

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 μ m x 15 μ 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	640 x 512
Frame rate	Up to 120Hz
Readout noise ⁶	36 electrons
Wavelength Range	VIS-SWIR

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 ¹	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 ²	<3.5W with TEC OFF, NUC ON <5W with TEC ON, NUC ON (ambient of 25°C)
Operating Case Temperature ³	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions	90.93mm x 50.00mm x 50.00mm
Weight	282g

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.

Ordering Information

Camera

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

Optional Accessories

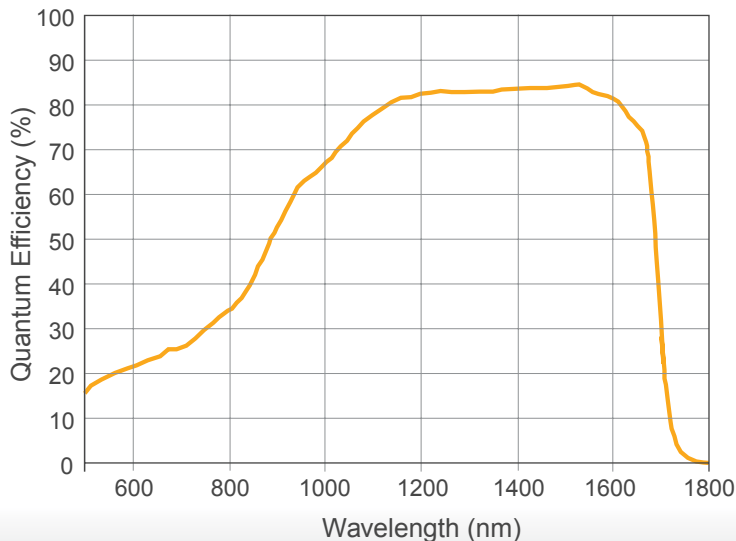
Mini PC with Xcap STD and frame grabber	RPL-PC-EL1
EPIX® E8 base CL card	RPL-EPIX-E8
EPIX® XCAP STD software	RPL-XCAP-STD
Camera Link Cable, 2m ⁴	RPL-CL-CBL-2M
Optical Lenses ⁵	RPL-xx-xxxx

Note 1: Optional filters available: Low, High or bandpass
 Note 2: Measured @ 30°C
 Note 3: Extended Operating Temperature range on request
 Note 4: Longer CL cable available
 Note 5: Please consult us to check our range of lenses
 Note 6: Typical Value

Demo is available on request.
 Pricing AOR subject to volumes.

Detailed technical drawings can be downloaded at www.raptorphotonics.com

Quantum Efficiency



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

Document #: USOWL1.7-VS-CL-640 1118



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

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

