JETI Technische Instrumente

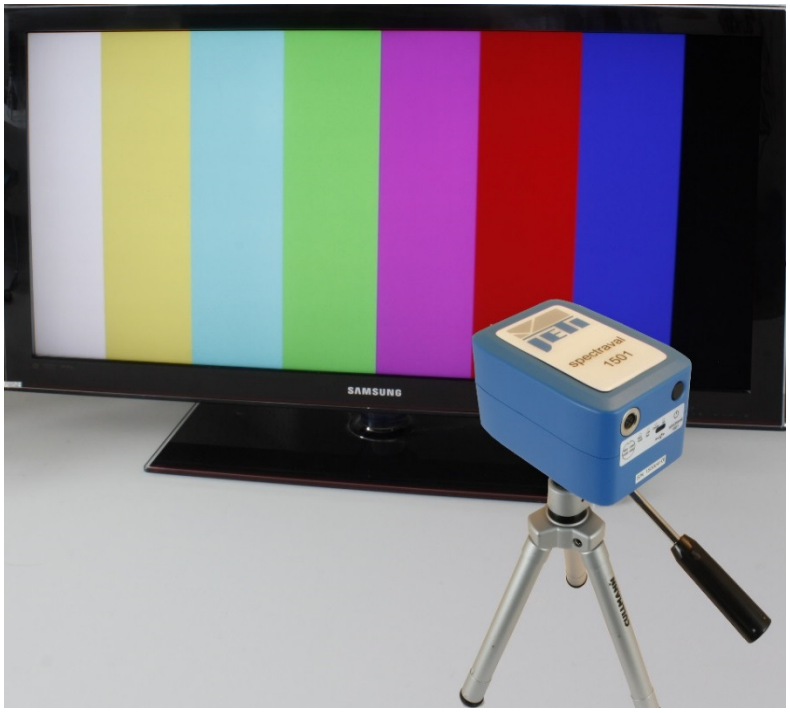
Spectrometric Solutions from Components to Systems

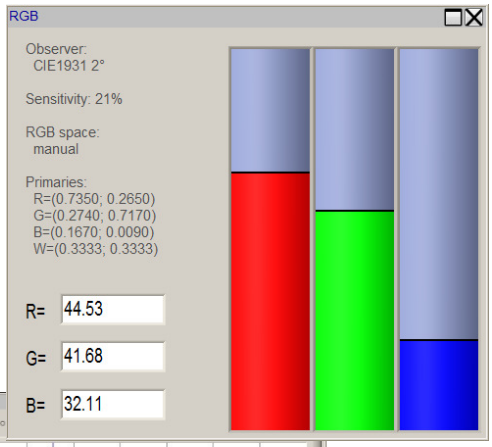
spectraval 1501

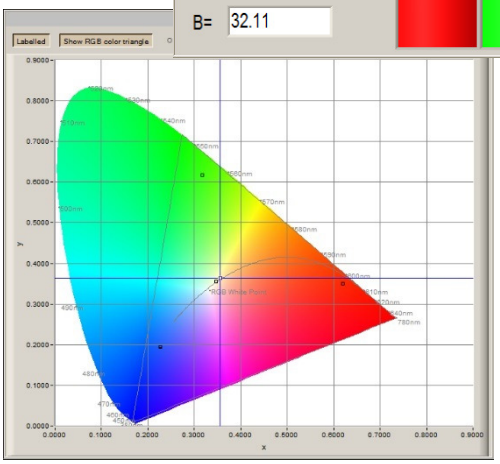
VIS Spectroradiometer

spectraval 1501 is a compact spectroradiometer for the visible spectral range. It can be used for spectral Radiance measurements with a viewing angle of 1.8°. The actual measuring area is marked by a red circle.

spectraval 1501 comes with the radiometric software *JETI LiVal* (demo version see: www.jeti.com), but can be used with special programs, for monitor calibration (CalMAN, LightSpace CMS, ChromaPure; HCFR under preparation).







Advantages:

- Compact solution
- Fast measurement
- Precise results due to high quality spectrograph and NIST traceable calibration
- Comfortable handling due to Bluetooth interface
- Measurement of source repetition rate

Examples for applications:

- Calibration of broadcast monitors
- Color adjustment of digital projectors
  spectraval 1501 HiRes for RGB Laser projectors
- Color characterization of LED displays
- Color measurement of video walls

Specifications

Optical parameters	
Spectral range	380 ... 780 nm
Optical bandwidth	4.5 nm
	2 nm (version: spectraval 1501 HiRes)[1]
Wavelength resolution	1 nm
Digital electronic resolution	16 bit ADC
Viewing angle	1.8°
Measuring distance/ diameter	20 cm - ∅ 6 mm; 100 cm - ∅ 31 mm
Measuring values	Spectral Radiance/ Integral Radiance, Luminance
	Chromaticity coordinates x,y and u',v'
	Correlated Color Temperature
	Color purity, dominant wavelength
	CRI, CQS, RGB and others
With optional diffusor	Spectral Irradiance/ Integral Irradiance/ Illuminance
Measuring ranges and accuracies	
Measuring range Luminance	0.2 ... 180 000 cd/m² (Ill. A)
	0.2 ... 140 000 cd/m² (typical warm white LED)
Luminance accuracy	± 2 % (@ 100 cd/m² and Ill. A)
Luminance repeatability	± 1 %
Chromaticity accuracy	± 0.002 x, y (@ 100 cd/m² and Ill. A)
Color repeatability	± 0.0005 x, y (@ 100 cd/m² and Ill. A)
CCT repeatability	± 20 K (@ 100 cd/m² and Ill. A)
Wavelength accuracy	± 0.5 nm
Polarization error	< 2 % (f8)
Measuring range Illuminance	2 … 1 250 000 lx (Ill. A)
(with optional diffusor)	1 … 1 000 000 lx (typical warm white LED)
Other technical data	
Dispersive element	Imaging grating (flat field)
Light receiving element	CCD line array 2048 pixels (binned)
Power supply	Battery and USB powered
Interfaces	USB 2.0 fullspeed
	Bluetooth, alternatively LAN
Dimensions	140 mm x 80 mm x 70 mm
Weight	400 g
Operating conditions	Temperature 10 ... 40 °C
	Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software *JETI LiVal* for Windows 7/ 8/ 10, operating instructions and software development kit on Bluetooth stick
	USB cable, battery charger and trigger connector
	Calibration certificate
	Tripod, transport box
Calibration	NIST traceable
Recommended interval	1 year

[1] About 6 times higher measuring time