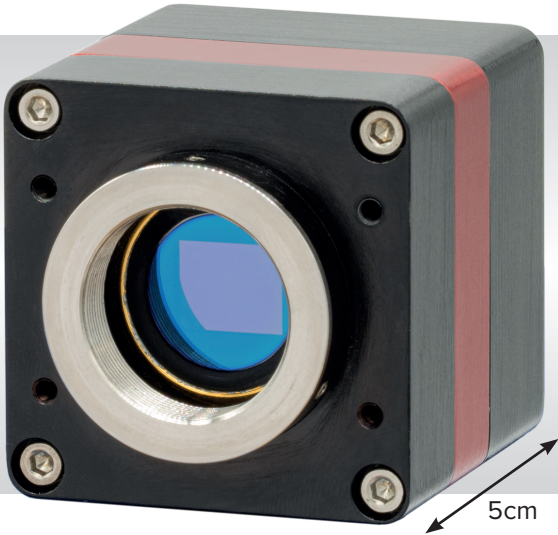




# Owl 1280

High resolution, High Sensitivity, Digital VIS-SWIR camera  
1280 x 1024 • 10µm x 10µm Pixel Pitch • 28e- readout noise •



## Key Features and Benefits

*The best performing HD VIS-SWIR camera in the World!*

- **1280 x 1024, 10µm pitch VIS-SWIR technology**  
Enables highest resolution imaging from 0.6µm to 1.7µm
- **28e- 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
- **Advanced video enhancement and signal processing features**  
Optimizing image quality and output in real-time

Resolution	1280 x 1024
Frame rate	10 to 60Hz
Camera link	12 bit
Wavelength Range	VIS-SWIR

Specification for Owl 1280

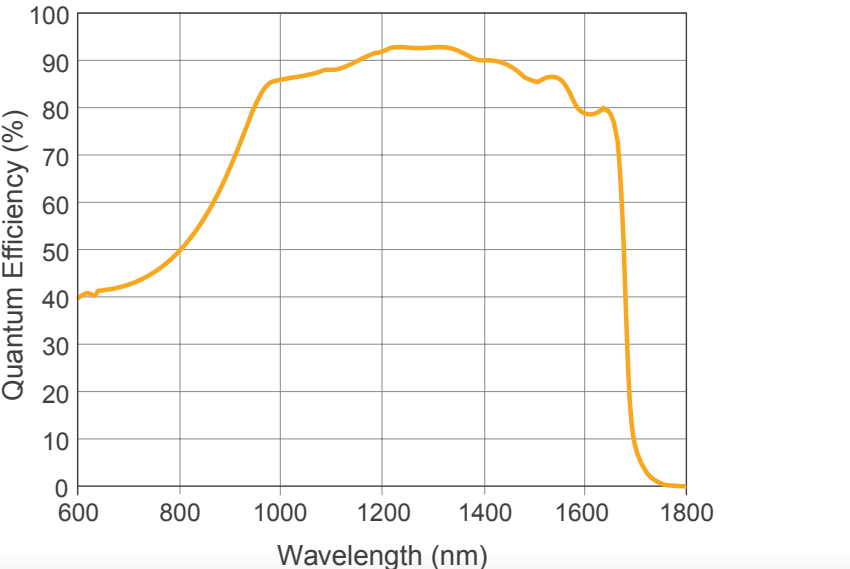
Sensor Type	InGaAs PIN-Photodiode
Active Pixel	1280 x 1024
Pixel Pitch	10µm x 10µm
Active Area	12.8mm x 10.24mm
Spectral response <sup>1</sup>	0.6µm to 1.7µm
Readout Noise (RMS) <sup>2</sup> LG = Low Gain HG = High Gain	LG: <180e- (160e- typical) HG: <50e- (28e- typical)
Peak Quantum Efficiency	>90% @ 1.3µm
Full Well Depth	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<19,000 @ 15°C
Digital Output Format	12 bit Camera Link (medium configuration)
Exposure time	LG: 10µs to 92.5ms HG: 10µs to 86.5ms
Shutter mode	Global shutter
Frame Rate	10 to 60Hz
Optical Interface	C mount (selection of SWIR lens available)
Dynamic Range	LG: 69dB, HG: 51dB
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	Eg. Exposure, intelligent AGC, Non Uniformity Correction, Gamma, Pk/Av, TEC, ROI, etc
Camera Power Consumption <sup>3</sup>	<8W with TEC ON, NUC ON
Operating Case Temperature <sup>4</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>5</sup>	67.60mm x 50.00mm x 50.00mm
Weight	247g

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

Detailed technical drawings can be downloaded at  
[www.raptorphotonics.com](http://www.raptorphotonics.com)

Quantum Efficiency



\*Data supplied by sensor manufacturer

Ordering Information

**Camera**

Owl 1280 Digital Camera

OW1.7-VS-CL-1280

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

Camera Link Cable (2m)<sup>6</sup>

RPL-MCL-CBL-2M

Optical Lenses<sup>7</sup>

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: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.

Note 4: Extended operating temperature range on request.

Note 5: Dimensions include all connector parts on the camera interface.

Note 6: Two cables are required. The maximum cable length is 2m. For more information, please refer to the user manual.

Note 7: Please consult us to check our range of lenses.

Custom Options

- No C-Mount, M42
- Board level
- Extended operational temperature -40°C to +75°C
- Flexi-rigid electronics to fit specific EO systems
- Customized mechanics
- Digital video output eg HD-SDI

Firmware Features

- On-board Automated Gain Control (AGC)
- On-board intelligent 3-point NUC
- Binning
- Crosshairs
- Vertical and horizontal image flip
- Edge and sharpen filters
- Contrast and gamma adjust

Applications

- Surveillance**
  - HD long range day / night SWIR imaging
  - 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