

# X-TERRA



VFLEX  
technology

# Series



# Product Report:

## NEW from Minelab X-Terra 305, 505 & 705

*With contributions from Des Dunne, Minelab International Ltd and others*

### The X-TERRA's Evolve, Compete and WIN..

Minelab metal detectors are as reliable and well-built as you'd expect from such a veteran of the industry. What no one expected, though, was that the innovation and flair evident in these three **X-TERRA** models showed up what was sadly lacking in competitors' products.

The new **X-TERRA** range pulls off a very difficult thing, delivering a complete makeover plus a significant feature upgrade on all three models.

For my part I like what I see, with new looks and universal icons. I've always been a big fan of **X-TERRA's VFLEX** technology and having travelled quite extensively for the past couple of years, I couldn't have felt more impressed and proud by the way so many people, in so many countries, put an **X-TERRA** at the top of the list for their detecting requirements!



### VFLEX EXPLAINED

**VFLEX** uses state of the art digital and mixed-signal components to enhance standard single frequency VLF technology by replacing most of the analogue circuitry with digital signal processing. The small amount of analogue circuitry still employed has been very carefully designed and calibrated to obtain the outstanding sensitivity, stability and repeatability required to match the performance of the processing in the digital domain. This radical departure from traditional approaches to metal detector design has been made possible by advances in electronics that power personal digital devices such as mobile cell phones and tiny portable audio devices such as the new iPods.

What does VFLEX mean for the **X-TERRA** user?

For the **X-TERRA** owner, **VFLEX's** precision means dependable performance and improved immunity to environmental conditions, such as ground mineralization, electromagnetic interference and temperature variations. VFLEX requires search coils (heads/loops) that are hand-built and calibrated to a very high standard. Each time the detector powers up, a pair of micro-processors in the control box and search coil begin communicating to:

1. Identify the coil type configuration (concentric or double D)
2. Recognize the coil size
3. Determine the operating frequency in kHz of that coil.
4. Ensure the detector is calibrated perfectly for each coil which ensures optimised performance.

So, it is not the detector's control box, but the actual search coil that controls the frequency chosen from a low to a high kHz setting. The search coil will adjust the frequency for optimum performance. That's one less thing to worry about!

## The NEW X-TERRA Model 305

The **X-TERRA 305** has been given a rock solid upgrade with a new look, great new features and improvements to existing features which make it better value for money than any other product on the market.

New features include:



- ✦ An additional optional high-frequency coil – 18.75kHz. This is an added attraction to those with access to some good Roman, medieval, Saxon or Civil war sites but who are on a budget. High-frequency coils are designed to be more sensitive to small low conductive and thin items – often the most valuable finds! **X-TERRA 305** users can now choose two coil frequencies – Medium & High Frequency –with a choice of 6 accessory coil choices including the very efficient 5” x 10” elliptical High-Frequency and two small 6” coils, (MF & HF) perfect for high trash areas or difficult terrain.
- ✦ Manual **Ground Balance** control, with a range from 0-20, allowing access to areas previously too noisy to detect in.
- ✦ A very useful **Threshold** feature ranging from -5 to 25. (Benefits of this feature are explained in more detail later in this Report).
- ✦ The **X-TERRA 305** now has 2 x preset **Discrimination Patterns** (that the user can customise) and an **All Metal Mode** with a shortcut button on the front panel (very quick and handy for checking signals).
- ✦ The choice of **Tone ID**'s also allows the operator to choose from a selection with 1 Tone, 2 Tone, 3 Tone and Multi-Tone options.
- ✦ Now has **Noise Cancel** selectable across 3 settings.
- ✦ **Target ID**'s in 12 segments, 1 Ferrous, and 11 non-ferrous in steps of 4 from -4 to 44.
- ✦ **Sensitivity** ranges from 1 – 20.
- ✦ A new, no-nonsense three year warranty.
- ✦ The very useful pocket sized manual has a tear off field guide to help users learn the new universal icons.
- ✦ All settings are memorised when the unit is switched off, even when the batteries are removed or replaced. (NB Check this with other manufacturers' units – some have to be reset every time the batteries are replaced.)

All in all the extra features in the **X-TERRA 305** make it the most capable machine in its class.



### Field tester's comments on X-TERRA 305

*“Very stable and allowed higher usable sensitivities than the X-TERRA 30. It showed a glowing performance on the beach and maximum sensitivity attained over the “wet stuff” was Sens. 8.... Was able to go into the salt water without any undue falsing! We were impressed with this great performer!”*

## The NEW X-TERRA Model 505

The **X-TERRA 505** has also received similar treatment with some great new upgrades making it a very efficient metal detector, plus a great new look.

The **X-TERRA 505** has all of the features of the **X-TERRA 305** plus more!



- ✦ Now with the choice of three coil frequency options: Low 3kHz, Medium 7.5kHz and High 18.75kHz. A total of 7 accessory coils are available to suit the **X-TERRA 505** giving it terrific and versatile range for a whole host of search options and conditions.
- ✦ The **X-TERRA 505** manual Ground Balance has been made more accurate. It now increments from 0 – 50 allowing more accurate **Ground Balancing** and quieter detecting.
- ✦ The **X-TERRA 505** now has 3 x preset **Discrimination Patterns** (that the user can customise) and an **All Metal Mode** with a shortcut button on the front panel (very quick and handy for checking signals).
- ✦ Like the **X-TERRA 305**, the **X-TERRA 505** benefits from a very useful **Threshold** feature ranging from -5 to 25. (Benefits of this feature are explained in more detail later in this Report).
- ✦ There is an increase in **Target ID** resolution to 19 segments: 3 ferrous and 16 non-ferrous ranging from -9 to 48 in steps of 3.
- ✦ The **X-TERRA 505** has an expanded Tone range over the **X-TERRA 305**. It now features 1 Tone, 2 Tones, 3 Tones, 4 Tones and Multi Tones options.
- ✦ The **X-TERRA 505** user can now select from 5 **Noise Cancel** settings.
- ✦ Like the **X-TERRA 305**, the **X-TERRA 505 Sensitivity** ranges from 1 – 20.
- ✦ A new, no-nonsense three year warranty.
- ✦ The very useful pocket sized manual has a tear off field guide to help users learn the new universal icons.
- ✦ All settings are memorised when the unit is switched off, even when the batteries are removed or replaced. (NB Check this with other manufacturers' units – some have to be reset every time the batteries are replaced.)



### Field tester's comments on X-TERRA 505

*"Great ferrous discrimination and good clear sharp signals on non-ferrous. A small 'pea size' lead pistol ball was dug from 8" with superb clarity of signal. Good and quick to set GB and ran smoothly even at full sensitivity of 20. Beach operation was good and a usable setting over the wet stuff without any falsing at all was achieved at Sens. 12. On farmland, we had terrific stability and reliable operation with this fantastic detector".*

## The NEW X-TERRA Model 705

The new flagship of the X-TERRA series, the X-TERRA 705, also received some great new advanced features and enhancements re-asserting its professional reputation.

Some buttons cleverly 'double-up' as multi-function buttons to cater for the extra functionality without cluttering the control panel. (Unit operation is clearly detailed in the illustrated and comprehensive Instruction Manual)



The **X-TERRA 705** has all of the features of the **X-TERRA 305** and **X-TERRA 505** plus more!

- ✦ With enhanced Ground Balance abilities making this detector even smoother and easier to operate even in highly mineralised conditions. Because of this the **X-TERRA 705** will see targets that the **X-TERRA 70** could not, and it will work in ground conditions that its competitors could only dream of!
- ✦ Complementing the enhanced Ground Balance abilities the **X-TERRA 705** also has a new **Tracking Ground Balance Offset** feature. Many experienced users would like to run their units slightly off balance, but have been unable to do this when in **Auto Tracking** mode. Well now they can! With the ability to adjust from -15 to +15 whilst in **Auto Tracking** mode it can be easier to work areas that were previously difficult. Operating in areas with mineralised ground with hot rocks or the dry-wet sand transition areas becomes easier. This is already proven in goldfield trials where the **Prospecting Mode** offers even more flexibility. By setting a negative **Tracking Ground Balance Offset** (-15 to 0) the **X-TERRA 705**'s ability to find deeper and smaller targets in certain conditions may improve. It may also improve the **Target ID** and reduce false signals if a positive **Tracking Ground Balance Offset** is set (0 to +15).
- ✦ The **X-TERRA 705** now features a very useful **Backlight** to enable continued searching when the light gets low.
- ✦ A new **Pin Point** mode is available in the **X-TERRA 705**. The much-lauded **Pinpoint Auto** mode stays the same as **X-TERRA 70**. A new Pinpoint Sizing mode has been added. **Pinpoint Sizing** mode can be used in two different ways. As the name suggests **Pinpoint Sizing** mode can figure out the size of a target by holding the sensitivity at a constant level and then probing the periphery of the target. The second use is as a manually controllable pinpointing mode. Since the sensitivity is held at a constant level when this mode is entered, you can narrow your target response by holding the coil partially over the target and then enter the **Pinpoint Sizing** mode. This process can be repeated until a very narrow target response is heard and you know exactly where the target is. This has a similar effect to **Pinpoint Auto** mode but gives the user more control.
- ✦ **X-TERRA 705** now has 4 preset Discrimination Patterns (that the user can customise) and an **All Metal Mode** with a shortcut button on the front panel (very quick and handy for checking signals).
- ✦ **X-TERRA 705** delivers a whopping 28 segments of **Target ID**, 4 ferrous and 24 non-ferrous giving Target ID's from -8 to +48, in steps of 2. More **Target ID** segments gives greater ability to see small differences in target composition and allows for improved accuracy of what targets you accept or reject.
- ✦ **Sensitivity** on the **X-TERRA 705** ranges from 1 – 30.
- ✦ The **X-TERRA 705** has 5 manually adjustable **Noise Cancel** channels, as well as an **Auto Noise Cancel** function.
- ✦ The **Beach Ground Balance Mode** in the **X-TERRA 705** continues to be fantastically useful. As well as its outstanding performance at the beach it can also help to achieve a ground balance in extremely difficult mineralised soils and is great at ignoring broken down Ferrous material that is almost non-magnetic.

### Field tester's comments on X-TERRA 705

*"It's great fun to use. The simplest way to describe it is perfect balance! It holds the direction of the swing without the slightest complaint. It even fools you into thinking that it's your detecting ability rather than the detector's engineering that's the cause of such fine sweeping! On wet salt sand it was possible to work in the salt water with sensitivity as high as 28 without any falsing whatsoever! On inland sites it rewarded with a few decent hammered coins which had been missed by several others on well-worked land. The coil options are great and I found the elliptical high-frequency coil to "be the business" on those "well-worked sites!"*



WORMS EYE VIEW

## Designed to be used everywhere

The **X-TERRA** models were designed from the start with the user in mind, meaning

- Menus that make sense
- Strategically located buttons - easy to understand and operate. Include a wide range of automatic settings covering every imaginable detecting situation and superb, stable handling.

If you prefer a more “hands-on” approach you’ll love the **X-TERRA** models’ manual controls with direct button access to all the important functions from **Sensitivity** to **Threshold** to manually **Ground Balancing** on land and in the innovative **Beach**

**Ground Balance Mode** (**X-TERRA 705** only). The **X-TERRA** series has the ability to grow with the user and has a feature list long enough to satisfy even the most demanding detector fan.

## It's all about the coil! The VFLEX Advantage

The Minelab **VFLEX** system is the **only coil initiated frequency shift system** on the market today and offers the best range of coils available and, each additional coil acquired is perfectly matched to your **X-TERRA 305, 505** and **705**. **VFLEX** offers the **unique** feature of utilising one control box and having the option to acquire, fit and use as one wishes on both ‘turf & surf’, offering super results by being able to hone in on targets of a very low to medium, to a very high conductivity; whether deep, shallow, large or small.

- 1. Medium Frequency 7.5Khz** – great general purpose search coil which should cover most searcher’s needs – good depth – great discrimination – sharp accurate signals.
- 2. High Frequency 18.75Khz** – the prospector’s frequency of choice for seeking out even the smallest gold nuggets and for detectorists seeking small, low conductive targets typically at shallow depths or angled inside plow furrows that would ordinarily be difficult targets with other set-ups. These HF coils are also “hot performers” for small gold jewellery targets and chains in salt-water areas. Since high frequency coils are more sensitive to smaller targets users should be aware they can sometimes signal more ferrous (unwanted) items. High frequency coils will not penetrate as deeply as low or medium frequency coils. The extra sensitivity to gold and small silver generally compensates for any loss of depth which may result.
- 3. Low Frequency 3Khz** – great for high conductive targets typically at deeper levels and for being less sensitive to small low conductive trash such as broken up metal shards. Great for Cache hunting!

## Benefits of Threshold in Disc Mode

Many coin detectors around the same price of the **X-TERRA** operate without a threshold tone. This can be handy for beginners, who might find it easier to just dig when the detector says “beep”. However, there are a few drawbacks, the main ones being poor differentiation between trash and good targets, reduced sensitivity, difficulty in setting ground balance (if the detector has it!) and uncertainty knowing where to set your sensitivity. With the addition of the Threshold feature on the **X-TERRA 305** and **505** (The **X-TERRA 70** always had this option), if the sensitivity is set too high the user will hear the threshold chatter cut in and out as the ground mineral content changes. This is a cue to consider reducing the sensitivity until a stable threshold remains. Even though sensitivity is **LOWER**, **it can actually help you find MORE** targets. This is because the coil is processing less information from adjacent targets and can therefore process more accurately. At the end of the day this means less junk, and more good targets recovered.

A threshold also improves the quality of target signals, and lets you know you have passed over junk or rejected targets by momentarily blanking the audio. Experienced operators will all tell you that the presence of junk is very important, wherever people have been, they unfortunately always leave junk behind, but amongst that junk are the good targets!



## Prospecting Mode X-TERRA 705

The Prospecting mode on the **X-TERRA 705** isn't just an All-Metal mode (like some competitors' products). It has been designed for detecting targets in difficult soil conditions with greater depth and sensitivity than regular Coin & Treasure mode. There may be situations where users will achieve better performance with the Prospecting mode, and not only when nugget hunting. Prospecting Mode features an adjustable Iron Mask, which is similar to an expanded ferrous discrimination range, which has a scale of 0 -20. Even on the maximum setting of 20, most low conductive non-ferrous targets will still be detected, but it will reject small nails, mild steel washers, wire etc and some gold. This can be of use for relic and jewellery hunters, and even coin hunters working an old site with unusually deep targets. If you want to ensure you get all the Gold then lower the Iron Mask setting - the lower the better, even if that means digging more junk! Prospecting mode produces signals with a tone-modulated audio response, which makes it very easy to hear faint target signals (always wear good quality headphones).

## Tracking, Auto & Manual Ground Balance

Ground Balancing improves Target ID accuracy, increases a detector's stability, and allows users to use a higher Sensitivity setting. The **X-TERRA 705** has a wide manual ground balance (GB) range from 0 - 90. While in Ground Balance mode, simply press the Mode button and your **X-TERRA** will Ground Balance over a variety of ground conditions - quickly and accurately. Auto Ground Balance routinely selects the optimum Ground Balance position, and you can fine-tune it manually with the + and - buttons, if required, and/or one can use the new Tracking Ground Balance Offset option.

If you are in a new site you should press the Ground Balance button periodically, maybe every 15 meters or so, and check your Ground Balance setting. In changing ground, users must readjust regularly - usually only one or two numbers in either direction. If the Ground Balance setting appears to be staying around a particular number, e.g. 22-26, you could leave it on 24 and the detector will remain stable for that area.

## Beach ground balance

When detecting on wet beach sand, it is best to select Beach Ground Balance (**X-TERRA 705** only), as this will allow a higher sensitivity setting to be used. To activate Beach Ground Balance, simply press the Ground Balance button, then press and hold the Ground Balance button again until the Beach Umbrella icon is displayed on the screen. If you want to detect all over the beach from the dry sand down to the wet sand, then it is easier to leave it in Beach Ground Balance, and then set Sensitivity to suit the wet sand. That way, you won't have to adjust the detector settings for the remainder of the session. For optimum performance it is best to work the dry and wet sand sections of a beach separately, which will allow you to operate the detector at its optimum sensitivity level. Tracking Ground Balance Offset in the **X-TERRA 705** should help here!



## Tracking on the beach

Tracking can be an advantage on some beaches where the mineralisation levels change rapidly. One thing to remember is that the Tracking speed when in Beach GB is very fast (approx. twice the speed of Tracking in normal GB) so you need to use extra caution when investigating deep targets - if you sweep over it too many times the signal will diminish, and can go away all together! Also, in high trash pockets on the beach, the presence of so many targets will upset the GB setting, and you may experience erratic performance - so these sections are best worked with a Manual GB. The faster Track speed in Beach GB can be a good feature to use in other areas, and may be an advantage in highly variable goldfield soils, and some relic sites, but if conditions allow, the Manual GB is the preferred mode.



## Summary

Whichever model suits you from the choice of **X-TERRA** models, there is no doubt that you will find what you are seeking - feature-for-feature in the new well-engineered **X-TERRA**'s.

They're the best performing, best handling range of detector in their class: sharp looks, well equipped and with an enviable reputation for real gritty 'down-to-earth' satisfaction and value. There is something for everyone in this series - you choose!

The lasting impression of the new **X-TERRA** Series is a very comfortable to use metal detector, easy-press buttons, plenty of usable 'Pro' features, punchy performance and a rock solid engineering pedigree to boot.

You can be assured of great back-up service from Minelab with the 3 year warranty on your **X-TERRA** down the road. I can honestly say, each time I used it, it put a smile on my face and had me beaming from ear to ear as I sometimes sought the "long way home" in my quest to discover the long-lost treasures of yesteryear!

A final word...

**"No matter where your searches take you, enjoy your X-TERRA, and have fun!"  
Good Hunting!**

Des Dunne  
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