

The high-resolution, large-format camera for low UV-Vis spectroscopy

Symphony[®] II 2048 × 512 Cryogenic Front-Illuminated UV-Sensitive CCD Detector

The HORIBA Scientific Front-Illuminated UV-Sensitive 2048 × 512 CCD is ideal for low-noise acquisitions in UV and visible spectroscopic applications. Its 13.5 μm × 13.5 μm pixels offer very high spectral resolution. The detector has been designed with a low-noise amplifier for extremely low readout noise. The height of this chip makes it the best choice for multi-tracking measurements or a full 6.9 mm binning in the UV to visible spectral regions.

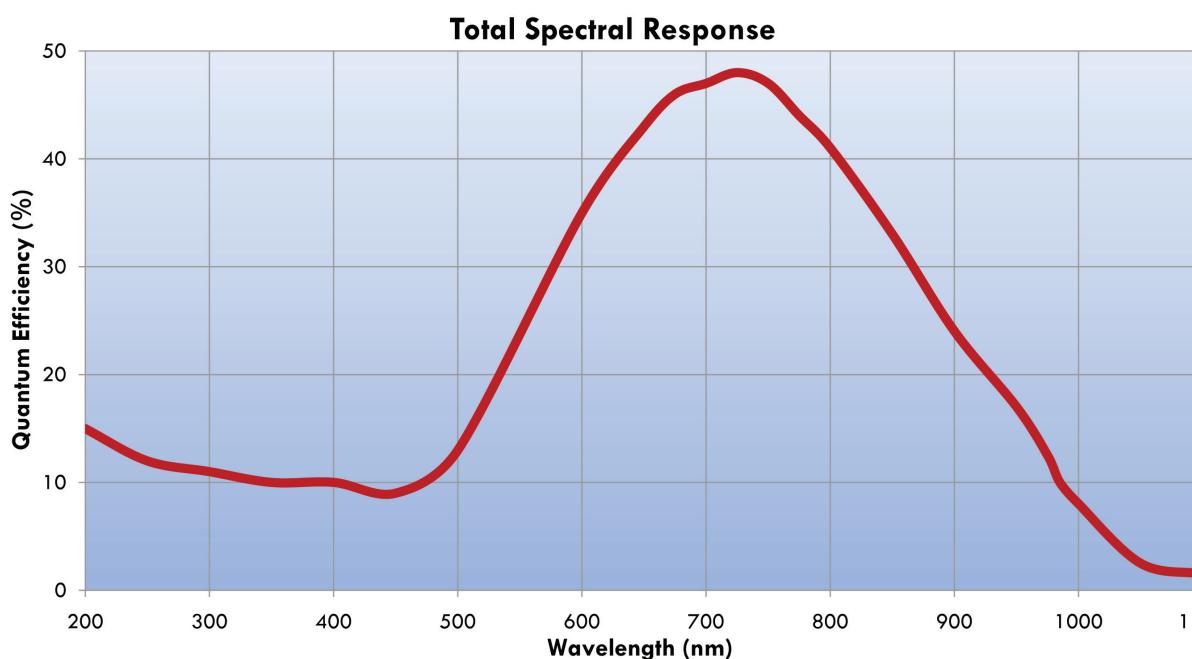


Feature	Spectroscopy Benefits
Scientific Grade 1 CCD	Ideally suited for low light level detection in a variety of spectroscopic applications
UV-enhanced Coating	UV response down to 200 nm
Liquid-nitrogen Cooling	Extremely low dark signal for extended integration times required with low signals
Excellent 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
Auxiliary Signal Input	Unique ability to add measurements from single-channel detectors without additional electronics
LabVIEW [™] VIs and SDK Available	Flexible software to integrate a Symphony II CCD into existing apparatus or as an OEM component



CCD Format	2048 × 512, front-illuminated, UV-coated, Scientific Grade 1			
Pixel Size	13.5 μm × 13.5 μm			
Image Area	27.6 mm × 6.9 mm, 100% fill factor			
Cooling System	Liquid nitrogen			
Hold Time	1LS Model	24 hours with 1 L Dewar		
	3LS Model	72 hours with 3 L Dewar		
		Minimum	Typical	Maximum
Readout Noise	20 kHz		2 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/h	
Nonlinearity		< 0.4% at 20 kHz		
		< 1% at 1 MHz		
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	20 kHz	6 Hz		
Spectral Rate	1 MHz	140 Hz		

*Specifications subject to change without notice.



HORIBA

Scientific

Ordering Information:

SII-1LS-512-FU Liquid Nitrogen Cooled CCD System with 1 Liter Side-Looking Dewar

SII-3LS-512-FU 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. To transfer liquid nitrogen to the CCD Dewar, we recommend our appropriately-sized funnel, part # G3200111328.

ELEMENTAL ANALYSIS

FLUORESCENCE

GRATINGS &
OEM SPECTROMETERS

OPTICAL COMPONENTS

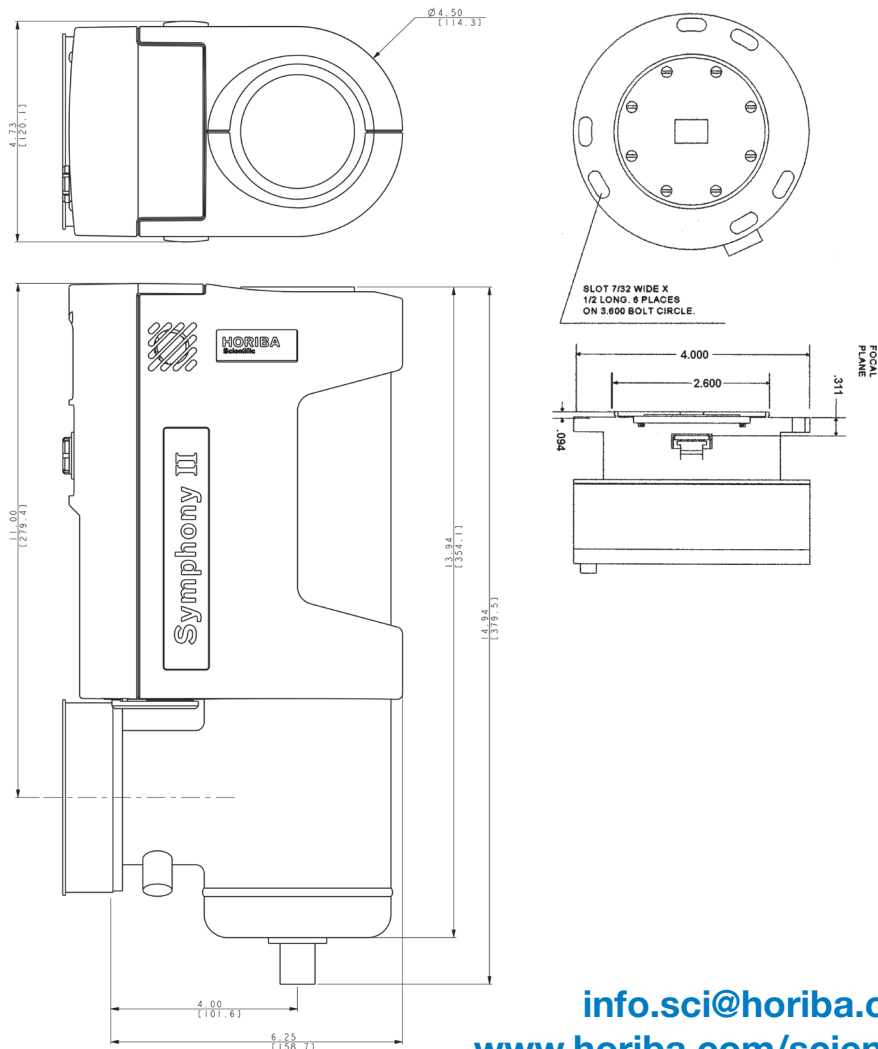
PARTICLE CHARACTERIZATION

RAMAN

SPECTROSCOPIC ELLIPSOMETRY

SPR IMAGING

Mechanical Dimensions



info.sci@horiba.com
www.horiba.com/scientific

HORIBA
Scientific

USA: +1 732 494 8660
UK: +44 (0)20 8204 8142
Spain: +34 91 490 23 34
Other Countries: +33 (0)1 64 54 13 00

France: +33 (0)1 64 54 13 00
Italy: +39 0 2 5760 3050
China: +86 (0)10 8567 9966

Germany: +49 (0)89 4623 17-0
Japan: +81 (0)3 38618231
Brazil: +55 11 5545 1540



This document is not contractually binding under any circumstances. P/N: OSD-0031 LN Rev. © HORIBA Instruments Incorporated 09/2012. LabVIEW is a trademark of National Instruments.