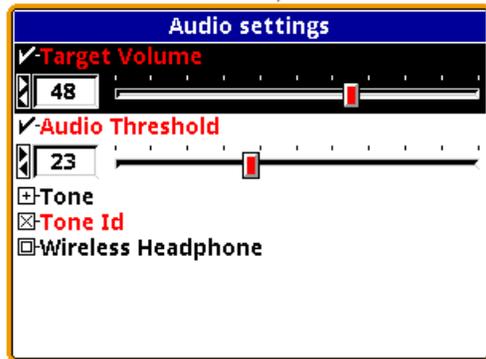
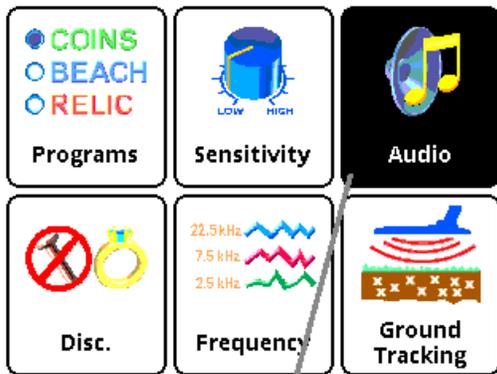


Basic Settings

This chapter covers some of the basic settings of *V3i* including sensitivity, discrimination, audio, and ground balance. It does not cover any settings which alter the fundamental operating mode of the detector. See Chapter 4 for operating modes.

The menu screens presented here are all accessed from the 6-block menu, like this:



Each 6-block menu contains the most common settings for that category. For most of the factory programs, these six categories can also be found in the Live Control Bar. The pop-up settings for each item in the Live Control Bar usually has a subset of what is found in the 6-

block menu. However, when a Live Control item is selected, pressing the **VIEW** button will access a more detailed menu:



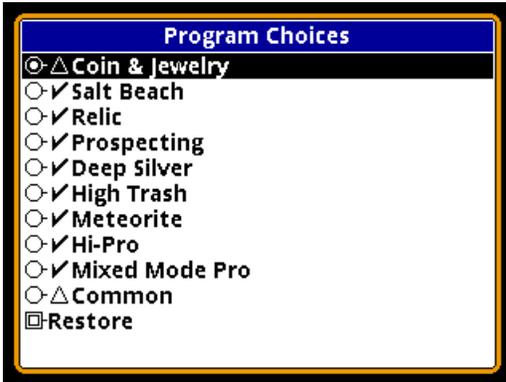
In some cases, the 6-block menu and the Live Control menu are the same. In other cases (as with the Audio controls above) there may be difference. In general, the Live Control menus have more settings than the 6-block menus.

Tip: The **Live Control Bar** is the collection of buttons across the bottom of the screen. Each button is called a **Live Control Item**. Each item consists of one or more settings. Press **VIEW** for any **Live Control Item** to access a **Live Control Menu** for that item. Keep in mind that the detector is "live" while accessing the **Live Control Bar**, but is suspended when you enter a **Live Control Menu**.

Programs



This was briefly covered in Chapter 2. V3i has 9 preset factory programs:



- **Coin & Jewelry** - Accepts most common coins, along with rings and jewelry.
- **Salt Beach** - Coin & Jewelry using salt subtraction mode.
- **Relic** - Mixed mode, no Tone ID, no VCO.
- **Prospecting** - Optimized for nugget hunting.
- **Deep Silver** - Optimized for deep silver.
- **Meteorite** - Accepts most iron.
- **High Trash** - Fast recovery response for better trash separation.
- **Hi-pro** - Advanced Coin & Jewelry.
- **Mixed Mode Pro** - Advanced features including Stereo mixed-mode.

A tenth program, called Common, allows you to make certain settings (such as volume) common to multiple programs. This is covered in Chapter XX.

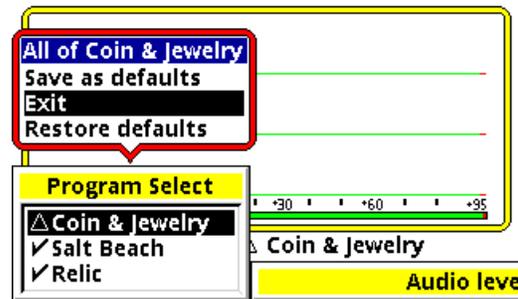
Notice that Coin & Jewelry is preceded by a “Δ” symbol, Relic is preceded by a “±”, whereas the other programs have a “✓” symbol. The “✓” symbol means a program has not

been modified, whereas a “Δ” symbol indicates changes have been made but have also been saved. A “±” means that changes have been made and not saved. If you make changes to a factory program and decide you want to restore it to factory settings, simply select **Restore** and you will see this screen:



Select the name of the program you want to restore, then **TAB** down to the **From** selection and choose **Library Program** to retrieve the original factory settings.

Another quick way to restore a program is from the Live Control Bar. Select **Program** and press **ENTER+MENU** and a small pop-up appears:



Select **Restore Defaults** to restore the currently selected program. We will cover V3i’s memory structure and program levels in Chapter XX.

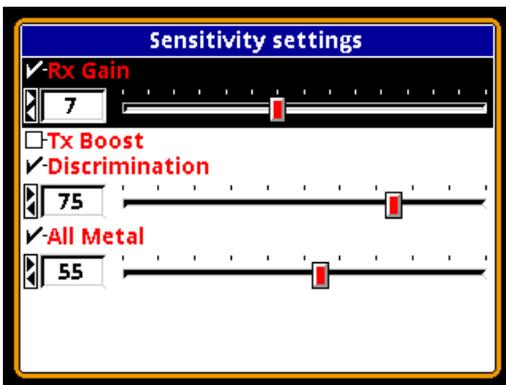
Tip: Program changes are automatically saved when V3i is turned off. If you remove the battery pack instead of pressing the **OFF** button, then program changes will not be saved.

Sensitivity

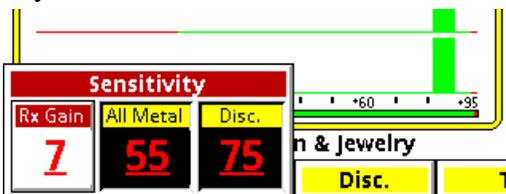


Once you select a basic program you may need to adjust the sensitivity settings. Most of the V3i programs are set up with nominal sensitivities, but some (notably the 'Pro' programs) are set up a little hotter.

Most users believe sensitivity should be run as high as possible. In some cases this is true, but if you find the detector is noisy and falses a lot you probably need to turn it down. There are three primary sensitivity settings, plus a boost mode. Selecting **Sensitivity** from the 6-block menu takes you to the following menu:



Selecting **Sensitivity** from the Live Control Bar gives you this:



Rx Gain

Rx Gain (sometimes called preamp gain) sets the gain of the receiver's input amplifier. In most cases, you want to set this as high as possible and still maintain stable operation.

Three things can limit the maximum gain setting. The first is external noise, such as electro-magnetic interference (EMI) including 50/60Hz mains and RF. EMI typically shows up as erratic operation and noisy audio. Secondly, in highly mineralized ground excessive gain can cause the input amplifier to overload or operate at close to overload due to the large ground signal, limiting the available range for target detection. Finally, the quality of the loop null can also push the input amplifier toward overload. White's V-compatible loops are designed to minimize null limitations, but third-party loops typically have wide variances in the quality of the null which can require a lower Rx Gain.

EMI affects the lower end of the signal range, which more directly impacts target sensitivity. Both ground signal and loop null affect the upper end of the signal response range, which usually results in a quicker overload. Ground signal and loop null affect target sensitivity only so far as the Rx Gain must be reduced to prevent overload.

Tip: Always address EMI noise by first adjusting the transmit frequency offset. See the Frequency section for more info.

All-Metal Sensitivity

All-Metal Sensitivity (sometimes called *DC sensitivity*) determines the responsiveness of the all-metal channel. Only target signals above the threshold cause an all-metal response, and a higher all-metal sensitivity setting will increase the all-metal audio response rate to targets. This setting affects all-metal modes including pinpoint and mixed-mode, but does not affect normal discrimination mode. Setting this too high will make the all-metal audio chatter. See Chapter 5 for a more detailed discussion of audio responses.

Discrimination Sensitivity

Discrimination Sensitivity (sometimes called *AC sensitivity*) determines the responsiveness of the discrimination channel. This is a threshold level, so only target signals above the threshold cause a discrimination response. Setting this too high will cause noise and falsing in the discrimination audio. See Chapter 5 for a more detailed discussion of audio responses.

Tx Boost

Tx Boost is transmit boost. When enabled, it triples the transmit voltage applied to the loop (from 10V to 30V) and increases the depth. Using this feature has two major drawbacks: it can overload some loops (reduce the Rx Gain), and **it quickly drains the battery**.

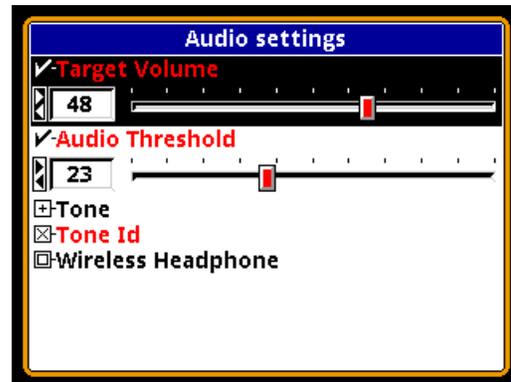
There are two common uses for Tx Boost. One is when hunting an unusually “clean” area where most targets have been cleaned out, and only deep targets remain. TX Boost typically gives about a 1” depth increase. The other is when EMI noise is severe. Reducing the Rx Gain reduces EMI but also reduces target signal strength. Applying Tx Boost increases target signal strength but does not increase EMI noise, so Tx Boost in combination with reduced Rx Gain can be used to improve signal-to-noise.

A note about loops: V3i uses induction-balanced loops which rely on a “null” between the transmit coil and the receive coil. The quality of the null may determine the point at which the detector overloads, especially when running Tx Boost along with high Rx Gain settings. Null quality varies loop-to-loop, so some loops may overload at lower gain than others.

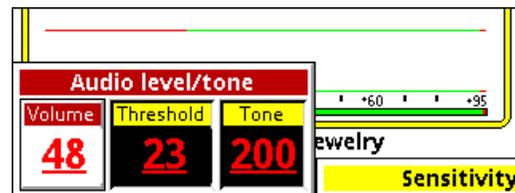
Audio



Selecting **Audio** from the 6-block menu gives this screen:



Selecting **Audio Level** from the Live Control Bar gives you this:



Target Volume (or just **Volume**) sets the audio volume level for target responses (the beeps). **Audio Threshold** (or just **Threshold**) sets the volume level for the threshold tone, which is the constant “hum” heard in the absence of a target. In these menus, both target & threshold volumes are applied to the audio output you are currently using: speaker, wired headphones, or wireless headphones. If, for example, you set the volume while using the speaker, then plug in a pair of headphones, you may need to readjust the volume for the headphones. The advanced Audio menu includes individual settings for all three audio outputs.

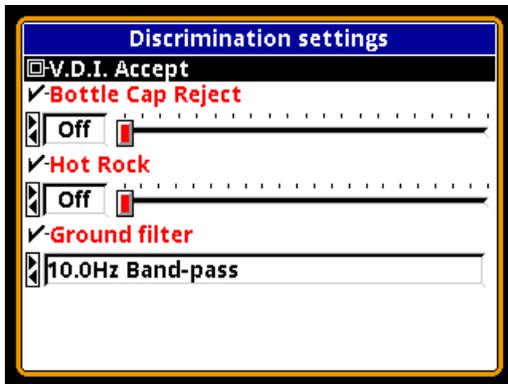
The **Tone** submenu allows you to change the individual tone frequencies. We’ll cover this in more detail in Chapter XX. The **Tone ID** selection allows you to turn on/off the multi-

tone target response system. By default, Tone ID is turned on in the factory programs. The **Wireless Headphone** selection lets you enable and disable wireless headphone use, plus set options. This is covered in Chapter 5.

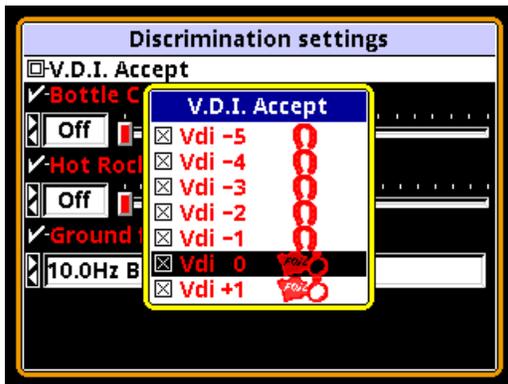
Discrimination



Selecting **Disc.** from the 6-block menu gives this screen:



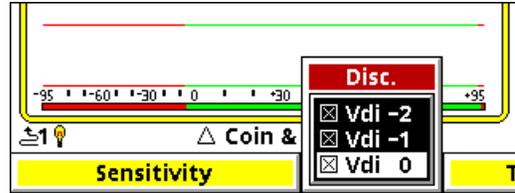
For now we will only cover the first item. The **V.D.I. Accept** menu item can be used to enable and disable target responses for individual VDI numbers. Selecting this option pops up the following:



This screen lists all the VDI numbers from -95 to +95, each with a selection box. A box that is X-ed enables that VDI response, an empty box disables that VDI. This is the pri-

mary method of setting up the discrimination pattern for V3i.

Selecting **Disc.** from the Live Control Bar gives you this:



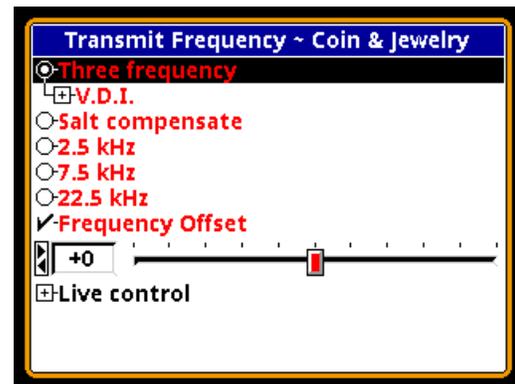
Again, this is a scrollable list of VDI's in which you can individually enable (X-ed) or disable their response.

Other settings will be covered in subsequent chapters.

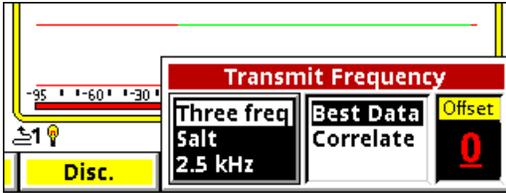


Frequency

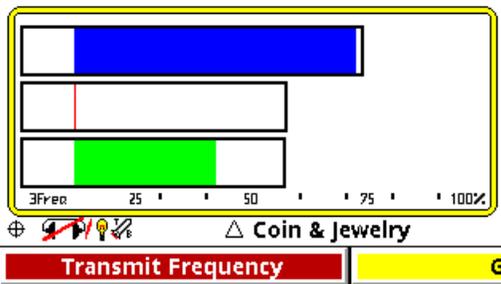
Selecting **Frequency** from the 6-block menu gives this screen:



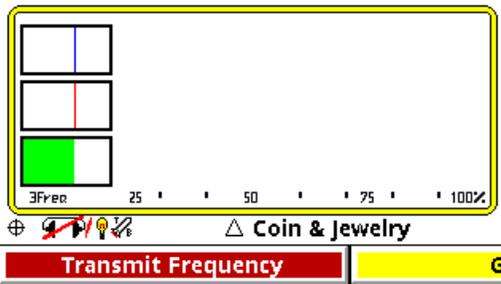
The only control we will cover in this chapter is **Frequency Offset**. See Chapter 4 for discussion about frequency modes. The **Frequency Offset** control provides slight offsets (± 5 steps) to the selected frequency(ies) and is useful for minimizing EMI from power mains and RF, and for minimizing interference from other detectorists. In general, adjust the offset up or down to find the quietest setting.



The Live Control Bar version of this control (above) makes finding the quietest offset easy. Select **Transmit Frequency** and highlight the **Offset** box. Next, with the loop held in the air, pull/hold the trigger to enable pinpoint mode. EMI interference will be heard as repetitive audio noise, and the pinpoint bars will bounce around like this:



Continue to hold the trigger while adjusting the **Offset** to find the quietest setting. The pinpoint bars should be minimal and steady:



Release the trigger and you're set.

Tip: Be mindful of personal electronics you are carrying. There have been reports of cell phones causing EMI problems with detectors.

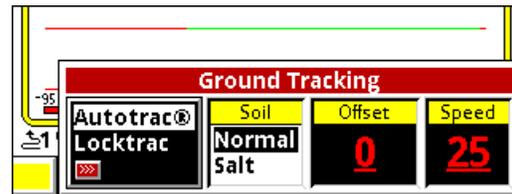
Ground Tracking



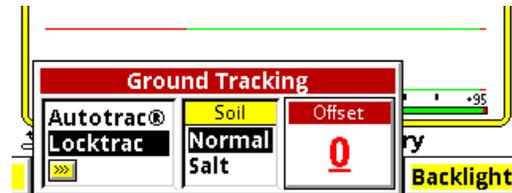
Selecting **Ground Tracking** from the 6-block menu gives this screen:



Selecting **Ground Tracking** from the Live Control Bar gives you this:



AutoTrac and **LockTrac** select between automatic and manual ground balance. AutoTrac is the default in most programs. If you select LockTrac, the Live Control popup will change slightly because Soil and Speed are only valid for AutoTrac:



Ground tracking modes and options are covered in detail in Chapter 4.