

# Detector Field Test

## New Compass Coin Scanner Pro II

### Norfolk Wolf

After my last article on my old Compass (Treasure Hunting October 2003), I was approached by Sean Goddard of Pulsar Electronics who asked me if I would be interested in field testing the new Compass that he was importing into the country. I readily agreed with the proviso that I tell it as it is: the bad points along with the good. I also pointed out that I would be trying the detector on some of the worst ground in the country, and that I would need the machine for more than a couple of weeks to really get used to it.

"No problem", Sean said, "you can have it for a couple of months if necessary, and I'll accept what you write."

Hearing this and having never even met the man, I didn't feel that I was being compromised in any way.

The Compass duly arrived and after the very easy assembly, it was time to find out what the differences would be compared to the old one. The new model has the same stem and coil configuration, and the control box has the same dimensions along with the ability to be hip mounted when required. The Pro II still runs at 13.77kHz.

### Controls

The controls on the box, however, have some new additions as can be seen from the photographs. The old notch control has now been taken over by a one-turn ground adjust, ranging from saltwater through to mineralised ground; also an autonotch is now incorporated on the discrimination knob. **Discrim** (discrimination) clicks in at "1" cancelling out the notch.

Another feature is the **Target Tone** giving either a triple, (high, medium, low), double (medium, high) or single tone.

A **Meter Light** switch is also incorporated. The meter and the two touch pads (**Trash Out** and **Pinpoint**) - along with the **Sens** (sensitivity) control - round off the line up.

To help new users familiarise themselves with the Coin Scanner Pro II, there are pre-set positions on the controls marked in red. The handbook is very good and - when you are still new

to this machine - should be consulted both before and after a detecting session. There was one fault I found concerning the ground balancing section. If ground balance is set spot on, the odd false signal and odd inaccuracy on the meter needle will occur. To alleviate this problem turn the ground balance control half an increment to the right to make it more positive.

The batteries are housed in the base of the unit, and the new Pro II uses eight 1.5 volt AAs, rather than the original three PP3s. The headphones I use are the Grey Ghost type. I have tried quite a few of the specialist detector headphones, but these suit me best.

It would have been very easy to have taken the detector out on to a known site two weeks after it had been ploughed and rolled, pull a lot of gear from the ground, and say what a brilliant machine the Compass is. Or I could have wandered on to some stubble, found some Georgian coppers, and remarked at the depth they were being found. However, I believe there is not a machine out there that would have failed to provide good results in such situations.

I therefore decided to put the Compass through its paces on some good sites that I had already "cleaned out" with my other machines this season. On a "good site" I don't leave footprints, only shuffle marks, because I make sure that I have covered all the ground and have not missed anything.

The Compass would now have to perform not only against ground conditions, but also to try to find what my previous machines had left behind. I was sure that if any targets existed, they would be small.

Before even taking my first step onto the field the control box came off and was mounted on my belt along with my finds pouch. If I am to detect properly for eight hours a day, and the detector isn't super light then hip mounting is the only option. I'm not Popeye!

I started with **Sens** set on "8" (the preset), and **Discrim** on "2" (bypassing the **Autonotch**). Ground balancing, although provided by a one-turn control, was not a problem (set between "5" and "5.5"). After selecting single tone ID I was ready to go.



The first thing that struck me was that I was experiencing a very quiet search. I checked the ground balance, but there was no problem. I then turned down the discrimination to "1", but there was still little sound coming through my headphones. After a while

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I realised that the new Compass Pro II had some form of inbuilt iron rejection. On my older model, if I had been running with the discrimination set to "0" it would have been like using the detector in an all-metal mode. This would take some getting used to!

The discrimination on the old Compass Pro II has always been a favourite of mine. It has an extra large band for iron, running from "0" to "5" with foil only coming in at "6". This allows plenty of user discretion for working differing sites. For example, running on low discrimination, the amount of signals received (both good and bad) will govern the sweep speed. Silent search or using too high discrimination settings, will tell you nothing about what is under the coil. Also, when you consider that tiny gold quarter stater comes in just above iron, on some machines it is possible to reject them if your discrimination is not set precisely right. I know, I've done it.

Findings were slow in coming, which was only to be expected considering how well I had covered the site during previous searches. Eventually, the odd cut quarter, .177 airgun pellet, and tiny pieces of lead started to appear, which proved that the Compass was handling the heavily mineralised ground okay.

At this point I decided to try the tri-tone audio discrimination. After only three minutes I had experienced enough and switched back to single tone. The signals were all over the place, jumping from one tone to another. While taking a break I took out the instruction manual and read up on tri-tone. The booklet stated: "Do not use on highly mineralised ground, both duo and tri-tones will give false signals. Well, they had certainly got it right there. (However, I was later to find that this facility did work well on the beach).

On resuming my search, I tried increasing the sensitivity above the pre-set, but as I had experienced in the past on this type of ground the meter needle became too active. In effect, it's the

*A selection of fired ammunition ranging from a .177 airgun pellet upwards.*



*Control box.*



*Small finds shown against a tiny 5p.*



*"Scuffy" reverse of Icení silver unit. Early face/horse type.*



*Celtic quarter stater.*

detector's way of telling you that you are running the sensitivity level too high.

While on the subject of false signals, it might be worth running through a few situations that could cause them. If the ground balance is set too negative this will produce non-repeatable signals, and pronounced needle swings on the meter. (A coin very near the surface will also cause the needle to swing right over, but this time with a repeatable signal). Hot rocks can cause meter swing but with no tone. With large iron a tone change will result, with the meter swinging to the middle and then right over and back. Shallow medium sized pieces of iron on the edge of the coil will cause tone change, with a needle swing before coming back to iron. Depending on where you have set discrimination (in the range between "1" and "5") the odd large nail might produce a signal; however, the needle will stay in the iron section.

Apart from readjusting the ground balance, all of these problems can be overcome using one of a variety of methods. The easiest is perhaps scuffing away some surface soil with your

*Unusual buckle with its stone missing, 17th-18th century.*



foot, but you could also try sweeping the coil at 90 degrees to the original angle of sweep. Another way is to flick into pinpoint (all metal) and listen to the signal; the detector will give a longer tone if it is iron. With the Compass set up correctly, the tone for a good signal will be short, crisp, and repeatable.

On the **Ground Balance** control, there is a preset mark for ease of use, but to get the maximum from your machine manual ground balancing is advised. As stated before, make sure that it is set slightly positive or you will be in all sorts of trouble.

When the Compass registers a good signal, the meter will lock on with most of the hammered coins etc registering below the "35" mark on the meter. The highest reading I have had was "70" from a large *sestertius*, but anything above "50" is unusual. So far as the response that gold gives, I am afraid that on the new machine I can't tell you yet, but on the old Compass a small gold coin came in at just above iron on the meter. (As a later comment, I can tell you that this still applies on the new machine).

Having been able to use the new Compass over a few weeks I started to learn to trust what it was telling me, and now I am saving a lot of time by avoiding unwanted signals. On at least two occasions now I have dug a coin, and then found a nail or scrap of iron further down in the hole. Large iron washers are obviously a problem for any detector, but most coke can be lost at the discrimination preset of "5" and the foil position is "6". Generally, if it

*I have been unable to find this in any reference books covering ancient brooches. The triangle on the head is also found on a silver unit of the Iceni. Remaining tinning can be seen on some parts of this object.*



*Varied assortment of finds made over two days.*

doesn't lock on the meter then leave it. (But obviously check anything a little bit "iffy"). Once I started to believe in the meter and audio tone responses it meant less time wasted and more finds in my pouch. However, to obtain the best readings it is best to make sure that the centre of the coil is directly over the target.

On rare occasions it can be possible that a coin is beyond the depth of the meter circuitry, but not that of the audio. On both times that it happened to me during testing, the audio gave a "sweet" two-way signal which, after turning up the discrimination control to "5" was still there. This, however, is nothing new for meter discrimination machines and the amount of times you will encounter it is negligible. When you are familiar with the machine, the audio will tell you what you need to know.

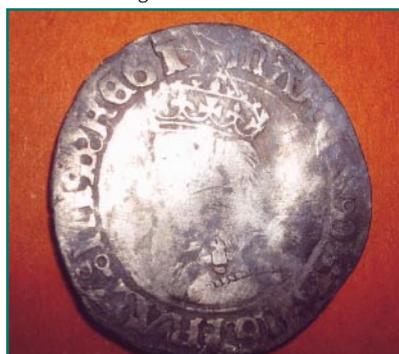
The **Pinpoint** (all metal) mode of the machine is pretty straightforward to master. You simply press the tactile switch when the search head is posi-

tioned over the target. This will narrow the signal and the audio will grow fainter. Once this is achieved re-pressing the switch will narrow down the exact location of the target still further. Pressing and holding down the pinpoint switch will also result in a depth reading on the meter. For this to be accurate the object must be directly below the centre of the coil.

The meter responds to, and identifies targets, whether the detector is set to discrimination or all metal mode. It is not necessary to use all metal for searching because of the low threshold in discrimination. However, I tend to switch over to it every now and again, to check that the ground conditions haven't changed and that the detector is still tuned correctly.

What can I say about **Autonotch** apart from never, ever use it while detecting on farmland. Even on beaches it still knocks out 5ps and 50ps, and results in a decrease in depth. I found that it was much better to use the meter and the tri-tone facility to identify targets, and digging the odd

*Queen Anne groat.*



*Medieval dragon.*



pull-tab wasn't that much of a chore. However, perhaps Compass could adjust their UK intended machines for English coinage?

I didn't spend a great deal of time experimenting with the tri-tone facility. The only occasions I brought it into play were on some odd forays to the beach, where I used it in conjunction with the meter to avoid some types of pull-tabs.

Regarding beaches, I found that whether used on dry or wet sand the Pro II proved to be stable and provided some good depths. But if moving from one form of sand to another, ground balancing is definitely necessary. The decimal coins found on these forays more than paid for my petrol. However, there are a lot of specialised beach machines on the market if this is the sole area where you will be detecting.

Regarding the backlight, I wear glasses and found the red meter needle illuminated by a red bulb difficult to see. If the LED colour were to be changed to green, then the needle would stand out much more. From tests carried out at home, battery drain when using this facility seems to be quite low.

**Conclusions**

To obtain the best results from any detector requires time to understand it; fortunately, as regards this test I was given that time.

I have tried to stay away from the normal "I found a Georgian buckle and hammered coin at such and such a depth".

Most readers of my previous articles will be aware of the soil conditions on the sites that I search, and that depths would be far greater on normal soil. Most of the finds made during testing

*Selection of the hammered I have found.*



*Medieval brooch of outstanding workmanship with iron lug on the back. This is one of my favourite pieces.*

*Charles II Harrington and "king's head" leather fixing (early medieval).*



*The Compass Pro II does what it says in the manual, as evidenced by this tiny find.*

came within the first 6in, but considering the mineralised ground and that I had already worked the sites concerned "to death", then the fact that I found anything at all says much in the new Compass Pro II's favour.

Perhaps the new Pro II isn't the deepest machine of the pack, nor the best beach machine, but if you want a detector that makes finds this one will do it. I have read of detectors that "love small stuff" but the Pro II finds targets like these as a matter of course. The handbook states that the Compass Pro II will "find most ferrous and non ferrous metals with a mass larger than a match head".

One of my photographs proves that they are telling the truth. One of the pieces of lead I found during this test was actually smaller than a match head. Obviously it wasn't deep, but rubbing the same piece of lead in direct contact with the coil of another detector produced no reaction at all.

The response speed of the Compass to recover from iron to register a "good" signal by the use of the "vari-filter" is second to none; it really does excel in this department. It copes quite readily with the heavily mineralised soil of my sites, which has seen many other machines fall by the wayside. My old Compass machine had a widescan coil, and I assumed that this was the same with the new model as they look identical. It wasn't until I was told after using the Compass for some time and then checking for myself that I found that it is a concentric. It was hard to believe a concentric coil could perform on my type of ground with such good results.

The old problem of sounding off on wet grass is a thing of the past with the shielding on the new coils. The addition of the ground balance is an emphatic plus with the ensuing greater depth capabilities.

On the minus side, I have to mention the tri-tone. It is not usable on the soil in this area, but okay on the beach. The auto notch? I think not. It needs to be set up for English coinage and beach use only. However, these facilities have never been high on the lists of "musts" for the serious user and this is a seriously good machine. It has the added bonus of the preset marks to enable a relative beginner to achieve good results.

Finally, having - amongst other things - found two hoards of Celtic gold staters with previous Compass detectors, you might think that I'm biased. However, my criteria for any detector is "If it doesn't work well, don't use it". This one works.

My thanks go to "Newcastle Mick" and all the other readers who phoned or Emailed me with comments and questions. Your encouragement gave me the enthusiasm to write this test and, hopefully, some future articles. **TH**