Aqua Eye MARINE
Wireless Boat Monitoring Systems
www.aquaeyemarine.com

Installation Manual and User Guide

Installation Manual

The Aqua Eye must be activated before it can be used. The Aqua Eye will not be able to send alerts until the unit has been activated at www.aquaeyemarine.com web site and you have received your confirmation email, text messages and turned on your Aqua Eye unit. Before you can activate the unit you must install and supply power to the Aqua Eye unit so it can establish communication with the cellular network.

Installing the Aqua Eye
The Aqua Eye base unit
1. Choose an appropriate location to mount the Aqua Eye base unit. The Aqua Eye base unit should be mounted so the front label reads left to right. The mounting location must be cool and dry, out of direct sunlight, have good cellular signal, near a constant DC power source, and near an AC outlet (AC power monitoring optional).The location of the Aqua Eye base unit should not interfere with the normal safe operation of other equipment on the boat.
2. Securely mount the Aqua Eye base unit with the 4 screws provided. **CAUTION**: Do not drill through hull.
3. Once the base unit is mounted, connect the DC power cable to the DC power source. (Aqua Eye Marine recommends permanently connecting the DC power cable to the boats DC power system before any battery switches or battery isolators. The Aqua Eye needs a constant source of DC power to operate). To permanently connect the Aqua Eye to DC power remove the cigarette lighter adapter end from the DC power cord. Do not remove the inline fuse. Hook the red and black power cable to 12V DC. Red wire to DC+ and the black wire to DC- Connect the DC power cable to the Aqua Eye base unit to the plug labeled DC IN.
4. (optional) Plug the AC power adapter in to a standard wall outlet, connect the AC power adapter cable to the Aqua Eye base unit to the plug labeled AC IN.

The Intrusion Sensor Mat
1. Choose an appropriate location for the intrusion sensor mat and the wireless transceiver. The intrusion sensor mat is weather and water resistant, the transceiver housing, however, is not. The transceiver housing should be mounted in a location that is cool and dry, out of direct sunlight and can be accessed periodically to change the batteries. The intrusion sensor mat should be located in a discrete location, under a carpet or rug where an intruder is most likely to step. The intrusion sensor mat should be positioned in a place that will not interfere with normal safe use of the boat and should not be positioned in such away to create a safety hazard.
2. Install the batteries in the transceiver. Remove the two screws from the transceiver housing and remove the cover. Insert the two provided batteries into the transceiver replace the cover and replace the screws.
3. Securely mount the transceiver housing. The transceiver housing can be mounted with the two screws provided. **CAUTION**: Do not drill through hull.
4. Position the intrusion sensor mat.

High Water Level Senor
1. Choose an appropriate location for the high water level sensor. The sensor should be mounted in the area of the bilge where the water collects, typically near a mounted bilge pump. The high water level sensor should be positioned in a place that will not interfere with normal safe use of the

boat and should not be positioned in such away to create a safety hazard. The transceiver housing should be mounted in a location that is cool and dry, out of direct sunlight and can be accessed periodically to change the batteries.

2. Mount the high water sensor float. The high water sensor float should be mounted wire side up just above the bilge pump float switch activation point, to avoid getting an alert every time the bilge pump cycles. The high water sensor float can be secured with the two screws provided to a support so that the float can freely move up and down vertically. **CAUTION**: Do not drill through hull.

3. Install the batteries in the transceiver. Remove the two screws from the transceiver housing and remove the cover. Insert the two provided batteries into the transceiver, replace the cover and replace the screws

4. Mount the transceiver housing. The transceiver housing should be mounted as high above the bilge level as possible with the two screws provided. **CAUTION**: Do not drill through hull.

Communication Setup

Once the Aqua Eye base unit is installed onboard and connected to 12v DC power and the wireless sensors are installed, the Aqua Eye system will run through a series of diagnostics and the LED indicator will flash a number of sequences. After the diagnostic process is complete (~15 seconds), the Aqua Eye unit will begin regular operating mode. While the Aqua Eye is not yet connected to the cellular network, the LED will flash five short and two long blinks. Once cellular signal is achieved the blinking should become consistent, simulating a steady heart beat.

Activating the Aqua Eye

Once your Aqua Eye unit is securely installed, connected to 12v DC power, and receiving good cellular signal you must visit www.aquaeyemarine.com and select the activation tab. You will be prompted to set up a user account. You will need the serial number found on the set up sheet inside the Aqua Eye box or on the back of the main Aqua Eye unit (it will be in xxxxx format). Once submitted you will receive an email, usually within one business day, with your personal Aqua Eye communication number for you to communicate with your Aqua Eye unit along with a text message to verify the activation process is complete. Once the activation process has taken place you will be able to command your Aqua Eye unit on and off with the supplied key fob or via text message commands. *See Aqua Eye Text Message Commands page*

Once the Aqua Eye is activated and turned on

Once the Aqua Eye unit is activated and turned on you are ready to start receiving alerts. By referencing the *Aqua Eye Text Message Commands* page you will find that you can receive a status update or set the unit to automatically send you a daily status report at a set time along with many other options. To better understand the text message communications that you will receive you can also reference the *Alerts Page*. The service plan that you selected for your Aqua Eye unit may have a limited number of text messages allotted per month. If you use more messages than your service plan allows you will be charged $.15 for each for additional message sent or received from the Aqua Eye during that month. If you choose an international service plan you will be charged per text message sent to or received from your Aqua Eye unit.(Rates upon request) * The Aqua Eye service plan only covers text messages sent and received on your Aqua eye unit. Standard text messaging rates still apply to the registered user (s) mobile device.

Alerts

If high water occurs
(system must be in the on position or have passive monitoring on to receive this alert)
The high water level sensor will only send an alert if a high water level exists for more than 45 seconds. This feature eliminates many false alarms caused by waves etc.
> *Example alert text message from the Aqua Eye:*
> ALERT AQUA EYE FLOAT #1: high water level

If the intrusion monitor is triggered
(system must be in the on position to receive this alert)
> *Example alert text message from the Aqua Eye:*
> ALERT AQUA EYE INTRUSION MAT #1: intrusion detected

If AC power is lost:
(system must be in the on position to receive this alert)
> *Example alert text message from the Aqua Eye:*
> ALERT AQUA EYE AC POWER: lost AQUA EYE DC VOLTAGE: 13.1

If temperature falls below 36F or rises above 120F
(system must be in the on position to receive this alert)
*please note that if the temperature sensors are located near a heat source the reading may differ from ambient temperature of the surrounding area
> *Example alert text message from the Aqua Eye*
> ALERT AQUA EYE TEMPERATURE 36F
> ALERT AQUA EYE TEMPERSTURE 120F

If DC power is low or lost
(system must be in the on position or have passive monitoring on to receive this alert)
The DC alert will send notification when the voltage drops below 11v DC for a period of more than 60 seconds. This feature will eliminate many false alarms cause by starting the boat or switching over power.
* If the DC power is eliminated at once and no AC power is present the unit cannot alert you.
> *Example response text message from Aqua Eye if the AC power adapter is being used:*
> ALERT AQUA EYE DC VOLTAGE: low or lost
>
> *Example response text message from the Aqua Eye if the AC power adapter is not being used:*
> ALERT AQUA EYE DC VOLTAGE: low, Aqua Eye in danger of shutting down

* Aqua Eye unit will not function without a constant 12V DC power supply. The Aqua Eye unit may run off of the AC power adapter in an emergency for a short period.

Acknowledging Alerts

Once an alert notification has been received the situation must be corrected or the Aqua Eye will need to be turned off to discontinue notification alert messages. Once the alert has been investigated and corrected you can turn the unit on to continue to receive alert notifications. (if it is a high water level alert or a low DC voltage alert the passive monitoring will also have to be turned off to discontinue alerts)

Aqua Eye Text Message Commands

Communication between the Aqua Eye and user (s) is accomplished via text messages (SMS) from any of the up to three registered user numbers. Once a user has activated the Aqua Eye, registered their user numbers and received their Aqua Eye communication number, the user can send various commands via text message to the Aqua Eye. The Aqua Eye will then send a text message back to the user confirming the command along with information relevant to the command given. The following is a list of text message commands, (indicated by **BOLD RED LETTERING**) that a registered user can send to the Aqua Eye and example responses that the Aqua Eye will send back to all users set to receive notifications – all via text message (SMS). *Registered users are set up in the activation process at www.aquaeyemarine.com and can be changed at any time usually within one business day.
*Commands are not case sensitive

Text message sent to the Aqua Eye: ON
Turns the Aqua Eye on
> *Example response text message sent from the Aqua Eye:*
> USER 1234567890 TURNED AQUA EYE: on PASSIVE MONITORING: on SIGNAL: excellent TEMP: 80F DC VOLTAGE: 13.1 AC POWER: ok INTRUSION MAT#1: ok 80F FLOAT#1: ok 80F

Text message sent to the Aqua Eye: OFF
Turns the Aqua Eye off
> *Example response text message sent from the Aqua Eye:*
> USER 1234567890 TURNED AQUA EYE: off PASSIVE MONITORING: on SIGNAL: excellent TEMP: 80F DC VOLTAGE: 13.1 AC POWER: ok INTRUSION MAT#1: ok 80F FLOAT#1: ok 80F

Text message sent to the Aqua Eye: STATUS
Gives general status of the Aqua Eye
> *Example response text message sent from the Aqua Eye:*
> AQUA EYE: on PASSIVE MONITORING: on SIGNAL: excellent TEMP: 80F DC VOLTAGE: 13.1 AC POWER: ok INTRUSION MAT#1: ok 80F FLOAT#1: ok 80F

Text message sent to the Aqua Eye: SENSOR STATUS
Gives detailed status of the connected sensors including individual sensor battery level
> *Example response text message sent from the Aqua Eye:*
> AQUA EYE SENSORS: INTRUSION MAT#1: ok TEMP 80F SIGNAL SPEED 255 BATT good FLOAT#1: ok TEMP 80F SIGNAL SPEED 255 BATT good

Text message sent to the Aqua Eye: SET TIME
Synchronizes the unit clock to the local time on the cellular network
(24:00 hr format)
> *Example response text message sent from the Aqua Eye:*
> AQUA EYE CLOCK SYNCHRONIZED WITH NETWORK TIME 14:00

Text message sent to the Aqua Eye: NOTIFICATIONS ON
Turns all notifications on to the registered user that sent the message to the Aqua Eye (default is on for this feature)
> *Example response text message sent from the Aqua Eye:*
> USER:1234567890 NOTIFICATIONS: on

Text message sent to the Aqua Eye: NOTIFICATIONS OFF
Turns all notifications off to the registered user that sent the text message to the Aqua Eye
*IMPORTANT: If all users have notifications turned off the Aqua Eye will not send messages. It is recommended that at least one user keep notifications on.
> *Example response text message sent from the Aqua Eye:*
> USER:1234567890 NOTIFICATIONS: off

Text message sent to the Aqua Eye: USER LIST

Generates a list of registered users and their notification status
> *Example response text message sent from the Aqua Eye:*
> USER#*1:1234567890* NOTIFICATIONS: on USER#2:0123456789 NOTIFICATIONS: on
> USER#3:2345678901 NOTIFICATIONS: on

Text message sent to the Aqua Eye: AUTO STATUS ON

Turns the automatic daily status updates on
> *Example response text message sent from the Aqua Eye:*
> AQUA EYE AUTO STATUS: on SET TO: 20:00 HRS

Text message sent to the Aqua Eye: AUTO STATUS OFF

Turns the automatic daily status updates off
> *Example response text message sent from the Aqua Eye:*
> AQUA EYE AUTO STATUS: off

Text message sent to the Aqua Eye: AUTO STATUS TIME 20:00

*(20:00 equals 8pm) can be set to any hour setting in the 24hr format xx:00
Sets the time the auto status updates are generated and sent to all users that are set to receive notifications
> *Example response text message sent from the Aqua Eye:*
> AUTO STATUS SET TO: 20:00

Text message sent to the Aqua Eye: PASSIVE ON

Turns the passive monitoring on. The default setting of the Aqua Eye is on Passive monitoring allows the monitoring of the high water sensor (s) and the DC voltage even when the Aqua Eye is set to off.
> *Example response text message sent from the Aqua Eye:*
> PASSIVE MONITORING: on

Text message sent to the Aqua Eye: PASSIVE OFF

> Turns the passive monitoring off. The Aqua Eye will not send any notifications unless unit is set to on. This command is not recommended
> *Example response text message from the Aqua Eye:*
> PASSIVE MONITORING: off

*The example responses shown above have command functions and status variables indicated by red lettering for the coordinating command. Shown are example responses. Variables can and will change such as temperatures, battery or signal levels, etc.

Troubleshooting

If you cannot solve your situation with the troubleshooting advice below, please contact the Technical Support Team at www.aquaeyemarine.com or 954-227-8246

The LED on the Aqua Eye base unit does not light up

The base unit is not receiving power from DC or AC power source. Check cord connections and the inline fuse on the DC power cord.

The LED light on the Aqua Eye base unit continues to flash at a rapid rate

The Aqua Eye base unit is not connected to the GSM cellular network. Check the antenna connections, power cycle the Aqua Eye base unit (un hook both power cords for 30 seconds and reconnect) and let the unit reboot and go through a diagnostic sequence and search for cellular service for at least 5 minuets, and check to make sure GSM cellular service is available at your boats location.

The Aqua Eye remote sensors do not show up on my status report

First make sure the remote sensors are within range of the base unit. Next check the battery level in the sensor. (Remove batteries and reinstall, the led light on the front of the sensor transceiver will flash if the batteries are good, if the led light does not flash replace batteries) If batteries are good in the transceiver power cycle the Aqua Eye base unit (un hook both power cords for 30 seconds and reconnect) and let the unit reboot and go through a diagnostic sequence, search for the available sensors for at least 5 minuets and then request a sensor status report to see the condition of your connected sensors.

The temperature readings of the Aqua Eye are different than my boats cabin?

The temperature sensors are located inside the Aqua Eye base unit and the sensor transceiver housings. Although the Aqua Eye components are designed to run very cool if they are located next to a heat source such as a light fixture, an appliance or engine compartment the sensor will heat up and send the elevated temperature reading response.

The Aqua Eye will not connect the GSM cellular network

Make sure that GSM cellular service is available at your location. Check the antenna connections on the base unit. Power cycle the Aqua Eye base unit (un hook both power cords for 30 seconds and reconnect) and let the unit reboot and go through a diagnostic sequence for 5 minuets. If this does not solve your connection issues try moving the Aqua Eye to a different location for better reception.

Technical specifications

LED Status Indicator
• Combination Power and Status Indicator (Red)

Physical Dimensions
• Base Unit 3.5" X 6.9" X 2.0" (with mounting tabs)
• Remote Sensor Unit 1.6" X 3.8" X .8" (with mounting tabs)

Power Input to System Base Unit Connectors
• 12-24 VDC (+/- 10% Normal Operation) 7 VDC minimum operating requirement

Power Input to Optional AC Adapter
• 100-240 VAC 50-60 Hz

Power Consumption, Average – Base Unit @ 12VDC Input
• 2.4 Watts

Battery Life (Sensor Unit)
• 1 Year Typical

Wireless Transmit Range
• Base to Sensor Up to 750 feet (125 Feet Typical)

Wireless Sensor Frequency Band
• 2.4GHz ISM Band

External Antenna Type
• Single detachable SMA

Cellular Operational Frequency Bands
• 850, 1900 MHz

Safety and Emissions
• Original Production Unit Satisfactorily Tested to FCC Part 15 Class B Digital Device however Marine application is 'Exempt' under FCC Part 15 (103)

Internal Operating Temperature (Base Station)*
• 0 Degrees F to 185 Degrees F

Internal Operating Temperature (Sensor Unit)*
• -10 Degrees F to 185 Degrees F

Humidity
• 95% maximum (non-condensing)