

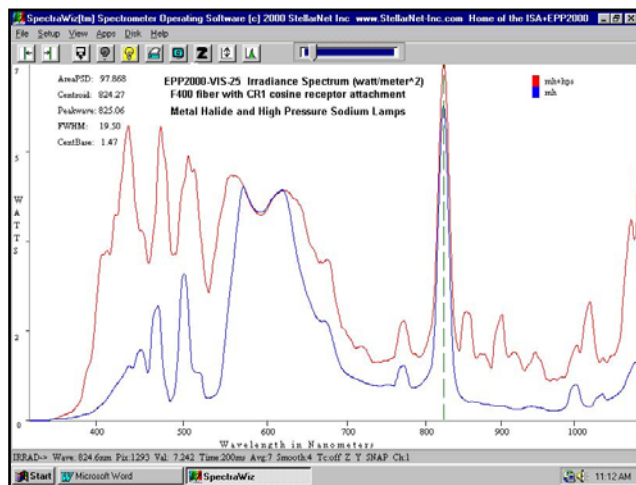
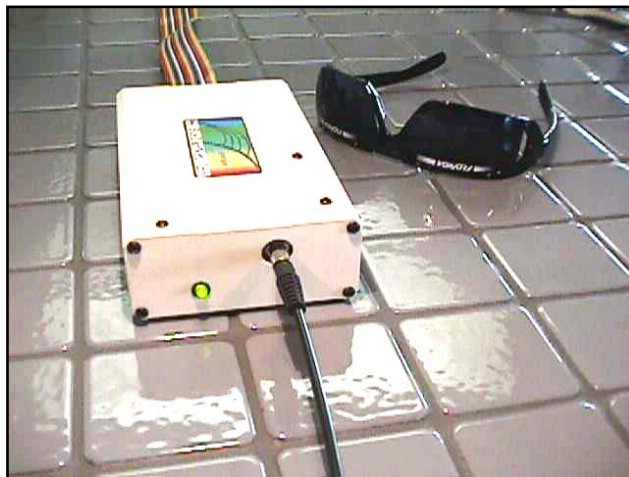
Analytical Instrumentation

Surf the New Wave in Portable Fiber Optic Spectrometry

EPP2000 Diffraction Grating Spectrometers - for UV-VIS-NIR Applications

The StellarNet EPP2000 Spectrometers are miniature fiber optic instruments for UV, VIS, and NIR measurements in 190-1700nm ranges. Each unit contains a **high speed parallel digitizer** interface with a 4K word spectral scan memory to provide instantaneous spectral data from the highly sensitive CCD or Photo Diode Array detectors. Various models provide a choice of grating range and slit resolutions. A single strand fiber or probe assembly is input via standard SMA 905 fiber optic connector.

The spectrograph's optics are exceptionally robust in a vibration tolerant modular design with no moving parts. The detachable optics assembly and control electronics are protected inside a rugged metal enclosure, suitable for portable, process, and



EPP2000-VIS SpectroRadiometer

lab applications. Several units may be daisy-chained via a parallel cable or USB-2 hub allowing simple configurations for dual and multi-beam process applications.

The SpectraWiz software is included to accurately measure wavelength emissions, reflectance, transmission, absorption, concentrations, and absolute intensities. Applications include spectroradiometry (absolute intensity & xy chromaticity), spectrocolorimetry (CIELAB), Optical Emission Spectroscopy, chemical concentration and reaction time-series analysis.

EPP2000 interface cards are available for notebook and desktop computer parallel ports (3x faster than USB1) or optional USB2EPP cables that are 40x faster than USB1.

Specification		standard	EPP2000-UV-VIS-NIR Spectrometers	\$2500
Dynamic range:	2000:1 with 6 decades		Dimensions:	44 x 94 x 150 mm
Optical resolution:	see model table - to 0.1nm		Power consumption:	100 mA @ 5 VDC
Detector type:	2048 pixel CCD, PDA opt.		Interface:	USB-2 and EPP Parallel
Detector range:	200-1200nm		Data transfer speed:	40x faster than USB-1
Pixel size:	14um x 200um		Detector Integration:	2ms/1ms [12/14-bit] to 65s
Diffraction Gratings:	Holographic & Ruled		Slit size options:	7, 14, 25, 50, 100, 200um
Grating g/mm:	300, 600, 1200, 1800, 2400		Stray light:	<.1% at 435nm; <.05% at 600nm
Spectrograph:	f/4, SymX-Czerny-Turner		Fiber optic input:	SMA905 0.22na single fiber
Order sorting filters:	Integrated & High Pass		Operating systems:	Win9x/WinXP/WinVista
Signal to noise:	1000:1 CCD, PDA 2000:1		Software included:	SpectraWiz program & apps
Digitizer:	12-bit, 14-bit optional		Also free programs for:	LabView, Excel+VBA, Delphi

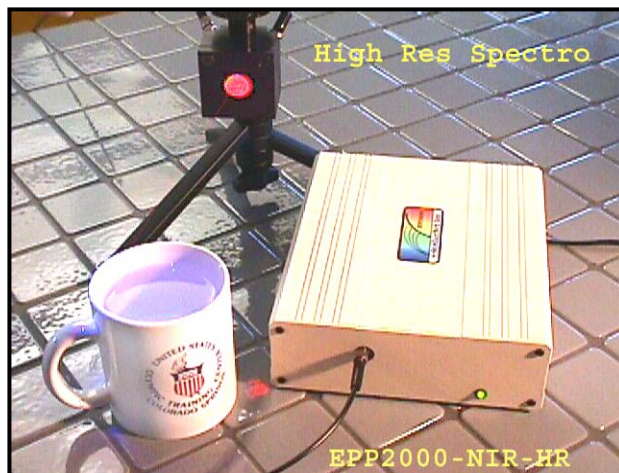


EPP2000 High Resolution Spectrometers - for UV-VIS-NIR Applications

The EPP2000-HR High Resolution fiber optic spectrometers are available in several low cost models for UV, VIS, and NIR applications. The cost is a **\$500 HR upgrade** from a standard EPP2000.

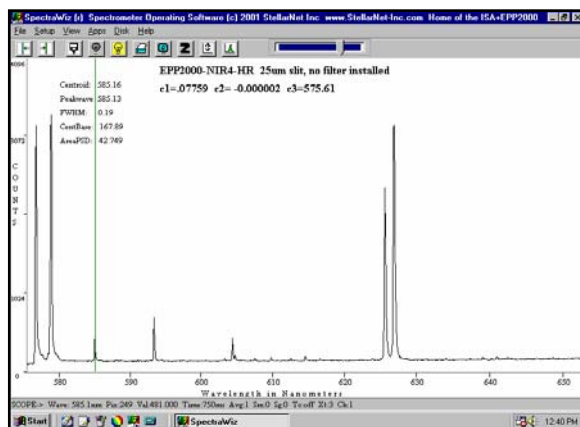
The HR spectrometers have double the resolution over standard models with the same grating. The wavelength range is reduced by the same factor. Resolutions better than 0.1nm can be achieved depending on selected model range, detector, and slit size.

Applications include wavelength monitoring and characterization for tunable lasers/LEDs and other sources such as elemental emissions from plasma & Laser Induced Breakdown Spectroscopy. Also, optical sensing of temperature, pressure, & position are enabled via Bragg grating technology.

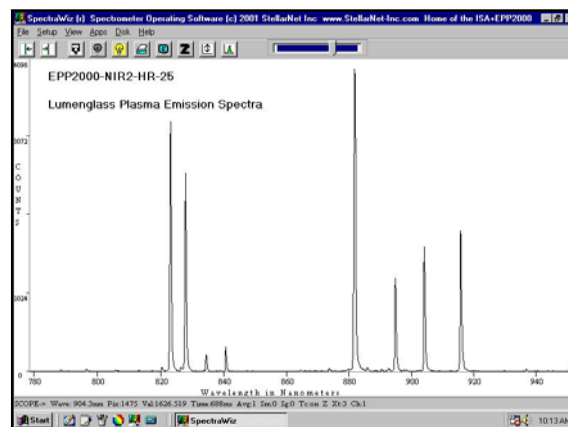


EPP2000 High Resolution Configurations					Predicted Slit Resolutions		
EPP2000 HR model	Wavelength Range in nm	Grating g/mm	Grating Range	Nm/pixel Dispersion	Slit-25 nm res.	Slit-14 nm res.	Slit-7 nm res.
UV3	200-340	1800	140	0.068	0.30	0.20	0.10
UV4	200-300	2400	100	0.048	0.21	0.14	0.07
NIR2	900-1075	1200	175	0.085	0.26	0.17	0.09
NIR3	750-850	1800	100	0.049	0.15	0.10	0.05
NIR4	500-580	2400	80	0.039	0.12	0.08	0.04
UVN-SR	200-1100	* 300	900	0.440	1.50	1.00	0.50

EPP2000 Standard Models		* dual-blaze enhanced model			Predicted Slit Resolutions		
EPP2000 Model	Wavelength Range in nm	Grating g/mm	Slit-200 nm res.	Slit-100 nm res.	Slit-50 nm res.	Slit-25 nm res.	Slit-14 nm res.
C / CXR	190-850/280-900	Concave	6.0	3.0	1.5	0.85	0.75
CXR-SR	230-1100	* Concave	8.0	4.0	2.0	1.50	1.30
UV	200-600	1200	3.0	1.6	0.8	0.50	0.40
UV2	200-400	2400	1.5	0.8	0.4	0.25	0.20
UV3	220-350	3600	1.0	0.5	0.25	0.16	0.13
VIS	350-1150	600	6.0	3.2	1.6	1.00	0.80
NIR	500-1200	600	6.0	3.2	1.6	1.00	0.80
NIR2	600-1000	1200	3.0	1.6	0.8	0.50	0.40
NIR2b	785-1200	1200	3.0	1.6	0.8	0.50	0.40
NIR3	550-840	1800	2.2	1.2	0.6	0.35	0.28
NIR3b	680-935	1800	2.2	1.2	0.6	0.35	0.28
NIR4	500-700	2400	1.5	0.8	0.4	0.25	0.20
NIR4b	600-800	2400	1.5	0.8	0.4	0.25	0.20
UVN	250-1100	* 600	6.0	3.2	1.6	1.00	0.80
UVNb	200-1050	* 600	6.0	3.2	1.6	1.00	0.80



EPP2000-NIR4-HR > HgA Emission Spectra



EPP2000-NIR2-HR > LG Plasma Emission



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