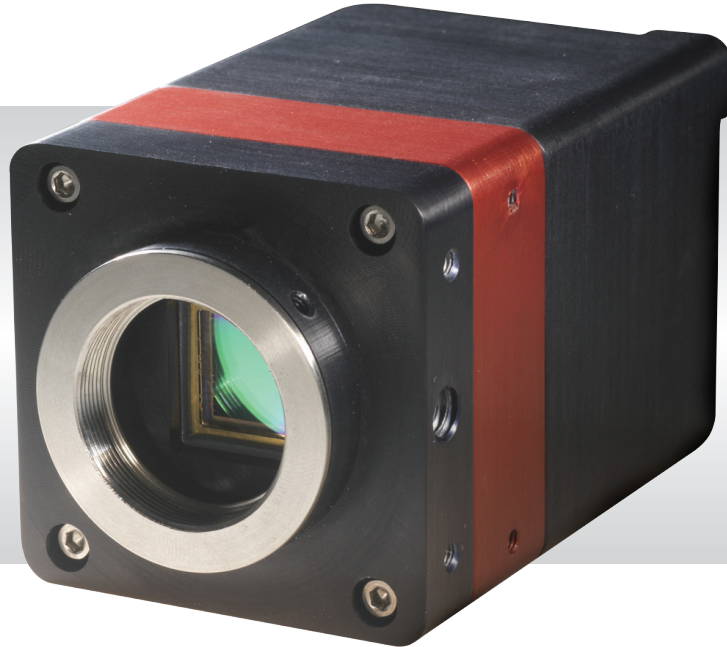


# Night Owl 640 VIS-SWIR

Ultra low noise, digital VIS-SWIR camera,  
640 x 512 • 18 electrons • VIS-SWIR technology •



## Key Features and Benefits

*The best performing VIS-SWIR camera in the World!*

- **Ultra low noise sensor**  
Enables ultimate night vision VIS-SWIR image
- **VIS-SWIR technology**  
Compatible with VIS-SWIR illuminators, markers & pointers
- **15µm x 15µm pixel pitch**  
Enables highest resolution VIS-SWIR image
- **On-board Automated Gain Control (AGC)**  
Enables clear video in all light conditions
- **Ultra compact, Low power**  
Ideal for hand-held, mobile or airborne systems

Resolution	<b>640 x 512</b>
Frame rate	<b>Up to 120Hz</b>
Readout noise	<b>18 electrons</b>
Wavelength Range	<b>VIS-SWIR</b>

PRELIMINARY

## Specification for Night Owl 640 VIS-SWIR

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.2mm
Spectral response <sup>1</sup>	0.4µm to 1.7µm
Noise (RMS)	< 25 electrons High gain (18 electrons typical)
Quantum Efficiency	Peak >75% (>60% @1064nm, >70% 1550nm)
Pixel Well Depth	Low Gain: 650ke-, High Gain: 12ke-
Pixel Operability	>99.5%
Digital Output Format	14 bit CameraLink (Base Configuration)
Exposure time	1µs to 1 / frame rate
Shutter mode	Global shutter
Frame Rate	Up to 120Hz programmable, 25ns resolution
Optical Interface	C mount
Trigger interface	Trigger IN and OUT - TTL compatible
Power supply	12V DC ±10%
TE Cooling	Active
Image Correction	3 point NUC (offset, Gain & Dark Current) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non Uniformity Correction, Gamma, Pk/Av, TEC, ROI
Camera Power Consumption <sup>2</sup>	< 3.5W (TEC OFF, NUC ON) <4W (TEC ON in ambient, NUC ON)
Operating Case Temperature <sup>3</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>4</sup>	50mm x 50mm x 82mm
Weight	282g

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

## Ordering Information

### Camera

OWL VIS-SWIR digital camera Low noise, C-mount	NO1.7-VS-CL-640
OWL Power Supply Cable	RPL-HR4-K

### Optional Accessories

EPIX(R) base CL card	RPL-EPIX-EB1
EPIX(R) XCAP STD software	RPL-XCAP-STD
CameraLink Cable, 2m <sup>5</sup>	RPL-CL-CBL-2M
Optical SWIR lenses <sup>6</sup>	RPL-xx-xxxx

Note 1: Optional filters available: Low, High or bandpass

Note 2: Measured in an ambient of 25°C with adequate heat sinking

Note 3: Extended Operating Temperature range on request

Note 4: Dimensions include all connector parts on camera interface

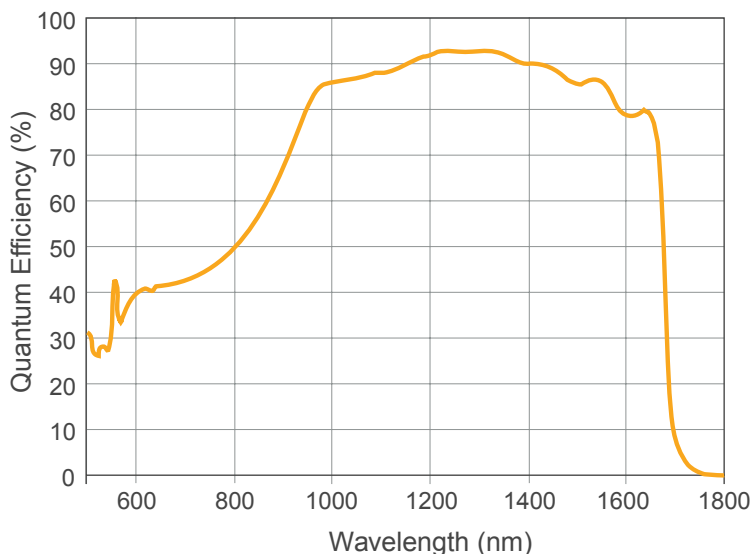
Note 5: Longer CL cable available

Note 6: 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](http://www.raptorphotonics.com)

## Quantum Efficiency



\*Data supplied by sensor manufacturer

## Applications

### Surveillance

- 860, 1064 & 1550nm laser line detection
- Active Imaging
- Airborne Payload
- Hand Held Goggles
- Imaging through Fog
- Range Finding
- Vision enhancement

### Scientific

- Astronomy
- Beam Profiling
- Hyperspectral Imaging
- Semiconductor Inspection
- Solar Cell Inspection
- Thermography

Document #: USNO1.7-VS-CL-640 0619



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

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

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

