

Eagle XV

e2v In-Vacuum Direct Detection Cooled CCD • High Resolution Soft X-ray Scientific Imaging
2048 x 2048 and 1024 x 1024 • 13.5 μm x 13.5 μm and 13 μm x 13 μm Pixel Pitch •



Key Features and Benefits

- **Choice of sensors, BN-DD and BN**
Select the best QE for your application
- **TE cooling down to -80°C**
Minimizing noise with Raptor cooling technology
- **Compact platform for In-Vacuum operation**
Ideal for OEM integration with vacuum pressure $\leq 10\text{-}5$ mbar

Resolution	2048 x 2048 1024 x 1024
Digital output	16 bit
Non linearity	< 1%
Weight	< 3Kg

Specification for Eagle XV

Sensor ¹	E2V 4240 Back Illuminated, AIMO	E2V 4710 Back Illuminated, AIMO
Active Pixel	2048 × 2048	1024 × 1024
Pixel Size	13.5µm × 13.5µm	13µm × 13µm
Active Area	27.6mm × 27.6mm	13.3mm × 13.3mm
Spectral Response	12eV - 20keV	
Image Pixel Well Depth	>80ke- (100ke- typical)	
Non Linearity	< 1%	
Typical Dark Current @ -80°C	BN-DD	BN
	~ 0.016 e/p/s	~ 0.0005 e/p/s
Readout Noise (RMS)	10e- @ 2MHz <3.5e- @ 75kHz	
Integration Times	Up to 60 mins	
Pixel Readout Rate	2MHz / 75kHz	
Readout Modes	Full 2D Image, Flexible Programmable Binning, ROI Selection	
Trigger Mode	Internal / External	
Digital Output Format	16 bit base Camera Link	
Cooling ²	-80°C with +20°C coolant	
Synchronisation	Trigger IN and OUT – TTL compatible	
Power Supply	12V DC ±10%	
Total Power Consumption ³	≤ 65W (TEC ON, Steady State)	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-40°C to +70°C	
Dimensions (L*W*H) ⁴	132.08mm x 110.00mm x 110.00mm	
Weight	<1.5Kg	

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

Ordering Information

Camera

Eagle 42-40 X-ray BN sensor	EA4240XV-BN-CL
Eagle 42-40 X-ray BN-DD sensor	EA4240XV-BNDD-CL
Eagle 47-10 X-ray BN sensor	EA4710XV-BN-CL
Eagle 47-10 X-ray BN-DD sensor	EA4710XV-BNDD-CL
Eagle XV Power Supply Unit	EAXV-PSU
Eagle XV Power Brick	EA-BRK-85W
Eagle XV Power Feedthrough	RPL-PFC
Eagle XV Camera Link Feedthrough	RPL-CLFC

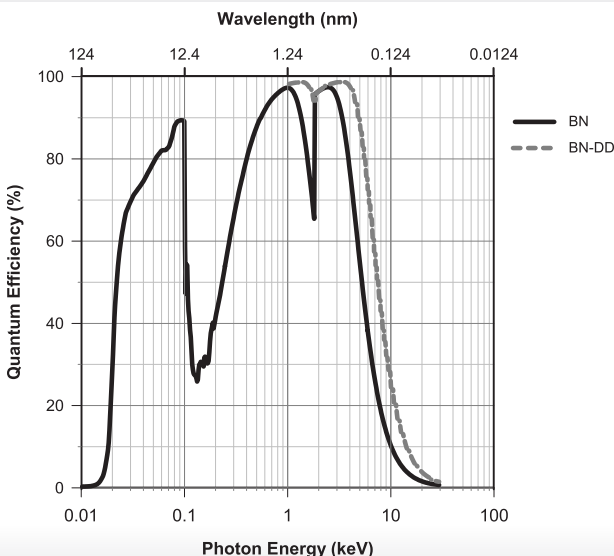
Optional Accessories

Mini PC with XCAP Std and frame grabber	RPL-PC-EL1
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) ⁵	RPL-CL-CBL-2M
Thermoelectric Water Chiller Unit ⁶	RPL-CHILLER
Water tubing for Eagle (3m) ⁷	RPL-WTUBE-EAGLE
Water Feedthrough	RPL-WFC
Trigger Feedthrough	RPL-TFC

- Note 1: Other sensor format available.
- Note 2: For important information about the vacuum pressure requirement before using the TEC, please refer to the user manual.
- Note 3: For more detailed power consumption values, please refer to the user manual.
- Note 4: Dimensions include all connector parts on the camera interface except for the coolant pipes. Please see the mechanical drawing for all measurements.
- Note 5: Longer Camera Link cable available.
- Note 6: Recommended coolant flow rate >0.5l/min & cooling capacity >100W @ 20°C.
- Note 7: Includes tubing and connectors.

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

Quantum Efficiency



Applications

Scientific

- X-Ray Imaging
- X-Ray Diffraction (XRD) and X-Ray Fluorescence (XRF)
- X-Ray Plasma Imaging and Diagnostics
- Soft X-Ray Microscopy
- EUV X-Ray Spectroscopy
- X-Ray source characterization
- X-Ray Phase Contrast Imaging
- X-Ray Tomography
- VUV/EUV/XUV Imaging and Lithography Crystallography

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