

The standard for spectroscopic applications with small slit-heights

Symphony® II 1024 × 128 Cryogenic Front-Illuminated CCD Detector

The HORIBA Scientific Front-Illuminated 1024 × 128 CCD is ideal for low-noise acquisitions for spectroscopic applications such as emission, fluorescence, or Raman spectroscopy. Its 26 μm × 26 μm pixel size offers a high full well capacity, a large dynamic range, and an excellent signal-to-noise ratio. The quality of this chip is comparable to the 1024 x 256 FIVS in a smaller format and lower cost. This detector is the best choice for fast acquisitions with a maximum spectral rate of 450 Hz.



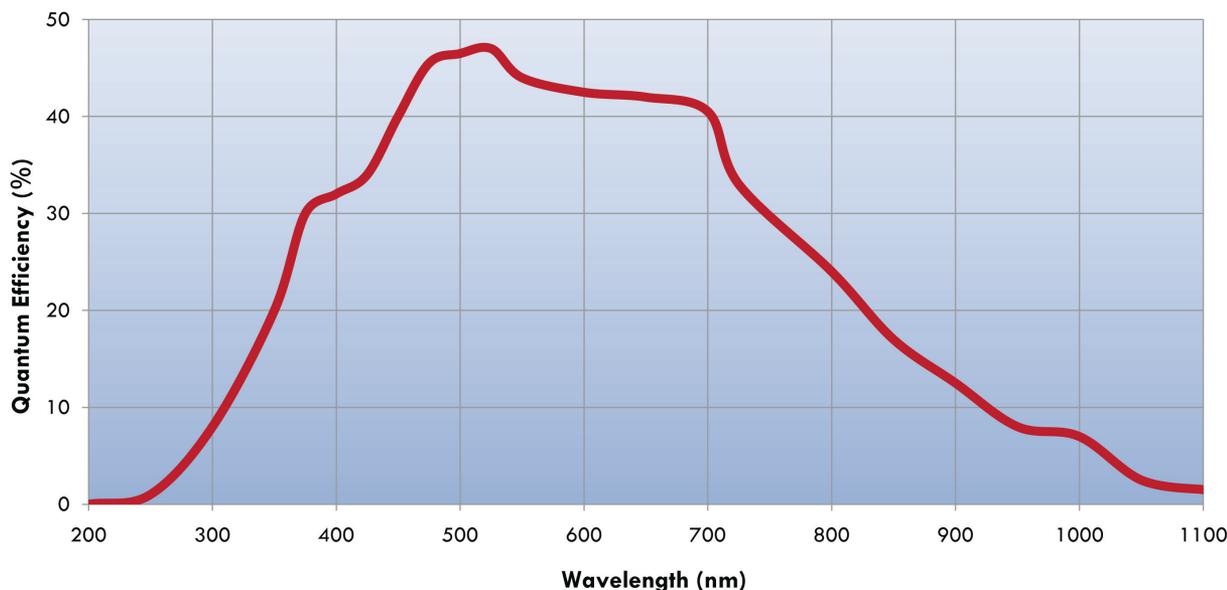
Feature	Spectroscopy Benefits
Scientific Grade 1 CCD	Ideally suited for low light level detection in a variety of spectroscopic applications
Front-illuminated CCD	Good spectral response from 400–1000 nm with no etaloning
Liquid-nitrogen Cooling	Extremely low dark signal for extended integration times required with low signals
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
USB 2.0 Interface	Standard connection to PC notebooks and desktops with 100% data integrity
HORIBA Scientific's SynerJY® Software	Complete control of a Symphony II CCD and HORIBA Scientific Spectrograph system with full analysis capabilities
LabVIEW™ VIs and SDK Available	Flexible software to integrate a Symphony II CCD into existing apparatus or as an OEM component



CCD Format	1024 × 128, front-illuminated, Scientific Grade 1			
Pixel Size	26 μm × 26 μm			
Image Area	26.6 mm × 3.3 mm, 100% fill factor			
Cooling System	Liquid nitrogen			
Hold Time	1LS Model	24 hours with 1 L Dewar		
	3LS Model	72 hours with 1 L Dewar		
		Minimum	Typical	Maximum
Readout Noise	20 kHz		3.4 e ⁻ rms	6 e ⁻ rms
	1 MHz		20 e ⁻ rms	25 e ⁻ rms
Pixel Well Capacity		350 ke ⁻	650 ke ⁻	
Register Well Capacity			1000 ke ⁻	
Dark Current			0.5 e ⁻ /pixel/h	1 e ⁻ /pixel/h
Nonlinearity		< 0.4% at 20 kHz		
		< 1% at 1 MHz		
Scan Rates	20 kHz and 1 MHz, software-selectable			
Software-Selectable Gains	5 software-selectable gains			
Dynamic Range	16 bits			
Vertical Shift Rates	49 μs, 24 μs, 9 μs ¹			
Maximum	20 kHz	17 Hz		
Spectral Rate	1 MHz	450 Hz ^{1,2}		

*Specifications subject to change without notice.

Typical Spectral Response



HORIBA

Scientific

Ordering Information:

SII-1LS-128-FV Liquid Nitrogen Cooled CCD System with 1 Liter Side-Looking Dewar

SII-3LS-128-FV Liquid Nitrogen Cooled CCD System with 3 Liter Side-Looking Dewar

Our CCD packages include a CCD shutter for clean CCD charge transfer and background subtraction. We highly recommend that the funnel (G3200111328) be purchased with this unit.

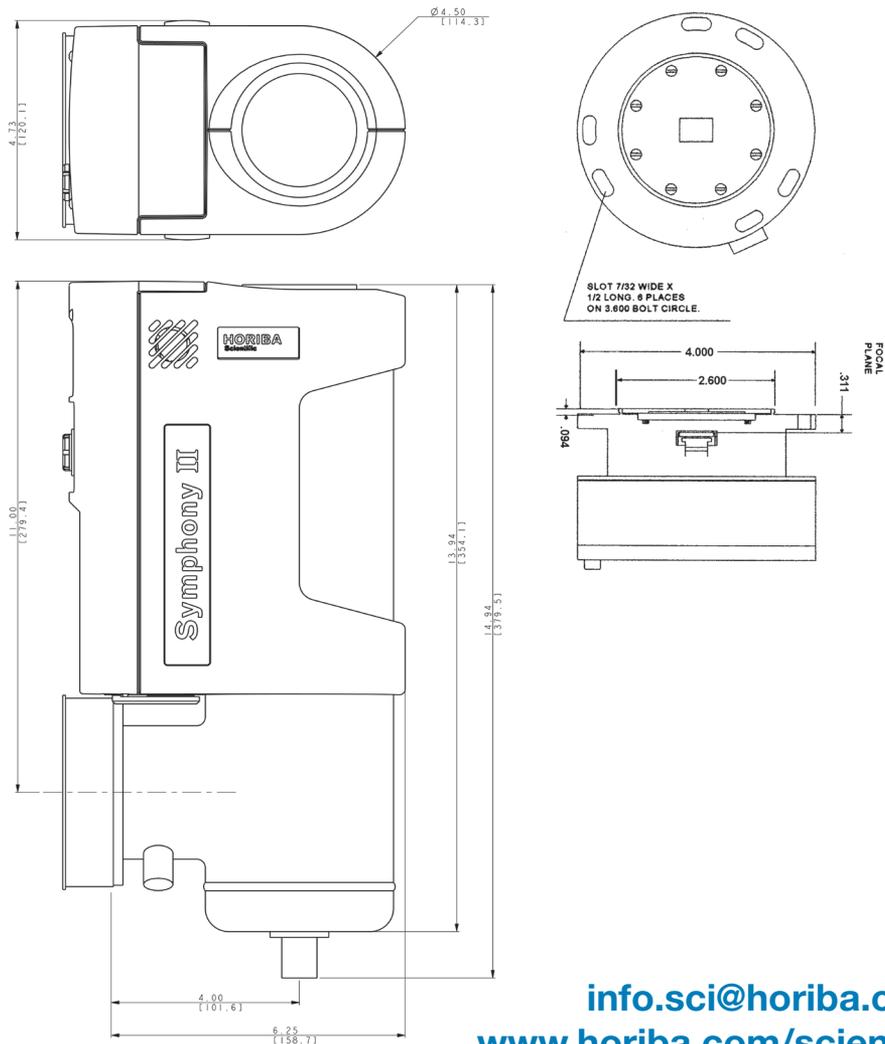
Notes:

¹CCDs are guaranteed to have full charge transfer efficiency (CTE) at our standard shift rate of 49 μ s. At faster shift rates, a decrease in CTE may be observed.

²Highest spectral rates are achieved when using the 1 MHz ADC, a vertical transfer time of 9 μ s, with no mechanical shutter.

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

Mechanical Dimensions



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