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## **CS6Pi - RAPID GET YOU GOING INSTRUCTIONS**

1. Assemble and adjust for length (twist surplus lead around stem).
2. Insert batteries.
3. Set FREQUENCY to BATT. CHECK position.
4. Turn detector on by setting THRESHOLD to position 1.  
The meter needle should be in the green section of the scale if the batteries are OK.
5. Adjust the FREQUENCY to mid scale 4-5.
6. Adjust THRESHOLD to obtain audio threshold then back off slightly so that no tone is heard.
7. You will find all metals within the search head range including some iron and trash PROVIDING THE SEARCH HEAD IS SLOWLY MOVING OVER THE TARGET (not stationary).

**IF A PROBLEM IS ENCOUNTERED REFER TO THE FULL INSTRUCTIONS.**

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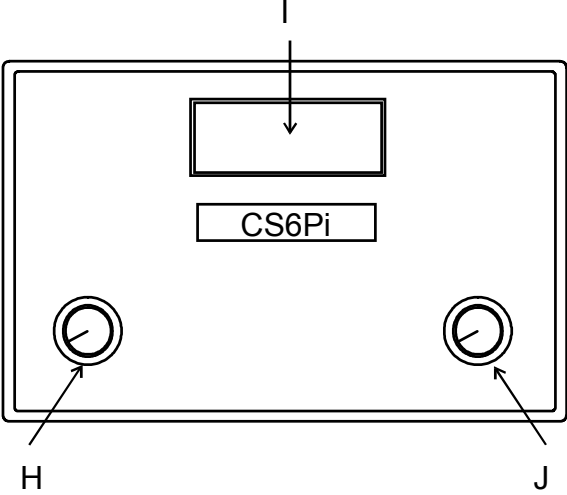
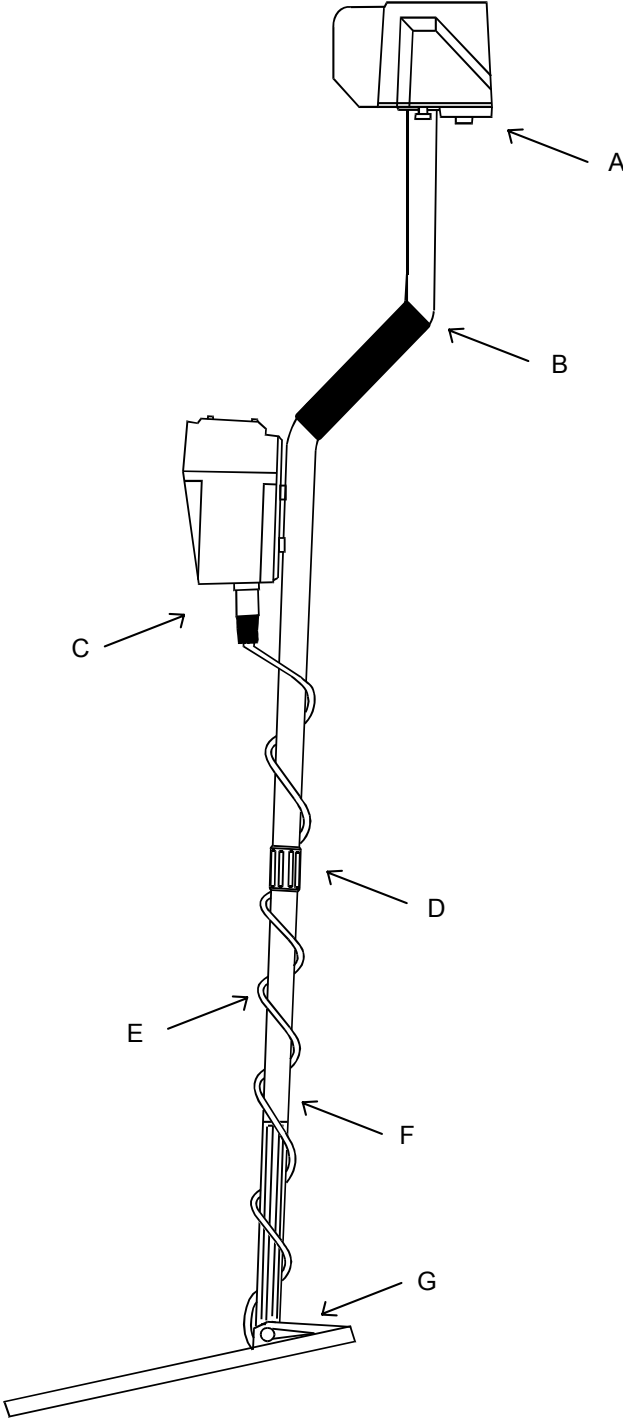
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*The information contained in this manual was correct at the time of going to press. Specifications and factors outside of the manufacturer's control are subject to change without notice.*

# Controls

# C-Scope CS6Pi



<b>A</b>	<b>Battery Compartment</b>
<b>B</b>	<b>Upper Stem &amp; Handle Grip</b>
<b>C</b>	<b>Din Plug &amp; Socket</b>
<b>D</b>	<b>Stem Locking Nut</b>
<b>E</b>	<b>Cable</b>
<b>F</b>	<b>Lower Stem</b>
<b>G</b>	<b>Search Head Fastener</b>
<b>H</b>	<b>Power On/Off &amp; Threshold</b>
<b>I</b>	<b>Signal Meter</b>
<b>J</b>	<b>Frequency</b>

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## INTRODUCTION

To protect your investment complete both sections of the enclosed guarantee card and return the reply paid portion to C-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.

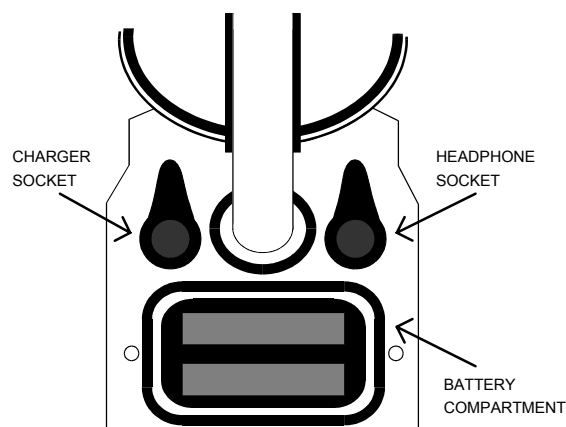
## ASSEMBLY

Open the carton and remove the main housing assembly. Twist the plastic stem lock located at the end of the upper stem to allow the lower stem to be inserted. Adjust for length and rotate the lower stem to wrap the cable around the stems to take up any slack. Turn the stem lock to fix it at the desired position.

## BATTERIES

The CS6*Pi* 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 on the unit is switched to OFF. Then loosen

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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 connector if it is already fitted. Load it with the 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. 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.

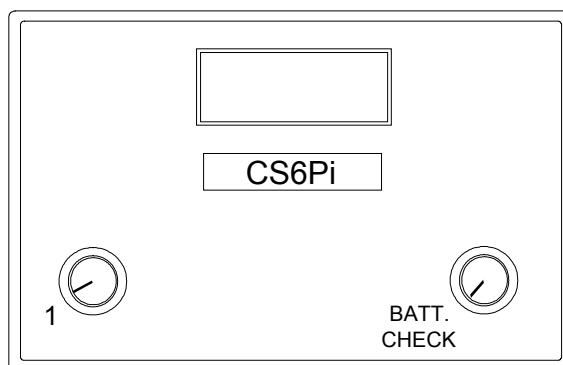
## BATTERY CHECK

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 to 1. The meter will indicate in the green area if the batteries are good and in the left or central position if the batteries need replacing or recharging.
- B) Turn the THRESHOLD control to POWER OFF.

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.

### *Checking The Batteries*



## CONTROLS AND WHAT THEY DO

The CS6Pi has been designed to offer simplicity of use with high, reliable performance.

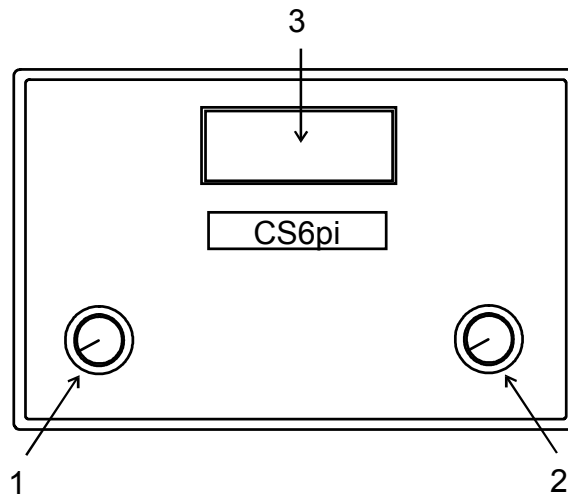
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The control panel comprises two rotary controls and a meter.

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. METER

ii. **BATTERY CHECK - FREQUENCY**

control has two main functions in addition to the battery test which is at the switched, fully anti-clockwise position. Very small changes to the frequency setting can be used to minimise interference from other signal sources such as electricity power lines. 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 reduced. When the frequency control is turned fully anti-clockwise the battery check position is reached. Batteries should be changed if the reading fails to reach the green area on the scale.

The CS6*Pi* is a low current drain design and typical battery life will be 25 hours of intermittent use.

iii. **METER**

will show signal strength irrespective of THRESHOLD setting or show the battery condition.

## **OPERATING YOUR CS6*Pi***

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Check the batteries are in good condition prior to, and frequently during the search. The use of headphones is recommended as battery life is extended and extraneous noise is reduced allowing total concentration. With the detector head in the air, away from metals the THRESHOLD control is increased to the point just below the point 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 objects in a clear patch of soil 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. For this reason we consider that the CS6*Pi* is not suitable for use on sites with a high level of iron contamination.

This pulse induction detector is exceptionally stable and has excellent depth penetrating abilities. The great stability of the design makes the CS6*Pi* the ideal choice for beach hunting. The excellent depth penetration and sensitivity to iron objects makes the CS6*Pi* perfect for relic and artefact hunting and any application where depth of ground penetration is the main consideration.

Care must be exercised in the use of the frequency change control. Settings that are too high will eliminate metal foil and even ring-pulls 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 CS6*Pi* is a **MOTION PULSE** 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.

## 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 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. 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 artefacts are found within 6" of the surface.

N.B. Your CS6*Pi* is a top performance deep seeking Motion Pulse Induction detector, but adverse soil conditions can significantly reduce the depth of detection.

## DETERMINING THE TARGET SIZE AND DEPTH

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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 meter and audio signal 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. After digging up 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 signals you will learn to 'read' the hidden target before digging.

## **ACCESSORIES (OPTIONAL) AVAILABLE FROM C-SCOPE**

**Headphones:** Headphones not only extend battery life but improve sensitivity by cutting extraneous noise. The headphones should be fitted with a standard stereo 1/4 inch (6.35mm) jack plug. The headphone socket is located under the protective cap in the battery housing.

**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.

## **CHARGING BATTERIES**

A battery charge socket is provided for use with the C-Scope battery charger (see Accessories) and is located under the protective cap in the battery housing. (The smaller of the two sockets.) Inserting the charger will automatically remove the power from the detector so the charger must be removed to do a battery check. **Do not attempt to recharge standard batteries.** It will take between eight and fifteen hours to fully recharge flat batteries with the C-Scope charging unit.

For further information, and a price list, for all C-Scope accessories please telephone (01233) 629181.

## **THE IMPORTANCE OF THE RIGHT APPROACH**

Treasure hunting can be a profitable and 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 any 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 coverage, at the same time as indicating the most likely area for detailed search.

Your detector alone is not a guarantee of successful treasure hunting. Any detector needs an operator and for the best results the operator needs the right approach, attitude and technique. Too many beginners neglect the importance of pre-planning and research before using their detector in the field, and patience and technique during the actual search. A successful search



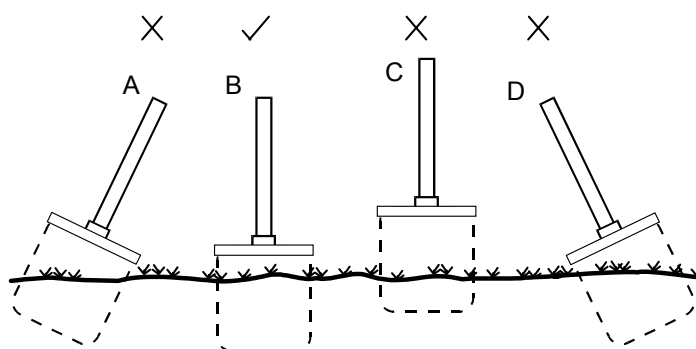
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should begin with research some time before the day of the actual search. The extent and thoroughness of your research will be one of the major factors in the success of your detecting. You should aim to get as complete an understanding as possible of the local history and geography. The key to the choice of site is to think of people, where they congregated over the past few hundred years. What were their customs and pursuits? Where did they spend money? Where did they carry money? The answers are not Roman sites, nor are they associated with mystic treasure stories of crocks of gold. Rather, they are unassuming, undramatic places, like public footpaths and ancient rights of way, old houses and so on.

When you have chosen your site, allocate a whole day from early morning to early evening for the search. Make sure you have all the equipment you are likely to need. Your detector should be checked before starting out, and you should always carry a spare set of batteries. You will also need a strong, sharp trowel. It is also a good idea to have a set of lines and pins so that you can lay out your search area scientifically.

Most beginners make the mistake of rushing about hoping to chance upon a rare find. If for example there happened to be a valuable ring that was buried 4" deep on the site you were searching, if you rushed about haphazardly and quickly on the site, the odds would be very much against you finding it. On the other hand, if you pegged out the area scientifically and searched slowly and thoroughly, the odds of finding the ring would be very much more in your favour. Remember, **BE PATIENT** and **WORK SLOWLY**. Do not try to cover too large an area, restrict yourself to a small area and work through it thoroughly. Make a note of the position and the extent of the area, and then when you return you can start again further on without missing any ground or covering the same area twice. It is also important to keep the detector head as close to the ground as possible. Ideally, you should 'iron' the ground with the search head of the detector, so that you do not lose any detection range. Similarly, if you work slowly and carefully you should be able to distinguish the faint signals as well as the clear-cut signals and further increase your finds.

#### *Search Head Position*



It is essential that the search head is kept close and parallel to the ground as in B. Do not hold the search head too high above the ground, or at an odd angle as in A, C, D as you will be apt to miss finds.

The technique of getting the best out of your detector is not learnt overnight. You need to get as much experience as possible so that you can recognise every kind of signal. Indeed, a good detector operator can often tell you what is being detected before it is unearthed.

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## **SWEEPING TECHNIQUE**

For extremely small object searching, such as coins, rings, nuggets, etc. lower the search coil to within 1 inch 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 coil 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 coil held as closely to the ground as possible. As the detector is scanned from side to side in front of the operator, the search coil 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.

## **METAL DETECTING AND THE ENGLISH LAW**

The rights of the finder fall into two distinct classes. The first relates to objects that have been recently lost, and the second to items of gold or silver which are subject, or might be subject, to the laws of the Treasure Trove. In the first place, where the object has been recently lost and found and is valuable, it should be handed to the Police as soon after it has been found as possible. The Police will then attempt to locate the owner. If they succeed in locating the owner, he has the legal right to the object and is not legally bound to reward the finder. That is a matter for the owner's conscience.

In the event of the Police failing to locate the owner they will probably return the object to the finder. If, however, the owner makes a claim for the object at a later date, the finder must return the item to the owner. If the owner is not located the finder has the best rights to ownership, provided that the object was not found on private property, in which case the owner of the land has a better right than the finder. The solution here, of course, is to obtain permission beforehand and to come to some agreement with the landowner with regards to the division of any finds.

If on the other hand, the find of gold or silver can be proved to have been deliberately concealed, with a view to recovery at a later date, the find comes under the law of the Treasure Trove. If the objects cannot be proved to have been deliberately concealed, the find cannot be declared Treasure Trove. Usually this point centres around the quantity of coins in a hoard, or whether the find is in a container. Obviously, if there are a hundred coins in a pot, they were almost certainly deliberately concealed. If, however, there are only one or two coins, it is more likely that they were lost accidentally. If the objects are declared Treasure Trove, the finder has no need to worry, for he is usually rewarded with a cash settlement to the full market value of the find. When the objects are not declared Treasure Trove, the owner of the land on which the find was made usually has a better claim to ownership than the finder.

**In Scotland** all newly discovered ancient objects of all metals, whether deliberately concealed or not are subject to the same procedure as Treasure Trove finds in England.

## **CODE OF CONDUCT FOR METAL DETECTOR USERS**

1. Do not trespass. Ask permission before venturing on to any private land.

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2. Respect the Country Code. Do not leave gates open when crossing fields, and do not damage crops or frighten animals.
  3. Do not leave a mess. It is simple to extract a coin or other small objects buried a few inches under the ground without digging a great hole. Use a sharpened trowel or knife to cut a neat circle or triangle (do not remove the plug of earth entirely from the ground); extract the object; replace the soil and grass carefully and even you will have difficulty in finding the spot again.
  4. Help to keep Britain tidy - and help yourself. Bottle tops, silver paper and tin cans are the last thing you should throw away. You could well be digging them up again next year. Do yourself and the community a favour by taking the rusty iron and junk you find to the nearest litter bin.
  5. If you discover any live ammunition or any lethal objects such as an unexploded bomb or mine, do not touch it. Mark the site carefully and report the find to the local police.
  6. Report all unusual historical finds to the landowner.
  7. Familiarise yourself with the law relating to archaeological sites. Remember it is illegal for anyone to use a metal detector on a scheduled ancient monument unless permission has been obtained from the Historic Buildings and Ancient Monument Commission for England or the Secretary of State for the Environment in Scotland and Wales.
  8. Remember that when you are out with your metal detector, you are an ambassador for our hobby. Do nothing that may give it a bad name.

## **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 the head and stems, then carefully wipe dry.

## **DETECTOR NOT OPERATING?**

- (a) Check the condition of batteries under load using the meter. (See Battery Check Procedure).

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- (b) Check that the search head is properly attached to the control box via the search head cable connector.
  - (c) 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 Slight Meter Fluctuation**

- (a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
- (b) Loose search head cable connection - tighten.
- (c) 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 Speaker**

- (a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
- (b) Loose search head cable connection - tighten.
- (c) Radio interference (see above).

### **The Detector Drifts Out Of Tune**

- (a) Temperature drift caused by change in air temperature when a machine is moved from a house or car into the open. The greater the change in temperature the more the drift, and in severe conditions up to 30 minutes may be needed for the electronic circuitry to acclimatise itself.
- (b) Sometimes battery drain can cause drift of signal. Replace batteries and this should help to maintain a stable signal.

## **FURTHER INFORMATION**

If you experience any difficulty in operating your CS6Pi, or have any questions on the information in your CS6Pi Operating Instructions Manual, please do not hesitate to phone our Customer Service Department on (01233) 629181.

***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.