CR-280-RH VIS+NIR
Spectroradiometer/Spectrophotometer

The CR-280-RH is a high resolution spectroradiometer/spectrophotometer in a very compact footprint with an 8 nm bandwidth and 2 nm/pixel resolution that excels in low-light, highly accurate VIS+NIR.

COLORIMETRY
RESEARCH, INC

DESIGNED FOR PERFORMANCE

The ruggedly constructed housing of the CR-280-RH is made of machined aluminium and stainless steel, and can withstand high acceleration rates for the most demanding motion positioning systems and environments. All optical components are fixed to ensure that no optical misalignments occur due to vibration, shock or high acceleration/ deceleration rates.

It weighs only 1.0 pound (0.45 kg), and it is the perfect tool for mounting on fast moving XYZ tables. Its small size and shape allows for several CR-280-RHs to be mounted in the same motion control system.

VERSATILE INTERFACE OPTIONS

The CR-280-RH is a USB 2.0 compatible device, remotely controlled by the host software from any personal computer, laptop or net book. As an option, the CR-280-RH can also be controlled by an Ethernet 10BASET/100BASE-TX IEEE-802.3 compliant connection or a RS-232 port.

OPTIONAL EXTERNAL TRIGGER PORT

The CR-280-RH can be equipped with an optional External Trigger Port which enables remote measurement activation from either a push button, a peripheral device, or by hardware trigger signals to measure strobes/pulsed lights, and start/stop signals. This option is ideal for fast temporal events that need to be precisely synchronized for measurement or data capture.

ACCESSORIES

- USB Cable
- Universal mounting bar
- ND Filters (optional)

APPLICATION SOFTWARE

The CRIApp application is a streamlined, cross-platform, user-centric application designed to perform all colorimetric - based analysis. It provides a familiar and consistent workspace no matter which platform you are in. The CR-280-RH comes standard with a built-in, easy-to-learn command interpreter, for users to quickly create their own dedicated software to perform specific measurement tasks or for inclusion in an Automated Test Environment.

In addition, a fully documented communication language with numerous real-world, sample emplates are included as starting points for customers to build their own software tools using any of the current development environments.
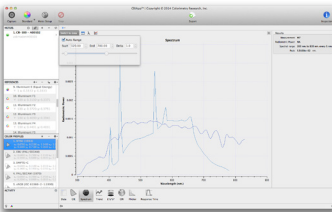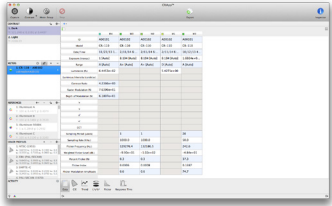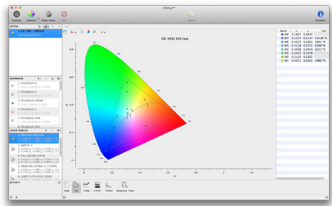
FEATURE HIGHLIGHTS

- **Cross Platform:** Your working environment is the same in every platform while taking advantage of features specific to the host operating system.
- **Intuitive:** The user interface is designed with a user-friendly approach with controls at your fingertips, not hidden away in menus or complex preferences.
- **Connectivity:** The software is engineered to support simultaneous data capture from multiple connected instruments based on the contextual task at hand. Select an instrument to take a reading or simultaneously use all open instruments.
- **Data Visualization:** Measurements are presented in a customizable tabular grid or charts. The software supports multiple types of measurements, and co-exists gracefully within the same streamlined interface.
- **Spectral Auto Interpolation:** The spectral data view supports automatic interpolation of spectral data so that it provides seamless comparison between unlike spectra.
- **CRI & Gamma:** Color Rendering Index visualization and gamma measurement mode is available.

The Colorimeter Utility is an accompanying tool that aids in updating, preserving and recovering the state of the instrument.
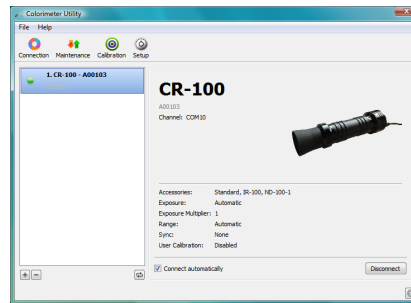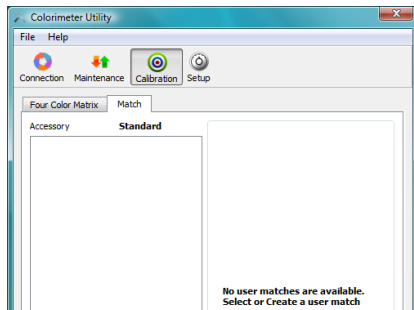
MEASUREMENT SPOT SIZE

Working Distance (mm)	Spot Size (mm)			
	50 mm Lens	60 mm Lens	75 mm Lens	100 mm Lens
0	20.0	24.0	30.0	40.0
100	22.6	26.2	31.7	41.3
200	25.2	28.3	33.5	42.6
500	33.0	34.8	38.7	46.5
1000	46.0	45.7	47.3	53.0
2000	72.0	67.3	64.7	66.0
3000	98.0	89.0	82.0	79.0
x	20+0.026x	24+0.02166x	30+0.01733x	40+0.013x

CR-280-RH SPECIFICATIONS

Detector	CMOS image sensor, 512 pixels
Spectral Range	380 - 1080 nm
Spectral Bandwidth	8 nm
Spectral Accuracy	± 0.3 nm
Spectral Resolution	2 nm / pixel
Luminance Range	0.1 fL to 20000 fL§
Luminance Accuracy	± 2 % $^\Omega$
Luminance Repeatability	≤ 1 % $^\Omega$
Chromaticity Accuracy	± 0.0015 x, y $^\Omega$
Chromaticity Repeatability	0.0005 x, y $^\Omega$
Polarization Error	≤ 0.5 %
Digital Resolution	16 bits
Objective Lens	50 mm*, 60 mm, 75 mm, 100mm
Custom Synchronization	10 - 10000 Hz
Exposure Time Range	0.04 to 30 seconds
Power Requirements	5V, 120 mA (600 mW) via USB 2.0
Interface	USB 2.0, Ethernet, RS-232
Weight / Mass	1.0 pound (0.45 kg)

NOTE:

Luminance Range, Accuracy and Repeatability and Chromaticity Accuracy and Repeatability are measured with a NIST-traceable 2856 K light source.

When Custom Synchronization is selected, the user is required to enter the refresh rate or the on/off frequency of the device he is measuring.

§ Sensitivities measured for 10:1 signal to noise (RMS)

$^\Omega$ Measured with luminance level of 1 fL

* 50mm lens is the standard lens included wih the instrument. All others are special order.

Get in touch

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As part of our policy of continuous product improvement, we reserve the right to change specifications at any time

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