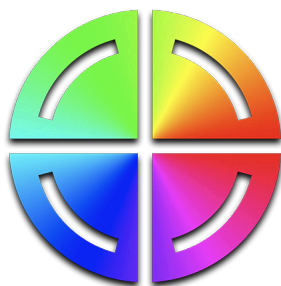




**Flanders
Scientific
Inc.**

Automatic Volumetric Calibration Instructions - XMP Series

ver.2.3 (Updated March 1st, 2024)



AutoCal

Flanders Scientific, Inc.
6215 Shiloh Crossing
Suite G
Alpharetta, GA 30005
Phone: +1.678.835.4934
Fax: +1.678.804.1882

E-Mail: Support@FlandersScientific.com
www.FlandersScientific.com

Automatic Volumetric Calibration - XMP Series



Automatic Volumetric Calibration provides a simple, fast, and accurate way to calibrate your FSI monitor. On the XMP series monitors this automatic calibration routine is currently compatible with the Colorimetry Research CR100.

Before plugging your probe into your monitor you will want to ensure that the following prerequisites are met:

1. Verify your monitor is running firmware version 2.4.38 or later.
2. Ensure that your colorimeter has the correct matrix stored on it for the XMP310, XMP550 or XMP650. The name of the colorimeter matrix must match the model you are calibrating: **XMP310**, **XMP550**, or **XMP650**.
3. Disconnect all signal cables from the monitor.

Automatic Calibration Steps

Step 1: With the monitor powered on plug the probe into the monitor's USB Type A Port.

Step 2: From the Monitor's Color Menu select GaiaColor AutoCal, then select Start. Confirm you want to Start Display Alignment by selecting Yes.

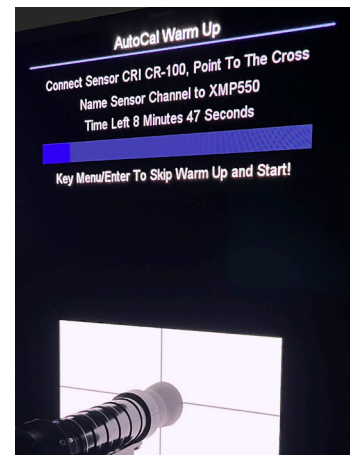
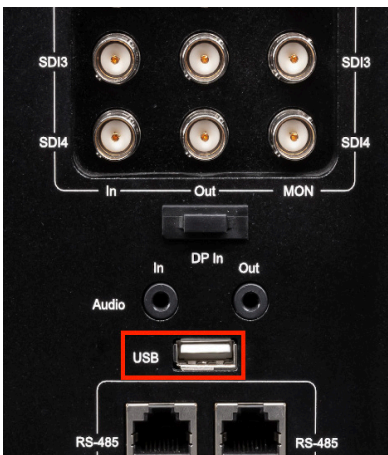
Step 3: Select CRI CR100 from the list of probes provided on screen and press Enter to confirm. After selecting Enter an automatic 10 minute warmup process will begin.

Step 4: During the warmup process use the on-screen guides to position your probe correctly in the center of the screen. This can be done at any time during the warmup process, simply ensure that your probe is centered on the onscreen crosshair before the warmup countdown timer reaches 0 seconds remaining.

Step 5: Once the warmup is complete the calibration will take approximately 34 additional minutes to complete. Once the alignment data is saved you will be prompted to reboot the monitor to complete the process.

Step 6: Once AutoCal is complete LUTs for any Gamut, EOTF, Correlated Color Temperature, and Luminance Mode selections you make will be applied instantaneously as you select them.

The principle behind AutoCal is that the native, uncalibrated state of your display is profiled and saved to the monitor's non-volatile memory. Then as any color management selections on the monitor are made calibrated states are calculated from that native profile and instantly applied on demand. Because all selections are calculated from this one primary profile capture you can make any selection without having to rerun AutoCal.



Tips and Troubleshooting

Issue / Topic	Solution / Tip
Monitor displays error message advising you to check probe connection and/or channel name	This error can occur if the probe you are connecting does not match the probe model you selected from the monitor's menu when starting Automatic Calibration. This message can also appear if you do not have a correctly named matrix loaded to the probe. For example, if connecting to an XMP550 a matrix named XMP550 must be stored on the probe. Please ensure a valid and correctly named matrix is stored on the colorimeter and that the probe is properly connected to the display's USB Type A port.
Is disconnecting all signal cables before starting automatic calibration actually required?	No, but it is critically important that if a signal is left connected that the signal does not drop out, disconnect, or change format for the duration of the AutoCal process. Change of format or loss of signal during AutoCal may interrupt the process and could potentially render the monitor inoperable so it is a best practice to disconnect signal cables if possible.
The monitor or probe was unplugged before calibration completed	Previous calibration data is not deleted until the new calibration completes successfully so a mid-calibration power interruption to monitor or probe is not generally a problem. Simply unplug the probe from the monitor, power cycle the display, then reconnect the probe and start again.
Can I start my calibration right away or is warm-up necessary?	Best results will be obtained when calibrating a monitor that has had time to warm-up and stabilize to approximately the typical operating temperature it will run at in day to day operation. For most users this is most easily achieved by allowing the monitor to perform its automatic 10 minute warm-up as part of the standard AutoCal process. However, if your display was already manually warmed up before beginning calibration (for example if you were already displaying an L20 100nit window for 10 or more minutes on screen) you can press Enter to skip the automatic warm-up procedure during AutoCal. However, do not attempt to warm-up your display using an extremely bright static test patch for an extended period of time as this will cause additional heat buildup that will not be representative of the typical operating temperature of the display in normal day to day operation.
Poor results or calibration failure when using CR100	When using the CR100 please ensure that Exposure Multiplier is set to 1, Sync is set to Auto, Max Exposure is set to 500ms, and Max Flicker Frequency Search is set to 150Hz. These settings are typically the factory default on CR100 probes, but they can all be checked and updated as needed from the CRI Utility. Incorrect probe settings can cause problems during AutoCal.
Calibration Validation Considerations	If you'd like to validate your AutoCal results with 3rd party software we suggest using the same or similar equipment and settings used during AutoCal. If validating with a colorimeter, using the same probe with the same or similar matrix will provide the most consistent readings between calibration and validation. We also suggest validating with an L20 or 4% window size on XMP550 or XMP650, or L17 (~3% window) on XMP310, to validate to the monitor's peak luminance capability. As with AutoCal itself, validation is best performed after at least a 10 minute warm-up at 100nits after boot up.