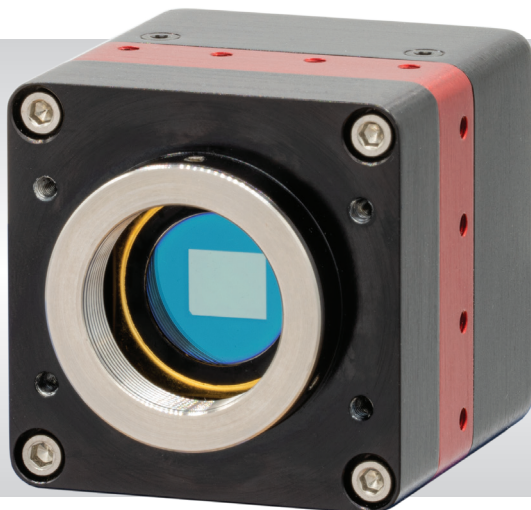


# Owl 640 II

Low noise, digital VIS-SWIR camera

640 x 512 • 15 $\mu$ m x 15 $\mu$ m Pixel Pitch • Frame rate up to 120 Hz •



## 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 II

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>	0.6µm to 1.7µm
Readout Noise (RMS) <sup>2</sup> LG = Low Gain HG = High Gain	LG: <190e- (174e- typical) HG: <50e- (36e- typical)
Peak Quantum Efficiency	>90% @1.3µm
Full Well Capacity	LG: 650ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s) <sup>3</sup>	<28,000 @ 15°C
Digital Output Format	14 bit Camera Link (Base Configuration / SDR)
Exposure time <sup>4</sup>	10µs to 26.8s
Shutter mode	Global shutter
Frame Rate	Up to 120Hz
Optical Interface <sup>5</sup>	C mount
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, ALC ROI
Camera Power Consumption <sup>6</sup>	<8W with TEC ON, NUC ON
Operating Case Temperature <sup>7</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>8</sup>	69.4mm x 50.00mm x 50.00mm
Weight	282g

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# Ordering Information

## Camera

Owl 640 II Digital Camera	OW1.7-VS-CL-640-II
Power Supply Cable	RPL-HR4-K

## Optional Accessories

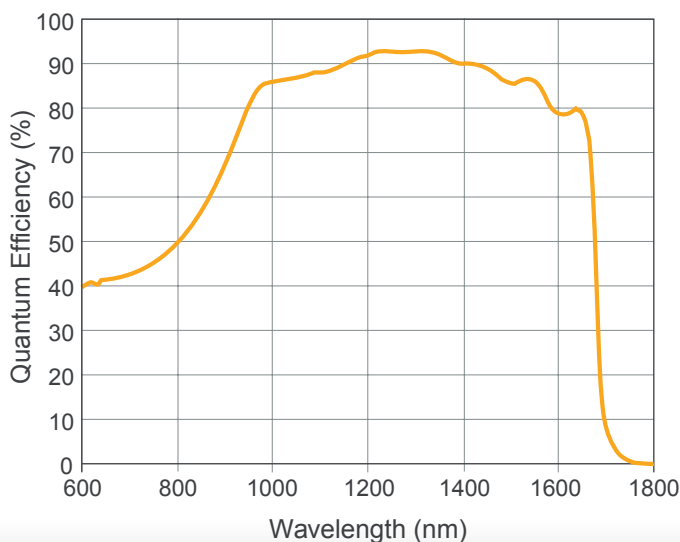
Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m) <sup>9</sup>	RPL-MCL-CBL-2M
Optical Lenses <sup>10</sup>	RPL-xx-xxxx

- Note 1: Optional filters available: Low, High or bandpass.
- Note 2: Typical readout noise is calculated from an average of the last 20 cameras shipped.
- Note 3: Dark current provided for information and is not official specification.
- Note 4: In practice, the maximum exposure time will be dark current limited.
- Note 5: Other mounts on request.
- Note 6: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
- Note 7: Extended operating temperature range on request.
- Note 8: Dimensions include all connector parts on the camera interface.
- Note 9: Longer Camera Link cable available.
- Note 10: 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 Systems
- Imaging through Fog
- Range Finding
- Vision enhancement

## Scientific

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



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

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

