

# Owl 640 VIS-SWIR

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



## Key Features and Benefits

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

- **VIS-SWIR technology**  
Compatible with VIS-SWIR illuminators, markers & pointers
- **15 $\mu$ m x 15 $\mu$ m pixel pitch**  
Enables highest resolution VIS-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	<b>36 electrons</b>
Wavelength Range	<b>VIS-SWIR</b>

# Specification for Owl 640 VIS-SWIR

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.68mm
Spectral response <sup>1</sup>	0.4µm to 1.7µm
Readout Noise (RMS) LG = Low Gain HG = High Gain	LG: <190 electrons (174 electrons typical) HG: <50 electrons (36 electrons typical)
Quantum Efficiency	>80% @ 1.55µm
Full Well Capacity	LG: 650ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<28,000 @ 15°C
Digital Output Format	14 bit Camera Link (Base Configuration)
Exposure time	10µs to 26.8s
Shutter mode	Global shutter
Frame Rate	Up to 120Hz
Optical Interface	C mount or M42
Dynamic Range	LG: 71dB HG: 49dB
Trigger interface	Trigger IN and OUT - TTL compatible
Power supply	12V DC ±0.5V
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 with TEC OFF, NUC ON <5W with TEC ON, NUC ON (ambient of 25°C)
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>	90.93mm x 50.00mm x 50.00mm
Weight	282g

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# Ordering Information

## Camera

Owl 640 VIS-SWIR digital camera	OW1.7-VS-CL-640
Power Supply Cable	RPL-HR4-K

## Optional Accessories

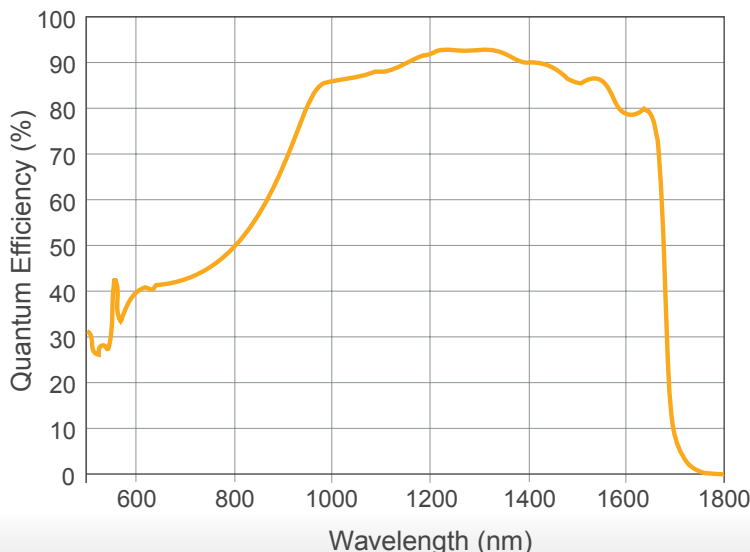
Mini PC with Xcap STD and frame grabber	RPL-PC-EL1
EPIX® E8 base CL card	RPL-EPIX-E8
EPIX® XCAP STD software	RPL-XCAP-STD
Camera Link Cable, 2m <sup>5</sup>	RPL-CL-CBL-2M
Optical Lenses <sup>6</sup>	RPL-xx-xxxx

- 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



\*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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