

# Owl 640 T

High Sensitivity, Digital VIS-SWIR camera

640 x 512 • 10µm x 10µm Pixel Pitch • <50e readout noise •



## Key Features and Benefits

*The World's first SWaP optimised 1/2" / VGA sensor with VIS-SWIR response*

- **1/2" Sensor Format**  
Better for optical design, ideal for OEM integration into Electro-Optic systems.
- **10µm x 10µm Pixel Pitch**  
Compatible with VIS-SWIR illuminators, markers & pointers
- **<50 Electrons Readout Noise**  
Enables highest VIS-SWIR detection limit
- **On-board Automated Gain Control (AGC)**  
Enables clear video in all light conditions
- **On-board Intelligent 3 point NUC**  
Enables highest quality photos

Resolution	<b>640 x 512</b>
Frame rate	<b>10 to 60Hz</b>
Camera link	<b>12 bit</b>
Wavelength Range	<b>VIS-SWIR</b>

# Specification for Owl 640 T

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	10µm x 10µm
Active Area	6.4mm x 5.12mm
Spectral response <sup>1</sup>	0.4µm to 1.7µm
Readout Noise (RMS) <sup>2</sup> LG = Low Gain HG = High Gain	LG: <190e- (160e- typical) HG: <50e- (47e- typical)
Peak Quantum Efficiency	>90% @1.3µm
Full Well Capacity	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<19,000 @ 15°C
Digital Output Format	12 bit Camera Link (Medium Configuration)
Exposure time	LG: 20µs to 92.5ms HG: 40µs to 86.5ms
Shutter mode	Global shutter
Frame Rate	10 to 60Hz
Optical Interface	C mount (selection of SWIR lens available) or M42
Dynamic Range (Typical)	LG: 69dB, HG: 47dB
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>3</sup>	<8W with TEC ON, NUC ON
Operating Case Temperature <sup>4</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>5</sup>	67.60mm x 50.00mm x 50.00mm
Weight	247g

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# Ordering Information

## Camera

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

## Optional Accessories

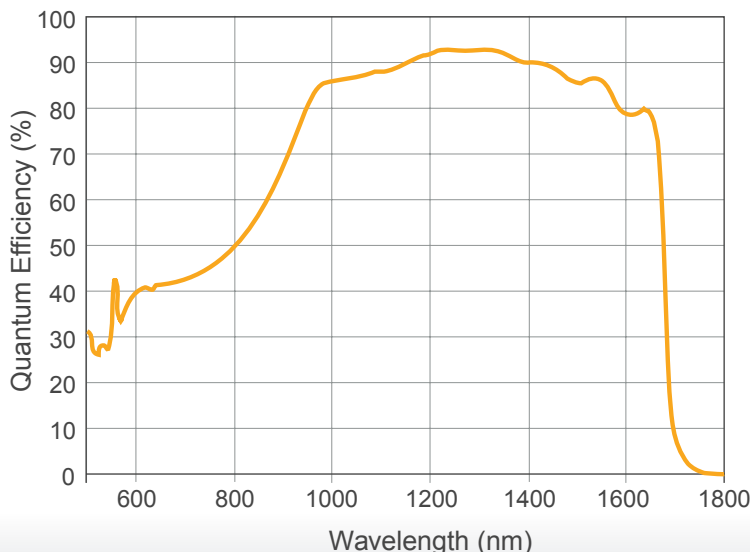
Mini PC with XCAP Std and frame grabber	RPL-PC-EL1
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) <sup>6</sup>	RPL-MCL-CBL-2M
Optical Lenses <sup>7</sup>	RPL-xx-xxxx

- 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: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
- Note 4: Extended operating temperature range on request.
- Note 5: Dimensions include all connector parts on the camera interface.
- Note 6: Two cables are required. The maximum cable length is 2m. For more information, please refer to the user manual.
- Note 7: 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
- Airborne and Ground Payload
- Hand Held Systems
- Driving Vision Enhancement (DVE)
- Airborne EVS
- Vision enhancement

## Scientific

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

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