

# EM Observe™

Electronic monitoring for fishing vessels at sea.

## Monitor and Record Fishing Activity at Sea

Archipelago provides everything you need for a complete at-sea electronic monitoring (EM) system. Suitable for anything from small inshore fishing boats to large pelagic vessels, the Archipelago® EM Observe™ v5.0 electronic monitoring system includes a GPS receiver, multiple equipment sensors, and up to eight digital video cameras, all linked to an onboard control centre.

Equipped with Archipelago's EM Record™ data logging software, this monitoring system manages and logs fishing activity data, while providing wheelhouse crew with a real-time view of key fishing activities on deck. As part of an integrated fishery-management program, this advanced technology provides the tools to create a clear and accurate profile of all fishing activity at sea.



### Product Overview

- Create a trip profile with GPS, sensors, and up to eight CCTV digital video cameras
- Log gear deployment, catch, bycatch, discards, and handling
- Confirm the exact time and location of each fishing event
- Set custom modes for specific fishing activities and gear types
- Provide wheelhouse crew with a real-time view of all fishing activities on deck
- Protect fishing records with an uninterruptable power supply and secure data encryption

## EM Observe v5.0 Monitoring System

Ideal for vessels where an onboard observer would be too costly or impractical, the EM Observe™ electronic monitoring system offers a versatile and cost-effective alternative. Quiet, compact, and reliable, each EM Observe system incorporates the highest-quality components, including rugged, weatherproof video cameras, GPS, uninterruptable power supply, and equipment sensors for monitoring activity like hydraulic pressure and drum rotation.

The control centre monitors equipment status, and automatically records data anytime fishing activity is detected. All video, sensor, and GPS data is recorded securely to a portable hard drive, where it can be retrieved for review and interpretation once the vessel returns to port. An option to encrypt fishing activity data ensures that all information remains safe and secure.



## A Dependable Monitoring Solution

- Confirm the exact time and location of every fishing event
- Configure each system to suit specific vessel, gear type, and activities
- Install or upgrade cameras and sensors quickly and easily
- Provide power through a single AC or DC connection
- Monitor fishing, sorting, locations and more

## EM Record v5.0 Operating Software

Manage, log, and view data from multiple sources with the EM Record™ electronic monitoring software. Designed specifically for the Archipelago® EM Observe™ electronic monitoring system, the EM Record software monitors an array of inputs including GPS receiver, video cameras, and activity sensors on winches, pumps and lifts. A bright, clear interface displays fishing activity and equipment usage in real time, while relevant events and video footage are logged to create an integrated trip report for review and verification.

While recording fishing activity and displaying an overview for wheelhouse crew, EM Record can maintain a ship-to-shore data link that delivers regular updates of trip progress, fishing activity, and system status.

Optimized for ease of use on large or small vessels, EM Record's high-contrast interface includes graphic labeling for international applications, automatic dimming for nighttime viewing, simultaneous video display from up to eight cameras, and configurable display options to suit a range of gear types and activities. A password-protected technician mode keeps key system settings secure.

## Specifications\*

### EM Observe™ control centre (v5.0)

- **Size:** 30.5 cm x 30.5 cm x 8.5 cm (12" x 12" x 3<sup>3</sup>/<sub>8</sub>")
- **Weight:** 4.2 kg. (9.3 lbs.)
- **Casing:** aluminum/steel anodized/powder coat
- **Capacity:** removable SATA hard drive, expandable to 1TB Recording time: 1,000 hours + (recording time will vary depending on configuration, frame rate etc.)
- **Security:** tamper-evident housing, security seals
- **Temperature:** 0-40°C

### Power

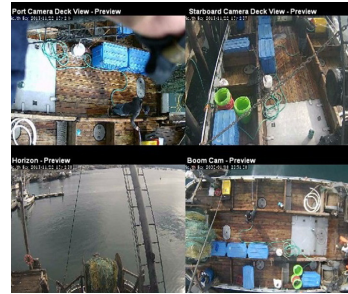
- **DC power:** 11 to 32V input voltage range
- **AC power (adaptor):** 90 to 240 VAC
- **Maximum current draw:** 10A at 12VDC or 5A at 24VDC (120 watts), <10 mA low-current sleep mode
- **Protection:** 15A fuse (externally accessible)
- **Triple power supply:** processor, sensors, and camera Sleep mode: conserves battery (requires sensor)

### Sensors, Inputs, Outputs

GPS Receiver, Power Source Monitor, Sensors:

- 1x sleep sensor (engine oil-pressure switch)
- 4x analogue sensors
- 2x event counters
- 2x RS232 ports (for GPS and satellite modem)
- 6x USB 2.0 (2x front, 4x back)

GPS Receiver, Power Source Monitor, Sensors: Ship-to-shore communications (optional)



## Integrate Video, Sensors and GPS

- Customize operating modes for a range of fishing activities and gear types
- Control the types of data (video, sensor, and position) to record and store
- Create a record of key equipment usage and fishing activity
- Track system performance (including error detection and logging) for each trip
- Monitor power supply conditions with intelligent power management
- Optimize video data storage by varying frame rates for each individual camera

### EM Observe™ control centre (v5.0)

- **Operating system:** Microsoft® Windows XP Embedded®
- **Video compression:** H264 codec support
- **Video display:** up to eight camera views simultaneously
- **Interface:** semi-autonomous (user configurable data recording operations based on sensor-input events)
- **Protection:** UPS-controlled shutdown (prevents data loss), data integrity report, pre-trip system check
- **Encryption:** Microsoft® Encrypting File System (EFS)
- **Camera activation:** Triggered by events including equipment sensors, port departure (GPS), port arrival (GPS), speed (GPS) and more.

### User Interface

- **Keyboard:** Industrial specification
- **Monitor:** VGA 1024x768

### Cameras

- **Housing:** cast aluminum, weatherproof
- **Power:** 802.3af power-over-Ethernet
- **Image sensor:** 1/4" CMOS, 1.0 megapixels
- **Aiming:** fixed aim; internally adjustable

### Compliance

- Designed and manufactured in compliance with applicable standards, including CE, RoHS, and BS EN 60945

\* Specifications are subject to change without notice