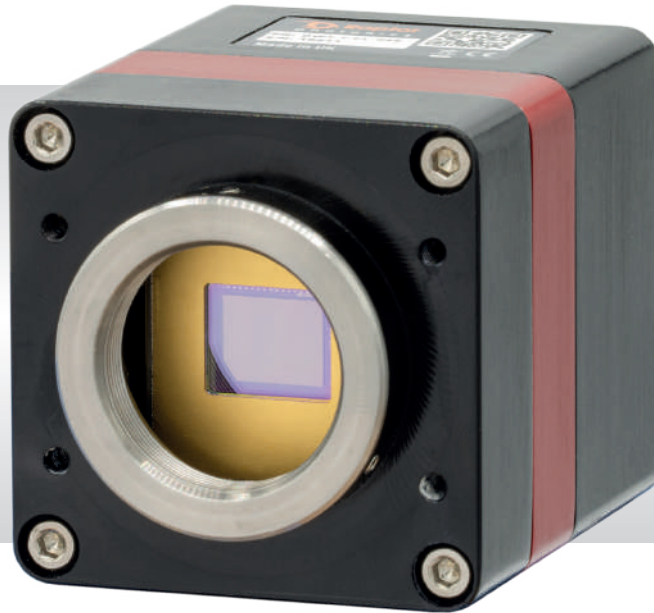


Owl 640 S

High Speed, low noise, digital SWIR camera

640 x 512 • 15 μ m x 15 μ m Pixel Pitch • Frame rate up to 30.2kHz •



Key Features and Benefits

The best performing SWIR camera in the World!

- **High Speed - up to 30.2kHz @ 32 x 4**
Perfect for high speed imaging applications
- **SWIR technology**
Enables imaging from 0.9 μ m to 1.7 μ m
- **15 μ m x 15 μ m pixel pitch**
Enables highest resolution 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 30.2kHz
Readout noise	<50e-
Wavelength Range	SWIR

Specification for Owl 640 S

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	0.9µm to 1.7µm
Readout Noise (RMS) on camera LG = Low Gain HG = High Gain	HG: <56e- (Typical <50e-) LG: <98e- (Typical <85e-)
Readout Noise (RMS) on ROIC	HG: <30e-
Peak Quantum Efficiency	80% @ 1.5µm
Full Well Capacity	Low Gain: >110ke-, High Gain: >35ke-
Pixel Operability	99%
Dark Current	300k e/p/s @15°C (130k typical)
Digital Output Format	12 bit Camera Link (Medium Configuration)
Exposure time ²	15µs to frame period in IWR
Shutter mode	Global shutter
Frame Rate	300Hz in full resolution. 30.2kHz with 32x4 binning
Optical Interface	C mount
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, TEC, frame rate
Camera Power Consumption ³	8W (TEC ON, NUC ON)
Operating Case Temperature ⁴	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) ⁵	74.2mm x 50.00mm x 50.00mm
Weight	260g

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Ordering Information

Camera	Owl 640 S Digital Camera	OW17-CL-640
	Owl 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® E8 Frame Grabber	RPL-EPIX-E8
	EPIX® XCAP Std software	RPL-XCAP-STD
	MDR-SDR CameraLink Cable (2m) ⁶	RPL-MCL-CBL-2M
	Optical SWIR lenses ⁷	RPL-xx-xxxx

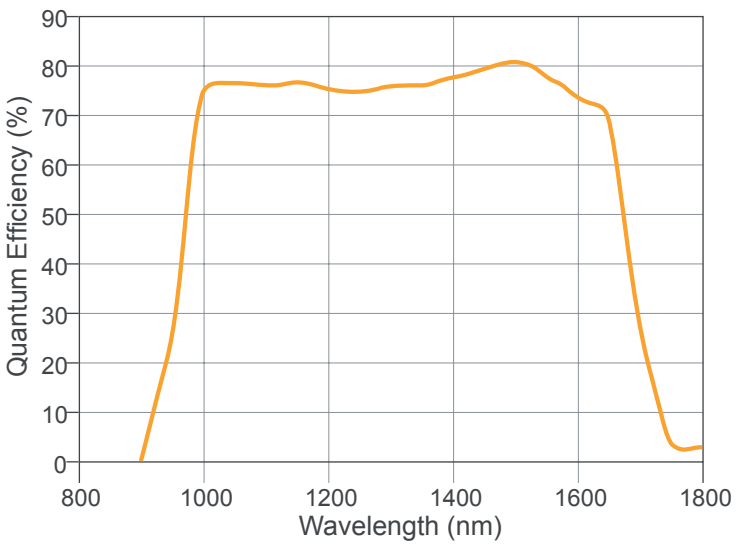
- Note 1: Optional filters available.
- Note 2: Maximum exposure time will be dark current limited.
- Note 3: Measured in an ambient of 25°C with adequate heat sinking.
- Note 4: Extended operating temperature range on request.
- Note 5: Dimensions include all connector parts on the camera interface.
- Note 6: Two cables required.
- Note 7: Please consult us to check our range of lenses.
- Note 8: The following speeds can be achieved by using ROI.

Resolution	Speed (Hz)
640 x 512	300
320 x 256	903
32 x 32	10,489
32 x 4	30,200

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

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

Quantum Efficiency



Applications

- Surveillance**
 - 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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