

# FIELD TEST



## GPX-4000

### Spec sheet

Technology	Dual Voltage (DVT) Multi-period-Sensing (MPS) – operating mode.
Transmission	Bi-Level pulse induction
Search system	Motion detector
Coil Standard	11" Double D
Battery type	Lithium Ion
Overall Weight (excluding battery and accessories) with coil	2400g
Battery weight	870g

Usually when metal detectors are offered for sale in the UK they have been designed for our market, but not so in the case of the GPX4000 (GPX). The GPX is primarily a gold prospector's detector, born in the gold fields of Australia and widely used around the world finding natural gold in highly mineralised soil. So why has the GPX been pitched at the UK detector consumer? Surely there's very little chance of finding natural gold here. The reason why is simple – it will detect metal deep, very, very deep!

Over the past seven months I have been using the GPX, testing all its features and working out how best to use it for finding coins and artefacts on worked out 'good' sites.

As this is one of the most expensive detectors on the market I have felt an extra weight of responsibility to give a true representation of its capabilities and shortcomings.

My initial testing of the GPX was using this detector as it was supplied to me, and I intended to do an 'out of the box' only field test. I soon realised this would be a mistake as the 11" double D (DD) coil, ideal for finding tiny gold nuggets in the Australian Outback, wasn't best suited for coin and relic hunting here in the UK. It was just too sensitive, finding tiny flakes of rust and single shotgun shot that gave the GPX strong clear responses. Yet when I tested its depth capability I found it only marginally deeper than an Explorer SE fitted with a 15" WOT coil.

One of the most powerful features of Minelab's GP and GPX range of detectors is their ability to shine when used with many of the larger after-market search heads. I found

these larger coils were less sensitive and transformed the GPX's performance when used to find coins and relics here in the UK. I now think it is essential that any potential UK purchaser of the GPX should also buy a larger coil.

### Technology

This machine uses Pulse Induction technology, which has a reputation for finding all metal deeper than VLF/motion types of detectors. Traditionally pulse detectors are Non-Discriminating and tend to love iron, so when I heard the GPX was capable of discriminating iron I became very excited. After using it though, I soon discovered it doesn't discriminate all iron! Using the standard DD coil I found it would discriminate a small nail to 4" but then accept it at 6". It discriminated an iron horseshoe to 10" but would bang out a positive response at 18".

The GPX's iron discrimination sounds a bit like it's overloading the audio system – all strong iron signals 'blank-out' the audio, but I found weaker iron signals gave me such sweet tones. I just couldn't distinguish them from the desirable non ferrous targets I was after.

One good thing though, I found that if I turned the Discrimination right up, the machine didn't seem to lose any depth and non-ferrous target were never wrongly identified as iron.

**\*Note: When running a DD coil in Mono mode the GPX4000 will still discriminate iron but with reduced accuracy.**

### DD & Mono coils

There are two types of heads you can use on the GPX4000, Mono and DD. The Mono coil has just one coil winding and the DD has two.

So what coil type is best?

- **DD coils** are not as sensitive, have less depth and are not as crisp as the signal compared to a Mono coil.
- **DD coils** being less sensitive are better for handling bad ground and are less prone to electrical interference.
- **DD coils** are more versatile and utilise more of the GPX's advanced functions. They can be used in mono mode and get sharper signals and still retain the GPX4000's iron discriminating abilities.
- **Mono coils** of equal size to DD coils are deeper and give better, sharper signal responses.
- **Mono coils** can't utilise the GPX's discriminating mode.

**\*Note: A DD coil used in Mono mode is roughly equivalent to a Mono coil of half the size, for example: a 20" DD coil used in Mono mode will have the performance of a 10" Mono coil.**

I found that the best coils for finding coins at depth were the Mono coils. The signals were the clearest and they were by far the deepest. In the UK the ground is nothing like in Australia. Our worst terrain would probably still be considered mild compared to the gold fields, so the hot ground handling DD coils just aren't needed. The Discrimination, although useful, was too frustrating to use to make it a viable reason to use a DD coil. Small shallow iron fooled me every time and I was soon reaching for my Explorer to check the signals before digging them.



Not all finds were disappointing – this one was the real McCoy

In my experience I found that although DD coils are useful in some situations, a Mono coil of 16” to 20” would be best for coin and relic hunting, giving a good balance of sensitivity and depth for the typical UK finds.

Using Mono coils exclusively, I then had the problem of how to discriminate iron, with a coil that can’t discriminate. The answer was simple; I would use a discriminating detector for that task. The technique I developed was to mark all signals (line marking paint from a builders merchant) and then check the ‘marks’ with my SE before digging the iffy and invisible ones. On a site that had been worked hard, the GPX managed to pull an Edward penny from an area that had produced many Celtic silver units at over 10’.

## Controls

The GPX has a very versatile user interface which easily enables you quickly to adjust all settings. A lot of these settings are there to fine tune for really tricky gold field conditions...but GOOD NEWS, we don’t have that problem and I found it almost impossible to screw up the setting of the machine to affect its performance. The secret to good performance using this detector is to adjust it to be totally stable, keeping false signals (due to electrical interference, ground effect and hot rocks) to a minimum. This then gives you the confidence to dig the really deep faint signals.

False signalling from shallow or surface hot rocks gave me fluttering sounding signals, easy to identify and ignore. But when there were a lot, I could get rid of them by changing the soil timing to ‘Sensitive’ and by choosing ‘Smooth’ from the rear LCD panel. **\*Note: You will find on the front panel the ‘Search Mode’ switch. It is marked Patch, G (General) and Deep which are the three factory preset programs loaded into the GPX. These really aren’t relevant to coin and relic hunting, but can be used to save three personal programs.**



A selection of coils.

## So how deep...

...I hear you ask? Now I could make up some excuse for avoiding this question like it depends on the ground, user experience etc, but I’m going to give you my results which I’m sure any reasonably experienced detectorist will be able to replicate.

**Test 1:** This test was conducted with a GPX fitted with four different coils;

1. 11” DD Minelab coil (standard)
2. 16” Nugget Finder Mono coil
3. 18” Mono Minelab Commander coil
4. 20” Nugget Finder DD XP coil

The coils were tested on various coins and artefacts buried at different depths. I didn’t test ‘in-air’, as I thought in this case, such tests would be meaningless.

**\*Note: All test depths here are quoted in inches. This isn’t because I seek to deny the metric system or I’m too old and set in my ways. No, it’s because the convention in our hobby is to state depths in inches.**

### The test objects were:

1. Cut quarter Henry III penny (farthing) 0.2g.
2. Edward I penny 0.9g.
3. UK 5p coin 3.2g

These were buried at increasing depths in a clay subsoil pasture, the first 10” being topsoil with medium mineralisation. I also tested an SE fitted with a standard coil for comparison. The GPX was first tested on all pieces with a Gain of 10. I then pushed the Gain to 15 (maximum) and found an increase in depth of about 1” on all pieces. The level at which you can run the Gain will depend on the soil and environmental conditions of your site, but on all my sites I’ve found it possible to run the Gain at least 10.

Here are the results of my depth tests;

Minelab Explorer SE			
Cut quarter farthing	Sensitivity 28	5”	(6” iffy)
Edward penny	Sensitivity 28	10”	(11” iffy)
Modern 5p coin	Sensitivity 28	10”	(11” iffy)
Minelab GPX4000 fitted with the standard 11” DD coil			
Cut quarter farthing	Gain 10 (DD)	7”	(8” when switch to mono, with gain set at 15)
Edward penny	Gain 10 (DD)	12”	(13” when switch to mono, with gain set at 15, but iffy)
Modern 5p coin	Gain 10 (DD)	13”	(14” when switch to mono, with gain set at 15, but iffy)
Minelab GPX4000 fitted with a Nugget finder 16” mono coil			
Cut quarter farthing	Gain 10	7”	(8” iffy with gain set at 15)
Edward penny	Gain 10	15”	(16” iffy with gain set at 15)
Modern 5p coin	Gain 10	17”	(18” with gain set at 15)
Minelab GPX4000 fitted with a Commander 18” mono coil			
Cut quarter farthing	Gain 10	8”	(9” iffy with gain set at 15)
Edward penny	Gain 10	15”	(16” with gain set at 15)
Modern 5p coin	Gain 10	18”	(19” iffy with gain set at 15)
Minelab GPX4000 fitted with a Nugget finder 20” DD XP coil			
Cut quarter farthing	Gain 10 (DD)	4”	(5” in mono and 6” mono with gain set at 15)
Edward penny	Gain 10 (DD)	14”	(15” with gain set at 15)
Modern 5p coin	Gain 10 (DD)	14”	(15” with gain set at 15)

As you can see from the results, the 16" Nugget finder (NF) coil and the 18" Commander coil were the best two coils for depth and both gave clear sharp signals. The 18" mono Commander coil was the deepest coil in my tests.

## Test 2 – Iron reject ability of DD coils

I wanted to test exactly how good the 10" stock coil was at discriminating iron.

### Iron reject test – Minelab GPX4000 fitted with the standard 11" DD coil

<b>Small nail</b>	Gain 10 (DD)	4" reject	5" accept
<b>Large nail</b>	Gain 10 (DD)	7" reject	8" accept
<b>Horse shoe</b>	Gain 10 (DD)	10" reject	11" accept

## Dealing with iron

The DD coils discriminate shallow iron, but personally I wouldn't include this in any decision to purchase a GPX as I found the non-discriminating Mono coils the best to use.

I found two ways of dealing with iron using Mono coils. The first was to detect the search area with my trusty SE. When I was sure I had found and dug all the non-ferrous signals I would then switch to the GPX. I would then ignore all loud signals and just dig the deep feint ones.

The second technique, already mentioned, was to first detect with the GPX, marking all signals with line paint and checking with my SE before digging. This is my preferred method.

However, there is a third method that could be adopted if you are lucky enough to find yourself on a scattered hoard. Mark all signals and dig them! You never know what lurks under that big iron!

## In the field

In all my days using the GPX finding deep metal, one day really stands out - and for all the wrong reasons! I was detecting with a friend along the side of a recently built bypass on ground that had been disturbed during construction. The field had been reinstated and ploughed each year. The farmer told us that several gold coins had been found on that field over the years. It had been 'detected to death' and we had already tried using our SE's without success. So, we marked out the field and detected each area using the GPX, marking all signals with line paint. After checking all the signals with an SE, we found all but three to be shallow iron.

The first deep signal was a musket ball at about 11" and the second was a tiny piece of shallow foil. The third was a peach of a signal giving no response to the SE at all, so I started digging, and digging. After reaching 10" I re-checked the hole plunging the SE head to the bottom... but still nothing! All the time the GPX's response had become louder, so down I dug. Finally, at two feet, I caught a glimpse of gold and fell to my knees in anticipation, but peering into the hole my excitement was short lived as I could see the word 'McCoy' on my treasure! It was a crisp packet! Inside the packet was a Muller rice carton with its tin foil lid still partially attached, and this is what the GPX had detected. We were both gob-smacked at the depth of the hole, 24"! What a detector!

## Accessories

One of the things you will find is a lack of accessories available in Europe for the GPX range. However, control box covers are available from America, Nugget finder coils from Australia and can be sourced via the Internet. Presumably as these detectors become more widely used, accessories will become available in the UK.

However, you should have no trouble in ordering coils (and other accessories) from specialist Authorised Minelab dealers in this country. Commander coils can be purchased round or elliptical. There are four round coils available; the 8", 11" and 18" Monoloop coil and an 18" DD coil. Elliptical DD coils come in two sizes 10" and 15". There is also a 15" Mono coil available.

**Note: Care should be taken with some of the Australian made coils if you intend to use them for beach detecting. Water ingress is unlikely to have been a major consideration in coils designed for use in the desert. But a lot of the large Coiltek coils are fully waterproof and perfect for beach work.**

## Further Help

Another essential is to buy Jonathon Porter's DVD 'The GPX Factor' in his 'The Outback Prospector' series. This DVD really gave me a kick-start in understanding the GPX. Jonathan Porter can be contacted through the Minelab Owners' Forum.

## Conclusion

The GPX is a very impressive detector. It is very easy to use and capable of finding objects deeper than most detectors.

I was very impressed with the ergonomics of the detector; the bungee and harness allowed me to swing it with ease. I found carrying the lightweight lithium battery on the body harness unobtrusive and that it would power the GPX for a full days detecting without fail.

The GPX is however a very specialised machine and should be considered an extra tool in your armoury rather than your main detector. Regardless of what type of head you use, iron will be a problem and I suggest you adopt the 'mark and check' technique previously mentioned. The GPX is very hard to use on iron-infested fields, but if you know there are good finds amongst the iron, then it will be worth the pain.

In the right hands and using techniques to exploit the GPX's performance, results can be truly amazing. I've heard that some enterprising detectorists are already searching out old hoard sites and making truly breathtaking finds.

The GPX has its faults. It's very expensive but overall I love this detector and I'm sure, in time, it would pay for itself again and again.

Search 'Ed



TEST RESULTS	User Features – (Scores out of ten based on price category)	
	Ergonomics (weight/balance)	8
	Simplicity/user friendly	8
	Build quality	9
	Accessory search coil compatibility	10
	Weather resistance	5
	Discrimination performance	3
	Overall detection performance	9
	Value for money (£2700)	6
	SEARCHER RATING	