



# Fiber-based High Resolution Raman System ( $< 0.5 \text{ cm}^{-1}$ )

The Fiber-based High Resolution Raman System, which incorporates an Acton 750 mm focal length spectrograph and a Princeton Pixis 2KB-eXcelon back-illuminated CCD camera, offers a resolution of  $< 0.5 \text{ cm}^{-1}$ . With its triple grating turret, the system can be interchanged to use with a 532 nm, 632 nm, 785 nm, or other wavelength laser. The fiber coupling to the entrance slit of the spectrograph, together with various Raman sampling options, allows convenience for macro/micro sampling and easy-of-use to switch lasers. It is an ideal tool for laboratories as well as for on-line monitoring.

## Features and Specifications:

Item	Description	Features/Specifications
<b>SP 2756</b>	<ul style="list-style-type: none"> <li>Acton SP-2756 Spectrograph</li> <li>Slit Shutter SP-2750</li> <li>Holographic Grating 1-240-HVIS</li> <li>Ruled Grating 1-180-500</li> <li>Ruled Grating 1-120-750 gold coating</li> <li>Adjustable fiber adapter-FC-446-020</li> </ul>	<ul style="list-style-type: none"> <li>750 mm focal length</li> <li>Micrometer controlled entrance slit</li> <li>Triple grating interchangeable turret</li> <li>Internal Entrance Slit Shutter</li> <li>68 x 68 mm 2400 G/mm VIS optimized</li> <li>68 x 68 mm 1800 G/mm, 500 nm blazed</li> <li>68 mm x 68 mm 1200 G/mm, 750 nm blazed</li> <li>Horizontally adjustable fiber bundle adapter</li> </ul>
<b>2KB-eXcelon</b>	<ul style="list-style-type: none"> <li>Princeton PIXIS: 2KB-eXcelon CCD camera system</li> <li>Permanent Vacuum Guarantee</li> <li>Scientific Grade 1 CCD chip</li> <li>Image area</li> <li>Deep cooling</li> <li>Dual speed digitizer</li> <li>System read noise @100 kHz @2 MHz</li> <li>Dark current @ -70°C</li> <li>Software selectable gains</li> <li>I/O signals</li> </ul>	<ul style="list-style-type: none"> <li>Higher QE in the UV and near IR regions</li> <li>Extremely low etaloning</li> <li>100x lower dark charge than back-illuminated deep depletion</li> <li>Life time guarantee</li> <li>2048 x 512 13.5 x 13.5 mm back-illuminated</li> <li>27.6 x 6.9 mm</li> <li>Forced air TE-cooled (-75°C)</li> <li>16-bit, 2 MHz and 100 kHz read out</li> <li>3.5 e- rms (typical), 6 e- rms (max)</li> <li>14 e- rms (typical), 20 e- rms (max)</li> <li>e-/p/sec (typical); 0.006 e-/p/sec (max)</li> <li>1.5, 3, 6 e- (high sensitivity)</li> <li>3, 6, 12 e- (high capacity)</li> <li>Two MCX connectors for programmable frame readout, shutter, trigger in</li> </ul>
<b>LWD Raman Probe</b>	<ul style="list-style-type: none"> <li>Long Working Distance Raman Probe</li> <li>Collinear design/high throughput optics</li> <li>Built-in laser line clean-up filter</li> <li>Built-in deep narrow notch filter</li> <li>Fiber connector</li> </ul>	<ul style="list-style-type: none"> <li>&gt; 20 mm working distance</li> <li>High collection efficiency</li> <li>No interference from other lights</li> <li>OD &gt; 6: maximum rejection of Rayleigh scattering and high transmission</li> <li>Wide coverage from <math>40 \text{ cm}^{-1}</math> to <math>4400 \text{ cm}^{-1}</math></li> <li>Convenient SMA 905</li> </ul>
<b>Fiber</b>	<ul style="list-style-type: none"> <li>98 Round-to-line 50 <math>\mu\text{m}</math> fiber bundle</li> </ul>	<ul style="list-style-type: none"> <li>Match CCD height and maximize signal</li> </ul>

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