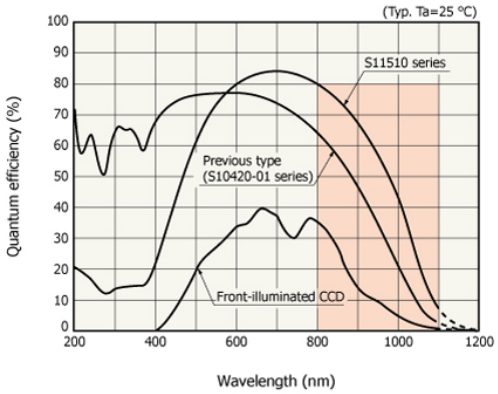
Wavelength Stable Back-Thinned 2D FFT CCD Array Spectrometers

Enhanced UV NIR *Response*



Control Development, Inc., offers high performance, high sensitivity spectrometers using a high quantum efficiency, thinned, and back-illuminated, *temperature stabilized* 2D FFT CCD array, exhibiting low noise and low dark levels. These spectrometers are especially suited for low light level applications. Two models are offered.

S10420 Series
Flat spectral response from 180nm to 1200nm
High Q.E. from UV to NIR region

S11510 Series
Enhanced sensitivity in NIR region
Q.E. 40% at 1000nm
Ideally suited for Raman spectroscopy

Common Features

- Symmetric design resulting in lower stray light and tighter optical resolution
- High wavelength accuracy
- Low sensitivity to temperature changes
- Enhanced 8051 microprocessor
- 18 bit A/D (16 Bit displayed) with DAC offset
- Fast USB2.0 interface
- Non scanning device; acquire full spectrum in milliseconds!
- Small, rugged, portable

All our spectrometers include application software. CDI Spec32 is a data acquisition package with several data processing techniques included. Also supplied are our Lab View VI, Active X application, and DLLs.

All our devices are compact, rugged, portable and well suited for OEM applications. We will custom design spectrometers for your application usually at no extra charge.

Control Development, Inc.
2633 Foundation Drive, South Bend, IN 46628
Phone: (574) 288-7338 Fax: (574) 288-7339
www.controldevelopment.com

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Product Specifications

Part Numbers	2DCCD-10420	2DCCD-11510
Spectrometer		
Spectral Range (nm)*	180-1200	
Linear Dispersion (nm/pixel)	defined by spectral range	
Resolution FWHM (nm)	defined by linear dispersion	
Wavelength Accuracy*	¼ pixel	
Input Fiber Options for both models		
	Single fiber	Bundle Fiber
Core Diameter (microns)	400	50 (19 fibers) or 100 (7 or 19 fibers)
Material	Ultra Low OH or High OH	Ultra Low OH or High OH
Connector	905 SMA	905 SMA
Input Slit Width (microns)	25, 50, 100 or none (fiber itself)	
Optics	f/3	
Gratings		
Lines/mm	200, 300, 400, 600, 1200, 1800, 2400, 3600	
Coating Material	Aluminum or Gold	
Order Sorting Filter	Available	
*nominal, factory set, user-defined range in that spectral region		
Detector		
Material Type	Silicon, thinned and back illuminated, UV and SWIR enhanced, high quantum efficiency	
Number of elements	1024 H X 64 V	
Pixel Dimensions (WxH)	14μm X 14 μm	
Active area	14.336mm H X 0.896mm V	
Full well depth	80,000 e- Vertical	60,000 e- Vertical
	200,000 e- Horizontal	300,000 e- Horizontal
Electronics		
Integration times	3 ms to 167 s	
A/D Converter	16 Bit	
Read out speed	6 μs per pixel	
Readout Noise **	<4 counts RMS	
Offset DAC	Yes	
Memory	On-Board	
Microprocessor	Enhanced 8051	
Strobe	TTL compatible	
Lamp Drivers	Two	
*18 Bit A/D, 16 Bit displayed	**nominal	
Power Requirements		
Voltage	5V DC	
Current	8.0 Amps	
Power supply	Included	
Communications		
USB2.0 Interface		
Internal Wavelength Calibration		
Internal Mercury-Argon or Xenon line source available		
Physical Dimensions		
Dimensions	6.535"L X 4.173"W X 3.0"H	
Weight	2 lb	
Software		
The following is included with every spectrometer purchase:		
Spec32™, DLLs, Lab View VI, Active X App, all with user manuals		
Warranty and Support		
Warranty	1 year	
Extended Warranty	Available	
Support	Several support packages available	
Telephone	9:00 AM to 5:00 PM, EST, Mon-Fri.	

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