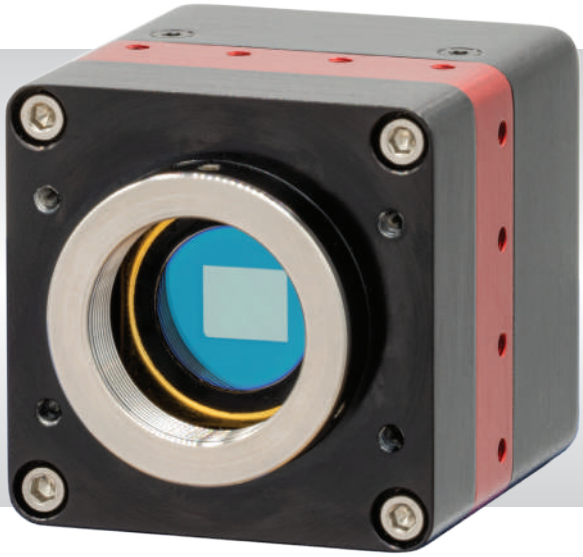
Owl 640 N

Ultra low noise, digital VIS-SWIR camera,
640 x 512 • 15µm x 15µm Pixel Pitch • 18 electrons •



Key Features and Benefits

The best performing VIS-SWIR camera in the World!

- **Ultra low noise sensor**
  Enables ultimate night vision VIS-SWIR image
- **VIS-SWIR technology**
  Compatible with VIS-SWIR illuminators, markers & pointers
- **15µm x 15µm pixel pitch**
  Enables highest resolution VIS-SWIR image
- **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	**18 electrons**
Wavelength Range	**VIS-SWIR**

Raptor photonics

www.raptorphotonics.com

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Specification for Owl 640 N

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.2mm
Spectral response[1]	0.6µm to 1.7µm
Noise (RMS) LG = Low Gain HG=High Gain	LG: <175e- (150e- typically) HG: <22e- (18e- typically)
Peak Quantum Efficiency	>90% @1.3µm
Pixel Well Depth	Low Gain: >250ke-, High Gain: >10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	12,500 @ 15°C
Digital Output Format	14 bit CameraLink (Base Configuration) /SDR
Exposure Time	1µs to 1 / frame rate
Shutter Mode	Global shutter
Frame Rate	Up to 120Hz programmable, 25ns resolution
Dynamic Range (Typical) LG = Low Gain HG=High Gain	LG: 62dB HG: 55dB
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, Gamma, Pk/Av, TEC, ROI
Camera Power Consumption[2]	<4W (TEC ON, NUC ON)
Operating Case Temperature[3]	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H)[4]	69.4mm x 50mm x 50mm
Weight	282g

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Ordering Information

Camera

Owl 640 N Digital Camera	NO1.7-VS-CL-640
OWL Power Supply Cable	RPL-HR4-K

Optional Accessories

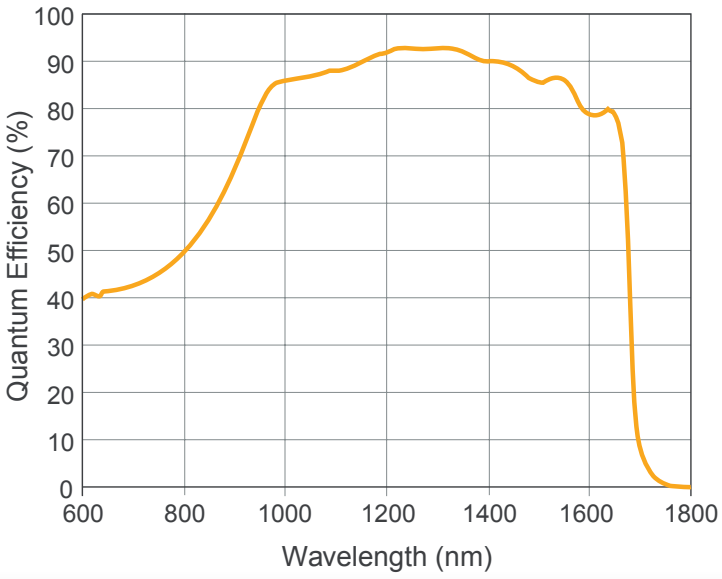
Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX(R) base CL card	RPL-EPIX-EB1
EPIX(R) XCAP STD software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m)[5]	RPL-MCL-CBL-2M
Optical SWIR lenses[6]	RPL-xx-xxxx

Note 1: Optional filters available: Low, High or bandpass
Note 2: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
Note 3: Extended Operating Temperature range on request
Note 4: Dimensions include all connector parts on camera interface
Note 5: Longer CL cable available
Note 6: 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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