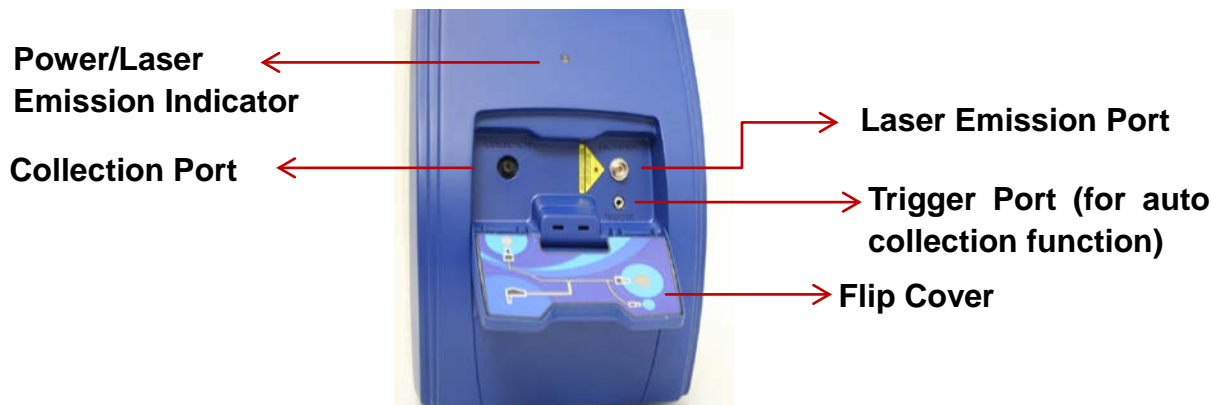


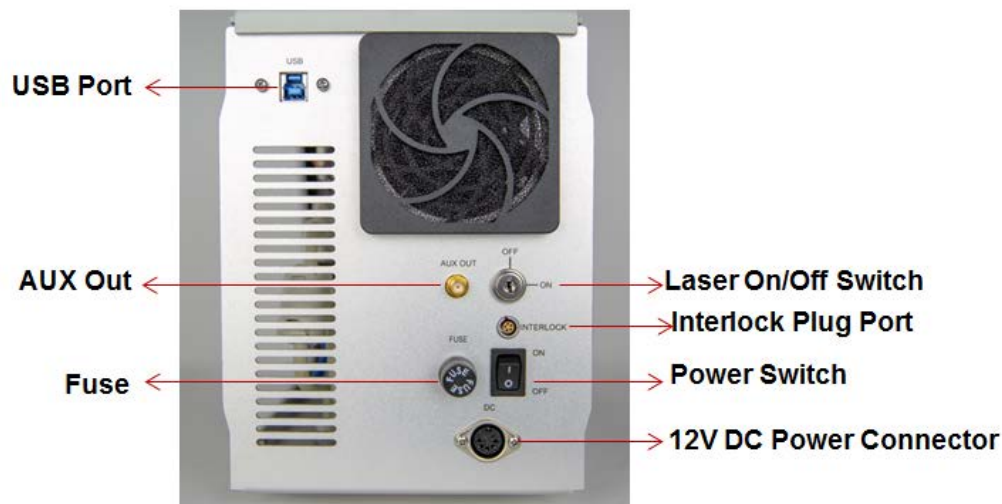
i-Raman® Plus Quick Start Guide

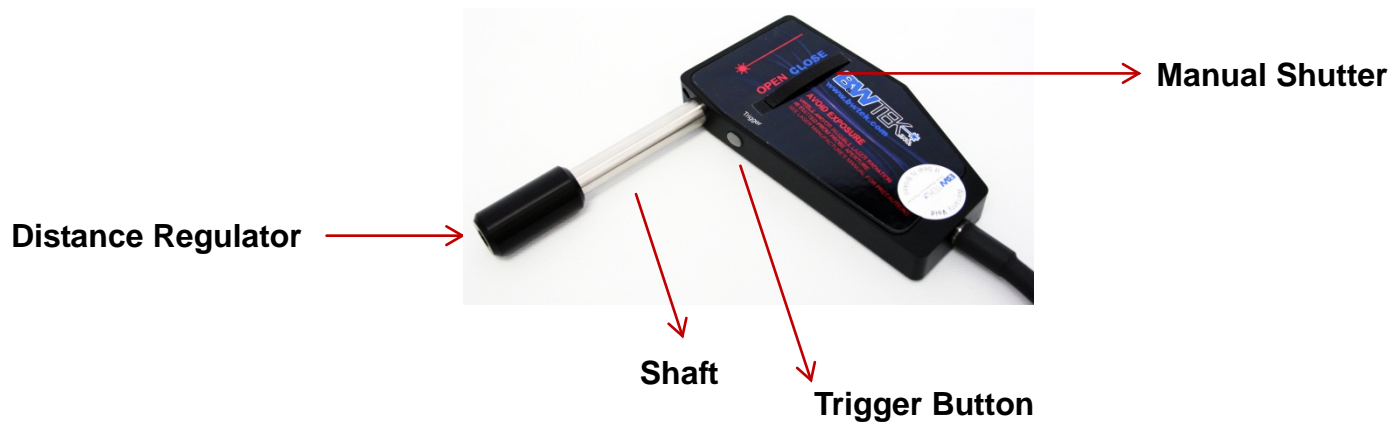
For full operating instructions please refer to the i-Raman Plus portable system User Manual (290020245).



Diagrams of the i-Raman Plus







Hardware Installation

Connect probe to front panel.



Make sure FC connector to Laser Emission Port is in key-in position

! DO NOT push the connectors into the ports too hard – this will damage the optics



Pull off distance regulator for liquid sample test with cuvette holder.



Use BAC150 stage for solid and powder sample tests.



Testing powder through a plastic bag.



Direct contact measurement of pigments on a statue/wall.

Connect Interlock



Align two red dots in one line. Gently push the plug into the receptacle until you hear a “click” sound, which suggests the locking finger is now locked into the locking groove located inside the receptacle.

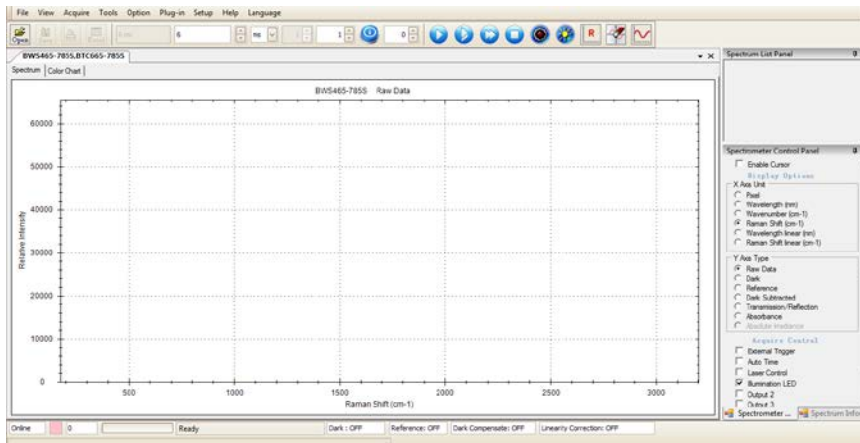
Remove interlock.



Pull on the outer housing (**NOT** the cable or back nut), which will cause the locking finger to disengage from the locking groove, and the plug can be removed. When the safety interlock plug is removed from the system, all electrical power to the laser will be turned off. The safety interlock **MUST** be inserted before the laser can be turned on. Laser emission will stop if the interlock is removed while the laser is on.

Software Startup

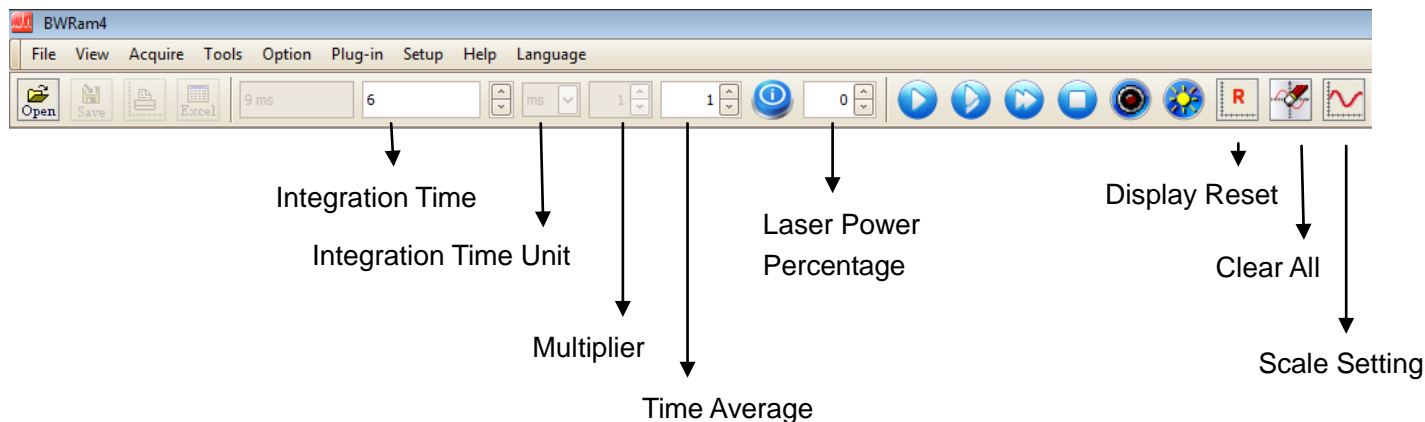
Please follow the user manual to install BWSpec. When the software is first opened set the workspace to Raman.



Software Status Online

19 Shea Way, Newark, DE 19713, USA • Tel: +1 (302) 368-7824 • Fax: +1 (302) 368-7830 • Web: www.bwtek.com

Software Interface



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Laser On/Off Button



Indicates laser is on



Acquire One Spectrum



Acquire Overlay



Acquire Continuously



Acquire Dark Scan (Laser shuts off automatically)

☐ Enable Cursor ☐ Dual Chart

Display Options

X Axis Unit

☐ Pixel

☒ Raman Shift (cm-1)

☐ Raman Shift linear (cm-1)

Y Axis Type

☐ Raw Data

☐ Dark

☒ Dark Subtracted (Processed)

Acquire Control

☐ External Trigger

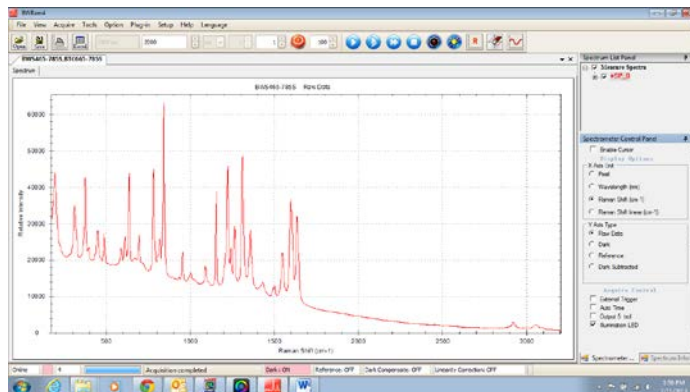
☐ Auto Time

Spectrum x-axis unit is set as "Raman Shift".

Spectrum type is selected for display: "Raw Data" or "Dark Subtracted" if dark scan is already taken.

Before testing, please confirm:

- Power supply is on
- Interlock is plugged in
- Laser key is switched on
- Probe shutter is in open position
- Software status is online



Steps:

1. Set suitable integration time (generally thousands of milliseconds). Adjust it until the highest peak is around 50000 counts.
2. Take dark scan, and then take additional scan of the sample. Be sure spectrum type is set to "Dark Subtracted" if dark scan is applied.
3. Save data as .txt or .spc (as preferred).

Warning:

- ✧ Be sure to wear laser goggles at all times and avoid looking into laser beam.
- ✧ Turn off fluorescent lamp or any ambient light which would bring noise signals into spectrum.
- ✧ Lower the laser power if sample is dark or thermo-unstable such as plastics and explosives.

Strong Raman Signal Given:

Active Pharmaceutical Ingredients; Alcohols; Antibiotics; Antioxidants; Buffers; Coatings; Dilutants; Emulsifiers; Excipients; Lubricants; Preservatives; Solvents; Vitamins; Monomers and Polymers; Organic Materials; Polyatomic Inorganics (i.e. Calcium Phosphate, Sodium Bicarbonate & Titanium Dioxide)

Weak Raman Signal Given:

Materials that are Dark in Color; Highly Fluorescing Molecules; Fillers/Binding Agents; Thin Walled Plastics; Water; Glass

No Raman Signal Given:

Black Materials; Metals; Mono-atomic Ions