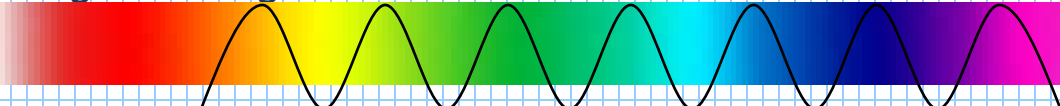




RamSpec™-1064nm Raman System

Long-wavelength NIR Raman Instrument



Applications:

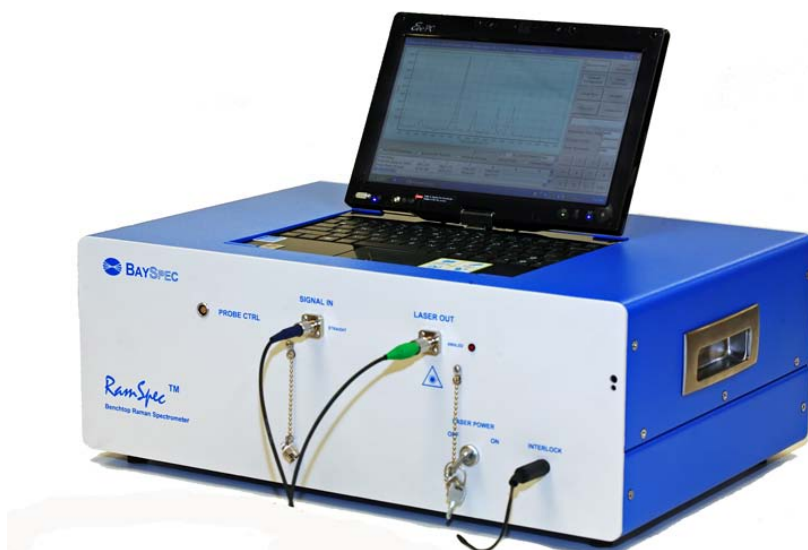
- Minimize fluorescence interference
- Measurement of biological samples, such as tissue and skin
- FT-Raman replacement
- Scientific research
- Cultural heritage Inspection/Study
- Didactic learning
- in vivo or in vitro medical applications
- Forensics
- Drug screening
- Mineralogy
- Petrochemical
- Pharmaceuticals
- Many more...

BaySpec's *RamSpec™* series NIR long-wave Raman Systems are designed to meet real-world challenges for best-in-class performance, long-term reliability, compact size and ultra-low fluorescence interference for Raman instrumentation of biological samples such as tissue and skin. Benefiting from experience manufacturing high-volume spectral monitoring devices for the telecommunications industry, BaySpec's NIR spectral devices utilize low-cost field proven components. For the first time in instrumentation history an affordable, accurate and ruggedized Raman spectral engine is a reality.

The *RamSpec™* Series employs a highly efficient *Volume Phase Grating (VPG®)* as the spectral dispersion element and an ultra sensitive InGaAs array detector as the detection element, thereby providing high-speed parallel processing and continuous spectrum measurements. As an input, the device uses a fiber optic bundle or slit optics arrangement based on customer preferences. The signal is spectrally dispersed with the VPG® and the diffracted light is focused onto an InGaAs array detector. The control electronics read out the processed digital signal to extract required information. Both the raw data and the processed data are available to the end user.

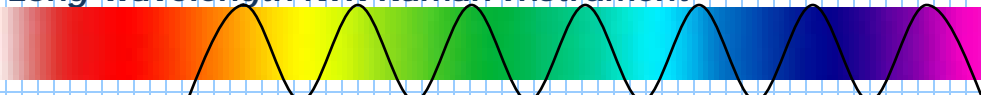
Key Features:

- Real-time spectral data acquisition with milli-sec response time
- Stable fiber laser illumination
- Outstanding optical throughput with VPG® and f/1.8 design
- Wavelength ranges from 1064-1720 nm (up to 3200 cm^{-1})
- Optimized for 1064 nm excitation laser for reduced fluorescence interferences on biological samples
- Deep cooled camera for low light detection
- Coaxial small form factor Raman probe with internal filters and coatings to suppress unwanted light signals
- Camera, spectrograph, laser, probe, swivel-Notebook computer
- *Micro 2020* Windows-based software integrated for turn-key operation



RamSpec™ – 1064nm Raman System

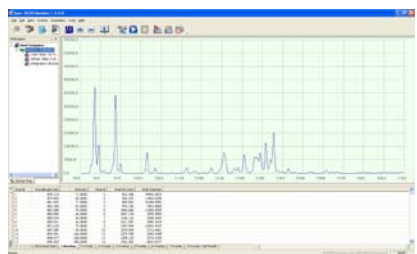
Long-wavelength NIR Raman Instrument




Parameter	Specification
PERFORMANCE	
Wavelength Range	1064 -1700 nm or customer specified
Wave Number	300 to 3200 cm^{-1}
Resolution	8 cm^{-1} @512
Signal / Noise	6000:1
Stray light	0.05%
Wavelength Calibration	Optional Factory Calibrated
Integration time	20ms to 300 seconds
Dimensions	17 x 12 x 7 in ³ (432 x 305 x 178 mm ³)
Weight	25 lbs. (11 kg)
Power consumption	<25 W
OPTICS	
f/ number	f/1.8
Grating	Custom Volume Phase Grating (VPG) [®]
Entrance Aperture Slit / Fiber Optic	Slit: 25 μ , 50 μ , 100 μ , 200 μ ,etc Fiber optic: FC/APC, or custom design
LASER	
Power	400 mw- 1064 nm
DETECTOR SPECS	
Detector array	25 μm x 512
Avg. array response @ λ_{pk} Min.	11nV/photon
Readout noise	900 electrons/scan typical
Dark noise	15 counts RMS
Saturation charge (Typical)	5X10 ⁶ electrons
Detector Gain	400nV/electron typical
Detector	4 stage TE cooled InGaAs
A/D converter	16 bit
Power	2 A@5 v
COMPUTER	
Battery Backup	2 hours
Data Ports	USB 2.0
Trigger modes	Software Controlled
Software	Windows 2000 or later

- Key design benefits:**
- High throughput transmission Volume Phase Grating (VPG)[®]
 - Fast f/1.8 optics
 - No moving parts
 - High signal/noise
 - Minimal sample preparation
 - Fast baseline correction

BaySpec "Micro 20/20" GUI Software included for ease of integration

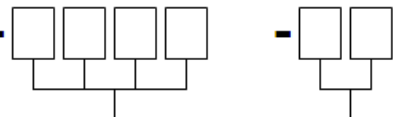


BaySpec's "Micro 20/20" software is included with purchase at no charge, offering an intuitive, Windows-based software package with flexible data acquisition, processing and output functionalities

Includes DLL driver and software development kit for creation of new applications and output to leading software packages

Specifications are subject to change without notice

Ordering Information

BRAM - 

Code	Excitation λ	Code	Resolution
532	532 nm	05	5 cm^{-1}
785	785 nm	08	8 cm^{-1}
1064	1064 nm	16	16 cm^{-1}
xxxx	Custom	xx	Custom

Please specify the starting wavelength i.e. :

