





Hi WF, I've gone back and read some of the material in that post but not all of it due to time constraints....however as I have said above the differences between the SD and GPX designs is "DVT", [b]Dual Voltage Technology[/b]. Basically speaking the SD transmits differently to the GPX but I would not say they excite the target signals that much differently to the GP series on large target signals when using the Normal timing in DD mode, however due to the extra sensitivity of DVT there is slightly more ground noise evident which could mask those deep faint responses.

If I was revisiting large DD coils with the aim of chasing those rare large nuggets at depth, then I would still take the GPX 5000 over the SD series even if the SD had the aid of a Voltage regulated battery system, there are some pretty neat tricks you can use with the 5000 that are not an option on the SD series machines. If readers are interested I can run through my recommended settings for a large 24" DD Coiltek coil for maximum depth in Victoria's Golden Triangle? However operators need to be aware that the time frames of finding good targets will change dramatically compared to the conventional GPX/Smooth timings/monoloop coil combinations that are the norm these days.

On another note, operators need to realise the transmit pattern of any coil does not dictate the detection pattern. DD and Mono coils transmit patterns all look alike, there is a flood of energy that radiates out of the coil during the transmit stage with the bulk of the field being under and over the centre of the coil. That field then has to flow through the target, hopefully saturating it with enough energy that the target can then create a little transmit field of its own, essentially becoming a tiny little coil in its own right. As you can imagine nuggets are not uniform in shape so their weak little field will be all over the place compared to the nice uniform powerful shape of the original transmit field sent into the ground (DD or Monoloop). It is this resultant tiny little weak field of the target we have so much difficulty in finding, for starters the field we create has to be got rid of before we can turn on the receive circuit of the detector otherwise our extremely sensitive receiver will be blasted by our own transmit field, in the same process we also have to allow for the ground signal to dissipate otherwise that will also blast out receive circuit. This is where the use of a large coil comes into its own, relatively speaking a small coil will transmit a similar sized field into the ground as a large coil on a deeply buried target, however the receive area of the coil has a huge impact on gathering of the resultant weak field from the target.

Good sweep control and coil height are crucial when listening for those weak fields generated by deep targets, a large coil will assist greatly in this, the use of a DD coil with Normal timings allows the operator to avoid the swamping effect of surface minerals that a Mono coil would suffer from, however they are still prone to ground noise and also the trade off of the coils null.

I can elaborate further but not just at the moment.....

Regards

JP

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OK have a little more time to elaborate further..... DD coil use is pretty much a dying art thanks mainly to the Smooth type timings. The problem with DD coils is there is an instant trade off in perceived depth when one is bolted to the detector, this is across the board on all target sizes, however the trade off is not necessarily reflected in signal performance so much, but rather in signal strength and recognizability, confused?....read further.

For the time being lets compare apples with apples, so in this instance we are using Normal timings with your Minelab detector of choice in combination with either a DD or Mono coil, the Mono coil will produce the loudest signal response on any target presented to the coil because it is much more sensitive, however it is also prone to near to coil surface mineralisation because the receive area is so vulnerable, a Monoloop does not have the protection of the transmit winding because with a Monoloop coil the transmit winding is also the receive winding. You could consider a Monoloop coil to be the full blown power house coil a little like a V8 Bathurst 1000 race car whereas a DD is the on road car with traction control and hybrid green power which still has a decently powerful engine under the hood just that it is a little more gentle in its delivery.

A DD coil has to be nulled so that it does not see the transmit winding when it is receiving, thanks to this null it almost acts like a Mini ground balance allowing the detector to be used in some pretty nasty ground without being swamped by surface minerals, however this Null comes at a price because it takes the edge off the signal response. A good operator is fully aware of this trade off and will very quickly realise they need to have a VERY consistent swing speed and height to get effective performance out of the coil, but in places like Victoria where the mineralisation levels are extreme in the deeper ground types and the higher historical concentrations of VERY large nuggets at depth there is the potential of finding good sized nuggets missed by operators using the newer timings methods and Monoloop coil options of the GPX series machines.

There was a thread here recently where QLDsandy experienced a scenario where Fine Gold and Enhance produced a signal response on an in situ nugget that Normal and Sens Xtra would not respond to no matter how hard he tried, that particular nugget fell into what is known as a hole in the timings. This is quite normal behaviour and should not be seen as a fault of the detector, holes

are part of the trade off of having different timings and being able to ground balance effectively, this is why the GPX 5000 has 8 different timings to choose from.

Every nugget presents itself to the detectors electronics differently and has the potential to fall into a hole in the timings, in the case of nugget sizes the biggest hole I have encountered over the years is the 1/2 to 1 ounce size with Normal type timings sometimes responding poorly compared to Enhance and Fine Gold. To see what I mean take a peak at the video I did for the Minelab Treasure Talk blog a while back where I compared Normal with Enhance on a decent sized nugget dig Minelab Treasure Talk Blog .

Minelab are pretty good at wringing performance out of their designs, in the case of their PI detectors they have 2 channels which essentially act as two detectors operating simultaneously, the second channel essentially acts as a mopping up channel to try and cover any holes in the timing, however their is always a trade off because of the mineralisation.

I'm out of time here but later today if I get a chance I'll write up my suggested settings for large DD coil use in mineralised areas such as Victoria where the big ones lurk...

JP

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OK finally have a little time to expand on the the use of a DD coil with the GPX 5000 for areas like Victoria..... please keep in mind this kind of detecting takes dedication and is not for the faint hearted!! Firstly an explanation of what is going to be required if you want performance out of a DD, this methodology can however be applied across the board for GPX use for both Mono and DD coil use.

Your going to have to retrain your brain to accept a new kind of noise from the detector, it is going to take many hours of listening and persevering and all you'll have to keep you going is my word that it works. To get the ball rolling I suggest you just use conventional coil sizes that your familiar with and just do conventional detecting. The key here is in the use of the Stabilizer and for this method to work you need to have the thing cranked up flat out for at least 100 hours of detecting time over as short a period of time as possible, the reason for this is there is a lot of VERY useful information

contained with the noise floor of the detector, the Stabilizer frees that information up allowing you the operator to tap into it, however to be able to tap into it you have to train your brain to ignore the wavery nonsense mixed in with the good stuff, hence my suggestion of running it flat out. Once you've conditioned your brain you can then set the Stabilizer to a preferable level that allows for maximum depth but on the cross over point relative to nuisance noises.

Here are my suggested settings for a GPX 5000 (or 4500) for use in deep highly mineralised soils using Normal or even Sharp timings, using a B&Z Booster and dual speaker system wired in series.

Front end cap:

Search Mode: General

Soil Timings: Normal/Special

Coil/Rx: DD

Ground Balance: Tracking/Fixed

Menu Settings:

Main Menu:

Backlight: 0

Battery Test:

Volume Limit: 8

GB Type:Gen

Special: Sharp

Manual Tune: 128 (wherever threshold is stable)

General Menu:

Motion: Slow or Very Slow

RX Gain: 11

Audio: Normal

Tone: 60

Stabilizer: 20

Signal: 19

Target Volume: 8

Response: Normal

Tracking: Medium

Iron Reject: Off

OK now for coils, this is where you need a Hipstick or a PRO-Swing 45 because DD coils are heavy and for this application you need the biggest one you can swing, my preferred coil for this type of detecting is a Coiltek 24" monster DD, I've found slugs up to 21 ounces at depth using this method so be rest assured it works! In a pinch the Minelab 18" Commander DD is a good option or if you can find one a Nugget Finder 20" DD but their rare as hens teeth these days (I have one stashed away here somewhere :-)).

You will notice in the settings I've chosen Normal over Deep in the Audio filtering, there is good reasoning for this, the gains made on large deep targets using Deep audio is negated by the Stabilizer, the Stabilizer will provide far and away more info than Deep could ever do, if you try to combine the two you will drive yourself nuts with the signal response, so keep it clean and simple and use Normal audio. In a pinch you can opt for Quiet mode but it does take a lot of information out of the signal train so be prepared to learn that methodology too.

Now your probably wondering about EMI? EMI is less problematic when using a Normal type timing compared to Enhance or Fine gold, the Smooth class of timings use a lot more inbuilt Gain compared to Normal timings and as such tend to be more problematic in noisy areas, to convince yourself of this detect for an hour using Normal then swap to Fine Gold and listen carefully to the threshold, you will notice a gritty wavery instability to the threshold, after an hour your brain will filter that noise out so you don't even notice it anymore, it is this trickery I want you to tap into in getting your brain trained for the extra information provided by the elevated Stabilizer settings.

The Stabilizer is a control that lowers and raises the threshold floor filtering, lower numbers raise the floor allowing less information through thereby presenting a smoother sounding threshold to the human ear, however you are also removing good information, higher numbers lower the floor allowing more info in but also making the detector sound jittery. If you run it flat out for a long

period of time your brain will start to become conditioned to the noise so that when you back off to a lower number the threshold will start to sound stable again but you will now be able to run a much higher number than you would have been able to previously, your aim is to run the Stabilizer around the 17 to 18 mark.

Once you've conditioned your brain you can then start to experiment with Gain, I would rather see a lower than FP (11) Gain setting than back off on the Stabilizer numbers, however none of this is set in stone and your particular detecting environment and personal experience will dictate your final choice.

For those using old technology like the SD2200d set it to CH2 and Deep run at least an 18dd, Get a booster for it and set threshold paper thin. Less racket and far more effective on triangle dirt

OK thats me done for a bit, happy to answer questions if required.

JP