ALERT418 Receiver Specifications:

Dimensions	6"D x 3.75"W x 1.75"H
	15.25cm x 9.5cm x 4.75cm
Weight:	13 ounces (368 grams)
Power Supply:	12 volt, 110 volt power adapter available in North America
Controls:	On/Off Reset, dial to silence alarm and dim display
Attachments:	418Mhz flexible whip antenna, GPS antenna, terminal block for wiring additional products, serial port to connect NMEA 0183 compliant chart plotter software
Government approvals:	FCC Part 15, Industry Canada RSS 210 (no license required by operator)
Frequency and range:	1,000 feet (305 meters) from line of site of the antenna
Illumination:	Digital display, red Man-Overboard Alarm LED
Mounting:	Bracket or flush mount
Receives from:	ALERT2 or ALERT418 Transmitter, no limit to number of transmitters
Operating temperature:	-4°F (-20°C) to 130°F (54°C)
Country of Manufacture:	United States of America

Changes or modifications to the ALERT418 Receiver not expressly approved by Emerald Marine Products will void the user's authority to operate this device and will void warranty.

ALERT418®

MAN-OVERBOARD ALARM SYSTEM

ALERT418 RECEIVER OWNER's MANUAL

INTRODUCTION

The ALERT418® Man-Overboard Receiver immediately alarms the crew and vessel of a fall-overboard situation. Upon hitting the water, the ALERT Transmitter instantly transmits to the ALERT418 Receiver on the boat, alerting the crew of a man-overboard situation. The ALERT418 Receiver supports an unlimited number of ALERT2 or ALERT418 Transmitters.

Leveraging the latest technology while maintaining proven commercial grade capabilities makes the ALERT418 Receiver an essential safety device for anyone on the water.

- Water activated to immediately alert the vessel
- Wired for engine kill
- Interfaces with popular chart plotting software
- Ability to sound external alarm systems
- Displays valuable Transmitter unit information
- Unit ID number - to immediately know who fell overboard
- Relative Signal Strength Indicator (RSSI)- find the MOB quicker based on single strength of the MOB's transmitter
- Low battery - easily know when a transmitter needs new batteries to ensure the crew is always prepared for a man-overboard situation

INSTALLATION

ALERT418 Antenna:

The antenna cable is 25 feet of LMR-240 coaxial cable with a TNC connector on the antenna end and a BNC connector to attach to the back of the receiver. Mount the antenna on a cabin top or stern rail at least three feet from large metal objects. Minimize blockage from vessel structures and maintain as clear of a line of sight to the stern. In shore-side operations, mount antenna as high as physical possible maintaining a clear line of sight to the work area.

GPS Antenna:

Mount GPS antenna in an open air or close to window environment to obtain coordinates from satellites. If coordinates are not displaying after a couple of minutes of ALERT418 Receiver operation, reposition the GPS antenna for greater reception of satellites.

Receiver Mounting:

The ALERT418 Receiver is not watertight. Mount the receiver in a dry location where its internal alarm will be heard for quick Man-Overboard response. The ALERT418 Receiver is an electronic device that should be mounted as far away as possible from collection of dust, dirt or extreme changes in temperature.
The yoke bracket and thumb screws may be used for overheard or countertop mounting. To flush mount, cut hole 3 5/8" wide by 1 3/4" high (max thickness 3/8"). Install receiver through front securing from rear with the two aluminum panel mounting jacks. Remove the two rear setscrews, slide the mounting jacks to brace unit to the front panel the receiver is mounted against and re-tighten rear setscrews.

ALERT418 Receiver Rear Panel Connections:

Male BNC Connector: Connect the plug at the end of the coaxial cable to the large BNC connector on the back of the receiver.

Female SMA GPS Connector: Screw the end of the GPS antenna cable on to the gold plated SMA connector on the back of the receiver.

Terminal Block Configuration: The terminal block has a label on where to wire power and/or accessories to the receiver. Definitions of the contacts are (read left to right);

NO (Normally Open): This contact of the internal relay is normally open (not connected) to the **C** (Common) contact, and closes the **C** (Common) contact when the receiver detects a signal from an ALERT Transmitter.

C (Common): This contact of the internal relay is normally connected to the **NC** (Normally Closed) contact and disconnects from the **NC** contact and connects to

TROUBLESHOOTING

ALERT418 Receiver sounds alarm when no ALERT Transmitter is transmitting:

This may be caused by outside interference of the 418Mhz frequency. Make note of location of vessel when this occurs or if some new product is added to the vessel or some new operational procedure is put in place. Contact EMP with as much information about above mentioned outside sources that may have changed/occurred to investigate if tripping of alarm is situational or a defect in the ALERT418 Receiver.

USE AND LICENSE AGREEMENT

By installing or using this product, you agree to all the terms of the accompanying WARRANTY AGREEMENT, including limitations on liability and authorized use. The agreement is subject to change without notice. The latest version of this agreement is available through Emerald Marine Products. Contact EMP through contact sources listed below.

RETURN POLICY

If you, the original purchaser of the ALERT418 Receiver ("Product") made by Emerald Marine Products discover a defect in the Product covered by the limited warranty set forth in the license accompanying the Product ("License"), you must contact Emerald Marine Products for a RMA at the contact sources listed below.

WARNINGS

Use of the ALERT418 Receiver is at your own risk. Emerald Marine Products does not warrant the accuracy of any information processed by the ALERT418 Receiver.

The information in this user guide is subject to change without notice.

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DISPLAY OF MAN-OVERBOARD INFORMATION

When a MOB incident occurs the screen will display vital information about the event.

ID: This is the ID number assigned to the ALERT418 Transmitter that is transmitting. This information is not available from ALERT2 Transmitters.

DUR: This is the time that has transpired since the MOB alarm was initiated. The time is displayed in Hours, Minutes and Seconds—HH:MM:SS.

RSSI: (Relative Signal Strength Indicator) is a designated number displaying the strength of the transmission coming from the ALERT Transmitter. The number decreases as distance increases and the RSSI number increases as distance decreases.

Batt: Indicates the strength of the ALERT transmitter's battery. "OK" is good voltage, "LOW" indicates a need to replace the transmitter's battery. This information is not available from ALERT2 Transmitters.

LAT: Latitude of the GPS signal of the vessel's position at time of the MOB incident.

LON: Longitude of the GPS signal of the vessel's position at time of the MOB incident.

To reset the display screen, power off unit and reset by turning unit back on. If the ALERT Transmitter is still transmitting the ALERT418 Receiver will again latch on to the transmission and set into MOB display mode. If testing ALERT products, always make sure the ALERT Transmitter is reset before powering the ALERT418 Receiver off and back on.

CONNECTING OTHER DEVICES TO ALERT418 RECEIVER

NMEA 0183 Compliant Software: Use the serial port on the back panel of the ALERT418 Receiver to connect to a computer running NMEA0183 compliant software. Due to various ways to attach a device to a computer, please consult your computer technician for proper cable needed. The serial port on the back of the ALERT418 Receiver accepts a male DB-9 connection.

Dry Contact Terminal Block: The green terminal block with contacts labeled and outlined earlier in this documentation can be used to connect devices that accept power applied or powered cut operation. Below is a list of some of the capabilities possible using the ALERT418 Receiver when connected to other devices.

Ship's General Alarm: Connect NO and C to dry contact inputs of the Ship's General Alarm.

CONNECTING OTHER DEVICES TO ALERT418 RECEIVER
(continued)

External Alarm: The internal relay contacts are rated 1 amp maximum, so an external relay will be required if your external alarm current exceeds 1 amp. Connect the positive wire of your external alarm to your external relay at a NO (normally open) contact. Connect the +12 volt contact on the receiver to your external relay to the common terminal on the same set of relay contacts.

Connect the negative wire of your external alarm to the GND contact on the receiver. Connect one relay coil terminal on your external relay to receiver contact NO, connect your other external relay coil terminal to receiver contact GND. Connect a short jumper wire from receiver contact C to receiver contact +12.

Engine Shutdown: The internal relay contacts are rated 1 amp maximum, so an external relay will be required. Connect one relay coil terminal on your external relay to receiver contact NO, connect your other external relay coil terminal to receiver terminal GND. Connect a short jumper wire from receiver contact C to receiver contact +12. Connect your external relay contacts in parallel with engine circuits that apply 12 volt power to kill the engine. Or connect your external relay in series with the engine circuits that remove 12 volt power to kill the engine.

Contact Emerald Marine Products if you require wiring documents to better explain connecting other devices to the ALERT418 Receiver.

ALERT418 RECEIVER ANTENNA ASSEMBLY INSTRUCTIONS

When purchasing the ALERT418 Receiver as a complete kit, you will receive 25' of coaxial cable, a 15" flexible whip antenna and appropriate mounting hardware for the antenna. Antenna Specification Sheet and Antenna Assembly Instructions should be included with the complete kit. If you require additional documentation contact Emerald Marine Products. Assembly instructions for the antenna are as follows:

The coaxial cable has two different connectors. The BNC connector has a rotating lock that connects to the back of the ALERT418 Receiver. The other end has a TNC connector that attaches to the antenna mount. These instructions are for mounting the cable to antenna mount.

The red O-Ring goes in the groove on the base in the bulkhead TNC connector on the cable assembly. The Connector is then fed through the mount. Note, the connector and mount have a flat slot to properly position the cable against the mount. Next, the lock washer and nut are added to the connector and tightened down.

ALERT418 ANTENNA ASSEMBLY INSTRUCTIONS
(continued)

The black O-Ring is then added prior to connecting the antenna to the assembly. Push the O-Ring down till it rests in the groove between the lower and upper threaded area for the antenna. Connect the antenna by screwing down till antenna base it tight against the black O-Ring.

ALERT418 GPS ANTENNA ASSEMBLY INSTRUCTIONS

When purchasing the ALERT418 Receiver as a complete kit, you will receive a GPS antenna with 16' of cable. Attach end of cable to female SMA connector on the back of ALERT418 Receiver and mount GPS antenna (mount is magnetic) in an area where the antenna has line of sight with the sky.

TROUBLESHOOTING

Conducting Reset: Turn Power switch "OFF/RESET" wait five (5) seconds and turn power switch "ON".

GPS Latitude/Longitude information does not display: Power unit off and then back on (Reset) before testing readout of GPS coordinates. Make sure GPS antenna is connected to back of ALERT418 Receiver. Make sure GPS antenna is positioned in line of sight with the sky.

Transmitter Transmits but alarm on ALERT418 Receiver does not activate: Make sure antenna on back of Receiver is connected. Common reason for this is the ALERT Transmitter is not paired correctly with the ALERT418 Receiver. Test pairing of units by activating another ALERT Transmitter. If using other transmitter is successful, contact EMP for further diagnostics. If no other transmitter activates receiver, the dip switch on the back of the ALERT418 Receiver may have become unpaired. Contact EMP for further instructions.

ALERT418 Unit ID and or Battery Indicator does not display: Only ALERT418 Transmitters will display unit ID and battery power indication. If information from an ALERT418 Transmitter fails to display, contact EMP for further diagnostics.

Pressing dial on front of ALERT418 Receiver does not activate menu item: The set screw on the dial knob may be set to deep. Using an appropriate size Allen wrench, loosen the knob slightly and pull towards you to make a little more space between the panel and retighten the set screw. If unable to properly set screw, contact EMP.

Receiver Rear Panel Connections (continued):

the **NO** contact when the receiver detects a signal from an ALERT Transmitter.

NC (Normally Closed): This contact of the internal relay is normally closed (connected) to the **C** (Common) contact, and opens (disconnects) from the **C** (common) terminal when the receiver detects a signal from and ALERT Transmitter.

GND (Ground): Connect this contact to the vessel's negative DC electrical ground.

12V: Connect this contact to a source of positive 12 volts DC. The receiver draws 100 milliamps.

Fuse Replacement: Remove front panel crews and the front panel with bezel trim. Remove rear panel screws. Slide rear panel to rear, exposing fuses on the circuit board. Fuse F1 (1amp) protects the receiver. Fuse F2 (1 amp) protects the internal relay.

Digital Code: All ALERT Transmitters and Receivers use an 8-bit digital code that pairs the devices to each other. The code is factory set with one code per customer, to prevent interference between customers operating in the same area. If you choose to change the code, please contact us for directions. **Note that ALERT418 Transmitters need to have code set at manufacturer's factory.**

OPERATION

Turn front panel power switch to the "ON" position. The digital screen should display Emerald Marine Products logo and then begin searching for a GPS signal. If antenna is not attached "GPS Unavailable" will display. If GPS antenna is attached and "GPS unavailable" is displayed make sure the GPS antenna is location in a position to receive satellite signals. Once the GPS coordinates connect they will be displayed along with current Coordinated Universal Time (UTC) time.

To Dim Display: Press the dial on the front panel and an option to Silence Alarm and Display Brightness will be available. Turn dial to highlight Display Brightness and press the dial again. Turn dial to desired brightness. Press dial again and the desired brightness should be displayed.

To Silence Alarm: When a signal from an ALERT Transmitter is received, the red LED Alarm light will illuminate and an 85dB internal alarm will commence. The digital display will mark the GPS coordinates of the ship's location at that time and begin counting time since MOB incident. If you want to silence the internal alarm, press the dial on the front panel and an option to Silence Alarm and Display Brightness will be available. Silence Alarm will automatically be highlighted. Simply press the dial again and the internal alarm will silence but any external components and display of MOB information will continue until the ALERT418 Receiver is powered off—the act of resetting the ALERT418 Receiver.