about your monitor, which can be used to customize settings within your applications. Click on the Colorific icon (a monitor with a blue, red, and green design) in the Windows 95 taskbar to display the Control Panel. Then click on the **More Info...** button to view gamma, white point, and chromaticity data. Users of Photoshop and other high-end graphics programs will find this information useful in configuring the Monitor Setup sections of their applications. See Colorific's on-screen Help for details.

Advanced Windows Users (all versions)

All Windows versions of Colorific create a Kodak Precision™ format monitor profile that can be used by any program that incorporates Kodak's Precision™ Color Management System, such as PhotoStyler, Picture Publisher, or PageMaker 6.0. Go to the Kodak CMS module within your application and select the Colorific monitor profile.

To avoid double-correction of color output from applications that have their own color management systems, contact your software vendor for instructions on avoiding double-correction by both Windows 95 (ICM) and your application.

Printer Profiles

Colorific works best if you have the correct profile for your particular printer installed. For Windows 95, the profile is usually installed as part of the printer driver.

Windows 95 users should contact their printer manufacturer to obtain the latest driver and ask if the driver fully supports the ICM module, including all three types of color matching offered by Windows 95: saturation (best for charts and diagrams), contrast/photographic (best for photographs or complex images), and colorimetric (best for matching particular colors, for example in logos).

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.

To uninstall the software from your computer, see the section "Uninstalling Colorific" in this manual or in the Read Me file. (Do *not* attempt to uninstall Colorific by simply deleting the Colorific directory!)

What to do if...

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. 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 Help.
4. For more detailed suggestions, request a document from our fax-on-demand system. You can

also receive information about configuring Colorific for use with specific applications, which will improve color matching when printing from within that application.

A warning message appears.

Press the F1 key or choose Help while the warning is still displayed to access the relevant Help screen.

The Windows Desktop has a slight tan color.

If you have reset your monitor to 5000K or 6500K, your monitor will have a warmer tone. This more closely simulates professional proofing conditions. If the color is too tan for your liking, you can do one of the following:

1. Change your monitor's color temperature setting to a higher value (e.g., 9300K).
2. Try rerunning Colorific. At the White Point screen (where you try to match the Color Reference Card), match *hue* (color), not brightness or saturation (intensity). If the problem persists, select a patch 1 to 3 squares further clockwise for a cooler tone.

The message "No matching output simulation precision transform for selected output precision transform" appears with PhotoStyler or other Windows applications containing the Kodak Precision CMS.

The application needs the Kodak Simulation PT for your printer, available from Sonnetech. In the meantime, Colorific and most of the capabilities of the application will still work.

Uninstalling Colorific

Windows 95—Use the right mouse button to click on the Colorific icon (a monitor displaying a blue, red and green design) in the Windows 95 taskbar. Choose Exit from the menu that appears. Then, from the Start menu, choose Settings/Control Panel. Double-click on Add/Remove Programs. Choose Colorific for Windows 95 from the list, then click on the Add/Remove button.

To undo the changes Colorific made to Windows 95's color-matching module, use Windows Explorer to open the System/Color subdirectory of your Windows 95 directory, and delete the file Colorific.icm. You must reboot Windows for the change to take effect.

WARNING! Do *not* attempt to uninstall Colorific by simply deleting the Colorific directory. If you do, you will be unable to reboot Windows!

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 feelings about 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.

Colorific is designed to help you keep the effects of the light in your work area to a minimum during color calibration. 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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