F5

PROFESSIONAL
METAL
DETECTOR

Tips and Tricks

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By Sven Stau
www.treasurelinx.com

TIPS and TRICKS

Complied mainly from Mike Hillis (F5 Guru) pstings and from others who have posted their F5 experiences on the various treasure hunting forums.

Mike Hillis :

I find rings on a regular basis in parks, schools, playgrounds and athletic fields. I am very good at it. I'll share a secret or two.

First secret....understand why you find what you find where you found it.

A good inland jewelry hunter starts out a clad hunter. Why? Because clad tells you the story of activity in the area. Clad tells you when folks pull their keys out of their pockets as they approach the parking lots. Clad coin spills tell you where people are sitting and laying around and what type of areas are the most popular. What parks are the most popular, what parks are not. Clad hunting also puts a number of accidental rings in your possession so that you can start trending their loss characteristics. Trending only requires two things.

1st.. Ask yourself this question, "Why was this lost where I found it?" Remember, the object is to understand why you find what you find where you found it.
2nd.. Look for and hunt locations that mimic those same conditions. If there is nothing there, then ask yourself a new question, "what makes this location different from the other locations?" If you do find something, validate your reasoning by asking the 1st question again. Remember, the object is to understand why you find what you find where you find it so that you can find the same type stuff again.

2nd secret....you have to cover a lot of ground.

This isn't old coin hunting where you spend hours in a 10 foot square area trying to paint every inch of the ground with a brush the size of a quarter, twice. Jewelry hunting requires that you cover as much ground as possible in the time you have to hunt it. That means that your machine has to be able to talk to you and tell you whats in the ground without you having to stop and examine every signal. You need to hear it. You need tone id. You need to hear what your coil passes over and be able to call it's conductive range without having to stop and spend a lot of time over a it or look at a meter or thumb a disc dial. When you hear a target you need to be able to call it on the fly. Iron, alum, zinc, high coin.

3rd secret...you play the odds.

You don't dig every signal. You focus. If you trend a location type to girls small gold, you focus on recovering those type of signals. If you trend a area to mens jewelry, you focus on recovering that range of targets. Those people who say you got to dig it all to find gold are

the accidental ring finders. You want to be a on purpose ring finder, and you find rings on purpose because you trend and focus and cover the ground where they are most likely to be found.

4th secret...you return to these trended locations over and over again (not on the original post)

The situations that facilitate the loss of the jewelry items are often static. They don't change. Which means that often jewelry is lost there again and again and again. These site renew themselves. I take my trends and put them into routes. I run them just like paper routes. You are always looking to validate your trends, so you also rate your routes. A, B, C. The A routes are the proven ones. You've validated them over and over. They may not produce every time you hit them but they are consistent enough that you know if you don't find a nice jewelry item this time there will be something there next time. You always come home with nice jewelry when you hit several A route sites. The B routes are more hit and miss. The characteristics that put it on that particular trend list exists but there is something missing that causes a lack of consistency. Doesn't get the right traffic or isn't in the right neighborhood, doesn't have the right medium to hide the losses, etc. But the occasional items shows up if you go there often enough. I'm always hoping to find that right characteristic that can move a B site up into a A route. Everything starts out as a C site/C route. C sites may just be places I haven't trended yet. Or they may be places that only produce clad that I rehunt occasionally to see if anything has changed, or just un-validated trends.

Maybe this will help some increase their ring finds.
It works for me.

Silver rings are the easiest to find. Just select the 3 tone mode and only recover the high tones and you will find the silver rings if you happen to pass your coil over them. There is very little trash in this range of targets and the hunting is pleasant and a silver ring is always fun to find.

Gold is a bit different. The little girls and women's gold rings are mostly foil range targets. The men's gold rings are larger and reside throughout the tab range. Lot of trash in those two ranges. If the trash content is not too high, the F5 has a unique nickel tone in the 4 tone mode that I listen for. Anything that causes that tone to sing out stops me in my tracks and gets recovered. Doesn't have to be a solid nickel tone either, if it even bounces into the nickel tone I'll recover it. I have a whopper of a platinum ring that reads a solid nickel tone I found in park location site type I trended.

My best advice is make it fun. Don't dig so much trash that you wear out and wear down while you are learning. There are not really any short cuts. You have to learn to read the sites yourself. The fastest way to do that is to hunt the clad and if you are lucky, perhaps you'll also pick up a gold ring while you are at it. The nickel tone can increase your luck in the places where the trash lets you use it. But your first ring find will put you on the path to others, guaranteed, if you ask that question.

I know now why the F5 is listed as being a prospector

Besides just the Ground balance resolution.

Was doing some air testing with that little gold chain I found and the F5 hits it really good. My Golden just barely hits it with a maxed out sens and the 4" coil. The Coinstrike doesn't even know its there. My F5 hits it at minimum(05) gain and 0 threshold. Unbelievable

With a setting of 50, +5 I'm getting good audio at 4". Four inches on a small thin gold herringbone chain. Not the clasp, the chain. Not piled up, not doubled, just layed straight out as a single strand. In DISC mode

You get that? 4" on the chain in Disc mode with mid range settings.

As a inland jewelry hunter I am always trying to improve my odds of locating gold and silver jewelry in the midst of aluminum trash. Trash like foil paper, foil, can slaw, round and square tabs, alum screw caps, etc. The F5 has the heat needed for low conductor searching, and it has a special tone for a certain range of low conductors (25 - 35) in the 4 tone audio mode. Both of which are desirable features for the inland jewelry hunter. It also has the added feature of the ground phase number display. My question was, "Is the Phase number useful for target id for the jewelry hunter?"

So I focused some long overdue attention to the ground phase number.

The ground phase number will measure conductivity in the absence of ground minerals.

Its conductive range is 0 to 50. Zero being the low end and 50 being the high end. It can provide a separate, independent conductive measurement.

I actually went out and detected for several hours using the ground phase number to id targets before I dug them. I was using the new 5x10 DD coil, and when I located a target, I pinpointed and then did the old sovereign wiggle over the target until the phase number stabilized.

For those who have never owned a Minelab Sovereign metal detector, the Sovereign wiggle is wiggling the coil above the target in such a way as to get a nearly continuous audio response. Of course the F5 is not a Sovereign and will not give a nearly continuous tone like you can get out of a Sovereign. Nor will it give you a good TID number in most cases. But it will allow the ground phase number to stabilize. The wiggle did much better at getting a stabilized Phase number than pumping the coil over the target would do. It took a few moments to get the wiggle speed right as the Phase number reads and updates once a second, so I tried to get in at least two wiggles a second. Any faster and it wasnt helpful. Any slower and it wasnt helpful.

I did just as well identifying targets by Phase number as I would have by TID number. It was much like detecting with a Minelab Xterra or a Fisher ID Edge or CoinStrike or any of the Garrett units, or any other TID unit that has a condensed TID range.

But was the Phase helpful? Could I compare the Phase number and the TID number and tell

the difference between gold and aluminum trash? Could I get the Phase number and TID number to correlate on desirable targets vs aluminum trash targets? Would the Phase number allow me to skip over aluminum trash and only recover desirable targets like gold rings and such?

I did some tests that initially showed some promise. However, I am afraid that as I add more aluminum trash into the test I will find that the condensed range of the Phase number will not be able to give me that useful correlation on desirable low conductive targets.

The test you are viewing is an air test. These numbers seemed to hold well in the ground as well. The test setup with the F5 was the 5x10 DD coil, Gain at 70, Threshold at -3, Disc at 8. I tested various targets at various Confidence Bar segment readings rather than distance from the coil. I have it sorted by Phase number.

If you would like the excel spreadsheet for filtering, drop me a pm.

You will note that it seems like it might be useful for deep coins. I haven't done any testing around that.
The phase number I am refering to is the ground balance number. Not the FE304 meter.

Item	Confidence	TID	Phase
earring, large, .5g, 14k	4	20	0
earring, small, .5g, 14K	3	18-20	0
pendant, .5g, 10k	4	20	0
earring, large, .5g, 14k	3	18-20	0-1
earring, small, .5g, 14K	4	19-20	0-1
pendant, .5g, 10k	3	18-20	0-1
foil juice tab	3	20-23	1
foil juice tab	4	22-23	1
foil juice tab	5	22	1
ring, diamond, .8g, 10k	3	21-24	1
ring, diamond, .8g, 10k	4	24	1
ring, diamond, .8g, 10k	5	24	1
wad of foil	5	24	1
ring, .9g, 10k	4	25	1-2
ring, .9g, 10k	5	25	1-2
ring, elephant, 1.3g, 10k	3	22-25	1-2
ring, elephant, 1.3g, 10k	4	25	1-2
wad of foil	3	23-24	1-2
foil juice tab	2	18-24	1-3
ring, .9g, 10k	3	22-25	1-3
can slaw - side of can	2	22-24	2
can slaw - side of can	5	26	2
ring, elephant, 1.3g, 10k	5	25	2
wad of foil	2	20-24	2
wad of foil	4	24	2
can slaw - side of can	3	23-26	2-3
can slaw - side of can	4	25-26	2-3
can slaw - top of can	2	25-27	2-3
can slaw - top of can	4	27	3
Ring, 2.5g, 10K	4	27-28	3
Ring, 2.5g, 10K	5	28	3
ring, engage, 1.4g, 10k	3	25-27	3
ring, engage, 1.4g, 10k	4	27	3
ring, engage, 1.4g, 10k	5	27	3
can slaw - top of can	3	26-27	3-4
can slaw - top of can	5	29	3-4
Ring, 2.5g, 10K	3	25-29	3-4
ring, wide,2.2 g, 10k	3	27	3-4
ring, wide,2.2 g, 10k	5	28-29	3-4
nickel	2	26-28	3-5
Ring, 2.5g, 10K	2	25-29	3-5
modern nickel range tab	2	28-34	3-7
ring, wide,2.2 g, 10k	4	28	4
nickel	3	28-30	4-5
round tab with tail	3	30-32	4-5
nickel	4	30-31	5

Item	Confidence	TID	Phase
nickel	4	30-31	5
nickel	5	30-31	5
round tab - ring only	3	31-38	5
round tab with tail	4	31-32	5
round tab with tail	5	31	5
Ring, mens 5.8 g, 10k	3	29-35	5-6
Ring, mens 5.8 g, 10k	4	33-36	5-6
Ring, mens 5.8 g, 10k	5	34	5-6
round tab - ring only	2	28-36	5-6
round tab with tail	2	25-30	5-8
modern nickel range tab	5	34-35	6
round tab - ring only	5	36	6
modern nickel range tab	4	34	6-7
round tab - ring only	4	35-36	6-7
modern nickel range tab	3	30-34	7-8
Square tab	2	38-46	7-10
Square tab	4	43-44	8-9
Square tab	5	44	8-9
Square tab	3	41-44	9-10
clad dime	5	73	28
Copper cent	4	75	29
clad quarter	5	85-86	42
clad dime	2	67-78	24-26
Copper cent	2	70-77	24-28
clad dime	3	71-73	25-28
Copper cent	3	73-74	26-28
clad dime	4	72-73	27-28
Copper cent	5	75-76	29-30
clad quarter	2	80-86	38-42
clad quarter	4	85-86	39-40
clad quarter	3	85	41-43

And everbody likes an air test:
what is interesting about the this air test is look at the low conductive test targets. Spend a little time reviewing this test and think about the two machines differences, namely F5's 7.8 frequency as compared to the Goldbug's 19kHz frequency. Notice the switch between the two that starts as the low conductive targets get smaller.

The test results are from repeatable ticks at fast sweeps speeds. I'd never get this kind of performance in my mineralized ground. But it is still neat to see how the two units compare. The F5 was set at 0 threshold.

	Fisher **GoldBug**	11" DD coil	Fisher **F5**	11" DD Coil
	Gain at 50	Gain at 95	Gain at 50/0.	Gain at 95/0
Clad quarter	8	12	11.5	13
Zinc cent	8.5	13	12	13
Nickel	10.5	14	11.5	14
medium Ring	11	15	12	14
tiny 10kt ring	9	13	9.5	10
small 10kt pendant	4.5	7	4.5	5
	Fisher **GoldBug**	5" DD coil	Fisher **F5**	5" DD Coil
	Gain at 50	Gain at 95	Gain at 50/0.	Gain at 95/0
Clad quarter	6.5	9	8.8	10
Zinc cent	7	9	8.5	9
Nickel	8	11	9	9
medium Ring	8	12	9	9.5
tiny 10kt ring	7	10	7	8
10kt pendant	4	5.5	3	4

Tests Performed indoors.
Gold Bug tested in Discrimination mode with 0 disc with normal VCO mode.
F5 tested in Discrimination mode with 0 disc, in 1 tone VCO mode.
Results are in INCHES
Results are the distance at which repeatable ticks could be heard with Koss UR30 headphones and fast sweeps.

Can you pinpoint those vanishing 90+ targets? Those will either be very deep iron or fringe depth targets. Objects at the very end of your detecting depth abilities. The audio will go out because of weak signal strenght or it has wrapped back around into the iron range.

When you get those type, lower your disc to minimum and see if you get any iron grunts. If you can pinpoint it, and it pinpoints small, dig a couple and see what they are.

As far as gain settings, if you have low FE bars and trash content allows it, by all means...crank it up.

Trouble on pin pointing and false signals fisher f5

Most detectors with an overload alert feature just sound off until you move the coil. The overload on the F5 is somewhat unique. It overloads for about 1 to 2 seconds and then resets. That means you can place the coil on top of or next to something that overloads it. Leave it there until it resets. Then move it away and identify it or things close to the object causing the overload. No one else that I can recall has this feature. It is VERY useful.

You never know about the weak signals. They could be fringe depth targets or they could be micro trash or they could be oxidized iron that got charged up enough to spike a reading. Raising the Gain like you are doing is good, if you investigate them you want to try to get the best signal response you can. You can also try raising the threshold closer to +9 to get a more definitive (sharper) audio response. Typically, if it doesn't pinpoint, or can't pinpoint in one specific location it is trash.

Speaking of fringe depth targets (objects at the limit of the detectors ability to detect them with the current settings), Threshold settings play a big part of how they will sound. Theshold settings closer to 0 will give a "whisper" type response. Threshold settings closer to the ends, either -9 or +9 will give more "ping" type responses. I bring this up so you know what type of audio to expect for the deep objects.

I'm not laughing at you, I'm remembering some of my early days. I was thinking about my first hunt with a CoinStrike. The ground seemed like it was one big iron target, the thing was beeping all over the place, even when I was waving the coil in the air, and I was doing all this standing in a light drizzling rain. I was looking for a tree to wrap the thing around. Luckily I didn't and got it figured out.

Take a golf ball and put it in the gap of your coil. Roll it back and forth there just a little so that it comes to rest in the center of the coil. That spot is your sweet spot. It is that size and that spot. Memorize it, mark it or something.

Ground balance your detector in the Discrimination mode. Find a clean spot of ground with no metal in it, push and hold the phase lock button and pump the coil over the ground until the phase number and the ground number match and then quit. You are balanced.

The Phase number changes every second. Ignore it unless you are pumping your coil. When you want to check your ground balance, just pump the coil over clean ground and see if the phase number and ground numbers are still the same or close to the same. If you see the numbers have become more than 3 or 4 numbers apart, reground balance by pressing the phase lock button and pumping the coil over the ground again. Then ignore the Phase number until you are ready to check your balance again.

Set your Gain and Threshold so that your detector is stable. You only want it to beep when you are over a metal target. If you have it set to hot you will get a lot of false signals. Set your Gain to somewhere between 65 and 85, and then raise the Threshold up until it starts to chatter, then back it off until it stops chattering. Now it will only beep when you are over or around metal.

Set your discrimination low (around 8 or 9) unless there are so many targets that you

can't focus. In that case, raise the discrimination until you can handle (read "process") the audio. Use a tone id option that you are comfortable with.

Only recover the repeatable signals. They repeat on both left/right sweeps over the

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target.Pinpoint by setting the coil off the target. Press the pinpoint button, then move the coil over the target (remember where I told you the sweet spot was). Watch the depth reading. It will help you stay over the top of the target. Then turn 90 degrees to the target and do it again. Practice this. You will get good. You will get so good that you'll be able to accurately pinppoint in 2 seconds. Only look at the TID number after you have pinpointed the target and can sweep the sweet spot of the coil over the target. You'll get good reads that way. But don't spend a lot of time with the id number. Left-right-left is enough to give you a good TID.

That is enough to get you started in the right direction. You'll be able to pick up more once you get some time on it.

High minerals can be a problem. When you are in the really bad stuff you have to hold your coil just a little higher off the ground.
and, uh...those historic creek beds...they are full of old iron trash, most of which will want to make a noise. If you hunt in the iron you want to hear it as a low tone so the false high tones don't fool you, so run your disc low (7or .

The ground balance dial does push in but it does nothing on the F5.

I can tell you are really into this chain test.

Use the single tone mode. Put your threshold at + 5 or higher, raise your gain to 60 if you can. Put your discrimination at minimum setting (no disc) Ignore the numbers. Wave the clasp over the coil and listen for the tone. Test both of them. You will not get much depth on it. Maybe 1-1/5", 2", maybe 3 inches max. Then raise your disc to around 12 and see if you can still hear it. If you can still hear it at a setting of 15, that is very good. You will not get a good TID number on a chain.

Chains are found by two ways....1st - you hit the pendant attached to the chain and decided to recover it, or 2) you are actively hunting just for chains at places where you have a good chance of finding chains, which means you are mentally prepared to recover all those tiny signals in a location where you think chains might be found.

At this stage in your learning curve, you might want to save the chain hunting for later

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Just to review....In Discrimination mode.....
The F5 has a Gain control that amplifies a target signal, thereby making the signal look bigger (20 settings)
The F5 has a Threshold control that does two things....1st, it changes the signal

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strength limit that a target signal needs to reach in order to be reported (-9 to 0) and, 2nd, at settings above 0 (0 to +9), it amplifies the audio response of the signal. So at a threshold setting of zero, the F5 is wide open to receive the smallest of signals, and at settings above zero, it amplifies the audio response of those smallest of signals. It is extremly versitile, allowing multiple setting combinations to achieve the same outcome as may be needed based upon site requirements.

There are others that do something simular.....such as the F70 which gain/threshold controls is almost identical to the F5, then you have the Coinstrike/Goldstrike that are somewhat simular, but lack the audio amplification of threshold settings above zero. Then there is the V3/V3i which offer a gain and discrimination control (it is a threshold control labeled "discrimination". don't ask me why )

The Omega doesn't fit into this category. On the Omega, settings from 1 to 70 control the gain, and settings of 71 and up invoke threshold changes. A setting of 70 is maxed out, and if you are in an environment that allows you to raise the gain to the max setting of 70 and maintain stability, then you may also be able to raise it higher and get some threshold pluses.

On units like Tesoro, we "supertune" by raising the threshold settings to amplify the audio response of signals. Unfortuantly at the cost of loosing the smallest signals through audio saturation as well as some discrimination ability.

So while the feature can be found on others, it is not as complete, or as easy to use as it is on the F5. Where the F5 really shines is the ability to run it very hot and sensitive to small low conductors at very low gain settings in conjunction with very high threshold setttings.

The stock coil is an exceptional coil design. You can get close to metal like it was a small coil, and it provides better ground coverage at depth than a standard round concentric and better target id. Good sensitivity to small low conductors.

The 11" DD is deeper, provides better ground coverage, looses some sensitivity to small low conductors. works well, but....it changes the balance of the unit and wears on the arm.

The 5" DD will go deeper than the stock coil in mineralized ground, provides exceptional separation and pinpointing, very good sensitivity to small low conductors, and can get close to other metal objects, but lacks ground coverage.

The 5x10" DD goes just as deep in the minerals as the 5"DD, still provides very good target separation, still maintains very good sensitivity to small low conductors and better ground coverage. However it cannot be used close to above ground metal objects like poles, barrels, etc.

Get it with the stock 10" elliptical concentric, then add the 5x10" DD.

I really like the stock coil, but I also really like the 5x10. Both of these coils balance out

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really well and compliment each other as to performance and use.

I'm probably one of the few folks that are more concerned about target seperation and ground coverage than I am about depth. Because of that I like the new 5x10 DD coil. I get the target seperation of the 5" coil in a 10" footprint along with better ground mineral handling of the DD design. Right now I use the 5x10 as primary and if I need to get close to iron or steel, then I switch back to the stock coil. (the 5x10 isn't the coil for use next to above surface metal)

The new 10" elliptical DD is, in a nutshell, the 5" coil wearing a 10" shoe that is designed primarily for prospecting. It is less affected by ground minerals than the 11" DD and It is less affected by EMI than the 11" DD, but retains the sensitivity and separation of the 5" coil.

It has a huge outward or side foot print that triples the size of the coil around surface iron like poles and such which makes it impractical for use around large iron that protrudes out of the ground or tot lots, etc, but the downward foot print is nice and tight, just like the 5" coil. Supprisingly that large outsized footprint is not affected by ground level surface trash.

In the ground the target id stayed real close to the stock coil, with only occasional differences, mostly due to target centering under the coil. Nickels still read 30 with an ocassional bounce to 31 or 29, Dimes still read as 74 and copper pennies still read 72, quarters still read 84/85.

EMI comparison:
Stock coil - stable with gain at 55, threshold +5
11" DD coil - stable with gain at 60, threshold at -3
new 10"DD coil - stable with gain at 80, threshold at +5, which is quite similar to the 5 incher.

I'll do more coil comparisons later as I have time (time has really been limited this summer).

If you prospect you will <u>need</u> this coil.
If you like to hunt in heavy trash with the 5"incher, you would <u>like</u> this coil.
If you like to hunt small low conductors in open area's in hot ground, you will like this coil.
If you hunt around a lot of protruding, above surface iron you will <u>not like, as in hate</u> this coil. In the ground, ok, above the ground, no - not ok.

The long cord is a topic of conversation and I know it is a personal preference thing, but I like it (been wanting an extension cable for a long time) If you prospect, you like to keep a finger or thumb on the ground balance cause you always like to keep it spot on. It can be tough to do it with the same hand while sweeping but its not so tough if you hip mount and drive the gb with your free hand while sweeping with the other. (If you haven't done it you won't understand). The longer cord gives you that ability.
Also, water hunters have been limited to rod mounting depth. Now you can take the box off and wear it around your neck and get out to at least waist deep water without

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fear of drowning your box. My take on it anyway.

All in all a good coil for certain applications. I don't see it replacing the 11" DD for coin and relic hunters where depth can be the main objective, nor do I see it replacing the stock coil for tot lotting or homesteads, but for prospecting or hunting in high trash where you would normally use the 5" or jewelry hunting sports fields, or shallow water wading where you can now move the control box off the rod, it will make a useful accessory coil.

Simply put, "loss characteristic" is the answer to the question, "why you found what you found where you found it?"

The particuar ring was found in a elementry school playground. It was lost by a child's parent who did a particularly activity at a particuar location. I know exactly what they did and why they did it. I know because I have found other rings in the same type of locations. The ring "re-validated" my understanding of the loss characteristics associated with it's loss. A pattern had developed and this ring find fit that pattern. The end result being that I found a nice peice of jewelry where I expected it to be.

TID = 32. Phase = 5/6 (wouldn't lock to one number)

Hi Ivan,
Hard to make a detail response from work.

The short response is that the F5 is inherently more stable than the F70, has a "gold" tone in the 4 tone audio option, and can be ran stable and super hot at low gain settings. I take the F5 chain hunting in turf sod laid down over black sand minerals. I couldn't take the F70 chain hunting in same location due to the inability to get it quiet AND hot. You can't hunt chains and listen to any type of chatter.

To be honest, the F70 reminded me too much of the F75 and I didn't keep it long.

My setup for jewelry hunting in my turf sites consist of a high positive threshold (+5), gain raised to highest point where EMI is inaudible. Ground balance spot on, then I put a 2MM brass BB on the ground, and then balance out my gain until I can hear it best. Sometimes my ground minerals are so strong that I'm required to lower the gain down into the 30's. But it still runs hot even at that low of a gain setting. So in a nutshell, the F5 gives me a gold tone for rings, runs hot and stable in minerals with low gain settings for chains and open earrings, posts, pendants. And it has a very fixed and reliable ferrous/non ferrous boundary.

F5 discc question New
Posted by: Turtleman [Send a Message]
Date: July 10, 2011 11:00PM
Registered: 3 years ago
Posts: 79
Hi All

In the manual for the F5 it show's that you can disc out everything including dimes, quarters and fifty cent.

With my disc turned all the way to max mind will not disc 10, 25 or 50, but if I use notch I can disc 50.

Is the manual wrong?

Also in disc mode I find the audio very week past about 3-4 inches, am I setting it wrong. Usually try to run my sen about 70-80 higher if possible.
and threshold +3-+5.
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turtleman,
The manual is wrong in regards to full disc. The highest it will disc is zinc.

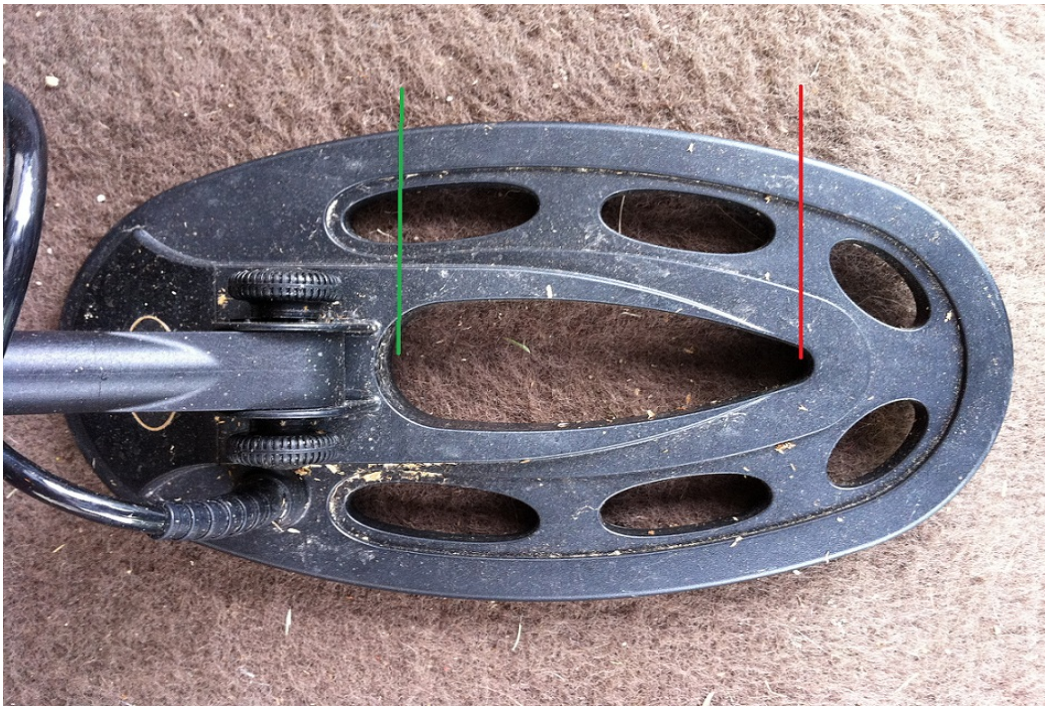
Unfortuantly, the multi 3 and 4 tone modes go weak pretty fast, especially the high tone. For more depth in disc mode you have to use the single or two tone modes or go to all metal.

The F5 cannot compete with any of the CZ units for depth.

Hi all, two questions. First, take a look at the attached picture. When I'm doing pinpointing, where is the target going to be strongest? Is it at the end of the green line, or at the end of the red line?

Second, I saw someone mention new software for the F5, how do I update it? Or do I have to send it back to Fisher?

Thanks all, trying to learn this thing, and am struggling something fierce.



Mezrein,
Take a golf ball and roll it around in the center hole. Thats where your pinpoint will be for deeper targets when you use the pinpoint button (about a inch up from the green line on your picture. For shallow targets you can pinpoint off the toe of the coil (red line in your picture) by just wiggling the coil and pulling it back toward you without using the pinpoint feature at all.

There are no upgrades available for software. What you have in your machine when you buy it is what you get. To be honest, they are minor changes and not worth worrying about. My original version 6.1 works just as good as my 6.3. Just enjoy what you got before the buy and try demon gets on your back and starts riding you.

While you are learning and getting used to the elliptical coil, you may want to use the following two ways to pinpoint.

1st, for shallow targets, stay in Disc mode and use the toe of the coil to pinpoint. Just wiggle the coil back and forth over the target while you move the coil back toward you until you lose the target, then move slightly back. Youll get it just under the tip. Practice it a bit and youll get good at.

2nd. For deeper objects or if you have trouble pinpointing with the toe of the coil, Press pinpoint and pinpoint the target based upon the best audio, then release and repress the pinpoint button again, and pinpoint the target again. This is called detuning. What happens is that when you pinpoint the target, then release and press the pinpoint button again while over the target, you have detuned the target response, which has made the target response smaller. Because the target response is smaller, you can get your coil better centered over it. You might even have to actually press the coil to the ground like you were trying to mash the target to pick it up again. You can get a very tight pinpoint using the detune process. Again, practice makes you better.

Hi Turtleman,
There are currently 3 software revisions to the F5.
Version 6.1 which is the original.
Version 6.2 which made a change to the all metal mode. Just took out some machine noise from the all metal mode.
Version 6.3 just out recently which made a change to the Disc mode. Just expanded the end range of high conductors a little more to give the large high conductors a little more room to respond.

I own a version 6.1 and a version 6.3.

I like both but use one vs the other based upon sites conditions. Version 6.1/6.2 give you less high tone falsing from larger oxidized peices of flat iron/steel or deep iron that ring up in the far right 50cent/$1 category. Version 6.3 has the high end range expanded a little more and allows you to hear more of these type of responses. In a nut shell, version 6.3 will

report longer on very high conductors before wrapping to iron and/or will allow large iron to wrap around sooner to the high conductive range. Version 6.1 will reach a point of silence prior to achieving the wrap to iron or the wrap from iron to high conductor. All version still allow the highest category to be notched out. If there is not a lot of deep iron or tin roofing laying around I like to hunt v6.3. If I'm in areas with lots of deep or flat iron/steel then I prefer v6.1

I'm still comparing models for other changes but my oportunities to get out have been limited due to some family issues (deaths and surgeries) so I haven't been as forthcoming about the changes as may have been expected of me.

Marcomo got all the physical stuff down pat.

QuoteMarcomo : "I'm not clear about the expanded high conductor range with the 6.3 version. Since it is still 99 numbers of resolution, does that mean the resolution was decreased somewhere on the lower conductive range? Or am I totally grasping this wrong?"

No, nothing like that. Think of it more as expanding the high side. Think of it this way:
Version 6.1/6.2 operated as ...95, 96, 97, 98, 99,__, 1, 2, 3, 4,.....etc
Version 6.3 operates as .....95, 96, 97, 98, 99, 99+, 99++, 1, 2, 3, 4, ...etc

Technically, you can never get down to zero (0) so zero doesn't fit in the equation and it is extremely rare to see a one (1) as you have to setup different to get below a Target id number of 2.

Press the pinpoint button when powering on the unit and you see the software version flash briefly above the text SETTING in the left corner of the control panel.

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If you are turf hunting for coins and want to include gold, just put it in the 4 tone mode and recover all the nickel tones as well as the high tone for coins.. The nickel tone includes higher end foil and lower end tabs. Most of your gold rings will fit inside that 10 number segment. If you do that, you'll find many gold rings if they are there to find, without having to dig too much trash.

If you are hunting tot lots (sand or gravel or woodchip playground areas) you recover everything.

Best to start out where you can learn to dig neat holes. Maybe sand or ships for a couple of hunts while you learn how to pinpoint and retrieve.
Use what, sensitivty around 65/70 or so and maybe a -3 or -4 threshold. Use the tone modes you like best. Retrive the solid, repeatable signals for awhile, even the iron, so that you know what it's telling you.

Hi Bobby,
Pretty normal F5 operation in my opinion. First, when you notched out the trash ranges (foil, tabs, zinc) you also notched out where most of your EMI noise hits on the conductive

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scale. Second, the F5 also uses the ground signal to cancel out EMI noise as you sweep the coil. Your medium ground bar reading tells me that feature is in use and is also using that feature to cancel EMI noise. So between those two functions, you are going to get a pretty stable detector.

Lastly, and Bob, mentioned this, if the Threshold dial is turned too hard into the dail stop, it will also put you into a reduced operating mode, simular to the ground signal effect, and will offer a quieter operation but with reduced performance.

There is a point where the threshold setting stops giving you a depth increase and changes over to a modification of target response. Threshold settings close to 0 make fringe depth targets sound as "whispers". When the threshold is moved out toward the edges (-9 or +9) then the fringe depth targets start to sound more like faint "ticks". Since it is often difficult to get a +9 threshold setting in urban environments it is not general knowledge, and I may be the only person that hunts with a -9 threshold setting on a regular basis and aware of the differences. In fact, although I prefer the audio rubustness that positive threshold setting give, at sites where my ground minerals are low enough, I like coin hunting with very low (-9 to -5) threshold settings and very high gain settings. For gold jewelry hunting I use very high (+5 or higher) threshold settings with stable gain settings.

HH

Have you noticed that when you get an overload signal, it will quit after a second and then you can slowly move the coil away and pick up items that would normally be masked by the overload?

You will also find that you can put the F5 into 2-tone mode and walking parallel to them, drag the tip along foundations and listen for the zip sounds amoung the reinforcing iron and pick up targets that nobody else can.

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The ground numbers are only accurate when you are pumping the coil. Once you ground cancel, you can ignore them until you want to check your balance point again. To check your ground balance point, just bob the coil over the ground and check both numbers again and adjust as necessary if they are off.

In all metal mode, you should hear a threshold buzz at +1. A zero setting can give you a intermediate buzz but a +1 or +2 is usually the best settings.

A -8 or -9 setting shouldn't give you anything. If you get a buzz there, it may be a EMI burst.

Remember in All metal that it is a combination of Gain and Threshold settings that give you the most stable threshold hum.

I think you are balancing ok. Just the changing numbers you see as you sweep the coil is freaking you out.

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Hi Skip,
Woodchuck is correct. Those dashed lines and screaming is an overload signal. Doesn't

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necessarily mean you are over trash, just that the target is too big and/or to close to the coil for a target id. When you get those, just raise your coil a little and recheck. I've found several nice pocket knives checking out those "Overload" signals, so don't just pass them over as trash.

When you are trying to ground balance, your initial ground balance setting may be so far off that all the ground responds as a target. Everywhere you try to bob the coil, you get a tone when the coil approaches the ground or leaves the ground. This will happen a lot if you were hunting a wood chip play ground and then move to the turf. When that happens just go ahead and pinpoint and see if you get a screaming target. If the pinpoint doesn't scream, then go ahead and ground balance in that spot, then double check it by bobbing the coil with the pinpoint activiated in another spot.

With some of the negative posts about the F5 and it's depth on coin size targets, I'm going to put aside my jewelry hunting for awhile and go coin hunting, looking specifically for deep coins. I get asked about this all the time and I usually can't answer them very well because that is not what I use the F5 for, nor did I buy the F5 for that purpose.

So I will post under this thread my settings, site conditions and results. For good or for ill.

I'm not going to report depths in this post. I'm reporting on deep coin responses so that you'll know what to listen for. Then you come back and report depths.

The F5 doesn't beep on deep targets. Its not like the CZ that gives a tiny ping. It is not like the CoinStrike that gives its ghostlike beep.

No... the F5, It whispers....It sighs.....It breathes them into your ear through your headphones. EMI and ground chatter will mask them. You won't even hear them without headphones, and you'll easily walk over them if you are not paying careful attention. In the 3 and 4 tone modes, the high tone on deep high conductors is like, what?...how to describe it....a high tone whisper with no definition to it, a sound like a ghost might make if such a thing existed and tried to whistle in your ear, Like a gentle breeze that wafts by your ear for just an instant and is gone.... unsubstantial, like a sigh a deep dime long buried in the earth might make as it dreamed of its days in the hands of men and now mourned in its dark prison....

But yet as unsubstantial as that high tone is, the single and dual tone audio modes will give a definable tone on the same target, more of a beep response than you will hear with the multi-tone high tone responses that will increase potential depth by inches until it too, dissolves away into that unsubstantial whisper of an alert that will faintly caress your ears for that brief instance as the F5 tries to tell you of a secret it discovered deep in the bosom of the earth.

OK..got a little poetic there, but I wanted to describe the deep target responses so they you would know what to listen for.

Got to have a stable detector to hear them. You can't hunt "into the noise" with the F5 and hunt deep targets. The chatter will mask them. It is not a F75 where the real targets will still stand out against the chatter. You have to be stone cold stable or you'll miss them and

a high Gain setting is a must for real depth. 90+ and the threshold as close to 0 as you can get it and still have a stable detector.

This was in Discrimination mode. Most of my targets were fringe depth dimes that wafted high tone whispers that I at first thought were iron falses until I started checking them out closer. Makes for fun detecting once you tune your ears.

Hi Bill.
Your air tests at those 50% settings are compatible with mine using the 4 tone audio mode and the stock coil. They are better in the single and dual tone audio modes.

In one aspect, the F75 and Delta are simpler machines to setup because you only have one "Sensitivity" control. You set that control to some stable setting and off you go. That single Sensitivity control has the gain and threshold settings combined by the design engineer and you get what you get whenever you set it to a particular setting.

The F5 is different, the Gain and Threshold controls have been separated so that you, the user can combine them to best hunt the site conditions and targets you are after. If you need real depth, you crank the Gain and then set the Threshold to support it. If you need it hot on small low conductors, you set your threshold high and then set your gain to support it. You also have to select the audio id mode to support your targets as well. You can't hunt deep coins with the 3 and 4 tone audio modes. You will get greater depth and better audio responses on deep targets with the 1 and 2 tone audio modes. With the 3 and 4 tone audio modes, the deeper high tones will just wash out beyond your hearing. You will get a high tone whisper that has no definition. No ping, no beep, just that high tone whisper that any instability will mask. However, the single or dual tone audio modes on that same high tone whisper will give you a very definable target tone and add inches to your depth. Add the 11" DD coil and the depth increases by several inches.

This is my setup.
If I am hunting coins at depth, I maximize my Gain then stabilize the detector with the Threshold control with the coil "in motion over the ground" and run the single or dual tone audio mode. I try to keep my Gain as high as possible with the threshold as close to 0 as the ground or EMI will let me. But I try not to go lower than a -5 threshold. I'll lower my gain before I'll drop my threshold below a -5. So some balancing has to take place, and again, I'm looking at detector stability with the coil in motion.

If I am hunting gold jewelry (my primary use of the F5) I maximize my Threshold (+5 or higher) then stabilize the detector with the Gain control settings with the coil held motionless and use the 4 tone audio mode. The joy of the F5 for gold jewelry is that the F5 with high positive threshold settings still has bite with low Gain settings.

I've have found coins in the 6" - 10" range, but they have been far and few between. This has been with the stock coil and the 5" coil. I've found more with the 5" coil at the 6" - 10" range than I have with the stock coil.

My deepest coins have been quarters at the 8" - 10" depth on ball fields, and the coins are modern clad 1970's - 1980's. Also had a Caped Large Cent at the 7" mark from a field that

was farm land at one time, this was found with the stock coil.

I guess it all depends on the ground where some of these people are that seem to be having depth issues with the F5. It could also be user error, ie, settings incorrect for the ground conditions (gain too high or low along with the threshold).

I've found the F5 to be the best metal detector that I've owned so far, not only that, it's the only one that gives me full control of it's settings.

The only flaw I've come accross with the F5 is the 5" coil and silver rings, if the ring is on edge, the F5 does not see it in the silver / quarter range or above, it gives off a reading lower down the scale and at times gives an 'iron grunt' sound or no sound / reading at all.

Maybe you could test this Mike and see what you discover.

Woodchuck,
I would disagree about the moving up when you are talking about a 305 or even a 505. Its a stretch even saying you made a lateral move. The F5 is hotter at 7.8 kHz than the 305/505 is a 19kHz. The F5 has a better ground balance point, better tones and better iron discrimination. I know all this first hand as I've owned a 305, two 50s, and three 70s.

Enjoy your minelab but don't look down your nose at the F5, claiming you "moved up" when in fact you went "slumming".

Hi Merlin,
Hope you enjoy the F5.
I gave this advice to a person who was brand new to metal detecting.

Set the unit in DIsc mode, d4 (4 tone mode), Gain on 80, Theshold on -9, and Max out your Discrimination. Only recover repeatable high tones. All you'll be hunting is silver and copper and clad dimes/quarters/ etc. Just get use to doing that for awhile. Then when you are comfortable with both the digging and high tone targets, notch in the Nickel range and hunt that way for awhile until you learn that range of targets. Then as you feel comfortable, add in another segment, like the zinc segment. It has has a different tone and you'll be looking at a completely new range of targets.

It wont take long to learn whats good and whats bad, your recovery method will improve and you'll grow more comfortable with the unit. Then you can raise the threshold setting up to 0 and spend time on the deeper and smaller targets.

Most of all, don't be afraid to limit your audio input with the disc and/or notch settings. Keep the audio feed to your ears understandable. When the trash gets too heavy, raise your disc or notch it out so that you can still hunt the good stuff.

Maybe a few guys will post a picture of their trash next time out so you won't feel so bad about your trash ratio. As a gold jewelry hunter I dig quite a bit of alum trash. Foil and tabs, canslaw, and ring pull tails.

Hi Towzilla,

Forget your freshly buried coin test. All that told you was that your ground has enough iron mineralization in it to hide the coin at that depth. Really. That is all it told you. That was all it told me when you posted it. I've got ground that when disturbed I will loose a dime at three inches. It is hot ground.

I think you just need to find a deeper coin with the F5 to boost your confidence. Next time you are out with your buddies and you check targets, have them pinpoint the target and mark it. Then you use your pinpoint mode and find it. Once you KNOW exactly where the coin is and you have your coil centered over it, then you can find it in your discrimination mode.

For deeper coins I recommend these settings:

Run the 2 tone audio. I assume you are using decent headphones. If not, you can forget the deeper coins. The 2 tone audio mode gives the low grunt for iron and the VCO modulated audio for non ferrous targets. You want to pay attention to the non-ferrous targets, especially the ones with short responses and weak audio strength.

Disc no higher than about 8 so you can hear when the iron is falsing.

Gain....The FE bargraph is there to tell you how to set your gain. If you have a maxed out FE bargraph, you can't run a 85 gain. In fact, if you have a maxed out FE bargraph, you really need to be in the all metal mode if you are hunting deep targets. Use that graph. If it is one or two bars, then raise the gain as high as you can. (do not peg it out, turn it only far enough to get the number change. You loose depth if you peg it out) 3 bars....you might or might not get away with higher gain settings. You'll have to figure it out. When you get 4 bars, high gain settings are going to kill your depth, drop it down to the middle range, 55 - 75. Pump your coil for FE readings. (Don't scrub your coil on the ground with high FE readings either)

The VCO audio needs a positive threshold number to enhance the weaker audio of deeper targets. +5 is good if you can get it that high.
You need to GB spot on. You can't get a spot on GB by ground grab. You have to hear it in the all metal mode and do it manually. Check your ground balance often.

EMI may cause you to have to do a balancing act. If so, I recommend keeping a positive threshold number and a lower gain for the vco audio mode.

Another thing to be aware of is that your sweep speed has to change for deeper targets, too. The shallower targets stay in the coil's field much longer and can tolerate a faster sweep. The deeper targets require a slower sweep speed. More deliberate. Remember too, that your coil has a sweet spot. Its about the size of a golf ball and starts a inch or so in front of the coil ears. You can actually use a golf ball to find it. When you are deep target hunting, you aren't sweeping the coil. You are sweeping that sweet spot.

You really need to find one to tune yourself to it. Would probably be worth it to hunt in the

all metal mode for a bit just to find one so you can hear what they sound like and how your settings affect the audio and meter if you can't wait to go hunting with your buddies again.

Yes Nap,
Don't turn the knob until it stops and cannot be turned any further or "pegs out". Just far enough for the digital number to change.
I don't have any info on a SEF coil. I do have the 11" coil but don't use it much as I might like to because I don't like the balance. I was going to spend some time to fix my balance with a little weight behind the elbow but haven't gotten around to it yet. The coil and performance itself is nice, it just doesn't balance out well.

Learning the F5...	Registered: 2 months
Posted by:	ago
Date: February 03, 2012 10:25PM	Posts: 3

I had mentioned in a post that I had compiled bits of information and such from different posts about the F5, mainly from Mike Hillis, and saved them in a notepad file so I could quickly reference them when I needed them without having to go back and search through different posts to find what I needed. Someone asked me to send this to them, but instead I figured I may as well just post it. I hope my little bit of hunting and picking out bits of information may be of help to someone. Of course Mike is really the one to thank, i'm just trying to condense it down so it could referenced quickly. Btw, Mike if you'd rather I not have this posted, just let me know and i'll get rid of it!  It is mostly all your information afterall.

Learning the F5:

****"The gain is basically the power, a magnifier of the signals that increases or decreases the strength of those signals.
The threshold controls what size signal the detector will pick up.
Anything below 0 with the threshold and the detector is restricting smaller signals from being detected to some degree.
At 0 the threshold is totally open, above 0 threshold settings will increase the volume of all signals.
Mike H. made an analogy a while back that stuck with me. The threshold is the door that controls what signals get in. At 0 the door is wide open. Below 0 the door is partly shut. Above 0 threshold does not open the door more, it merely increases the volume.
A higher threshold is usually preferred when you're looking for very small targets, small gold for instance.
Stability aside go with what you can tolerate re: the amount of valid signals coming through which will vary depending on the site conditions (trash ect.). In areas with a lot of small trash you can go with a lower threshold to reduce signals from the tiny stuf and then perhaps up the gain a bit. Of course you could just notch out the foil range for coin hunting but many prefer to hear it all.
Lower threshold settings should not cause much if any loss/depth on coin sized targets however the signal will be audibly weaker."

****Some help with your TID....pinpoint the target inside the golf ball size opening in front of the lower rod, then sweep for id. When you look at your TID, also look at the confidence graph. The more confidence bars lit up, the stronger and better the read. Disregard the lower graph readings and just keep the higher graph readings. . If you sweep 4 times and get a 20/4bar, 33/3bar, a 22/4bar, and a 70/2bar, keep the 4 bar readings and ignore the others. This scenario would give you a 20 and 22 reading.....Your intial pinpoint will tell you what to expect to see, confidence bar-wise.

****The Phase number changes every second. Ignore it unless you are pumping your coil. When you want to check your ground balance, just pump the coil over clean ground and see if the phase number and ground numbers are still the same or close to the same. If you see the numbers have become more than 3 or 4 numbers apart, reground balance by pressing the phase lock button and pumping the coil over the ground again. Then ignore the Phase number until you are ready to check your balance again.

****Set your Gain and Threshold so that your detector is stable. You only want it to beep when you are over a metal target. If you have it set to hot you will get a lot of false signals. Set your Gain to somewhere between 65 and 85, and then raise the Threshold up until it starts to chatter, then back it off until it stops chattering. Now it will only beep when you are over or around metal.

****Set your discrimination low (around 8 or 9) unless there are so many targets that you can't focus. In that case, raise the discrimination until you can handle (read "process") the audio. Use a tone id option that you are comfortable with.

****Only recover the repeatable signals. They repeat on both left/right sweeps over the target.

****You never know about the weak signals. They could be fringe depth targets or they could be micro trash or they could be oxidized iron that got charged up enough to spike a reading. Raising the Gain like you are doing is good, if you investigate them you want to try to get the best signal response you can. You can also try raising the threshold closer to +9 to get a more definitive (sharper) audio response. Typically, if it doesn't pinpoint, or can't pinpoint in one specific location it is trash.
Speaking of fringe depth targets (objects at the limit of the detectors ability to detect them with the current settings), Threshold settings play a big part of how they will sound. Theshold settings closer to 0 will give a "whisper" type response. Threshold settings closer to the ends, either -9 or +9 will give more "ping" type responses. I bring this up so you know what type of audio to expect for the deep objects.

****The can slaw is jumping up into the high numbers because your not centered over the target. To get the most accurate TID, pinpoint it to the center of your coil and resweep. The numbers will drop back down where they belong.

**** Normal basic jewelry settings are:'
Threshold - a high positive setting, all the time. I like +5.
Gain - raised until it starts to chatter, then reduced until stable. Gound minerals determine if I do this with the coil held still or with the coil in motion.

Tones - most of the time I use the 4 tone mode but it really depends on what I'm focused on hunting.
Discrimination - I usually run around 7 or 8. Unless I'm focused into a particular range of targets in which case I'll use the notches to limit the audio as much as possible to just that range.

****There is a point where the threshold setting stops giving you a depth increase and changes over to a modification of target response. Threshold settings close to 0 make fringe depth targets sound as "whispers". When the threshold is moved out toward the edges (-9 or +9) then the fringe depth targets start to sound more like faint "ticks". Since it is often difficult to get a +9 threshold setting in urban environments it is not general knowledge, and I may be the only person that hunts with a -9 threshold setting on a regular basis and aware of the differences. In fact, although I prefer the audio rubustness that positive threshold setting give, at sites where my ground minerals are low enough, I like coin hunting with very low (-9 to -5) threshold settings and very high gain settings. For gold jewelry hunting I use very high (+5 or higher) threshold settings with stable gain settings.

****You will also find that you can put the F5 into 2-tone mode and walking parallel to them, drag the tip along foundations and listen for the zip sounds among the reinforcing iron and pick up targets that nobody else can.

****if you are getting chatter with the coil held still, that is EMI. Drop your threshold another number.

****if you are getting chatter with the coil in motion, that is ground noise, trash and such. Verify your ground balance, and if the trash is too much, notch some of it out.

Pinpointing:
****1st, for shallow targets, stay in Disc mode and use the toe of the coil to pinpoint. Just wiggle the coil back and forth over the target while you move the coil back toward you until you lose the target, then move slightly back. Youll get it just under the tip. Practice it a bit and youll get good at.

****2nd. For deeper objects or if you have trouble pinpointing with the toe of the coil, Press pinpoint and pinpoint the target based upon the best audio, then release and repress the pinpoint button again, and pinpoint the target again. This is called detuning. What happens is that when you pinpoint the target, then release and press the pinpoint button again while over the target, you have detuned the target response, which has made the target response smaller. Because the target response is smaller, you can get your coil better centered over it. You might even have to actually press the coil to the ground like you were trying to mash the target to pick it up again. You can get a very tight pinpoint using the detune process. Again, practice makes you better.

****I see posts about jumpy target ids. The coil design will give jumpy id's for the deeper objects unless you get it pinpointed to the sweet spot of the coil. Use a golf ball to find the sweet spot on the coil by placing it in on the inner loop. Roll it a bit and then let it come to rest. That is the sweet spot on the coil. Mark it, memorize it, something. That golf ball size area is the coil's most sensitive spot. When you get jumpy targets, pinpoint, detune and

pinpoint and detune again if needed to get the target centered in that spot. Then sweep it. Many times the id will stabilize enough for better decisions. Watch the confidence bar. Works well on iron falses as well.

That is what the 6.2 software update fixes. The inconsistent threshold in the all metal mode.
The issue is that version 6.1, when in the all metal mode, with 0 and/or some degree of positive threshold settings, the machine will pickup internal circuit noise. This isn't EMI. EMI is different. EMI will vary based upon site conditions. This doesn't vary at all and is fairly light. This would be in addition to any EMI. Fisher will only update the software on repair jobs. Its not a big deal and many won't even notice it much unless they look for it or are prospecting with the F5.

I have the 6.1 version. In the all metal mode I hear the circuit noise (inconsistent threshold tone) at some settings. Hasn't been a real bother to me but to some who are used to detectors that have rock steady thresholds (like the Whites units) it may be hard to get used to. Particularly for the "run it wide open regardless of site condition" crowd.

I listen to my detector. If I want a 0 threshold setting and the F5 tells me that, at this site, a 35 gain setting is all I'm going to get with a 0 threshold setting, guess what, I set my gain at 35 and start swinging. If the low gain setting freaks me out, I raise the gain and lower the threshold. The F5 has many gain/threshold combinations to achieve the same result, but bottom line, the site conditions, not you, determine what kind of performance you are going to get out the machine. It does no good to crank the thing to max and 1) not hear good targets over the EMI responses, and 2) have the ground hide targets because you are overdriving the gain.

Regarding maxed out threshold settings, yes, if you turn the threshold pass the 9 setting (you turn the knob to the stop) you enter into a area of performance loss. I don't know if it was done on purpose for the the newbies or if it is just a side effect of the type of pot being used  Knocks close to 3" off your max depth if I remember correctly.

The best thing about the F5 is that the separate gain and threshold settings allow for multiple combinations to achieve the same result. All these things are discovered by bench testing and validated in the ground.

Bobby,
Silver rings are the easiest to find. Just select the 3 tone mode and only recover the high tones and you will find the silver rings if you happen to pass your coil over them. There is very little trash in this range of targets and the hunting is pleasant and a silver ring is always fun to find.

Gold is a bit different. The little girls and women's gold rings are mostly foil range targets. The men's gold rings are larger and reside throughout the tab range. Lot of trash in those two ranges. If the trash content is not too high, the F5 has a unique nickel tone in the 4 tone mode that I listen for. Anything that causes that tone to sing out stops me in my tracks and gets recovered. Doesn't have to be a solid nickel tone either, if it even bounces into the nickel tone I'll recover it. I have a whopper of a platinum ring that reads a solid nickel tone

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I found in park location site type I trended.

My best advice is make it fun. Don't dig so much trash that you wear out and wear down while you are learning. There are not really any short cuts. You have to learn to read the sites yourself. The fastest way to do that is to hunt the clad and if you are lucky, perhaps you'll also pick up a gold ring while you are at it. The nickel tone can increase your luck in the places where the trash lets you use it. But your first ring find will put you on the path to others, guaranteed, if you ask that question.

Hi Bob,
I looked real hard at the new Gold Bug and had originally planned on buying one but I grew tired of waiting and have moved on.

The F5 may not hit the tiniest of chains but it still does a very good job on small targets; BBs, small silver and gold clasps that were broken off tiny chains, tiny trash targets, 5mm ball earrings, earring backs,etc.

6-7 inches on small lead with the 5" DD is very good. What are your ground FE readings there?
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i hunt with the gain at 60 and thresh at +2 .....and 4 tones ...and have no bars showing on the scale to the right .....what setting will get me deeper .....?
If your FE304 graph says you can, and it sounds like yours does, you can increase the gain.

In disc mode you would use single or dual tone mode, raise your gain, and see how close to 0 you can keep your threshold.

The next step is to use the all metal mode.

When that isn't enough, then you switch coils.
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Hi Jimmyboy,

Think of Gain as a magnifier. The higher you raise it, the more it magnifies target signals, making them appear larger.

The Threshold is split into two features:

From settings of -9 to 0, think of the threshold control as a door. The door is shut at -9 and the door is fully open at 0.
From settings of +1 to +9, think of the threshold control as a volume control that makes all the signals that got into the wide open door louder and easier to hear.

Thats kind of an over simplified description of the controls but pretty accurate nonetheless. The combination of the three features give the user a lot of control over the detector. Add the 4 different tone modes to it and the F5 has a lot going on with the audio.

When setting up the detector, think, "how big do I want the signal to be (GAIN) and, how large of a signal do I want coming through the door (THRESHOLD)" and if you have the door

wide open (threshold at 0), then how loud do I want the tiniest signals (threshold above 0)

Then of course, the actual site conditions laugh at you and say, "sorry buddy, but you're going to have to make the signals smaller or close the door a little." And then the two of you work out the best compromise for the targets you are after
Yep... pretty much normal. Especially at 0 threshold settings. A zero setting is wide open. Lets everything in. A gain setting of 70 made everything coming in bigger. Kind of like opening the barn door wide open so the cows can come in and also magnifyng the flys that come in with them to the size of pigs

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Got to crawl before you walk and walk before you run, right?

So try this for a while.

Set the unit in DIsc mode, d4 (4 tone mode), Gain on 80, Theshold on -9, and Max out your Discrimination. Only recover repeatable high tones. All you'll be hunting is silver and copper and clad dimes/quarters/ etc. Just get use to doing that for awhile. Your treasure to trash ratio will immediately improve. Then when you are comfortable with both the digging and high tone targets, notch in the Nickel range and hunt that way for awhile until you learn that range of targets. Then as you feel comfortable, add in another segment, like the zinc segment. It has has a different tone and you'll be looking at a completely new range of targets.

It wont take long to learn whats good and whats bad, your recovery method will improve and you'll grow more comfortable with the unit. Then you can raise the threshold setting up to 0 and spend time on the deeper and smaller targets.

Most of all, don't be afraid to limit your audio input with the disc and/or notch settings. Keep the audio feed to your ears understandable. When the trash gets too heavy, raise your disc or notch it out so that you can still hunt the good stuff.

Maybe a few guys will post a picture of their trash next time out so you won't feel so bad about your trash ratio. As a gold jewelry hunting I dig quite a bit of alum trash. Foil and tabs, canslaw, and ring pull tails.

Hi Miles

Have you used a metal detector before?

The deep grunt tones will be iron objects, usually heavily oxidized. Depending on where you have your discrimination set at, these will either repeat or, as you are discovering, will hit once and then go quiet as the discriminator kicks in and silences them.

Regarding the 30 + signal....if you have a good clean, repeatable audio, you had a good target that you lost while trying to recover it.  You may want to get a electronic pinpointer to help recover targets. You can get a cheap one if needed. I used a $20 Little Wizzard II for a couple of years before I upgraded to something different. Remember that with postive threshold numbers, the F5 will pickup very small targets that could be hard to locate if you are expecting to see a nickel or tab, and in reality are chasing a tiny rivet.

If it was just a non-repeatable chirp, that would most likely be an iron false, or, if your settings are too high for the site, EMI.

I don't live near any beaches but I like to hunt jewelry in turf, sand and the chips. The F5 has been the best jewelry hunter I have ever used. It has the sensitivity needed for hunting small low conductors, great ferrous/non ferrous discrimination, and I really like it's ground handling ability. The feature set and controls are just right for me.

I have tried some higher freq units for micro jewelry hunting, like the GoldStrike, the Xterra 70 with the HF coil, the DFX, Tesoro units, but the F5 with the high positive threshold settings and the 5" DD coil will find the same stuff even in the discrimination mode. Its wild. I can hunt bb and smaller size targets all day long with the stock coil, but the 5" coil excels. A chain hunter extraordinaire.

Don't tell my wife but I could probably be happy with the F5 as my only unit. Especially if I had a Cleansweep or Bigfoot type coil for it. Those type of coils are just so much more efficient at ground coverage. But since I don't, yet, I'll always have to keep a unit with that type of coil on it. Yesterday it was a Golden/Cleansweep combo. Today its another DFX/Bigfoot combo.

I haven't posted much about the F5 lately as I've been putting in time with the Omega. Thats what it has felt like too, putting in time, as I'd rather be hunting with the F5.

What differences can I expect with the 11" DD coil over the stock coil on a F5?
You will see increased target separation and increased ground coverage. If your ground is mellow enough you will also see a little more depth, but the main characteristics are separation and ground coverage. It has its place but I don't think it is a coil that you replace the stock coil with. I prefer the stock coil and use the 11" in places where I can use it's specific characteristics the best.

F5 threshold
David,

I assume you are in all metal mode.

The threshold and gain controls work together. Set your threshold where you want it and then adjust the gain to where the threshold hum is steady. You may not be able to turn the gain up very high. I turn my gain up to about 30 or 35 with a nice steady threshold hum at +1 +2. If you want high gain settings in all metal you may have to run the threshold at 0 or slightly into the negative numbers.

What are you going to be hunting for, J? I do well in my ground with a disc setting of 8, 4 tone mode, gain anywhere from 50 to 55 and threshold at a +5. Hunting sports fields, parks and schools where the targets I'm after are in the top 6" of the ground.

Hey Marcomo, I don't know about the professor stuff but I would have liked being marooned with MaryAnn I don't know if its the optimum setting or not but I run my disc mostly on 8 in the 4 tone audio mode. It cuts out a lot of the tiny stuff but still lets me hear the normal nails, hairpins, chains, and other junk and tell iron false from partially masked. I believe, if I recall correctly,

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My ground is probably different than most. My FE304 graph is nearly always at a full 4 bars and my phase readings are most often in the high seventies, like 78, 79 and the ocassional 80. The fill dirt we bring in to grow grass on depends on how deep I get stable id numbers. When I get a deeper signal with jumpy numbers I'll make several sweeps looking to see what numbers will display with the higher bar readings. If I can see some consistancy in the higher bar numbers, then I'll recover it cause it will be something worthwhile more often than not. Other wise I'll pass it by. Falses will waste tons of your time and you'll have to teach yourself to let them be. We all had to learn what good targets sound like and the quicker you learn the difference the less time you'll waste on them.

I don't beach hunt very often but I hunt turf for jewelry. Remember threshold is a two fold setting. -9 to 0 is trigger point settings. +1 to +9 is audio control settings. I like setting my Threshold at a +5 due to what it does to the audio. Then I set the Gain to what ever setting the site will let me be stable at. This is one of the reasons I like the F5 so much. I can't get this type of audio control on other units.

Don't be afraid to use your disc and notch settings to help you focus on good target ranges. The more focused you are the more ground you can cover. The more ground covered equates to more good targets in your pouch.
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Hi Steve,

I hope you will enjoy your F5 as much as I enjoy mine. I can't imaging not having one and I've rebuilt my whole detector arsenal around it.

A susgestion for hunting your folks house, you could use the 2 tone mode and notch out the foil, nickel, tab, and 50 cent segments. That will leave you with a low tone for the iron and the higher VCO tone for the rest. That will cut out a bunch of trash and allow you to focus on finding good targets while you are learning how it works. Set your threshold on 0 and raise your sensitivity until it starts to chatter in the air. It should be quiet when sweeping the ground. Anything that isn't the Low tone should be a non-ferrous target at this setting. The VCO tone will tell you how deep the item is by how it sounds.

Use a 1 second sweep (onethousand-one) for a 4 feet sweep pattern.

Share your ground phase and FE304 graph reading.
==========

Hi Kos,

I don't know which is worse, very wet ground or very dry ground 

Very wet ground just enhances the conductive properties of everything and it can get really noisy if there are many targets close together. Considering the F5 will pick up BB's, small foil bits as well as the normal larger trash items like tabs, crown caps and all that other metallic junk that winds up on the ground, plus add in any EMI floating through the ether around you and it can get a bit crazy at times.

Just remember that the site conditions determine how hot you can set the machine. You basically have to ignore how anyone else can set their detector for their site and just focus on how best to set up for your location. Sometimes you can hunt with high settings, sometimes you can only hunt with low settings. The site conditions always have the last word.

First thing is to determine if its EMI or ground noise causing your problems. Hold your detector up in the air. Are you getting chirps and jumping numbers on your display? If so, thats EMI and you need to turn your Gain or Threshold levels down. Once you get it stable in the air, then sweep it over the ground. Now all that noise and jumping number are ground related. Here you can do several things. One is that now you can set your disc or notch to eliminate some of that noise and numbers. Raising the disc to the top of foil will help a lot, notching out tabs will help alot, and if you have a lot of large rusty iron like the bolt you mentioned, notching out the 50c segment will help a lot. The key to happiness is to limit the audio to a comfortable level your brain can process. As you get more accustomed to the detector you can let in more objects.

Key thing about the Gain and Threshold controls. The Gain makes the signals bigger or smaller. Like a . vs a O. But remember it affects all signals, good and bad. The Threshold control does two things. From -9 to 0, it raises or lowers a internal trigger point or threshold. Turning the Threshold down to -9 raises the trigger point so that only signals of a certain strength can be heard. Raising the threshold towards a 0 setting lowers the trigger point, making it possible to hear the weakest of signals. Another words, the threshold settings from -9 to 0 are a form of signal strength discrimination. Lower settings toward -9 require a stronger signal in order to be heard, higher settings toward 0 require a weaker signal strength to be heard. Threshold settings from +1 to +9 enhance the volume of the signals. Another words it makes weak signals louder.

So at your setting of 50 and +1. You have multiple the signal strength of all targets relative to the 50 gain setting, have lowered the threshold trigger point to 0 so that even the weakest signals can be heard, plus increased their audio loudness with the +1, and doing it in really wet ground which in itself is enhancing the signals. Add in the actual ground content and yep, it could be noisy.

That knowledge should help you figure out the right settings for your different ground conditions.

F5 discc question New
Posted by: Turtleman [Send a Message]
Date: July 10, 2011 11:00PM
Registered: 3 years ago
Posts: 79
Hi All

In the manual for the F5 it show's that you can disc out everything including dimes, quarters and fifty cent.

With my disc turned all the way to max mind will not disc 10, 25 or 50, but if I use notch I can disc 50.

Is the manual wrong?

Also in disc mode I find the audio very week past about 3-4 inches, am I setting it wrong. Usually try to run my sen about 70-80 higher if possible.
and threshold +3-+5.
****
turtleman,
The manual is wrong in regards to full disc. The highest it will disc is zinc.

Unfortuantly, the multi 3 and 4 tone modes go weak pretty fast, especially the high tone. For more depth in disc mode you have to use the single or two tone modes or go to all metal.

Fisher F5 Field Test

Mark Ellington

I was given the wonderful opportunity to do some field testing with Fisher's amazing new F5. The F5 is one of the most unique detectors I've put my hands on in a very long time! The perfect blend of cutting edge, software driven power meshed with the feel of good old fashioned knobs. I find it very interesting that the "oldest name in metal detecting" is utilizing the newest technology! The F5 is the result of Fisher's self proclaimed "war on bad user interfaces". The lead Engineer on the F5 was Jorge A. Saad.

Since Fisher Laboratories came under new management, the Company has not been resting on their laurels! First out of the gate came the incredible F75, followed by the mid-range F4. Next up was the affordable F2, then recently the incredibly deep F70. That leads us up to the innovative F5!

The F5 is situated in the familiar F2/F4 housing, but the electronics are entirely different. This platform was designed by Engineers Jorge Saad and Dave Johnson (with John Gardiner and Mark Krieger additionally lending their talents) to offer outstanding discrimination, depth and ID capabilities. You'll find the F5 mounted on the familiar gold and black "S" rod which has proven its ergonomics and durability throughout the years.

FEATURES:

PHASE LOCK- This outstanding idea allows the user to quickly grab the current PHASE reading on the F5 LCD while metal detecting. A few quick "bobs" of the coil, and you'll get a consistent PHASE which will lock with a 1 second depression of the button. The process is quick, easy and accurate. During normal hunting, the F5 is displaying the current "ground phase" or ground setting in the SETTING window. By viewing the live phase reading as you hunt, and comparing it to the "locked" phase, you'll always know if you're adjusted correctly for currently ground conditions!

TONES - The tones button allows the user to choose between 1 tone, 2 tones (Iron low tone, foil and above high tone), 3 tones and 4 tones. I also discovered while testing the F5 another cool "tones" feature. When hunting in "autotune" all-metal mode, the button will change the pitch of the audio to suit the users' preference.

PINPOINT- The F5 uses a nice VCO style pinpoint which varies the audio pitch and volume based on the strength of the target signal. The ID window also switches over to an "inches" of depth reading.

FREQ. – Frequency allows you to slightly alter the F5's transmit/receive frequency when facing interference from various sources including other detectors, power lines, etc.

NOTCH- Notching works great on the F5! On quite a few detectors, I've found myself fumbling through layers of menus trying to find the segment I wanted to discriminate out (or in). With the F5, each press of the NOTCH button advances a line that strikes through the target designation in the top ID arc. When you get to the target you want removed (foil, for example) you simply quit pressing the button. After a brief pause, the target is "notched out". That simple! Notching a target "in" is just as easy. Rotate the DISC knob the desired amount (through ZINC for example), then advance the strike through line to the 5 cent icon. Release the NOTCH button and VOILA! The target (nickels in this case…) will now be detected.

KNOBS:

My favorite aspect of the F5 has to be the brilliant use of knobs! They are strategically positioned for "thumbing" the controls that you use the most. I feel a user "connection" with the F5 that I haven't felt with any other detector. With the fine tuning capabilities offered by the high resolution ground balance, gain, threshold and discrimination knobs, I always feel liked I have "tweaked" the F5 for its maximum potential at any given site.

GND BAL- Although the F5 has the option to "GRAB" the phase reading for quick and efficient ground balancing, it still provides an very high resolution manual balancing feature. Another interesting aspect of the manual ground balance is a speed proportional piece of software (written by Mark Krieger) that will "accelerate" the numbers much more quickly depending upon how fast you turn the knob. Turn it slowly for very exact settings, spin it fast for jumping quickly up or down the scale!

GAIN- The "GAIN" control is the front-end transmit power of the F5. It is also the ON/OFF control for the Detector.

THRESH- By making THRESHOLD an easily accessed control, you can fine tune and tweak all you want! There's a synergetic relationship between the GAIN and THRESHOLD controls that has been made much, much more dynamic and accessible due to the knob controls being right there in front of you. The THRESHOLD control gave me the ability to hunt sites that normally were "huntable", but offered a great deal of frustration. One of these is located in an area that is surrounded by an electric cattle fence. This particular spot has driven me crazy in the past with various detectors due to the "pulse" of electrical interference transmitted. The F5 was able to handle the spot incredibly by turning

the THRESHOLD into the slight negative numbers. (-2 to -3 for this location).

If you've ever hunted places that are littered with tiny bits of metal (foil or rusty bits of tin roofs, for example) , then you know that it can be a challenge due to constant chatter on every swing. Quite often, these nuisances can be too small to dig and remove. The THRESHOLD control does a great job of "quieting" down sites like this by make the F5 less sensitive to smaller targets. I was initially concerned I would be losing a lot of depth by turning the threshold into the negative, but on coin sized conductors, I haven't found a great deal of difference. Most of these sites are already limited due to these small surface targets creating a shield that masks the deeper goodies.

DISCRIM- By giving the F5 a knob dedicated to DISCRIMINATION, the user can easily change settings "on-the-fly" with instantaneous feedback from the detector as to where you have it set. The F5 operator has three methods to visually verify where they are situated in regard to discrimination.

1. ***Target Identification Arc***- The F5 offers a very nice visual quick reference along the top of the LCD screen. A clock-wise rotation will advance lines that strike out each target group you desire.
2. ***Setting window***- When any changes are being performed, the SETTING windows reflects that change in detail. When using DISCRIM, a fine tuning number as to the amount of discrimination dialed into the knob is shown. For example, if you want to eliminate the lower range of "FOIL", yet keep the upper range, no problem! Discrimination resolution is down to the single digit of the "1" to "65" range scale.
3. ***Physical knob***- Like with most analog detectors, the physical location of the knob indicator is scaled to the DISCRIM range. I may be starting my hunt and getting set up. I know from using the F5, the "M" in DISCRIM is approximately just below the 5¢ (nickel) designation. I nice little quick reference!

LCD Screen information: The F5 gives the user a wealth of valuable information that is always right there in front of you.

- **Target ID arc**- The F5 gives you a quick visual reference on detected targets along the top. Each of the 8 segments has a common target designation (Fe, FOIL, 5¢, TAB, ZINC, DIME, QTR and 50+) as well as the top of each segments conductivity range (15 for Fe, 25 for FOIL, etc.)
- **STATUS**- The left side on the F5 screen gives you the "status" of your batteries (2 nine volt "transistor" batteries) and the SETTINGS portion at the bottom keeps you informed on what changes you are making while adjusting knobs and buttons. For example, when I adjust "GAIN", my adjustments are reflected in real-time here. The same goes for PHASE LOCK, GND BAL, TONES, THRESH, DISCRIM and FREQ! Whew! That's a lot of useful information the F5 feeds the user!
- **TARGET ID**- in the center of the screen is a nice, large, 2 digit target identification. Visibility has been excellent, regardless of whether hunting in bright sunlight or in overcast conditions. Along the bottom of the screen is a CONFIDENCE bar. The F5 has processing software that evaluates the target on each swing, determining how "sure" the detector is that the target indeed matches the designation in the ID arc. For example, while hunting, I hear and see a buried target that's identified as a "dime". I will subsequently continue swinging ,shoulder width, over the target and watch the CONFIDENCE bar. If the ID remains steady, and the bar is full on most swings, there's a much higher probability that it will indeed be a dime! Nothing is perfect, and really deep targets may not always consistently hit as high "confidence". When in doubt, DIG! The TARGET ID also switches over to a DEPTH reading when the pinpoint button is depressed.

- **GND DATA**- On the right side of the screen, the F5 gives you great, "live" information about the

site you are hunting! The **Fe^3O 4** graph informs you of the magnetic susceptibility of the ground you're currently hunting. When the reading is high, accurate identification of deep targets can be altered a bit. In real life use, if you're hunting a site that has the potential for deep, old coins and you notice the Fe meter is "high", dig the questionable deep targets!

The real attention grabber here is the "phase" reading. One aspect I love about all the new Fisher detectors is the implementation of "useful" features…PHASE is basically a real-time, live ground reading. In my area, I can watch the phase change itself…varying several numbers as I wander about a typical field or old Church Yard. When I see a drastic change, a quick press of the PHASE LOCK button, and I'm accurately balanced for my spot! Pretty cool stuff!

Hunting with the F5:

As I mentioned earlier, I feel a connection when using the F5 I have not experienced with all my other detectors. The combination of real-time digital information and the tactile feedback of knobs work together beautifully while searching my favorite sites. Recently I was hunting an old school yard. This particular site, being located in the center of town, has been hunted for many years. Old coin finds are very rare these days, and are always deep. With the instant access to controls and information offered by the F5, I was up and hunting in seconds. The elliptical concentric coil seems to be the perfect size for getting great depth while still allowing for excellent target separation that the new F series Fishers are renowned for.

Anot her great feature common in the F series of Fisher's is also in the F5. That is incredible processor

speed! The detector resets itself so quickly that good targets buried beside of rejected targets still sing out loud and clear. One of the first targets I retrieved on this old school yard hunt was a silver dime less than an inch away from an old rusty chunk of iron. The target ID of the F5 was dead on the "money" and the confidence bar was high for "dime" although it was retrieved at more than 6 inches.

In my North Carolina soil, it's not uncommon for older copper coins to deteriorate quite a bit. This generally means to get Wheat Pennies and Indian Head Cents you need to dig targets that ID in the "ZINC" and "TAB" range. On this hunt, I got a nice soft high tone while searching the middle of the yard. The target pinpointed small (a GREAT sign!) and deep. After quite a bit of digging, I retrieved a nice 1919 Wheat Cent at a measured 8 inches…and it ID'ed in "DIME" range (genuine copper pennies and dimes both ID at this icon, but with different TID's)…very uncommon occurrence for this soil! The penny was as corroded as most I dig, and it was deep for this soil. I have found the F5 to regularly surprise me with its depth and accurate identification.

I ended the hunt this day with an apron full of coins and a very, very satisfied feeling that the F5 is an EXCELLENT detector! There is no doubt in my mind that there has been a lot very careful design work to get it "just right!". This is a detector that perfectly blends the world of analog knobs and digital circuitry in such a way that you always feel in total control…and have confidence that you have the settings just right for the conditions!

Authors note: I had such a BLAST testing the F5, I asked the lead Engineer Jorge Saad to autograph it for me…and he did! Thanks again Mr. Saad!

Matt Renshaw

Field Test Report Fisher F5

Reviewing any metal detector these days, in this hobby's crowded market, is challenging unless the unit has some unique feature that differentiates it from others.

Why then my interest in the Fisher F5?

Simple answer: it was primarily because of the live "Phase" indicator, the tactile control panel, and the attractive visual interface.

I presently own and use the F75. Prior to that, it was the T2. Those predecessors of the F5 are legendary for several reasons, not least of all performance, power, efficiency, and ease of use.

Their user interface and precise digital electronic controls set a standard that other machines could only imitate, but rarely exceed. So, with its mixture of analogue and digital features, how then will this lower priced derivative compare performance-wise, in our UK detecting environment?

Let's open the box, put it together, and give it a whirl.

Assembly

Assembling the parts was easy – the hardest bit was inserting the supplied PP9 alkaline batteries!

Opening the handbook, the first thing I see printed in big letters was "Use only alkaline batteries'. Mmm? What's wrong with the modern equivalent rechargeable NiMetalHydrides?

Memories of field testing the F2 for **Treasure Hunting** magazine in 2008 trickled back through my degenerating grey matter. I remembered it was to do with the irregular size of different makes of batteries. Experience in using the NiCad variety reminded me of how they could swell over time, especially if left on charge for too long a period. They were poor in many ways. Nowadays, we have the superior capacity PP9 Nickel Metal Hydride rechargeables.

Let's get on with the job. Powering the F5 on, via the Gain control, the lower left panel on the display become active as the knob is rotated. For indoor test purposes I returned the gain to the 12 o'clock position, which is roughly 50% of the 99%. The unit was very stable indoors even at the 80% level despite TV, laptop and WiFi paraphernalia nearby.

Discrimination Control

This is the same type of control as that used for the Gain, but in this case the On-Off switch puts the detector in either All Metal (off) or Discrimination mode (on). Further control rotation sets the level of discrimination (1 to 65).

Once again the little panel on the left takes on its adaptive role as the F5's "universal indicator" whereby it temporarily displays the level of any adjustments made, which in this case is rejection.

At the same time, the black cursor steps across the segmented arc of the Disc categories printed at the top of the screen. In the illustration (coloured for

reference only) we also see the Notch function has been brought into play. The pink coloured section is notched as acceptable in the otherwise brace of rejected segments. The darkened 5 cent sector indicates a 30 VDI target's acceptance.

Threshold Control

The handbook states that this control has a dual role, dependent on the mode selected.

In All Metal mode, it behaves as a normal threshold control with zero as the neutral position (-9>0<+9).

In Discrimination mode it appears to have a split functionality, where the first half of the control's rotation (-9 to zero in the indicator panel) has a secondary sensitivity affect on the signal. It is useful for controlling EMI or small iron chatter.

The second half (zero to +9) adjusts the audio output level, especially for weak signals. It is a very dynamic control and should be used to optimise the searching efficiency of the machine as well as the listening comfort, especially in Disc mode for it has subtle effects on the audio.

Ground Balance Control

The Ground Balance control gives you direct control of the detector's ground cancelling reference point. Any movement of it on the F5 will immediately change the GB point. This easy adjustment allows the operator to manually match the detector's GB point to coincide with the average level observed in the GND DATA panel. Alternatively, you may do a formal ground balancing procedure by switching the Discrim control to off, putting the F5 into All Metal mode while pressing and holding the Phase Lock pad, and pumping the search-head over a clear patch of soil. The Status and Phase panel numbers should then synchronise, and when beeps are heard you release Phase Lock and the job is done.

Referring to the handbook once again, it tells you that the default GB setting is about 82.

GB Phase 82 and very low Fe is comparable with a site having docile ground conditions. It is simply a starting value. While detecting the ground conditions will vary, as you can see by observing the GND Data panel. The two digit phase reading will change in sympathy with *all* that the search head senses, including the mixture of ground and target phase. So what you are seeing is not just the soil, but rather the summation of ground and all the "bits" in it.

When targets are involved in your sweep, VDI number will appear and remain until the next one registers its presence. There may be audio beeping also, depending on your discrimination settings. The point is that GND Data phase figures are not necessarily a measure of ground phase only, but rather the "potpourri" of target minutia and soil. A discrete ground-soil reading should rarely produce a VDI. Wet sand will, because it is a conductive nature.

Let's acquire some typical values such as those found in my garden, and see what the wet lawn produces in terms of ground phase and Fe levels. Basically the local geology is a thin covering of soil over boulder clay deposited during the Ice Age, when glacial flows brought it down from the Lake District. Okay, let's check it out. The book states that measuring the ground's parameters is best done in All Metal mode. Accordingly, I switched to that mode by turning the Discrim control fully anti-clockwise and off. I then began pumping the search head up and down above the grass in a spot clear of any junk etc.

The ground phase read 62, and the graph showed one bar of Fe activity. That's typical of the top lawn.

For comparison, I then went over to my constructed mineralised area. There the ground Phase increased to 73 and the Fe graph peaked to maximum on the bar graph.

Placing a modern 20p coin on the surface of that same patch demonstrated what effect strong mineralisation has on a coin's identity. The results are shown in the table.

Cupro 20p	VDI	Phase
Target In-Air	37	07
On top of mineral	24	10
Differences	13	03

So the Fe mineralisation caused a 13 point reduction (-35%) in VDI, and 3 points increase in Ground phase (+42%). The significance of such an experiment is that the lower a target's in-air VDI, the more susceptible the VDI is to degradation in mineralised soils.

Correspondingly, the higher mineralisation involved causes an *increase* in the Phase reading.

That is why an experienced detectorist will reduce his discrimination level to the lowest feasible, consistent with limiting as much iron break through as possible. That methodology helps to catch small hammered coins and low conductive targets that have their identities masked by Fe contamination.

One of my 30 years of seeded coins was the next to be interrogated by the F5.

A small silver Victorian threepenny piece, originally buried at approximately 6 inches, registered VDI 64 and Phase 23. The F5 also clearly resolved a small ferrous fragment very close by, therefore comparing well with the capabilities of my higher spec detectors!

Just when I was ready to log some of the other old targets the rains came and I had to hurry inside.

As I wiped the rain off the off the unit's face, I mused how the F5's chubby facia presented a user-friendly image, reminiscent of the days when potentiometer controls were still the norm.

Its operational simplicity should appeal to those who shy away from the menu orientated, more expensive "4 wheel drive" detectors.

Back in the warmth of the kitchen, I added the data obtained in the garden to a list on my computer.

Accompanied by brief notes, it provided a very useful collection of facts that I felt should help me to analyse the functional character of this detector. For the moment, let's return to the remaining F5's controls.

Notch

You can use this function in two ways. Firstly, to simply reject any or all of the five sequential categories, iron to zinc. The sixth notch is the 50+ category at the extreme end of the scale.

The second method is used to place "breaks" in the contiguous rejection band that the rotary discrimination control creates. You activate a notch by pressing the pad and causing the flashing cursor to step through the categories; pausing for several seconds over the chosen section the flashing marker will become permanent, indicating that the sector is now logically active. So, if it was originally clear to accept, it now becomes rejected. If it was a rejected section prior to notch, then it becomes an accepted one.

Phase Lock

This touch pad requires little explanation, for its single purpose is to up-date the existing ground cancelling reference point used by the F5 to that value showing in the dynamic GND Phase indicator panel on the right hand side of the screen.

That is simple enough regarding the pad's function, but any lack of care in maintaining good correlation between the stored value on the left, and the varying value on the right, will in a subtle way affect the performance of the detector. If and when the ground differs markedly compared to your detector's current reference shown on the left of screen, then the outcome affects the accuracy of the discriminator's assignment of target VDI.

The complexities of ground tracking and its affects relate to *all* detectors. It is the way each designer chooses to tackle the problem that is interesting. Their quandary is whether to automate the whole process, and so limit user intervention, or not. It does affect costs and adds significantly to the design complexities to automate ground tracking. The designer of this detector has left the choice of when and where to ground balance, in the hands of the operator. This can be used to good effect if done wisely. Be aware, though, as when the GB point approaches that of any target, the detector's sensitivity to that target diminishes.

Frequency Pad

Again, a simple explanation will suffice. Radiated interference (EMI), caused by external sources of transmissions can heterodyne with the F5's frequency of 7.8kHz, so causing an audible "beat frequency". The simple action of tapping the Frequency touch pad changes the operational frequency by a small amount, and can alleviate the problem. You have the choice of two extra frequency offsets. Avoidance of EMI such as those caused by pulsed electric cattle fences or incoherent, random electrical radiation, may not be possible. Only by reducing Sensitivity, and Threshold, or putting distance between you and the cause, may cure the problem.

Tones Touch Pad

In All Metal mode the Tones pad simply provides a "no frills" choice of any one of four tones.

Alternatively, in Disc mode, the Tone pad offers the choice of one singular tone for all targets, or a selection of three differing "Tone ID" audio choices. No further comment is worthwhile.

Back to Testing

Looking out of the window I could see that the rain has stopped, and it was time to get back out there again.

I took another ground reading for the lower, damper part of the garden, which has a greater depth of soil. Pumping the search head over a clear patch stimulated the Ground Phase Monitor and produced a reading of 60. Doing the same test over the loose soil of the cultivated flower beds produced a higher reading in the 70s level. Why the difference? Well it is mainly due to the fact that the loose nature of the soil in the flower bed means less contact between the damp particulate, and so a higher inter particle resistance. Drying soil will further increase that resistance and hence increase the phase. Also, loose soil allows more oxygen to enter the matrix, increasing the activity of any residual ferrite matter.

Singularly or in combination, these effects increases the phase reading. As a rider to that brief explanation for increases in phase, I think it helpful to add the typical causes for a decrease of ground phase. The common causes are moisture, and conductive organic matter. Night soil from the past century is a typical scenario. Cattle urine, chemicals, and stagnant water, are all factors that contribute to this.

Field Testing

Testing a detector requires discipline. It is important to make notes of significant facts, and there are many in any active session. Taking related photos is helpful, but also tedious under adverse conditions.

On this particular day I intended to carry out some serious testing. It was midweek, the grandchildren were safely delivered to the school's tender care, and I had a few precious hours to indulge myself. With my mobile phone on in vibratory mode and tucked in my shirt's breast pocket, I was able to don the headphones and start detecting, confident that any emergency calls from school or family wouldn't be missed. That prompts a comment: my mobile has never caused problems with any of my detectors.

I was soon sweeping my way through the undergrowth of the local woods. The F5's moderately size search head (9 x 5 inches, concentric) was coping well with the tangle of vegetation.

I slowly made my way to a previously discovered spot of interest. It was an area where there had been surface quarrying of sand stone over a hundred years ago. Coins dating back to Georgian times were the period markers. I had also previously recovered day-to-day working tools such as stone splitting chisels, heavy sledge hammer heads, etc. On this occasion, being late winter, pools of water filled the depressions. I therefore pushed the F5's head down to rebalance and noticed the change from an initial phase 75 in the leafy humus to a low phase 55 in the wet, red sandstone stratified soil.

Also, the actual Fe graph was kicking up a few bars, so I kept the discrimination at zero.

First came a huge signal, which turned out to be the remnants of a shovel. The only other target of note was a copper penny that produced a VDI of 60.

The struggle to recover other small targets out of the boggy areas convinced me to move on to more accommodating ground. The next couple of hours passed by quickly, and I had a pouch of finds that reflected the 7.8 kHz nature of the F5. This frequency is ideal for moderately mineralised soils.

In these woods my finds were mostly odd metal remnants: mouthorgan reeds, an old penknife, a corroded 1800s style whistle, a 2 shilling piece, a sixpence, and copper coins from Victoria to George VI. I was glad that I remembered to take my little hand saw, for several finds were below root level. Depths varied from 3 to 7 inches generally.

I rarely pursued any target that was apparently deeper than the F5's depth indication after struggling to locate one or two promising ones beyond the indicated range. One turned out to be a large padlock and the other the brass hinges on a disintegrated wooden box. Alas, no "treasure".

It was soon time to weave my way out of the tangle of bushes and find a path that would get me back to my vehicle.

Several such outing in various field locations established the characteristics

of the F5 for inland use. Field searching with this detector is a genuine pleasure. Regarding target separation, it needs about 3 inches spacing between a coin and a 2 inch nail for a positive hit on the coin, providing their line-up is in the same direction as the sweep.

Audio

I like the audio of this machine. It's honest in its reporting and very definitive regarding iron. The audio amplitude meaningfully decreases with depth.

In general the sounds do convey an indication of the target's character – especially thin section trash.

In All Metal mode I personally found the depth modulated sound very informative, and with the excellent threshold control and precision ground balancing, plus target ID, I'm sure it will make finds in situations that may frustrate other less stable detectors.

On the Beach

I also undertook a few obligatory beach sessions. I say that tongue in cheek, because the first such outing was futile on the wet sand, if judged by the coins finds rate alone.

Winter winds had deposited several feet of extra silt over the normal levels. I did find a few modern 2ps etc but none at notable depths. Drinks cans and other unreachable items registered positively and exceeded 12 inches or more. The unit ground balanced easily on the wet sand, but I still needed to use sensible levels of sensitivity and resist the temptation to push the unit into an uncomfortable chattery mode. Once again I noted how effective the threshold was, especially in this environment of wet rippling sand and puddles.

The scarcity of finds changed when I left the sand swamped tidal reaches and retreated to the cosier, drier haven of the sand dunes that lined the shore. There were pounds to be found and pull-tabs by the plenty. In fact, the first run there netted four £2 coins, seven £1s, and a fist-full of lower denomination coins.

It turned into a turkey shoot once I latched onto their VDI for this machine. The sensitivity of the F5 in this situation was mentally exhilarating but also physically debilitating. I had to do a lot of digging into and under the overlying high vegetation to get at those coins lost several seasons ago.

The secret? I switched to All Metal mode!

This mode just grabbed the targets as I pushed the search head over and into the long grasses, especially after I set the threshold level to be just audible.

With VDI readout it was all so easy. The zippy sound of foil meant I could confidently ignore it without the need to look at the display. I can honestly say it was the most enjoyable coin hunting sand romp I've experience for several years!

I eventually came away exhausted, but several pounds richer. That was convenient, for I noticed how the high audio activity had taken its toll on the battery's capacity. So I purchased a couple of packs of PP9 alkaline batteries while on the way home, using my finds money.

I conducted a dedicated ring test in the damp sand during a later session on a different beach. Using a 9 carat gent's gold ring of medium thickness, it was positively identified up to 7 inches and deteriorated to a marginal report at 9 inches. After that the numbers were unrepresentatively high with erratic audio.

The wet sand phase reading was 35 at that spot. Sensitivity was around 70% and the threshold again at zero to maintain a quiet level over the ripples of water left by the ebbing tide

If I set only the 6th notch to reject and maximised the F5's sensitivity, I could run the machine "hot" in Disc mode. That seemed to suppress the wet sand

ripple responses, and then coincidently I achieved three separate finds at depths of around 8 inches in the wet sand, all coins being the old large 50p cupro-nickel pieces. That's not a fluke happening, but rather a revealing notification of the operational frequency characteristic of the F5. The 7.8kHz frequency must suit thick, low conductivity cupro-nickel coins. A few words of caution. The 6th notch will reject large, highly conductive silver, such as halfcrowns. Therefore, only use notch 6 in the most desperate of situations.

After any beach work always thoroughly wash the metal stem and head joint of the F5, for residual salt water and sand could eventually damage any exposed aluminium, or moving plastic joints.

Batteries

Later at home, when replacing the batteries, I spent some time examining the F5's power requirements, for I contend that battery consumption is a relevant factor in any detector's assessment. Who wants to spend money on throw away inefficient alkaline batteries, when today's modern Lithium Hydride rechargeables can provide better sustained capacity – and at a lower cost.

The F5's handbook emphatically states "Use alkaline batteries only."

Enquiries suggest that they really mean, "Use alkaline rather than carbon because of their superior capacity." They do mention that the F5 can run on one battery if necessary.

In my personal opinion it's okay to install rechargeable batteries, providing in doing so they fit the compartment without the need for undue force. Just be sure that they don't exceed 48mm in total length.

For the purpose of the many hours of testing that I have undertaken, I have used both a single and a pair of rechargeable NiH PP9 style batteries without any apparent problems.

I did make sure though that both batteries were equitably charged, and never allowed to markedly discharge below two bars lower than max reading. Do not try installing any battery that exceeds 48mm in total length including terminals.

Before I close this account of the Fisher F5 I recommend that any new owner devotes time to doing some experimental searching it in All Metal. This mode may only appeal to those with the necessary temperament for such hunting, but in the right hands this detector has great potential – especially when used for inland searching.

Conclusion on Phase Meter

- It is the third dimension in terms of metal detecting practice.
- The F5 gives you the target's VDI, and now its Phase at 7.8 kHz.
- With that data, you have the best information possible, to determine the ferrous nature of a target.
- It is all clearly displayed on the F5's very readable display.
- Target VDI (Conductivity).
- Target phase (Inductance effect).
- Ground Fe level.

From the data I've accumulated I provisionally conclude:-

If the phase number is higher than the VDI, then the target is most likely to be ferrous. Now you can use that powerful tool when in All Metal, as well as motion discrimination.

I hope this review has provided an alternative insight to the functionalities of the Fisher F5.

The handbook produced by Fisher for this unit is one of the best I have had the pleasure to study.

Even if you do not presently own an F5 detector, I recommend reading this manual, for it will improve your general knowledge on the subject matters it covers. Why not download it from Fisher's web site? (http://www.fisherlab.com/hobby/fisher-f5-metal-detector.htm)

As for the unit itself, it worked fine, discovering targets at depths commensurate with its head size and ground conditions, and hitting well all my test bed items. In the field it handled wet sand and "hot and cold" stones, when using sensible sensitivities, due to the excellent ground balancing facilities provided on the F5.

Physically, it is a little "nose heavy" in my opinion. But if you are interested, then try it before you buy it, for detectors are "different strokes to different folks'. TH

Fisher F5 Review

Okay…are you ready for this? I'm going to open this F5 review with a very bold statement. The new Fisher F5 has the BEST user interface of ANY metal detector I've ever used!..and I've used a bunch!

The Fisher F5 is yet another weapon in Fisher's ongoing "War on bad ergonomics and interfaces" that tends to plague the hobby industry. The absolute brilliance of the design makes me wonder "why in the world hasn't someone already done this?" Sure…hobby detectors have used knobs in the past to control functions (like Fisher's own venerable CZ series), but never before has there been this perfect storm of digital, software driven power combined with the ease of tactile knob control.

The F5 knob settings are instantly relayed to the user in a window in the bottom left of the display (settings). When you give the gain a tweak, the window intelligently switches to the gain setting… adjust the ground balance, it shows you that too! The same goes for Threshold, Discrimination, Tones and more. When you're not adjusting something, the window displays the current ground "phase" setting. It's a great concept… all adjustments can be made on the fly, and you're instantly informed on what you're changing (and by how much).

Each of the knobs on the F5 is strategically placed so you can "thumb" the controls. If I hear a deep target that is on the fringe of detection, I don't have to dig through layers of menus to adjust the gain or threshold…a quick reach with the thumb of my detecting hand and I can ease the controls up quickly and efficiently! When I'm done, it's a very simple task to "thumb" it right back to my starting point…

Speaking of gain and threshold, the F5 puts these to control knobs side-by-side for a reason. There is a very synergistic relationship that has to be seen to be believed! High gain or high threshold…which will be best for my current hunting site? The flexibility offered for adapting to all your various hunt sites and their challenges are incredible. There is a local farm that I hunt that is surrounded by an electric cattle fence. I have had to hunt this spot with ridiculously low settings on older detectors just to make it bearable. With the F5, I can adjust the Threshold control to around -1 or -2 and still get very impressive depths!… without the noise and chatter this spot usually bombards me with. Since using the F5 in this pasture, I've recovered several old silver coins that I just could not hear with my older detectors!

The threshold control also does something else. Have you ever hunted a site that drove you nuts due to tiny bits of foil, rusted tin, etc.? By lowering the Threshold control, you can partially eliminate the F5's sensitivity to 'em! As a precaution, I tested this in my coin garden

to see if it would have a major impact on the depth I could get coin sized targets. Although there was a very slight loss of depth, I was still able to hear coin sized stuff within about ½ of an inch of the “zero” setting on the threshold (this was adjusting the threshold to around -2 or -3…plenty to get rid of the tiny stuff on most sites).

The audio on the F5 is amazingly descriptive. You have the option to choose single, two, three or four tones. However, there’s a lot more to the F5 audio than just the number of tones! There are some amazing tonal qualities that change according the cleanness of the signal, proximity to other targets, tone mode selected, etc. I’m reminded of a few old analog detectors I’ve owned that although 1 tone, gave me a lot of information about the target due to the “little things” you hear in the audio. In other words, there’s much more going on here than just “BEEP!” on a target.

Another super-cool feature on the F5 is the “Phase lock” button. I mentioned earlier that the F5 has a brilliant user interface. The F5 is also spectacular in another area… user information! The F5 feeds the hunter with important data in “real time”. The “Phase lock” button allows you to “grab” one of these real-time bits of information…the phase reading! Phase and ground balance are nearly synonymous (at least in practical use terms). While hunting, you can glance at the “phase” reading on the right, and if it is several numbers off from the static ground balance reading in the “Setting” window, you have two options. One is to manually tweak the GND BAL knob to match the setting, or my favorite method, a quick press of the “Phase Lock” button, and it’s set for you!

You have the usual TID (target identification) on the big, clear LCD screen, but you also have other key bits of intelligence streaming to you. One is the Fe3O4 bar on the GND DATA window on the right. This tells the user about the amount of “magnetite” in the soil, which can affect the accuracy of the target ID circuits in the F5. The other is the previously mentioned “PHASE” reading, and lastly there’s the CONFIDENCE bar. The bar tells me how “sure” is the detector that the target identified along the TID arc (Fe, Foil, Tab, 5ct, etc.) is indeed what it says it is. It is yet another piece of information for the user to add to his/her list of “evidence” when investigating a possible goody! Really deep targets, and targets partially “masked” by other junk items can fool even the best, so good practice is “when in doubt… DIG!”.

Hunting with the F5 is sheer, ecstatic joy! The weight and balance are great…the controls intuitive and useful…the ground and target information…actually practical! Minutes can turn into hours while hunting without the usual fatigue setting in…a testimony to a metal detector that has both the physical stuff right (weight, balance and ergonomics) , as well as the abstract stuff… (Can I call it “mental and emotional fatigue?). I have hunted with detectors in the past that “wore me out!” both physically and mentally due to bad physical design, constant chatter and horrible menu systems that made you have to dig through layer after layer to change something. NOT so with the F5!

F5 features:

* Tremendous battery life (I’ve gotten over 40 hours from a pair of 9 volt batteries!)
* Incredibly descriptive adjustable audio ID (1 tone, 2 tones, 2 tones or 4 tones)…tones also adjustable in All-metal mode
* Great in-ground depth performance
* Very accurate target ID at depth
* Visual target ID while in all-metal mode
* Brilliant user interface
* Tons of useful ground/target information in real time
* Nice big LCD display
* Solid construction and materials
* Great and simple NOTCH feature for eliminating (or adding) targets
* Excellent elliptical concentric coil
* Included Velcro cable and arm cup straps!
* Frequency adjustment for hunting near other detectors or electric fences, power lines, etc.

Summary

The new Fisher F5 is a metal detector that will set a benchmark for it’s incredibly well designed interface. I can see new Metal Detectorists and Veterans having a blast with it, as well as anyone who just likes the feel of knobs better than button pushing their way through menus. All the control is there for the power user…but in a whole new way! “Simple…yet intelligent” may sum up the F5 quite well! I find it quite ironic that Fisher Labs, the “Oldest name in Metal Detecting” is on the cutting edge of the newest technology! I very vigorously tip my hat to Jorge Anton Saad who was Lead Engineer on the F5 project…and well supported by the legendary Dave Johnson, John Gardiner and Mark Krieger. A job well done on what is sure to become a favorite metal detector for a lot of people!

F5 Interview questions for Jorge Saad

Hi Mr. Saad! Thanks for taking the time to answer a few questions about the very unique F5! There is a lot of interest in the metal detecting hobby about this unusual detector…

First of all, tell us about yourself….

How long have you been designing metal detectors?

Good day Mr. Ellington. It is a pleasure to have the opportunity of speaking with you. I first learned about the metal detector's technology barely three years ago, when I was hired in First Texas Products and got under the expert lead of Dave Johnson and John Gardiner, who you know are two of the top leading engineers in the Industry. Before that I used to write firmware for other kind of products.

What machines have you had a hand in designing?

I was involved in the design of the Bounty Hunter Platinum and Gold; and the Fisher F5 machines.

What's it like working at First Texas? (The people you work with, the philosophy, atmosphere, etc.)

FTP is unique in many aspects. We have a very friendly and open environment. Dave, John and Mark are great people to work around. We are quick with a joke and always on the mood to help each other. Our CEO is also a great guy to work for. We consider ourselves happy to be working here, and that adds a lot to our team. In addition the philosophy of FTP has always been geared towards overall customer experience and satisfaction; as a result here in the Engineering Department we keep open and in touch with as many people using our products as we can spare time for. To learn from their experiences and preferences is vital to develop the metal detectors they dream about – or at the very least get close. As close as physics will allow! We are lucky to enjoy a wonderful support and feedback from our customers and field testers via forum chats, email and phone calls. Those guys are an indispensable part of this team!

Okay…now down to F5! While detectors from most companies seem to be moving more in the direction of membrane type buttons, (and the F5 does have a few too) the F5 has 4 knobs… why did you decide to utilize knobs?

Dave was tired of cumbersome menu systems and wanted to come out with a menu-less environment that was easy to use. It would have knobs and buttons for each function without resembling a 747 cockpit too much, and it would be user-friendly. It was quite a challenge, but we finally came out with the right balance of knobs, buttons and information on the LCD to make the F5 what we intended.

What are the unique features of the F5?

Certainly the user interface is quite unique on the F5. No other detector in the market offers the richness of information the F5 provides at a glance, combined with such an easy control set. It is the detector anyone would love to have had to learn the tips and tricks of the serious hobbyist, all without having to concern themselves much with a machine's tricks and… idiosyncrasies. The F5 is hot and lets you concentrate in what is really important. What the F5 is telling you is: Learn how to detect! You don't have to learn how to operate me! That is a sweet machine, really. Now, do not let the easiness of the interface deceive you; the F5 is a serious detector. It has enough bite to be considered a fair gold prospector and be up there competing fiercely in its price range.

How tough was it to get things "right" when designing something this different?

It is always tough. First you have to keep your ear on the ground and figure out what is it that your customers desire the most (our Marketing and Customer Service departments are very good at that, thankfully). Then you come out with a wish list and start working on it. Unfortunately at the current state-of-the-art some of the features cancel each other, so you have to choose what are the best features

you can put together that will work really good. Then you design over your spec, fighting costs as much as you can, so you can deliver a good product for the money. Finally the fun part: Lots of going back and forth replacing code, making changes to schematics, adding features, removing obsolete functions, optimizing resources, debugging, see what the field testers have to say and if they trash it all out, thank them for their efforts and start all over again. It has however its huge reward: When you finally put a finished product in a customer's hands and they just can't keep 'em off… makes you only want to jump into your lab chair and engage with another project as soon as you can.

What's your favorite feature of the F5 and why?

I absolutely love the almost non-existing learning curve of the F5. You can take a newbie out with it, explain what the controls are for and start detecting right on the spot – nothing complicated to learn or to know beforehand about the machine. You can focus on the fun stuff right away. You could almost ignore the manual to start using it! (I would not recommend that though – the manual has some great practical advice and detail you will not get no matter how much practice you get). I also really like the continuous phase readout. Gave us a bit of trouble and few headaches, but we finally got it right. Thank you Mr. Johnson.

There's a gain and threshold control knob side-by-side on the F5. What is the design intent for their relationship to each other?

Well this is a tricky one, because it involves some trade secrets. I can tell you however that almost every other machine in the market has a combination of Gain and Threshold combined in a single "sensitivity" control of some sort. By breaking the sensitivity control into its factors the F5 response can be controlled to match the exigencies of a wider variety of field conditions: Noise, soil types and compositions, EMI and other interferences.

I've heard you've been lead Designer on the F5… is that true?

The F5 project was assigned to me. I coordinated the firmware writing efforts and wrote most of the software for it. Mr. Johnson however did all the hardware design. I tried to help (and one or two minor ideas made it to the hardware design too), but then, how do you help Dave to design a metal detector??

Who else had a "hand" in the design of the F5?

Lots of talent was pulled into in this project. John Gardiner helped with some hard routines, particularly on the Target ID engine. Dave Johnson took care of the hardware design and revisions; Mark Krieger wrote a crucial piece of firmware and also supervised the final layout stages. Marvin Jones had an expert hand in the layout process too. The mechanical package (including the shape and size of the LCD, the position of the knobs and buttons, the colors and the materials, the mechanicals of the tubes and shafts – and everything else) was the result of a coordinated effort between Engineering, Production and Marketing. While the F5 is my project, I see it as the result of a successfully coordinated effort of many other people.

It appears the F5 shares the housing with the F4 and F2. Are there any other similarities?

No. The F2 and the F4 share the same basic platform, but not the F5. The F5 is coming from an entirely new platform and its software is new as well, though some of the concepts were borrowed from the F70's software.

Could knob driven interfaces be a future trend for Fisher?

I personally fell in love with those knobs, but that is for the customers to say, really. Now they know we can do nice, sweet, knobby interfaces. How would they like to see more of that? We will see – we are listening. In the meantime, we are working on some other interesting propositions, some of which

include knobs. I think you will like what is coming.

The audio characteristics are unique on the F5 compared to other Fisher designs… was this difficult?

It was more a result of the platform the F5 came from. The difficult part was to convey as much information as possible about the target without getting noisy. That is always a challenge on new designs.

Are there plans for other coil options for the F5?

Yes! We are looking forward having some accessory coils for the F5 and other machines. We will get there soon.

All the new Fisher machines have incredible battery life! Is the F5 also super efficient?

You can expect more than forty hours on a fresh pair of batteries with the F5.

How in the heck are you guys at Fisher able to crank out so many innovative metal detectors at the pace you've set?

We have hammock in the lab, drink about four gallons of espresso a week, do not take vacations and see wives and relatives twice a year. More seriously, the creative muscle of this team is quite impressive. I think you will like what we have on the burner for the next season.

What's in store for Fisher Fans in the future? (if you can give us a sneak peek!)

Well, Dave has been walking around mumbling funny numbers for more than two weeks now. Our lead engineer has been working on some of the most recent wants of our customers. I can tell you, Fisher is up to the bat again and has its major players on the move. You will not be disappointed.

Thanks for taking the time to answer these questions!

Quite the contrary Sr., thank you for being a channel of communication and for all the time and effort you put on this hobby.