



CS990XD

Operating Instructions

C.SCOPE



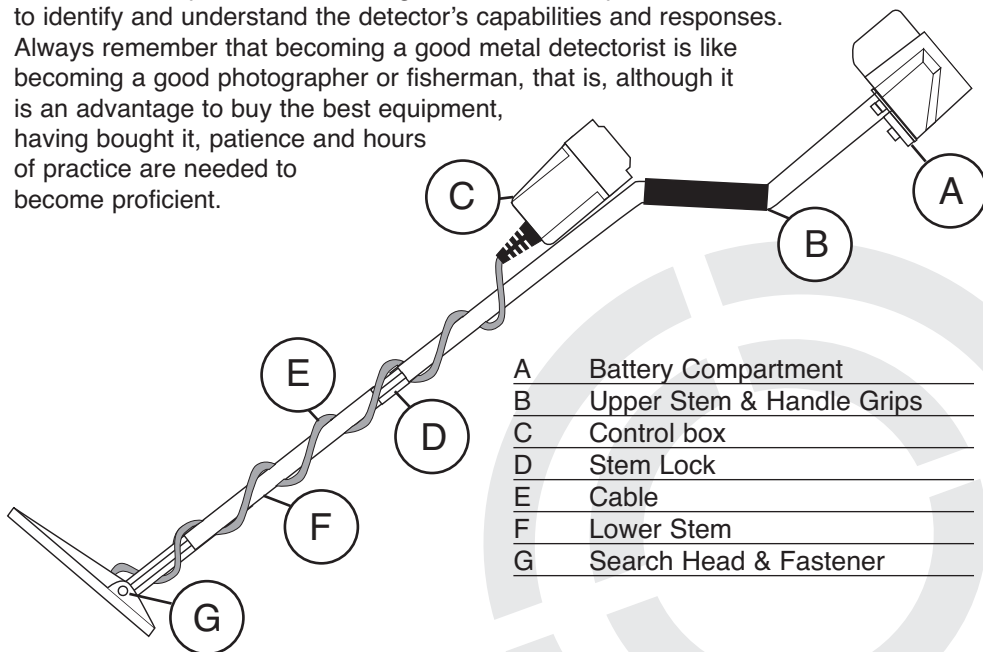
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INTRODUCTION

To protect your investment complete both sections of the enclosed guarantee card and return to C-Scope. This is particularly important in order to obtain the four years parts guarantee. Please retain the original packing box. In the event that your detector should ever require to be serviced, this package will be most suitable for postal protection.

C-Scope detectors are recognised as the finest detectors available. They are designed with lasting quality, high technology, and above all, value for money. The only way to realise this value is to carefully study and understand this instruction manual. You will then be able to obtain all the advantages designed into your detector. It is also strongly recommended that you experiment with the detector's operation in air using various test samples, in order to learn to identify and understand the detector's capabilities and responses. Always remember that becoming a good metal detectorist is like becoming a good photographer or fisherman, that is, although it is an advantage to buy the best equipment, having bought it, patience and hours of practice are needed to become proficient.



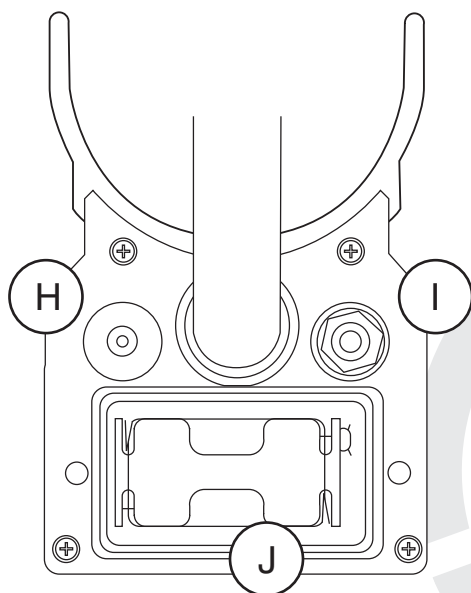
ASSEMBLY

Insert the lower stem into the upper stem. Tuck the cable into the cable slots in the lower stem to prevent it trailing over the search head. Rotate the lower stem to wrap the cable around the stems and take up any slack and twist the stem lock to hold the lower stem in position.

BATTERIES

The CS99OXD is powered by eight AA batteries (not supplied). It is advisable to use standard alkaline batteries to start with. You can then evaluate the sort of use you give the detector and decide whether the investment in rechargeables is justified. The batteries should be fitted in the holder which is located in the battery compartment. To fit new batteries first check the power switch on the unit is switched to off. Then loosen the two captive screws located in the battery cover (do not fully remove these from the cover) and remove the cover. Inside is the battery holder. Lift out the holder and detach the plug on connector. Load the holder with the eight batteries ensuring that each battery is inserted the correct way round, (direction of batteries alternating as shown on the holder). Roll each individual battery to ensure it is located correctly and making proper contact. Replace the connector making sure that it is well seated, and put the loaded holder into the housing. Fit the cover and tighten the two captive screws finger tight.

Note: Zinc Carbon batteries should not be left in the detector for long periods where they could leak, so remember to remove them at the end of a day's searching.



| | |
|---|---------------------|
| H | Charger Socket |
| I | Headphone Socket |
| J | Battery Compartment |

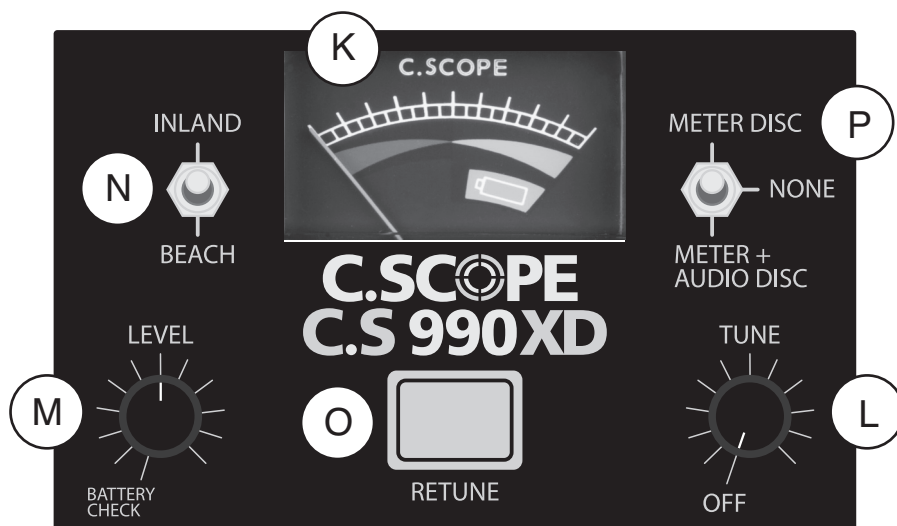
HOW IT WORKS

Inside the 990XD are two separate detectors operating simultaneously. An 'inland' detector which is factory set to ignore mineralised inland ground and gives a positive response to all metals, and a 'beach/disc' detector operating at the (adjustable) wet salt sand exclude level, which gives a negative response to iron.

By using the switches on the front of 990XD to combine the signals from the above two detectors, it is possible for the operator to detect all targets whilst eliminating the effects of the ground, and at the same time distinguishing between the good and reject targets.

Detection is indicated by the loudspeaker (the loudspeaker is located in the rear of the battery compartment), and by the meter (on the fascia panel) needle moving.

THE CONTROLS AND WHAT THEY DO



| | |
|---|-------------------------------|
| K | Signal meter |
| L | ON/OFF switch & Tune control |
| M | Level control & Battery check |
| N | Ground exclusion switch |
| O | Retune push button |
| P | Disc mode switch |

ON/OFF SWITCH AND TUNE CONTROL

This control is a combined on/off switch and rotary tune control. Fully anticlockwise to the clicked position is power 'off'.

To turn ON the detector rotate the control clockwise from the OFF position. For best performance the TUNE control should be adjusted to threshold, when the sound is just beginning to break through, since this is when the ear is most sensitive to small changes, and it is important to maintain this threshold when searching to achieve maximum depth.

The meter gives a visual indication of the signal level (unless batterycheck or meter disc is selected) and will read midscale when tuned at threshold.

The tune control is used in conjunction with the retune button, which should be depressed when making adjustments to the controls.

RETUNE PUSH BUTTON

Should the audio level change during searching other than that resulting from a target, such as from drift occurring from warming up (see paragraph 'search head'), press (and release) the 'retune' button to recover the threshold sound as set on the tune control. The 'retune' button should also be held down when making adjustments to any of the detector's controls.

GROUND EXCLUSION SWITCH

Firstly what is ground exclusion?

On some sites mineralisation caused by iron deposits and iron oxides makes it difficult to operate a detector successfully. The effect of these minerals is termed ground effect. In practice, if the detector is not correctly adjusted, the signal alters if the search head is not swept at a constant height above the ground. However by operating the detector at the correct 'exclude' point this ground signal can be eliminated. The elimination of this signal is known as ground effect exclusion or simply ground exclusion. When operated at the INLAND ground exclude point all metals give a positive response so this is sometimes called all metal mode.

Like mineralised ground, metals and wet salt sand too, have a characteristic exclude point. When operated at the BEACH ground exclude point, iron and small ferrous items produce a negative response, but valuable targets still produce a positive signal.

LEVEL control

The discrimination level of the 'beach/disc' detector in the 990XD is centred at about that of wet salt sand but can be varied from iron reject through to aluminium foil reject by adjusting the 'level' control. (The 'level' control also adjusts the exclude point of 'meter disc' and 'meter and audio disc').

INLAND and DISC MODE SWITCH

With INLAND selected the 990XD operates at a fixed level of ground exclusion. This INLAND ground exclude point is factory set on the 990XD. All metal targets will produce an increase in audio volume in this mode regardless of the 'level' control setting. The 'beach/disc' detector remains operating and can be selected to drive the meter or control the audio pitch by selection on the 'disc mode switch'. The level of discrimination of the beach/disc detector can be adjusted by the 'level' control.

The INLAND mode is used on mineralised inland sites and can be used in conjunction with any one of the disc modes described below.

- By selecting METER DISC mode the meter needle moves to the right for good targets and to the left for reject targets.
- By selecting METER + AUDIO DISC mode the meter moves to the right for good targets and to the left for reject targets, and the audio pitch increases for good targets and decreases for reject targets.
- By selecting NONE the meter needle moves to the right for all targets and the pitch remains constant.

BEACH and DISC MODE SWITCH and LEVEL control

Due to the varying nature of beach soils (the salinity and wetness) the 990XD is equipped with an adjustable level of ground exclude in 'beach' mode. It is the mode best suited to beach detecting where fine adjustment of the 'level' control is required to exclude wet sand.

- By selecting 'meter disc' mode the meter needle moves to the right for good targets and to the left for reject targets.
- By selecting 'none' the meter needle moves to the right for good targets and to the left for reject targets (same as meter disc since it is in beach mode).
- Selecting 'meter + audio disc' gives a pitch increase to good targets, reject targets are ignored. The inland detector plays no part when 'beach' mode is selected and is switched off. Only use this beach mode on the beach or at inland sites where there is no mineralisation and where you do not wish the detector to sound off over iron.

It should be apparent from the above that the 'level' control acts primarily as ground exclude control in 'beach' mode, and secondly varies the discrim point when operating in 'meter disc' or 'meter and audio disc' mode.

BATTERY CHECK

A battery condition indicator is provided on the detector. Turn the power on/off, tune control on. Turn the Level control fully anti-clockwise to the battery check position. The meter will indicate in the green battery symbol area if the batteries are good. Rechargeable batteries will not read as high into the green as standard batteries even when fully charged. They also give less indication of discharge on the meter during use. Remember to switch out of 'batt check' when you have checked the batteries.

GENERAL HINTS

Detection Range

Your CS990XD is a top performance detector but adverse soil conditions can significantly reduce the depth of detection.

Detection ranges will vary depending on the size of the object, the length of time an object has been buried, and the type of ground the object is buried in.

The best ground conditions are well compacted soils and coins can be found at the greatest depth if the object has been buried for some time and the coin has interacted with the salts in the ground, thereby appearing larger to the detector. Worst conditions for detecting are on loosely compacted or freshly dug ground or when the object has only recently been buried. In these conditions detection range will be reduced.

Anomalies

Iron, unlike a coin, occurs in a multitude of shapes and sizes and as a result it is possible that large pieces of iron may give a positive reading. Confusing signals can occur in the first few cm below the search head, and are typically characterised by a double signal from the same object, usually iron, which often ranges from a strong positive to a strong negative signal. To overcome these problems simply raise the search head, retuning if necessary, and rescan until a clear signal of rejection or acceptance is obtained.

Headphones

Use stereo headphones. Use of head phones is recommended as it eliminates extraneous noises and will extend the battery life. Insertion of headphones automatically mutes the loud speaker. The 6.35mm (quarter inch) head phone socket is located on the front of the battery compartment.

OPTIONAL ACCESSORIES from C-SCOPE

Headphones

Enclosed stereo headphones with coiled lead.

Battery charger

The C-Scope battery charger is designed to charge the individual cells quickly and safely.

Search head cover

This provides protection to the underside of the search head when detecting in muddy or stony conditions without affecting performance.

SWEEPING TECHNIQUE

For extremely small object searching, such as coins, rings, nuggets, etc. lower the search head to within 2.5 cm of the ground. Sweeping the coil from side to side in a straight line in front of you. Keep the coil at a constant height as you sweep from side to side. Move the head at a rate of 0.5 metre per second.

The optimum sweep rate must be determined by each operator. The detector should be held comfortably in the hand, with the head held as closely to the ground as possible. As the detector is scanned from side to side in front of the operator, the search head should be advanced approximately two-thirds the diameter of the coil. This keeps the operator moving ahead, and it allows some overlapping of each sweep. This overlapping ensures that nothing will be missed. It is well to note here that the operator should not rush. This is one of the most common mistakes made by detector users. If you rush, you will not adequately cover the ground.

THE COUNTRY CODE

Follow the 'Country Code'. Do not trespass. Do not touch anything you suspect might be live ammunition - inform the police.

Do not take your detector on any scheduled historic site. If you find anything which looks like it could have historical significance, report it to your local museum.

Acquaint yourself with any laws relating to the use of metal detectors particularly if you want to go detecting in countries other than the UK.

DETECTOR CARE

The CS990XD is a robust design, however the control box should be treated with similar care as any electronic product. Dry off any water splashes immediately. The search-head may be immersed in water. Stem and search-head parts should be cleaned and dried at the end of a day's detecting. Do not use solvents. If the detector has been used on a beach it will be necessary to wash sand and salt residue off the stem adjustment mechanism and the search-head retaining parts using tap water. Remove batteries if the detector is going to be stored for any length of time. Do not open the controlbox front panel. There are no user serviceable parts inside and you may invalidate your warranty.

TROUBLESHOOTING

| | |
|-----------------|---|
| Problem | Meter needle does not move as you adjust the 'tune' control. |
| Possible cause | The detector is in 'meter disc' or 'meter and audio disc' |
| Solution | Switch mode switch to 'none'. |
| Problem | Meter needle appears to be stuck. |
| Possible cause | The 'level' control switched has been left in 'batt check' position? |
| Solution | Switch out of 'batt check'. |
| Problem | New batteries fitted but unit will not switch on. |
| Possible cause | Batteries are not making contact in the battery holder. |
| Solution | Remove the battery holder and roll the individual batteries in the holder. |
| Problem | New batteries fitted but battery check reading indicates low. |
| Possible cause | One battery inserted incorrectly. |
| Solution | Remove the battery holder and reverse incorrect battery. |
| Problem | Detector is switched 'on' but appears not to be working. |
| Possible cause | Headphone adaptor left in headphone socket. |
| Solution | Remove the adaptor. |
| Problem | Detector does not work on headphones. |
| Possible cause | Stereo/mono headphone switched to mono. |
| Solution | Switch headphones to stereo. |

C.SCOPE is an ISO 9001 Quality Manufacturer.

This equipment conforms to the EMC directive 2004/108/EC.

System performance may be impaired by unusually strong electromagnetic fields.



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice. (In the UK visit www.recycle-more.co.uk)

CAUTION

It is the user's responsibility to use this product and dig only where it is safe to do so.







C.SCOPE INTERNATIONAL LTD
KINGSNORTH TECHNOLOGY PARK
WOTTON ROAD
ASHFORD
KENT
TN23 6LN

TELEPHONE: +44(0)1233 629181
FAX: +44(0)1233 645897
EMAIL: info@cscope.co.uk
WEB: www.cscope.co.uk