

# PHOTO RESEARCH®

## PR®-650 SpectraScan® Colorimeter

**The right instrument** - . When battery-powered portability, ease-of-use, connectability and spectrally accurate measurement results are important criteria when selecting a photometer or colorimeter, the PR-650 SpectraScan is the instrument of choice.

**Battery powered portability** – The PR-650 is the only truly portable spot spectroradiometer available. The standard NiCad battery makes the PR-650 ideal for making measurements in remote areas where an AC power source is unavailable. Combine this portability with a laptop running the optional *SpectraWin* Windows® based software, and you have a full-featured measurement system that can be transported in your briefcase.

**Ease of use** - The PR-650 is as easy to use as point-and-shoot. The world famous Pritchard® optics make target alignment as easy as aim and focus. When you are ready to make a measurement, simply press the measure button. The results are displayed on the back-lit 4 x 20 character LCD display.

**Connectability** - Each PR-650 is equipped with an RS-232 cable that lets you link to the outside world from just about any platform (PC, Mac, Sun Workstation etc.) to just about any type of host. We've also included, as standard equipment, *Remote Mode* control language. This simple to use text based language lets you make measurements with the PR-650 and retrieve calculated measurement results – all from your custom software application (e.g. Visual C++, Visual Basic etc).

**SpectraWin software** - For an easy-to-use, graphics based link to the PR-650, the optional Windows ('95, '98 or NT) *SpectraWin* software package provides a fully functional control, display and calculation platform. Features such as automated measurement sequences (reflectance, transmittance etc.), go/no go color measurements and a built in macro recorder make your measurement task as easy as click and go. After the measurement, cut-and-paste data tables or graphics displays (e.g. spectral or CIE charts) to other Windows applications.



### Typical Applications

- Colorimetry or automotive / aerospace displays
- Colorimetry of paper, textile and printed samples
- Source color temperature
- Spectral reflectance and transmittance
- Human factors / vision research
- Incoming inspection
- Production (on line) testing
- LED color measurement
- Automated testing
- Medical / dental color measurements
- Source refresh rate

**Spectral Accuracy.** Unlike other instruments in its price range, the PR-650 measures optical radiation spectrally instead of relying on filter technology. To accurately deliver important measurement results such as luminance and chromaticity – the PR-650 determines these parameters by measuring the absolute intensity at each wavelength, then calculating the result. So, regardless of the source, the result is accuracy time after time after time.....

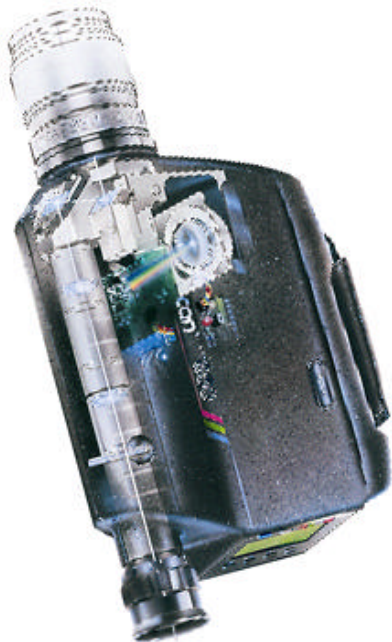
**AutoSync®** – The built-in AutoSync® feature takes the worry out of accurately measuring high intensity refreshing sources such as CRT's by adjusting the exposure time to the source refresh rate - and simultaneously reports the refresh rate of the source.



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## Specifications

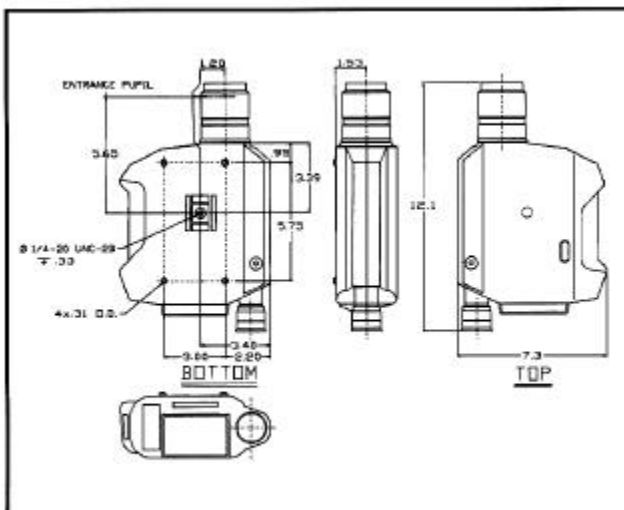


<b>Spectral Range</b>	380 – 780 nm
<b>Spectral Bandwidth</b>	8 nm
<b>Spectral Accuracy</b>	+ 2 nm
<b>Wavelength Resolution</b>	< 3.5 nm / pixel
<b>Luminance Accuracy</b>	± 2% of calculated luminance at 2856K @ 23° C
<b>Color Accuracy when Measuring Illuminant A</b>	±.0015 CIE 1931 x, ± .001 CIE 1931 y (.006 CIE 1931 xv for CRT's tvnical)
<b>Digital Resolution</b>	14 bit (1 part in 16,000)
<b>AutoSync Range</b>	40 – 250 Hz
<b>Measuring and Viewing Field</b>	1° (measuring) and 7° (viewing) with MS-75 lens at infinity focus
<b>Battery</b>	Rechargeable NiCad. Recharge rate – 1.5 hrs. from full discharge with CD-650
<b>Interfaces</b>	RS-232 IEEE-488 (optional)
<b>Operating Temperature</b>	34° to 95° F (1° to 35° C)
<b>Operating Humidity</b>	<90% non-condensing
<b>Size (approx. including MS-75 lens)</b>	12" (305 mm)L x 7"(178 mm)W x 3" (76 mm) H
<b>Weight (approx.)</b>	4 lbs. 12 oz. (2.15 kg.) with MS-75 lens and battery

## Field Coverage / Sensitivity Chart

Accessory	Focus Distance	Spot Size	Sensitivity
<b>MS-75</b>	14" (35.5 mm) 1000 ft (305 m)	.208" (5.25 mm) 209" (5.32 m)	≥1.0 - ≤5,000 fl ≥3.4 - <17,000 cd/m <sup>2</sup>
<b>SL-0.5X</b>	3.6" (91.4 mm) to 5.4" (137 mm)	0.059" (1.5 mm) to 0.10" (2.54 mm)	≥1.0 - ≤5,000 fl ≥3.4 - ≤17,000 cd/m <sup>2</sup>
<b>SL-1X</b>	1.8" (46 mm) to 2.6" (66 mm)	0.035" (0.89 mm) to 0.052" (1.32 mm)	≥1.0 - ≤5,000 fl ≥3.4 - ≤17,000 cd/m <sup>2</sup>
<b>MS-2.5X</b>	1.81" (46 mm)	0.020" (0.51 mm)	≥3.0 - ≤10,000 fl ≥10.3 - ≤51,400 cd/m <sup>2</sup>
<b>CR-600 Cosine Receptor</b>	N/A	N/A	≥2.0 - ≤12,000 fc ≥21.5 - ≤107,700 lux
<b>LA-600 Luminance Adapter</b>	Contact	0.52" (13.2 mm)	≥1.0 - ≤5,000 fl ≥3.4 - <17,000 cd/m <sup>2</sup>
<b>FP-600 Fiber Probe</b>	Contact	0.125" (3.17 mm)	≥2.5 - ≤12,000 fl ≥8.6 - ≤43,000 cd/m <sup>2</sup>

- NOTES: 1. For the ND-650-2 (Used only with the MS-75 or SL-1X or SL-0.5X), multiply the Sensitivity by 100.  
 2. All values calculated measuring Illuminant A at @ ≥ 100:1 signal to noise (1% precision).



All specifications subject to change without notice.



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