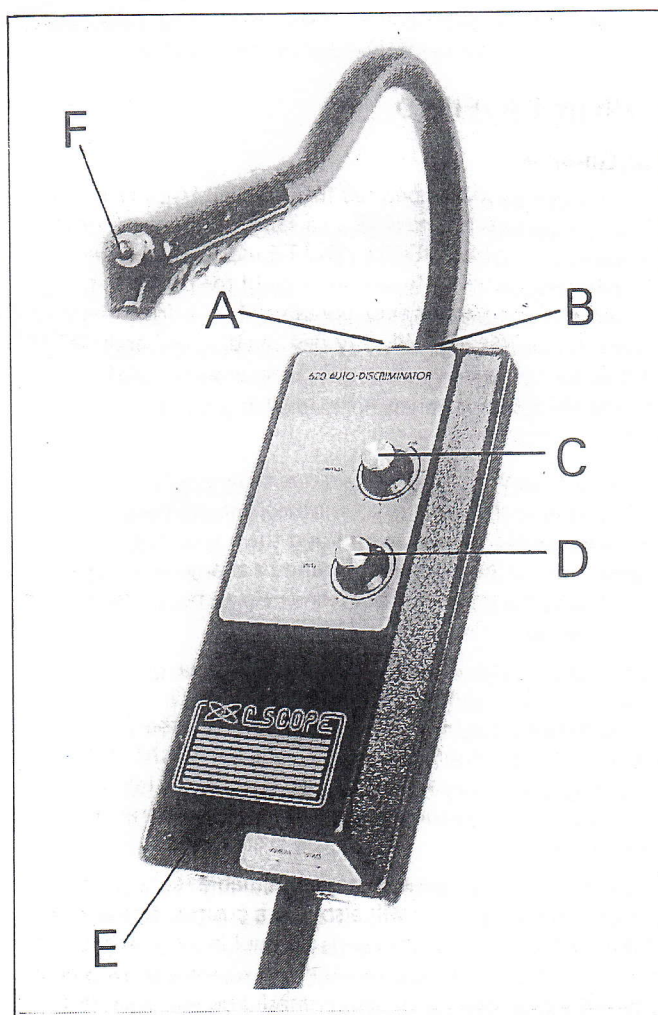
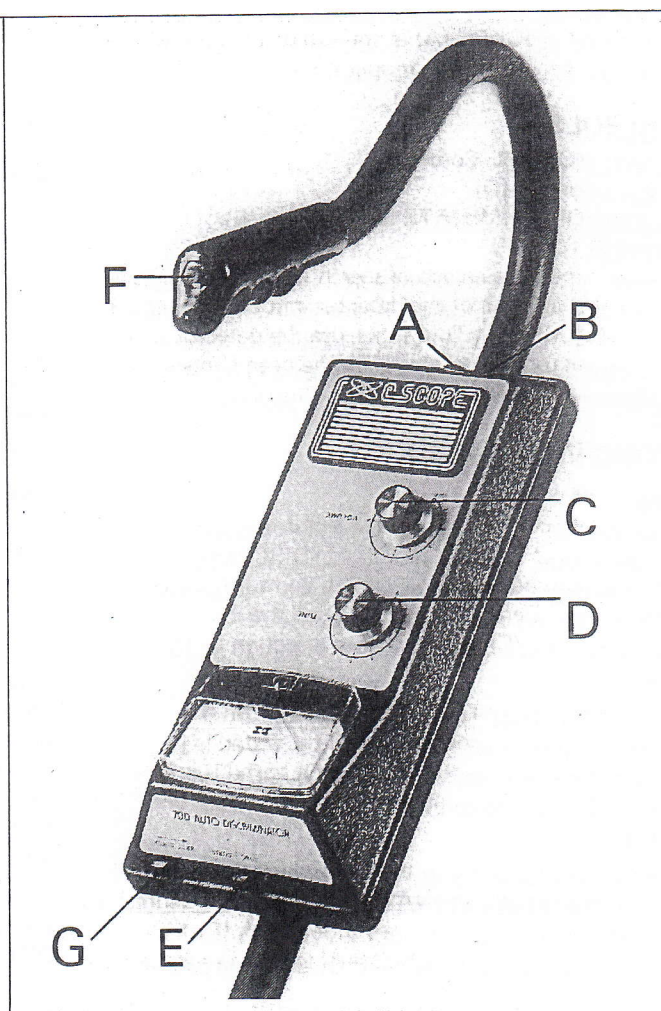




# OPERATING INSTRUCTIONS



**C-SCOPE TR 620  
AUTO-DISCRIMINATOR**



**C-SCOPE TR 700  
AUTO-DISCRIMINATOR**



As the owner of a C-Scope Metal Detector, you are now ready to participate in one of the world's most interesting and rewarding hobbies.

C-Scopes are manufactured to the highest standard to give you the maximum performance. The machines have been designed for easy operation, but there are several ways of using the detectors. In order to get the best out of your detector and ensure correct operation it is important to spend some time before going out with your detector studying these instructions. This time will be well repaid in helping you get the best results.

## ASSEMBLING YOUR C-SCOPE

When you receive your C-Scope, the detector will have been broken down for shipment. To assemble, simply insert the lower stem into the upper stem and tighten the knurled locking collar. This knurled collar has a plastic collar inside which causes the two sections of the stem to lock at the required point.

Before tuning it is necessary to purchase and insert 2 PP6 batteries.

To fit these turn fastener (A) anticlockwise through 90° and pull out. Open control box outwards, and slide the batteries under the battery clip holders, and snap on battery terminals. If you intend to operate the instrument with the headphones, insert the headphone jackplug into the OUTPUT SOCKET (A) at the top of the control box, and the detector is ready for operation.

## CONTROLS

ON/OFF, VOLUME Control (C)

TUNING Control (D)

NORMAL/DISCRIMINATE Slide Switch (E)

PUSH BUTTON (F)

Before commencing an actual search, it is advisable to get to know the controls of the detector and the kind of signals the detector will give. To do this, use the detector indoors. Lay the detector over a table with the head hanging over the edge. Make sure there is no metal in the vicinity.

## OPERATING PROCEDURE

### a) Tuning

With the detector still lying on the table as previously described, check that the NORMAL/DISCRIMINATE Switch (E) is switched to NORMAL and turn the **Tuning** Control (D) to Zero on the scale. Turn the ON/OFF Volume Control (C) in a clockwise direction to Mark 10 on the scale.

With the PUSH-BUTTON (F) depressed, turn the Tuning Control (D) clockwise until the sound is just AUDIBLE (or, for silent use, until the sound is just INAUDIBLE). Set volume control to suit operator's requirements.

The detector is now tuned for use in the **NORMAL MODE**. For use in the **DISCRIMINATE MODE**, simply depress and hold push-button (F) and move slide switch (E) from NORMAL to DISCRIMINATE setting. Then release push-button (F).

**(NB: ADJUSTMENT OF TUNE AND DISCRIMINATE CONTROLS MUST BE ACCOMPLISHED WITH THE PUSH-BUTTON (F) DEPRESSED.)**

If the detector does not respond when switched on and tuned, check that batteries are properly connected.

### b) Detecting

#### i) Normal Use

To test for the type of signal you will get, take a large

table, tuned as previously described, move the object towards the search head. You will notice that the volume will increase quickly as the metal object passes near to the search head, with the loudest sound occurring when the search coil is centred over the object. As the object passes beyond the search coil the sound will quickly fade.

If operating a C-Scope 700 on a silent setting, the meter needle must be watched closely for any movement. When a metal object approaches the search coil, the usual reaction is for the needle to swing up the scale (positive), although if the metal object is ferrous, the needle may give a slightly negative response, even in the normal mode.

#### ii) Discriminating

The C-Scope is factory set to discriminate between iron, silver paper, and other metals. To test the discriminate mode is working take a piece of silver paper about 2" x 2" from a cigarette packet or chocolate wrapper and move it towards the search head.

An audio signal will be attained. Now move the NORMAL/DISC switch (E) to DISCRIMINATE, and repeat the procedure. No signal, or change of signal will be achieved. On the C-Scope 700, the meter will show a positive signal. Now move the NORMAL/DISC switch (E) to DISCRIMINATE, and repeat the procedure. The needle will now show a negative signal.

A similar test can be made with a ferrous object, and a valuable metal (which will give a positive signal in both modes).

## USE IN THE FIELD

### a) General

The detector can be operated in the NORMAL mode, switching to discriminate when a signal is obtained, or it can be operated in DISCRIMINATE mode only. When an area has been chosen for a search, hold the detector so that the search head is approximately 1 inch from the ground and tune as previously described. The search head should then be moved from side to side, slowly and carefully, keeping the airgap between the head and the ground constant.

The signal will vary in the field due to changes in ground conditions from one area to another, and also when the distance between the detector and the ground is varied. In extreme cases of uneven ground or a large concentration of metal objects the push-button (F) may be depressed and held in during use.

When you obtain a signal, switch to discriminate as previously described, and compare the signals. Should the detector become 'overloaded' to the point where the needle remains fixed at one end of the scale (ie: by passing over a very large piece of iron) the preset tuning position can be re-located by simply depressing the push-button.

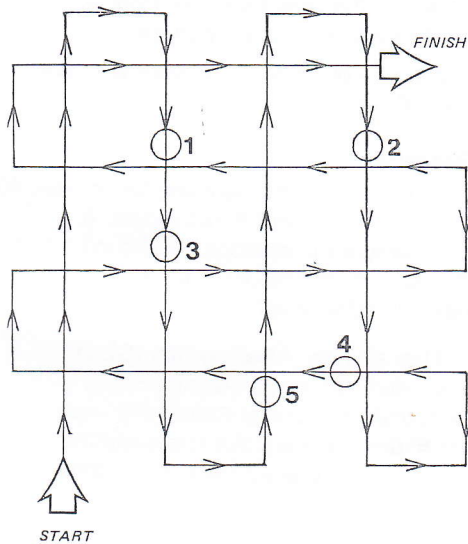
It is as well to remember that non-valuable items made of similar metals to coins will also give a positive signal in the DISCRIMINATE mode. This is particularly true when the object is within 1½" of the search head. All positive signals, no matter how small the signal, should be dug — do not write them off as bottle tops or ring-pulls.

### b) Pinpointing

When you obtain a positive signal in both modes, it is important to pinpoint the find. To do this, stop the coil when you are directly over the target, then move the coil slightly forward and back to locate the loudest signal. The target object will now be directly under the centre of the search head.

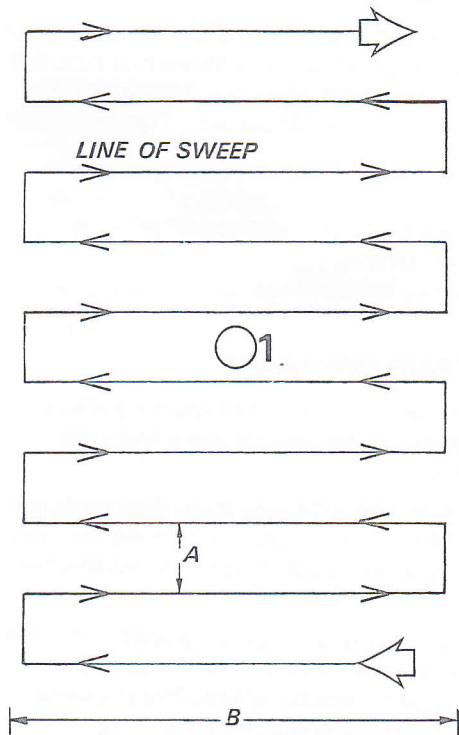


DIAGRAM 2



On arrival at the site a criss-cross search is made marking the positions of finds:- 1, 2, 3, 4, and 5. A detailed search of the area around the finds is made on completion of the criss-cross search as in Dia. 3.

DIAGRAM 3



An area ten foot square is marked out around the find located by criss-cross search. This is then divided into strips which are carefully searched.  
Distance A = width of the detector's pick-up area.  
Distance B = length of a comfortable sweep.

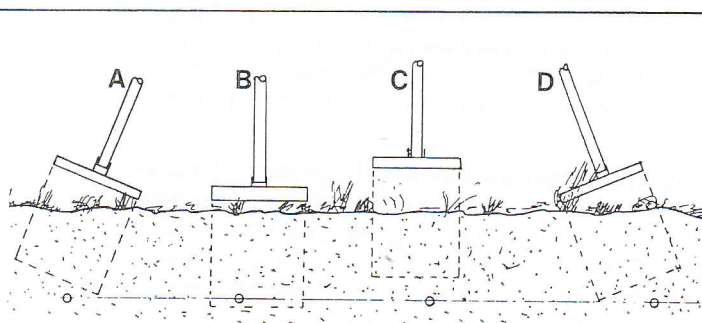


DIAGRAM 4 It is essential that the search head is kept close and parallel to the ground to avoid missing finds as in A, C, and D

### 3) 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. This 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 or dullness of the signals and determine the magnitude or strength of the signal. After digging the object, compare the object size, shape, depth and position in the ground with signal information you received before digging. After careful analysis of many digs, you will learn to "read" the hidden target before digging. **NEWLY BURIED OBJECTS CANNOT BE DETECTED AS DEEPLY AS OBJECTS WHICH HAVE BEEN BURIED A YEAR OR LONGER.**

### 4) Recommendations for Use

Treasure hunting can be a profitable and a rewarding hobby, if approached in a patient and diligent manner. Time spent researching to locate a worthwhile site for a search can be time wasted if your search is hasty and erratic.

To achieve maximum results, it is important, then, to decide on your approach to each particular site, in advance of the actual search.

Tactics will be decided by the type of site — it is more profitable to scan a small area thoroughly, than to conduct a haphazard search of the total site. However, when the site is too far away for you to make several return visits, a plan should be adopted which gives maximum site coverage, at the same time as indicating the most likely areas for detailed search.

One method is to divide the area into large squares by use of a 'criss-cross' search pattern. Starting along the left hand perimeter, search in a straight line, marking the location of any finds with small sticks, until you have covered the length of the site. Then, moving approx. ten feet to the right, search in a straight line parallel to the first line of search. This pattern should be repeated until the right hand perimeter is reached; then follow a similar pattern **across** the tracks of the first lines of search. (See Diag. 2).

It quite often happens that where one find is made, other finds will be made in the immediate vicinity. Accordingly, the higher density of 'markers' placed where your finds were made, indicates the most likely spots for a detailed search.

The detailed search is made by marking out strips of a width determined by the sweep of the detector, and moving forwards the approximate diameter of the search head after each sweep until the 'strip' has been completely covered. The adjacent strips are covered in a similar manner, until the complete area has been thoroughly searched. (See Diag. 3).

Wooden pegs and string are ideal for marking out these areas, but very often natural land marks such as trees, rocks, and plants can prove just as effective with practice.

Whilst searching it is important to remember that the search head should be kept as close to the ground as possible. This ensures maximum depth penetration, since there is minimum detection range lost in the airgap between the search head and the ground. (See Diag. 4).

Be as tidy as possible when extracting the finds from the ground. Nobody likes to see a footpath or field with great 'pits' left in it through careless digging — and holes left for people to trip on can be dangerous! So, please, follow the



Use a blunt trowel, or a medium-sized screwdriver to cut away the sod, and extract a core of earth from beneath this. Check that the core contains the find, before breaking it open. Avoid the use of sharp instruments (such as knives), since a scratch on a coin can reduce its value considerably.

After extracting the find, replace the soil and put back the sod as neatly as possible.

Another useful tip is to 'collect' all pieces of silver paper or junk that you come across — if you simply throw them to one side, you will probably end up detecting them again later!

## **SALT WATER AND BEACH OPERATIONS**

You will learn that most beach areas are POSITIVE ground. This is because wet salt is electrically conductive and produces detector signals much the same as metal. Because of this problem, operating a detector on the beach requires some extra added effort. Problems encountered when searching on the beaches can be readily mastered, as many people make their living beachcombing.

NOTE: You will not harm your instrument by submerging the search coil into sea water. Just take care not to submerge the control housing. In the event this should occur, remove the batteries and SUBMERGE the control housing in fresh water to wash out the salt. The speaker and controls may be damaged, but this is far less damage than will occur by the corrosive action of the salt. After operating the search head in salt water, wash it with fresh water. If, when searching on the beach, the instrument produces NEGATIVE signals, you will know you are detecting magnetic iron ore, rusty iron objects, or black magnetic sand (magnetite).

## **DETECTION RANGE**

Detection ranges will vary, depending on the length of time an object has been buried, and in what sort of ground. Generally speaking, the best results will be obtained on well-compacted, fairly dry soils and when the object has been buried for a year or two. During this length of time, the metal is able to interact with the salts in the ground, and becomes more easily detectable. Under these conditions, detection ranges will be up to 12" on a large coin, and 4' to 5' on a large object such as a metal chest. 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 ranges will be reduced.

## **CARE & MAINTENANCE**

### **a) Care of your C-Scope**

The working life of your detector will be shortened by careless use or neglect of the unit. Think of your C-Scope as a scientific instrument — NOT A TOY. C-Scopes are 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 of the casing should be flushed with clean water, paying particular attention to the head, and carefully wiped dry. Foreign particles in the control box can be removed by brushing carefully (or with compressed air or vacuum cleaner).

The life of the controls may be extended by periodic (100 hrs of use) application of small quantities of light lubricant to the spindles, threads and knob grub screws ('3 in 1' or similar household oil is suitable). This operation requires the knobs to be removed.

Light packing grease should be smeared on the threads of the locking collar, and at the same time, the head fixing bolt. Do not store the detector in a damp place.

If these suggestions are followed, your detector will give you many years of efficient use.

### **b) Replacing Batteries**

Two PP6 batteries are used and they will last for approx. 40 hours of actual use. When the unit is not in use, it is IMPORTANT to make sure the detector is switched off or battery drain will result. As the batteries get weaker, the volume deteriorates, and the detector will become unstable.

Your C-Scope 700 has a battery check switch (G). If meter needle reads below red line, replace batteries. To replace batteries undo black plastic screw (A) anti-clockwise, a quarter turn. Take out this screw and lift the top of the control box. Take out the old batteries and replace with new ones.

## **IN THE EVENT OF A FAULT**

All faults or queries must be notified direct to C-SCOPE METAL DETECTORS (UK) LTD., at Candle International House, Wotton Road, Kingsnorth Industrial Estate, Ashford, Kent, TN23 2LW.

If there are any problems quote the serial number on your copy of the guarantee form or inside the control box, and write to the above address or telephone Ashford 29141. Please state as clearly as possible the nature of the problem.

Please do not send faulty detectors back to the retailer. Please send them direct to C-Scope with an explanatory letter. Please check thoroughly with these operating instructions before sending your instrument back, particularly ensuring that the batteries are not simply run down.

## **C-SCOPE REPAIR CONTRACT**

C-Scope have the reputation for providing the treasure hunter with a quality metal detector and a first class after-sales service.

The guarantee given with a C-Scope metal detector is one of no-quibble. All faults which occur within the first year of purchase are repaired free of charge provided that the machine has not been grossly mis-used.

However, should a fault occur after the guarantee has lapsed, expensive repairs may be necessary. For a small yearly premium, your detector will be repaired **free of charge** — all you pay is the cost of postage. (See guarantee card)

## **IMPORTANT NOTICES**

Following the one year guarantee period, C-Scope will correct all normal detector wear and failures at factory cost, plus shipping. A service charge of £2.50 plus shipping costs, will be made on any instrument that is sent to the factory and needs ONLY a battery. Please check your detector thoroughly with a new battery before sending it in.

C-Scope is continuously improving its products. Because of this, we reserve the right to make changes at any time. If you receive an instrument that has some feature that is slightly different from what is shown in the brochures that you have seen, or if a switch or control is relocated, etc., rest assured that this change is an improvement.

You may sell or trade your detector with the full assurance that the guarantee will continue for a full year after the original purchase, regardless of who owns the instrument.