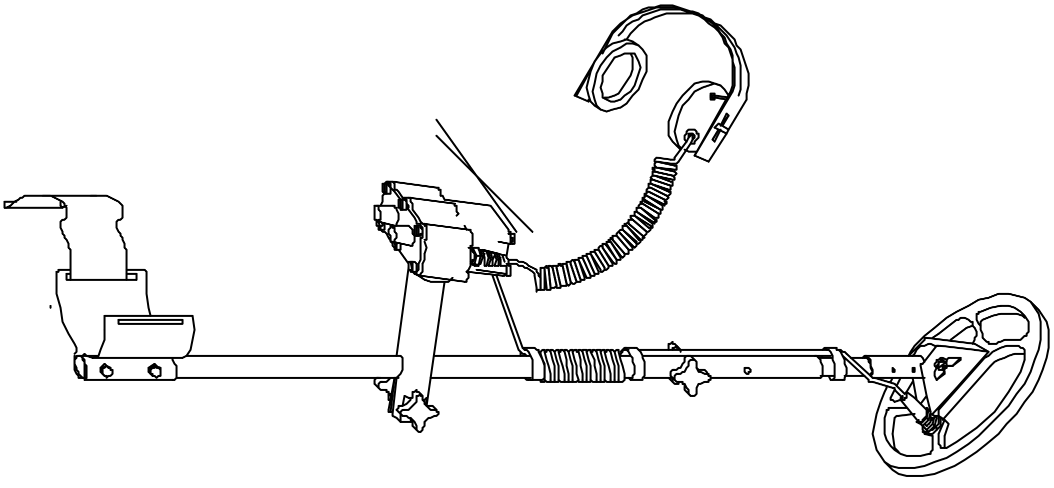
CS7

UNDERWATER METAL DETECTOR

OPERATING INSTRUCTIONS



C.SCOPE

CS7 - RAPID GET YOU GOING INSTRUCTIONS

1. **Assemble and set stem to desired length. (Neatly twist surplus lead around stem close to the handle, and secure with self securing straps).**

2. **Adjust head to correct angle and tighten both head bolt.**

3. **Fit batteries and secure battery compartment cover, ensure 'o' ring seal is clean before replacing cover and forms a visibly good seal all round after screws are tightened.**

4. **Set FREQUENCY to BATT. CHECK position.**

5. **Turn detector on by setting THRESHOLD clockwise from OFF position.**

6. **Check GREEN battery LED is ON.**

7. **Turn FREQUENCY control to mid position.**

8. **Adjust THRESHOLD to obtain audio threshold then back off slightly so that no tone is heard.**

9. **You will find all metals within the search head range including some iron and trash <u>PROVIDING THE SEARCH HEAD IS SLOWLY MOVING OVER THE TARGET</u> (not stationary).**

IF A PROBLEM IS ENCOUNTERED REFER TO THE FULL INSTRUCTIONS.

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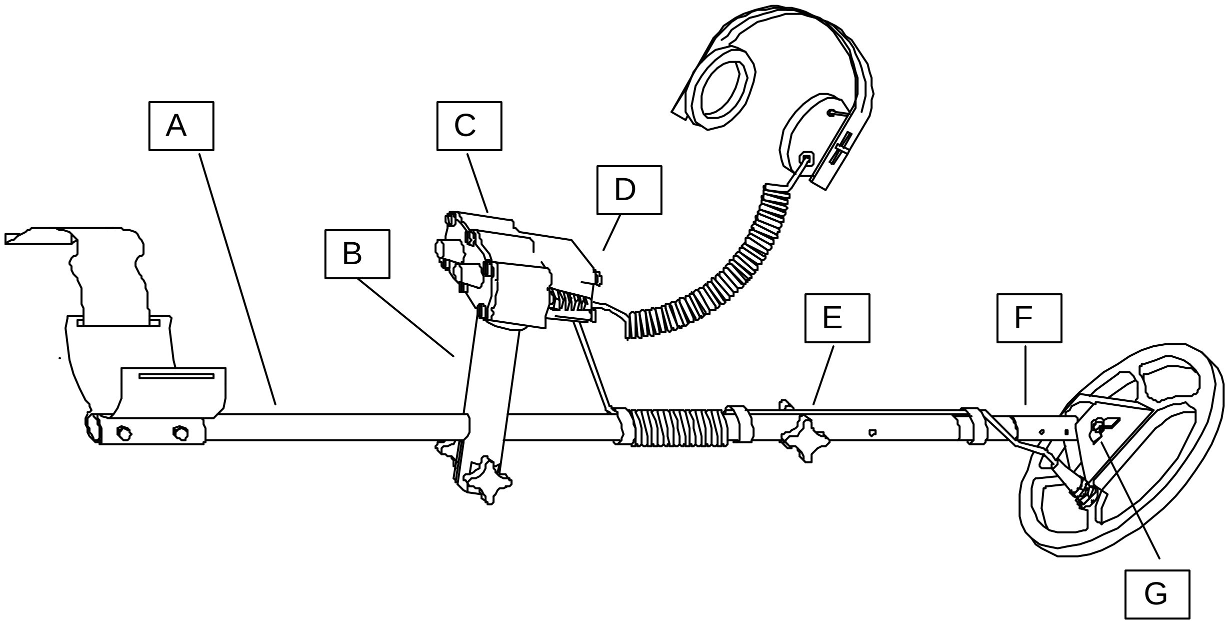
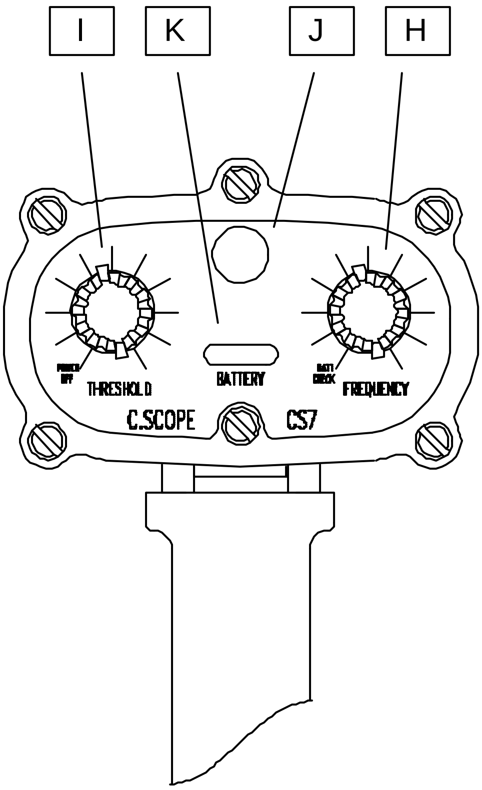
Controls C-Scope CS7





A	**Upper Stem**
B	**Adjustable Handle**
C	**Detachable Control Box**
D	**Battery Compartment**
E	**Stem Bolt**
F	**Lower Stem**
G	**Head Securing Bolt**
H	**Batt. Check/Frequency Control**
I	**On/Off – Threshold Control**
J	**LED Target Indicator**
K	**Battery Condition Indicator**

INTRODUCTION

To protect your investment complete both sections of the enclosed guarantee card and return the reply paid portion to G-Scope (UK only). **This is particularly important in order to obtain the free second year 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

For Normal Use

Open the carton and remove the upper stem and control box assembly. Remove lower stem and head. Attach the search head to the lower stem using the fittings provided. Insert the lower stem into the upper stem. Rotate the lower stem and search head to wrap the head cable around the stem. Adjust for the desired length then adjust the length so that the stem securing bolt can be fitted through the stems. Tighten the stem bolt. Slacken the handle securing bolt and adjust the handle to the desired position, retighten the handle securing bolt. Secure the head cable to the lower stem using the self gripping tapes provided.

For Diving

The CS7 is waterproof to a depth of 75m, (250 feet). Its pulse induction design makes it ideal for underwater use. *IMPORTANT: always employ safe diving methods and do not belt mount the control box when diving. The cables could become entangled with submerged objects and make it difficult to jettison the detector and impede the diver in any attempt to resurface quickly*. The set up is similar to that described above except that the stem is set as short as possible without the search head detecting any of your diving equipment. The search head should be set so that it is parallel to the sea, river or lake bed. Special care should be taken to ensure that the search head cable is wound tightly around the stem close to the control box.

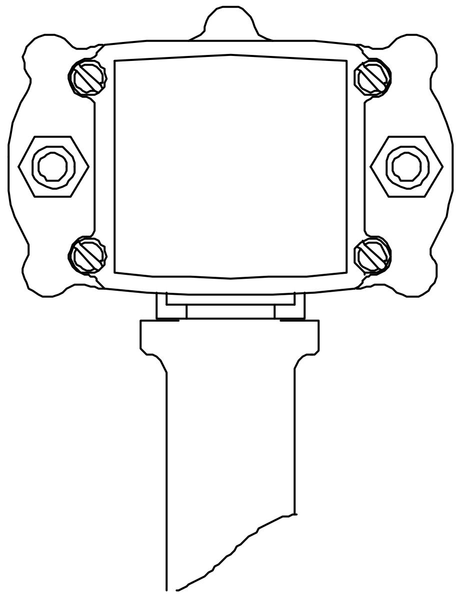
For Belt Mounting

When searching on the land the control box can be removed from the handle and attached to a purpose made belt. This removes any significant amount of weight from the handle allowing prolonged use without fatigue. The control box simply slides off of the handle by pulling the unit away from the search head towards the armrest. Remember to unwind enough search head cable to allow comfortable sweeping of the detector.

BATTERIES

The CS7 is powered by eight AA batteries (not supplied) available from garages, department stores, etc. or a single 12v rechargeable pack from C-Scope. It is advisable to use standard 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.

Battery Compartment



The batteries should be fitted in the holder which is located in the battery compartment. To fit new batteries first check the THRESHOLD control is switched to OFF. Ensure the area around the battery compartment is clean and dry. Then loosen the four 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 connector if it is already fitted. Load it with eight batteries ensuring that each battery is inserted the correct way round, (direction of batteries alternating). Roll each individual battery to ensure it is located correctly and making proper contact. Replace the connector making sure that it is firm and well seated, and put the loaded holder into the housing. Ensure the rubber ‘O’ ring seal around the edge of the cover and the groove around the edge of the battery compartment are clean and free from any sand or dirt before refitting the cover - **THIS IS IMPORTANT AS THE WATERPROOF INTEGRITY OF THE DETECTOR DEPENDS ON THIS SEAL**. Refit the cover and tighten the four screws. Ensure the cover is correctly seated and that the seal is in tight contact all the way round the edge of the compartment. This can be easily seen by observing the black ‘O’ ring through the clear cover.

Note: batteries should not be left in the detector for long periods where they could leak, so remember to remove them if the detector is not going to be used for several weeks.

TAKE CARE
Damage to the sealing surfaces can lead to extensive internal deterioration which can not be covered by our warranty.

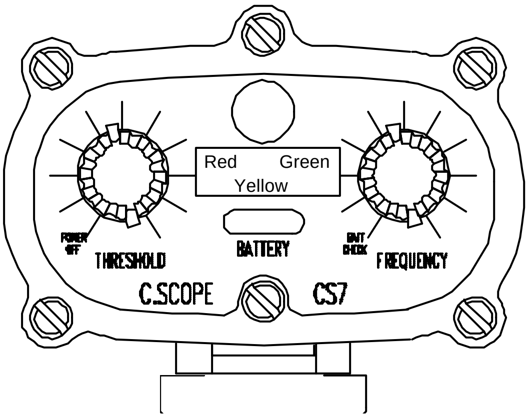
BATTERY CHECK

A battery condition indicator is provided on the detector. To do this for the first time prior to reading the remainder of the operating instructions proceed as follows:-

A) Turn the FREQUENCY control to BATT. CHECK and turn the THRESHOLD control clockwise until it ‘clicks’ away from the OFF position. The GREEN LED will come ON if the batteries are good; the YELLOW LED will come ON indicating the batteries are in poor condition. If you are using rechargeable batteries they should be recharged. If the RED LED comes on the batteries should be replaced, or recharged in the case of rechargeable batteries.

B) Turn the THRESHOLD control to OFF.

Checking The Batteries

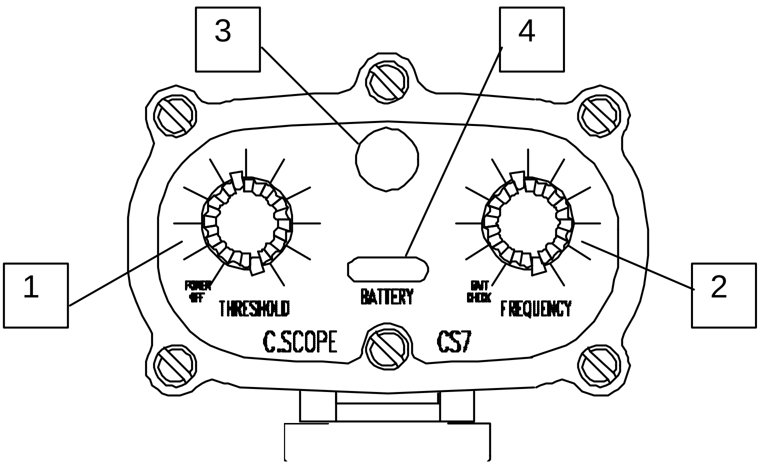


CONTROLS AND WHAT THEY DO

The control panel comprises two rotary controls, signal and battery condition indicators.

i. **ON/OFF - THRESHOLD**

control is used to set the audio tone of the machine. This is normally set so that the tone is silent or just on the point where the tone is starting to break through. There is no performance advantage in having a loud tone constantly present.



1. ON/OFF – THRESHOLD
2. BATT. CHECK – FREQUENCY
3. TARGET INDICATOR
4. BATTERY CONDITION INDICATOR

ii. **BATTERY CHECK - FREQUENCY**

control has two main functions in addition to the battery test which is at the switched, fully anti-clockwise position. Small changes to the frequency setting can be used to minimise interference from other signal sources. Changing the frequency also affects the machine's sensitivity to aluminium alloy based rubbish such as silver paper and pull tabs. By rotating the control clockwise, the machine's sensitivity to such objects will be progressively increased. When used in the surf or under water it may be necessary to reduce the frequency setting. Turn the control anti-clockwise to minimise threshold variations caused by changing depths of sea water. The audio frequency is also varied with this control giving audible indication of the frequency setting – this is useful when using the machine whilst under water. If the frequency control is rotated fully anti-clockwise the battery check position is reached. Whilst in this position the battery indicator will show the condition of the batteries. If the GREEN indicator fails to come ON then the batteries should be changed. The CS7 is a low current drain design and typical battery life will be 25 hours of intermittent use.

iii. **TARGET INDICATOR**

This group of four bright RED LEDs will illuminate whenever the audio tone goes above a preset level – indicating that a target has been located.

iv. **BATTERY CONDITION INDICATOR**

Three LEDs indicate the battery voltage –

- GREEN – good batteries
- YELLOW – used batteries, some life left
- RED – exhausted batteries

v. **VOLUME (INTERNAL ADJUSTMENT)**

The volume of the detector is factory set for optimum performance without causing discomfort. However, if the detector is used in very noisy surf environments then it may be necessary to adjust the volume. ***It is important only to proceed with this adjustment if you have the necessary skills and tools.*** Adjustment is done by unscrewing the six retaining screws and carefully removing the front control cover - taking care not to damage the 'O' ring seal or the sealing surfaces. The front cover together with the main printed circuit board is then carefully pulled away from the control housing revealing the small audio printed circuit board at the rear of the control housing. In the centre of this circuit board there is a small trimmer potentiometer labelled "VOL" which may be adjusted with a small screw driver. Take care as this item can be damaged - so do not to force the rotation of this trimmer too far. The detector can tested for volume and then reassembled. Take care that there is no damage, sand or dirt on the mating surfaces before seating the 'O' ring correctly and reassembling.

Caution: Ensure that the volume does not damage the ears of the user.

OPERATING YOUR CS7

Check the batteries are in good condition prior to, and frequently during the search. With the search head away from metals, the THRESHOLD control is increased to the point just below that at which the continuous audio tone is heard. This is the setting that will allow the user to get the best results.

The FREQUENCY control can then be adjusted to the desired position. At first set the control to the mid position and when you are ready to progress adjust the control to learn the effect on different targets. It is instructive to bury some metallic objects in a clear area and note the response when swept at different rates with FREQUENCY at various levels.

IMPORTANT CONSIDERATIONS

The Pulse Induction technique of metal detection is highly iron-sensitive. Unlike conventional induction balance metal detectors, it is not possible to isolate ferrous objects as a specific category of material.

Care must be exercised in the use of the frequency change control. Settings that are too low will eliminate metal foil but some other thin section objects such as rings and coins may also be rejected on these settings. It is vital to test your machine on the type of objects you wish to find and ensure that your machine settings are right for the job in hand.

The CS7 is a <u>MOTION PULSE</u> design which means that the search-head must be kept in motion with a steady swing from side to side in order for it to work to maximum effect. It is possible to sweep the head too fast over a faint target - get the feel of this by practice, and sweep the detector head accordingly.

ACCESSORIES (OPTIONAL) AVAILABLE FROM C-SCOPE

Rechargeable battery pack: A shrink wrapped pack of 8 high capacity rechargeable nicad batteries to replace the standard batteries and holder.

Battery charger: The C-Scope battery charger is designed to charge the rechargeable pack quickly and safely.

Belt mount: Rugged belt complete with stainless steel mounting plate for the control box.
For further information, and a price list, for all C-Scope accessories please telephone 44(0)1233 629181.

CARE OF YOUR DETECTOR

When not in use your detector should be stored in a dry warm environment. If it is not to be used for a certain length of time it is advisable to remove the batteries to avoid leakage which could cause serious damage. The working life of your detector will be shortened by careless use or neglect of the unit. Think of your detector as a scientific instrument. Your detector is designed to withstand rugged handling on any terrain, but misuse or lack of due attention will tell in the end. After using your detector in a hostile environment (salt water, sand, etc.) the exterior parts should be flushed with clean fresh water, paying particular attention to clean all mating and moving surfaces of sand or silt which, if left, can have severe detrimental effects on the durability of your CS7 detector. The use of solvents or detergents should be avoided.

Particular attention should be paid to the ‘O’ ring seals. After each use a check should be made to ensure no water has entered the control box. This is easily achieved by careful observation through the clear cover. If any ingress is found, the covers should be removed, cleaned and dried. The ‘O’ rings should be replaced if necessary – contact C-Scope Customer Service.

If the ‘O’ ring seals are not effective then a temporary seal may be achieved with a light, even smear of silicon sealant on the mating faces. However, extreme care must be taken not to damage the smoothness of the faces when removing the covers.

Routinely check the search head fixing screws for tightness - carefully tighten if any looseness develops.

LIMITATION OF WARRANTY

Salt water, in particular, can cause extensive corrosion in a relatively short time so it is very important not to allow salt water to remain in any of the compartments. Damage to the mating surfaces can lead to further damage internally and can not unfortunately be covered by our warranty.

DETECTOR NOT OPERATING?

(a) Check the condition of batteries under load using the indicator. (See Battery Check Procedure).
(b) Interchange batteries and ensure connections are correct and secure. Battery life can vary tremendously between makes, therefore your 'new' batteries may already be insufficiently powerful to run the detector.

Oscillating Signal Accompanied By Flashing Target Indicator

(a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
(b) Interference from a vehicle using a radio transmitter or possibly a stationary source of electromagnetic radiation - if this occurs then change the FREQUENCY setting. If the problem persists then the best remedy is to wait until the transmission stops.

Intermittent Sound From Headphones

(a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
(b) Radio interference (see above).

FURTHER INFORMATION

If you experience any difficulty in operating your CS7, or have any questions on the information in your CS7 Operating Instructions Manual, please do not hesitate to phone our Customer Service Department on 44(0)1233629181.

Before returning a detector for repair to C-Scope ensure you have done the following:-

(a) Read the instructions thoroughly.

(b) Tried new batteries and checked procedure outlined above.

(c) Return your detector with a letter giving full details of fault.

CE

This equipment conforms to the EMC Directive 89/336/EEC.
System performance may be impaired by unusually strong electromagnetic fields.

C.SCOPE

Kingsnorth Technology Park, Wotton Road, Ashford, Kent TN23 6LN U.K.
Telephone: 44 (0) 1233 629181 Fax: 44 (0) 1233 645897

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