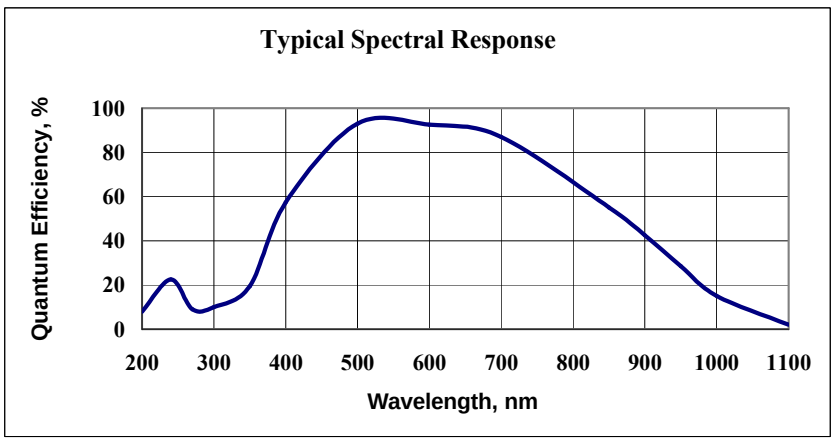
Symphony

2048 x 512 Cryogenic Back Illuminated CCD Detector

The Enhanced QE, High Resolution, Large Format Camera for Low Spectroscopic Signals

The Jobin Yvon Back Illuminated 2048 x 512 CCD is ideal for low noise acquisitions required in spectroscopic applications. Its 13.5 µm x 13.5 µm pixels offer a very high spectral resolution capability and it has been designed with a low noise amplifier for extremely low readout noise. Better suited for emission spectroscopy where peaks are narrow, this detector can show etaloning effect with broad spectral bands found in Raman and Fluorescence applications.



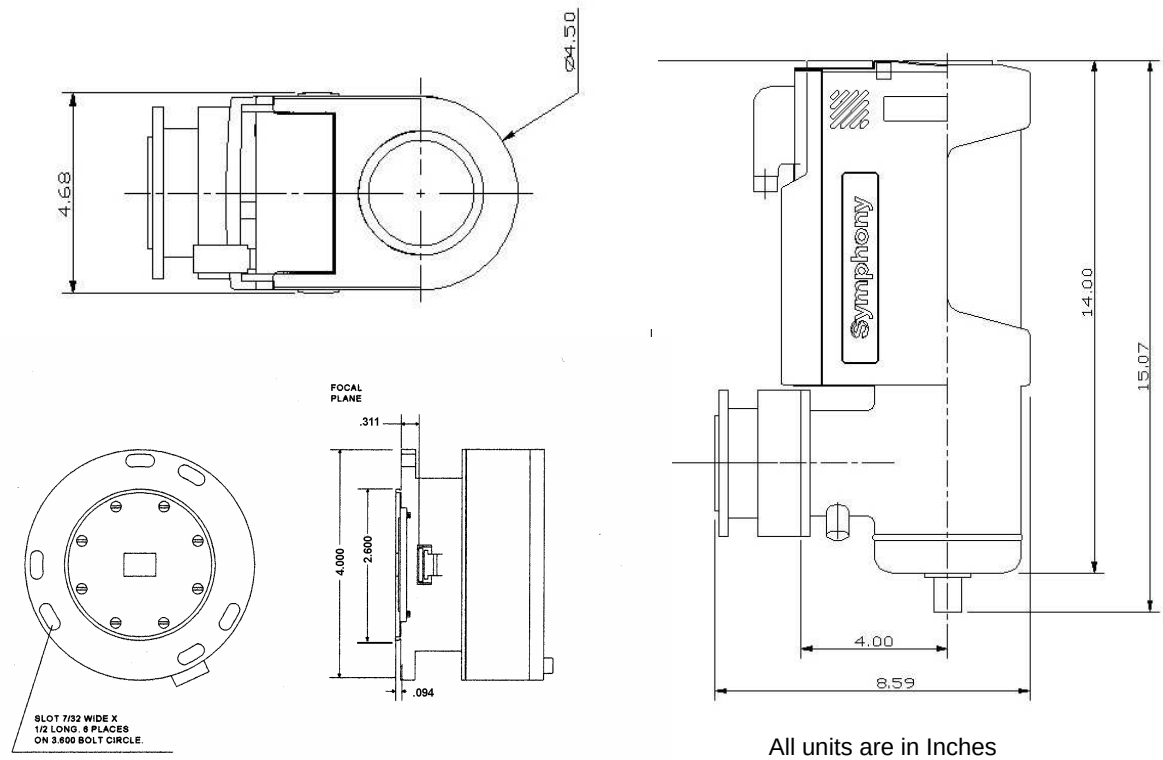
Features	Benefits
Scientific Grade 1 CCD	Ideally suited for low light level detection in a variety of spectroscopic applications
Back Illuminated CCD	Highest QE for greatest sensitivity
Liquid Nitrogen Cooling	Extremely low dark signal operation for extended integration times required with low signal levels
Excellent Linearity	Increased accuracy of data over the full dynamic range
Software Selectable Scan Rates	Optimize an experiment for the best combination of speed and sensitivity
Ethernet Connection to Host PC	Standard, easy to use interface with 100% data integrity
HORIBA Jobin Yvon's SynerJY™ Software	Complete control of a Symphony CCD and HORIBA Jobin Yvon Spectrograph system with full analysis capabilities
LabVIEW VIs and SDK Available	Flexible software to integrate a Symphony CCD into existing apparatus or as an OEM component

Specifications

CCD Format		2048 x 512, Back Illuminated, Scientific Grade 1		
Pixel Size		13.5 µm x 13.5 µm		
Image Area		26.6 mm x 6.9 mm, 100% Fill Factor		
Cooling System		Liquid Nitrogen		
Liquid Nitrogen Hold Time	1LS Model	24 hours with 1 Liter Dewar		
	3LS Model	72 hours with 3 liter Dewar		
		Minimum	Typical	Maximum
Readout Noise	20 kHz		3 e^- rms	4 e^- rms
	1 MHz		13 e^- rms	15 e^- rms
Pixel Well Capacity		150 ke^-	250 ke^-	
Register Well Capacity			1000 ke^-	
Dark Current			0.5 e^-/pixel/hr	1 e^-/pixel/hr
Nonlinearity		< 0.4 % at 20 kHz scan rate < 1 % at all other scan rates		
Scan Rates		Software Selectable from 20 kHz to 1 MHz		
Software Selectable Gains		5 Software Selectable Gains		
Dynamic Range		16 bits		
Vertical Shift Rate per row		48 µs, 24 µs, 8 µs[1]		
Maximum Spectral Rate	20 kHz	14 Hz		
	1 MHz	150 Hz[1,2]		

Specifications subject to change without notice.

Mechanical Dimensions



All units are in Inches

Ordering Information:

CCD-2048x512-BIVS-1LS	Liquid Nitrogen Cooled CCD System with 1 Liter Side Looking Dewar
CCD-2048x512-BIVS-3LS	Liquid Nitrogen Cooled CCD System with 3 Liter Side Looking Dewar
CCD-2048x512-BIVS-1LD	Liquid Nitrogen Cooled CCD System with 1 Liter Down Looking Dewar
CCD-2048x512-BIVS-3LD	Liquid Nitrogen Cooled CCD System with 3 Liter Down Looking Dewar

Our CCD packages include a CCD shutter for clean CCD charge transfer and background subtraction

Notes:

1 CCDs are guaranteed to have full Charge Transfer Efficiency (CTE) at our standard shift rate of 48 µs. At faster shift rates, a decrease in CTE may be observed

2 Highest Spectral rates are achieved when using the 1MHz ADC, a Vertical Transfer Time of 8 µs, with no mechanical shutter

HORIBA JOBIN YVON

(All HORIBA Jobin Yvon companies were formerly known as Jobin Yvon)

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