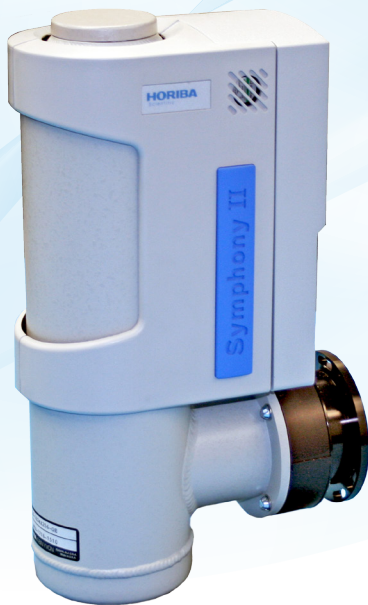
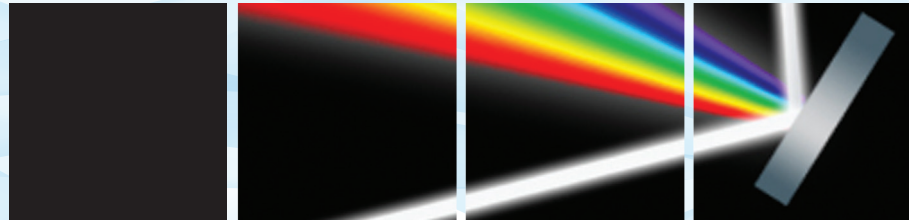




Symphony II FIVS Scientific CCD Camera Scientific CCD Camera

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

Front Illuminated Visible Sensor, -133°C
Chip formats to choose from:
1024 x 256 pixels, Part #: SII-1LS-1024X256-FV-PS, SII-3LS-1024X256-FV-PS
2048 x 512 pixels, Part #: SII-1LS-2048X512-FV-PS, SII-3LS-2048X512-FV-PS



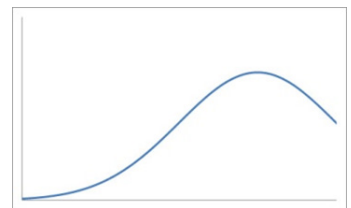
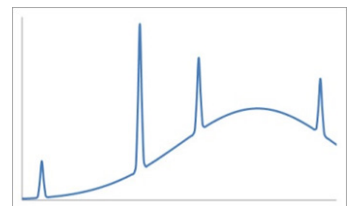
Features and Benefits

- Deep liquid nitrogen cooling
- Ideal for low light level detection without etaloning
- 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

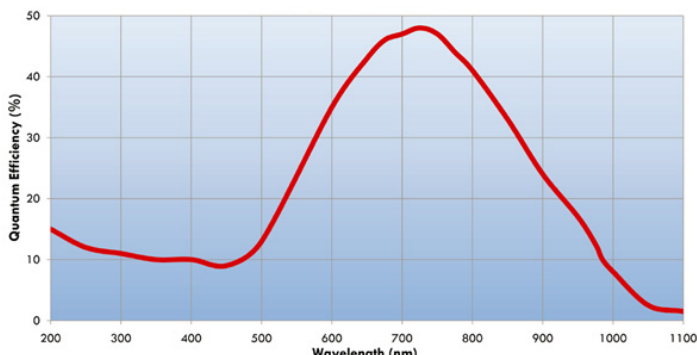
Primarily chosen for broad spectrum analysis such as photoluminescence, it is also well suited for studying fine spectral features on a broad spectral background.

- Fluorescence
- Photoluminescence
- Absorption
- Transmission
- Reflectance
- Raman



The Symphony II FIVS scientific CCD camera is the ideal camera for a variety of spectroscopy applications. This series of cameras offers three different chip array formats to choose from with a peak quantum efficiency of 56%.

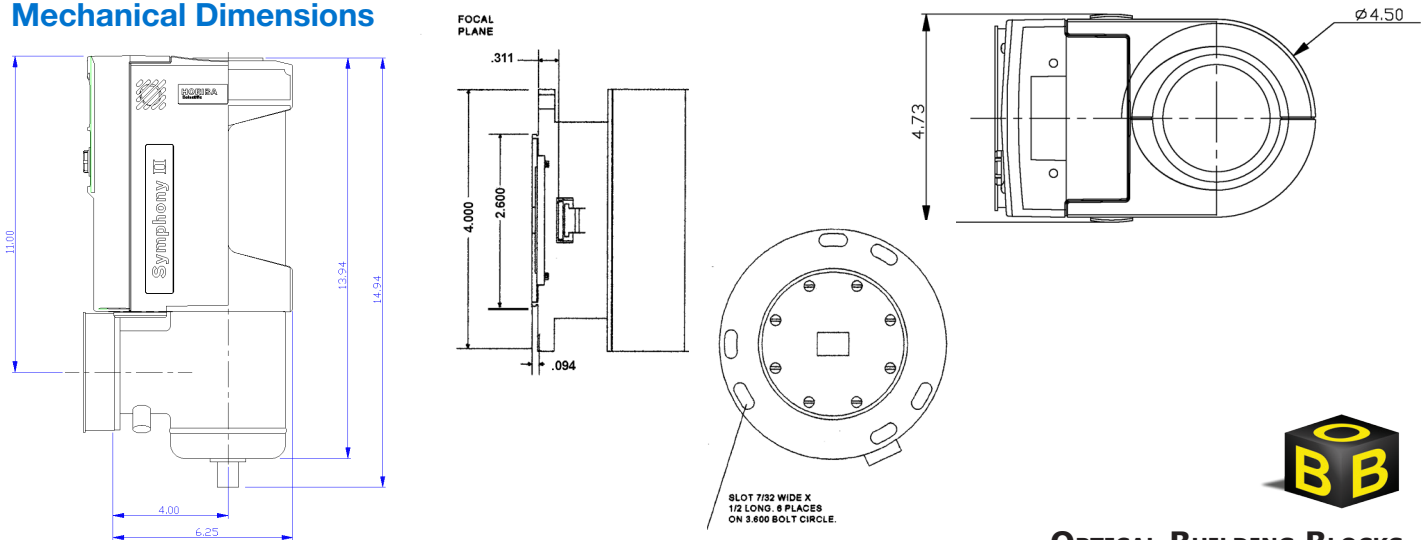
QE Curve, Symphony II FIVS CCD



Specifications

CCD format		2048 x 512, front-illuminated, Scientific Grade 1	1024 x 256, front-illuminated, Scientific Grade 1
Pixel size		13.5 μm x 13.5 μm	26 μm x 26 μm
Image area		27.6 mm x 6.9 mm, 100% fill factor	26.6 mm x 6.7 mm, 100% fill factor
Cooling system		Liquid nitrogen	
Hold Time	1 LS Model	24 hours with 1 L Dewar	
	3 LS Model	72 hours with 3 L Dewar	
Typical readout noise	20 kHz	2 e- rms	3.4 e- rms
	1 MHz	13 e- rms	15 e- rms
Maximum readout noise	20 kHz	4 e- rms	5 e- rms
	1 MHz	15 e- rms	20 e- rms
Minimum pixel well capacity		150 ke-	350 ke-
Typical pixel well capacity		250 ke-	500 ke-
Typical register well capacity		1000 ke-	
Typical dark current		0.5 e-/pixel/h	0.3 e-/pixel/h
Nonlinearity	20 kHz	<0.4%	
	1 MHz	<1%	
Scan rates		20 kHz and 1 MHz, software-selectable	
Software-selectable gains		3 software-selectable gains	
Dynamic range		16 bits	
Vertical shift rates		36 μs , 9 μs	
Maximum spectral rate	20 kHz	6 Hz	13 Hz
	1 MHz	140 Hz	278 Hz

Mechanical Dimensions



OPTICAL BUILDING BLOCKS



HORIBA
Scientific

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