Reducing the Effects of EMI

While smaller coils will also help reduce EMI, all the following were performed and validated using the 10"DD coil.

Using Ground Filter and Frequency Offset
1. Go to pinpoint (AM) mode
2. Hold the unit waist high (and turn in a circle)
3. Observe the noise level
4. Select Transmit Frequency from the Live Control
5. Select the Frequency Offset that gives you the quietest operation
6. Select Ground Filter from the Live Control
7. Select the filter that gives you the quietest operation
8. Return to Search mode.

You may still notice some noise. This could be that while quieting one frequency, you may have made another frequency nosier. So, repeat the process in search mode to see if you can improve performance. Since you are generally hunting in the Search Mode, it seems best to do this "touch up" after you've been thru steps 1 - 8.

Using Salt Compensate Mode
If you can't get the Normal 3 Freq mode quiet, try the Salt Comp 3 Freq mode. Salt Comp employs a salt subtraction algorithm and is inherently quieter, but you give up a bit of depth. However, you can easily get this back by bumping up RXG4. Select Ground Filter from the Live Control

Using a Single Frequency Mode
If you can't find a combination of settings that removes enough EMI in any of the 3 Freq modes, you may want to try a Single Frequency mode. Most EMI generally comes thru the 2.5 KHz frequency. The 22.5 KHz frequency sees smaller targets best but still hits well on gold and all the coins and coin-sized targets. Ground filters and Frequency offset options are still available to further optimize performance in the Single Frequency mode.

Correlate Mode
The theory behind correlate is that iron will respond with different phase angles for the different frequencies whereas coins and such will give the correct response across the frequency ranges. So, it is one way to discriminate out iron. The drawback is that potentially you lose depth because the ground affects how the targets come in so they will appear to have the phase difference like iron might and get discriminated out. But, EMI noise would theoretically have an unpredictable response across the frequencies and might be one way to remove EMI too. So, for those that don't want to hunt the deep targets might get an advantage for skipping over the iron targets using correlate. But for those that want deeper, I don't think correlate would be a good option.

If Ground Filters, Frequency Offset and / or Salt Comp Mode, by themselves or in combination won't eliminate enough EMI to facilitate a successful hunt, or you wish to remain in a 3 Freq mode, try the following:
1. Drop RXG until the EMI effect is negated
2. Turn TXB = ON.

Since the transmitted frequency has nothing to do with EMI signal strength, this technique will improve the target signal return w/o increasing the EMI effect. This technique can be employed in conjunction with any of the previously discussed processes, in 3 Freq Normal, Salt Comp or Single Frequency modes.

1) Switch to a band pass filter as the band pass filters will filter out more noise than the high pass filters
2) Try different frequency offsets
3) Try the various single frequencies
4) Lower disc sensitivity
5) Try correlate mode rather than best data (if in 3 frequency mode).
6) Switching to Salt Compensate helps with EMI if you want to work in 3F mode.
7) Change coils (concentric)
8) Try wired headphones

Rob (IL) Finds Treasure Forum