X97-BT
BEACON TESTER

QUICK GUIDE

SPECIFICATION

INPUT: Sonar beacon ultrasonic pulse

OUTPUT: Audible 'ping' of the sonar beacon

POWER: 9V PP3 standard battery

DIMENSIONS : L143 x W60 x D28mm

WEIGHT: 6.5g without battery

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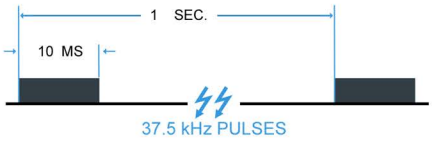
THEORY OF BEACON OPERATION.

The DK480/120 beacons are a battery-operated underwater acoustic pulse generator that is activated when the water switch is immersed in either fresh or salt water.

The water switch is part of a triggering circuit, which when actuated will initiate normal pulsing of the beacon circuit. The signal is coupled to a piezo-ceramic transducer ring. This results in mechanical motion that is transmitted to the metal case of the beacon, which in turn, radiates acoustic energy into the surrounding water at 37.5 kHz.

The pulses generated are approximately 10 milliseconds in duration, and occur about once per second in water. See Figure below. The beacon will operate for a minimum of 30 days after being immersed in the water. The beacon will withstand depths to 20,000 feet (6096 meters). It can be detected at a range of 2000 to 4000 yards (1800 to 3600 meters). The sea state, nearby boats, marine animals, gas or oil lines, and other factors contributing to the ambient noise level which will affect the range at which the beacon can be detected



INTRODUCTION

The X97-BT Acoustic Beacon Tester is a cost effective handheld unit that is designed and manufactured by AMI for use with the AMI Capsule. The unit is used to test the functionality of the sonar beacons (DK120/480 series) found on the recoverable unit of a vessel's Voyage Data Recorders (VDR / SVDR).

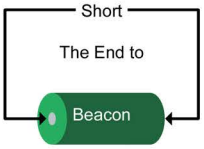
Other, far more expensive test units are manually tuneable, requiring the user to tune their unit manually into the specific beacon. The X97-BT is completely auto-sensing! No need for manual tuning! It can be used when the beacon is still mounted in the HVR and will work with L3, Consillium, and Kelvin Hughes etc.

TESTER OPERATION

To activate the beacon for testing ensure the beacon has a shorting conductor applied between the centre contact and the casing to complete the acoustic pulse generator circuit.

This can be done by using or a shorting cable or strap.
Hold the X97-BT within 10 centimetres of the beacon and also ensure the test unit's sensor is directed at the beacon.
Press the test button on the side, or top depending on version, of the X97-BT.
The LED will light and an audible 10ms 'ping' will be heard at one second intervals.

Caution should be taken when replacing the battery that the wires are not damaged by too much force being applied to the connector



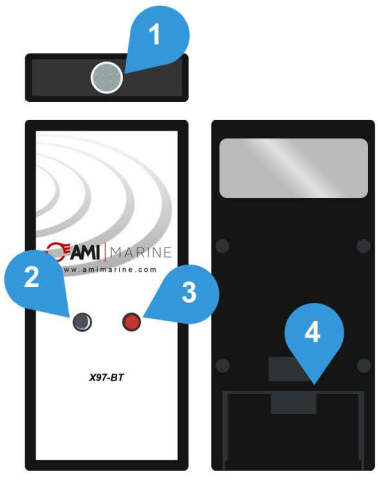
X97-BT OVERVIEW

Item 1. Sensor Element

Item 2. Test ON Led

Item 3. Test Button

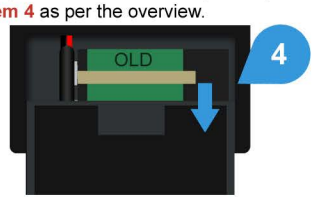
Item 4. Battery Cover



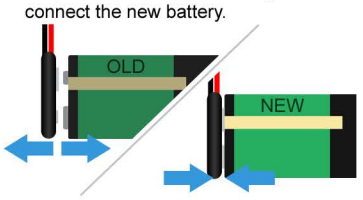
INSTALLING THE BATTERY

A 9v PP3 Battery is required

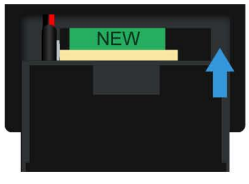
Step 1. Remove the Battery Cover, Item 4 as per the overview.



Step 2. Disconnect the battery and then connect the new battery.



Step 3. Carefully place the connected new battery into the Tester unit.



Step 4. To confirm the battery is working, press the button on the front and the LED will flash red when powered.