i-RAMAN Plus

B&W TEK
A Metrohm Group Company

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 3400 cm^{-1}. The system's small footprint, lightweight design, and low power consumption provide research grade Raman capabilities anywhere. The i-Raman Plus comes equipped 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:

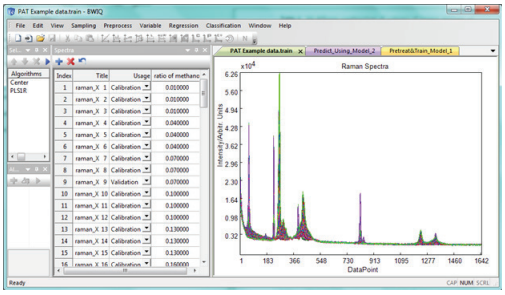
High quantum efficiency CCD array detector with deeper cooling and high dynamic range.

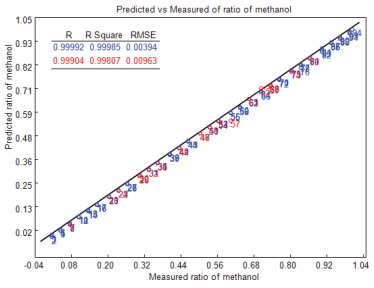
COMPREHENSIVE:

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***
BWS465-532H	65 - 3400cm^{-1}	< 3.5 cm^{-1} @614nm
BWS465-785S	65 - 3350cm^{-1}	< 4.5cm^{-1} @ 912nm
BWS465-785H	65 - 2800cm^{-1}	< 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.*

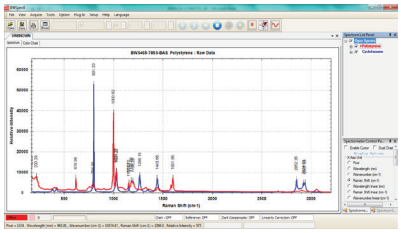
Software:

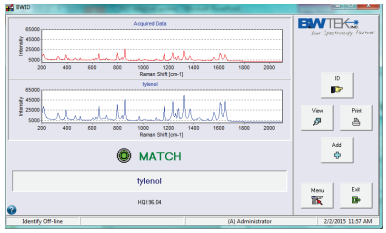
B&W Tek offers comprehensive software packages that provide solutions for Raman application needs. Powerful calculations, easy data management, and user-friendly, easy-to-follow work flow are all at the tips of your fingers.

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.

Vision is a comprehensive software that provides instrument control, data acquisition, data storage, method building, and routine analysis in a single package. Complete system performance can be tested with the click of a button.

B&W Tek's software portfolio also includes BWIQ®, a multivariate software package for qualitative and quantitative analysis of spectral data. BWIQ includes chemometric methods such as Partial Least Squares Regression (PLS), Principal Component Analysis (PCA) and Support Vector Machine (SVM) regression, a full suite of preprocessing tools, and extensive graphics for model interpretation.





Features:

Patented CleanLaze® technology for laser stabilization

Rayleigh line cut-off of 65 cm^{-1} for low frequency modes

Fiber-optic coupling for convenient sampling

Accessories (Included):

Fibe-optic Raman trigger probes
Laser safety goggles
Polystyrene validation cap

Accessories (Optional):

Battery
Cuvette holder
A range of long working distance lenses (up to 6 meters)
Probe holder and XYZ positioning stage
Industrial Raman immersion probe shaft
Video microscope
Raman flow cell
BWID® acquisition and identification software

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