

Synapse + BIDD

High Speed Scientific CCD Camera

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

Back illuminated deep depleted sensor,
-80°C (-95°C) 1024 x 256 pixels

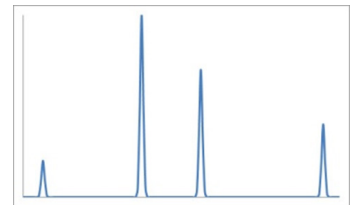
Features and Benefits

- Best QE for all spectroscopy experiments
- 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
- HORIBA SynerJY or LabSpec acquisition and analysis software
- LabVIEW VI's and SDK available

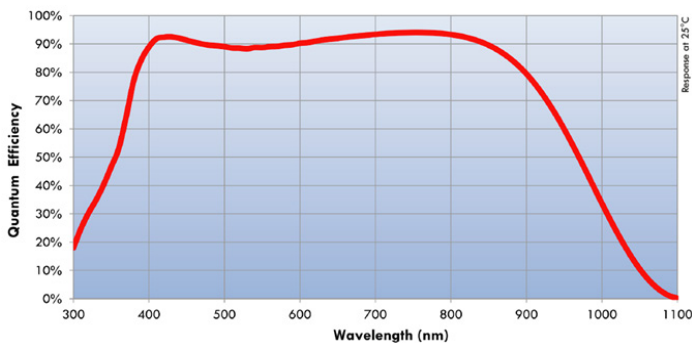
Primary Applications

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

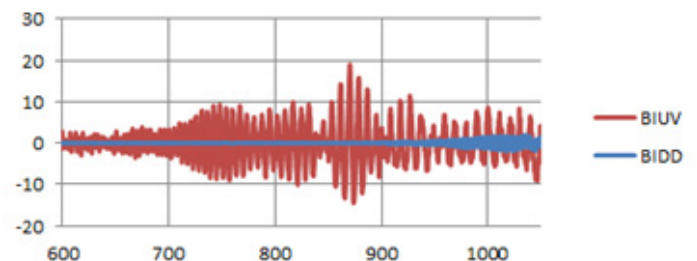
- Raman
- Photoluminescence
- Absorption
- Transmission
- Fast kinetics



QE Curve, Synapse+ BIDD CCD



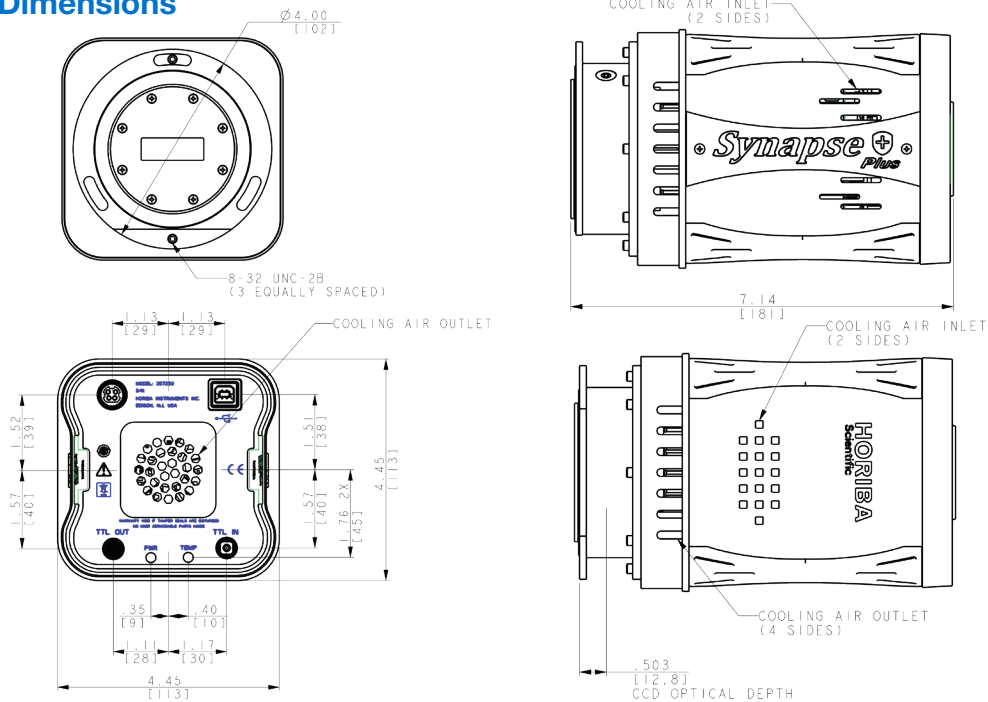
Suppresses etaloning: HORIBA QExtra technology versus traditional back illuminated CCD



Specifications

Sensor	Back-Illuminated Deep Depletion (BIDD), Scientific Grade 1		
Active pixels	1024 x 256		
Pixel size	26 μm x 26 μm		
Image area	26.6 mm x 6.7 mm, 100% fill factor		
Pixel well depth	700,000 e-		
Register well depth	1000,000 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)
Dark current at -80°C (e-/pixel/s)	<0.004		
Maximum spectra per second	Full vertical bin 363	ROI mode 20 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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HORIBA
Scientific