

So what is a Metal Detector, and how does it work?

That's a very good question!

Well I have been in this fantastic hobby for over 35 years and I still don't know how to build one, but I can tell you basically how they work, and really that's all you need to know. I belong to a club of over 40 members and I cannot name anybody that does know or even wants to know.

A quick bit of History one of the first real metal detecting machines was invented from the use of directional finding equipment from airplanes in about 1937 in the USA, even though it looked nothing like today's sophisticated computerised machine. From this accidental humble beginning came today's machines, from over twenty different companies across the world.

So you have looked online or in one of the detecting Magazines and made a decision based on the recommendations from the dealers and you have then phoned or gone in to a dealers shop and explained how you are very new to the hobby and what detector would he / she advise. You have then purchased a new or second-hand machine, and with it came a guide on how to set it up as they are all slightly different. Here also the dealer comes to your rescue, if in any doubt ask him, give him a ring; and he will talk you through setting it up,

“But how does it work” you ask. Well basically its very easy inside the control box a signal is made which is sent down the wire (or Wi-Fi) to the head, which is called the search coil. From there it goes round the coiled wire inside and is transmitted into the ground at a very high frequency.

This signal (Which you cannot hear normally goes through the soil until it hits metal) where it bounces back to the coil, where its received and sent to the control box which analyses it against the signal it sent out, and the difference is sent to your earphones.

The difference of what you hear is the difference between good and not so good machines, the object itself and the depth, also the soil conditions, whether the soil is wet or dry, chalky or mineralised soil, and it all affects what you hear. The majority of the sent signal disperses into the ground and you only get back a small proportion, presuming there is only one item there.

The signal you hear over the top of the background noise is the machine telling you what it thinks about the object. This information can be a sound, or on a screen as a number or both.

All of this, the background noise (or threshold) can be reduced to suite yourself, as can the noise level of the signal itself.

If you find you are finding too many small iron objects like rusty nails or bits of rubbish you can discriminate some of them out. But be cautious as you raise the discrimination you could lose small decent finds. So always use the smallest amount needed of discrimination.

This is a very basic guide the rest comes with experience and time.

We have come a long way in 85 years, and detectors are still changing and getting better as technology evolves.

So don't worry too much about how it works, just walk slow, swing slow, keep your search coil as low as possible to the ground, and listen to the signals.

Good hunting

Dave