

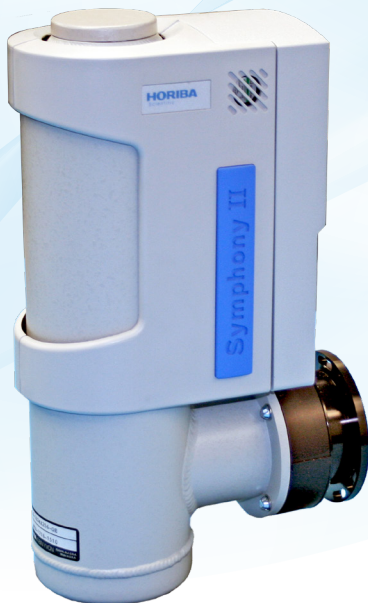
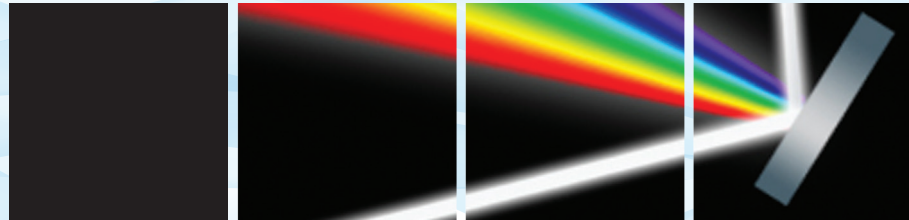


## Symphony II BIDD Scientific CCD Camera

Scientific CCD Camera

ELEMENTAL ANALYSIS
FLUORESCENCE
GRATINGS & OEM SPECTROMETERS
OPTICAL COMPONENTS
FORENSICS
PARTICLE CHARACTERIZATION
RAMAN
SPECTROSCOPIC ELLIPSOMETRY
SPR IMAGING

Back Illuminated Deep Depleted Sensor,  
-133°C 1024 x 256 pixels Part #: SII-1LS-1024X256-BD-PS, SII-3LS-1024x256-BD-PS



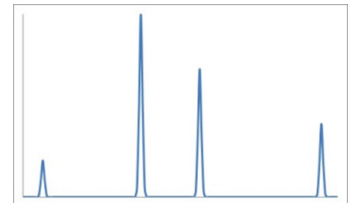
### Features and Benefits

- Best QE for all spectroscopy experiments
- Outperforms competition below 500 nm
- Deep liquid nitrogen cooling
- Ideal for low light level detection
- Excellent linearity
- Single channel detector port extends wavelength range
- E2V Scientific Grade 1 CCD
- Lifetime vacuum warranty
- USB 2.0 Interface
- HORIBA SynerJY acquisition and analysis software
- LabVIEW VI's and SDK available

### Primary Applications

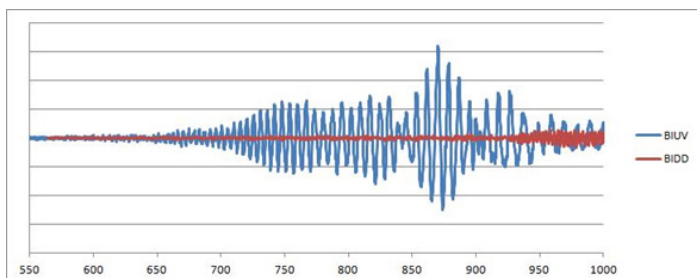
Primarily chosen for Raman and fine spectrum analysis, it is also well suited for studying weak spectral emissions.

- Raman
- Photoluminescence
- Absorption
- Transmission

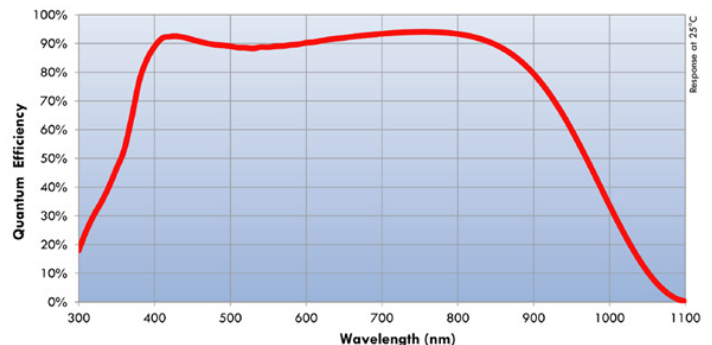


The Symphony II BIDD scientific CCD camera features HORIBA's unique QExtra QE enhancing and fringe suppressing technology. This camera is the ideal camera for demanding Raman, fluorescence and photoluminescence spectroscopy with a peak quantum efficiency of 95%.

### Minimizes etaloning: HORIBA QExtra technology versus traditional back illuminated CCD



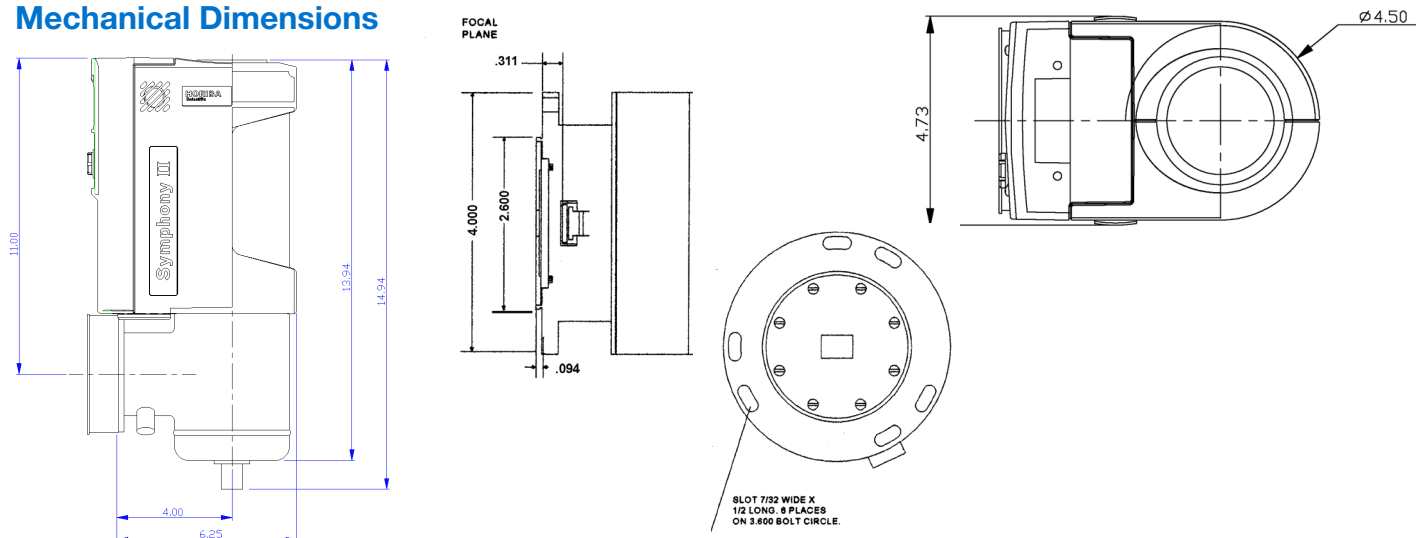
### QE Curve, Symphony II BIDD CCD



## Specifications

<b>CCD format</b>		1024 x 256, back-illuminated, deep-depletion, Scientific Grade 1
<b>Pixel size</b>		26 $\mu\text{m}$ x 26 $\mu\text{m}$
<b>Image area</b>		26.6 mm x 6.7 mm, 100% fill factor
<b>Cooling system</b>		Liquid nitrogen
<b>Hold time</b>	<b>1 LS Model</b>	24 hours with 1 L Dewar
	<b>3 LS Model</b>	72 hours with 3 L Dewar
<b>Typical readout noise</b>	<b>20 kHz</b>	4 e- rms
	<b>1 MHz</b>	20 e- rms
<b>Maximum readout noise</b>	<b>20 kHz</b>	6 e- rms
	<b>1 MHz</b>	25 e- rms
<b>Minimum pixel well capacity</b>		400 ke-
<b>Typical pixel well capacity</b>		700 ke-
<b>Typical register well capacity</b>		1000 ke-
<b>Typical dark current</b>		2 e-/pixel/h
<b>Nonlinearity</b>	<b>20 kHz</b>	<0.4%
	<b>1 MHz</b>	<1%
<b>Scan rates</b>		20 kHz and 1 MHz, software-selectable
<b>Software-selectable gains</b>		3 software-selectable gains
<b>Dynamic range</b>		16 bits
<b>Vertical shift rates</b>		36 $\mu\text{s}$ , 9 $\mu\text{s}$
<b>Maximum spectral rate</b>	<b>20 kHz</b>	13 Hz
	<b>1 MHz</b>	278 Hz

## Mechanical Dimensions



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Scientific