

# Owl 640 SWIR

High resolution, low noise, digital SWIR camera  
640 x 512 • Frame rate up to 120 Hz • SWIR technology •



## Key Features and Benefits

*The best performing SWIR camera in the World!*

- **SWIR technology**  
Enables imaging from 0.9 $\mu$ m to 1.7 $\mu$ m
- **15 $\mu$ m x 15 $\mu$ m pixel pitch**  
Enables highest resolution SWIR image
- **Ultra high intrascene dynamic range**  
Enables simultaneous capture of bright & dark portions of a scene
- **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 <sup>6</sup>	<b>39 electrons</b>
Wavelength Range	<b>SWIR</b>

PRELIMINARY

## Specification for Owl 640 SWIR

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.68mm
Spectral response <sup>1</sup>	0.9µm to 1.7µm
Noise (RMS)	<195 electrons Low Gain (176 electrons typical), <50 electrons High Gain (39 electrons typical)
Quantum Efficiency	> 70% from 1µm to 1.6µm
Pixel Well Depth	Low Gain: 1.4Me-, High Gain: 43ke-
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 <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

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## Ordering Information

### Camera

OWL SWIR digital camera C-Mount	OW17-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 @ 30°C

Note 3: Extended Operating Temperature range on request

Note 4: Dimensions include all connector parts on camera interface

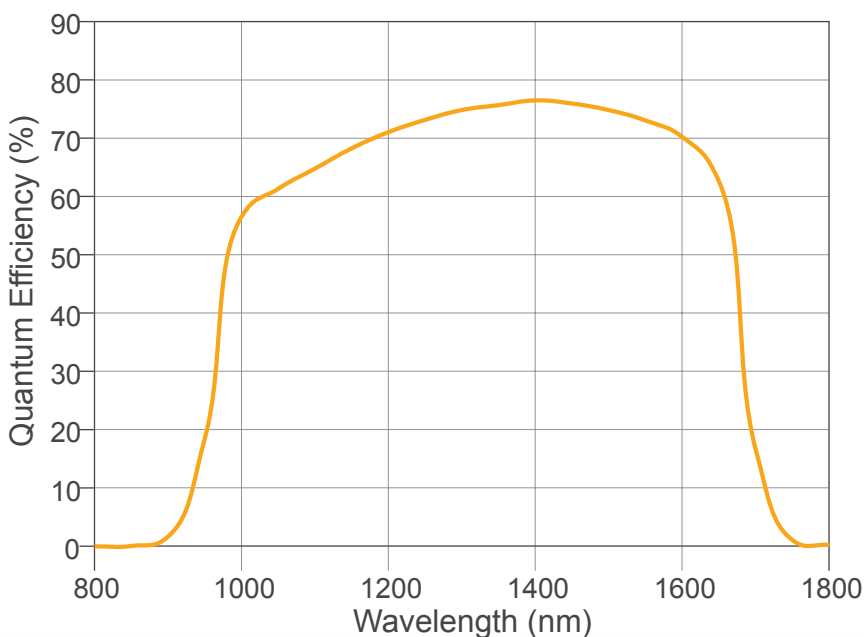
Note 5: Longer CL cable available

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

## Quantum Efficiency



## Applications

### Surveillance

- 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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