# specbos 1211/ 1211 UV

specbos 1211 is a broadband and fast spectroradiometer which can be used in laboratory as well as production environment to measure the following quantities:

- Luminance, Radiance
- Illuminance, Irradiance
- xy and u´v´ coordinates, RGB values
- Dominate wavelength, Color purity
- Correlated Color Temperature
- Color Rendering Index

Highlights:

- **Wavelength range from UV to NIR**
- **High sensitivity**
- **Radiance as well as irradiance measuring modes**
- **Small and easy to use**
- **NIST traceable calibration**
- **Measurement also possible with DLLs or SCPI compatible commands**
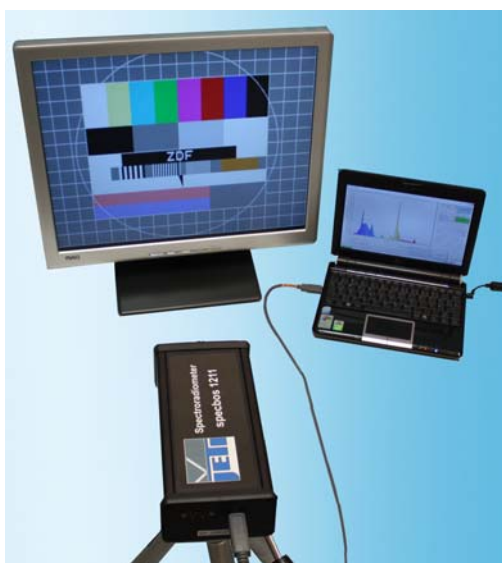
Examples for applications are the following:

- Calibration of broadcast monitors
- Color adjustment of digital projectors
- Measurement of weighted spectra, e.g. to characterize hazardous radiation
- Measurement of fluorescence and UV lamps
- Spectral measurements in goniometers
- Measurement of extended luminaires like OLEDs

The instrument can be operated with the intuitive measuring software LiMeS (for a demo version see www.jeti.com) or with one of the application specific programs.
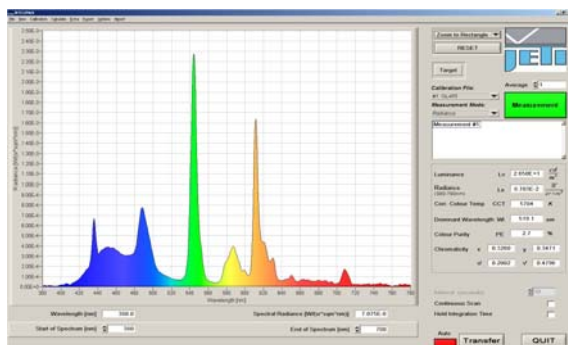
Screenshot of general radiometric software   Screenshot of monitor calibration software

Specification

Optical parameters
Spectral range
       specbos 1211   350 ... 1000 nm
       specbos 1211 UV   250 … 1000 nm
Optical bandwidth   4.5 nm
Wavelengths resolution   1 nm
Digital electronic resolution   15 bit ADC
Viewing angle   1,8° (luminance mode)
Measuring distance/ diameter 20 cm - $\varnothing$ 6 mm; 100 cm - $\varnothing$ 31 mm (luminance mode)

Measuring values   Spectral radiance/ Spectral irradiance
Total luminance / total radiance
Total illuminance / total irradiance
Chromaticity coordinates x,y; u',v'
Correlated Color Temperature, Color purity
Color Rendering Index, RGB
Circadian metrics, Photosynthetically Active Radiation

Measuring ranges and accuracies
Measuring range luminance   0.1 ... 2500 cd/m^2 (higher values with optional filter)
Measuring range illuminance 2 … 10 000 lx
Luminance accuracy $\pm$ 2 % (@ 1 000 cd/m^2 and 2856 K)
Luminance repeatability $\pm$ 1 %
Chromaticity accuracy $\pm$ 0.002 x, y (@ 2856 K)
Color repeatability $\pm$ 0.0005 x, y
CCT repeatability $\pm$ 20 K (@ 2856 K)
Wavelength accuracy $\pm$ 0.5 nm

Other technical data
Dispersive element   Imaging grating (flat field)
Light receiving element   Backthinned CCD array 2048 pixels (binned)
Power supply   USB Hub powered
Interface   USB 2.0 fullspeed
Dimensions   180 mm x 82 mm x 53 mm
Weight   450 g
Operating conditions   Temperature 10 ... 40 °C
                            Humidity < 85 % relative humidity at 35 °C
Accessories (included)   PC software JETI LiMeS for Windows 2000/ XP/ Vista/ 7
                            DLL, LabVIEW VI's
                            USB cable and trigger connector
                            Cosine diffusor (for irradiance measurement)
                            Calibration certificate, operation instructions
                            Tripod, transport box
Accessories (optional)   Integrating spheres of different diameters (Lum.flux measurment)
                            Luminous intensity measurement set up (CIE 127, cond. A and B)
                            Netbook with installed software (for mobile applications)
Calibration   NIST traceable
Recommended interval   1 year

Additional features:
- Pass/ fail decisions
- Ranking function (up to 16 ranks)
- Saving of reference spectra
- Spectral calculations
- Data export in csv and xls files
- Switching between Si and Imperial units

Advantages:
- USB powered
- Very fast measurement
- Internal target spot laser (luminance measurement)
- mechanical shutter for dark signal compensation
- Easy to install
- Start of measurement with external trigger signal