

iColor Display 3 Quick Start Guide

A detailed manual is available as a PDF-Document on CD.

License

iColor Display is copy-protected.
You have acquired one (1) site license.

You need to install and register the software on every single computer where the software is intended to run.

To use the software, you need to license the software by opening the "Quato_iColorDisplay.lic." license file on the supplied CD.



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Dear User

Thank you for purchasing this highly precise calibration solution.

Main functions of the iColor Display package:

- Hardware-based software calibration for optimum color coherence with ICC-/ColorSync-compatible applications
- measurement and adjustment of contrast, brightness, Gamma, RGB
- adjustment of color temperature
- profiling of monitor characteristics
- adjustable calibration curves and Gamut view
- test function for DeltaE deviation and calibration results
- support for a variety of measurement devices like EyeOne Display 2, EyeOne spectrophotometers, Quato Silver Haze (Pro), Datacolor Spyder 2 and 3, X-Rite DTP-94 (aka OptixXR).

System requirements

- Power Macintosh computer G3 or later – with one free integrated USB port and Mac OS 10.3 or later
- PC with Windows XP/Vista 32/64 and one free USB port.

Warranty

- 12/24-month warranty (exact type depends on country)

In the box

- iColor Display / Silver Haze Pro Bundle
 - Silver Haze Pro - USB Colorimeter with iColor Display Software
- iColor Display Software Upgrade
 - iColor Display Software only

Quatographic Technology GmbH, Hansestrasse 47b,
38112 Braunschweig, Germany

declares that the product

QUATOGRAPHIC iColor Display / Silver Haze Pro

complies with the following standards:

- CE according to 89/336/ECC
This equipment has been tested and found to comply with the following CE Rules:
EN55022
EN50082-1
EN1000-4-2
EN1000-4-3
EN1000-4-4
- FCC Class-B according to Part 15
This equipment has been tested and found to comply with the limits for a Class-B digital device, pursuant to Part 15 of the FCC Rules.
- including: the safety standards TCO 95, TÜV Rheinland - Type approved

01.05.2005

Wolfgang Balkenohl, Managing Director

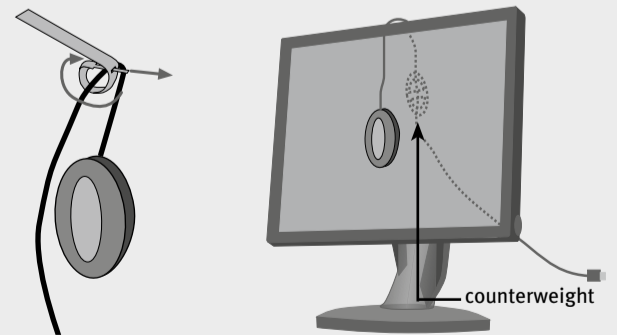
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Hint

- This quick start guide helps you to set up the device and software. More information regarding the calibration software and colormangement is available on the included CD.

Installation

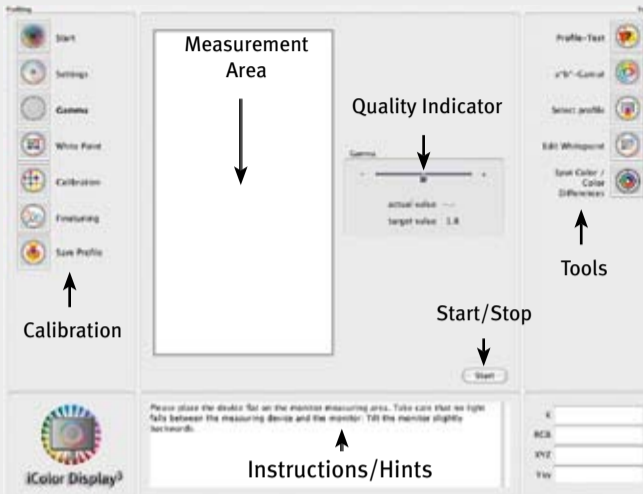
- Install the software for Windows. The drivers will not be installed automatically, but can be found in the iColor folder or the CD.
Mac OS X does not need any drivers. Just open the diskimage (dmg) and copy the iColor Display to the applications folder.
- Attach the sensor to a free USB-port. Fix the sensor's USB-cable to the cable tie as shown in the illustration. If you use a non-Quato display, use the counterweight to set up the sensor attachment.



- Always take care that the correct type of measurement device is selected. If you fail to do so, no calibration will be possible.
- Never attach suction cups on TFT panels. You might destroy the whole panel and lose the limited warranty of the display.
- Never leave the measurement device on the screen longer than necessary as the devices tend to deviate when they heat up.

iColor Display Software

- iColor Display allows you to adjust the following items in co-operation with a measurement device.
 - gamma (on TFTs that support hardware gamma)
 - brightness and contrast (analogue TFT/CRT)
 - whitepoint (color temperature) and luminance
- iColor Display supports a variety of different measurement devices. It is necessary to select the correct device. Select your measurement device in the first window.



- Start the „iColor Display“ application, and the startup panel will be displayed. Navigate through the different function panels by clicking the buttons directly.
- You reached the optimum values as soon as the quality indicator is in central position, starts to glow or the message board said that the measurement was completed. You can also stop a measurement by pressing the Stop-button in the event that an optimal adjustment is impossible.

- Continue with the next step and a message occurs that you should place the device on an opaque surface (DTP94, Silver Haze pro, Spyder 2 colorimeter) or on the white tile (EyeOne spectrometer).



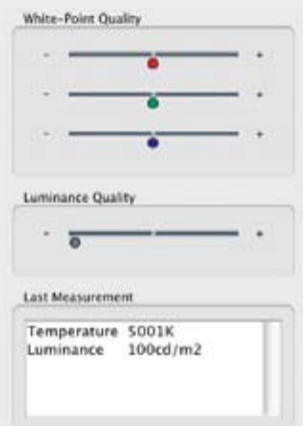
- Now adjust gamma if your TFT supports hardware gamma (refer to the display's manual for the supported color adjustments).
- Now adjust the brightness. Press the Start-button and open your monitor's OSD. Adjust the brightness there until the quality indicator starts to glow or reaches the axis' center.

NOTICE: Skip the brightness with digitally-connected TFTs.

- Now adjust the contrast. Press the Start-button and open your monitor's OSD. Adjust the contrast there until the quality indicator starts to glow or reaches the axis' center.

NOTICE: Skip the contrast with digitally-connected TFTs.

- Now adjust the whitepoint. Press the Start-button and open your monitor's OSD. Adjust the color temperature there until the three quality indicators start to glow or reach the axis' centre. The software also reports the reached color temperature and the luminance in this panel.



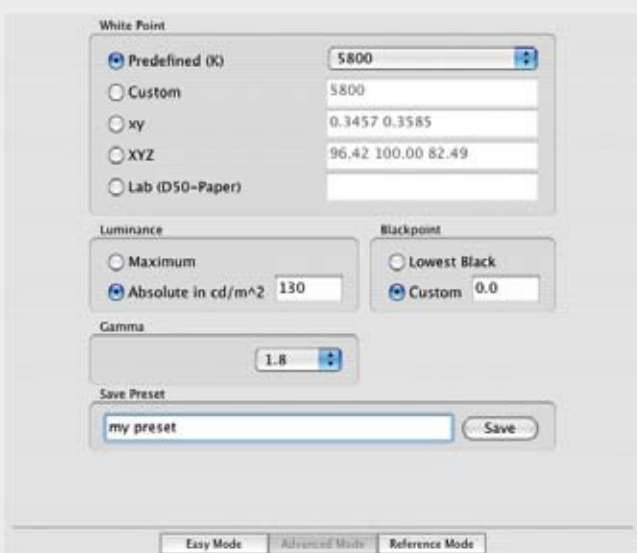
NOTICE: It is better to select a fixed luminance and adjust it in the whitepoint panel. This is more exact due to a real hardware luminance and will not produce additional

iColor Display Step by Step

- At first, select the type of calibration you want to perform.
- Set the calibration preference in the Easy or Advanced Mode. ISO 12646 recommends a luminance of 120-160cd/m2. The exact value highly depends on your environmental light. Please make sure that the gamma of the working space (for example in Adobe Photoshop) and the gamma of the calibration match. If you are unsure, use the easy mode and select your working space.

Gamma 1.8	-> ECI-RGB 1.0
Gamma 2.2	-> Adobe-RGB
sRGB	-> sRGB
L*	-> ECI-RGB 2.0

ICC-colormangement defines D50 and the standard. For monitors, this 5.000K does not match a D50 viewing booth. It is therefore better to adjust the monitor to the viewing booth's visual appearance. In this case use a whitepoint of 5.600 to 6.000K.



banding. Adjusting the luminance only by using software algorithms in the ICC-profile results in additional banding and lower color reproduction performance.

- Now start the profiling and calibration. Remaining deviations in respect of Whitepoint, Gamma, luminance and linearity will be compensated by the ICC-profile. The more the profile has to correct, the lower the calibration precision will be and the more banding will be visible.

- If the results do not match your visual requirements, you can adjust the three colors in the Curves-panel visually.

- Save the profile as LUT or Matrix type. A chromatic adaption is automatically switched on with whitepoints other than D50. The profile is automatically activated and is found at the following path:

Windows: C:/system32/spool/drivers/color

Mac OS X: /library/colorsync/profiles

NOTICE: If the profile can not be saved, the user rights and permission can be the root cause. Either use the software in administrator-mode or change the rights and permissions.

- Now you can double check and certify the calibration results by using the Test-panel. Press the Start-button and the software will show how precise the display's calibration is.

Deviations up to 3ΔE represent good results, while errors up to 5ΔE are still acceptable. Note that this can only be a rough guideline.

- The a/b gamut projection will show the display's gamut in comparison with up to two different ICC-profiles - for example: a printer, another monitor or working space.

- You can now quit the software and start using the profile. A monthly or bi-monthly recalibration is recommended for TFTs.