

EyeOnBoard Design 90' SonShip Yacht





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EyeOnBoard Introduction

EyeOnBoard LLC designs, builds and markets custom yacht monitoring systems. Through a diverse array of sensors, live video images, and multiple communication options our system provides owners visible access to their yachts while moored at a marina, at anchor or underway anywhere in the world. The EyeOnBoard objective is to deliver 24/7 peace of mind to yacht owners by focusing on security, safety, asset protection, and reduced repair expenses.

The system uses numerous communication technologies such as WiFi, orbiting satellites, stationary satellites, or cellular data service to communicate with the central information management system. When multiple communication capabilities are installed, the system will choose the most cost effect link based on the type of information transmitted.

Our system performs security and safety monitoring, environmental monitoring, and video surveillance. All aspects of the system can be controlled and/or viewed from any PC with a web browser world wide. No special software is required. This includes the viewing and positioning of the onboard tilt, pan, and zoom cameras, arming and disarming of the alarm system and managing system control parameters.

At the owner's choosing the system will automatically transmit the vessel's location to a predetermined list of recipients along with a personal message. The yacht's actual position can be viewed on global satellite images using Google Earth technology.

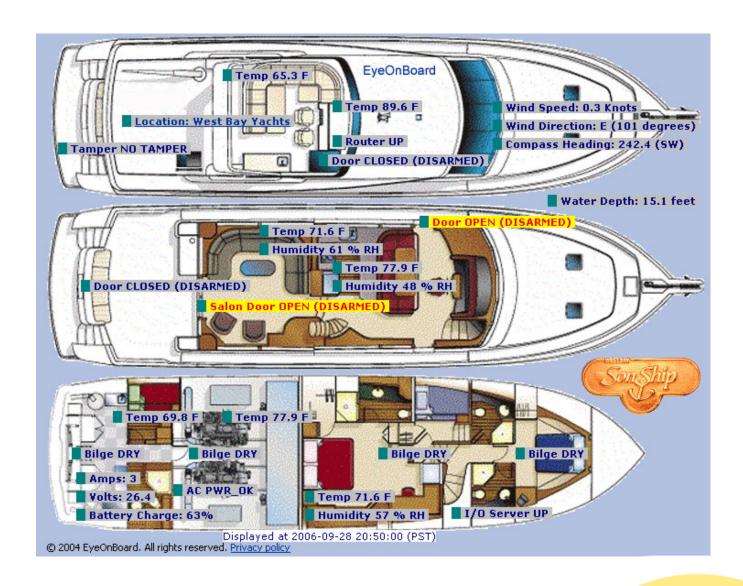
As part of the total yacht monitoring service, a 24/7 staffed Yacht Response Center monitors the yacht and responds to all alerts generated by the system. The Center is also there to answer questions about the operation of the system and performs computer maintenance activities to minimize computer down time or data loss.

To experience the systems complete functionality, or to discuss a custom system configuration please contact us at 916-933-5709 or 604-512-0077. Additional information is also available at WWW.EyeOnBoard.com



Deck Layout

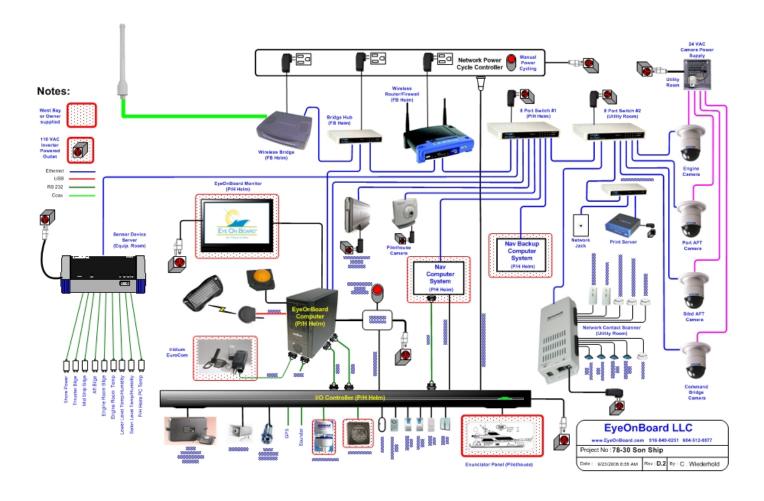






EyeOnBoard Architecture







On-Board System Features



On-Board System Features

Security and Safety Monitoring Locations

Port forward hatch
Port pilothouse hatch
Port pilothouse door
Stbd pilothouse hatch
Stbd pilothouse door

Command bridge door Aft turret door Stateroom CO & smoke detectors Salon Door

Crew quarter CO & smoke detectors Sensor tamper monitoring GPS Fence (requires onboard GPS) will generate alerts if the vessel changes

position while the security system is armed

Environmental Monitoring Locations

AC shore power loss Aft bilge flooding

Outside temperature Engine room bilge flooding
Pilothouse helm temperature Mid ship bilge flooding
Engine room temperature Forward bilge flooding
Salon Temperature Staterooms temperature

Crew quarter temperature

Dockside Communication System

802.11B Wi-Fi compliant

Site Survey to identify available Wireless networks

400 mw signal strength

Over 1000 feet line of site Range

54 GB private and secure on-board wireless network

Underway Communication System

EuroCom Match2 Iridium Sat Phone

Real time position reporting with graphics

Automatic switch over of all EOB monitoring services if WiFi not available

Security System Controls

Arm/disarm alarm system over the internet

Key alarm arm/disarm Keyless alarm arm/disarm

Enunciator panel External siren

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9/28/2006



On-Board System Features

Video Camera System

Port aft deck t/p/z camera

Engine room t/z/s camera

Command Bridge t/p/z camera

Onboard or via the internet - full viewing with tilt, pan, and zoom control of each camera

NMEA Data Information Display

Position - GPS
Water depth and temperature - sounder
Wind speed, direction, and outside temperature - anemometer
(Ultrasonic anemometer) required
House batteries condition - voltage, current, %charged

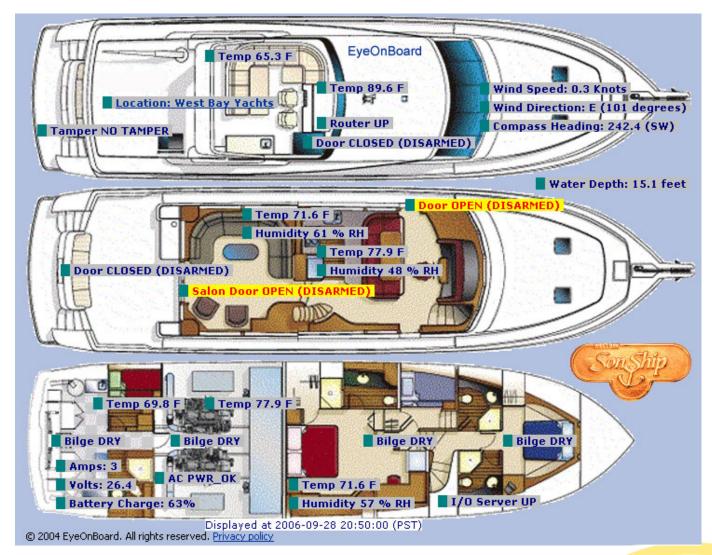
Computer System

Industrial grade computer design
50 degrees C operating temperature
Single board computer technology
Pentium class processor
80 GB storage
24x CD-ROM reader
Small foot print 8"x10"x4
Windows XP professional
Scheduled data backup system
200 GB network storage for system wide auto backup
Remote local power on/off switch
Over the internet pc power cycling
Wireless keyboard & surface mounted trackball





Yacht Layout with Sensors and NMEA Information



- Single and simple view of all monitored sensor and navigation equipment data
- Information updated every 10 minutes
- Sensor text color changes when a alarm condition is detected
- Sensor or NMEA information can be expanded by clicking on text
- Layout customized for each owners yacht



Sensor and NMEA Information Detail

NMEA Device Readings for Persuasion

Snapshot taken at 2006-02-17 09:50:36 (PST) Snapshot received at 2006-02-17 09:52:04 (PST) Snapshot displayed at 2006-02-17 09:52:23 (PST)

Device Reading Position: N49 17.5450 W123 7.5770

Water Depth: 20.8 feet

Depth Statistics: Today (min/max) 0.2/22.4 Yesterday (min/max) 0.0/197.0 Wind Direction: NE (57 degrees)
Last Hour Gust: 18.7 Average: 8.6 Yesterday Gust: 22.8 Average: 6.3 Today Min: 2 Max: 78 Avg: 36

Volts This Hour Min/Max: 13.6/13.7 Last Hour: 13.6/13.7 Today: 13.6/13.7 Yesterday: 13.6/13.7 Amps: 1

Amps This Hour Min/Max: -2/2 Last Hour: -2/2 Today: -2/2 Yesterday: -2/3 Battery Charge This Hour Min/Max (% of 1500 Amp Hour capacity): 100/100

Device Details

GPS Mode: Diff GPS Satellites: 06 Water Temperature: 45.9 F Wind Speed: 11.8 Knots This Hour Gust: 21.2 Average: 11.9 Today Gust: 26.5 Average: 13.4

Air Temperature: 38 F

Volts: 13.7

Battery Charge: 100%

SensorSoft Readings for Persuasion

Snapshot taken at 2006-02-17 09:52:00 (PST) Snapshot received at 2006-02-17 09:52:04 (PST) Snapshot displayed at 2006-02-17 09:52:23 (PST) Security system is armed at 2006-02-17 09:51:13

Status	Sensor	Reading	Reading At
Normal	Main Vessel AC Power	PWR OK	Fri Feb 17 09:51:23 2006
Normal	Thruster Bilge	DRY	Fri Feb 17 09:51:26 2006
Normal	Mid Ship Bilge	DRY	Fri Feb 17 09:49:53 2006
Normal	Engine Room Bilge	DRY	Fri Feb 17 09:50:28 2006
Normal	Lazaratte Bilge	DRY	Fri Feb 17 09:50:40 2006
Normal	Bunk Room Temperature	49.1 F	Fri Feb 17 09:48:24 2006
Normal	Helm Temp	58.1 F	Fri Feb 17 09:51:18 2006
Normal	Salon Temperature	43.7 F	Fri Feb 17 09:47:35 2006
Normal	Fly Bridge Temperature	36.5 F	Fri Feb 17 09:48:49 2006
Normal	Engine Room Temperature	42.8 F	Fri Feb 17 09:51:27 2006
Normal	Lazaratte Temperature	42.8 F	Fri Feb 17 09:48:55 2006
Normal	Salon Camera	UP	Fri Feb 17 09:44:15 2006
Normal	I/O Server	UP	Fri Feb 17 09:47:16 2006
Normal	Network Router	UP	Fri Feb 17 09:51:04 2006

Monitored Contact Readings for Persuasion

Snapshot taken at 2006-02-17 10:00:15 (PST) Snapshot received at 2006-02-17 10:02:04 (PST) Snapshot displayed at 2006-02-17 10:02:26 (PST) Security system is armed at 2006-02-17 10:00:15

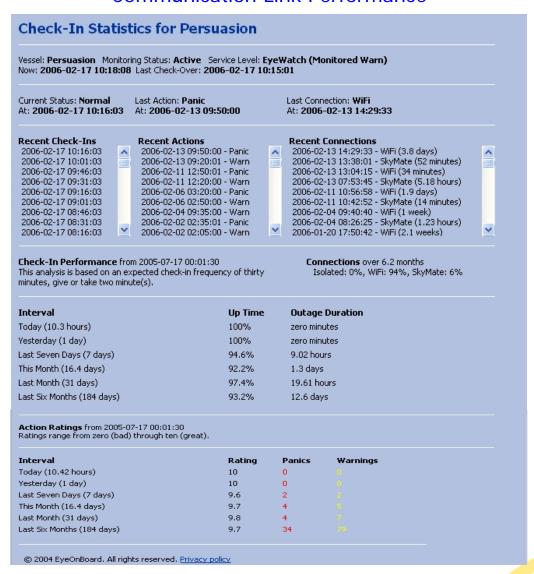
Status Reading Last Change At Sensor Normal CLOSED 2006-02-13 12:45:43 Salon Door

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Sensor and NMEA information viewed with supporting detail



Communication Link Performance



- Track wireless connectivity performance
- Track which wireless communication service is most frequently used
- Automatic selection of the most cost effective wireless service available



Onboard Camera Images



Roche Harbor received at 2006-02-17 10:42:34 (PST)



Vancouver Kat Cam received at 2006-02-17 10:41:28 (PST)



Zalophus received at 2006-02-17 10:43:54 (PST)



Cockpit TPZ Camera received at 2006-02-17 10:44:05 (PST)



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Salon Camera received at 2006-02-17 10:44:05 (PST)

- Top row images are owner specified web cam photos
- * Remaining rows are onboard cameras images
- Images are updated every 10 min



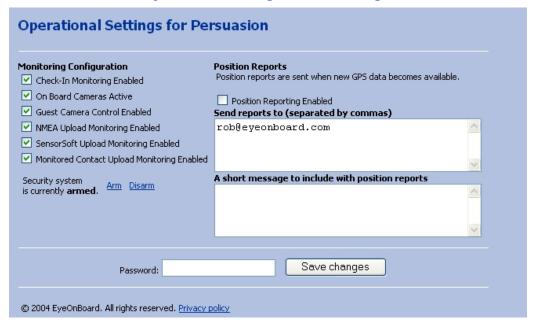
Onboard Camera Control



- ❖ Each onboard camera can send live images up to 120 frame per minute (FPM), depending on available network performance
- Camera image can be zoomed in or out
- User defined presets provide rapid camera positioning
- The tilt, pan, zoom cameras can be controlled by the owner in real time via the EyeOnBoard web site
- Multiple people can view and control the camera simultaneously from different computers
- All data and camera images can be viewed world wide from any Windows XP based computer



System Configuration Page

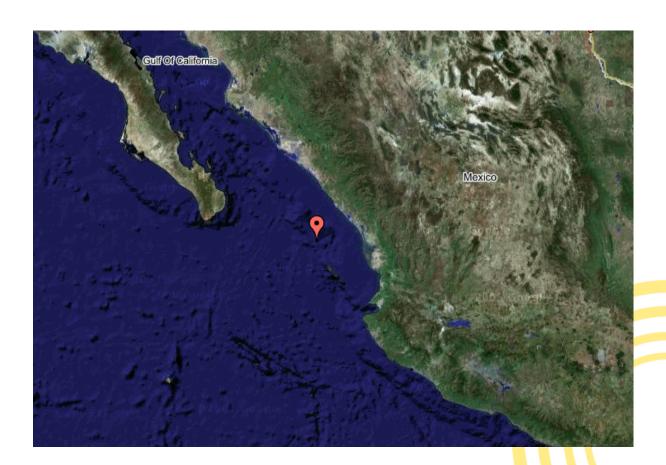


- While underway check-in monitoring must be disabled unless satellite equipment is installed to prevent the system from report unnecessary communication link failures
- The onboard cameras can be deactivated to ensure onboard privacy
- Guest camera control can be turned off to prevent camera usage without knowledge of owners password
- NMEA data, sensor data, and contact scanner data transfers can be stopped to prevent unnecessary satellite traffic and resultant expense
- The security system can be armed or disarmed over the internet using a PC or browser based cell phone



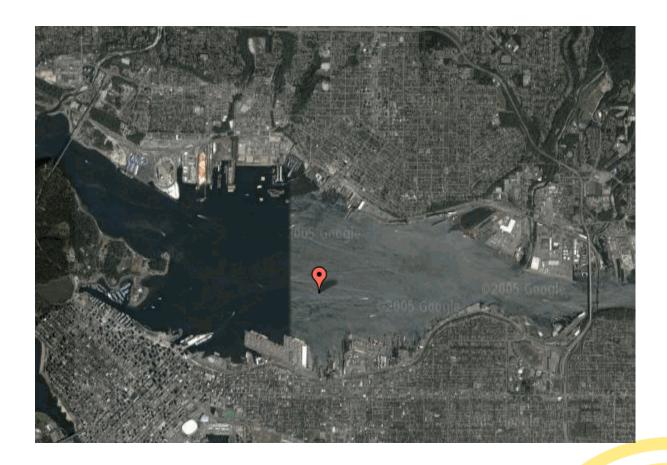
Position Information

- Accurate Position information will always appear on the vessel layout page. While underway the same information can be shared with multiple parties along with a customized message. (requires one of the satellite system option to be installed) Reporting interval while underway is user defined. A satellite image of the vessel exact position will be displayed by clicking on the position information found on the vessel layout page or by opening the email message and selecting the image link in the message.
- The image below is that of a vessel traveling along the west coast of Mexico.



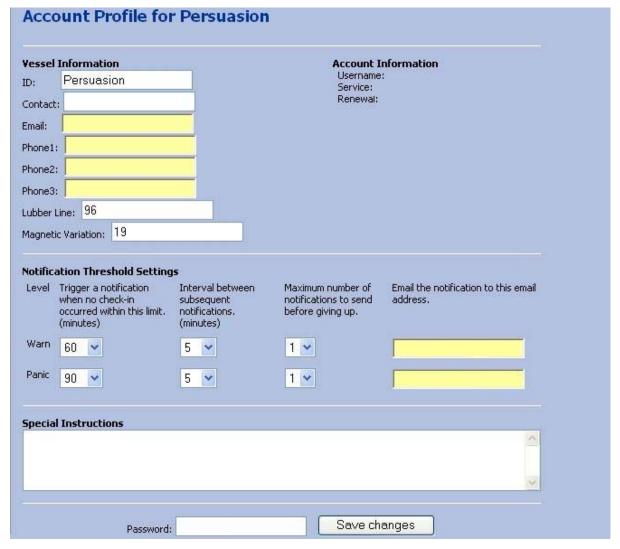


❖ The image below shows a vessel in Vancouver Harbour BC Canada. The user can also overlay street maps of the area. The user can also select various magnification setting.





Account Profile & Owner information



- Owner/operator information is controlled on this page
- Notification timing intervals are user selectable as well as the number of message transmitted for a given notification
- Specific contact information for support or maintenance can be provided in the special instruction section



Alarm Notification Management Distribution

Email lists for Persuasion							
Distribution List Management In order to activate these lists, the notification email addresses in the profile section need to reflect the email addresses associated with these distribution lists. For example, the "Panic" notification email address should be set to "eob-persp@eyeonboard.com" (without the quotes).							
Warning (eob-persw) Panic (eob-persp) Sensors (eob-perss) Check-in warning notifications can be sent to this group. Sensors (eob-perss) Alerts from on-board sensors can be sent to this group.							
Request current list	Request current list	Request current list					
Add to list	Add to list	Add to list					
Remove from list	Remove from list	Remove from list					
Test the list	Test the list	Test the list					
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- The yacht owner or operator defines precisely which personal are notified based on the task responsibility
- The list can be modified and or verified as often as necessary
- The entire process has a single owner to ensure complete accountability
- There is no limit to the number of people on each list



Full Feature List

EYE-ON-BOARD™

Full Feature List

Security and Safety

Intrusion Sensors

Door(s) open/close

Motion

Glass breakage

Safety Sensors

Carbon monoxide

Smoke

Security System Controls

Keyed alarm system arm/disarm

Keyless alarm system arm/disarm

Alarm system arm/disarm via the Internet

Enunciator panel

External siren

Tamper monitoring

Environmental Monitoring

AC shore power

Bilge flooding

Indoor temperature (Degrees F or Degrees C)

Outdoor temperature

Indoor humidity

Camera System

Indoor wired tilt and pan camera

Outdoor wired tilt and pan camera

Indoor wireless tilt and pan camera

Outdoor wireless tilt and pan camera

Outdoor 360 degree tilt, pan, and zoom camera

All movable Cameras are controllable over the Internet

System supports 120 FPM video over the Internet

Preset positions for quick and repetitive viewing location

EYE-ON-BOARD™

Full Feature List

Dockside Communication System

802.11B Wi-Fi compliant Site survey to identify available wireless networks 400 mw signal strength yields over 1000' line of sight range 54 GB private and secure on-board wireless network

Underway or at Anchor Satellite Communication INMARSAT – stationary satellite

KVH F55 and F77 systems supported Full internet service and resources available Position reporting with graphics Automatic switch over of all EOB system service if Wi-Fi fails or is not present

Orbcomm – low orbit moving satellite

Skymate Communicator system supported

Near real time response (15 – 30 min data latency)

Text email and weather reports

Position reporting with graphics

Automatic switch over of all EOB system service (except video and remote control & command) if Wi-Fi fails or is not present

Cellular Data Service (where available & required internet cell phone)

Full internet service at reduced speeds including images Real time positioning with graphics Automatic switch over of all EOB system service if Wi-Fi fails or is not present

System I/O Controller

Support for single or dual PC configurations
8 input contact scanner
4 NMEA input channels
Onboard remote power on/off
PC power cycling via the Internet (2 PC's required)

EYE-ON-BOARD™

Full Feature List

EOB Computer Systems

Industrial Grade Computer

50 degrees C operating temperature
Pentium class processor
80 GB storage
Small foot print 8"x10"x4
Windows XP professional
200 GB network storage for system wide auto backup

Standard Grade Computer

Shuttle architecture with heat pipe cooling technology Pentium class processor 120 GB of storage Windows XP professional 200 GB network storage for system wide auto backup

Highly Reliable Computer

Redundant Independent Array (Raid) Architecture
Dual 120 GB mirrored disk drive of storage
Pentium class processor
Windows XP professional
200 GB network storage for system wide auto backup





Launch Pad Window

The Launch Pad is accessed via the EyeOnBoard link on the desktop of your on board computer(s).



EyeOnBoard Web Site

Launches the EyeOnBoard web site. This requires the vessel to be connected to the internet.

Entry Alarm

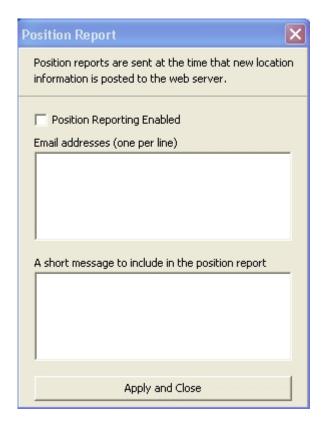


The entry alarm window controls the following alarm system functions:

- Arm arm the system and remain onboard
- ✓ Disarm disarm the system while onboard
- Arm & Exit arm the system after a 90 second departure delay
- Status displays the current status of the alarm system in the message box at the bottom of the entry alarm window
- ✓ Clear removes text from message box
- ✓ More Alarm system status log



Vessel Position Report Configuration



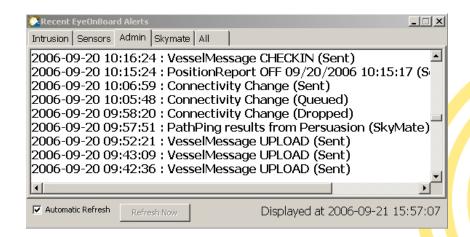
- ✓ Vessel position is always available on owners EyeOnBoard web site
- ✓ Used primarily when the vessel is underway
- Once enabled, an email position report is sent to the owner/operator defined distribution list.
- A personalized text message from the owner/operator can be attached to each position report.
- ✓ This service requires supported satellite equipment be installed on the vessel



System Alerts



- ✓ The alert window displays internal system traffic from 4 key information sources
 - The Intrusion tab is for security alerts
 - The Sensor tab is for environmental sensors alerts
 - The Admin tab is for administrative alerts and server communication traffic
 - The Skymate tab is all traffic routed over the Skymate satellite connection
 - The All tab combines all of the above tabs into the same window for viewing convenience
 - Sample Admin and Skymate alert windows are shown below





 Intrusion
 Sensors
 Admin
 Skymate
 All

 2006-09-20 12:00:00 : SkyMate Check Message (SkyMate)
 2006-09-20 09:57:51 : PathPing results from Persuasion (SkyMate)

 2006-09-20 03:00:45 : NMEA data upload (SkyMate)
 2006-09-20 02:56:04 : PositionReport ON 09/20/2006 02:56:03 (Sk

 2006-09-20 02:46:07 : VesselMessage UPLOAD (SkyMate)
 2006-09-20 02:46:05 : VesselMessage UPLOAD (SkyMate)

 2006-09-20 02:46:03 : VesselMessage UPLOAD (SkyMate)
 2006-09-20 02:45:44 : PathPing results from Persuasion (SkyMate)

 Image: Path Position Report ON 09/20/2006 02:56:03 (Sk)
 2006-09-20 02:46:03 : VesselMessage UPLOAD (SkyMate)

 2006-09-20 02:46:03 : VesselMessage UPLOAD (SkyMate)
 2006-09-20 02:45:44 : PathPing results from Persuasion (SkyMate)

Onboard Network



This network menu allows the owner/operator to quickly select peripherals sub-systems and user defined web sites

- View and control onboard network tilt/pan/zoom cameras
- Manage environmental monitoring system (temperature, humidity, flooding, shore power)
- ✓ Manage Network router
- ✓ Manage WiFi radio



Connections Manager Window

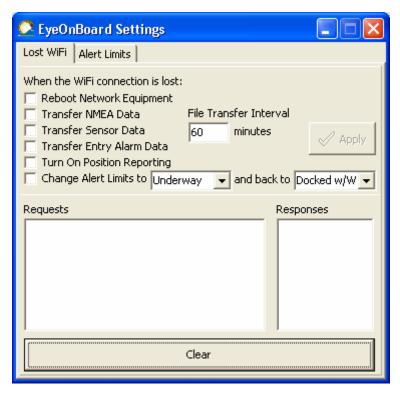


The connection manager window provides a quick look at critical functions:

- Current status of the security system and the time/date when the status was updated
- Current status of the network connection and alternate connectivity options installed
- Current status of the number of NMEA devices that are reporting data. 100% means that all expected devices are reporting information. 75% would indicate that 3 out of the 4 device are transmitting information. Clicking on the box percentage will identify the devices reporting information
- ✓ More Manual communication connection control



Outbound Data Management Controls (Data Transfer)



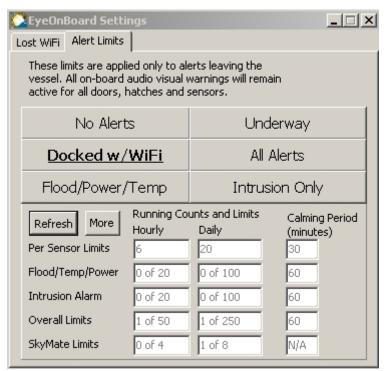
To manage satellite or cellular communication costs, the transfer of selected information along with a specific transmission interval can be owner/operator defined.

- ✓ This management service requires that supported satellite equipment be installed on the vessel
- ✓ Satellite transmission mode (or cellular mode if installed) is automatically activated when WiFi is lost
- ✓ Reboot Network Equip. Power cycling the network equipment can re-establish WiFi connectivity after a brief network outage. Prevents unnecessary switching to satellite system
- NMEA data transfer GPS, water depth & temp, wind speed & direction, air temp, house battery status sensor data



- Sensor data transfer environmental data (temperature, flooding, humidity, and shore power)
- Alarm system Status of doors, hatches, smoke detectors, glass breakage detectors and CO detectors
- Position Reporting can be automatically turned on after switching to satellite service
- The active alert limit group can be automatically adjusted
- ✓ File transfer interval determines the number of minutes between selected information uploads.

Outbound Data Management Controls (Alert Limits)



- Prevents unnecessary alert reporting when operating over a satellite communication link
- ✓ Predefined sensor groups each with specific limits Groups include No Alerts, All Alerts, Docked with WiFi present, Environmental (flooding, power loss, and temperature) and Intrusion (door sensors)



System Support & Management Tools



- ✓ EyeOnBoard application services management tools
- ✓ Windows application services management tools
- √ I/O controller diagnostic tools
- ✓ Alarm system diagnostic tools
- ✓ Over the internet PC power cycling controls
- ✓ NMEA multiplexer management tools



Real Time Alerts

A real time alert window appears when an alarm condition from the security system, the environmental monitoring system, or the connectivity monitoring system has been reported.

Sample real time alert windows









After these window appear for a few seconds they will begin fading until they disappear



EyeOnBoard Services

EYE-ON-BOARDTM

Products and Services

Information Access

Each yacht owner has password protected access to their specific yacht's information and controls
Information can be accessed from any Windows PC worldwide

Yacht Information Reporting

Graphical yacht deck layout showing all monitored sensors and their current status

Satellite view of yacht location*

Water depth and temperature*

Wind speed and direction*

House batteries voltage, current, and charging status

*These functions require GPS, sounder, anemometer, and energy meter

Alarm Notification Distribution

Email alarm messages to PC or mobile device Alarm notification to as many people as required

Still Camera Images

Images from each on-board camera updated very 10 minutes Customer selected marina web cams

Communication Link Performance

Wireless connectivity performance Track which communication service is most frequently used Select most cost effective service if choices are available

Onboard Camera Control

View live images up to 120 frames per minute Tilt, pan, zoom cameras controlled from owners web site

System Configuration

Define camera privacy
Define information up-loads intervals
Define position reporting interval and distribution list

EYE-ON-BOARDTM

Products and Services

EyeOnBoard Eye-Watch Program

Alert response and resolution management Unauthorized yacht departure alert (requires onboard satellite communication system)

Owner/operator phone support Computer maintenance 24/7 monitoring

Program includes:

Network connectivity monitoring
Worldwide remete command & control of

Worldwide remote command & control of onboard computer(s)

Worldwide access to yacht information

EyeOnBoard server account management

Intrusion and safety monitoring and acquisition

Environmental data monitoring and acquisition

Marine instrumentation data acquisition

Onboard camera control and image acquisition

EyeOnBoard You-Watch Program

Owner has access to all system information and operating parameters

Owner defines system configuration

Owner responsible for alert response and resolution management Program includes:

Network connectivity monitoring

Worldwide remote command & control of onboard computer(s)

Worldwide access to yacht information

EyeOnBoard server account management

Intrusion and safety monitoring

Environmental data acquisition

Marine instrumentation data acquisition

Onboard camera control and image acquisition