

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 μ m \times 13.5 μ m and 13 μ m \times 13 μ m 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 $\leq 10^{-5}$ mbar

Resolution	2048 \times 2048
------------	--------------------------------------

Digital output	16 bit
----------------	---------------

Non linearity	< 1%
---------------	----------------

Weight	< 3Kg
--------	-----------------

Specification for Eagle XV

Sensor ¹	E2V 4240 Back Illuminated, AI-MO	E2V 4710 Back Illuminated, AI-MO
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	100ke-	
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	

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.

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-WTC
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.

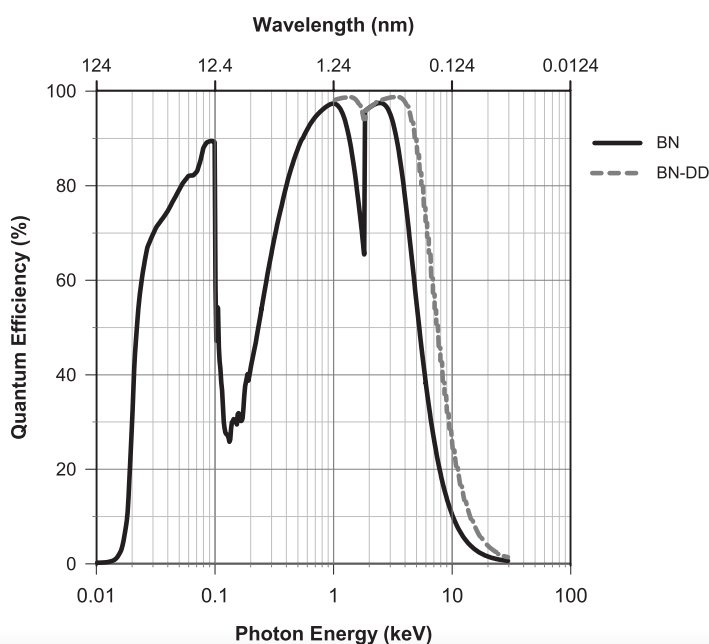
Note 5: Longer Camera Link cable available.

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

Document #: INEAGLEXV 1019R1



Willowbank Business Park
Larne, Co Antrim
BT40 2SF,
Northern Ireland

Raptor Photonics Ltd. (UK)
T: +44(0)2828 270 141
E: sales@raptorphotonics.com
www.raptorphotonics.com

Raptor Photonics Inc. (USA)
T: +1 (877) 230-4836
E: sales@raptorphotonics.com
www.raptorphotonics.com

