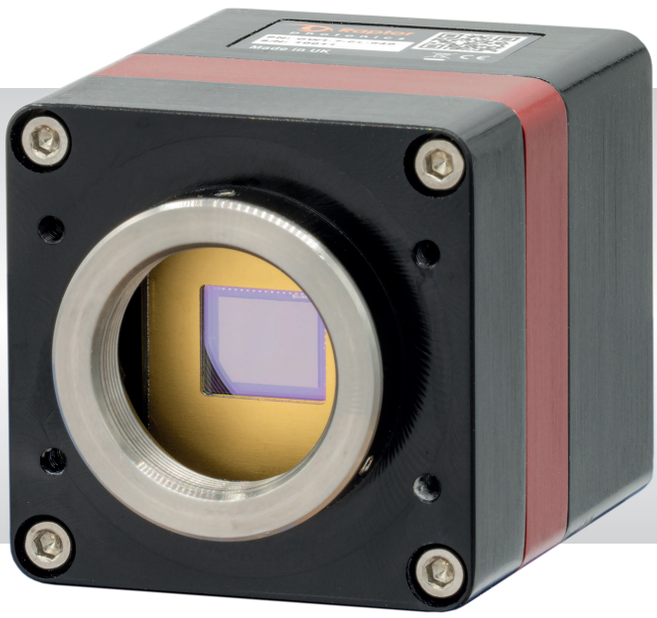
Owl 640 S

High Speed, low noise, digital SWIR camera
640 x 512 • 15µm x 15µm Pixel Pitch • Frame rate up to 30.2kHz •



CAMERA Link

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 0.9µm to 1.7µm
- **15µm x 15µm pixel pitch**
  Enables highest resolution SWIR image
- **Ultra high intrascene dynamic range**
  Enables similtaneous 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**

Raptor photonics

www.raptorphotonics.com

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

Ordering Information

Camera

Owl 640 S Digital Camera	OW1.7-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

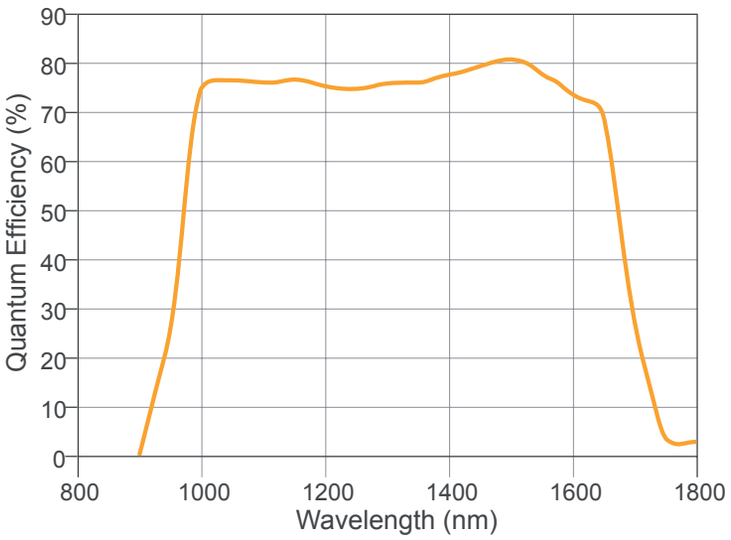
Note 1: Optional filters available.
Note 2: Maximum exposure time will be dark current limited.
Note 3: Measured in an ambient of 25°C with adequate heat sinking.
Note 4: Extended operating temperature range on request.
Note 5: Dimensions include all connector parts on the camera interface.
Note 6: Two 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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