Detector Field Test

Garrett Ace 250

Bob Smith

During the latter half of 2005, I carried out a series of field and bench trials on the Ace 150 that ultimately resulted in my Field Test published in Treasure Hunting, November 2005 issue. The remarkable budget-priced detector concerned was made by Garrett, one of America's leading names in metal detecting technology. During testing I concluded that the Ace 150 is something very special and for a retail price of around £170 you are getting a powerful and quality product that really does deliver the goods. The computerised Graphic Target ID display and Multi-Tone discrimination makes this detector an easy-to-use but accurate piece of kit.

In addition, the rugged PROformance search coil fitted to the Ace models offered detection capabilities far better that expected with coin-sized targets coming through loud and clear at depths of up to 8in.

Towards the end of 2005 I was given the opportunity to test the next model up, the Garrett Ace 250, together with two accessory coils. These can be obtained for both Ace models and in my case consisted of the tiny 4.5in Ace Sniper and the larger than standard 9in x 12in elliptical coil.

Although the Ace 150 is a fairly powerful detector in itself, the 250 offers much more control in terms of sensitivity, discrimination, and mode selection.

Assembly

The packing case the Ace 250 comes in is of a similar size to that of the Ace 150, and assembly of the detector is carried out in precisely the same way.

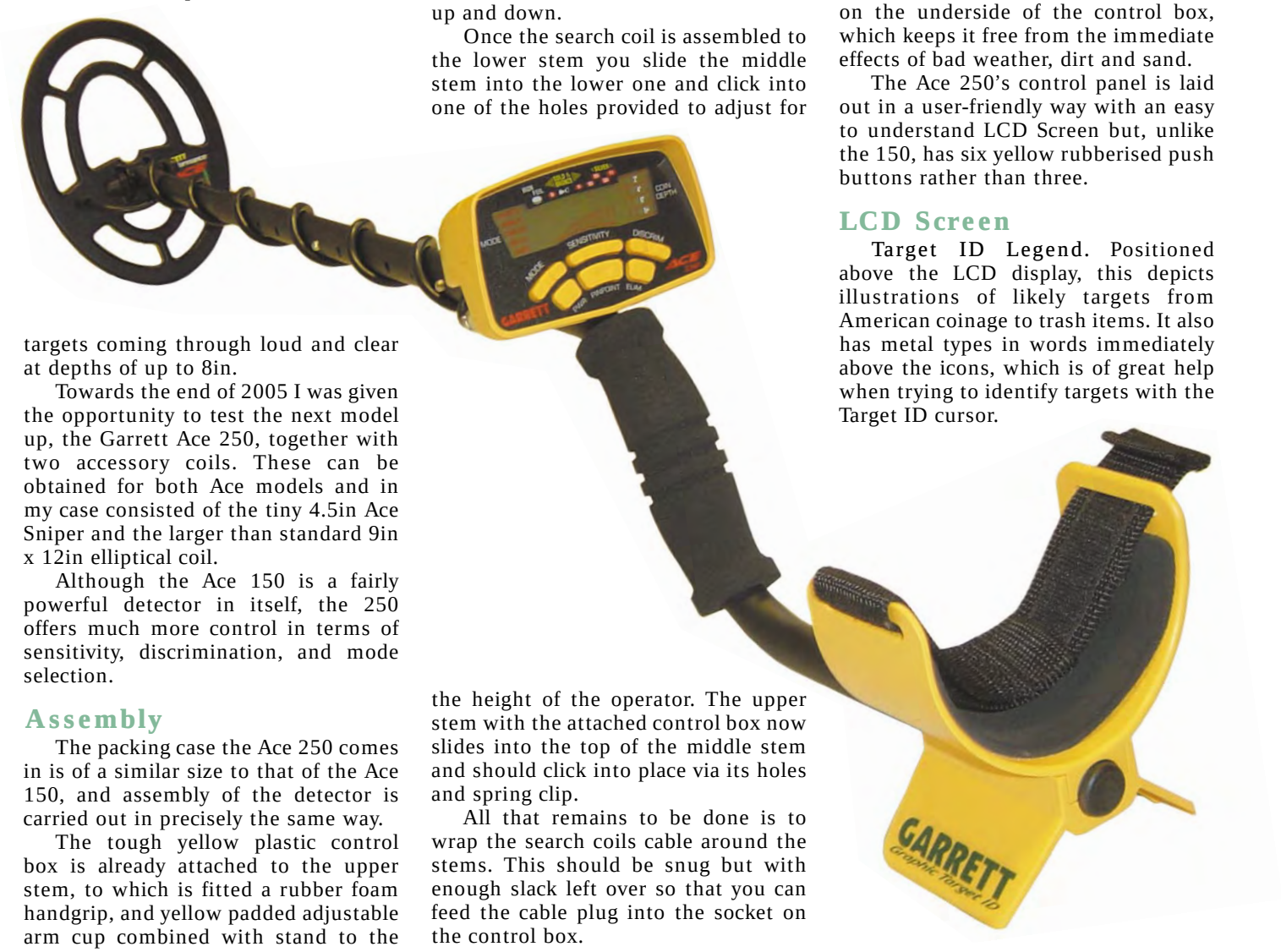
The tough yellow plastic control box is already attached to the upper stem, to which is fitted a rubber foam handgrip, and yellow padded adjustable arm cup combined with stand to the rear. The latter can be adjusted via a screw fitting but on the Ace 250 there is also an adjustable arm strap within the cup.

The middle stem is already within the lower stem, and for assembly it is just a case of sliding it out and adjusting via the spring clips.

The lower stem already has a set of rubber washers on it to provide grip on the search coil lugs. The coil is fitted by means of a threaded bolt with two thumb grip nuts. Remember though not to over do it when tightening these up; when tightened correctly you should still be able to tilt the search coil up and down.

Once the search coil is assembled to the lower stem you slide the middle stem into the lower one and click into one of the holes provided to adjust for the height of the operator. The upper stem with the attached control box now slides into the top of the middle stem and should click into place via its holes and spring clip.

All that remains to be done is to wrap the search coils cable around the stems. This should be snug but with enough slack left over so that you can feed the cable plug into the socket on the control box.



Control Box

The Control Box with its computerised LCD Graphics Target ID screen and control panel is very simple to understand and operate.

Access to the battery compartment is achieved by sliding a cover from the control box. There is a recessed indentation to easily allow you to do this. When you buy a Garrett model there should be a set of batteries already installed and the Ace 250 (along with the Ace 150) uses 4 AA batteries (HP7s). The manufacturers recommend that you use alkaline batteries, and a good quality set should provide 20 to 40 hours of use.

A standard quarter inch headphone socket is located on the right rear underside of the control box.

The internal speaker is positioned on the underside of the control box, which keeps it free from the immediate effects of bad weather, dirt and sand.

The Ace 250's control panel is laid out in a user-friendly way with an easy to understand LCD Screen but, unlike the 150, has six yellow rubberised push buttons rather than three.

LCD Screen

Target ID Legend. Positioned above the LCD display, this depicts illustrations of likely targets from American coinage to trash items. It also has metal types in words immediately above the icons, which is of great help when trying to identify targets with the Target ID cursor.

Upper Scale. The upper scale, where the Target ID cursor is illuminated when the detector is in use, consists of 12 graphical segments for precise Target ID and discrimination.

Coin Depth. Coin depth is positioned down on the right hand side of the display panel, and has four depth indicators of 2, 4, 6, and 8+ inches. It works at the same time as the Target ID cursor and indicates the likely depth when the search coil is directly sweeping over the target.

Battery Condition Indicator. This icon is in the shape of a battery symbol on the LCD screen and positioned next to the sensitivity segment bar. The icon shows four tiny bars within it. As your batteries exhaust you will notice a bar disappear. When you are down to only one or two remaining bars then it is time to be ready to change the batteries over.

Controls

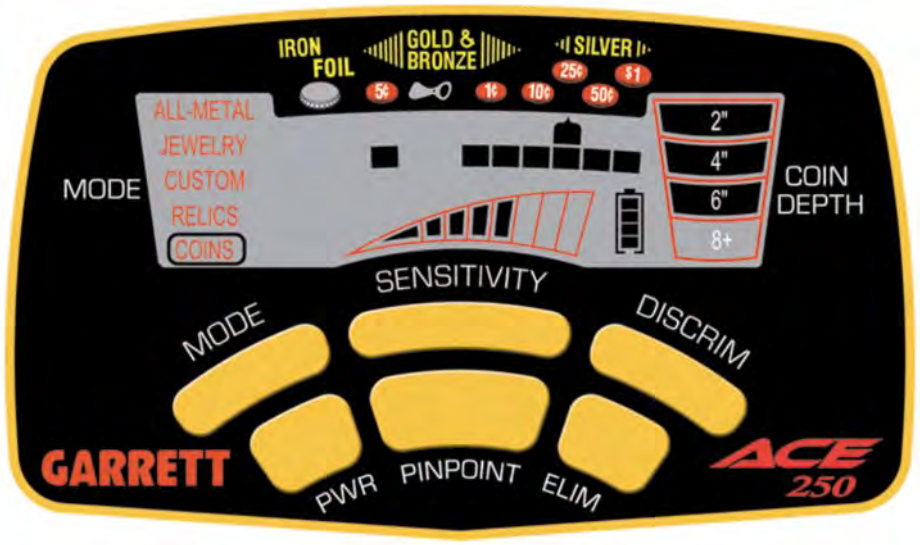
DISCRIM Pushbutton. Located to the upper right, this yellow rubber button has two functions marked (+) and (-). It is used to move the Target ID cursor from left to right within the upper scale of the LCD screen, and also in conjunction with the ELIM button directly underneath when you want to use your own customised search settings. With this facility you can set the detector to pick up only what you want to find (eg £1 coins or £2 coins).

ELIM Pushbutton. Located at the lower right of the controls, press the Elim (Eliminate) pushbutton to eliminate or to activate the LCD cursor (notches) located on the lower scale directly below the Target ID Cursor display area.

The ELIM button function can be used along with the DISCRIM button to configure your own personal search settings. However, it should be remembered that the settings you choose yourself will only be active for as long as the detector is switched on unless they are saved in the Custom Mode program.

PINPOINT Pushbutton. Press and hold the Pinpoint Button to centre in on the exact position of a target in the ground when sweeping the search coil. It should also be noted that the Pinpoint facility reacts in conjunction with the upper scale on the LCD Screen. When the greatest number of LCD segments show from left to right on the scale it is an indication that the centre of the search coil is directly over the target.

Mode Pushbutton. Situated on the upper left of the control panel. When pushing this button you can scroll through and select one of five search mode options (as opposed to the Ace 150 which has three search mode options.) The additional modes are Custom and Relic.



Custom Mode. This is a search mode specifically aimed at the user who wants to set in his or her preferred discrimination settings. By using the DISCRIM and ELIM pushbuttons the operator can modify the Notch Discrimination to individual preferred specifications, which will be retained and saved when the Ace 250 is turned off.

Relics Mode. This search mode is designed to eliminate the sort of trash associated with relic hunting, while still detecting better targets in the lower conductivity range such as lead and brass.

Sensitivity Pushbutton. - This button is positioned in the upper middle section above the PINPOINT button and works with the segment bar above it on the LCD screen. On the Ace 150 you are given four sensitivity settings to choose from, while on the Ace 250 you have eight settings marked out by segments on the bar.

The three upper pushbuttons have markings on them (+) and (-), and have a "rocker" action meaning that you can press them either up and down on the mode selection, or left and right on the discrimination scale or sensitivity bar.

PWR Pushbutton. Situated at the lower left, this control is simply the power button used to turn the detector ON or OFF when you press and release it. If the button is pressed and held for 10 seconds the Ace 250 will return to its factory recommended settings for each search mode.

Field Appraisal

When I compiled my report last year on the Ace 150, I mentioned that a friend of mine was watching with great interest to see how the detector performed; if I thought it was a good model then he would purchase one. True to his word he did just that and, as the expression goes, has never looked back.

Since purchasing his Ace 150 my friend's finds rate has increased considerably with coins and artefacts that he never thought he'd be able to find regularly coming up.

Recently I managed to acquire permission on a new site (consisting of a number of fields) for a few friends and myself to search during the winter. During one of our first trips to a large stubble field on a sloping hill I witnessed my friend - with his newly acquired Ace 150 - jump up and punch the air with his fist.

I ran over to see what the commotion was all about, as did my other friend who was following close behind me.

Detecting in an area that had had no known medieval history (we had done some research before hand) my friend with his Ace 150 had just dug up a lovely long cross penny of Edward I.

About an hour later the same friend shouted over that he had dug something up from the opposite side of the field. This time he came running to us clutching something in his hand. He revealed yet another hammered penny; however, this time it was quite a worn example. A short time after this my other friend, using a far more expensive detector, found another two hammered pennies - both of the medieval king Edwards.

At the time the coins had been

found I hadn't yet received the Ace 250 to try out and was still using my Ace 150. My friends had done well, but I wasn't fortunate enough to find any of the hammered pennies myself. However, I did find a number of artefacts including two bronze medieval pot legs and a larger bronze artefact which may be a handle or another kind of leg.

The following week we went back to the same field, but this time I was armed with the newly-arrived Ace 250 fitted with the much larger PROformance coil.

I spent most the day conducting a slow and methodical search over the field. I found that the Ace 250 was easy to handle, just like the 150. However, it seemed more sensitive than its less expensive counterpart as it was picking up more signals and at much greater depths. Having said that, it must be remembered that I was using the larger coil, which was also providing more ground coverage.

I found the Relic Mode to work well and that sensitivity didn't have to be on the higher segments to provide good depths.

Standing next to the main gate it was possible to see where other targets had been recovered and not much of the field had been missed. However, one had escaped from the previous week's search and the Ace 250 had no problem in picking it up with a clear bell-tone and the depth scale showing 4in. I pinpointed the target very easily and dug. At a depth approaching 5in I pulled out a clod of earth from the hole and noticed in its side the dull grey of a silver coin with a milled edge.

Breaking open the clod revealed my first silver coin found with the Ace 250; unfortunately, it was not a silver hammered penny but it was a nice sixpence of George IV dated 1824.

During my search the Ace 250 managed to pull up coins and buttons with ease. In a neighbouring potato field, which was muddy and quite hard to negotiate, the Ace 250 located some pieces of metalwork that were clearly Georgian in date, and a small round bronze buckle that looked medieval.

When working on inland sites I used either the Relic or All-Metal mode, which appeared best for these conditions.

In the following two weeks, using the Ace 250 with its standard PROformance search coil or its bigger brother, I searched a number of different fields and found the Ace 250 performed extremely well and was stable throughout.

In these searches I managed to accumulate quite a number of finds. These ranged from the normal coins to buttons and larger and more unusual artefacts, and a number of the finds I made are clearly of medieval date.

PROformance coil.

Sniper coil.

Among the notable finds made with the Ace 250, is a large copper-alloy decorated fob with a plain intaglio stone (possibly mother of pearl), and a large copper alloy man's finger ring showing traces of a belt design on it.

While making yet another search of the field where the hammered pennies had been found, I recovered a sixpence of George IV, a silver hallmarked mount, and a silver sixpence of Victoria dated 1899.

However, the most interesting piece to come up for me was a very small button, found at a depth of 5in and which I believe is quite a rare piece. It shows a castle on it and the words "Forfar Volunteers".

I carried out some research on the Internet to try to find some information on the Forfar Volunteers. My efforts have so far gleaned very little; however, I can speculate that the button is from the start of the 19th century and may have been produced or copied by the same mint that produced the Forfar halfpenny token, which also shows a castle identical to the one on the button.

John with the Garrett 250 and PROformance coil.

Sniper Coil

On the Sunday before Christmas a number of friends and myself ventured out in the freezing cold to do a beach search at St. Andrews in Fife. We headed for the West Sands area where the sand seems to stretch for miles.

The windy and stormy weather we had been experiencing had left its mark by stripping sand off some of the dunes, while depositing it in other areas.

The conditions were perfect for a search, and this time I used the Ace 250 fitted with the 4.5in Sniper coil.

A friend had already beaten us to it, and I could see him in the distance searching at the low water mark. I took a slow walk over to see how he was getting on, leaving my detector switched on as I did so.

To my surprise, the Ace 250 was very stable despite the fact that I was sweeping the coil over wet sand and towards the low water mark. I checked the sensitivity and found that it was set on the sixth segment. Soon afterwards the detector responded with a signal showing a target at 4in.

My find was not the hoped for coin or ring but the foil from a cigarette packet. Nevertheless, this went to prove that the detector was doing its job and could register targets in wet sand. It responded again with another signal when I was near to my friend, this time a ring pull that came through loud and clear. What was of importance here was not that the targets were junk (in this instance) but that the detector was able to register them at all. Motion detectors are not famed for their abilities to work on wet sand.

When I reached my friend he told me that he had only found about half a dozen coins, although he had been on the beach for some while. I told him how amazingly the Ace 250 seems to be working over the wet sand, which was something that I had not expected.

Having read many reviews on the Internet of the Ace 150 and Ace 250, I had gained the impression that the Ace models were poor performers on wet sand. Just to check my own findings

A selection of the coins and artefacts found during the Field Test.

were right my friend reburied an old 10p piece that he'd just dug up at a depth of 6in in salt water saturated sand.

He said "Try your Ace over that". Despite the fact I was using the 4.5in Sniper coil, the Ace 250 gave a clear signal.

What the above test seems to demonstrate - at least to me - is that Ace models will work over normal wet sand; perhaps it is the highly mineralised wet sands and/or black sands that might give it problems.

After a brief chat with my friend I headed over to the dry sand part of the beach. I concentrated on areas that had been stripped of sand and I knew were busy during the summer.

I left the settings on the Ace 250 at Jewelry, with Sensitivity on sixth segment. The detector worked a treat despite the tiny search coil attached.

Coins or coin-sized targets were registered easily, with an average depth of around 4-6in (remember I was using a small coil). By the time it had started to get dark I was freezing cold and was in need of a cup of tea. In my search of the dry sand I had recovered 26 coins and a brass mortise key. No jewellery had appeared on this occasion but amongst the coins I had recovered six £1 pieces and a small French half franc the size of a 5p piece.

On arrival back at the car I found that my friend with his Ace 150 had concentrated his searches on the wet sand and had also encountered no problems. He had recovered six coins in this area.

I found the Sniper coil to be good for coinshooting despite its small size. It may not be able to cover a great deal of ground or sand at any one time, but it will still find coins at reasonable depths. I feel that there could be specific types of hunting in which it will excel (eg spoil heap searches, river foreshores, beaches etc).

Conclusions

Just as I have felt a great deal of confidence in using my Ace 150, the Ace 250 also falls into the same category. It is yet another great detector produced by Garrett that does do everything it says it does on the box.

The detector is of extremely good build quality and is very simple to use. It doesn't cost the earth and will achieve good results comparable to much more expensive detectors.

Although the Ace 150 and the Ace 250 are both good machines, the latter offers much more in user control. You can modify it to your requirements in a matter of seconds, and create your own customised programs.

The accessory search coils available are an additional plus. The larger PROformance coil will cover more ground and still pick up on the small targets at greater depths, while the Sniper coil can weave its way in amongst the junk.

I would be interested to hear how other Ace users are getting on with their machines, but I wouldn't be at all surprised if they didn't feel the same way as I do: superb!

Specifications

Model: Garrett Ace 250

Type: Computerised touch pad controlled, silent search operation, Graphic Target ID screen technology and multiple audio tone discrimination.

Manufacturer: Garrett Metal Detectors, 1881 W. State Street Garland, Texas 75042, USA.

UK Importers: Regton, 82 Cleveland Street, Birmingham, B19 3SN. Tel. 0121 359 2379 - Fax 0121 359 7975. E-Mail: sales@regton.com

Weight: 2.7lb (1.2kg)

Frequency: 6.5 kHz

Batteries: 4 AA (penlights), alkalines recommended. Battery life 20-40 hours, depending on battery type.

Search Coils: PROformance 6.5in x 9in open elliptical coil fitted as standard. With the Ace 250 the additional search coils used in this report were the Ace Sniper 4.5in coil (£69.95) and the PROformance 9in x 12in coil (£99.00) that can be purchased as accessories.

Price: £239.00 (inc VAT)

Guarantee: 2 Years

Accessories: headphones, control box cover, carry bag, and optional search coils and covers. TH