

CS2MX

OPERATING INSTRUCTIONS



C.SCOPE

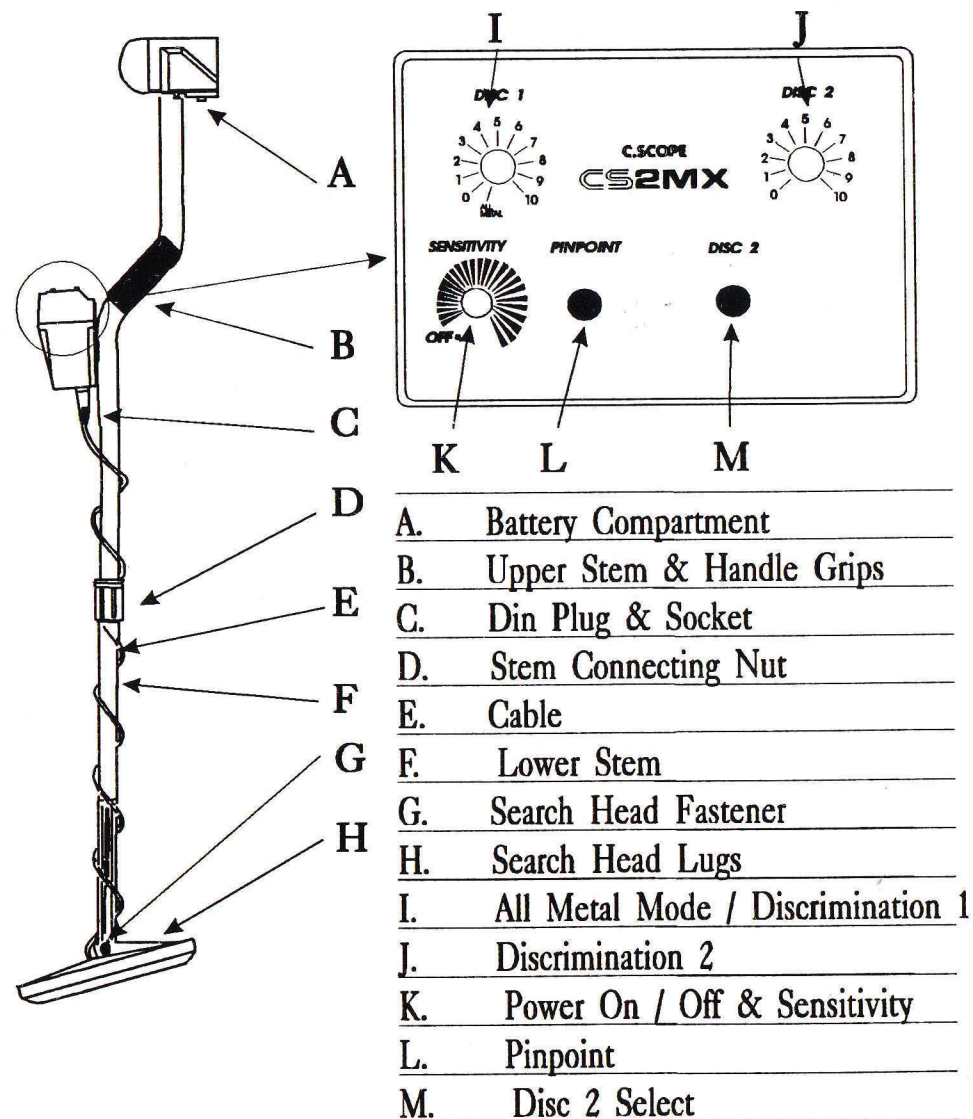
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The new CS2MX has been completely redesigned internally giving you more reliability. The control layout is slightly different to that shown on the diagram and the photographs in this manual.

In the unlikely event of difficulty please contact our Customer Service Department (Tel no: 01233 629181) between 9am to 5pm, Monday to Friday.

C.SCOPE CS2MX



IMPORTANT

To protect your investment complete both sections of the enclosed guarantee card and return the reply paid portion to C-Scope. 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 in mind, 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 of the advantages designed into your detector. It is also strongly recommended that you experiment with the detector's operation in air, with various test samples, in order to learn to identify and understand the capabilities and responses. Always remember that becoming a good metal detective is like becoming a good photographer or fisherman. 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 inner carton and remove the main housing assembly. Remove the search head and lower stem from between the inner carton walls. Twist the plastic stem lock, located at the end of the upper stem to allow the lower stem to be inserted. Turn the stem lock to lock it at the desired position. Now take the lead coming from the search head and twist it up the length of the stem and insert the plug into the socket located at the rear of the main housing, the screw in the plug is at the top when correctly aligned. Screw the plug in firmly to make a watertight seal. (Please ensure that the "O" ring does not fall out from the socket).

BATTERIES

The CS2MX is powered by eight R6B batteries (not supplied) available from garages, department stores etc., or a single rechargeable pack. 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. 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 connector if it is already fitted. Load it with the eight batteries ensuring that each battery is inserted the correct way around (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. 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.

CONTROLS AND WHAT THEY DO:

On/off – Sensitivity

The CS2MX has been designed to offer simplicity of use with high, reliable performance. The control panel comprises of three rotary and two push button controls.

When you first turn this switch clockwise you will hear an audio tone. This is the battery check and indicates their presence and strength. A clear, sharp signal signifies the batteries are working properly. A weak, broken or non-existent signal means you should replace the batteries. The CS2MX is a silent operating machine and you should rotate the Sensitivity Control clockwise to the furthestmost position. Once rotated into the red section, you will hear an audio threshold tone. If you do not want this tone, return the control to outside the red section.

Operate the Sensitivity at the highest level possible but, if you experience interference from external radio transmissions or soil mineralisation, reduce the level to eliminate this.

IT IS RECOMMENDED THAT YOU OPERATE JUST OUTSIDE THE RED SECTION UNLESS CIRCUMSTANCES ALLOW OTHERWISE.



- | | |
|-------------------------|--------------------------------|
| 1. Disc 1 | 4. Pinpoint push select button |
| 2. Disc 2 | 5. Disc 2 push select button |
| 3. On/Off – Sensitivity | |

Disc 1

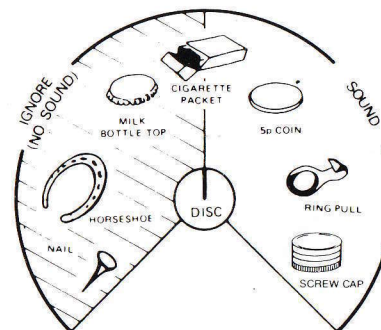
In the clicked off position, the CS2MX detects all metal objects.

Turned clockwise it becomes a fully variable discrimination control.

Discrimination is a means of ignoring objects which are generally regarded as junk whilst still detecting the good objects.

At the lowest setting most iron objects are ignored. Increase the setting and the unit will ignore even larger pieces of aluminium paper as well as iron.

At higher levels still, ring pulls will also be ignored. You must, however, realise that at this higher setting you will also lose some low denomination and silver hammered coins, so set the control only as high as is necessary to ignore iron and foil contamination (i.e. level 5 indicated by the red mark).



EFFECT OF DISCRIMINATE CONTROL POSITION

Disc 2

This control is identical to Disc 1 and allows you to further identify the target signal being received.

With Disc 1 set at 5 to reject small iron and silver foil, commence searching. Remember the CS2MX is a motion machine which means that the search head needs to be constantly sweeping, except when in pin point mode – (see page 5).

You now need to set Disc 2 to ignore ring pulls.

Sweep the head above a ring pull and rotate Disc 2, at the same time depressing the Disc 2 push select button with the thumb of the hand holding the machine. When the ring pull signal disappears this control is set. Release the push button.

Your CS2MX automatically operates in Disc 1 so commence searching (see "Sweeping" on page 7).

When you receive a signal, this indicates that the target could be a silver hammered coin, 5p, ring pull, £1, 2p or gold etc.

Depress the Disc 2 button and hold it. Sweep the target object again. If you are still receiving a signal, then it is likely to be any of the metals found above ring pulls, e.g. £1, 2p or gold etc.

Disc 2 gives you greater analytical skills than a single discrimination machine but, even when Disc 2 does not give a signal, still dig the target to avoid losing silver hammered or 5p etc.

Three points to remember:

1. Large iron objects, particularly if near the surface, can produce a signal regardless of discrimination settings.
2. Although Disc 1 and 2 are set to ignore metals at the same position there may be slight variations in your machine and between different machines.
3. Practice, in air, with various metal objects so you understand the detector capabilities and responses.

The more familiar you become with your CS2MX Metal detector the more skilful combinations of Disc 1 & 2 you will use. The following chart gives a few ideas of setting and the conditions under which you would employ them.

REF	DISC SETTING		WHEN USED
	DISC 1	DISC 2	
A	0	0	All metal detecting
B	5	0	Dig all signals
C	5	7	To analyse possible ring pulls etc (see above)
D	5	10	If searching for modern currency (e.g. £1 coins) in a highly-screw cap contaminated site (eg picnic area)
E	7	0	Use on beach or picnic site which is highly ring pull contaminated.
F	10	0	Use on same sites as above except where highly screw cap contaminated.
NOTES: i) When using references E & F please be sure that the search site would not yield silver hammered coins which may be ignored at these high discrimination settings.			
ii) In reference A, you may need to reduce sensitivity in highly mineralised or beach sites.			
iii) These settings are guidelines only and you should practice with various known objects to ensure that you are familiar with the settings correct for your machine.			

Disc 2 Push Select Button

Pinpoint Push Select Button

See Disc 2 control above.

As stated on page 4 the CS2MX is a motion machine which requires the head to be constantly moving.

When you have located a target you must pinpoint it carefully to avoid unnecessary digging.

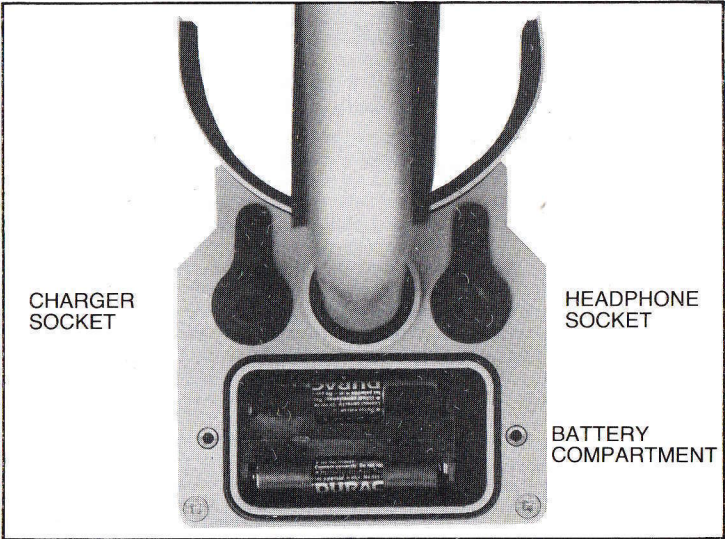
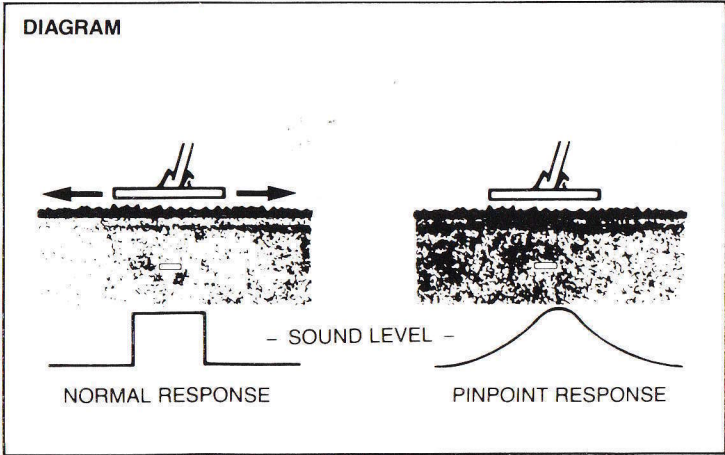
When held down, the pinpoint button enables the detector to give a varying response which peaks directly above the target.

To pinpoint a target carry out the following procedure:

1. Move the search head to a known clear patch.
2. Hold the pinpoint button down and return the head to the target area; move it slowly and listen for the peak response.

The all metal pinpointing mode gives a positive response to all metals irrespective of the Discriminate setting.

It is not necessary to sweep the target as the pinpoint mode will respond even when held stationary over the object.



OPERATING YOUR CS2MX

Check the batteries are in good condition prior to searching. Frequently check the battery condition during the search. Rechargeables give little warning of failure so ensure they are fully charged prior to a long period of searching or carry a fresh set with you. (See Batteries, page 2). The unit may operate with reduced sensitivity for a period after indicating 'flat' batteries. However the batteries should be replaced or recharged at the first opportunity.

Use headphones when possible. Not only do they extend the battery life, but they also cut out extraneous noise.

(It is instructive to bury some objects in a clear patch of soil and note the response when swept at different rates with DISCRIMINATE at various levels). Large pieces of iron are difficult to ignore and may give confusing signals. An aid to determine whether the target is iron or not is to go into an all metal mode either by turning the DISCRIMINATE off or simply by pressing the PINPOINT button. Iron objects will generally give a stronger more positive signal than good objects.

When operating on the beach the all metal mode may give a response to the beach itself. If this is the case operate the unit with the DISCRIMINATE level set to the point at which it is ignored.

If in doubt as to whether a target is good or not – dig it. Your knowledge of how the detector responds will increase each time and soon make you more sure.

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 depths 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. Adverse soil conditions can reduce 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. 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. 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 digs, you will learn to "read" the hidden target before digging.

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 site 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 should begin with research sometime 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 the 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.

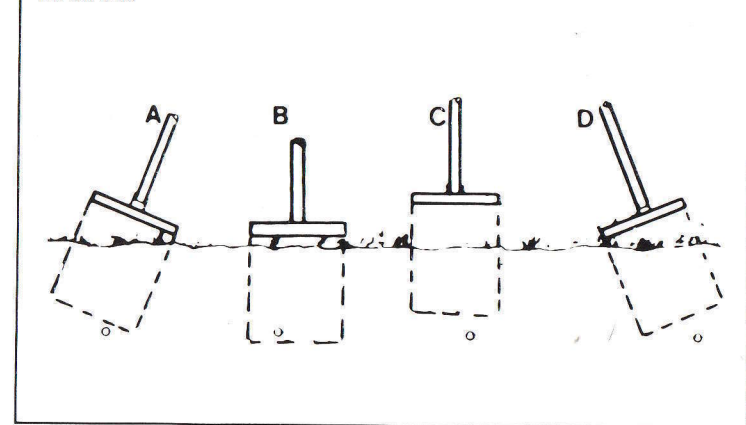
When you have chosen your site, allocate a whole day from early morning to early evening for the search. Make sure that you have all the equipment you are likely to need. Your detector should be checked before starting out, and you should always carry a spare set of batteries. You will also need a strong, 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 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 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.

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.

DIAGRAM



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

Sweeping

For extremely small object searching, such as coins, rings, nuggets, etc., lower the search coil to within one 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 the rate of one metre per second (approximately 2 sweeps per step is recommended).

METAL DETECTING AND THE LAW

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.

The rights of the finder fall into two distinct classes. The first relates to objects that have recently been 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 often 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 regard 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 laws of the Treasure Trove. If the object 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 or so 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 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

1. Do not trespass. Ask permission before venturing on to any private land.
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 perfectly 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 keep Britain tidy – and help yourself. Bottle tops, silver paper and tin cans are the last things 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 junk you find to the nearest litter bin.

CARE OF YOUR DETECTOR

5. If you discover any live ammunition or any lethal object such as an unexploded bomb or mine, do not touch it. Mark the site carefully and report the find to the local police and landowner.
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 Monuments Commission in England or the Secretary of State for the Environment in Scotland and Wales. Also acquaint yourself with the practise of Treasure Trove.
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.

Storage

When not in use your detector should be stored in a dry and 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, not a toy. 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 of the casing should be flushed with clean water and carefully wiped dry.

Detector Not Operating

- (a) Check the condition of batteries under load. See On/Off Sensitivity, page 2.
- (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 your detector.

Oscillating Signal

- (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 transmission from passing taxi or vehicle using radio transmitter equipment.

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.
- (b) The greater the change in temperature the more the drift, and up to 30 minutes may be needed for the electronic circuitry to acclimatize itself.
- (c) Sometimes battery drain can cause drift of signal. Replace batteries and this should help to maintain a stable signal.