

SynapsePlus BIVS

High Speed Scientific CCD Camera

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

Back illuminated sensor,
-80°C (-95°C) Chip formats to choose
from: 1024 x 256 pixels, 2048 x 512 pixels

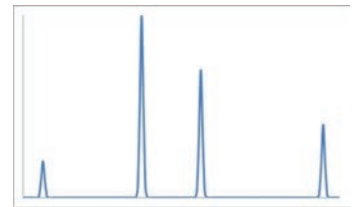
Features and Benefits

- Deep thermoelectric cooling
- Fast acquisition rate of more than 2200 spectra/s
- Ideal for low light level detection
- Excellent linearity
- e2V Scientific Grade 1 CCD
- Lifetime vacuum warranty
- USB 2.0 interface: 100% guaranteed data integrity
- HORIBA SynerJY or LabSpec acquisition and analysis software
- LabVIEW VI's and SDK available

Primary Applications

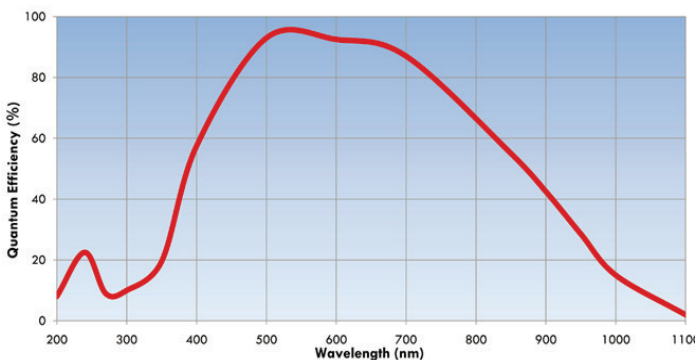
Primarily chosen for Raman and fine spectrum analysis, it is also well suited for studying weak spectral emissions.

- Raman
- Photoluminescence
- Absorption
- Transmission
- Reflectance
- Fast kinetics



The SynapsePlus BIVS scientific CCD camera is the ideal camera for low light level and fine spectra applications such as Raman spectroscopy. Available in two different chip array formats with peak quantum efficiency of 95%, the SynapsePlus BIVS is capable of rapid acquisition speeds, greater than 2200 spectra/s.

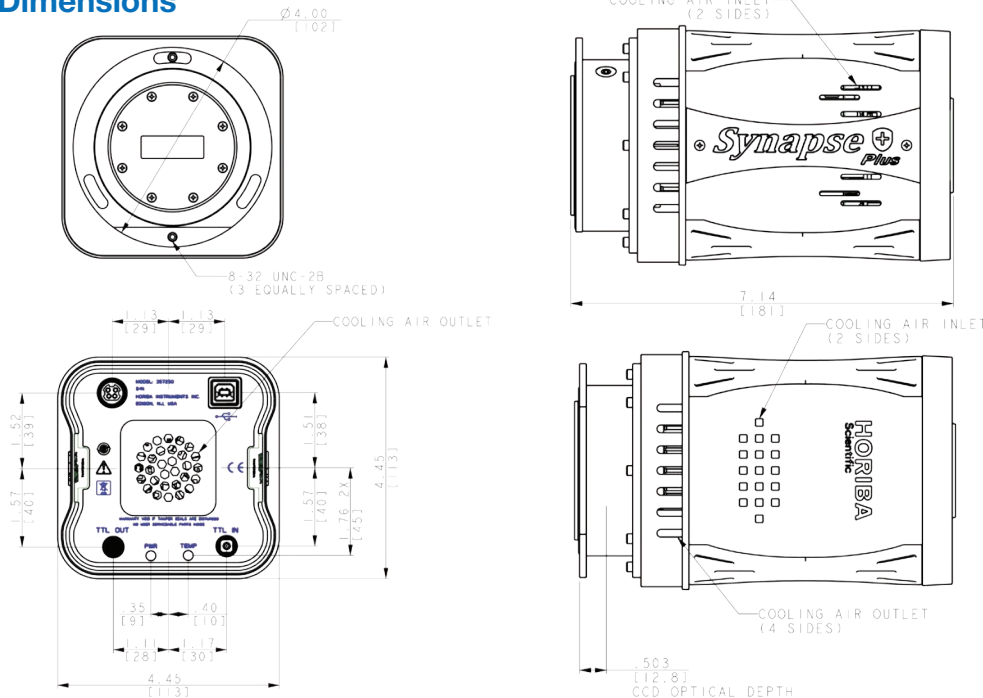
QE Curve, SynapsePlus BIVS CCD



Specifications

Sensor	1024 x 256, Back-Illuminated (BIVS), Scientific Grade 1		2048 x 512, Back-Illuminated (BIVS), Scientific Grade 1			
Active pixels	1024 x 256		2048 x 512			
Pixel size	26 μm x 26 μm		13.5 μm x 13.5 μm			
Image area	26.6 mm x 6.7 mm, 100% fill factor		27.6 mm x 6.9 mm, 100% fill factor			
Pixel well depth	500,000 e ⁻		250,000 e ⁻			
Register well depth	1,000,000 e ⁻					
Non-linearity (Measured at all speeds per camera)	<0.40%					
Readout Noise (e⁻): Typ. (Max)	50 kHz: 4 (7)	1 MHz: 12 (15)	3 MHz: 15 (30)	50 kHz: 2.5 (4)	1 MHz: 7 (12)	3 MHz: 11 (15)
Dark current at -80°C (e⁻/pixel/s)	<0.004		<0.002			
Maximum spectra per second	Full vertical bin: 363 ROI mode 32 rows: 1795 ROI mode 8 rows: 2247		Full vertical bin: 181 ROI mode 32 rows: 1795 ROI mode 8 rows: 2247			
Software-adjustable gain (e⁻/count)	Selectable from 1.0 to 13.5					
Digitization	16-bit ADC					
Vertical shift rates (μs)	9.3, 18.4, 36.5 software-selectable					
Cooling at +20°C	Air-cooled: -75°C (guaranteed), -80°C (typical) Liquid-cooling recirculator: -90°C (guaranteed), -95°C (typical)					
Power requirements AC-DC power supply (provided)	AC input 90-264 VAC, 47-63 Hz DC output, +9 V, 6.44 A maximum					
Physical dimensions	Length: 181 mm (7.14")	Width: 113 mm (4.45")	Height: 113 mm (4.45")			
Physical weight	2.10 kg (4.64 lb)					

Mechanical Dimensions



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