The SR-6500 with three thermoelectrically cooled photodiode arrays delivers the ultimate in high resolution and stable performance

SR-6500 Technical Specifications

Spectral range 350-2500nm
Photodiode Arrays:
- 1024 element TE-cooled silicon detector (VIS-NIR)
- 512 element TE-cooled InGaAs detector (SWIR 1)
- 512 element TE-cooled extended InGaAs detector (SWIR 2)

All dispersive optics fixed in place– no moving parts
Auto dark current shutter & auto-exposure control
Fixed metal clad fiber optic cable with SMA-905 input
- (User removable fiber/4 bolts for easy field replacement)

Wireless Bluetooth and USB interfaces
Comes complete with DARWin SP Data Acquisition Software
- (Windows XP/Vista/System 7/8/10 compatible)

Minimum scan speed: 100milliseconds
Spectral resolution
- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

Noise Equivalence Radiance (with 1.5 meter fiber optic)
- $0.8x10^{-9}$ $W/cm^2/nm/sr$ @ 400nm
- $0.3x10^{-9}$ $W/cm^2/nm/sr$ @ 1500nm
- $5.8x10^{-9}$ $W/cm^2/nm/sr$ @ 2100nm

Auto-dark current measurement
Auto-optimization
Dimensions
- 12.4 x 8.7 x 4.4 inches (31.5 x 22.9 x 38.7 cm)

Weight:
- 11 lbs. (4.99 kg)

Operating range : 0-40°C
Communications: Wireless Bluetooth and USB
Instrument Power (Max): 33W
Batteries: Two Rechargeable Li-ion batteries—up to 3 hours operation each - weight <2 lbs (.9kg) - size 2”x2.5”x4.5” (5.08x6.35x11.43 cm) - 7.4V nominal 94Whr

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SR-6500 Spectroradiometer Ultra High Resolution

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Ultra High Resolution for Demanding NIR Spectroscopy Applications

The SR-6500 portable spectroradiometer provides the ultimate in high resolution measurement for applications where the ability to see and save additional information about absorbance and reflectance features is critical. The SR-6500 is a full range UV/VIS/NIR specrtroradiometer covering the 350-2500nm spectral range. It is designed with three thermoelectrically cooled photodiode arrays for the ultimate in stable performance. The photodiode arrays are:

- 1024 element TE-cooled silicon detector array covering wavelengths from 350 to 1000nm
- 512 element TE-cooled InGaAs detector array covering wavelengths from 1000 to 1630nm
- 512 element TE-cooled extended InGaAs detector array covering wavelengths from 1630 to 2500nm

The SR-6500 delivers very high resolution for accurate and precise spectra. Resolution is:

- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

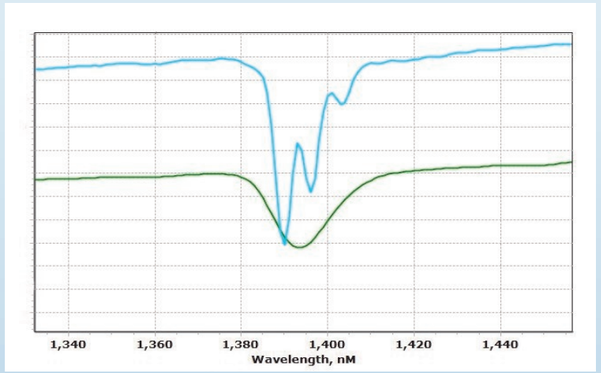
The spectroradiometer can be used with bare fiber or FOV (field-of-view) fiber-attached lenses and a high-power light source, or with our convenient handheld Miniprobe, a sample contact probe with a built-in light source and 3mm spot size.

With the Miniprobe, the SR-6500 is well-suited for capturing high resolution scans of minerals in samples from mining exploration. These scans will show additional features not seen with standard field spectrometers or spectroradiometers allowing for better identifications and analysis of the minerals in the sample and affording a geologist an impressive tool for unmixing minerals in samples. When used with Spectral Evolution's EZ-ID mineral identification software and three spectral libraries of more than 700 minerals, the SR-6500 offers new insight into mineral alteration and vectors to ore bodies. EZ-ID also includes spectral scalars that provide information on crystallinity changes, alteration pattern shifts, and geochemical conditions.

The SR-6500 includes our DARWin SP Data Acquisition software for instrument control and data acquisition and saves all files as ASCII for easy use with other analysis software.

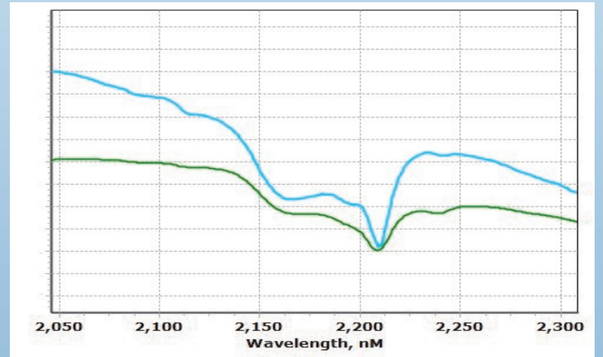
The SR-6500 fits in a backpack with two Li-ion batteries for field use.

The SR-6500 and Miniprobe can focus mineral identification on smaller parts of sample (3mm spot) and deliver greater detail for more accurate mineral identification, unmixing, and analysis.



SR-6500 is blue scan. Standard spectrometer is green scan. Scans offset for comparison

A close-up of scans taken with the SR-6500 and a standard resolution field spectrometer of a talc sample. Here you can see the dramatic difference the higher resolution capabilities of the SR-6500 bring to the spectra. The spectra shows a distinct triplet where the standard spectrometer shows a single shallow absorption feature.



SR-6500 is blue scan. Standard spectrometer is green scan. Scans offset for comparison

A close-up of scans taken with the SR-6500 and a standard resolution field spectrometer of a clay sample primarily composed of kaolinite. The spectra from the SR-6500 not only shows the major absorption features at a higher resolution, it also uncovers additional spectral features not seen in the standard scan.

What kind of applications would benefit from higher resolution scans?

- Mineral identification and analysis where higher resolution can provide better distinction between minerals with similar spectra
- Soil studies for the identification of different soil characteristics, clay types, presence or absence of nutrients and moisture
- Vegetation studies for plant health/stress, over-fertilization, species identification
- Lab applications including materials identification
- Solar radiance and irradiance research
- Microbial diversity research