

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	640 x 512
------------	------------------

Frame rate	Up to 120Hz
------------	--------------------

Readout noise ⁶	18 electrons
----------------------------	---------------------

Wavelength Range	VIS-SWIR
------------------	-----------------

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
Camera Setup / Control	RS 485
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	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 ⁴	RPL-CL-CBL-2M
Optical SWIR lenses ⁵	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: Longer CL cable available

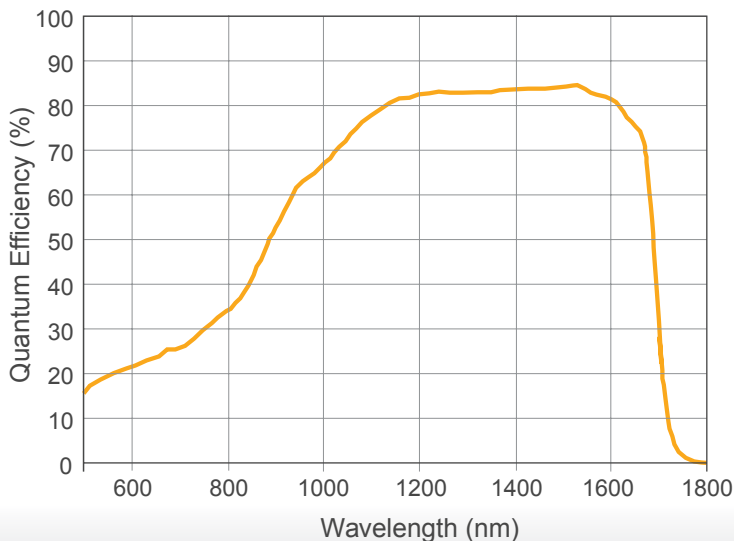
Note 5: Please consult us to check our range of lenses

Note 6: Typical value

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

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

Quantum Efficiency



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 1118



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

