The future of field spectroscopy keeps growing!

NaturaSpec Ultra

The new NaturaSpec™ Ultra spectroradiometer offers the highest spectral resolution of any full range field spectroradiometer. The instrument enables field validation and calibration of even the highest resolution hyperspectral cameras and satellites by bringing lab quality hyperspectral data into the field. The NaturaSpec Ultra is the optimum instrument to build high-resolution libraries and to push the limits of spectral analysis for remote sensing applications including environmental monitoring, climate change research, crop and soil science, agriculture, carbon studies, geological mapping, ground truthing and more.

From optics to enclosure, the entirety of the new NaturaSpec Ultra spectroradiometer is engineered for fieldwork:

- Provides rapid, full spectrum UV-VIS-NIR measurements from 350-2500 nm with the highest spectral resolution available in a portable spectroradiometer.
- Solid-state, TE-cooled photodiode array detectors and no moving optical parts come standard on a rugged chassis to ensure toughness and provide excellent sensitivity, stability and repeatability of measurements in the field.
- Rugged, metal-clad fiber optic cables with a keyed connection ensure no loss of calibration if replacement is needed.
- The field-ready enclosure features exterior bumpers, a carrying handle, and a dust-proof case coated in a high visibility purple color providing internal protection as you carry your instrument on field campaigns.
- DARWin™ Data Acquisition software offers fast scanning, one-touch operation, and automatic optimization to ensure that every spectral scan collected provides the best signal-to-noise ratio and dynamic range possible. Each detector is independently exposed to the signal at the optimum integration time and dark-current correction is automatically measured and applied to each detector on every scan. No tedious manual optimization or unreliable drift algorithms are required, ensuring outstanding, repeatable data.
- Compatibility with all Spectral Evolution accessories.

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SPECTRAL EVOLUTION
The Future of Field Spectroscopy is Now!

"The NaturaSpec Ultra brings the highest spectral resolution of any field spectroradiometer. Its innovative and rugged design ensures high-quality and repeatable spectral data." says Nicolas Venjean, Director of Sales & Marketing at Spectral Evolution. "Spectral Evolution is excited to bring this extraordinary technology to the remote sensing community who will undoubtedly adopt this new standard of spectral data quality for years to come."

Every NaturaSpec Ultra is meticulously designed, manufactured, and calibrated at our facility in Haverhill, Massachusetts, USA to ensure maximum performance and reliability.

Specifications

Model	NATURASPEC ULTRA		
Spectral Range	350-2500nm		
Spectral Resolution	1.5nm @ 700nm	3nm @ 1500nm	3.8nm @ 2100nm
Spectral Sampling Bandwidth (nm)	Data output in 1nm increments; 2151 channels reported		
Detectors	1024-element TE-cooled UV-enhanced Si Array 512-element TE-cooled InGaAs Array 512-element extended TE-cooled InGaAs Array		
Calibration	Spectral and radiometric calibration for radiance/irradiance measurements using NIST traceable sources.		
Noise Equivalence Radiance W/cm²/nm/sr (1.2m fiber optic)	$0.4x10^{-9}$ @ 400nm	$0.2x10^{-9}$ @ 1500nm	$4.0x10^{-9}$ @ 2100nm
Software Included	DARWin™ Data Acquisition		
Power	7.4v | 28w		
Dimensions	314.9 x 220.9 x 111.7 (mm) 12.4 x 8.7 x 4.4 (in)		
Weight	5.5kg | 12lbs		
Interface	USB, Wireless Connection		
Minimum Scan Speed	100ms		
Wavelength Reproducibility	0.1nm		
Wavelength Accuracy	±0.5nm Bandwidth		
Automatic Data	Data Optimization | One Touch Operation | Automatic Exposure | Detector Integration | Dark Current Correction		
Input	1.5 m fiber optic (25° field of view); optional fore optics and optional longer fiber optic cables available		
Operational temperature range (°C)	0 to 40 degrees		
Maximum Radiance	VNIR 2x Solar | SWIR 10x Solar		

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