



Enwave Optronics, Inc.

ProRaman-I Series

INDUSTRIAL PROCESS RAMAN ANALYZERS

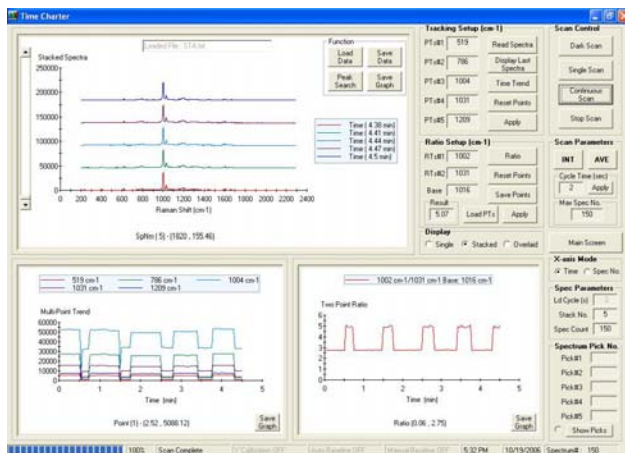
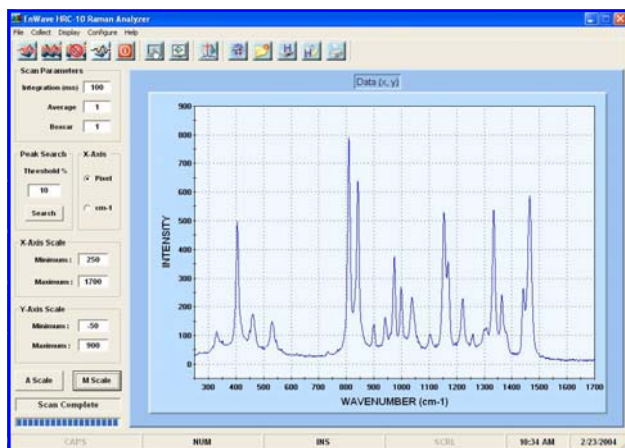
The new **ProRaman-I** Series are industrial process Raman instruments suitable for industrial applications or laboratory experiments requiring an affordable, high sensitivity Raman instrument.

The ProRaman-I systems each feature a 785nm frequency stabilized laser, a high sensitivity CCD spectrograph with CCD cooled to -60°C , and a high throughput immersible fiber optic probe. The system achieves $\sim 7\text{ cm}^{-1}$ averaged optical resolution with spectral coverage from ~ 250 to $2,350\text{ cm}^{-1}$.

ProRaman-I systems are ideal for on-line process monitoring and for any academic, research, pharmaceutical, industrial laboratories requiring an affordable, high performance Raman system.



Sample Screen Shots



SYSTEM FEATURES

- High Sensitivity Raman System for Laboratory & Industrial Process Monitoring
- High Power, NIR, Frequency Stabilized, Narrow Linewidth Excitation Source
- CCD Cooled to -60°C
- Averaged Optical Resolution $\sim 7\text{cm}^{-1}$, Spectral Coverage $\sim 250\text{-}2,350\text{ cm}^{-1}$
- Immersible Fiber Optic Probe (O.D. > 8)
- Best Performance / Cost
- Optional 21CFR Part11 Compliant Software available

SPECIFICATIONS

EXCITATION SOURCE	NIR, Frequency Stabilized, Narrow Linewidth Diode Laser Wavelength Accuracy: 785 nm Laser Power: ~400mW (Higher Output Power Available Upon Request) Estimated Laser Lifetime: > 10,000 Hours Laser Shutter Control
IMMERSIBLE FIBER PROBE	Working Distance: 7 mm (Standard), 3mm and 10 mm (Optional) Rayleigh Rejection: O.D. > 8 at Laser Wavelength
CCD SPECTROGRAPH	F2 High Sensitivity CCD Spectrograph TEC cooled CCD camera (-60°C) 16 Bit Digization Spectral Coverage: ~250cm ⁻¹ to 2,350 cm ⁻¹ Standard Average Optical Resolution: ~7 cm ⁻¹ (785nm laser) Nominal Resolution: ~1.2 cm ⁻¹ /pixel
SYSTEM SOFTWARE	Data Acquisition and Spectra Management Software Data Files Can Be saved as .TXT, .SPC, .DAT, or .BMP Formats Direct Export to GRAMS or Excel for Post Processing and Modeling Time Chart with Stacked, Overlaid, and Single Spectrum Display Modes Time Trend and Ratio Calculate in Time Chart Mode Auto Base Line, Manual Base Line Optional Symbion-RX Software for Pharmaceutical on-line process control applications (21CFR Part11 Compliant)
SYSTEM OPERATING TEMPERATURE/ PROTECTION	10°C - 40°C With Thermal Shutdown Protection
POWER REQUIREMENTS	90V AC to 264V AC Auto-Switched, 47Hz to 67Hz
DIMESIONS (L x W x H)" WEIGHT	18.25" x 11" x 8" ~ 30 LBS
SYSTEM WARRANTY	One Year for Parts and Labor

Made in USA

Specifications are subject to change without notice.

Appropriate safety guidelines should be followed when operating this instrument. Complies with 21 CFR 1040.10 and 1040.11