

ORCA® TX-103 IS A
MAN OVERBOARD
IDENTIFICATION
AND TRACKING
DEVICE FOR
PLEASURE BOATING
AND INDUSTRIAL
APPLICATIONS



ORCA® TX-103 and TX-103IS Owner's Manual



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Introduction

ORCA® is a personal saltwater or manual-activated man overboard (MOB) alarm system developed by BriarTek Inc. The system is utilized by the U.S. Navy and other mariners to aid in the rescue of a MOB victim. The ORCA® system operates on 121.5 MHz and includes a transmitter, receiver and direction finder. When the transmitter is activated, it emits a 121.5 MHz signal which is processed by the receiver. The receiver emits an audible alarm and displays the vessel identification and serial number of the transmitter on the receiver LCD. The transmitter also emits a signal that is processed by the direction finder and other standard search and rescue (SAR) equipment to locate the MOB.

Note: The TX-103IS is certified intrinsically safe across all divisions and classes. The TX-103IS is identified by a red antenna tube.

Parts Overview (figure 1)

- A - Antenna
- B - Manual activation/deactivation switch
- C - Water sensors
- D - Distress marker light

Operating Instructions

Manual Activation:

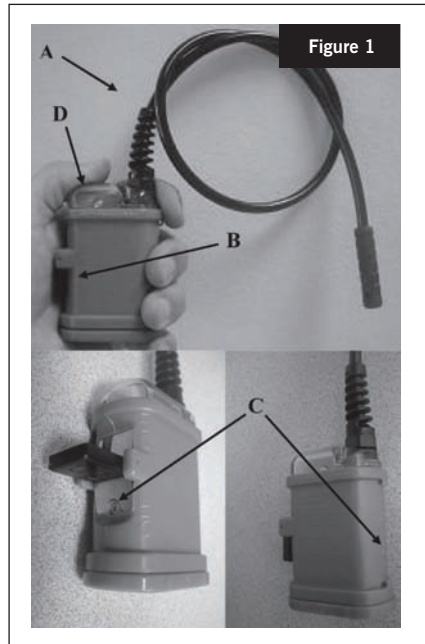
Flip switch (B) from “off” (down position) to “on” (up position) to manually activate. The distress marker light begins flashing to indicate activation. Approximately 3-5 seconds after distress marker light begins flashing, the transmitter will begin transmitting.

Automatic Activation:

The transmitter will activate when the water sensors are submerged in saltwater for at least 3 seconds.

All Clear (deactivate transmitter):

When the MOB is recovered, flip the transmitter switch to the “OFF” (down) position. If the switch is already in the OFF position (automatic activation), flip switch to the ON position and then to the OFF position. This sends an ALL CLEAR message to the receiver and returns the transmitter to the ARMED mode.



Modes

The TX-103 and TX-103IS have three modes:

- » **ARMED:** Each transmitter is **armed** after a 9-volt alkaline battery is correctly installed.
- » **TRANSMIT:** The transmitter goes from **armed** to **transmit** mode when it is automatically activated by submerging it in saltwater for a minimum of 3 seconds or when it is manually activated. After the transmitter is activated, it emits a signal providing the transmitter identification to the receiver. After approximately one minute, the transmitter emits a signal which the DF processes to track the transmitter.
- » **DISABLED:** The transmitter is disabled when the battery is removed or the battery is depleted.

Wearing the Transmitter

THE TRANSMITTER MUST BE WORN SO THAT THE WATER SENSORS ARE UNDER WATER AND WET AND THE ANTENNA IS ABOVE THE WATER SURFACE WHEN THE PERSON IS FLOATING. Fasten the transmitter to a personal flotation device (PFD) using the pouch provided with the transmitter. The following are examples of how to properly wear the transmitter:

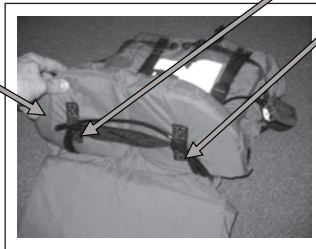
Inherently buoyant PFD:

Attach transmitter to waist strap using pouch provided (feed strap through loop on pouch)



Feed antenna through loops

Attach antenna to collar using lanyard clip



(continued on next page)

Inflatable PFD:

Attach antenna to collar using lanyard clip



Attach transmitter to PFD strap using pouch provided or custom attachment from PFD manufacturer, i.e. SeaSafe

Battery Information

Battery lifespan:

The TX-103 and TX-103IS has very low current consumption. It is recommended that the battery is replaced once a year or sooner if the transmitter has been activated for more than occasional testing. When the transmitter is in TRANSMIT mode, a new battery will last approximately 24 hours.

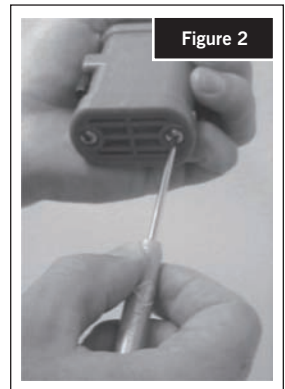
Testing battery strength:

1. Activate the unit by flipping the manual switch located on the side of the transmitter from the “Off” position to the “On” position.
2. As soon as the distress light begins to flash, flip the switch to the “Off” position.
3. If the light turns on and remains on for approximately 10 seconds, the battery is usable. If the light flashes on and off after flipping the switch to the “Off” position, the battery is not usable and must be replaced.

Replacing the battery:

1. Using a #1 size Phillips head screwdriver, unscrew the two screws on the bottom access panel of MOBI transmitter (see figure 2).
2. Open access panel.
3. Remove used battery.
4. Insert new 9-volt alkaline battery according to diagram on back of transmitter housing.
5. Close access panel by lining up reference points on panel and main housing. Grasping screwdriver with thumb and forefinger, screw down the battery door.

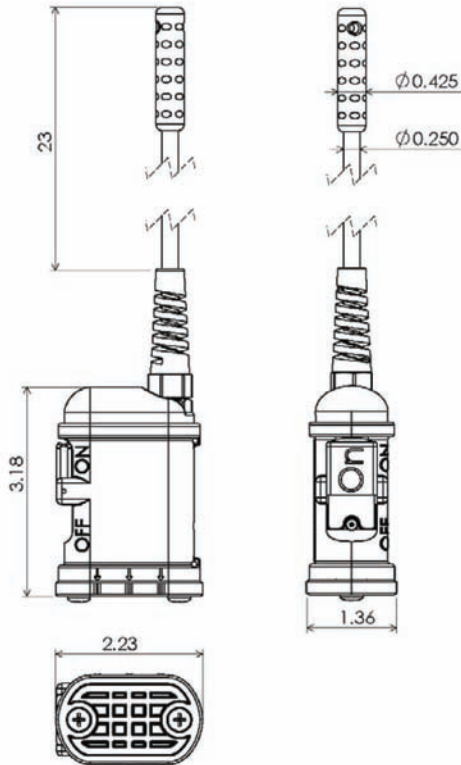
Caution: Do not over tighten screws when closing the access panel. Over tightening could strip threaded inserts, destroy gasket or crack battery door.



Specifications

- » Weight: 5.1 oz. (144.6 g)
- » Power: 100 mW
- » Tracking Range: 2 NM from small craft, 5 NM from ship, 20 NM or greater from aircraft
- » Alerting Range: 1 NM to receiver
- » Power Source: One (1) 9V alkaline battery
- » Battery Life: One year (Armed mode); 24 hours continuous once activated (Transmit mode)
- » Activation: manual or saltwater
- » Current Draw: Armed 25 uA; Transmit 20mA
- » Modulation Frequency: 121.5 MHz FM/AM
- » External antenna with flexible strain relief
- » Operating Temperature -10° C (14° F) to +55° C (131° F)
- » Storage Temperature -40° C (-40° F) to +60° C (140° F)

DIMENSIONS ARE IN INCHES
TOLERANCES: ± 0.005



Warranty

BriarTek provides a one-year warranty on all ORCA® man overboard alarm system effective from the date of purchase.

If a component fails to function properly during its warranty period (one year), the manufacturer will proceed according to its warranty as follows:



- » BriarTek Inc. guarantees each product it distributes to be free from defective materials and workmanship and agrees to remedy any such defect or to furnish a new or equal part in exchange (at its option) for a period of one year from the date the component is purchased.
- » For an exchange of the product, please contact BriarTek at 703.548.7892 or on the web at www.briartek.com, and a customer service representative will provide the necessary instructions. Original receipt is required for all exchanges.

This warranty is void if:

- » any component has been subject to misuse or improper installation by a non-BriarTek employee or has been repaired or altered by a non-BriarTek employee.
- » any component fails to function properly after being put into service due to something other than defective materials or workmanship, i.e. excessive temperature, humidity, or shock while component is in storage.



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