field test | Rutus Alter 71
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RUTUS ALTER 71

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Specifications:

Operating Principle: VLF induction balance

Frequency: 4.4kHz – 18.4kHz (71 different)

Standard Search Coil: 11" DD (and a second concentric 8"x9" coil promotional pack only)

Weight: 3.6lbs

Battery Type: 6 x AA

Warranty: 2 years

Price: £595 (two coil pack)

£575 (one coil)

Distributor: Detecnicks

This month's field test is on the NEW Rutus Alter 71 fig1. This machine is made in Poland and is the second Rutus model I've tested, the first being the Jupiter that featured in **The Searcher** (May issue 2012).

Whenever a new detector is released in the UK, one of the first questions asked is "what is the working frequency?" This is important because low frequency machines are less sensitive to small targets, but are very deep ground-penetrators on larger targets.

High frequency machines are very sensitive to the small targets (like our small hammered farthings), but don't go as deep into the ground on larger targets at extreme depths. So we are always forced to compromise when we choose a machine, hence that first question about working frequencies.

The **Alter 71** addresses this compromise by making it irrelevant!

The clue's in the name, the **71**, it's how many different frequencies this detector can be programmed to work on. **You can adjust the working frequency from between 4.4kHz and 18.4kHz in 71 increments.** This makes this machine extremely versatile to different metals, target sizes and soil types.

Assembly

Out of the box I could tell this was a rugged well-built detector. Assembly followed the usual procedure; put together the three-piece stem to the correct length. Fit the coil to one end

with a plastic nut and bolt, and then wind the lead up the stem taking up the extra cable. Then connect the connector to the rear of the control box. Fit 6 x AA batteries into the battery holder, and slide it into the compartment located under the arm-cup. There's a clipped detachable compartment door that retains the battery pack into position. Fig2

Battery life is stated at between 22 and 55 hours depending on the frequency chosen. Low frequency machines take more power to operate than high frequency ones. So on the Alter 71 the high frequencies will give you best battery life.

My test machine was supplied with a full set of control box covers to keep the rain off, and a second 8"x9" smaller coil (not used during this field test).

Controls

The control box consists of an LCD screen, six push buttons and an index-finger trigger-switch underneath. Fig3 On the left is the power/program/tone

BELOW LEFT TO RIGHT: Fig 1 & 2
RIGHT: Fig 3

edit button. This switches the detector on and off; short press on, a long press to switch off (while in detecting mode). It's also used to access the seven factory programs with a short press.

The final use for this button is to edit the tones of each of the 120 target ID positions ... more about that later.

To the right of the power button is the LCD screen, and below that are five more push buttons. From left to right:

Ground Balance/page left button. This is used to start a Ground Balance while in the detecting screen. When in the menu it is used with the right hand Menu button to navigate through the three menu trees (Engine, Audio and Screen), this being the 'move Menu left' button.

The next three buttons; left, right, enter are used to navigate/adjust and enter settings (or programs). The final button on the right is the Menu button, where you change most of the settings in three menus (Engine, Audio and Screen). The last control is a finger trigger under the control box that's used to pinpoint, exit and reset the all-metal channel.

Menu

The menu system is divided into three parts; Engine, Audio and Screen.

The Engine controls the performance of the Alter 71, allowing users to customise the performance of the detector. In this menu you will be able to adjust; Frequency, Hot rock (mineralisation falsing), Reaction (detecting speed) and masking (controls iron falsing).

The second menu is Audio; with eight detector settings that can be customised. These control the Threshold, Gain, Volume, Tones and wireless-headphone feature.

The Tones section is an advanced feature, where you can choose one of three sub-menus; Coin, Relic or User. Each of these has three profiles (1, 2, and 3), controlling the sounds the

machine makes to different target IDs.

The 'Coin' and 'Relic' profiles are factory set; they can't be edited.

The three 'User' profiles are editable, allowing you to adjust the tones between 66 – 999kHz for each of the 120 tone ID positions.

You should refer to the menu to understand which factory program uses which sound profile. For example, if you like the tones in the 'Fast' program, you can see Fast uses the 'Coin 1' profile. These profiles change the way the detector sounds.

The third and last menu operates the screen. Here you adjust the way the screen looks and how the info of a target is displayed. You can also change the language between Polish and English.

Factory programs

The real power of this machine will become apparent once you understand the menu adjustments, and you're able to build a custom program for your own personal detecting situation (sites and quarry).

To get you started while you gain a greater understanding of the Alter 71, you are given seven factory programs. Each program sounds different, so by entering a program you are literally switching 'On' an entirely different detector.

The main difference between each of the programs is the operating frequency, audio tones and reaction setting (the recovery rate).

Programs with a low reaction setting combined with low frequencies give the incredible depth capabilities to larger objects. While programs with high reaction settings combined with high frequencies are very sensitive to small targets in trashy soils; where depth is not the driving issue.

Ultra Deep: this 5kHz (reaction 1) program is used to search for large deep objects. Typically used in Poland to search for Second World War relics like guns and munitions etc. It could be a useful program looking for a hoard after finding scattered coins on the surface.

Deep: this 7kHz (reaction 2) program is like the Ultra Deep mode, and is used mainly to search large deep targets.

Big Silver: 5kHz (reaction 3) program is ideal for searching large non-ferrous target deep in pasture. It won't be a sensitive or quick program, so avoid using if there's a lot of iron

contamination. If iron is prevalent; switch to the basic program on pasture.

Basic: this 8kHz (reaction 3) program is an ideal starting mode giving reasonable depth and sensitivity in most situations. This is also a good pasture program if there's a lot of deep iron present.

Coins: this 14kHz (reaction 4) program is ideal for finding coins in fields where the iron contamination isn't too great. As the iron level increases, it may be necessary to move to one of the faster modes. This is my favourite 'go to' program, as it gives a good compromise on speed and sensitivity on ploughed soil sites.

Fast: this 18kHz (reaction 6) is a mode with a faster reactivity (recovery rate) for searching for non-ferrous targets in ground with heavy iron contamination. This is a good program for habitation sites like Roman, where iron nails can mask good targets.

Ultra Fast: this 18kHz (reaction 8) program is the one to use when the iron contamination becomes extreme. This has an extremely fast recovery rate, lessening the chance of a good target being blanked by iron targets. The trade off however is less depth to good targets.

Note: although these modes are very convenient quick starts, you still need to add your Discrimination the first time you use them. I would recommend you start with a Discrimination setting of 28. You can then lower it to allow some chatter from iron that will allow the user to discern large false iron targets (eg horseshoes).

LCD Screen

The easiest way to understand the LCD screen is to divide in two, upper and lower screen. The upper screen contains dynamic visual information including discrimination bars and a target ID graph.

The lower screen contains numeric, icons and written information.

When a target is encountered, a target ID number is displayed in the lower screen and a fluid ID graph (in real time) is displayed in the upper screen. Continual swings over the target lets you build up the ID graph, giving you additional visual information to determine target identification.

Start your machine!

So you've unboxed and put your new machine together, you've then rushed to your favourite site, not bothering to

bring your instructions. So how easy is it to get you up and running? Very easy, your machine will give you written prompts to get you going!

You start the Rutus Alter 71 by pressing the On/Off button. You are then prompted to raise the coil above the ground, and pull the trigger. Fig 4

The machine then configures and sets the machines internal settings. Fig 5

You are then prompted to do a Ground Balance, which you do by bobbing the coil up and down five times. Fig 6 Pull the trigger and you will see the ground phase number displayed.

Note: It's important to make sure this number is what you expect for the ground you're searching. You may have Ground Balanced over a piece of metal. While using this machine on inland English sites, I expected a ground phase settings in the mid to high 80s. Reading in the 70s were usually signs I had Ground Balanced over iron. I usually find an area of ground with no targets and re-ground balance, just to make sure.

Now press the On/Off button with a short press to enter the mode selection menu. Fig7 Choose a mode to suit your site and quarry. I mainly detect ploughed fields for ancient coins, so the two modes I started with were **Coins** (for low trash sites) and **Fast** for iron infested soils.

Next press the enter button to set the Sensitivity, high as possible without

too much chatter. Then press enter again to toggle to the Discrimination menu. Add Discrimination by raising the number from zero, to blank unwanted trash. Iron is at the low number end of the scale, copper at the high end. I started with a setting of 28 to eliminate most iron targets.

That's it, start detecting!

In the field
The weather for this field test has been challenging. Most of my fields have been too wet to venture out on, so I've gone back to some old sandy soil sites I detected the last millennium. Most of these are truly worked-out; years of searching have left the plough soil barren. But needs must, I found myself on one of these sites on a mild February weekend, with little or no hope of finding anything of interest (or at all)!

I arrived at the farm just before 9am in the morning. Conditions were good and the winter wheat was a little longer than I expected. I set up the Alter 71 in factory coins mode, Sensitivity 70 and Discrimination 28, and started searching areas that had previously produced Roman and medieval coins in the past.

The site was very quiet, just a few false target responses from big iron that was easy to see on the visual display. The first good target gave a clear two-way response, and a squiggly vertical line on the visual graph. The target identification (TID) number read 68/72 and jumped around a bit. Digging the target, I saw the first Roman coin of the day. I continued searching towards the best area on the field, only occasionally stopping to dig a positive signal mainly small lead pistol shots.

The first medieval target to surface was a belt stud, which was quickly followed by a piece of medieval buckle plate. The machine was very stable so I tweaked up the Sensitivity to 76, and then re-searched the area that had produced the medieval bits.

I received a faint two-way response that I would describe as being a soft warble. The TID was in the 60s and the graph was a series of dots in a small area. As I dug down past 10" the TID locked on at 69 swinging both ways, and the graph gave a near vertical line. Finally I located the target with a pinpoint probe at the bottom of the hole and recovered a complete buckle on plate. Fig 8

TOP LEFT TO RIGHT: Figs 4-6
BOTTOM LEFT: Fig 7 **RIGHT:** Fig 8

I've managed to get out since on various sites, pasture and arable, and the Rutus Alter 71 has preformed perfectly. But as I'm writing up this report, I'm aware that I have barely scratched the surface of this machine's potential. My entire field test is based on the 'Coin' program, as this best suited the site I was working at the time. There are many other programs I haven't even begun to explore.

The fast programs should be great on my worse iron-infested sites, searching for small ancient coins like Saxon stycas. The deep programs should be great when I can get back to those deep boggy soils where previously Bronze Age axes have been found.

All these sites will have to wait until they become available … I'm really looking forward to learning more about this detector's capabilities in the months to come.

Conclusion

I rarely get excited about a new machine these days; they all seem to be rehashes of what's gone before. But the Rutus Alter 71 did excite me from day one! I love the control I have over the frequencies, recovery rate and other settings.

I can set the machine to go super deep with a slow recovery rate. Or I can speed things up, switch to high frequency and wriggle out tiny hammered coins from iron-infested soils. This truly is an all round detector.

The visual display is great, and the graph display of a target response helps you separate what are the large circular iron targets, from the large non-ferrous desirables.

Like all machines there are things I don't like. The Ground Balance at start up seems flawed as there's no way of knowing if there's metal under the coil until after the process. So I always did a second manual GB to make sure I had the right balance.

The battery door is flimsy, what were they thinking! I'll be amazed if this lasts the first year before it's broken or lost. It's a shame on the near perfect bulletproof build quality of the rest of the machine.

Apart from these slight grumbles this detector fits in at the professional end of the market. It has enough depth and sensitivity to compete with any existing pro-detector, and its versatility will put many of its more expensive competitors to shame.

This is very nearly a perfect machine for the UK and European market. ●

Rutus Alter 71 test results

(Scores out of ten based on price category)

Ergonomics (weight/balance): 10
Simplicity/user friendliness 8
Build quality 9.5
Weather resistance 10
Discrimination Performance 10
Overall detection Performance 10
Value for money (£595): 9.5

The Searcher Rating