

Calibrate a Display

How to Calibrate your Monitor/LCD

Calibrating your monitor/lcd is pretty easy. But first, you need to understand the basics of color management on a PC.

Computers use specific color profiles based on the monitor type, printer type, and scanner type. These profiles are known as ICC Profiles. An ICC Profile is a set of data that characterizes a color input device (ie: scanners, cameras) or output device (ie: printer, monitor), or a color space, according to standards promulgated by the International Color Consortium (ICC). (See [Wikipedia for more info](#)) These ICC Profiles can be set from the manufacturer or by using a colorimeter with a custom ICC Profile.

As graphic/web designers and imaging folks, we want the colors (what we see on our screens) to be the same as the prints we print out. In order for us to have our prints match what we see on our screen, we first need to calibrate our monitors.

Calibrating an LCD/Monitor (The Colorimeter way)

1a.) To calibrate a monitor/lcd you need to FIRST upgrade to the latest video drivers. I recommend going to your video card's manufacturers website: <http://www.nvidia.com> -or- <http://www.ati.com>

1b.) Install (if any) the latest updated monitor/lcd drivers for the monitor/lcd you are profiling. Some manufacturers do not have any drivers and the default setting will do. If you are using a laptop, the default settings are fine for the monitor driver(s).

2.) Install the Xrite EZcolor Eye-One Software (or equivalent color calibration software) (Latest software is located on chump.ucsd.edu/export/share/software/Xrite-eye1-display)

3.) Start the Color Calibration Software, and initiate the LCD/Monitor calibration setup.

4.) Follow the instructions on-screen to calibrate your monitor/lcd.

5.) Once the calibration is complete, the software will ask you to save the profile (Save the color profile as "lcd-custom-icc-2009-02-02.icm" ie <name>date>.icm/icc)

That's it!

There are a few things to consider while you calibrate your monitor/lcd. Some monitors don't have contrast or rgb settings to set (on the monitor itself). That's where the video card driver and application comes in handy. Example: With the Nvidia Application video driver, you can set contrast, sharpness, brightness etc via the software. It may take up to 3 iterations to get the color calibration set correctly.

Keeping your custom lcd/monitor profile after reboots

To keep your custom color profiles loaded on PC startup, you will have to add it to the Color Profile Management. To get to the Color Management Tab:

- WinXP: Start > Control Panel > Display, On the Display Dialog, click the 'Settings Tab' then click on the 'Advanced' Button. Last click on 'Color Management'.
- Vista: Start > Control Panel > Color Management

In the Color Management Dialog Box: click 'Add' to add your Custom Color Profile file to associate to your monitor you calibrated. Once you see your custom color profile, set it to 'Default'. Exit the Color Management Tab by Applying the changes, and OK'ing out of the dialog box.

Tips on calibrating your LCD/monitor

- Have your ambient lighting consistent throughout the calibration process.
- Have your lcd/monitor on for at least 15 mins
- Have the latest video drivers and system updates installed.

Closing Remarks

Once your LCD/monitor is calibrated, your next step will be to profile your Printer or other output/input device. Once all your devices are calibrated, what you see on your monitor/lcd will reflect 'very closely' to what you print.