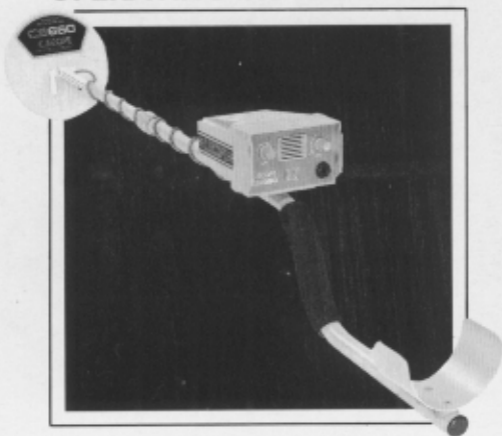


CS 660

OPERATING INSTRUCTIONS



C.SCOPE

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INTRODUCTION

In order to obtain the best results from your new metal locator/detector, please carefully read this instruction leaflet. The CS660 is an all-purpose metal locator/detector and will provide you with many hours of pleasure and treasure hunting.

DESCRIPTION AND CONTROLS



- TUNE** - Adjust for the optimum setting for the prevailing temperature/ground conditions (includes the on/off).
- DISC** - Turning this control more clockwise has the effect of eliminating (DISCriminating) unwanted signals such as iron and foil.
- RETUNE** - Resets the detector to the optimum tune position. (Membrane switch - to operate, push panel lightly).

ASSEMBLY

How To Assemble Your CS660

The CS660 comes to you dismantled for ease of packing. To assemble follow these few easy steps:

1. Loosen the lock nut on the upper stem section and insert the lower stem section with search head.
2. Adjust height and coil the search head lead loosely along the stems to prevent unwanted signals.
3. Tighten lock nut.
4. Adjust angle of search head, so that the detector balances well, and tighten as necessary.

Note: All nuts and screws on the detector should only be tightened by hand, never use any tools as this may cause breakages.

BATTERIES

The CS660 is powered by two PP3 (9 volt) batteries and we recommend you use the alkaline long life type.

1. Remove the battery compartment cover by gently squeezing the right hand edge towards the centre of the cover and pulling outwards.
2. Ensuring that the positive and negative terminals are correctly located, insert the batteries into the contacts and place batteries into compartment.
3. Replace the cover by inserting the left hand lip into the control box and pushing the right hand spring side until it clicks into position.

Rechargeable Battery Charging

Rechargeable 9v batteries can be used. Please see your local dealer for details.

OPERATION OF THE CS660

Whilst depressing the Retune Button turn the Tune Control clockwise until a faint noise is heard. Then release the Retune Button. The optimum tuning point is where the sound can just be heard. If the machine is operated on a silent setting or where the noise is too loud sensitivity will be lost.

N.B. Before tuning machine ensure no metal objects are in the vicinity.

Re-Tuning

Should the detector go out of tune for any reason, e.g., changes in temperature or ground conditions, encounters with large metal objects or an alteration of the discriminate control, simply depress the auto tune button and the detector will return to the pre-selected optimum tuning point.

Discrimination

The 660 has a variable discrimination control which allows the operator to choose from any setting between all metal detection to iron and silver paper rejection.

To adjust the Discriminate Level Control depress the Retune Button turn Discriminate Level Control to the desired level and release Retune Button.

Discrimination of a target object is indicated by a reduction in signal strength. For example, with the reject setting at 5 an iron nail will give a negative reaction (reduction in sound or no sound) whereas on a coin there will be a positive reaction (an increase in sound).

Please note at higher discriminate settings some desirable objects may be ignored by the detector.

Ground Effect

The signal of your detector will be affected by the type of terrain you are searching. Normally this effect produces an increase or decrease in the audio signal when the search head is raised from the ground. This effect can be controlled in two ways. If the search head is kept at a constant height the effect of the ground will be constant. The second method, only to be used when the effect is severe, is to de-tune the machine so that it is less sensitive to the ground. However, this will have the effect of making the machine less sensitive to coins as well.

USE OF YOUR DETECTOR IN THE FIELD

Detecting

To test for the type of signal you will get, take a coin or metal object and with the detector set up on a table tuned as previously described, move the metal object towards and across the search head. You will note that the volume will increase quickly as the metal object passes across the search head, with the loudest sound occurring when the search head is immediately centred over the metal object. As the object passes beyond the search head the sound will quickly fade.

Detection Range

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 dry well compacted soils then coins can be found at the greatest depths if they have been buried for some time and the coin has interacted with the salts in the ground, thereby appearing larger to the detector. The 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. 90% of all objects are found within 6" of the surface. Adverse soil conditions can reduce the depth of detection by more than half.

Determining the Target Size and Depth

An operator who is familiar with his instrument will be able to do an excellent job of determining object size, shape and depth before he digs. The technique is learned from careful analysis of the audio signals coming from the detector. Each time a signal is heard, listen for any peculiar characteristics it may have; determine over how large an area you get a detector signal; and try to "outline" the object before you dig. Listen for the sharpness and dullness of the signals and determine the magnitude of strength of the signal. A coin will have a sharp signal, a nail a fuzzy signal.

CARE AND MAINTENANCE

The working life of your detector will be shortened by careless use or neglect of the unit. Your detector is designed to withstand rugged handling on any terrain, but mis-use 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 (excluding the control housing) should be flushed with fresh water, paying particular attention to the head, and carefully wiped dry.

Salt Damage

If you use your detector continually in a salty environment, particularly when the wind is blowing off the sea, salty air can penetrate the control box.

Corrosion can occur in vital parts of the delicate electronic circuitry.

It is, therefore, recommended that precautions such as covering the control box with polythene be taken to avoid damage.

The guarantee cannot cover such occurrences and any repairs needed because of salt water or spray will require a charge.

The Use of Solvents

Solvents should not be used on the detector.

Storage

If the detector is to be stored, remove the batteries as they may leak and corrode the surrounding electronics.

Detector Not Operating:-

- (a) Check the condition of the batteries.
- (b) Interchange batteries and ensure connections are correct and secure. Battery life can vary tremendously between makes, therefore your 'new' batteries may already have insufficient power to run your detector.

Oscillating Signal

- (a) Caused most often by outside equipment such as fluorescent lights, taxis, radios, power lines, and other metal detectors working nearby. Little can be done to alleviate the problem except to find a new site.

Intermittent Sound From Speaker

- (a) This could be due to poor battery connections. Ensure they are tight and the batteries are securely clipped in place.
- (b) Radio transmission from passing taxi or vehicle using radio transmitter equipment (see above).
- (c) Loose speaker, in which case the speaker needs fastening back into place. Refer to dealer/service agent.

The Detector Drifts Out of Tune

- (a) Temperature drift caused by the change in air temperature when a machine is moved from a house or a car into the open. Allow the detector

temperature to stabilise.

The greater the change in temperature the more drift, and up to 30 minutes may be needed for the electronic circuitry to acclimatize itself.

- (b) Sometimes battery drain can cause drift of signal. Replace batteries and this should help to maintain a stable signal.

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

- (a) Read instructions thoroughly.
(b) Tried new batteries and checked procedure outlined above.
(c) Spoken to the local dealer about performance of the detector, especially if you are still unfamiliar with metal detectors in general.

CODE OF CONDUCT

1. Do not interfere with archaeological sites or ancient monuments. Join your local archaeological society if you are interested in ancient history.
2. Do not leave a mess. Use a sharpened trowel or knife to cut a neat circle or triangle; extract the object; replace the soil and grass carefully.
3. Help keep Britain tidy - and help yourself. Bottle tops, silver paper and tin cans are the last things you should throw away. Do the community a favour by taking all the junk you find to the nearest litter bin.
4. Do not trespass. Ask permission before venturing onto any private land.
5. Report all unusual historical finds to the local museum and get expert help if you accidentally discover a site of archaeological interest.
6. If you discover any live ammunition or any lethal object such as an unexploded mine, do not touch it. Mark the site carefully and report the find at once to the local Police.
7. Learn the local Treasure Trove laws and report all finds of gold, silver or valuable objects to the Police. In England if a coroner's inquest finds that the objects were deliberately concealed with the intention of retrieving them, they become the property of the Crown and therefore treasure trove. But even if the British Museum decides to exercise its right to keep the property, the finder is granted the full market value.
8. Respect the Country Code. Do not leave gates open when crossing fields, and do not damage crops or frighten animals.
9. Never miss an opportunity to show and explain your detector to anyone who asks about it. Be friendly. You could pick up some useful clues to another site. If you meet another detector user, introduce yourself. You may learn much about the hobby from each other.
10. Remember that when you are out with your detector, you are an ambassador for the amateur treasure hunting fraternity. Do not give us a bad name.

This equipment conforms to the EMC Directive 89/336/EEC.

However, system performance may be impaired by unusually strong electromagnetic fields.