

CaIMAN Setup Guide

Klein K-10CP Colorimeter

Rev. 1.2

Introduction

The K-10CP (Cinema Pro) is a reference class non-contact optical colorimeter with superb accuracy, the fastest read times available, superior performance at low light, and extremely high light level measurement capability (0.0002 to 10,000 cd/m²). The K-10CP is unmatched in sensitivity, stability, and speed.

Klein K-10CP Included Parts

The rubber lens hood (Figure 1) is to be used with the K-10CP, or together with the extension tube (Figure 2), to make screen contact when measuring a flat panel display.

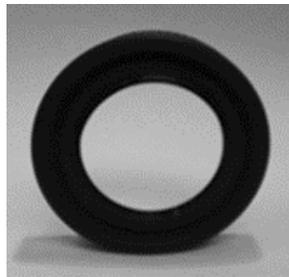


Figure 1. K-10CP rubber lens hood.



Figure 2. K-10CP extension tube.

The cosine diffuser (Figure 3) is to be used with the K-10CP when pointed directly at a projector, for illuminance measurements.



Figure 3. K10-A cosine diffuser.

Klein K-10CP Device Driver

The Klein K-10CP uses the FTDI device driver.

- Included in CalMAN Device Driver Pack 2.4:
<http://www.spectralcal.com/download.php?id=3>
- Or, single FTDI device driver:
<http://www.ftdichip.com/Drivers/VCP.htm>

Device Driver Install

1. Install the CalMAN [Device Driver Pack 2.4](#).
2. Plug the Klein K-10CP into a USB port on your computer. Windows should automatically detect the K-10CP device driver if you have installed the CalMAN Device Driver Kit.
 - When the driver is properly installed, the Klein K-10CP will be listed in Device Manager under Universal Serial Bus Controllers as "USB Serial Converter."
 - The Virtual COM Port (VCP) driver also causes the Klein K-10CP to appear as an additional COM port, listed under Ports (COM & LPT), as "USB Serial Port (COMx)."
 - If the Klein K-10CP does not appear under those two listings, the driver is not yet properly installed.
 - CalMAN software can then access the Klein K-10CP as it would a standard serial device, at the COMx port.

If the USB driver does not install properly:

1. Right click on Computer/My Computer and select *Properties*. Or, go to the Control Panel and open Device Manager.
2. Open Device Manager. In the menu tree, you will see a USB serial device that is not working properly (yellow exclamation mark).
3. Right-click on the conflicted device and select *Update Driver*. Select *Install From A Specific Location*, then browse to the FTDI folder in the C:\Program Files (x86)\SpectraCal\Drivers directory. It may ask you to install the driver twice; this is normal. Go through the same process and the same location for the driver.

Meter Positioning

Flat Panels / Rear Projectors

The K-10CP ships with a rubber lens hood that can be used to position the K-10CP right up against a display screen. The soft rubber hood will not damage the screen. Because it blocks all ambient light, the lens hood makes the K-10CP ideal for measuring reflective displays such as plasmas.

Front Projectors

The K-10CP should be placed along the line of sight from the main/central viewing location, pointed at the center of the projector screen. In other words, the K-10CP should measure the screen from the same angle that the screen is normally viewed.

The K-10CP should be placed close enough to the screen so that its measurement area is contained entirely within the screen test pattern area. This can be determined by enabling the meter LED pointers.

CalMAN Connection to Klein K-10CP

CalMAN Required Version

- Any CalMAN version is acceptable

CalMAN Connection Procedure

To connect CalMAN to the Klein K-10CP meter.

1. On the Meter Settings tab, click *Find Meter*.
2. On the *Find Meters* popup dialog:
 - a. Select the Com Port associated with the K-10CP in Device Manager, under Ports (COM & LPT).
 - b. Enable the “Klein Instruments meters (RS-232, USB)” search option.
 - c. Click *Search*

CalMAN Meter Settings

Meter Mode (Target Display Type)

Select the Meter Mode that corresponds to the display backlight/pixel technology that you wish to measure or calibrate.

- LCD Direct View
- LCD Direct View (LED Backlight)
- OLED Direct View
- CRT Direct View
- Plasma
- Rear Projector (CRT)
- Rear Projector (UHP)
- Front Projector – facing projector (CRT)
- Front Projector – facing screen (CRT)
- Front Projector – facing projector (UHP)
- Front Projector – facing screen (UHP)
- Front Projector – facing screen (LED)
- Ambient Light

Standard Exposure Modes

- 1 Sample (default)
- 3 Samples (simple avg)
- 5 Samples (simple avg)
- 10 Samples (std deviation avg)
- 20 Samples (std deviation avg)
- 30 Samples (std deviation avg)
- 50 Samples (std deviation avg)

Low Light Handler

When enabled, averages multiple meter samples per measurement, when measuring light levels below the specified Low Light Trigger level.

About / Contact

About Portrait Displays

Portrait Displays, Inc., since 1993, is a leading application software provider (ASP) for PC, smartphone, and tablet displays. The Portrait Displays team now includes **SpectraCal**, the world's leading provider of video display calibration software. The combined companies offer value-added, feature-rich solutions to both OEM display manufacturers and end users seeking improved accuracy and manageability of their displays.

Portrait Displays, an Intel Capital Portfolio company, is a private corporation with headquarters in Pleasanton, California, USA with representatives in Europe, Taiwan, China, Japan, and Korea.

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