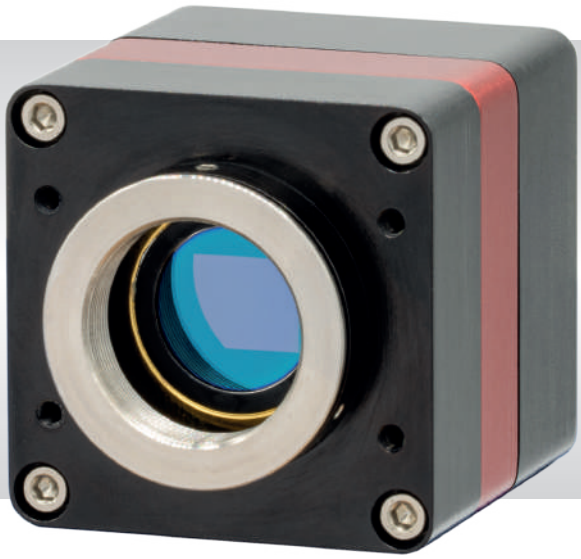
Owl 640 T

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 ½" / VGA sensor with VIS-SWIR response

- **½" 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	**640 x 512**
Frame rate	**10 to 60Hz**
Camera link	**12 bit**
Wavelength Range	**VIS-SWIR**

Raptor photonics

www.raptorphotonics.com

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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[1]	0.6µm to 1.7µm
Readout Noise (RMS)[2] 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 (Base Configuration)
Exposure time	LG: 20µs to 92.5ms HG: 40µs to 86.5ms
Shutter mode	Global shutter
Frame Rate	10 to 60Hz
Optical Interface[3]	C mount
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[4]	<8W 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]	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

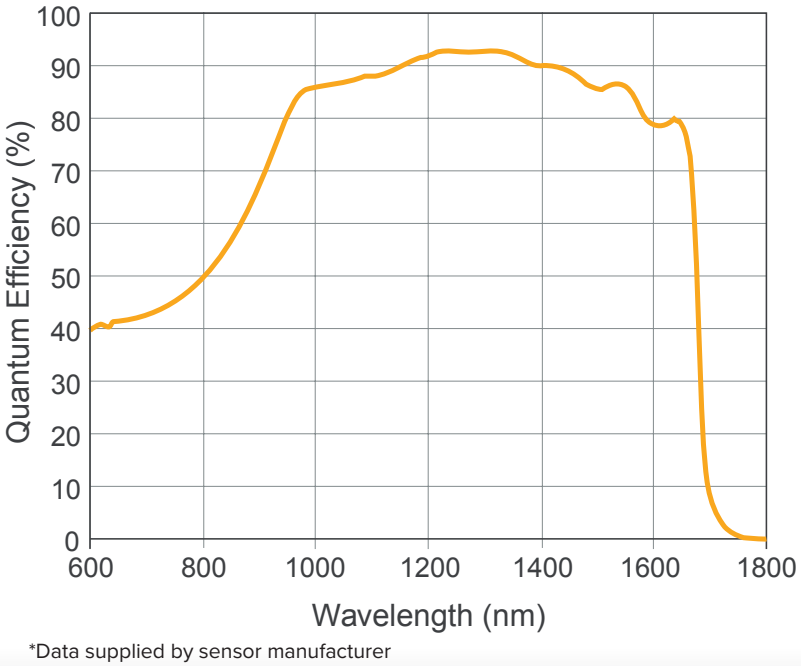
Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m)[7]	RPL-MCL-CBL-2M
Optical Lenses[8]	RPL-xx-xxxx

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: Other mounts on request.
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: One cable required. The maximum cable length is 2m. For more information, please refer to the user manual.
Note 8: Please consult us to check our range of lenses.
Note 9. Windowless option available, please contact us for further details

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
- 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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