

Low Cost & Research Grade Raman Spectrometer Systems

StellarNet, Inc. has released a series of low cost and research grade spectrometer systems configured for Raman applications that perform quick identification of a variety of liquid, solid, or powder samples.

StellarNet Raman System Features

- Compact & Research Grade for quick ID for a variety of liquid, solid, or powder samples
- Raman Systems include a high performance Raman spectrometer, High power Laser, and Raman probe
- Standard Raman wavelengths include 532, 785, and 1064nm with many custom options such as 405, 633, 637, 648, 830nm! – Contactus@stellarNet.us for more options
- SpectraWiz ID Raman Library with Save and Search functionality included FREE!
- Microscope Accessory Pack available for micro Raman applications as well as affordable SERS strips for trace substance analysis



Raman Systems include a high performance Raman spectrometer, High Power Laser, and Raman probe - [Buy Online!](#)

Raman Lasers

RAMULASER™ Raman Laser

- 785 & 1064nm Standard Wavelengths
- Couples easily to Raman probe and spectrometer
- Battery powered in Ruggedized metal case
- Raman Laser line 0.2nm FWHM over 50-100 deg F
- 499mWatt output with adjustable power

RAMULASER for Vials

- 785nm RAMULASER configured with vial holder in place of FC/APC
- Screw top vials handle both liquid, powder, and small solids such as pills
- Reduces cost & eliminates probe

Raman Laboratory Lasers

- Custom Raman Wavelengths
- Interchangeable Modules

Raman Spectrometers

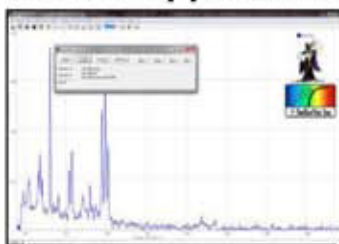


Raman-HR-TEC spectrometers include enhanced CCD array detectors for 785nm, 532nm, or a variety of custom wavelengths. They include advanced

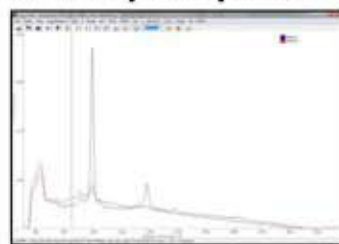
detector lens assemblies and a thermoelectric detector cooler (TEC) for enhanced sensitivity. The **Raman-HR-TEC-X2** is a new Raman spectrometer with a 2-stage detector TEC with -30 degree cooling from ambient for eXtreme noise reduction of over 80% at long exposures.

The **Raman-HR-TEC-IG** spectrometer includes a super cooled InGaAs photodiode array for 1064nm Raman where interference from sample fluorescence is minimized and virtually non-existent.

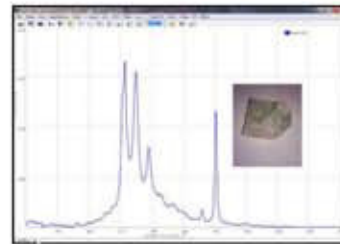
Raman Applications & Sample Spectra



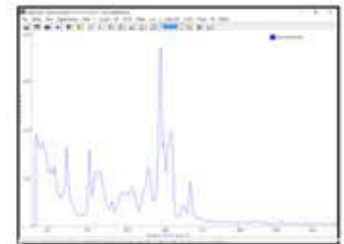
785nm Raman System
Maltol Demo Sample



532nm Raman Spectra of
Graphene & Graphite samples



785nm Raman Analysis of
Gemstones - Fluorite



1064nm Raman of an Alev
Gellab - minimize fluorescence

Raman System Accessories

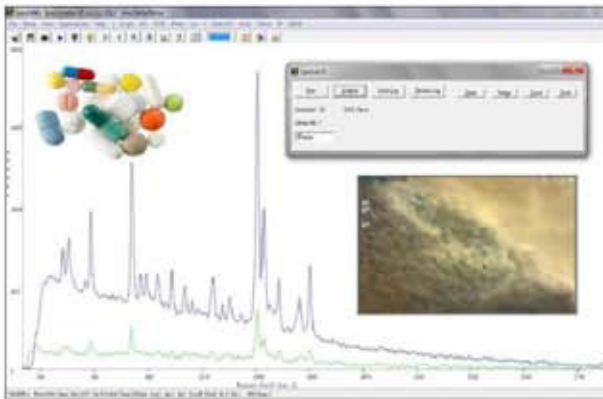
Fiber Optic Raman Probe & Probe Holder

- Connects to 785nm Laser accessory via FC/APC fiber optic connector and spectrometer via SMA 905
- Rigid probe length is 100mm with integrated Raman filters for 200 cm^{-1} and f/2 collection optics
- Excitation fiber is 100um diameter and read fiber to spectrometer is 600um core diameter
- Probe diameter is 4mm with 2 meter fiber length and has laser blocking switch for simple reference
- Integrated filters for laser line (with O.D. > 6) and notch filter to remove quartz spectral contributions
- Working distance to sample is 4.5mm with field depth of +/- 1mm for penetration of sample container (additional lens options available)
- Required probe holder for solids like pills or vials (1/2 inch diameter with lids) for liquids and powders

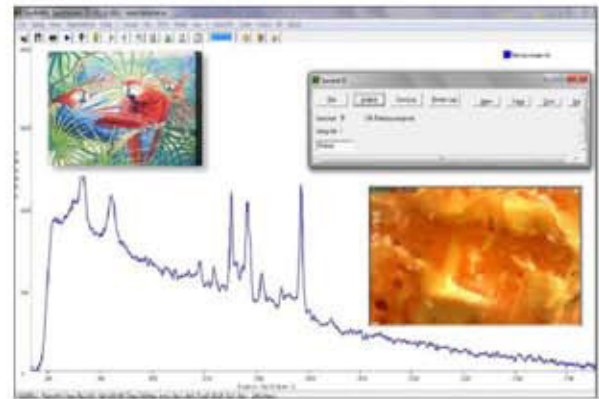


StellarSCOPE Microscope Accessory- [more info](#)

- Couple Spectrometers & Light Sources to high performance Microscopes
- Perform Raman on a micro spot and capture high resolution images, video, and time lapse video
- System equipped with an Olympus research microscope with 4, 10, & 40x objectives, CMOS 1.3 Mpixel Camera, optical switch, and required SMA couplers & attachment accessories for your specific application



Raman Spectra of Pharmaceutical Testing – Additional applications include counterfeit detection & unknown narcotics screening



Art Authentication- StellarSCOPE @ 10x zoom coupled to a 785nm Raman Spectrometer allows art experts to analyze for sample chemical composition & authenticity.

Specification

Raman Configured Spectrometers

Optical Resolution:	4 cm^{-1} or 8 cm^{-1} (range dependent)	Dimensions:	1x3x5 inch (smallest)
Signal to Noise:	1000:1, TEC option >80% noise reduction	Weight:	14 ounces
Detector Type:	Enhanced CCD or InGaAs 512/1024p	Power Consumption:	<100mA , 5VDC for TECs
Diffraction Gratings:	1200 g/mm with gold surface	Fiber Optic Input:	SMA905
Spectral Range @785nm	200-2200 cm^{-1} -or- 200-3200 cm^{-1}	Interface:	USB-2
Stray Light:	<0.05%	Operating Systems:	WinXP, Vista, Win7, 8, 10
Exposure Times:	to 20sec -or- to 60 sec w/ TEC	Software:	SpectraWiz, LabView,

* Above specs are for typical Raman configured spectrometers. Certain wavelengths may differ.

Item

Description

Raman-SR	Raman Standard Resolution for 200-3200 cm^{-1} @ 785nm with 8 cm^{-1} resolution via CCD
Raman-HR-TEC	Raman High Resolution for 200-2200 cm^{-1} @ 785nm with 4 cm^{-1} resolution. Enhanced CCD with TEC for -15 deg and 50% noise reductions at long exposures (>3seconds)
Raman-HR-TEC-X2	Raman High Resolution & eXtreme Sensitivity for 200-2200 cm^{-1} @ 785nm with 4 cm^{-1} resolution. 2-Stage TEC for -30 deg and >80% noise reduction at long exposures.
Raman-SR-TEC-IG	Standard Res for 200-3500 cm^{-1} @ 1064nm with 16 cm^{-1} resolution 512 pix IG PDA + TEC
Raman-HR-TEC-IG	High Res for 200-3500 cm^{-1} @ 1064nm with 8 cm^{-1} resolution via PDA with TEC cooled 1024 pixel InGaAs photodiode array. Minimize fluorescence via 1064nm laser!