



GOLDMASTER 24K

WHITE'S PAPER

XGB - A NEW WAY TO GROUND BALANCE

The biggest challenge we face as electronic prospectors is highly mineralized ground. Simply increasing the gain on the current VLF platforms might help prospectors in very mild ground conditions, but what about more difficult areas with concentrations of black sand, maghemite, serpentine, or alkali salts?

On a trip to Brazil we witnessed a combination of these conditions, with soil that ranged from red to black to purple, and exhibited a combination of ferrous and alkali properties within a 4 ft square section. We saw first-hand VLFs from each manufacturer fail to balance out the combination of minerals. Even the top-of-the-line pulse induction machines struggled in this area - machines which cost the garimpeiros (the local term for gold miners) several years' wages.

Our goal was simple: a nice even threshold in challenging ground conditions without giving up sensitivity. The theory is that the main battle most electronic prospectors fight is being able to discern a potential gold signal from ground noise. A smooth threshold would allow users to use more gain and increase their odds of finding small gold where it likes to hide - in mineralized ground.

The issue with other VLF detectors on the market is that they were tracking a single ground balance point. When the ground type changes quickly, the machine gives off a false signal. For a user the result is ear fatigue, frustration, and less positive signals dug. One easy way to mask variable ground is implementing an auto-gain feature that automatically numbs the detector. This does not solve the issue, only hides it.

The Goldmaster 24k's XGB is a new automatic ground tracking system that works by tracking multiple ground points simultaneously and quickly. Where other VLF's track one ground balance point, the Goldmaster 24k

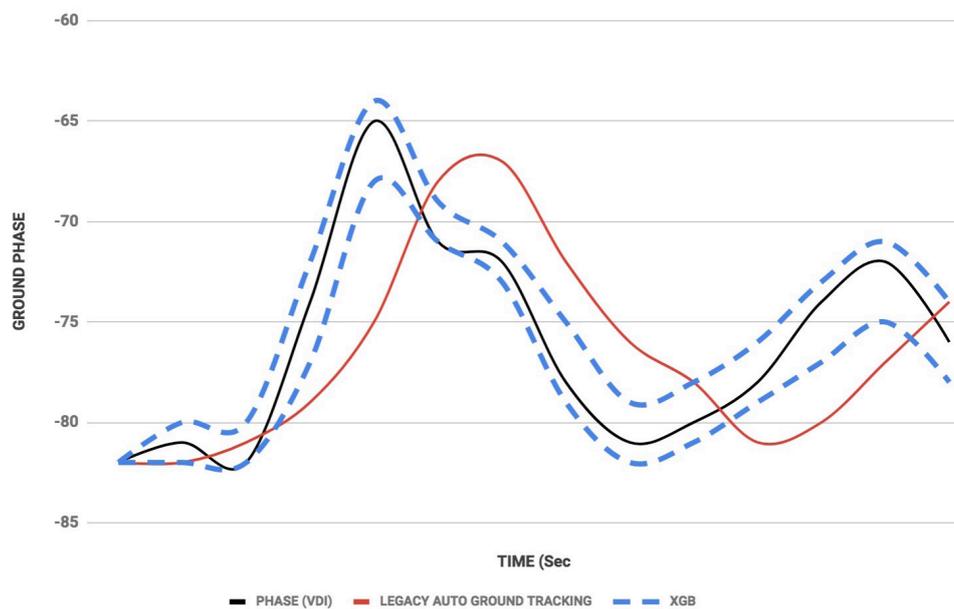


tracks several, and can determine an optimal "ground window" based on ground history and strength. This is very useful in rapidly changing ground conditions, where other VLF machines may struggle to track the mineralization changes. Combine this with the speed at which the Goldmaster 24k is able to grab ground samples, and you have a superior ground balance system for a prospector's VLF.

With any automatic process, there are some concessions. Take vehicles for example - manual gearboxes are still preferred by car enthusiasts. That's why we felt strongly about including a TracLock® ground option. When used with the Ground Grab, a locked ground balance setting allows users to set the ground balance in an area and lock it until they need to re-ground balance. For users after the tiniest bits of gold, this option allows for the maximum sensitivity to small signals.

One technique we observed from field testers was allowing the XGB to automatically track, and then after getting a solid hit or finding a patch, locking the ground balance for target location and retrieval. For many users this combination will be the best of both worlds - the strength of XGB, but only when you need or want it.

Example of XGB's ability to balance out variable ground vs. legacy methods



The net result of an overhauled automatic ground balance system is a VLF gold nugget detector that can be used in wider variety of ground conditions with a nice stable threshold. Operating a machine with a smooth threshold allows for a user's ears to tune into those slight variations that just might be the next nugget. Our goal is that our customers are able to have success with the Goldmaster 24k in areas that other VLF's struggle, and at a price that allows more people to get a taste of electronic prospecting.

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