



Smart Visual Detection System



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Technical Description

The SVDS camera system consists of: High Definition Video (HDV) and Long-Wave Infrared (LWIR) & thermal imaging camera pair, with on-board processing and storage. Each unit is housed robustly for maritime use. Various configuration options are available to ensure optimal visual coverage and ranges up to 360 degrees. If you have specific requirements, please contact enquiries@seiche.com.

General

- Modular customisable configurations
- Multiple mounting options
- Transported in portable custom hard case
- Fully marinised waterproof housing
- Hydrophobic glass
- Operating Temperature Range: -30°C to 70°C (pending certification)
- Operating Voltage 19-30 VDC / supply voltage AC 110-240V
- Power consumption: Low power mode 20W Nominal 35W, Max Peak 135W
- On board GPU image processing
- On board Dual 4TB storage
- Networked removable storage up to 100TB
- Wi-Fi & satellite connectivity available on request
- GigE connectivity
- Potential for remote viewing when combined with Starlink Internet
- External triggers available 3.3V, 5V, 12V, serial optional protocol upon request
- Optional Workstations
- Built in GPS
- IMU orientation +/- 0.1°
- 360-visual scan with PTU

Software

- RTSP Video Streaming
- Automated File transfer for external network storage
- Auto detection (customised training dependant)
- Pan and Tilt controls, including configuration, custom homing, and auto scan feature
- Mysticetus software compatibility (on request)

RGB Camera: Standard RGB camera (Higher resolution options available):

- Sensor: 1/2.3 CMOS SONY IMX392
- Resolution: 2.4MP
- Array Size: 1920x1080
- Pixel Size: 3.45µm x 3.45µm
- Dynamic Range: 48dB
- Shutter Type: Global Shutter

Thermal camera:

- Thermal sensitivity: <40mK
- Pixel Pitch: 12 µm
- Full Frame Rate: 30Hz
- Array size: 640 x 512
- f-number: 1.0
- Spectral Range: Long-wave Infrared; 7.5 µm – 13.5 µm
- Scene Dynamic Range: to 140 °C (high) to 500 °C (low)

Applications include:

- Consistent 24-hour marine mammal monitoring
- Utilizes advanced RGB and IR camera streams for effective hazard detection, small fishing boat identification, and vessel security, with user-friendly manual monitoring.
- First trained model for IR whale blow detection

Example of sperm whale fluke using Seiche's HD/IR camera

