

i-RAMAN Plus

Raman Solution

Highly Sensitive, High Resolution Fiber Optic Raman System



The i-Raman® Plus is part of our award winning line of i-Raman portable Raman spectrometers powered by our innovative smart spectrometer technology. Using a high quantum efficiency CCD array detector with deeper cooling and high dynamic range, this portable Raman spectrometer delivers an improved signal to noise ratio for up to 30 minutes of integration time, making it possible to measure weak Raman signals. The i-Raman Plus features the unique combination of wide spectral coverage and high resolution with configurations measuring from 65 cm⁻¹ to up to 4200cm⁻¹. The system's small footprint, lightweight design, and low power consumption provide research grade Raman capabilities anywhere. The i-Raman Plus comes standard with a fiber optic probe, and can be used with, a cuvette holder, a video microscope, an XYZ positioning stage probe holder and our proprietary BWIQ® multivariate analysis software and BWID® identification software. With the i-Raman Plus, a high precision qualitative and quantitative Raman solution is at your fingertips.

Applications:

- Art and Archaeology**
- Bioscience and Medical Diagnosis**
- Pharmaceutical Industry**
- Raman Microscopy**
- Polymers and Chemical Processes**
- Environmental Science**
- Forensic Analysis**
- Gemology**
- Geology and Mineralogy**
- Food & Agriculture Industry**
- Semiconductor & Solar Industry**
- Narcotics**
- SERS**

SENSITIVE:

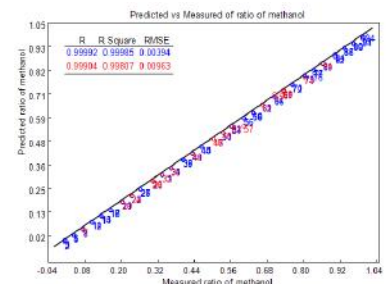
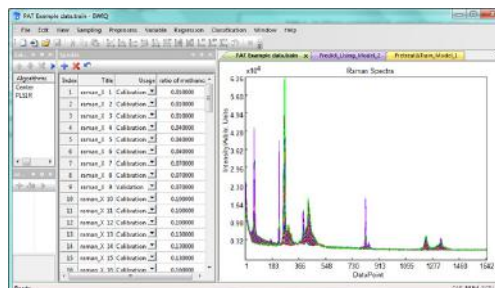
High quantum efficiency CCD array detector with deeper cooling and high dynamic range.

COMPREHENSIVE:

Our comprehensive package of sampling accessories for measuring solid and liquid samples provide you the utmost utility right out of the box.

QUANTITATIVE:

Our state of the art BWIQ® Raman data analysis software package provides an intuitive user interface, intelligent algorithms, and efficient matrix calculation power, making it easy to use by both expert and novice users to develop quantitative and qualitative chemometric models.



Specifications:

Laser	Exiting Probe	At Laser Port
532nm Excitation	30 mW, nominal	42 mW, nominal
785nm Excitation	340 mW, nominal	455 mW, nominal
Laser Power Control	0 to 100% (adjustable at 1% increments)	
Spectrometer	Range**	Resolution*
BWS465-532S	(65 opt.) 150 - 4200cm	< 4.5 cm ⁻¹ @ 614nm
BWS465-532H	(65 opt.) 150 - 3400cm	< 3.5 cm ⁻¹ @ 614nm
BWS465-785S	(65 opt.) 150 - 3350cm	< 4.5cm ⁻¹ @ 912nm
BWS465-785H	(65 opt.) 150 - 2800cm	< 3.5cm ⁻¹ @ 912nm
Detector		
Detector Type	High quantum efficiency CCD Array	
CCD Temperature	-2°C	
Integration Time	100 ms - 30 mins	
Electronics		
Computer Interface	USB 3.0 / 2.0	
Trigger	Yes (Compatible with B&W Tek Probes)	
Power Options		
DC Power Adaptor	12V DC @ 6.6 Amps	
Battery	Optional	
Physical		
Dimensions	6.7 in x 13.1 in x 9.5 in (16.9 cm x 33.3 cm x 24.2 cm)	
Weight	~11.0 lbs (~5.0 kg)	
Operating Temperature	0°C - 35°C	
Humidity	10% - 85%, non-condensing	

*Resolution measured using atomic emission lines. Raman resolution per ASTM Standard Guide (Testing the Resolution of a Raman Spectrometer, E2529-06) available upon request.

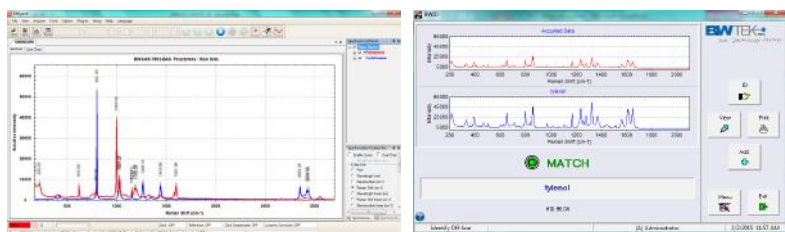
** Options for 65 cm⁻¹ starting range

Software:

B&W Tek offers comprehensive software packages that provide solutions for Raman application needs. Powerful calculations, easy data management, and user-friendly, easy-to-follow work flow are all at the tips of your fingers.

BWSpec® is the foundation for all B&W Tek software platforms. It is general spectroscopic software for instrument control, data acquisition, including real-time peak analysis and trending. The optional BWID® software is optimized for rapid identification and verification of materials with spectral libraries. For Raman applications in regulated environments, BWID Pharma software supports requirements for FDA 21 CFR Part 11 Compliance.

B&W Tek's software portfolio also includes BWIQ®, a multivariate software package for qualitative and quantitative analysis of spectral data. BWIQ supports chemometric methods such as Partial Least Squares Regression (PLS), Principal Component Analysis (PCA) and Support Vector Machine (SVM) and a full suite of preprocessing tools. Models can be used for real-time predictions from BWIQ directly. The BWIQ® chemometrics software package is ideal for online use with the i-Raman® Plus for real-time prediction and offline use for analysis of high resolution spectroscopic data.



Features:

- Patented CleanLaze® Technology for Laser Stabilization
- Rayleigh line cut-off as low as 65 cm⁻¹ for low frequency modes
- Fiber Optic Coupling for Convenient Sampling

Accessories (Included):

- Fiber Optic Raman Trigger Probes
- Laser Safety Goggles



Accessories (Optional):

- Battery
- Cuvette holder
- Tablet holder
- A range of long working distance lenses (up to 6 meters)
- Probe holder and XYZ positioning stage
- Industrial Raman immersion probe shaft
- Microscope adaptor
- Video microscope
- Performance testing kit, including liquid vial holder
- Raman flow cell
- BWID® acquisition and identification software



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