

# Analytical Instrumentation

*Surf the New Wave in Portable Fiber Optic Spectrometry*

## SILVER-Nova Super Range TE Cooled Spectrometers for UV-VIS-NIR

StellarNet's SILVER-Nova high performance fiber optic spectrometer covers the 190-1110nm wavelength range and is configured for demanding applications that require wide spectral range, high resolution and optimal sensitivity.

The SILVER-Nova is the most well rounded spectrometer choice allowing for research grade results for many spectroscopic applications. The spectrograph employs composite grating technology to deliver high efficiency in both the UV & NIR spectral extremes. The UV enhanced CCD detector with integrated TE cooler, gain enhancements, and optical lens assemblies allows for unparalleled sensitivity, with over 65% increased signal to noise at long exposures. Advancements in SILVER-Nova optical design delivers 1nm resolution with a 25um slit.



Reference Spectra of Deuterium + Halogen lamps using SL5-DH source

The portable instrument is packaged in a small rugged metal enclosure for use with single strand fiber optic input cable. The instrument attaches directly to a PC's high speed USB-2 port where it also derives its power. These units are vibration tolerant and are exceptionally robust with no internal adjustments or moving parts.

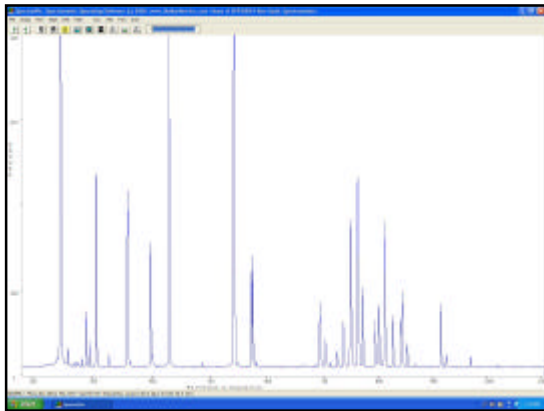
SpectraWiz software is included (free) to enable spectroscopy measurements (reflectance, transmission, absorption, and the many types of light emissions). Applications are included for SpectroColorimetry (CIELAB L\*, a\*, b\*, ?E\*), SpectroRadiometry (absolute intensities watts m<sup>-2</sup>, lumens m<sup>-2</sup>, xy chromaticity, purity, CCT, moles m<sup>-2</sup> s<sup>-1</sup> etc.), Chemical concentrations, material identification, analysis of UVabc components, event or reaction monitoring data capture & time series analysis.

Specifications		SILVER-Nova Spectrometer \$4,495	
Dynamic range:	2000:1 with 6 decades	Dimensions:	6 x 17 x 20.5 cm
Optical resolution:	1nm - 25um slit & CCD	TEC Power:	5VDC@1A adapter included
Detector type:	2048 pixel CCD	Interface Power:	USB-2.0 = 100ma@5VDC
Detector array:	190 -1110nm	Data transfer speed:	30Hz
Pixel size:	14um x 200um	Detector Integration:	1ms to 65s
Composite Grating:	Dual blaze @ 250+1000nm	Slit size options:	14, 25, 50, 100, 200um
Grating type:	Holographic, 600 line	Stray light:	0.1% > 435nm .15% at 200nm
Spectrograph:	f/4, HR Czerny-Turner	Fiber optic input:	SMA905 0.22na single fiber
Order sorting filter:	Integrated multi-band	Operating systems:	XP/Vista/Win7/Win8
Signal to noise:	1000:1 CCD TE Cooled	Software included:	SpectraWiz program & apps
Digitizer:	16bit	Also <b>free</b> programs for:	LabView/VC/Excel/Delphi

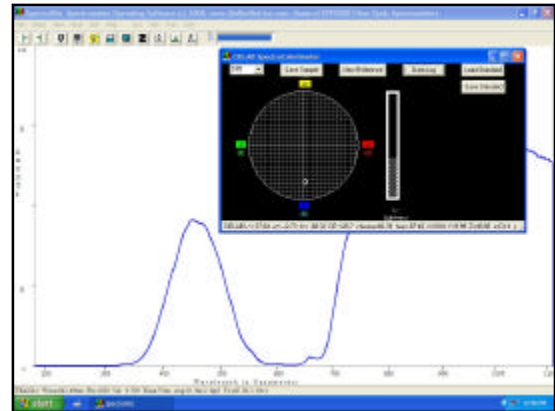
**Note: small battery 8 hour pack for TEC field operation is available at extra cost**



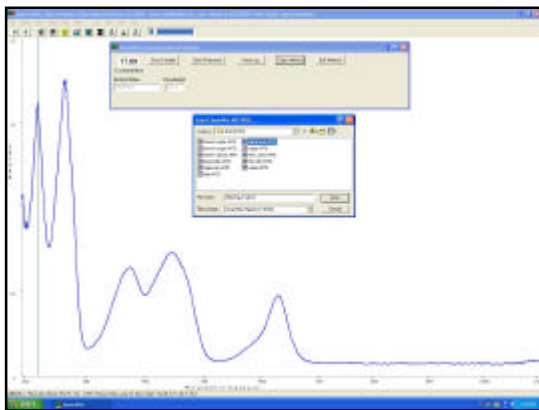
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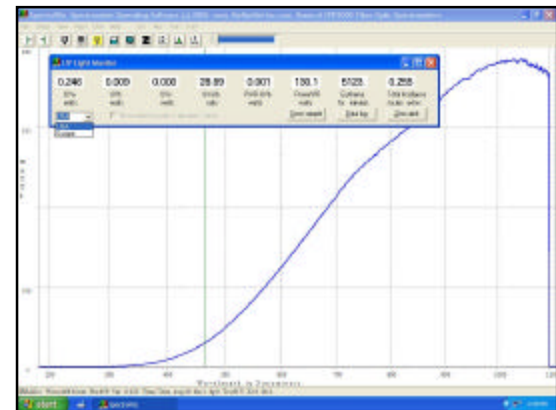
Emission Spectra of Mercury and Argon gas using SL2 WaveCal Lamp



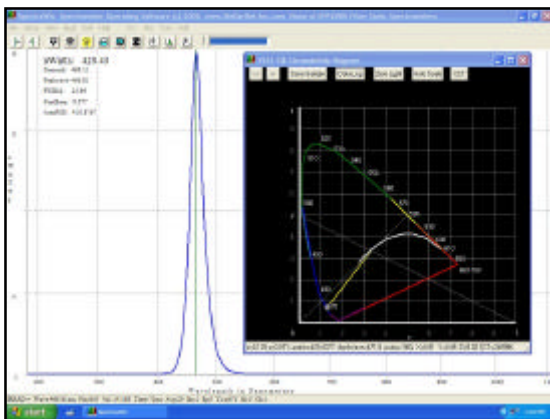
Reflectance Spectra of Blue Paper  
» CIELAB color measure & compare



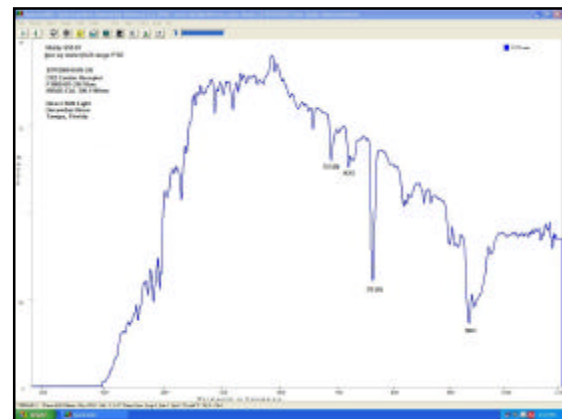
Absorbance Spectra of Riboflavin  
» ChemWiz concentration Methods



Irradiance Spectra of White Light  
» UV Monitors UVA, UVb, UVC, Te..



Emission Spectra of 470nm Blue LED  
» 1931 xy Chromaticity Diagram



Solar spectrum December noon  
Tampa, FL

