Test Report

John Castle of Joan Allen Electronics Ltd
tests their new import from America

TREASURE BARON

MODULAR MAGIC!

Background

DISCOVERY ELECTRONICS is not a name that immediately springs to mind, in fact for nearly all British detectorists it won't spring to mind at all!

A brand new outfit then? Well, yes and no. Yes because here is a new factory, new ideas and new detector technology. No because the guys in charge have been in the forefront of detector design for many years now with other leading manufacturers and have got together to "do their own thing" as it were. This they have been doing successfully for some time, making detectors for sale under others' names to finance their own research and development.

The most important figure is that of George Payne, the discoverer, inventor and innovator who we have to thank for such things as VLF detector technology, motion discrimination, notch discrimination and depth blanking. A fine pedigree, probably the best one in our hobby.

A New Concept

It has to be admitted that it seems very hard to develop something new these days. Motion technology still reigns supreme and there is no inkling that there is anything on the horizon to replace it in the foreseeable future. But, as we all know from the past, improvements to present technology are perfectly feasible because they have happened and many of these are real improvements and not just tinkering. Now comes the Treasure Baron offering a Base Unit which can be upgraded via two optional modules thus offering four choices, viz:

1. Base Unit on its own giving a basic, deep seeking motion detector with variable discrimination and sensitivity, all-metal mode and mode change toggle switch.
2. Base Unit plus Pro Hunter module which adds manual ground balancing, inland/salt switch, variable notch, auto-tune in the all-metal mode and depth-reading, battery test and mode indication via red LEDs. The Pro Hunter module needs no additional batteries, those for the Base Unit power it too.
3. Base Unit plus Deep Hunter module. This does need extra battery power because it fires up otherwise benign circuitry in the search-head. Provision for an additional battery pack is thus provided. The Deep Hunter module offers two levels of extra power obtainable via a slide switch giving "off", "M" (medium) and "H" (high). It also features optional on-board charging of rechargeable batteries. This charges the Deep Hunter module and the Base Unit on-board. Ensure you have nicad (re-chargeable) batteries in both pods if you want to utilise this feature.
4. Base Unit plus both modules.

The problem of upgrading is thus solved. If you don't want anything too complex at first just go for the Base Unit. Some of you will stick with just that, but others will want more features as time goes on. Now you don't have to trade up simply add a module or two!

First Impressions

The first word that springs to mind when one first sees the Treasure Baron is "quality". Everything looks strong, well-made and built to last. Styling is the norm for these days, cranked stem with moveable arm-rest and stand all made of metal and finished in gloss black. The control box - easily removed for belt mounting - is also metal which is finished in a glossy rich deep red and carries side decals in silver, black and gold. The standard search-head is an 8 inch white polo bearing a decal in back, gold, silver & red.

The Handbook

This had 30 pages and is of medium format. Everything is explained in a concise and logical fashion, starting with the Base Unit and going on to the installation and use of the modules. There are plenty of diagrams too. Study it all carefully.

The Controls And What They Do

Base Unit
POWER switches the machine on and varies the sensitivity. It doesn't work quite like the sensitivity control we are used to as it increases or reduces the volume of all detected objects.

It's not quite a volume control either, but more like a processor which reduces chatter on very bad ground without quite losing the faintest signals. Discovery calls it Audio Range which describes it quite well.

DISC/ID is the variable discriminator. It is also a push switch to turn iron reject on and off. When on, most iron and small silver paper are rejected. Push again and all metals are accepted. The discriminator itself is a hi-lo tone type where items reading above the setting cause a high tone to be heard whilst those below it generate a low one. Tone disc. works whether or not iron reject is on, but the point at which the low tone changes to high is different in each mode. If you feel the automatic iron reject band is too wide, simply turn iron reject off then set the control to give a low tone on the small iron nails and silver paper and a high tone on large iron. This ensures that some very low conductive finds are not lost without digging too much iron.

To check whether or not iron reject is on simply pass the coil over a piece of iron.

MODE is three-position toggle switch. Flip right for discrimination, centre for very slow motion all-metal pinpointing (or all-metal searching) and hold left for re-tuning in the all-metal mode. The switch springs back to centre from the left when released, it, of course, lacks in the rightward position.

A continuous chirping sound will be heard when the batteries need changing.

GND SALT does not function without the Pro Hunter module.

Pro Hunter Module

To install this you will need a small Phillips screwdriver and a pair of tweezers or small long-nosed pliers.

Remove the two Phillips screws which secure the blanking plate above the Base Unit control panel and remove the plate. Inside you will see a small elongated socket with 5 small plastic tags sticking up from it. These are shorting plugs and all 5 must be removed with the tweezers. If, for any reason, you wish to remove the module at a later date these plugs must be replaced strictly according to the diagrams in the handbook so ensure you do not lose them.

Now carefully install the long plug on the ribbon cable into the elongated socket (it only goes in one way

round) then plug the other end into the module. Slide the module in on its runners ensuring the ribbon cable folds on itself between the underside of the module circuit board and the main board. Secure the module fascia with the two Phillips screws.

GND. This is a single-turn control which balances the detector to the ground, giving more flexibility than is possible with the fixed ground balance in the Base Unit. The knob is also a push-push switch which switches autotune on and off. Ground balance with it off, then turn it on again to prevent electronic drift in the all-metal mode.

To check whether or not autotune is on push and release. If the no. 1 (farthest right) LED lights for a second or two, you have just turned it on. Press again to turn off, the LED will not light.

To set ground balance inland or on a dry beach set GND SALT to GND. Lift the coil well away from the ground, then press MODE to the left and release. Now lower coil to an inch or so above the ground. The tone will probably become loud or vanish altogether. Lift away again, re-tune and turn the knob one way or another and try again. When you can lift the coil up and down with little or no tone volume change, the machine is ground balanced. This balances the motion mode too.

Things are slightly different on wet salt beaches. GND SALT should now be set to SALT of course, but this fixes the ground balance in the disc. mode at the factory setting (MODE set rightwards). GND now balances the all-metal mode only (MODE set central). Balance in this mode as above.

If you wish to set both modes at the same settings as the Base Unit (factory settings) proceed as follows:

Set GND SALT to SALT
Set GND to the preset red triangle (fully clockwise); Turn Autotune on.
These factory settings will give good results on some inland sites, they are not meant for wet salt beaches only. Experimentation and experience will ensure the best settings for various sites.

Note: If you ground balance with GND SALT set to GND and the Baron will only balance with GND in the marked SALT area, the GND SALT switch must be switch to SALT.

NOTCH is also pushed in and out to switch on and off, checked by the light/nolight in the same way as GND is. Notches can be used to reject many objects, but they are usually used to reject ring-pulls. Set as follows: Set MODE to disc. Turn NOTCH and iron reject on and turn NOTCH and DISC/ID fully anticlockwise. Now sweep the coil across a ring-pull as you slowly turn DISC/ID up. When the tone goes low, back the control off until it just starts to go high again then stop. Now turn NOTCH up until the right-pull is rejected. Turning it further widens the notch. This system can thus not only move the notch window, but can adjust its width which is a useful feature.

When you receive a signal you will see a red light run from left to right and back and the LEDs light and extinguish sequentially - a signal intensity meter. To depth read switch MODE to center (all-metal) and sweep the coil over the target. The LEDs will light and the number they stop at is the depth. Only accurate on coins remember. Lowest number is target centre for pinpointing.

The batteries can now be checked when desired. Hold MODE over to left. "1" LED lit indicates fresh batteries, "9" or "10" near-exhausted ones.

Deep Hunter Module

This is installed in the same way as the Pro Hunter module and it fits into the upper half of the control box rear after removal of the blanking plate only shorting plugs this time.

This module does need extra battery power because when switched on it energises a circuit contained within the search-head. This boosts the transmitted power giving more depth.

The thinking behind this is simply that improved coil design can and does provide extra power and thus depth. But such coils are more "touchy" on bad ground often giving rise to an unacceptable degree of instability which even minimum sensitivity cannot reduce satisfactorily. Discovery's Extra Search Power coil plus the Deep Hunter Module gives a varipower coil which goes a long way to solving this problem.

A three-position slider switch increases power to medium, then to high and off. Do not be tempted to leave this at "high" all the time as very bad ground will render the Baron unstable. Even the medium setting will be too much on some sites. Use it where the ground allows it to be used and you'll be glad you've got it!

On-board re-charging of ni-cad (nickel-cadmium batteries is now possible via the socket. Both battery packs (Base Unit and Deep Hunter module) will be charged so ensure you have ni-cads in both packs and do not attempt to re-charge ordinary batteries.

After a few hour's use swap the packs around, this will ensure that both packs are discharged the same amount before the next charge. Provided the Pro Hunter Module is fitted the LED battery test now functions for the Deep Hunter module too. Switch it on and use MODE to test as above. Switch it off and the Base Unit pack is tested via MODE.

Hardware

The search-head attaches to the lower stem by the usual arrangement of bolt, nut and washers. Do not overtighten. The lugs have a strengthening piece across the front to help prevent cracked lugs due to over-tightening of the coil bolt.

The coil cable plug - a DIN type - simply pushes into its socket in the control box.

The headphone socket is the small 1/8 in size and is mounted beneath the control box. 'Phones with a right-angled plug are pretty well mandatory, especially if the box is the to be belt mounted. Four push studs, when pressed in, allow the box to be removed for belt mounting. Simply slide a belt of your own through the loops.

The coil cable should not be allowed to flop about and loops of it should never be allowed to slide down on to the search-head. My own method is to use electrician's tape as I find velcro slips down the stem and I always seem to lose clips. If the box is to be stem-mounted pull the cable straight up from the head leaving a bit of slack to allow the coil to swivel. Tape the cable to the stem about 18 inches above the head. Now wind the cable around the stem keeping the coils of cable close together, then tape again leaving just enough cable to plug in. To belt mount the box don't wind the cable around the stem. Pull straight up as before, to the top of the stem in front of the cranked part and tape there and lower down. Because there is no plug nut to hold the cable plug secure to the control box there is a danger of it pulling out during beltmounted use. To prevent this a cable grip is attached to the right-hand battery door screw. Allow a decent loop of cable, very sharp bends must be avoided. Don't forget to use if you belt-mount.

Access to the battery compartment is gained by removing the two thumb screws which hold on the lower part of the control box rear. There are one or two pods inside, depending on whether or not the Deep Hunter modules is fitted and there are 8 AA cells in each pod. Be gentle with everything and fingers only on the thumb screws.

On Site

From the beginning I was determined to give this machine a hard time. It is fairly easy to pick a site or sites

with good ground and not too much junk. But not this time! I picked the toughest sites I could think of.

I do not specialise. Park, beach, playing field, meadow, ploughsoil, it's all the same to me and I'm just as happy finding a silver sixpence as a Roman denarius. Anyway, the sites were:

1: The beach, on both dry & wet sand.
2: A ploughed field which, due to a kind farmer, has been open house for over a decade to all and sundry and has consequently been extensively searched. The ground is very bad and iron junk levels are high. Many ancient finds have been made here over the years.
3: Another ploughed field, left as set aside last year. This one rarely produces old finds (just one hammered so far) but it contains masses of early to mid. 20th century finds due to its being used then to grow potatoes etc. which were hand gathered by large numbers of locals, similar to hop-picking. Iron and non-iron junk levels are thus very high and the ground varies from very bad to extremely so.
4: Parts of a large common, the worst parts. I know of three. One was a very overgrown corner cleared by the council about a year ago to reveal a long-forgotten ruined park bench. Maureen and I were the first to search this small area and we have thoroughly done so since them. Another was a flat grassy area used as a playing field which the world and his dog have searched in the past. The third is an area which appears to have been used as a dump. Masses of junk signals and prolific pieces of broken glass and pottery when dug.

I began with the Base Unit. I doubted if the Deep Hunter Module would be feasible on any of these sites.

The small headphone socket was my first problem and I had no 'phones to fit. I hoped to be able to buy a right angled 1/8 in X 1/4 in adaptor, but it was not available from the large store I went to. I had to buy a right angled 1/8 in X 1/8 in adaptor plus a 1/8 in X 1/4 in straight one. That's three joints instead of one, not a good idea but it worked well enough. We, at Joan Allen, had ordered some 'phones with right angled small plugs but they hadn't arrived. We received them when I was part way through, so I was able to test them too!

The dry beach wasn't much of a challenge. Depths were as good as any other top-flight machine I have used. Wet sand was O.K. too. Some false signals but not enough to mar an enjoyable day. My first trip was over and I had a good clutch of decimal coins.

Site 2 gave me the first indications of the Baron's performance. A slow sweep was best to keep false signals (yes, there were some) to a minimum and to prevent depth loss. The first good signal sounded pretty strong, but shallow. It wasn't on the surface because I scuffed it over with my foot and swept the coil over it before digging. After very carefully sifting of the soil I found a .177 airgun pellet. It had sounded much larger. Sensitivity was very good. This was proven time and time again as the test progressed. I got a few lead and copper scraps, a Roman bronze crud coin, a hammered penny with all its legend clipped off and a real tiny Victorian toy coin. The Baron was working well and my respect for it grew.

It was good to be back on site 3 again. The farmer said he would be planting it the next day, so we were just in time!

The day progressed and up they came - bent ha'pennies, cruddy farthings, twisted lumps and strips of anonymous brass, copper.

I received a strong signal - a crotal bell, hole too and a good 10 inches down. Nice one Baron! A thin strip of hack silver from a cane or something finished the day and the site for this year.

Site 4 produced too, or rather the Baron did from it. The ruined bench had been removed so we started there. Yes, more coins, mostly farthings missed by the obviously less sensitive machines I had used there before. I found junk too of course, but iron and foil reject was excellent with disc. turned low and iron reject on. There had to be just one more silver coin left and there was! A 3d. dated 1911 and giving that lovely

soft, but definite, signal I was learning to listen for.

I knew it would be different on the playing field, so I decided to dig the faint sounds only. Any detector can find 2ps at an inch.

This got me a few more deep ones plus a small silver St. Christopher at a good six inches. I went up to Maureen. "Any luck?" She had mostly decimal including two one Pound coins. Smirking I dangled the St. Christopher. "Very nice" she said, "but my 2 Pounds will buy next month's 'Searcher'. Trust a practical woman to think of life's little necessities!

We had only searched the dump part of the site once before. We had abandoned it then as just too bad. Now I'm not going to say the Baron was smooth as silk because it wasn't. There were plenty of false signals. But by taking it slow and easy I was able to get it to produce finds without much junk. A silver sixpence here, a silver shilling there and a cuff-link came up from good depths together with corroded ha'pennies, alloy bottle tops and other bits and bobs. To judge by the large number of readings this area had been little searched before. Probably previous hunters had given up on it as we had done at first. This was a tough test for any machines. The Baron passed! By now I had a pair of the new headphones with fitted right angled plug. They are the small type, lightweight with a straight lead. I wound the excess around the control box. They were comfortable and didn't clamp my spectacle frame to the sides of my head like my normal large padded ones do. They were less loud of course but I soon got used to that.

Throughout this part of the test I search in disc. with iron reject on. On faint signals I turned it off and check again. A loud blare? Iron junk. Still faint? Dig! Another option was to check in all-metal, thus pin-pointing at the same time. On this mineralised ground, if I tuned (hold MODE momentarily to the left) with the search-head in the air I got a loud blare when I lowered it. The answer was to tune with the search-head on the ground then lift it an inch or so away. This does lose depth though. This is solved by tuning at your operating height but it is hard to maintain it whilst sweeping. especially on uneven ground. Things can be improved somewhat if the unit is tuned with the search-head just off the ground the lifted off a bit further, half an inch or so, to your operating height. False signals and depth loss are thus minimised.

This is one situation where the manual ground balance on the Pro Hunter Module would come in handy!

The Modules

I'm sure you don't want a replay with the modules, so I will just give a resume.

Pro Hunter. Ground balancing is precise and must be set accurately. On the beach I found searching in all-metal produced no false signals but there was a depth loss if ground balance was not set properly. Check each signal in disc. of course. I preferred to search in disc. inland or on the dry sand. Don't forget to set GND SALT before you ground balance then select auto-tune afterwards to eliminate electronic drift in the all-metal mode. Careful setting of the notch will lose most ring-pulls without losing any of our current coins. As notches go, it is one of the better ones. Depth-reading is also useful, but only accurate on coins as usual. I liked the red LEDs, very space age and battery check important.

Deep Hunter. Not for bad ground as I suspected, but a noticeable improvement on better sites. Even more important to set the ground balance accurately if you have the Pro Hunter too. The re-chargeable feature will save you a lot of a money in the long run - enough to pay for the module within a few years.

I didn't find the modules difficult to fit at all. You might find it a bit fiddly if you have very large hands. Get the wife to do it for you in that case!

Summary

The Treasure Baron is a very interesting machine. It works well in its basic configuration and the modules expand it further still. Whether or not you think the modules are worth having is, of course, up to you and your sites. I think most people will find the Base Unit perfectly adequate, others will wish to upgrade for that extra touch of power and professionalism.

It is certainly a machine I would use myself as a main machine. I had full confidence in its abilities to find small objects at good depths, its versatility and discrimination.

As appearing in "The Searcher" December 1993

PRODUCT REPORT: TREASURE BARON

(Reviewer: McCulloch)

Glance through the sales catalog of any major metal detector manufacturer, and you will see listed a wide range of machines which vary considerably in their price, preformance, and options. The reason for this is simple: the needs, and the pocketbooks, of the detector-buying public varies widely. When a detector manufacturer offers a wide range of models, the consumer is then afforded the opportunity to select a model with the features they require which falls within their budget. As a general rule, if you want more options, and higher performance, then you will have to select a more "upscale" model.

However, a new metal detector has just come on the market which obviates the need to buy a whole new machine when you wish to upgrade to higher performance or greater options. The reason for this is that the machine itself is easily upgradable, via easily-inserted modules. In short, you can purchase the base unit, which in itself is a very good treasure finder, and then at any time later you can equip it with one or more of the optional modules which offer expanded features and enhanced performance.

This exciting new modularly-upgradeable machine is called the "Treasure Baron," and is manufactured by Discovery Electronics, of Sweet Home, Oregon. Discovery Electronics have been in business since 1981, and are a leading producer of detectors sold under other brand names.

The base unit is a very well constructed, totally complete metal detector, in itself a fine machine. It features silent-search, fully-adjustable motion discrimination, adjustable sensitivity, adjustable differential-tone audio target ID, all-metal pinpoint mode, and push button on/off iron discrimination. Suggested retail price for the base unit is $399.95, a very competitive price for a machine with such worthwhile features and good performance.

As this magazine goes to press, there are four additional optional modules, and "rumor has it" that yet more are on the way. The current lineup includes the "Nicad" module, "Pro Hunter" module, "Deep Hunter" module, and "Black Sand" module. The first of these we will discuss is the "Nicad" module. This module, like the rest, is easily installed using a small phillips screwdriver and a pair of tweezers.

As the name implies, this module, once installed in the compartment at the back of the control box, permits on-board charging of a replaceable nicad battery pack. Battery life is said to be 30+ hours per charge.

The "Pro Hunter" module, once installed in the compartment at the upper portion of the control panel face, offers a wide variety of useful options. One of these if the GND knob, which allows the operator to manually ground balance the detector in the traditional manner, thus allowing use of the Treasure Baron for any "all metal" operation such as prospecting or relic hunting. Also, this knob has a push/push on/off capability , which controls operation of the autotune, or self adjusting threshold feature. An on-demand LED test light informs the operator whether the autotune feature is functioning. With the "Pro Hunter" module installed, the MODE toggle switch on the base unit, acts as a retune switch, and is used in conjunction with the GND knob to ground balance the Treasure Baron.

The NOTCH knob on the "Pro Hunter" module sets the "notch window." It, too, has a push-push on/off capability, and its operating status is also determined via an on-demand LED light test, as described in the well-written instruction manual. Rotation of the knob widens or narrows the notch width. Used in conjunction with the DISC/ID knob on the basic unit, the notch window can also be moved throughout the discriminate range, which users will find very convenient.

Another feature of the "Pro Hunter" module is that it has an LED depth meter, a boon when it comes to pinpointing detected targets.

The "Deep Hunter" module is a worthy option for detectorists who want additional detection depth in those

areas where the soil mineralization is low to moderate. It fits into the compartment at the back of the control box, in the same locale as would the "Nicad" module. We should mention at this point that use of those modules which fit into the same compartment are on an "either/or" basis, that is to say, only one such module can be used at a time. For example the "Nicad" module and the "Deep Hunter" module cannot be used simultaneously.

The "Deep Hunter" module, which uses its own auxiliary battery pack, works in conjunction with special circuitry incorporated in the ESP or "Extra Search Power" searchcoil. A three-position slider switch, marked "off," "M," and "H," is used to turn this feature off, or the "M" medium position or "H" (high) power settings. Ideally, one would use the highest setting that soil conditions will allow. The "Deep Hunter" module CAN utilized in-board charging of nicads for BOTH its auxillary battery pack AND the batteries of the base unit, providing, of course, that ONLY nicads are installed in the base unit battery pack at the time of recharging.

The "Black Sand" module is intended for use where the soil mineralization is high. Its purpose is to help the base unit, with or without the "Pro Hunter" module, to get better depth under severe soil conditions. It fits into the back compartment, in lieu of the "Nicad" or "Deep Hunter" modules. The "Black Sand" module also has on-board nicad recharging, similar to the "Nicad" module.

Manufacturers suggested retail prices for the modules: Nicad module, $29.95; Pro Hunter, $149.95; Deep Hunter, $149.95; Black Sand, $119.95.

Remember, the Treasure Baron base unit alone is a fine motion discriminating detector, and the various modules can be purchase separately, as needed. "Treasure" magazine will keep its readers updated on new modules as they are released.

Putting the Treasure Baron through its paces, incorporating the various modules, left us quite impressed. Great depth, excellent discrimination, and its upgradability are certainly good reasons to give the Treasure Baron serious consideration when you are in the market for a new detector.

We'd like to pass along a few suggestions on module selection for the benefit of our readers. If you are planning to purchase the base unit ONLY, give consideration to buying the "Nicad" module, too. At $29.95, it is a good investment which will likely save a lot of money in the long run over the repeated purchased of discardable batteries.

If you plan to use the Treasure Baron for electronic prospecting, relic hunting, and want a bit more depth than the base unit (not to mention the other sterling features) then the "Pro Hunter" module is a necessary purchase.

If you are planning to purchase the "Deep Hunter" or "Black Sand" modules, and plan to use nicads in the base unit as well, you really won't need to buy the "Nicad" module, since the "Deep Hunter" and "Black Sand" modules have their own recharging system.

The choice of purchasing either the "Deep Hunter" module or the "Black Sand" module will be largely dependent on your soil conditions. Where the soil mineralization is low to moderate, especially on inland sites, the "Deep Hunter" module will be the selection of choice. Where the soil mineralization is moderate to severe, especially on black sand beaches, then the "Black Sand" modules will give best results. Of course, the TH'er who encounters a wide range of soil condition will probably want both these modules.

As mentioned, the suggested retail price of the base unit is $399.95; the prices of the modules varies from $29.95 to $149.95. The Treasure Baron is covered by a two year warranty. For more information, and the name of your nearest Discovery Electronics dealer, contact them at 1115 Long Street, Dept. T, Sweet Home, Oregon 97386. Or give them a call at (503) 367-2585.

(As appearing in Treasure, April 1994)

READER'S FIELD TEST

Treasure Baron

John Howland

The Treasure Baron is a new high performance metal detector from the American manufacturer Discovery Electronics of Oregon. Stylish, rugged and featuring modular design, it is a radical and exciting departure from orthodox metal detectors.

During the 1980s there were a number of significant advances in detector design and technology. In order to appreciate the Treasure Baron, it would perhaps help to look at it in context with these earlier milestones. Originally, White's set the ball rolling with their pioneering (if 'whippy) motion discriminators. In 1982 another US firm, Fisher, raised the stakes appreciably with the introduction of their 1260X slow motion detectors. Hot on the heels of Fisher came the Arizona-based company Tesoro with the launch of an entirely new idea in discrimination known as 'notch'. Built into their Gold Sabre models this facility allowed the virtual elimination of ring pulls without the loss of wanted targets.

Late in 1993 Discovery Electronics came up with a new first - that of modular design. The idea behind modular design is that it puts the customer in the 'driving seat'. He is in full control and needs spend only as is essential without having to 'waste' finances on seldom-used controls of unwanted facilities. With the add-on modules, the Treasure Baron can be tailored to suit, and get the best from, virtually and site.

Professional photographers latched on to the economics and common sense of modular design years ago and camera manufacturers such as Nikon, Pentax, Canon and Olympus have invested millions in the development of such systems.

Perhaps taking their cue from the giants of the photographic world, Discovery Electronics are now offering the first-time buyer not only a basic machine but also a building block upon which a sophisticated system can be put together.

Once the basic unit has been purchased, then as the need arises or cash flow improves, further modules can be added.

Modules

Each add-on module is a customised circuit up-date and converts the basic unit to higher levels of efficiency. At the time of writing two modules are available.

The first of these is the 'Pro Hunter' which adds: a ground balancing mode; auto tune facility (while pinpointing); a notch mode (whose 'window width' can be adjusted); and LEDs (which carry out a number of functions including battery checking, signal intensity and depth reading).

The second module is the 'Deep Hunter' with its on board nicad battery charging facility. Uniquely, all Treasure Baron search coils carry within them a passive circuit which can be fired up when the Deep Hunter module is fitted. This greatly improves the detector's already impressive depth.

The above covers the ideas behind the Treasure Baron but does the hardware live up to the claims? In my view the answer must be a very firm 'Yes!'. And it must be remembered that in this review I have only been looking at the basic version of the detector. As other optional add-on modules become available, I shall be reporting on them in due course.

Overview

The most striking characteristic in the appearance of this detector is its stove enamelled fire engine red control box . . . which is certainly an eye-catching feature that identifies it on the salesroom floor.

The control box, formed from cast and moulded heavy grade aluminium is the strongest and most rugged that I have seen in all my years of detecting.

Four snap studs fasten the control box the ergonomically-designed stem, which makes hip mounting an easy operation requiring no tools. Even if a little heavier than some other machines, I felt the Treasure Baron to exude a certain air of quality.

Retailing at around the 419 Pound mark for the basic unit, the Treasure Baron is good value for money in

a competitive level of the market.
Although Discovery Electronics have been operational since 1981, the 'Treasure Baron' is the first metal detector to carry their company name. Prior the releasing their own detector, they made machines for other companies and retailers (and still continue to do so in parallel to the production of the Baron). The brains behind this new detector are those of George Payne who has been involved in the original development of motion detectors, metered target ID, notch discrimination and surface blanking.

Seashore Testing

I felt that a sodden seashore (with loads of depth-defeating mineralisation) must be one of the best sites to quickly assess the performance of this detector.
For anyone who still doesn't know, salt water contains particles of many different minerals and metals (including gold, silver, iron, copper etc). Salt water on its own will not effect the performance of any metal detector . . . but mineral-bearing sea water can have a drastic effect on a detector's performance.
During testing I found the Treasure Baron to handle well on the beach. On dry sand its performance was up there with the good if not the great. Over the wet foreshore, without the Pro Hunter module fitted. (It has to be remembered that the base unit is intended primarily as a land machine with the ability to perform acceptably well in a coastal environment).
Initially, I tested the machine over wet sand with the accessory 10 inch diameter search coil fitted. I did this for two reasons. First, I wanted to find out what advantages this might give over the standard 8 inch coil; and second, I was interested to see how well the detector coped with the inherent masking effect associated with larger coils (especially when no ground balancing facility could be brought to bear).
My initial findings are that the 10 inch concentric (polo) search coil cuts through wet send well, and I was locating coin-sized targets at impressive depths. The clarity of the audio signals that I was getting from some 50p coins, suggests that greater depths would be possible and I would guess that something like 10 or 11 inches might be possible with the Pro Hunter module in place.
It is worth noting that the Treasure Baron transmits at a frequency of 12.5 kHz. Compared with many other modern detectors that tend to operate around the 4.5 kHz mark, this is a comparatively high frequency.
It is a known fact that transmissions in the 12 to 15 kHz wavebands respond more positively to gold. However, higher frequency machines have a slight fall-off in ground penetration when compared against other lower frequency machines transmitting at the 4 to 5 kHz mark. So it is something of a trade off between depth and gold. For practical purposes, however, Discovery Electronics have done their homework and any different in ground penetration is negligible.
Inland, I feel that all but the terminally hard-to-please will be impressed by the Treasure Baron's performance. And its discrimination mode is first rate.
As a result of Christmas and the New Year my test time was limited with this detector but I carried out some experiments in as controlled conditions as possible in my back garden. I planted a hammered silver groat of Edward III and the Treasure Baron picked it up at almost 9 inches.
Effective as the motion mode seemed to be, however, I thought it would be useful to double check my results. To do this I called on the expert advice of Les Birch who is Director of LJB Communications Ltd; Les is a man who really knows his way around the 'electronics jungle'.
I asked Les to do two things:firstly, to cast his expert eye over the construction of the circuit boards, and secondly, to carry out further tests on depth penetration.
He reported back to say that the circuit boards were of 'high quality' and the depths he stated tallied with my own results. I can report that large 10ps, 50ps, and 1 pound coins were located deeper than 10 inches using the 8 inch coil. The makers also claim that even greater depths (up to 45% deeper in non mineralised ground) are possible with the Deep Hunter module.
For more information on the Treasure Baron contact the sole UK importers: Joan Allen Electronics, 190 Main Road, Biggin Hill, Kent (tel 09059-571255).

(As appearing in Treasure Hunting, February 1994)

Testing The Treasure Baron

By Ben Myers

If you like to learn about new metal detectors, you're reading the right field test report. The Treasure Baron is a new product from Discovery Electronics. This detector is not only outstanding in color (fire engine red) but in performance as well.

The principal new concept put forth by the Treasure Baron is the fact that it is truly a modular machine, quite willing and able to give the customer a modestly priced basic machine that possesses the ability to be upgraded to top-of-the-line with the insertion of one of the two modules.

When first using the Treasure Baron I hunted with it as the base unit. I'm going to do a little coining of words here to make clear which form of Treasure Baron is being described during this article. From now on I'll call the base unit without added modules the "Basic Baron" and refer to the Treasure baron with both modules installed as the "Modular Baron".

Walking along saltwater beaches and then a park with the Basic Baron I must say that I was not instantly excited about the machine. Now don't get me wrong. I was pleased with its performance and deemed it well worth its reasonable price tag. Good depth and an ability to handle soil conditions were evident. I told myself that I was just expecting too much to think that each new machine should offer something new. This perception was to change rapidly as I began to understand the controls and the excitement they could offer to a detectorist's arsenal.

I decided to add the two modules before the next outing and that is when I began to appreciate the Treasure Baron. Were the following trips more pleasing? Wow, were they ever! And that's mainly what the field test is about, the Modular Treasure Baron in all its full modular glory, how it works and how it performed. I'll touch somewhat on the Basic Treasure Baron but it is so simple to operate there isn't much to say that you can't pick up from the descriptions of the Modular Baron.

That is the beauty of this detector. If you are a beginner you can buy the Basic Treasure Baron to use until you are ready to handle more advanced features, at which time you buy and install modules one and/or two. On the other hand, if you already have detector experience you can start right off with the full Modular Treasure Baron.

Some interesting events took place during the field test and I'll touch on them in a bit, but first things first. If you want to get a real feel for this machine you must take an in-depth look at the controls and features..

The metal control box sits atop an "S" handle configuration and receives its signals through a high quality shielded cable from the 8" flat doughnut shaped coil. I should also mention here that when my friend Bernie Hehl and I did air tests on this machine at his work bench we did not get the outside interference from overhead lights that we have sometimes gotten while air testing other machines. That hole in the center of the coil will allow you to do some very precise pinpointing of targets. You can leave the probe in the ground over the target while moving the coil up and away to the side.

When I first checked out the face of the control box I saw controls that looked deceptively "unexciting." Some of the controls are of the multi-function variety which saves space and simplifies operation. I noticed a horizontal line running across the middle. That's where the top blank plate is removed and the Pro Hunter Module is installed to provide features for target depth, ground balance/autotune, salt mode, and notch. The bottom half is the Basic Treasure Baron with Power Off/On with audio range, Pinpoint retune/All-Metal/Motion Disc Toggle, and Target Tone Discrimination ID Control. While I'm at it I'll describe the rear of the control box. The same set up contains the battery compartment on the bottom portion and the top portion is where the plain plate is removed for the Deep Hunter Mode which provides E.S.P. Boost of

Off/Medium/High and a plug in if you use Nicad batteries. This is also where the searchcoil cable connects.

O.K. So now you know where the modules are added to update the machine and you may be thinking, "Egads! I can't install delicate electronic components into the detector, they might break!" Relax, it's easy. You only need a small Phillips head screwdriver to remove the screws holding the blank plates and to re-secure once the modules are in place. You'll also probably need a pair of tweezers to remove a couple of little plastic covers called shorting plugs. Each module has a connector that plugs into the circuit board, and don't worry it can't be done wrong. The whole thing takes five to ten minutes and you will agree that even someone who is all thumbs can do it.

CONTROL BOX

Batteries (Lower Rear Panel): The Treasure Baron needs 8 AA batteries to operate and an additional 8 AA's in a separate pack to drive the Deep Hunter Module for truly more power. With use of the Deep Hunter Module you can use an "on board" charging system when you are using Nicad rechargeable batteries. A recharge takes about 4-1/2 hours. The condition of the batteries can be check using the LED lights (more on this later) plus the audio gives a chirping or pulsing sound when batteries are low.

LOWER FRONT PANEL

(Basic Treasure Baron) Power: This is a rotary knob to turn the detector On/Off plus increase the audio range (target loudness) as it is turned clockwise. The manual compares it to a sensitivity control of a conventional detector except that it does not reduce the sensitivity. I don't see it that way and would rewrite the manual here as in some other places. The sensitivity appears to be present unless one purchases the Deep Hunter Module to change the boost (more later) Rather, this control allows a person to adjust the loudness of the audio response coming from the target. This signal is there, the higher the control is set the deeper you can hear it depending upon hunting conditions and your hearing comfort. It is a useful control and I kept it as high as possible.

Mode: This is a three position toggle to allow switching between Silent Search Slow Motion/Discrimination/Notch Mode (right hand position), Non-Motion/Pinpoint (middle position) Mode, and the Momentary (spring loaded) All-Metal retune (left position). Once again, more on these later.

DISC/ID:A multi-functional rotary knob is used to set the point at which the dual tone ID of targets changes from low to high tone. It also sets the start point for the Notch plus the push-push feature of the knob turns on/off the iron rejection feature.

You now have a picture of how the "Basic" detector works. But wait, there's more! Incidentally, I like the push-push idea rather than push-pull as it lessens the change of accidentally bumping the pull position of a knob to the pushed-in position and thereby a wrong setting. It is much more difficult to bump these controls hard enough to change them by accident.

PRO HUNTER MODULE

(Basic Treasure Baron) LED Bar Graph:I have to digress here a moment and ask if you remember the TV Show and movie Battlestar Galatica? The plot dealt with human space travelers from the thirteenth planet and their enemies were advanced robots called Cylons with the optical device being a red light that pulsed back and forth across their upper face plate. Could it be that the designer of the Treasure Baron used to watch this show too? That is what the LED bar graph does as you detect various targets and go to All-Metal depth reading. But this feature does more that look futuristic.

Although this bar graph appears to be solely for the purpose of measuring the depth of targets from 1" to 10" it also performs other functions. With the target centered under the coil with the Mode in All-Metal center position the bar graph will indicate depth of target. It indicates battery condition for both battery packs. With the ESP BOOST in the off position and the Mode toggle held left the battery condition will light up for conventional or Nicad batteries, 1 being best . To check the battery pack for Deep Hunter module switch the ESP BOOST to "M" or "H" and hold the Mode toggle left once again.

The "1" on the bar graph is also used to indicate functioning of the other controls. Both the "GND" and "NOTCH" controls are push-push. When you push them watch the "1" LED. If it lights momentarily you know that the autotune of GND is on or the notch feature of NOTCH is on. If it doesn't light up they are off. No guess work is involved.

GND: As just mentioned, when this rotary knob is pushed it will turn on the Autotune if you see the "1" LED light up on the bar graph. The Autotune is a very slow returning of the circuitry to maintain threshold (slight hum) when detecting in the All-Metal Mode.

To perform a manual ground balance turn off the Autotune and perform the usual coil bobbing method with controls set at preset. While in the All-Metal Mode lower the coil near the ground. If the tone increases there is mineralization present and you must adjust the GND knob counter-clockwise and hit the retune until there is no change or very little change in the tone volume. To manually balance out saltwater effects you will use the same procedure and notice that the control will end up more counter-clockwise near the area marked "salt"

GRD/Salt Toggle: This one is inoperable in the Basic Baron and must have the PRO module installed to work. Simply put, the Salt side is used on saltwater beaches and surf while the GND position permits the motion mode to track the ground balance setting of the non motion. In the Salt position the motion ground balance is factory set. In the GND position, adjustment of the GND control will establish both the Non Motion and the Motion Modes. If you want to balance out the salt in GND adjust the GND control for All-Metal searching and then use the autotune. If the toggle is set to GND the motion mode is adjusted in the balance setting of the All-Metal Mode. If the GND control is balanced for a salt setting the GND/Salt must be set to salt.

Rej. Notch Width: Once again we have a push-push rotary knob which when pushed to turn on notch will light up the "1" LED momentarily to let you know it is activated.

The rejection notch area starts at the spot where the DISC/ID knob is set to separate low tone for high tone. Be aware that the DISC/ID setting is different according to the Iron Reject being on or off. Rejection starts there and as the notch knob is turned clockwise the area of notch rejection widens.

DEEP HUNTER MODULE

E.S.P Boost: This control has three positions: OFF, M (Medium), and H (High). Off speaks for itself and seems to provide the same depth as the basic unit. The Medium setting provides a little more and High zaps up to three times the drive to the loop to increase depth and performance up to 45%. The high power does decrease the life of the Deep Hunter Modules batteries though with battery life at Medium up to 12 hours and at High to 6 hours. It's a good idea to switch the battery packs at some point to even usage.

Charge: Don't forget that you can use rechargeable Nicads in the machine and charge them on board. Radio Shack has a charger to fit the job.

Jack: The only thing left to mention on features is that the headphone jack is 1/8" and not 1/4" as usual. It is located under the right front of the control box. If you use headphones with 1/4" plug you can get an adapter at Radio Shack. The idea behind the 1/8" jack is that electronics are getting smaller including lighter and smaller headphones. Regardless of the type you prefer the adapter takes care of the problem.

DETECTING SCENARIO

If you were going to get full use of this detector here is suggested setup procedure for a typical park. Turn the Treasure Baron on set ESP Boost Off (to be checked later for increasing). Toggle to GND and proceed with Ground Balance using GND control and Mode. Flip Mode toggle to right for silent search ultra slow sweep speed motion Mode. Sweep loop past piece of iron and push iron reject if detected to reject it. Place a pulltab on a clean piece of ground and sweep the coil over it while turning the DISC/ID knob to just the point where the pulltab begins to give a high tone. Now turn the Notch on and turn the control clockwise until the pulltab does not produce a beep. You should now be able to reject iron, get low tones on nickels and certain gold ring, reject (notch out) most pulltabs and get high tones for higher coins from cent to silver dollar.

At this point if the detector is a little too heavy for you it is easily hip mountable and the rod is just a snap to set to your height. Make sure the coil is wrapped properly around the stem, especially at the lower end to keep the cable up away from the loop, and you are ready for some enjoyable and successful metal detecting.

FIELD TESTING & SUMMARY

As you can see, I've spent quite a bit of time describing the detector itself as I feel that to be important with this machine. The controls of the Treasure Baron work differently than other machines of its configuration thus my reason for the lengthy explanations.

In testing the Treasure Baron I took it to my usual type places - saltwater beaches, parks schools, an old abandoned picnic area, and following bulldozers.

Understand that due to publishing deadlines the testing was done in the heat of summer instead of the cool of winter when this report will appear in print. The conditions were not optimum. We hadn't had rain which left the ground extremely dry but fortunately not hard packed for digging. The noteworthy item here was that very good depth of targets was achieved in spite of the dry conditions.

Except for my first trip to a saltwater beach and a park at which I used the Basic Treasure Baron, the rest of the trips were made after I had installed the two modules for upgrading.

Three schools were hit with clad coins and the usual trash items the most abundant. The clads were as deep as 4" while an older school provided two Merc dimes at 5" and 6", three silver Rosies at about 4" and six Wheats in the 4" to 7" range. Another school gave the Modular Treasure Baron the trash test. There were quite a few pulltabs so the Notch went into action. Of course I already had the Iron Disc. on and set notch according to manual instructions. The pulltabs blanked right out while nickels and higher coins came through with the Target Tone ID working fine.

The only caution I would give you here is to make sure you can still pick up nickels after making your adjustments. As with any detector, in employing notch discrimination one has to be aware that while rejecting this one zone of target response you risk missing any gold rings with the same signal. It depends on how much trash you can put up with and at this time in technology the only way to know for sure is to dig every signal. In burying some targets to test I did not notice any loss in depth due to using notch.

The coil is very sensitive and sometimes gives chirps while resting flat on the ground or bumped against it. Incidentally, I'd like to see Discovery Electronics widen the stand below the arm cup as the Baron has tendency to tip over as it is set down while you dig. I didn't feel the Baron was too heavy but it is a bit heavier that some other detectors. I overcame this by making the rod shorter thereby allowing the weight to be suspended from the shoulder rather than the biceps or forearm. Also, I'd like to see s/clips or small pieces of velcro included in the box to hold the searchcoil wire close to the rod, especially near the coil. Granted, these are small items but I think that is part of the reason for a field test, to find out what improvements may be made.

Next stop was a picnic area that hadn't had much use since the 1950s although the owner kept it nicely mowed. I stumbled upon it in an old newspaper item one day while researching for something else. It always produces some decent finds and this outing was no exception. With those dry conditions a Barber quarter was detected at 10", a Barber dime at 7", and two early Mercs at 6". Two Indian Head cents showed themselves as well. I used the depth reading LED to go for the deep targets and ignore the moderate trash items on the surface. With depth performance like this in dry soil, I'd sure like to test the Treasure Baron again in moist soil conditions.

When driving to a local lake I noticed some bulldozers building a new road. They had knocked down woods and a field of giant weeds and due to the prime looking site I had to come back after the bulldozers were done work for the day. They had scraped off about 10" of soil next to the old road and piled other dirt in a 12 foot oblong pile. To make the story short another Barber quarter came up with two Mercs, a Rosie, three Wheat cents and alas, a larger cent (although badly worn). Naturally the usual junk of bolts and aluminum cans were there as well. Coin depths were up to 10".

At a park I went right to a spot I call "hot rock city" as they come in from "minus" readings to top "plus" readings. It was a great and pleasant surprise to me that the Modular Treasure Baron handled it with just a few chirps. Two Wheat cents at 4" plus a pre-WW1 rifle shell casing were unearthed with ease as the hot rocks did not give any good signals. Nice job!

The saltwater beach was another triumph for the Treasure Baron. Even though I only found a thin gold lady's ring (with the stone missing) and clads up to 10" the detector proved itself in the environment. My first trip to the beach was with the Basic Treasure Baron and I found I received false signals on the wet salt beach until hitting the iron reject as the salt toggle does not work without the Pro Hunter module. Apparently the low rejection level is enough to knock out the salt as it smoothed right down without further problems. Of course this means it is not possible to hunt a wet salt beach with All-Metal or No discrimination Motion without the Pro Hunter module installed to balance out the effects of salt. While this is fine for an average beach hunt I was also aware that the low discrimination level of iron reject would also knock out a woman's small thin ring. My advice is to move up to the Pro Hunter module ASAP. The control did do a nice job, though, of eliminating or causing a broken (short clipped) sound to iron nails, cigarette wrapper tin foil, iron bottle caps, and bobby pins.

Doing the air tests at Bernie Hehl's house we found excellent coin depths, but the surprise came with gold items. The machine was very sensitive to small gold items, even pieces of chain. There was one small thin gold heart charm that Bernie said he has never gotten a detector to pick up more than 1 1/2" from the coil. The Treasure Baron produced a decent signal out to 4" with the Boost off and 6" with the Boost on High from the Deep Hunter Module. Discovery may not have been building a gold machine but it apparently can double for one, not to mention a mean beach machine.

OPINION

My overall impression of the Treasure Baron is that it is well worth its basic price and modular upgrades. Although the detector can use a couple of minor changes it does possess two qualities which I require in a good machine - excellent depth and extreme sensitivity to gold.

Is there anything else I would do if I were the designer of the Treasure Baron? Most definitely. I'd get the Baron married and come out with the Baroness who is water tight to go into shallow water and scoop all that gold!

If you would like more information on the Treasure Baron write to:Discovery Electronics, Inc. 1115 Long St., Sweet Home, OR 97386 or call (503) 367-2585. Be sure to the tell them you read all about it in *Western & Eastern Treasures* magazine.

TREASURE BARON Air Test
Power Boost Level

	OFF	MEDIUM	HIGH
Nickel	9"	10"	12"
Cent	9"	10"	11"
Dime	8"	10"	11"
Quarter	9"	10"	11"
Small 14K Ring	5"	7"	10"
14K Gold Wedding Ring	9"	12"	13"
Small Gold Heart Charm	3"	5"	6"
Piece of Gold Chain	3"	4"	5"

Detector Review

BRAND:Discovery Electronics
MODEL: Treasure Baron
MANUFACTURERS PRICE: $399.95 Base
Pro Hunter and Deep hunter modules $149.95 ea.

AUDIO
Frequency:195 Hz - 780 Hz
External Speaker: Waterproof Mylar
Headphone Jack: 1/8' Stereo
Target Tone ID: Dual Tone

GENERAL SPECIFICATIONS

Transmit Frequency: 12.5kHz
Style: "S" rod, hip-mountable case
Length:" 45" min. Shaft Adjust: 57" max
Weight Without Batteries: 3 lbs. 7 oz.
Control Box Construction: Aluminum

MODES OF OPERATION
TR DISC (Non-Motion, Non-mineral Free)
* GB ALL METAL (Non-Motion Min Free (Gnd. Bal.)
MOTION ALL METAL
* MOTION DISC (Motion Required. Mineral Free)
PULSE INDUCTION

SEARCHCOIL
Supplied: E.S.P. 8' Waterproof Loop
Optional: 10" Thunderhead Loop
Configuration: Extra Scanning Power

POWER
Battery Size & Type: 8 AA Deep Hunter
requires 8 additional batteries
Rechargeables Supplied:No
(Ni-Cads used when charging)
Charging: Onboard with Deep Hunter module

CONTROLS
Power On/Off: Yes
Battery Check:Yes
Ground Balance:Yes
Discrimination:Yes
Notch: Variable Width Window
Computerized:No
Programable:No
Sensitivity:No
Volume:No
Threshold:No
Tuning:No
Mode Selection:Yes

Mode Change/Retune:Yes

Warranty: 24 Months
Manufactuer's Suggested Uses: Coins, Relics
Beach Hunting

Chart information provided by the manufacturer

Discovery Electronics, Inc.
1115 Long SL, Sweet Home, OR 97386
(503) 367-2585 FAX (503) 367-6690

(As appearing in December '93 issue of Western & Eastern Treasures magazine)

LOST TREASURE FIELD TEST

By Reginald G. Sniff

TREASURE BARON

A bold new detector is entering the metal detector field which should make serious treasure hunters scramble to see its capabilities.

This new detector, named the Treasure Baron, is produced by Discovery Electronics. In business since 1981, Discovery Electronics is the leading manufacturer of two-box detectors. The Treasure Baron is their first detector to be directly introduced under their name to the consumer market.

As mentioned earlier, the new Treasure Baron is bold - bold because it is the first to be a truly modular type detector. Yes, modular. A prospective buyer can purchase a base model detector or equip it with one or both of the optional modules designed to enhance the detector's features and depth capabilities. This detector is also bold in depth capabilities. The base unit by itself is extremely sensitive, matching the depth capabilities of some of the best. With the optional "Deep Hunter" module there are two additional power settings to enhance the detector's depth capabilities.

DETECTOR FEATURES:

Since Discovery wanted to incorporate several different features, it was necessary to have some of the controls have multi-functions. The following explanation may seem a little confusing, so I recommend a hands-on demonstration for a better idea of each control's operation. I will try to give a brief explanation of the controls so you can get the general idea.

As mentioned before, this detector can be purchased as a base unit, or with one or both of the optional modules. The base unit of this detector comes with the most basic of adjustments, an on/off/sensitivity control, a discrimination control, and a mode selection switch which allows the operator to switch between the all-metal and discrimination modes. Although this seems like a very basic unit, the depth capabilities are equivalent to those of the enhanced model with the boost selector off.

The discrimination control is a little different in the fact that it has a potential dual function plus a push-push switch. The switch allows the operator to set the motion mode to reject or detect most ferrous objects in the discrimination mode. With the switch selected off, ferrous objects are rejected and when on, most iron targets as well as good targets will be accepted.

As for the action of the discrimination control, it is similar to a conventional discrimination level control except that instead of the detector ignoring targets with lower conductivity than the setting, these targets will respond with a low audio tone and accepted targets will respond with a higher tone.

The first optional module I will discuss is the "Pro Hunter" module. This module enhances the detector by adding a LED bar graph visual depth indicator, a ground balance control, a salt/gnd switch, and a notch width control.

The bar graph is active in the all-metal mode and indicates depths between 1 and 10 inches. The ground balance control and a corresponding salt/gnd switch allow for adjustments over a wide range of soil conditions. The ground balance control does have a direct effect on the discrimination performance.

Built into the ground balance control is a push-push switch which activates an autotune feature that can be used to keep the threshold constant. When the feature is first actuated, the 1 inch LED lights momentarily

for indication.

The notch width control works in conjunction with the discrimination control. When off, it has no effect but when on, as the control is turned a notch is created and widened. This notch allows for an operator to ignore a limited range of targets such as pulltabs. The starting point of lower end of the notch setting is set by the discrimination control setting.

The second module is called the "Deep Hunter" module. This module contains an additional battery pack and a special search coil "Boost" switch. The switch, located on the back of the instrument, allows the operator to select either the standard coil energy setting or one of two boosted energy levels. Factory specifications indicate up to a 45% increase in depth are possible with the higher settings. This module also has built-in plug for the use of optional ni-cads and charger.

The Treasure Baron comes standard with what the factory calls their 8 inch "ESP" coil. ESP, which stands for Extra Scanning Power, is so named because of particular design which allows for increasing the energy to the coil.

The housing of this instrument is of aluminum construction and is capable of readily converting to a hip mount configuration.

Factory options include a 10 inch, a pinpoint, and a zero buoyancy coil, a frequency shifter designed so two similar detectors can work near each other, and an auto charger that will allow the charger of ni-cad batteries from an auto lighter plug.

The battery requirement for the base unit is an 8 pack of AA's. The optional Deep Hunter module requires another 8 pack. Batteries are not included with the instrument.

FIRST IMPRESSIONS:

I should mention that I felt quite privileged to be the first to get a hands on trial of the first prototype Treasure Baron sent out by the factory for testing. Since it was a preliminary design, as to be expected, There were a couple of problems that have already been addressed in the production models.

Obviously because the potential depth capabilities I was anxious to give the instrument a try. I had been in communications with Roy Van Epps of Discovery Electronics for some time and had some idea of the features incorporated in the detector, but didn't have the faintest idea what it would look like or how it would really respond in the field.

The assembly of the prototype was quick and easy. Since the factory had installed the batteries I didn't bother to check them, which turned out to be a minor mistake on my part. During shipment one of the batteries had popped out of the pack making the unit inoperable. With a little effort, I had the instrument's battery assembly problem corrected and I was ready to go.

This battery problem I experienced in the prototype unit was one of a tight housing which could cause a battery to come dislodged if the instrument was jarred sufficiently. I am told this had been corrected on the production models.

Upon turning on the instrument, setting the sensitivity to maximum, adjusting the ground balance, and making a few passes over different objects with the 8 inch coil, I could quickly sense the capabilities of the instrument. The detector was extremely sensitive in both modes, and, was exceptionally stable.

One thing I immediately noticed was the extra weight of the machine, primarily because of the 16 batteries. However, even with this weight the instrument was reasonably comfortable to use over level ground for short

periods of time. Later testing over a varying terrain displayed the immediate need to hip-mount the unit.

The extreme sensitivity of the all-metal mode did display another minor problem the proper adjustment of the ground balance control was somewhat difficult. Several attempts were necessary to get it properly adjusted. Also, I found the autotune circuitry on this prototype was very slow, and therefore, difficult to tell any difference when it was on or off. My recommendation was to increase the autotune speed.

The rest of the controls were easily adjusted and took only a few seconds to set the discrimination to accept typical silver and copper coins as high tone and other targets as a low tone. During the testing the notch feature was left off.

A quick pass over my usual test targets made me think that my usual test targets were too easy. Even the 6-1/2 inch dime responded with a solid strong response. All targets from the 2 to the 6-1/2 inch dime were strong responses in both modes, and in the all-metal mode the depth indication was also accurate to within a half inch.

My next test was to check my 9 inch deep nickel I normally use to check the sensitivity of gold machines. In the all-metal mode, the detector responded with a solid signal and the depth indication verified the depth to be 9 inches.

The discrimination mode gave repeatable but inconsistent response to the 9 inch deep nickel. Knowing that this detector used a technique to offset the discrimination circuitry a little to eliminate response from hot rocks, I decided to cheat a bit by deliberately miss-adjusting the ground balance control. The reason for my adjustment is I know that this offset can effect depth in extremely mineralized soil.

With a slight adjustment counterclockwise of the ground balance control, the detector was able to easily detect the 9 inch deep nickels with consistency in the discrimination mode. I should mention that with the adjustment, negative responding hot rocks would probably give a response.

I should also add that all of the preliminary tests were done with the ESP boost circuitry off. This meant there were still two higher energy settings available to increase the depth capabilities. Considering the location where I make my test is extremely mineralized and, at the time, very dry, I could see that this detector displayed a real potential for detecting extremely deep targets in less severe conditions.

Kicking the ESP "boost" on the two different settings I noticed an increase in the all-metal sensitivity, but since I was already detecting the targets including the 9 inch deep nickel in the discrimination mode, there wasn't and way to notice any increase in that mode.

On the lighter side, one neat feature of this instrument was the LED bar graph for depth indication. When scanning over the ground, miscellaneous targets would zip back and forth across the graph at times like something out of a science fiction movie.

GHOST TOWN CONDITIONS

The next test was to see how this detector responded in really trashy conditions that can be found around a ghost town environment. Fortunately, there was such a place nearby.

At this site, I didn't find anything spectacular, but did learn more about the detector. First of all, since most non-ferrous targets will give an audio response, I elected to set the discrimination level to accept typical targets screwcap and greater for the high tone and targets having less conductivity sound off with a low tone.

The wide variety of pieces of brass and other junk quickly had the detector talking up a storm, especially

with the boost on. In fact even some visible targets off to the side of the searchcoil would, occasionally, cause some type of intermittent response. As a result of this I elected to complete my testing with the boost off.

The higher tone targets were few in number and, unfortunately, turned out to be miscellaneous junk items. The deepest target dug at this site was a short piece of copper pipe buried a little over 6 inches deep. A few deeper targets were detected but the ground was extremely hard and the targets were too large when checked in the all metal model to logically be a coin or token.

At this site I found the Treasure Baron seemed to reject most of the iron trash extremely well, but some did give an occasional intermittent false response. My reference to the number of false signals might be concerning to a reader, but I mentioned it, not because I think there are an abnormal number of them, but rather because one should be aware that with an extremely sensitive detector in the worst of conditions, false signals are going to happen. Reducing the sensitivity somewhat, drastically reduced the number of the false indications.

At this trashy site, I also found reducing the sweep speed to a nice slow smooth pace also reduced the number of false signals, and I seem to get a better response from deeper targets. Furthermore, increasing the height of the search coil above the ground assisted in cutting down on spurious responses without any appreciable depth loss.

Since this site was also extremely mineralized, I suspected that under very mild ground conditions, I could have changed techniques with few negative affects. Fortunately this instrument seemed to have enough reserve ability that I didn't feel I was missing anything by my preference in operations. This does need further testing when possible.

PARK HUNTING:

Since parks are a common place to hunt, I decided to take the Treasure Baron to one of the more hunted locations. Unfortunately, like the area at my house the ground was mineralized and extremely dry in most places, making it difficult to dig many of the really deep targets.

At this site, I found I could again get the best and most accurate response by using a nice slow sweep technique while keeping the coil several inches above the ground. A good example was the nice find of a 5 cent token good for mints I retrieved from about 7 inches in depth.

Like all other detectors I have tried, I did retrieve a few targets that indicated good such as a piece of foil, the type that used to be inside bottle caps. This target indicated to be a coin at about 7 inches deep but was really about 5 inches down. Another target that impressed me was a positive response from a 22 short casing. This target was recovered from a depth of about 5 inches.

I did check several other targets for depth and found this feature to be very accurate on coin size objects. This made me wonder what a few of the deep targets indicating depths of 8 and 9 inches were that I didn't dig due to the dry soil conditions.

Fortunately, like ghost town testing, most junk targets were not repeatable signals and with a quick check using the all-metal mode to center over that target and passing the target again in the discrimination mode, I could quickly determine they were trash.

During my park testing, I tried all power settings and decided that the boost did seem to enhance depth which was noticeable by being able to raise the detector higher and still detect the same target. Because the normal power setting seemed to be as sensitive or more as anything I had used before, I settled back to using the normal setup for the remaining time.

RETESTING WITH THE 10 INCH COIL:

Because Discovery was nice enough to send the 10 inch coil, I retraced my testing this time with the larger coil installed. What I found was surprising. Instead of the increased problems due to a larger coil in really bad ground, this detector was really quite smooth. However, as I suspected, the larger coil did seem to reduce the accuracy of the depth indications somewhat.

My test targets were a breeze to detect with the larger coil with no more noticeable ground effects. However, I quickly decided that it was unadvisable to have any type of metal in my shoes since in the boost modes I could get all metal responses as the coil approached my feet, especially with the boost on.

In fact, when I was comparing the different coils using an air test, I had to take things out of my pockets to assure that test target was the only one giving me a response.

As for the other locations, the trashy conditions at the ghost town site were enhanced using the larger coil and I quickly decided that the 8 inch was a better choice when trash was excessive.

The park was an even split. In areas where trash wasn't severe, the 10 inch seemed to be the logical choice. However, as a matter of personal choice, I preferred the 8 inch.

Since the instrument is extremely smooth with the coil, I do suspect this coil would excel in areas not overwhelmed with trash and the targets are really deep.

CONCLUSION:

This metal detector from Discovery Electronics gives what most people want, depth, depth, and more depth, and, considering its extreme sensitivity, the instrument is surprisingly stable. It is heavier than many detectors on the market, but hip mounting helps alleviate this condition. The depth indication is as accurate as any I have seen.

The price of the Treasure Baron base unit is $399.95 and the optional modules are $149.95 each.

For more information about the Treasure Baron, you can contact: Discovery Electronics, Inc., 1115 Long Street, Sweet Home, Oregon 97386. Phone (503) 367-2585.

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