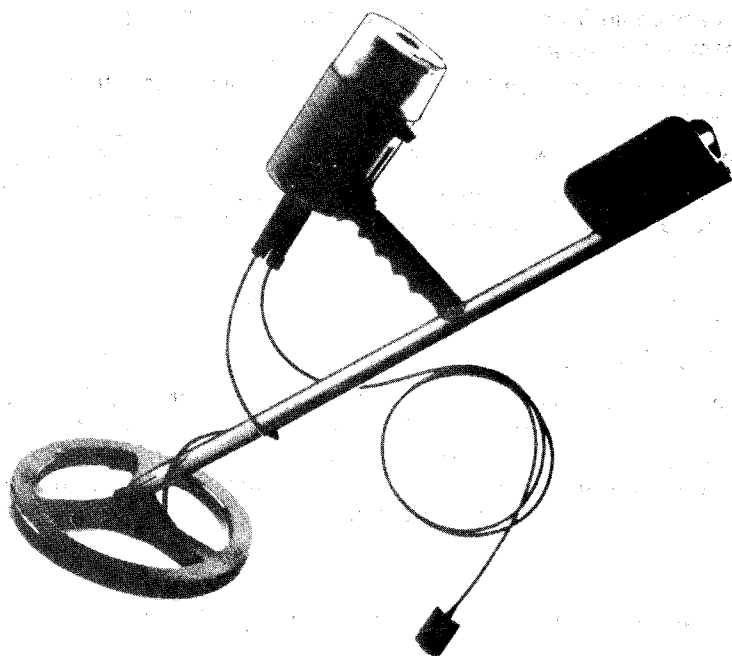


white's  
*Treasuremaster*  
**PI 1000**

**UNDERWATER METAL DETECTOR**

WHITE'S ELECTRONICS INC., SWEET HOME, OREGON.



**OPERATING INSTRUCTIONS**

## SPECIFICATIONS

|                      |                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------|
| Uses:                | Underwater or dry land.                                                                               |
| Submersible:         | To 200 feet (61 metre).                                                                               |
| Search Coil:         | 11" (28cm) zero buoyancy.                                                                             |
| Case:                | Positively buoyant.                                                                                   |
| Power requirements:  | 6 Size AA cells.                                                                                      |
| Optimum temperature: | 1° — 38°C (34° — 100°F).                                                                              |
| Special Features:    | Completely unresponsive to salt water, and to all but the most heavily mineralised ground conditions. |

## OPERATING INSTRUCTIONS

1. Adjust the rod length to the length you find most convenient to use, and take up the slack cable from the loop to the housing by twisting the bottom rod with respect to the top part.
2. Position the mechanical vibrator between the face mask strap and hood, near to the ear.
3. Slowly rotate the switch through 90°. The detector is now ready for use.
4. To retune the unit at any time simply turn the switch 30° anticlockwise to the auto tune position, and then back to the operate position.

## BATTERY CHECK

The battery is checked each time the instrument is switched on. This is done when the switch is turned 30° from the off position towards the on position. If the battery is good, the green LED will light at this switch position. Under normal operating conditions with standard batteries the instrument will continue to work for approximately two hours after the battery check LED no longer lights.

## SEARCHING FOR METAL

The detector will detect all metal, apart from thin metal foil, such as is found in cigarette packets. As the loop approaches a piece of metal, the frequency of the vibrator clicks and LED flashes will increase. The greater frequency being obtained when the object is directly below the centre of the loop (for exception to this rule see Interpretation of Detector Response). It is thus possible to pinpoint an object by positioning the loop so that the maximum frequency is obtained. If the object which is detected is either large or very close to the surface, the detector will show a maximum frequency over a wide area, in which case simply raise the loop, so that the signal from the metal is reduced, and pinpoint in the usual way.

## CHANGING THE BATTERIES

1. Dry the outside of the case and unscrew the lid.
2. Remove and disconnect the battery pack.
3. Replace the six size AA batteries.
4. Reconnect the battery pack and replace into the instrument with the connector towards the back of the case.
5. Ensure that the rubber 'O' ring is clean and is covered with a light covering of silicon grease.
6. Screw on the lid and ensure that the 'O' ring appears as a continuous black line within the cover.

## SILICA GEL BAG

The Detector contains a silica gel bag to protect the circuits from moisture which may enter the instrument when the batteries are changed. Periodically dry out this bag in a warm oven, in which the maximum temperature must not exceed 120°C (248°F). The bag is located in the battery compartment, behind the first foam pad.

## HEAVILY MINERALISED SOIL

Certain types of very heavily mineralised soil or rocks may cause an increase in vibrator frequency when the search coil is brought very close to them. If this is the case, simply raise the coil slightly, until no false signals are produced, and search in the normal method.

## DETECTION DEPTH

The detection depth is determined by the following factors:

1. The size of the object.
2. The length of time the object has been buried.
3. The skill of the operator.

The longer an object has been buried, the better the detector will be able to detect it. A chemical reaction called the "halo effect" between such objects as silver or copper coins and the surrounding soil may cause your detector to register a much larger increase in frequency than might otherwise be expected for a small coin.

After using the detector for even a short period, it is possible to search the sea-bed relatively quickly and with good detection depth, as your ear "tunes" itself to the normal vibrator frequency, and can recognise very small changes in inter-vibrator period, even if the difference is for the duration of one interval only.

## INTERPRETATION OF DETECTOR RESPONSE

A nail or length of wire will sometimes produce a double or single reading, depending upon whether the loop is passed across it lengthwise or across its width. Therefore it is worthwhile to sweep the finds from several directions to try and determine what is buried. Coins will always produce one reading, regardless of sweep direction.

## **SECURING THE DETECTOR**

The detector is slightly positively buoyant, so it is advisable to secure the detector with a lanyard to the diver, so that the diver can leave his hands free for digging up finds.

## **DIGGING UP A FIND**

If the metal is buried in sand or mud, the easiest method of digging is to do rapid fanning motions with the hand. In shallow water which is rough, or in which there is a strong current, it is advisable to wear extra weight, so that the diver can easily maintain his position on the bottom while digging.

## **CARE OF THE DETECTOR**

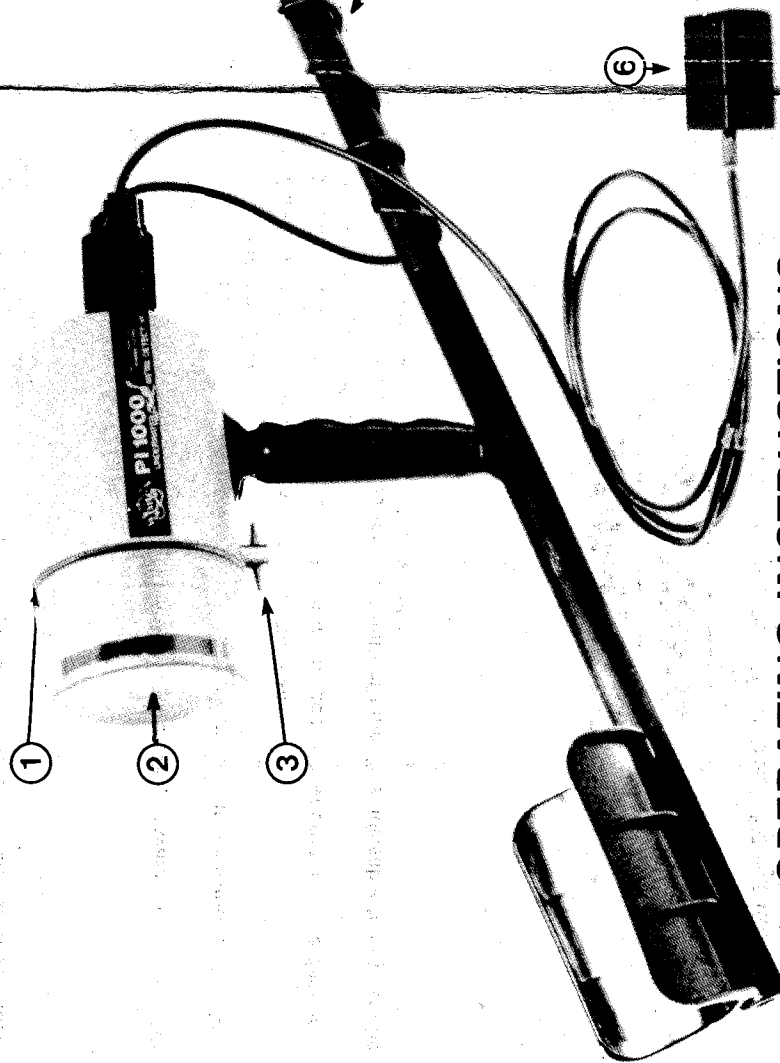
1. Like all diving equipment, the detector should be rinsed in fresh water after use in salt water.
2. Ensure that the 'O' ring is free from dust and sand, and that it is covered with a light coating of silicon grease.
3. Make sure the instrument is switched off after use.
4. Do not leave the unit in direct sun-light, or in any position where there is a danger of overheating (i.e. in closed car).
5. If the detector is not to be used for any length of time, it is advisable to remove the batteries and leave the lid only loosely closed.

# **IMPORTANT** **WARNING**

1. Do not attempt to adjust tightness of the black Penetrator at the rear of orange case as this could seriously affect its waterproofing ability.
2. Please remember to regrease large 'O' ring on case top every time this top has been removed or slackened. A tube of silicone grease is included for this purpose.

# Treasuremaster PI 1000

## UNDERWATER METAL DETECTOR



### OPERATING INSTRUCTIONS

1. Adjust the rod length to the length you find most convenient to use, and take up the slack cable from the loop to the housing by twisting the bottom rod with respect to the top part.
2. Position the mechanical vibrator between the face mask strap and hood, near to the ear.
3. Slowly rotate the switch through 90°. The detector is now ready for use.
4. To retune the unit at any time simply turn the switch 30° anticlockwise to the auto position, and then back to the operate position.

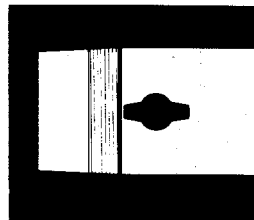
1. Visible 'O' ring seal.
2. Battery check (green) L.E.D. and target indication (red) L.E.D.
3. Switch.
4. Loop.
5. Adjustable rod.
6. Mechanical vibrator.



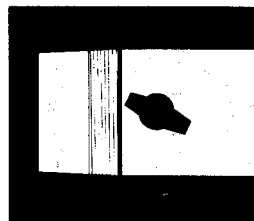
DESIGNED & MANUFACTURED BY  
**WHITE'S ELECTRONICS**  
(UK) LTD.  
INVERNESS SCOTLAND



### SWITCH OPERATION



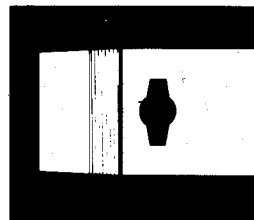
**OFF**  
Both L.E.D.'s off.  
Unit turned off.



**BATTERY CHECK**  
Red L.E.D. will flash.  
Green L.E.D. will illuminate if batteries are in good condition.



**AUTO TUNE**  
Red L.E.D. flashes.  
In this position the detector will automatically retune so that the frequency of the output is at a level which lets the detector operate at its maximum sensitivity.



**OPERATE POSITION**  
Red L.E.D. flashes —the detector is ready for use.