

Owl 640 II

Low noise, digital VIS-SWIR camera

640 x 512 • 15µm x 15µm 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
- **15µm x 15µm 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	640 x 512
Frame rate	Up to 120Hz
Readout noise	36 electrons
Wavelength Range	VIS-SWIR

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 ¹	0.4µm to 1.7µm
Readout Noise (RMS) ² 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)	<28,000 @ 15°C
Digital Output Format	14 bit Camera Link (Base Configuration)
Exposure time ³	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, ALC ROI
Camera Power Consumption ⁴	<4W with TEC ON, NUC ON
Operating Case Temperature ⁵	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) ⁶	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

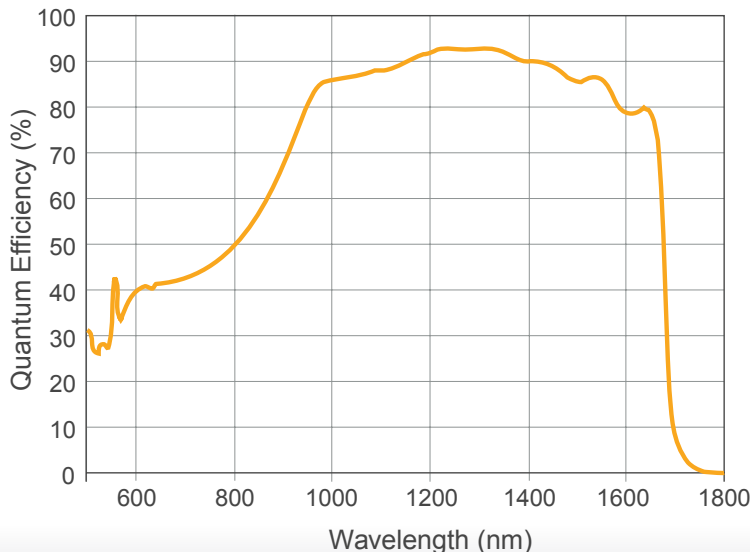
Mini PC with XCAP Std and frame grabber	RPL-PC-EL1
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) ⁷	RPL-MCL-CBL-2M
Optical Lenses ⁸	RPL-xx-xxxx

- 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: In practice, the maximum exposure time will be dark current limited.
- Note 4: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
- Note 5: Extended operating temperature range on request.
- Note 6: Dimensions include all connector parts on the camera interface.
- Note 7: Longer Camera Link cable available.
- Note 8: 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

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



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