

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
- **15 μ m x 15 μ m 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	640 x 512
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Frame rate	Up to 120Hz
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Readout noise	18 electrons
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Wavelength Range	VIS-SWIR
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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 ¹	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 ²	< 3.5W (TEC OFF, NUC ON) <4W (TEC ON in ambient, NUC ON)
Operating Case Temperature ³	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) ⁴	50mm x 50mm x 82mm
Weight	282g
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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 ⁵	RPL-CL-CBL-2M
Optical SWIR lenses ⁶	RPL-xx-xxxx

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

Note 2: Measured @ 30°C

Note 3: Extended Operating Temperature range on request

Note 4: Dimensions include all connector parts on camera interface

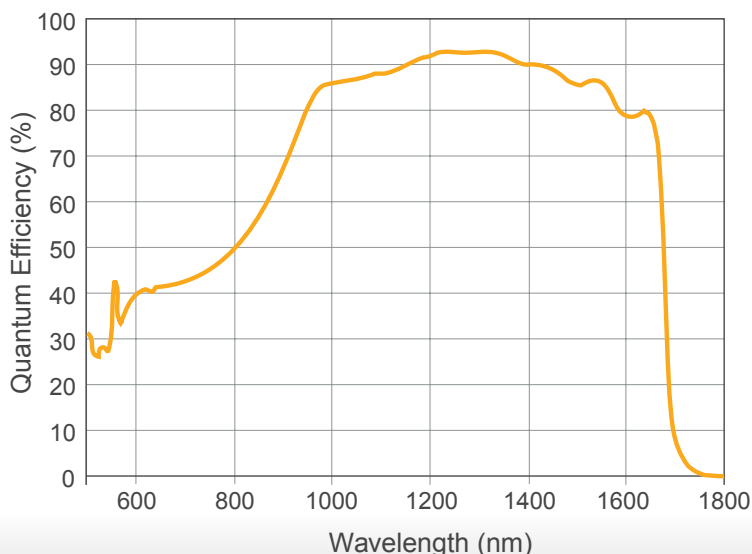
Note 5: Longer CL cable available

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

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

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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

