# field test

# C-Scope CS1220XD

When I was asked to test the C-Scope CS1220XD, and was informed that it was a non-motion detector, I must confess that I was a little puzzled. Whereas most detectors these days work on the motion principle, here was C-Scope releasing a "back-to-grass-roots" non-motion VLF/TR.

I soon discovered, however, that the CS1220XD is not a totally new machine but rather an upgrade - both in performance and design - of the older C-Scope 1220 models.

The first of these, the VLF/TR 1220-B (black plastic control box) was, in fact, first released in November 1984. In 1991 it was brought out in its grey box form as the CS1220 S3. Finally, in Spring 1995 it became the CS1220XD.

The 1220 has been, in fact, one of C-Scope's most popular and successful models and its continuation into the latest form speaks well for the detector. For a piece of high-tech equipment to survive over ten years and go into its third generation, it must be a successful design.

When the fashion is for the "new and different" manufacturers do not keep on producing out-of-date designs that do not sell. There are undoubtedly many innovative advances and gains in recent detector designs, but as in any other field of development good aspects of a product are often discarded inadvertently (or sometimes to keep up with current trends).

Since its introduction, the 1220 has attracted a following of serious enthusiasts who are aware of its special abilities on particular types of sites. It is partly on the demands and requests of such enthusiasts, that the 1220 has been upgraded and retained within the C-Scope product range.

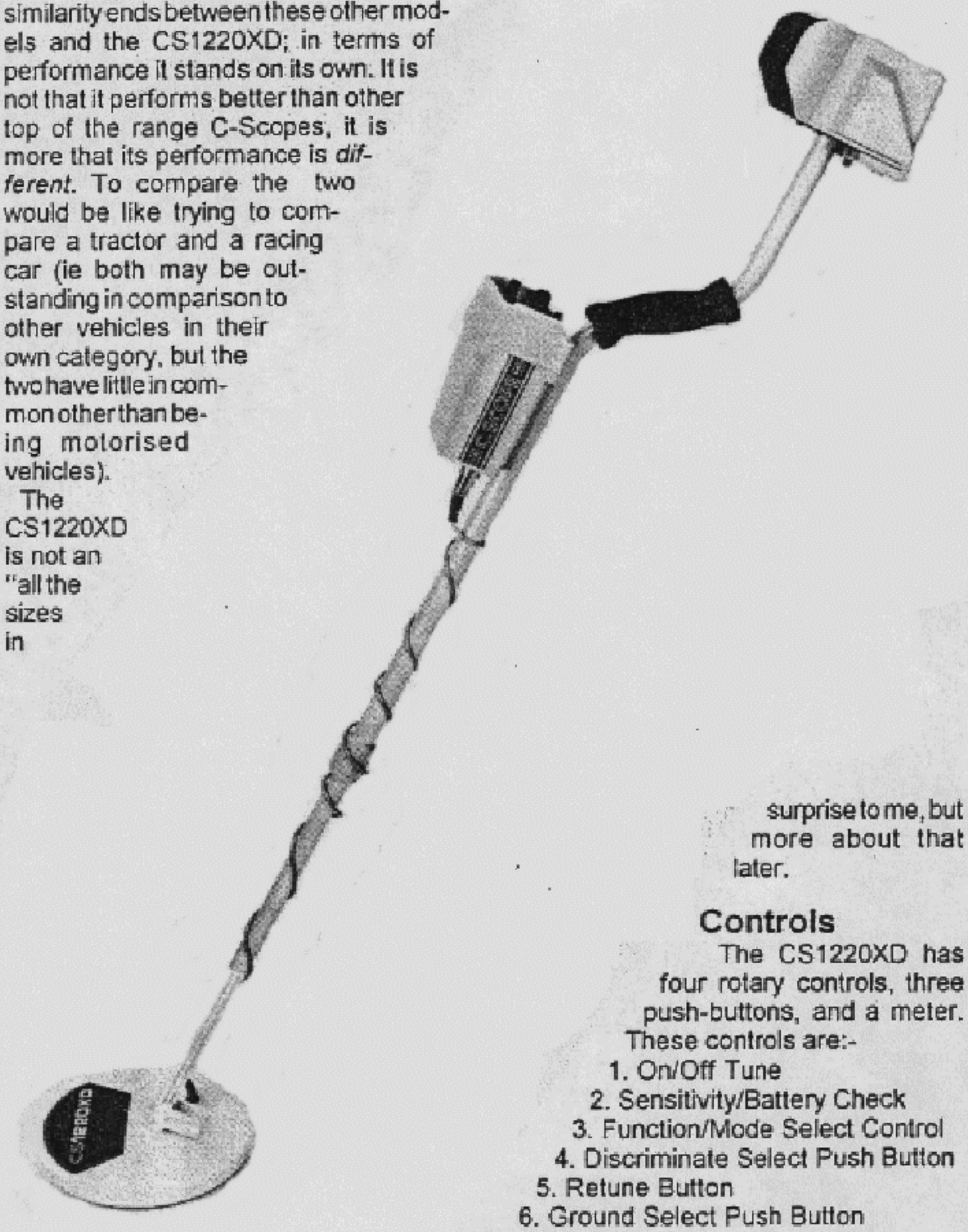
One more interesting point on the history of this detector is that, when the 1220-B was introduced in 1984 it sold for £269.50. The new CS1220XD sells at £379.90 which is an increase of only £110.40 over the original price. As most products double in retail price every ten years, it is good to see that C-Scopes have managed to keep down the price of the 1220 while introducing a number of improvements.

## Description

The CS1220XD is of similar appearance to several other mid to top range C-Scope models released in recent years (the CS2MX, CS5MX etc). It has the modern S-shaped stem with built-in arm rest, and is both lightweight and well-balanced.

However, appearance is where the similarity ends between these other models and the CS1220XD; in terms of performance it stands on its own. It is not that it performs better than other top of the range C-Scopes, it is more that its performance is *different*. To compare the two would be like trying to compare a tractor and a racing car (ie both may be outstanding in comparison to other vehicles in their own category, but the two have little in common other than being motorised vehicles).

The CS1220XD is not an "all the colours" type of detector as are some of the high tech machines now available, but it is easy to use while providing good results. During testing I used the CS1220XD on a variety of sites including ploughed fields, grassy meadows, ancient bridleways, and salt wet sand. Its performance on the beach came as a surprise to me, but more about that later.




## Controls

The CS1220XD has four rotary controls, three push-buttons, and a meter. These controls are:-

1. On/Off Tune
2. Sensitivity/Battery Check
3. Function/Mode Select Control
4. Discriminate Select Push Button
5. Retune Button
6. Ground Select Push Button
7. Variable Discrimination.

## Use of Controls

**1. On/Off Tune.** This rotary control switches the detector on and allows it to be set to threshold. It also sets the level of meter tune when the detector is used in the Manual Control modes.



**2. Sensitivity/Battery Check.** In the fully anti-clockwise switched position of this control, the battery check is enabled. Battery condition will be shown on the detector's meter. If the needle comes to rest in the green segment of the meter the batteries are okay. If it falls below this, it is time to recharge or replace your batteries.

When turned clockwise the control will adjust the sensitivity of the detector to metal objects. If the sensitivity is increased the detector will be more prone to drift, erratic signals, ground interference etc. However, where there is no ground effect or outside interference the Sensitivity control can be operated at higher levels. When the signal becomes unsteady or erratic, the sensitivity level should be reduced to obtain a clear, steady tuning threshold. Only when the tuning is constant and steady will the detector operate at the optimum depth penetration. The recommended starting point, stated in the Factory Manual, is at the 12 o'clock position.

**3. Function Switch.** This rotary switch allows the selection of one of the preprogrammed modes ("Meter Audio Disc" or "Meter Disc") or one of the manual control modes ("GD1" or "GD2").

When set to either "Meter Disc" or "Meter Audio Disc" the levels of discrimination are identical. Discrimination is factory set to give good depth penetration while at the same time rejecting most iron and silver foil. Pull tabs, large pieces of silver foil, and large lumps of iron will not be rejected because the discrimination required to reject these also reduces the depth penetration on certain non-ferrous metals and thin section objects. It is very unlikely that a valuable object will be rejected in either of these modes.

In the "Meter Disc" mode the meter will indicate unwanted targets by the needle moving left of centre. If a wanted, non-ferrous target has been detected the meter needle will stay at centre or move to the right. The audio signal will indicate all metal targets within detectable range at a fixed pitch.

In "Meter Audio Disc" mode the meter will react as described above, but the audio signal will vary in pitch. An increase in pitch (a high tone) indicates a wanted object, while a decrease in pitch (low tone) is an unwanted object.

I should state here that this is the mode favoured and used almost exclusively by the *aficionados* of the 1220 who refer to it affectionately as "Sooty and Sweep" or "Growl and Squeak" from the strange noises that it sometimes produces.

On a site where there are few metal targets, it is easy enough to stop and check each one on the meter. However, where there are dozens of objects (mostly ferrous) within each sweep of the search head the ear can do what the eye cannot: locate that one wanted high tone from amongst all the low tones being produced by iron.

If no other settings were to be used apart from Meter Audio Disc, the CS1220XD would give a good account of itself on practically any site. The audio discrimination is easy to work with and enables very rapid searching while giving good target ID.

When used in the Manual Control modes, the detector utilises one of two circuits. One is for optimisation against unwanted Ground effects, and the other for Discriminating against unwanted targets. Ground effects/signals are due to natural mineral deposits or contamination left by industrial processes. The ground cancel ability of this detector is factory set at optimum and is the same whether the switch is in position "GD1" or "GD2".

Under manual control, the discrimination can be set within the range of GD1 (iron to silver foil) or GD2 (foil, through pull tabs to screw caps). The latter mode should be used with some caution as a great many wanted objects - including gold rings also fall within this range.

When discrimination is selected in GD1 or GD2, the meter needle moves to the right for wanted targets and left for rejected items (depending on the level of discrimination selected). When Ground is selected the needle moves right for all targets.

**4. Discrimination Select Push Button.** This control selects the discrimination or junk reject circuitry, when the detector is used in Manual Control Modes GD1 or GD2.

**5. Retune Button.** This resets the level of tuning (threshold), originally set by the user. It should be held down when the

detector is first switched on and tuned to threshold, and then released.

**6. Ground Select Push Button.** This control selects the ground cancel circuitry when the detector is used in Manual Control Modes GD1 or GD2. When Ground is selected, the detector is operating in all metal mode, and will be sensitive to ferrous as well as non-ferrous targets.

**7. Discrimination.** This rotary control allows the setting of discrimination levels when the detector is used in Manual Control Modes GD1 or GD2.

## Quick Start

The above description of the control functions may sound a little complicated, but many of the settings are ones that you will rarely use or need to be bothered about. It is possible within a few steps for anyone to get this detector up and running:-

1. Select "Meter Audio Disc" on the Function switch.
2. Place the mark on the Sensitivity control to the 12 o'clock position.
3. Hold down the Retune button.
4. Turn the detector on with the Tune control and continue rotating this clockwise until a faint tone can be heard.
5. Release Retune button.

After completing the above five easy steps the detector will be ready to use, and will work well under most conditions.

## Field Appraisal

The first site searched with the CS1220XD was a bridal way or green lane. This was a deep cutting running between fields, and such paths are a common feature of the landscape of the area where I live at the moment (South Devon). I say "at the moment" because it has been said of me that I move home more often than most men change their socks.

The green lane in question was a deep cutting overhung with tree and bushes. It was near a small fishing village which had seen a great deal of activity in the past including a minor Civil War skirmish.

When I was living just outside Exeter in the late 1970s I found a coin hoard in one of these green lanes. I can still remember my excitement as the coins came tumbling out of the high bank at the side of the lane. Unfortunately, the hoard must have been hidden by a schoolboy for it contained twenty-five assorted foreign coins, none having any great value.

Although I did not find anything of value on this occasion, I did find a number of coins and other non-ferrous objects with the CS1220XD, while only digging up two large pieces of iron. Now that I have become used to the characteristics of the detector, I would pass similar targets by without hesitation. When using the Audio Disc mode, if a large piece of iron is detected near the surface the audio tone at first rapidly reduces to a very deep tone; at the centre of the target comes a high pitched "scream"; and then on exiting the area of the target comes a low tone again. This particular target signature given by large iron, is very easy to recognise.

During use the CS1220XD was very easy to operate, only requiring a touch on the Retune button every now and then.

The next site chosen was an eight acre field that the owner told me hadn't been ploughed for twenty years. Unfortunately, as a result of the dry weather the ground was particularly hard, and the recovery of finds something of a pain.

On this site, where I expected far fewer signals, I searched using manual GD1, with discrimination set to about the half-way mark. The technique was to search in Ground cancel mode and then - when a target was located - press the discrimination button to ID the target. Once this was done, a touch of the Ground push button returned the detector to my chosen search mode.

The finds recovered on this site included coins from George III to modern decimal, one 18th century shoe buckle, musket balls, a large 19th century bullet (Martini-Henry), assorted lead weights, and one lump of metal I almost discarded as dross. The latter item turned out to be a piece of silver in a tear drop shape, that looked as if it had been dropped when molten. I shall certainly have to return to this field when the ground is a little softer.

During some of my search time on this field I used the Meter Audio Disc mode, and the performance of the detector in this equalled the manual settings I have described.

The 18th century shoe buckle came up from a depth of 8 inches, and gave a very good signal.

It was the third and final site - my local beach at Exmouth - that came as something of a surprise to me. Using a non-motion detector on the beach, apart from on the dry sand, is usually something of a trauma. I expected the CS1220XD to fall down miserably in beach conditions, and to be virtually unusable on the wet sand. Well, you can't be right all the time.

Contrary, to the recommendation in the handbook, I found Meter Audio Disc to be the best mode to use for detecting on wet sand. The recommended setting is GD1 with the discrimination being adjusted to cancel out the positive ground effects.

Using the Meter Audio Disc mode does make the detector a little "lifty" (ie the audio tone varies when the search head is raised and lowered) but this was not to the point of being a problem.

Earlier this year a great deal of sand was washed away from Exmouth beach, leaving large areas of flat rocks exposed at low tide with just a minimal covering of sand. Normally, this sand would have been thrown back on the beach by the winter gales but this year the sand has been slow to return. As a result a great number of old finds have come within detector range over the last few months.

Unfortunately for me, a few days before the test there had been a bit of a blow from the south-east, dumping a few extra inches of sand on the beach and making finds that much harder to locate. I did find a number of assorted coins and bullets, but I felt this insufficient to represent a good test of the detector's performance. I therefore set up some experiments of my own, by burying coins in the wet sand. By "wet" I mean that any hole dug in such an area would rapidly fill up with water. For a detector that is not intended primarily for beach searching, the CS1220XD gave a good account of itself and a clear signal on an assortment of coins buried at respectable depths.

## Summary

In summing up, the C-Scope 1220XD is a detector that gives good all-round performance, and has recognised specific uses amongst experienced enthusiasts (the searching of heavily iron contaminated areas, such as Roman sites etc). The factory preset Meter Audio Disc mode is so simple to operate that minimum time is wasted with target ID. As the CS1220XD is a non-motion detector, it means that some of those faint, deeper signals will be registered that might be missed with a motion machine.

Priced at a bit under £400, the CS1220XD in my opinion represents good value for money.

## SPECIFICATIONS

**Model:** CS1220XD
**Type:** non-motion VLF/TR meter and audio discriminator
**Manufacturers:** C-Scope International Ltd, Wotton Road, Ashford, Kent TN23 6LN.
**Price:** £379.90
**Batteries:** 8 x AA cell
**Search Coil:** 8 inch, solid, concentric
**Guarantee:** Two years.