CLASS INSTRUMENTATION LTD

# CABIN-SAFE ULTRASONIC LEAK DETECTING SYSTEM




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**Class Instrumentation Ltd**
www.classltd.com
837 Garratt Lane, London, SW17 0PG, United Kingdom
+44(0)20 8333 2288

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## GENERAL INFORMATION

**CABIN-SAFE** is a lightweight ultrasonic system used to detect holes. The complete system is contained in one carry case for convenient transportation. The complete weight of only 1kg, including the batteries, makes it suitable to be carried as hand luggage on aircraft. The **CABIN-SAFE** is very simple to use and requires no training to operate.
CABIN-SAFE allows a rapid and thorough test for holes that can lead to water damage in

- Yacht cabins
- Cars
- Aeroplanes
- Fuel tanks
- Pressure vessels
- Caravans
- Ship's containers
- Microwave ovens
- Refrigerators
- Houses
- Piping

- can locate holes with pinpoint accuracy
- causes no damage to interior of vessel or vehicle
- can be conducted in sub-zero temperatures
- does not interfere with other crew activities.

The **CABIN-SAFE SYSTEM** kit includes

- SLD ( Sonic Leak Detector ) Receiver with built in microphone
- Cabin-Safe Transmitter
- Hard hat compatible headphones
- Operation Manual

## STEP BY STEP GUIDE TO A HOLE DETECTION SURVEY

1. The **CABIN-SAFE** Transmitter is placed inside the container, vessel or vehicle; the magnetic base can be used to hold the transmitter in a convenient place. The unit is switched on, the green led will flash.
2. The headphones are plugged into the SLD receiver, the trigger turns on the SLD and the laser will shine out of the tube. The tube often referred to as the *nose*, is there to direct the sound onto the internal microphone.
3. The surveyor begins to inspect the vessel or vehicle, moving the SLD across the exterior of the vessel. Any gaps through which air or water can pass, will allow the ultrasonic signal to pass and can be detected.
4. Any ultrasound that can escape to the outside is converted to an audible sound, which can be heard through the headphones.

The laser can locate the hole with pin point accuracy and the headphones will allow any potential leak sites to be identified by the surveyor, because if the twin-tone signal is detected, ultrasound is escaping through a hole. If the surveyor hears the transmitter signal, the size of the problem can be established from the strength of the signal detected and should be able to ascertain where the signal strength is strongest and therefore using the laser for guidance, find the exact location of the hole.

## LEAK DETECTION

The Sonic Leak Detector can be used on its own as a low cost instrument that allows the rapid detection of pressurised gases escaping from any form of plant system. The Sonic Leak Detector can significantly reduce leak detection times and produce significant cost savings.

The ultrasound "noise" generated from any gas e.g. compressed air, steam, refrigerant or vacuum can be easily detected and the leak location rapidly and accurately identified.

It can be used to detect faulty bearings and electrical arcing.

## TRANSMITTER


- Dimensions: 110 x 70 x 34 mm
- Weight: 190g
- Power Supply: 1 x 9v PP3 – 40 hours battery life
- Operation: ON/OFF Switch and LED indicating low battery
- Warranty: 3 years

When the transmitter is in operation a green LED indicator will light and an audible intermittent twin-tone signal is produced. The twin-tone signal also prevents the unit from being left switched on inadvertently and allows the transmitter to be located easily on the completion of the survey.

If the red LED is flashing, this indicates a low battery condition. The audible low battery warning is a rapid twin-tone signal and can be heard both from the Transmitter and through the Receiver headphones.

Once the low battery warning has been activated no results can be guaranteed and the survey should be suspended until the batteries have been replaced.

The Transmitter operates with one PP3 9V battery.

## SLD RECEIVER


The headphone socket in the Receiver will accept any type of headphones with a 3.5 mm jack plug. It will work with stereo or mono headphones or single earpieces.

This has been designed to allow the surveyor the choice of any headset preferred or has available, and also allows the wearing of a

protective safety helmet. The volume of the headphones can be altered through the volume control knob on the Receiver.

- Microphone: Broadband Electret Microphone
- Frequency Range: 20KHz-200Khz
- Battery: 9V PP3v disposable or rechargeable
- Low battery is indicated by the laser flashing on and off
- Unit Dimensions: 190mm x 90mm x 60mm,
- Weight: 140 grams
- Controls: ON/OFF push button and headphone volume
- Warranty: 3 years

Once the low battery warning has been activated no results can be guaranteed and the survey should be suspended until the batteries have been replaced.

## HEADPHONES

The headphone socket in the Receiver will accept any type of headphones with a 3.5 mm jack plug. It will work with stereo or mono headphones or single earpieces.
This has been designed to allow the surveyor the choice of any headset preferred or has available, and also allows the wearing of a protective safety helmet. The volume of the headphones can be altered through the volume control knob on the Receiver.

- Weight: 50g
- 3.5mm stereo jack plug (can use stereo or mono headphones)
- Hard hat compatible
- Warranty: 6 months

CLASS INSTRUMENTATION LTD

## EU RoHS & WEEE Declaration of Conformity

In accordance with the European Community's legal requirements in respect of the restriction of the use of certain hazardous substances in electrical and electronic equipment, Class Instrumentation Limited, (hereafter referred to as CIL), hereby confirms that from 1st July 2006 all CIL branded products brought into the European Community by CIL for use within the EC have been manufactured in compliance with EU Directive 2002/95/EC, inasmuch as these products contain lead, mercury, hexavalent chromium, PBB and PBDE at concentrations <0.1% by weight and cadmium at concentrations <0.01% by weight in all homogenous materials except where exempt from Directive 2002/95/EC (RoHS) and its amendments.

Any products returned for disposal will be dealt with under a Department of Environment approved scheme.

In respect of other third party products which CIL may occasionally distribute, CIL undertakes to request a copy of the Manufacturer's Declaration of RoHS Conformity and so make it available when called upon to do so.

**EMC ESD Declaration of Conformity**

CABIN-SAFE being the subject of the Declaration conforms to the fundamental description with regard to safety stipulated in the CEM 89/336/EEC directive.

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