

## Modular Raman Spectrometers



Flexible Raman Spectrometers  
from the Raman Experts

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## Flexible and Affordable Raman Spectrometers

The new range of modular Raman spectrometers from HORIBA Scientific allows the user to have a flexible Raman system to handle high performance spectroscopy at a price that fits most budgets.

The modular spectrometer can be used with HORIBA Scientific's own range of dedicated Raman sampling options such as the Superhead Raman probe or Fiber-Microscope system, as shown.

## Fiber-Coupled Confocal Microscope

HORIBA Scientific's Raman Confocal Microscope is coupled via a fiber optic cable to the laser (direct coupling also available) and spectrometer. The microscope contains the required notch filter(s) for your laser(s), an adjustable confocal aperture, a set of three objectives (10x, 50x, 100x) and a color video camera for easy alignment and focus.

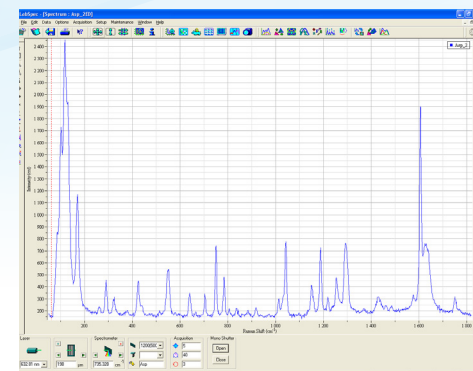
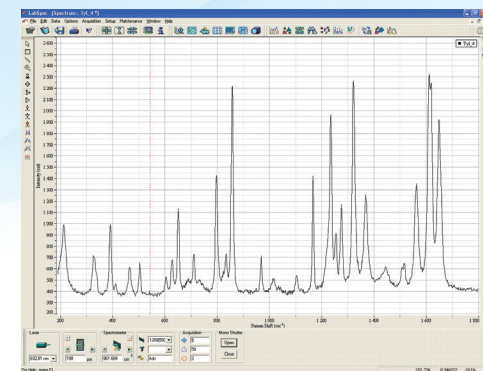


## Superhead Raman Probes

HORIBA Scientific's modular Raman systems are compatible with a wide range of Superhead fiber-based Raman probes for specialized measurements.

These include:

- Non-Contact Remote Probes
- Video Probes
- Immersion Probes



Raman Spectra of acetaminophen (left) and ibuprofen (right) taken with an RMS-320 and a Fiber Optic Microscope with a 633 nm laser.

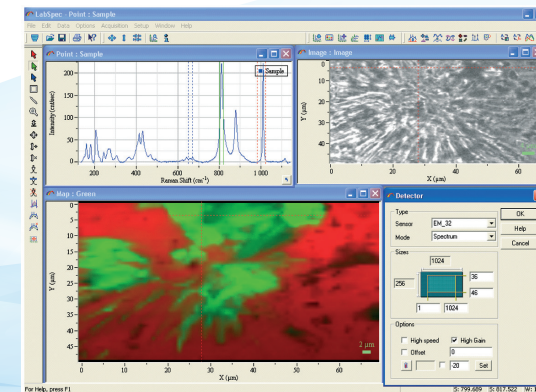


## iHR Spectrometer

HORIBA Scientific's modular Raman systems are based around our high sensitivity iHR series spectrometers. A choice of spectrometer focal lengths of 320 mm or 550 mm allows the system resolution to be matched to your experiment.

- Low Stray Light & No Re-diffracted Light
- Flexible Configurations
- CCD and PMT Compatible
- Upgradable Spectrometer Platform for Your Lab

## Dedicated Raman Software



resolution research Raman instruments.

Advanced Raman Spectroscopy features include:

- Simple Spectrometer Control
- XY Mapping (Optional)
- Laser Safety Shutter Control

The high precision spectrometers, high sensitivity CCD detectors, optimized gratings and sampling optics enable the core spectrometer building blocks to evolve to cover the broadest range of applications. With the modular spectrometer system design, this system can expand to cover any spectroscopic measurement as your experiments evolve.

## Synapse™ CCD

HORIBA Scientific's Synapse is a high speed CCD detector that provides high sensitivity and low noise for Raman measurements. The Synapse CCD is cooled by high performance TE cooling for maximum sensitivity without the need for liquid nitrogen.

- High Sensitivity & Low Noise
- Excellent Linearity
- High Speed USB Interface
- Auxiliary Signal Input





## Specifications:

### Modular Raman Systems Configuration:

- iHR Spectrometer with set of three gratings
- Sincerity CCD, Open Electrode, TE-Cooled (other models optional)
- Fiber Optic Interface to Spectrometer and Laser
- Direct laser coupling to Spectrometer Optional
- 1 set of 2 optical fibers (50  $\mu$ m laser input to microscope, 100  $\mu$ m Raman signal, 5 m long, UV/Vis)
- 1 set of Injection/Rejection edge filter choice of 532 nm, 632.8 nm or 785 nm (Notch filters optional)
- Set of 3 microscope objectives: 10X, 50X, 100X (visible)
- Microscope with manual stage with internal viewing camera and light source
- Motorized Stage Optional
- Available configuration with Raman Probes
- Optional lasers: 532 nm, 632.8 nm, or 785 nm
- LabSpec Raman data acquisition and processing software
- Other configurations available upon request

### MRS-320 Raman System

Includes Full Modular Raman Package with iHR320 320mm focal length spectrometer

Specification at Laser Wavelength, 1800 g/mm grating	532 nm	632.8 nm	785 nm
Recommended Gratings	1800 g/mm 1200 g/mm 600 g/mm	1800 g/mm 1200 g/mm 600 g/mm	1800 g/mm 1200 g/mm 600 g/mm
Spectral Range (cm <sup>-1</sup> )*	100 – 7700	100 – 4700	100 – 3400**
Resolution (cm <sup>-1</sup> /pixel)	1.22	0.78	0.40

### MRS-550 Raman System

Includes Full Modular Raman Package with iHR550 550mm focal length spectrometer

Specification at Laser Wavelength, 1800 g/mm grating	532 nm	633 nm	785 nm
Recommended Gratings	1800 g/mm 1200 g/mm 600 g/mm	1800 g/mm 1200 g/mm 600 g/mm	1800 g/mm 1200 g/mm 600 g/mm
Spectral Range (cm <sup>-1</sup> )*	100 – 7700	100 – 4700	100 – 3400**
Resolution (cm <sup>-1</sup> /pixel)	0.73	0.47	0.25

All specifications are based on the grating and a 1024x256 Open Electrode CCD with 26 micron pixels, and are subject to change without notice. Systems with different groove density gratings and CCDs will have different performance specifications.

\*Spectral Range is based on the edge or notch filter's ability to reject the laser line and the usable spectral range of the CCD.

\*\*With 1200 g/mm grating



[info.sci@horiba.com](mailto:info.sci@horiba.com)

[www.horiba.com/scientific](http://www.horiba.com/scientific)

**HORIBA**  
Scientific

**USA:** +1 732 494 8660  
**UK:** +44 (0)20 8204 8142  
**China:** +86 (0)21 6289 6060

**France:** +33 (0)1 69 74 72 00  
**Italy:** +39 2 5760 3050  
**Brazil:** +55 (0)11 5545 1500

**Germany:** +49 (0)89 4623 17-0  
**Japan:** +81 (0)3 6206 4721  
**Other:** +1 732 494 8660