Eagle V

Deep Cooled Vacuum CCD
2048 x 2048 • 75kHz and 2MHz • High resolution scientific imaging •

PentaVac

CAMERA Link

Key Features and Benefits

The BEST CCD on the market today!

- **Lifetime vacuum guarantee**
  Protection and integrity of the sensor
- **Extremely low dark current**
  Deep cooled to > -110°C delta enables long exposure times
- **Back illuminated 4MP sensor from e2v**
  Enables large field of view imaging
- **13.5µm x 13.5µm pixels**
  Enables large pixel well depth and high dynamic range
- **High QE: >90% @ 525nm and 50% @ 380nm & 720nm**
  Optimum photon collection

Resolution	**2048 x 2048**
Dark Current	**0.0001 e/p/s**
Full Well Capacity	**100,000e-**
Readout Noise	**2.3e-rms**
Cameralink	**16bit**

Raptor photonics

www.raptorphotonics.com

Specification for Eagle V CCD

Sensor	E2V CCD42-40 Front and Back Illuminated, AIMO
Active Pixel Array Size	(2048 × 2048) pixels
Pixel Size	13.5µm × 13.5µm
Active Area	27.65mm × 27.65mm (39.10mm diagonal)
Binning	Programmable, up to 64×64 pixels
Full Well Capacity	100 000 e-
Non-Linearity	< 1%
Readout Noise	@ 75kHz pixel readout rate, 2.3 e- rms @ 2MHz pixel readout rate, 9.0 e- rms
Binned Read Noise	@75kHz pixel readout rate, 16×16 binning < 5.0 e- rms
Peak Quantum Efficiency (QE)	> 90% @ 550nm
Spectral Response	300nm-1050nm
Dark Current @ minimum temperature	<0.0001e-/p/s @ Δ-116°C
Shutter	Mechanical, aperture φ = 45mm
Cooling	Active, ΔT > 110°C
Cooling Method	TEC with liquid (utilizing PentaVac™ Technology)
Lens Mount	Nikon F mount (others on request)
Synchronization	Trigger IN and OUT – TTL compatible
Digital Output	16-bit
Data Interface	Cameralink (base)
Power Supply	12V DC ±10%
Total Power Consumption	TEC OFF < 9W TEC ON < 100W
Operating Temperature Range	-20°C to +55°C
Storage Temperature Range	-40°C to +70°C
Dimensions	141mm x 133mm x 110mm
Weight (excluding lens)	3.0kg [6.6lb]

Ordering Information

Camera

Eagle Scientific CCD 4MP cooled digital B/W camera	EA4240-CL
Eagle Power Supply cable	EA4240-PSU

Optional Accessories

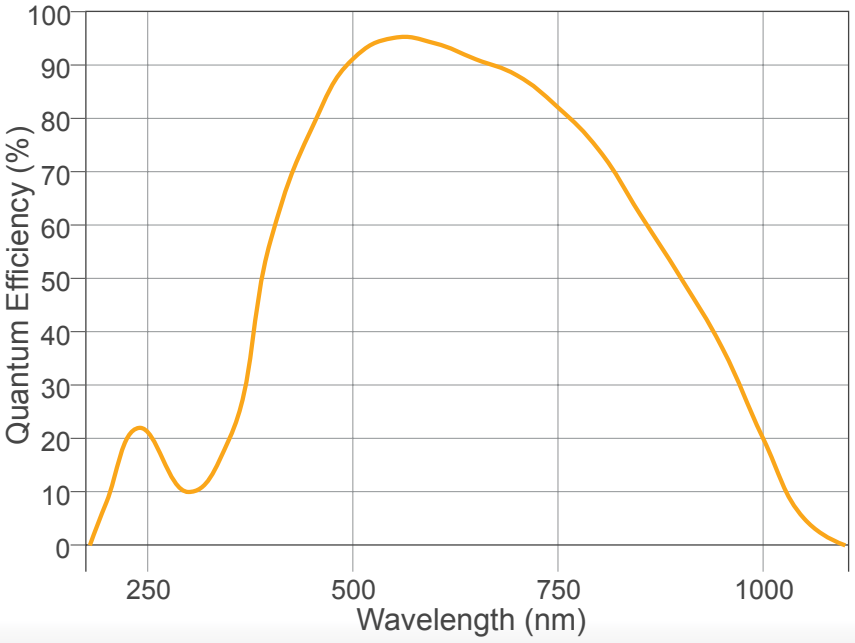
EPIX(R) EB1 base CL card	RPL-EPIX-EB1
EPIX(R) base notebook CL card	RPL-EPIX-ECB1-34
EPIX(R) base notebook CL card	RPL-EPIX-ECB1-54
EPIX(R) XCAP STD software	RPL-XCAP-STD
CameraLink Cable, 2m[2]	RPL-CL-CBL-2M
OASIS Circulating Chiller	RPL-AMS-OASIS160
Water cooling system	RPL-WCUK-WCS
Water tubling for Eagle (3M) M-M	RPL-WTUBE-EAGLE
Optical lenses[3]	RPL-xx-xxxx

Note 1: Longer CL cable available
Note 2: Recommended coolant flow rate >0.5liters per min. & cooling capacity >100W @ 20°C
Note 3: Please consult us to check our range of lenses

Demo is available on request.
Pricing AOR subject to volumes.

Detailed technical drawings can be downloaded at www.raptorphotonics.com

Quantum Efficiency



Applications

- Astronomy
- Calcium signaling
- Fluorescence imaging / spectroscopy
- Luminescence
- Xray

Raptor photonics

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Document #: INEA4240-CL 0116R1