

GTITM 2500

Graphic Target Imaging



GARRETT
METAL DETECTORS
Owner's Manual

\$3

SPECIAL NOTICE

The Garrett *GTI™ 2500* metal detector with *TreasureVision®* and *Graphic Target Analyzer™* truly adds a new dimension to treasure hunting. A precision electronic instrument that utilizes the miracles of high technology in its *PowerMaster™* DSP circuitry to help locate coins, jewelry, gold nuggets or any other kind of metallic object, the *GTI 2500* will accomplish more than any other detector manufactured.

The patented *Digital Signal Processing™* (DSP) technology provides extremely accurate multiple channel filtering, continuous adaptivity to hunting speeds and automatic ground tracking to provide superior depth, discrimination and pinpointing performance. Deepseeking sensitivity and precise discrimination enable this marvelous instrument to identify targets by size as well as conductivity and to report depth of targets of any size not just coins. In fact, the detector's amazing *TreasureVision* on the Display Screen will indicate both target size and depth.

This exciting *One-Touch*[™] metal detector is automatic and surprisingly easy to operate. Yet those who have special demands will find the *GTI 2500* meticulously adaptable to any personal style of treasure hunting. Microprocessor-controlled circuitry truly makes this the deepest-seeking detector known to man.

Although the *GTI 2500* is built to withstand rugged treatment outdoors while giving years of trouble-free service, always remember that this detector is a precision electronic instrument. Protect it from extreme heat and cold as well as mist, rain or blowing sand. Keep it as clean as possible.

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TO THE OWNER

As the proud owner of a Garrett *GTI 2500* with *TreasureVision* and *Graphic Target Analyzer*, you join a worldwide fraternity of treasure hunters who use Garrett detectors to find coins, jewelry, relics and gold nuggets worth millions of dollars.

This manual describes basic functions of the *GTI 2500* and explains how its target identification and sizing, deepseeking and discrimination capabilities can find treasure. Your *GTI 2500*, whose microprocessor-controlled circuitry has been acclaimed and proven through countless hours of field use, is unparalleled in the simplicity of its ability to locate coins, jewelry and other metallic objects. You will be able to identify the size and depth of any target you locate.

The *GTI 2500* offers dedicated metal detector hobbyists added depth with a true All-Metal (Deepseeking) mode and the adjustment precision available only with computerized controls. Just touch the POWER touchpad and begin hunting imme-

diately without interference from ground minerals. As the world's most intelligent detector, the *GTI 2500* is preset at the factory to begin operations automatically in a Coins detection mode. Of course, you can easily adjust the instrument to operate in other Discriminate modes or in the All-Metal mode.

When you find a target, Garrett's revolutionary *GTA* display instantly directs you to the range of targets on the Target ID Guide. Press the TREASURE IMAGING pad to discover its exact location, size, depth and as well as clues to its identity. To prospect for precious metals or hunt for deeply buried caches switch to the All-Metal mode and *Fast Track*[™] will ground balance the circuitry of your detector precisely and immediately.

Welcome again to the Garrett treasure hunting fraternity. In becoming a part of this great tradition, you follow the route of multitudes of successful treasure hunting hobbyists. Now, find your own treasures with one of the world's most capable and universal metal detectors, yet one that is amazingly easy to operate!

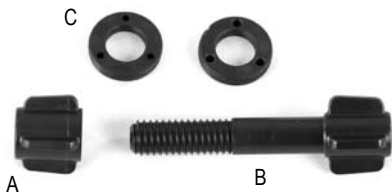
ASSEMBLY

Your *GTI 2500* is shipped complete in one carton:



- A. Control Housing
- B. Upper & Lower Stems
- C. 9.5" PROformance Imaging Searchcoil
- D. Parts Envelope
- E. Owner's Manual and DVD
- F. Warranty Registration Card

Make certain all of these parts are included and are undamaged. Report any shortages or damages to your dealer immediately. Follow these assembly instructions. No tools are required. Hand pressure will be satisfactory for all tightening. Inspect contents of the clear plastic envelope.



- A. One (1) nut
- B. One (1) threaded bolt
- C. Two (2) washers

1. Attach the lower stem to the 9.5" imaging searchcoil. Make certain that the two rubber washers are inserted onto the lower stem (*see below*) before slipping the searchcoil onto it.





2. Place the threaded bolt through the holes in the connector and hand-tighten using the remaining wing nut (*above left*). Use no tools.

3. Depress buttons in the Control Housing stem and slide on the Upper Stem.

4. Depress the buttons in the Lower Stem and insert it into the Upper Stem (*above right*). Buttons will pop into the holes, and you can achieve the desired stem length. The third set of holes from the end is most commonly used.

5. As shown, wrap searchcoil cable securely around stem and connect to detector. The first cable turn goes over the top of the stem. The cable should be snug but still



slightly loose (*above left*) so that the angle of the searchcoil can be changed easily, if required. Insert the cable connector into the connector on the control housing as shown (*above right*) and rotate the collar clockwise until secure (approximately four (4) turns). Hand tighten only.

Your *GTI 2500* is shipped with eight (8) AA batteries installed and is ready to use.

TOUCHPADS



Power

Turns detector ON and OFF; Returns the detector to factory settings.

Menu/Scroll

Allows the operator to scroll through the following settings to make adjustments or turn them ON or OFF. The scrollable selections vary whether you are in Discriminate (see A) or All-Metal (see B) mode.

A. If you are in the **Discriminate Search Mode**, your setting choices with the Menu/

Scroll button are: 5 *selectable Discriminate Modes* (use the + or - keys to select either Coins, Jewelry, Relics, Zero or Custom mode); *Sensitivity; Threshold; Frequency; Volume; Tone; Search Aids* (choose either Search Image, Surface Elimination or Salt Elimination); *Audio* (choose either Belltone or Bi-Level); and *Rechargeable* (battery).

B. If you are in the **All-Metal Search Mode**, your setting choices with the Menu/Scroll button are: *Manual Ground Balance; Sensitivity; Threshold; Frequency; Volume; Tone; Search Aids* (choose either Auto Track or Search Image); and *Rechargeable* (battery).

All-Metal (Fast Track)

Press and release to activate the All-Metal (Deepseeking) mode; press and hold to activate *Fast Track* ground balancing function.

Accept / Reject

Functions in the Discriminate modes only; permits acceptance or rejection of specific target segments shown on the Lower Scale to establish discrimination notches.

Treasure Imaging (Pinpoint)

When pressed and held, activates the automatic pinpointing function in either mode with signal strength shown on Upper Scale, depth of target on Lower Scale and size and depth of target on the Imaging Grid.

Operate

Returns to operate (hunting) mode after any change or adjustment of controls.

Discriminate (Last Mode)

When hunting in a Discriminate mode, returns detector to the previous Discriminate mode (Coins, Jewelry, Relics, Zero, Custom) that was being used. When hunting in the All-Metal mode, pressing this button activates the Discriminate mode that was last being used.

Backlight

Press and release to switch the backlight on and off. Use the *GTI 2500*'s backlight in low light situations to illuminate the LCD screen for improved visibility and target information.

+ & -

These touchpads permit precise regulation of the *GTI 2500*.

You will note that on certain Menu adjustments each press of a touchpad causes segments on the Lower Scale to move rather rapidly either to the right (+) or to the left (-). After 20 movements on the Lower Scale, an Upper Scale segment will move. This operation is similar to that of the decimal system.

The (+) and (-) touchpads enable the following regulation:

- Permit alternation between the five Discriminate search modes.
- Permit adjustment of levels of Sensitivity (Depth), Threshold, Frequency, Volume and Tone and in Discriminate and All-Metal modes; Surface Elimination in Discriminate mode; and *Auto Track* in All-Metal mode.
- Activate (+) or turn off (-) Salt Elimination, Belltone and Bi-Level target audio in Discriminate mode.

- Activate (+) or turn off (-) the Search Image and the Rechargeable battery gauge in either mode.
- Move cursor in the Upper Scale when discrimination is being set in the Discriminate mode.
- Permit adjustments to be made that achieve precise manual ground balance in the All-Metal mode.

Experiment with these touchpads yourself and experience the precise degree of regulation possible with the *GTI 2500*.

DISPLAY SCREEN



The complete operating status of your detector is shown on the screen at all times. When the TREASURE IMAGING (automatic pinpointing and sizing) touch-pad is pressed and held, size and depth of targets will also be shown. The mode in which you are searching will always be shown on the left side of the screen under the SEARCH MODE heading.

The word MENU, SEARCH or IMAGE is shown at the top of the screen in its center to indicate detector status. MENU is shown

when the detector is being regulated. SEARCH will be illuminated whenever you have pressed the OPERATE touchpad and are hunting, and IMAGE when you press and hold the TREASURE IMAGING touchpad.

On the second line are the detector functions that you can regulate as desired: Sensitivity, Threshold, Frequency, Volume and Tone. When one of these functions has been illuminated by use of the MENU/SCROLL touchpad, it can be regulated by pressing the (+) or (-) touchpads.

Current status of the various Search Aids that you have selected will always be shown on the right side of the screen under the SEARCH AIDS heading.

TREASURE VISION



TreasureVision permits your *GTI 2500's* Display Screen to present *Imaging by Garrett*. Experience with *TreasureVision* will enable a hobbyist to identify targets to an amazingly precise degree before they are recovered.

Target ID Guide

This guide printed above the screen showing coin denominations, gold, silver and other typical metallic objects is designed to relate location of the Target Cursor with the Imaging Grid to help identify discoveries. Note the five letters (A,B,C,D,E) on

each side and the horizontal color-coded lines connecting them.

These refer to the five relative sizes on the Imaging Grid. The example (*page 20*) shows a B-size object, with the cursor's location indicating it is probably a quarter. Coins are shown on Line B (red) since they will always be indicated as B-size targets.

Upper Scale

Indicates target(s) discovered and their conductivity while in OPERATE mode; Indicates target strength when TREASURE IMAGING touchpad is pressed; Indicates levels of control settings while in MENU mode.

Lower Scale

Indicates discrimination segments (notches) for all discriminate modes; indicates depth of all targets in inches when in Treasure Imaging; indicates fine levels of control settings.

Imaging Grid

Five target sizes are shown on the color-coded Imaging Grid with depth indicated

in two-inch increments by the target's location on the grid. With the detector in its factory preset mode sizes and depths are shown only when the TREASURE IMAGING touchpad is pressed and held. When Search Image is being used, sizes and depths of all accepted targets will be shown as they are discovered.

Size A—Solid small oval (orange): targets smaller than coins, including bits of iron or foil.

Size B—Oval extending to B grid lines (red): all U.S. coins, most rings and small metal trash such as pieces of pull tabs.

Size C—Oval extending to C grid lines (purple): targets larger than coins and smaller than 12-oz. cans, such as large rings, small belt buckles, jewelry and such trash targets as screwtops, bottle caps and complete pull tabs.

Size D—Oval extending to D grid lines (blue): larger belt buckles, large jewelry items, 12-oz. cans and other items of similar size.

Size E—Oval extending to E grid lines (green): objects larger than a 12-oz. can, such as kettles, strongbox or big metallic trash.

BASIC HUNTING INSTRUCTIONS

The next few pages of this Owner's Manual are all that you may ever need to read about your new Garrett *GTI 2500*. This *One-Touch* detector is today's most advanced; yet, its basic automatic operation makes it as simple to operate as any detector ever manufactured. You can begin hunting with it immediately.

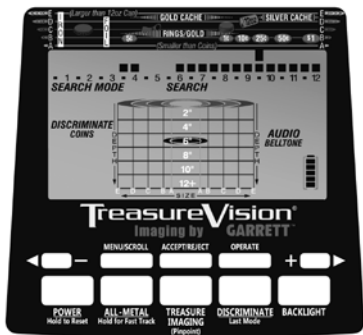
No special instructions are needed beyond what's included in the next few pages. More importantly, you can start finding coins and other treasures right now! Here's how.

To Begin

1. There are no dials to turn and no controls to adjust. Just grasp the handle of your *GTI 2500*, and hold the searchcoil at least three feet away from any large metallic object.

2. Touch and release the POWER touchpad. You are now operating in the factory-set Discriminate/Coins mode (until you opt to change this mode), and the *GTI 2500* will begin detecting. The *GTI* screen appears

as shown below. You can see that you are operating in the Discriminate/Coins detection mode with Belltone audio turned on.



3. Your *GTI 2500* begins operating with all settings at factory-set levels. Any of the settings can be changed easily, but you may never want to do so. It is recommended that you use these settings the first 10 hours you hunt with your detector.

Scanning

Swing the searchcoil back and forth in front of you in a straight line or slight arc as shown in the photograph below. Keep the searchcoil at a constant height of one or two inches above the ground while you scan at a rate of about one to three feet per second.

Discovery

Detection of all metal targets will be indicated by the appearance of a Target Cursor on the Upper Scale. A cursor will appear, to indicate every detected target and will remain for three seconds or until a new target is detected (whichever comes first). Desirable targets will also cause an increase in sound.





The above illustration shows a cursor at 9+, which would be a quarter if Treasure Imaging determines it to be a B-size target. Locate your target by scanning back and forth over it to determine where signals are strongest.

Treasure Imaging

Press and hold this touchpad to put your detector into a Pinpoint mode so that you can locate your target more precisely and also determine its relative size which will be shown on the Imaging Grid. Proper pinpointing and sizing through use of TREASURE IMAGING can be an invaluable aid to treasure hunting when used properly.

To turn off your detector: Simply press and release the POWER touchpad. Operating battery power is disconnected. Charles Garrett recommends that you first become

familiar with your new detector by hunting for at least 10 hours in the factory preset Discriminate/Coins mode and that you read carefully the Warning section in this manual.

By now you are also certainly impressed with the super sensitivity, depth capabilities and the target analysis of this detector which utilizes *DSP* (Digital Signal Processing) to give it advanced detection capabilities found only in Garrett detectors with *PowerMaster DSP*. You may have encountered an occasional instance when *TreasureVision* seemed to present inconsistent information. This probably occurred when your detector was attempting to analyze two or more targets beneath its searchcoil or when you have not properly centered the coil over your target.

This problem of analysis occurs with all detectors, but the *GTI 2500* discovers vastly more targets than old-style instruments with their limited circuitry. In addition, the deepseeking power of the detector may sometimes cause it to detect and fail to identify clearly a target some dis-

tance away, one over which your search-coil has not even scanned.

Proper operating techniques will enable you to use the array of data presented by *TreasureVision* to become aware, however, of the precise nature of all these targets.

You will quickly master these techniques and learn why the *GTI 2500* with *DSP*, *TreasureVision* and controls based on patented microprocessor technology has more accurate discrimination and better sensitivity and effectiveness than any other detector ever manufactured.

If you are ever unsure about the settings of your *GTI 2500*, press and hold the **POWER** touchpad for five seconds or until the detector "beeps" to restore factory settings.

DISCRIMINATE MODE

Mode Selections

When you touch the POWER touchpad, your *GTI 2500* is ready to hunt in a Discriminate/Coins operating mode with threshold, sensitivity (depth), tone and other controls preset at the factory, as shown in the *GTI* Screen's upper center as you step through the Menu. As explained in the following pages, settings can be easily changed through regulation of the (+) and (-) touchpads.

In its Discriminate mode the *GTI 2500* functions like most other detectors and must be moving slightly for detection to occur. Microprocessor-controlled *DSP* circuitry of the *GTI 2500*, unlike that of ordinary detectors, however, adapts automatically to the speed of any movement. This means that your searches will have the same high degree of accuracy whether you are scanning rapidly to cover a large area quickly or moving slowly over a location with multiple targets. Automatic circuitry is designed to provide precise ground balance at any speed.

In the Discriminate mode you can press MENU and use the (+) touchpad to rotate through five different modes of detection that are available, each with a specific discrimination configuration as shown on the Lower Scale. When the name of the particular mode you select is constant, while the other four are blinking, either press the OPERATE touchpad to begin hunting or the MENU touchpad to move to another control selection.

Coins



Discrimination preset in the detector for this Discriminate mode that is shown above is designed to eliminate detection of lower conductivity trash targets, such as bottle caps, most pull tabs and other objects normally encountered in coin hunting. Some bent pull tabs and pieces of tabs may not be eliminated from detection. Successful treasure hunters, however, all

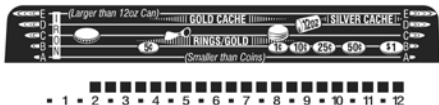
understand that they must dig some junk occasionally. Correct operation of the *GTI 2500* should reduce this wasted effort.

Jewelry



This Discriminate detection mode, above, is specifically designed to aid in hunting for jewelry, with discrimination in the detector's circuitry set to eliminate such trash targets as lower conductivity items and bottle caps.

Relics



This Discriminate detection mode is specifically designed for relic hunting, with discrimination in the detector's circuitry set to eliminate trash targets normally

associated with hunting for relics, while including those in the lower conductivity range - items that are generally sought by most relic hunters.

Zero



This mode, permits you to hunt with no discrimination and offers a method of "dual-mode" hunting. Your detector will give an audible signal to announce almost every piece of metal it scans over while cursor(s) indicate them. You can then press Last Mode to return to another of the Discriminate modes to "quick-check" a target.

Custom

This Discriminate mode was designed to be set by the operator. When the detector leaves the factory, Custom has been set to the Coins mode. Through use of the ACCEPT/REJECT touchpad, a hobbyist can

modify this mode to his or her individual specifications. These modifications will be retained by the detector's memory when it is switched OFF.

Many *GTI 2500* owners will never use the Custom mode, and when hunting in the Discriminate mode will use only the pre-set Coins, Jewelry, Relics or Zero modes. Complete instructions for setting discrimination notches for any of these modes can be found on the following pages of this manual.

Note: When the detector is turned OFF and then turned back ON again, it will begin operations in the mode in which it was previously operating unless the POWER touchpad is pressed and held for about five seconds (initializing a factory reset). Factory settings will then be restored with the detector operating in the Discriminate/Coins Mode.

SETTING DISCRIMINATION (Notches)

Using only the discrimination of its factory-set Coins, Jewelry, Relics and Zero operating modes, the *GTI 2500* will more than satisfy the discrimination requirements of almost every treasure hunter. Many will never require any other discrimination. Still, this detector offers more Custom discrimination to tailor a detection mode to any requirement by setting precise detection "notches."

The Lower Scale contains Discrimination Segments. Those that are turned on (darkened) represent targets whose conductivity will cause sound to increase when they are detected in any Discriminate mode.

In the Zero mode all segments are turned on, which indicates that every metal target will cause the audible sound of the *GTI 2500* to increase. Through use of the (+), and ACCEPT/REJECT touchpads, specific "notches" can be created by turning discrimination segments ON and OFF in any of the five Discriminate operating modes. There are two methods of setting discrimination in any Discriminate mode.

First Method: While in the OPERATE mode press the (+) and (-) touchpads to position the blinking cursor above the Discrimination Segment corresponding to the particular target to be detected or ignored.

If the segment is turned on (showing), that particular target will be detected. If you wish to reject that type target, press the ACCEPT/REJECT touchpad. The segment will be turned OFF and disappear, creating a "reject notch." If the Lower Scale segment is not showing, press the ACCEPT/REJECT touchpad to turn it ON, creating an "accept notch," and your *GTI* will sound off on targets represented by that segment.

Second Method: While in the OPERATE mode, pass the searchcoil over an object to be accepted or rejected as a target or pass the particular target across the face of the coil about two inches away.

Check to make certain of the location of the target cursor on the Upper Scale.

If the segment below is not showing, press ACCEPT/REJECT to turn it on. If it is showing, pressing this pad will turn it OFF.

Remember: When you press the ACCEPT/REJECT touchpad, you cause the discrimination circuit to reject a target that is shown on corresponding segments of both the Lower and Upper Scales. This rejection will be indicated as the Lower Scale Discrimination Segment disappears.

The same touchpad is used to cause the detector to accept a target. When such a desired target is being shown by the cursor but not the corresponding Discrimination Segment below, press the ACCEPT/REJECT touchpad. The segment will be turned ON and appear, indicating that your desired target will now cause an increase in sound.

Note: It is important to remember that each time the GTI 2500 is turned OFF any ACCEPT/REJECT selections that you have made will be retained only in the Custom mode. ACCEPT/REJECT modifications that you might have made in the preset Coins,

Jewelry, Relics and Zero modes will be lost, since these four modes return to factory-set detection settings each time the detector is turned OFF and turned back ON. Your Custom mode discrimination settings will be lost only when POWER is held for five seconds to return the detector to its factory settings.

Why Use Notches?

There are numerous reasons why you would want to accept or reject specific targets:

You may be looking for only one item—a certain lost earring, for example. You can use the matching earring to set notches on your *GTI* to accept only that type of metal target. You may be hunting in an area where you are plagued with a specific type of trash. You can reject just this type of trash metal and continue to hunt with no other discrimination, detecting all other metal.

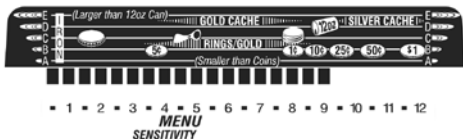
You may have your own special ideas for designing a mode of detection. The Garrett *GTI 2500* gives you virtually unlimited

opportunities to test any and all your ideas and, to try them out easily and quickly. No other metal detector permits more accurate or precise discrimination.

Factory Settings: Remember that you can return to preset factory settings at any time simply by pressing and holding the POWER touchpad for five seconds.

OPERATING SETTINGS

Sensitivity (Depth)



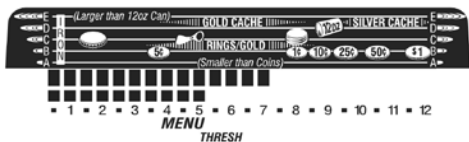
Pressing the MENU touchpad to display SENSITIVITY on the screen (shown above with factory setting at approximately 75% as indicated on the Upper Scale). Use the (+) and (-) touchpads to adjust the depth to which your detector will operate most effectively. These changes will be shown on the Upper Scale as you make them.

Although the instrument's maximum depth is usually desired, this is often not feasible because of the type of soil over which you are scanning or because of electromagnetic or power line interference. Ground mineralization and other considerations can cause static and inhibit the detector's ability to interpret target information. This

control option permits you to achieve a stability that permits maximum detection depth possible in relation to any conditions.

Press (+) to increase detection depth. Press (-) to decrease. A single touch and release adjusts the level in a small increment. A continuous pressing results in a continuous adjustment.

Threshold



Pressing the MENU touchpad to display THRESH on the screen (below, with factory setting indicated on Upper and Lower Scales). Use the (+) and (-) touchpads to adjust the threshold of sound that is being produced by the *GTI 2500* as it scans. Multiple touches will increase or decrease the sound level. Changes can be seen on the Upper and Lower Scales.

You can search silently or at any level of constant sound. It is recommended that you always operate the instrument at a minimum level of audible sound. You can hear the audio increase sharply whenever a desirable target is encountered. (Remember, a cursor will indicate every target.) When headphones are used, it will usually be necessary to decrease the threshold level since sound is more audible through headphones.

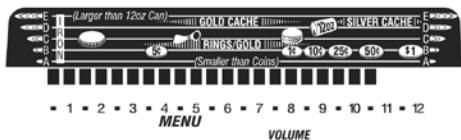
Frequency



This detector is capable of operating at eight different detection frequencies or channels, which you will find valuable if you participate in competition hunting or if you enjoy hunting with others. In fact, operating your *GTI 2500* at a different frequency might be necessary any time two or more detectors are being used so close

together that their signals interfere with one another. Outside electrical or atmospheric interference can also cause interference that results in strange sounds. Whenever you hear unusual sounds and believe that you are encountering interference, press and release the MENU touchpad until **FREQ** appears on the screen, as shown in the illustration above. The Upper Scale will indicate the frequency at which your detector is now operating. Use the (+) and (-) touchpads to change this frequency until you find one with little or no interference.

Volume



After pressing the MENU touchpad to display **VOLUME** on the screen, the factory setting for the loudness of the target sound will be indicated on the Upper Scale, as shown in the above diagram.

Use the (+) and (-) touchpads to adjust audio to the target sound volume that you prefer. Touching the (+) pad will make the sound louder, while touching (-) the will lower the volume.

Since this adjustment controls the maximum volume of sound produced by the *GTI 2500* when a target is encountered, it will not affect the threshold level you have already selected as the primary audio function of your detector.

When headphones are used, it will usually be necessary to decrease volume since detection sounds are louder over headphones. Experiment to determine which volume is best for you.

Tone



After using the MENU touchpad to display TONE on the screen, the factory tone setting will be indicated on the Upper Scale, as shown above. Use the (+) and (-) touchpads to adjust the audio to preferred pitch or tone. Touching the (+) pad will raise the tone into a higher treble range, while touching (-) will lower the pitch to a bass tone. All touches will make changes indicated on the Upper Scale. Experiment to find the pitch that suits your hearing.

SEARCH AIDS

Search Image

Use the MENU and (+) and (-) pads to display Search Image. If these words and the Imaging Grid are blinking, press (+) to turn it on. When this Search Aid is turned ON *TreasureVision* will constantly display the size and depth of accepted targets while you are searching. It therefore will not be necessary to use the *Treasure Imaging* to obtain size and depth information.

You can press (-) to turn OFF the function and cause the words and the grid to blink.

Surface Elimination

This Search Aid is for use where quantities of metallic trash are present on the surface or at shallow depths. This function eliminates detection of objects of all sizes to the specified depth. Use the MENU touchpad to display Surface Elim on the screen to turn on. It will be turned OFF at the factory settings.

If you desire to use this Search Aid, press the (+) and (-) touchpads to set the desired elimination depth. This depth (to 4 inches beneath the coil) will be shown on the Upper Scale and on the Imaging Grid.

Salt Elimination

When hunting on an ocean beach or in any area with high salt content, you may want to use this Search Aid to eliminate interference caused by wetted salt. If you wish to turn on the Salt Elimination aid, use the MENU to display Salt Elim and press (+) when the word is blinking to turn it ON. Press (-) to turn OFF the function and cause the word to blink.

AUDIO CHOICES

Belltone

Garrett's *Coin Alert Belltone*[™], which is the factory Audio setting for the *GTI*, will signal the operator with a special ringing sound whenever a target of high conductivity (first nine segments from right on the Upper Scale), such as a coin, has been located. Other acceptable targets will cause an audio increase.

If you wish to use the Belltone audio enhancement for target sounds, no action is necessary at factory settings. To turn off this function use MENU to display the word, press and the letters will begin blinking. Pressing (+) will turn it back on.

Bi-Level

Two distinctly different types of sound are produced when the Bi-Level audio enhancement is being used. Targets of higher conductivity produce a higher-pitched sound. Targets of lower conductivity (the Iron/Bottle cap range on the Target ID Guide) are identified with a sound that is pitched slightly lower.

If you desire Bi-Level audio, use MENU to display Bi-Level and press the (+) touch-pad to turn it ON. To turn off the function press and cause the letters to begin blinking. When both Belltone and Bi-Level are turned OFF, the detector searches with Standard audio.

BATTERY CHOICES

Battery Gauge

The scale at the lower right of your *GTI 2500*'s screen will indicate accurately the condition of standard (carbon or alkaline) or rechargeable batteries.

To switch from the standard batteries to the optional rechargeable batteries, use MENU to scroll to the battery icon. Pressing the (+) or (-) keys will select either standard or rechargeable batteries. The *GTI 2500* has dual scales to display an accurate indication of either standard (carbon or alkaline) or rechargeable (nickel metal hydride or NiCad) battery life. If you select rechargeable batteries, be sure to load the *GTI 2500* with the appropriate batteries. *(See section on "Battery Information" on pages 78–82.)*

ALL-METAL MODE



After you press this touchpad, the Graphic Display will indicate that you are operating in an all metal (deepseeking) mode. Garrett's exclusive *Fast Track* feature can be used to ground balance your detector automatically, and *Auto Track* can continually work to keep it ground balanced over varying soil mineralization conditions.

In this mode it will be possible for you to let the searchcoil hover almost motionless over a target while listening for signals. This is true all metal detecting, which produces the deepest-seeking signals.

You will want to hunt in this mode when greatest depth is sought, such as when searching for caches or deep relics. Gold hunting (electronic prospecting) will also be carried out in this mode.

You will probably prefer to use this mode when searching for nuggets or at other times when highly mineralized ground is encountered. Because the All-Metal mode permits no discrimination, your detector will give an audible signal to indicate every piece of metal it scans over.

Even though precise ground balance is adjusted automatically and continuously through *Fast Track* and *Auto Track*, it is possible to ground balance the detector manually.

Fast Track ground balancing is accomplished by pressing and holding the ALL-METAL/*Fast Track* touchpad while "bouncing" the searchcoil from two to eight inches above the ground. When there is a minimal audio response from the ground, release the touchpad and begin hunting. When the touchpad is released, *Auto Track* continues to make all adjustments necessary to eliminate ground minerals from detection.

The speed of the *Auto Track* function can be increased by using the (+) touchpad or

decreased by using the (-) pad.

With some extreme ground conditions the detector may not be able to achieve perfect ground balance automatically, but it will always adapt itself to the best possible solution.

OTHER SPECIAL FEATURES IN THE ALL-METAL MODE

Because the following control functions are utilized in both the Discriminate All-Metal modes, instructions for their use can be found on the preceding pages:

Sensitivity (Depth)
Threshold
Frequency
Volume
Tone
Search Image
Battery

When your *GTI 2500* is operated in the All-Metal Search Mode, there are two other settings—Manual Ground Balance and Auto Track—which are described below.

Manual Ground Balance

This control selection will rarely be required since the detector's internal circuitry and the Auto Track automatic ground balancing function will usually be satisfactory. Under unusual conditions, if your audio signal continues to increase or decrease to

any degree because of ground conditions, more precise manual ground balancing may be required. You may also want to use the Manual Ground Balance function to ground balance slightly positive to enhance gold nugget detection or balance slightly negative to reduce "hot rock" detection.

Use the MENU touchpad to display MANUAL GROUND BAL on the screen. Raise and lower your searchcoil and listen closely to the audio signal. If the sound grows louder as you lower the coil, press the (-) pad several times.

Lift your searchcoil again and lower it to operating height. If the sound level now decreases, you have made too great a negative adjustment. Press the (+) touchpad once or twice. Precise adjustment is possible because there are 256 steps on the manual ground balance of the *GTI 2500* as reflected in the movement of segments on the Upper and Lower Scales. Don't hesitate to hold either touchpad down to make large adjustments.

Press the proper (+) and (-) pads until audio does not change or changes only slightly when the searchcoil is lowered to operating height. The Ground Balance value that you have set for the detector will not change as long as Auto Track remains turned OFF. Whenever Auto Track (*see below*) is operating, it will govern the ground balancing function of the *GTI 2500*.

When searching over extremely mineralized soil, it is recommended that you hold the searchcoil at least two inches or more above the ground. You will not lose depth, but will actually detect deeper because ground mineral influence will be greatly reduced.

Auto Track

This Search Aid permits the detector to maintain optimum ground balance automatically, regardless of hanging mineralization or other conditions. There are three tracking speeds: slow, medium and fast.

Use slow tracking when scanning over ground with consistent mineral conditions

or those that change only slightly as you move along. Increase the tracking speed as necessary to cope with varying ground mineralization. Fast tracking speed allows operation over severe ground conditions, such as heavily mineralized rock slides.

To use Auto Track, scroll through All-Metal menu selections until Auto Track appears on the screen. You can then use the (+) pad to increase the tracking speed which will be indicated on the Upper Scale. When all segments on this scale are lit, Auto Track is working at its maximum speed. Use the (-) touchpad to decrease tracking speed or to turn OFF Auto Track. When no segments are lit and the word is blinking, it is turned OFF.

Additional Information

All of the personal preference adjustments you have set in the *GTI 2500* with the various operating functions will be retained by the detector when you press POWER to turn the detector OFF.

These personal alterations are held in a non-volatile memory circuit and retained

even when the batteries are removed. The detector must be turned OFF when batteries are being changed, as discussed in the Battery Section. Changes in discrimination settings, however, will be retained only in the Custom mode. Because ground conditions can vary from place to place, it may be necessary for you to adjust Sensitivity (Depth) occasionally.

Reminder on Settings

If you are ever unsure about the settings of the *GTI 2500*, you can instantly restore the precise factory-set levels of all settings and controls. Just press and hold down the POWER touchpad for five seconds or until a "beep" lets you know that factory settings have been restored.

TREASURE IMAGING

When you are hunting with the Search Image aid turned OFF, you will be given size and depth information only when you press and hold the TREASURE IMAGING (Pinpoint) pad. The relative size and depth of targets will then be indicated on the Imaging Grid. While this pad is being held, the 9.5" searchcoil can remain stationary over your target. Move the coil slightly to make certain that it is directly over the target. Targets must pass beneath the searchcoil, not above it.

IMPORTANT: The searchcoil must be centered directly over the target to produce accurate size and depth information about that target.

Please note that both size and depth indications of a target can be expected to change on the grid as the target is being centered. This is especially evident while the Search Image aid is being used. Size and depth indications of targets may then seem to change erratically, especially as the searchcoil is being scanned. For most

effective normal automatic pinpointing (when Search Image is not being used), place the searchcoil on the ground near, but not over, the target in an area where there are no other targets. Press the TREASURE IMAGING touchpad and scan back and forth across the target, maintaining contact with the ground. Read the following sections to learn how size and depth indications will change as you pinpoint.

Depth Reading on Lower Scale

When you press and hold the TREASURE IMAGING touchpad, target depth will be indicated on the Lower Scale. Illumination of Upper Scale segments, from left to right, indicates strength of the target signal.

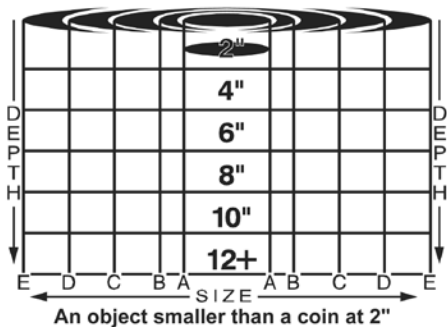
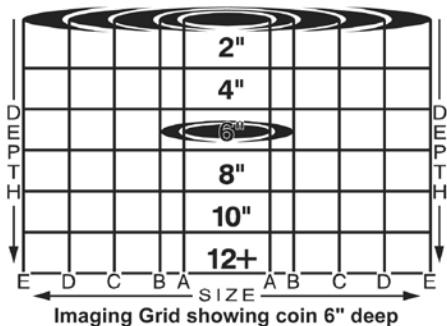
The maximum reading attained will indicate exact target location. While still pressing the TREASURE IMAGING touchpad, check the Lower Scale to determine target depth in 1" increments. The Imaging Grid will also indicate depth, but in 2" increments. Thus, depth of a target shown at 5" on the Lower Scale, for example, will be rounded to 6" on the Imaging Grid.

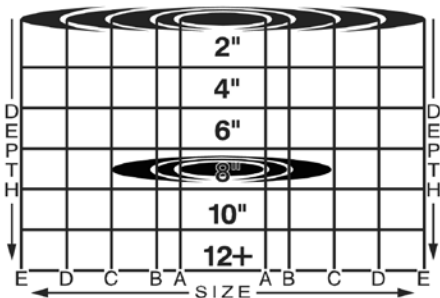
Size/Depth on the Imaging Grid

As you are locating your target precisely by moving the searchcoil while pressing and holding the TREASURE IMAGING touchpad, you will observe size and depth changing on *TreasureVision's* Imaging Grid. The coil must be centered directly over the target to produce accurate size and depth information. As you approach the target, therefore, its indicated depth on the Imaging Grid will become shallower and its size smaller.

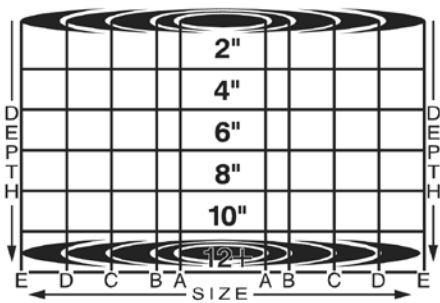
Thus, the correct reading on the Imaging Grid will always be the shallowest and smallest. This is achieved only when the searchcoil is positioned directly over the target.

Four typical examples:

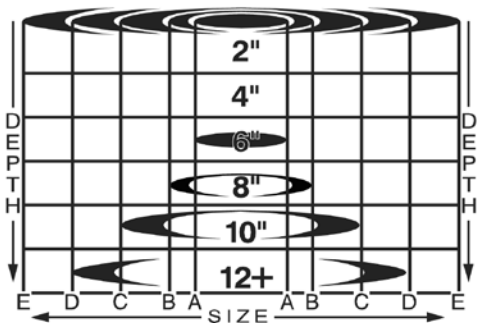




This object is larger than a coin, yet smaller than a 12-oz. can. It is buried at a depth of approximately 8"



An object larger than a 12-oz. can that is buried at a depth of approximately 12"



"Cone" Effect

You may occasionally observe a size and depth reading like that shown above which Garrett engineers call the "Cone." Such a reading with multiple indications of size and depth indicates that the detected target is too deep and/or too small to determine an exact size and depth.

It is likely, however, that the target is within the size and depth region defined by the Cone. In other words, the target shown above is likely to be either: a Size

A at 6"; a Size B at 8"; a Size C at 10"; or a Size D at 12". The Cone may also appear when the target is significantly off-center from the coil.

BENCH TESTING



This will enable you to test typical treasure and trash items and to learn about your *GTI 2500* before taking it into the field or trying to set discrimination. Tests should be performed as shown with the searchcoil perpendicular to a bench, floor or other non-metallic surface and several feet away from any large metallic object:

1. Select the All-Metal mode of operation. Bring various metallic targets across the bottom of the searchcoil at a distance of about two inches. Each target will cause

the sound to increase, which represents true non-discriminating operation.

2. Press the DISCRIMINATE touchpad and use the MENU, (+) and (-) touchpads, as necessary, until Coins is no longer blinking. Then press OPERATE. Bring the same targets across the bottom of the searchcoil in this Coins/Discriminate mode and listen for the sound to increase only when certain items are scanned. Notice the specific segments in the Upper Scale that darken when various targets are scanned across the coil.

3. Perform the same tests with the Jewelry and Relics modes, observing sounds and the appearance of the *TreasureVision* display.

4. Experiment with the ACCEPT/REJECT touchpad as you identify various types of targets. Try to imagine how this will affect your search for coins or jewelry.

Be methodical: Keep written records of results and use them when hunting in the field.

FIELD OPERATIONS

As you walk, scan the searchcoil from side to side in a straight line in front of you. Keep the coil level and at a constant height of one or two inches above the ground while you scan at a rate of about one to three feet per second.

When scanning, do not hurry. Be methodical. Do not skip any areas. Overlap each scan sweep at least 25% of the searchcoil's width. Wear headphones for greater sound perception and concentrate on your scanning. When you are searching in the All-Metal or the Discriminate/Zero modes, detection of any metal target will be indicated by an increase in sound.

Target Identification

Conductivity classification of every target over which the searchcoil passes will always be indicated by a target cursor on the Upper Scale. Until you gain experience with the *GTI 2500* it is recommended that you hunt with the Search Image aid turned

OFF and make your initial target decisions based on the conductivity indications of the cursor as they relate to the Target ID Guide. When you decide a target is worthwhile, press and hold the TARGET IMAGING touchpad and what you have just discovered can often be determined by relating the size of your discovery as shown on the Imaging Grid with the Target ID Guide.

The searchcoil must be centered over your target to produce accurate size and depth information. Always remember that as you center the target, its size and depth on the Imaging Grid will appear to grow smaller and shallower. The correct reading on the Imaging Grid will always be the shallowest and smallest that will be achieved when the coil is positioned directly over the target. Before hunting with the Search Image aid turned ON which will give you size and depth information constantly, read carefully the Target Imaging section to make certain that you understand why the sizes and depths of your targets may seem to change as the searchcoil is moved around.

Highly mineralized soil can occasionally result in improper target size/depth information. Raising the coil an inch or two as you scan over such soil is sometimes helpful. Encrustation or patina may also affect conductivity of the target, resulting in improper classification.

Using Search Image

Experienced treasure hunters prefer to use the *GTI 2500* with the Search Image aid turned ON, providing a constant display of size and depth information. Because sizes and depths of targets may seem to change erratically until the coil is scanned directly over a target, the following recommendations are offered:

Always remember that you have two basic information sources concerning your target the Upper Scale Target ID cursor, which reports conductivity, and the size and depth information that is shown on the Imaging Grid. These reports should be considered independently. When a target is encountered, consider it initially based solely on its conductivity as indicated by the Upper Scale cursor which you will

relate to the ID Guide above.

Now watch the Imaging Grid as you continue to move the searchcoil to locate your target more precisely. Target indication on the Grid will become smaller and shallower until your coil is centered precisely over the target. If you move away from it, the indication will get deeper and larger.

Always remember that the correct size and depth reading on the Imaging Grid will be the shallowest and smallest achieved when the coil is scanned directly over the target. Only then should you decide whether or not to dig the target.

Recovery / Pinpointing

Locating your target precisely will enable you to recover it by digging the smallest hole possible. This is accomplished first by pinpointing which also enables you to utilize another function of the *GTI 2500* for measuring size and depth. Begin to locate targets by first drawing an imaginary "X" on the ground. Switch the searchcoil at the place where maximum sound occurs. You can then utilize the "magic" of the Treasure Imaging mode.

Digging

Since the final step in recovery usually entails digging, always make as small a hole as possible. It is quicker, requires less work and makes refilling easier. And, you should always fill your holes.

Discriminate (Last Mode)

Use of this touchpad can be particularly helpful while scanning because it effectively converts your *GTI 2500* into an instantaneous dual-or triple-mode detector. Pressing and releasing this touchpad returns detector operations to the Discriminate mode that has just previously been used. Thus, it is easy to alternate between any two Discriminate operating modes, such as Coins and Zero or Custom. Using the ALL-METAL touchpad, as well, converts the instrument into a triple-mode detector.

More On Target Audio

It is important to remember that the *GTI's* audio causes weaker targets to be detected with shorter "beeps" than stronger targets. Surface Elimination can

simplify audio detection by eliminating virtually all targets as deep as the first four inches beneath your coil, where most trash metal will be found. When a metallic object is accepted, the detector's sound will, of course, increase from your threshold level. Some rejected targets, however, may cause the audio to "break up" or sound erratic. This is generally a response to shallow trash targets and can be remedied by raising the height of your searchcoil when scanning or by using the surface elimination feature.

Another indication of a reject target is an audio signal as you scan one way, and no response when scanning from the other direction. If you encounter a large target and scan too close to it, the detector will give an audible overload indication, which sounds like a buzzing alarm.

Setting Sensitivity (Depth)

Garrett engineers designed your *GTI 2500* for maximum detection depth power, but you may not always be able to search at 100% depth just as you rarely can (or, even want to) operate your automobile

at 100% of its speed capacity. Outside electromagnetic interference and irregular ground mineralization may sometimes require that you search at reduced detection depth.

Don't worry about losing "deep targets!" You won't ever be losing anything because you'll always be able to search as deeply as ground and atmospheric conditions permit. Attempting to operate at gains above a level that permits a quiet and stable audio threshold may actually cause you to miss deep targets that you would have found had you not "pushed" the detector. Another point to remember is that when you are searching with SENSITIVITY set below the maximum under "less-than-perfect" conditions, you will always have additional detection power when you are able to use it.

Test Plot Construction

As you search and use your *GTI 2500*, you will quickly grow more proficient in its use. Building and using your own test plot will sharply increase this proficiency. Bury several items, including a nail, a piece of foil,

a pull tab, a bottle cap and several coins at varying depths of 1-4" about 18" apart. Clearly mark where each article is buried. Scan over them while carefully listening to and studying the different detection signals.

Remember that newly buried objects, especially coins, will be somewhat more difficult to detect than items buried for some time. This is primarily a metallurgical phenomenon. Experiment with various detection modes, and pay close attention to both audio and *GTI 2500* signals as you scan. Note your detector's response at the various settings.

Practice pinpointing and imaging to locate targets precisely.

With Experience

After you have hunted with the *GTI 2500* for only a short time, you will be surprised at how proficient you have become with it. Do not expect to achieve the greatest accuracy and success, however, until you have used this detector for at least 100 hours or more. Don't forget to take

Charles Garrett's advice to press only one touchpad and search in the factory pre-set Discriminate/Coins detection mode for at least 10 hours during your "learning" phase.

Remember, the more you use your detector in the correct manner the more treasure you will discover.

Good Hunting!

HEADPHONE JACK

The headphone jack is located at the rear of the battery pack under the armrest. Headphones are a valuable accessory for any metal detector to mask interference from outside noise. They permit you to hear small and deep targets that might be missed when using only audio from the detector speaker. Headphones are particularly essential when you are hunting where noise (running water, people, surf, traffic, etc.) is excessive.

SEARCHCOILS

Your *GTI 2500* is equipped with a 9.5" **PRO**formance imaging searchcoil suitable for searching for almost any kind of target in any terrain.

A 12.5" Imaging coil is also available. You can also use conventional 4.5" and 12.5" coils or a 5x10" elliptical coil with the *GTI 2500*. The larger coil is helpful in seeking large and deep targets, while the smaller and elliptical coils are designed for use in especially trashy locations or places where a larger searchcoil just won't fit. These optional coils do not have the imaging capability.

Also available is a pinpointing depth multiplier for use when hunting for larger, deeper objects. This system allows greater penetration and the ability to ignore smaller trash items. The patented pinpointing feature allows the *GTI 2500* to locate precisely the object under the forward coil.

BATTERY INFORMATION

The *GTI 2500* is equipped with two battery packs, each holding four (4) standard AA batteries. The detector is also designed to utilize rechargeable (NiMH) batteries. It is recommended that top quality heavy duty or alkaline batteries be used. It is advisable to remove the battery packs when the detector is not in use, particularly for a period of several weeks.

Although standard battery packs and optional rechargeable packs can be used interchangeably in the detector, it is recommended that both packs being used at the same time always be the same type. The *GTI 2500* should search 25 to 30 hours with carbon, alkaline or high capacity rechargeable batteries. These estimates are for speaker operation. Operating with headphones will extend battery life.

Checking Condition

Battery condition is reported continuously by the vertical row of squares on the lower right side of the screen. Five are visible

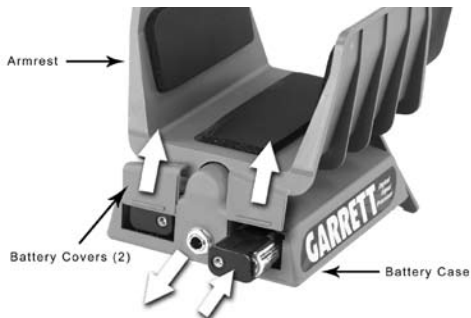
when fully charged batteries are being used. You should always carry spares so that you will be ready when the battery condition squares show only one square remaining.

Rechargeable Batteries

When rechargeable batteries are being used, the Rechargeable battery option must be turned on for the battery level indicator to be accurate. To turn on this option press the MENU touchpad until Recharge is displayed. The option is turned off at the factory setting, and the word will be blinking. Press (+) to turn the option on and the word will become constant. Press (-) to turn it off when standard carbon or alkaline batteries are being used.

Battery Replacement

1. Turn OFF the *GTI 2500* by pressing the POWER touchpad.
2. Slide battery case back slightly from its normal position beneath the armrest. Place both thumbs on the back of the cuff with your fingers on the case. Firm pressure will disengage the case from below



the armrest.

Slip up the two covers on the battery panel (*shown in above drawing*) and remove them completely.

4. Take out the two battery holders (which are not connected by wire) by tilting the pack.

5. Press out the old batteries.

6. Install new batteries. Carefully observe polarity of the batteries and make certain the new batteries are aligned properly.



7. Replace holders in detector as shown above. It is important that the "eyelets" be toward the center. If an effort is made to install holders incorrectly, closure will be difficult. If it is forced, however, damage to the detector can result. Battery packs must be replaced in their proper orientation.

8. Press down firmly and slide each battery cover back in place. Remember: The detector must be turned off when batteries are being changed. Caution: Use only high quality rechargeable (NiMH), alkaline



or heavy duty carbon batteries.

RECOMMENDED ACCESSORIES

Your Garrett *GTI 2500* represents the highest quality in metal detector manufacturing. Complement it with quality accessories such as these from Garrett:

Headphones that will enable you to hear signals from the *GTI* more distinctly because they will mask other conflicting sounds from the environment.

Coin Hunter Kit (pouch, probe, digger) that is all you need for recovering coins. Coil Cover to protect your 9.5" searchcoil and lengthen its lifespan.)

MAINTENANCE

Always remember that your *GTI 2500* is a sensitive electronic instrument. It is built to withstand rugged treatment in the outdoors. Use your Garrett detector to the fullest extent possible, and never feel that you have to baby it. Yet, always protect the detector and handle it with reasonable care.

Try to avoid temperature extremes as much as possible, such as storing the detector in an automobile trunk during hot summer months or outdoors in sub-freezing weather. Keep your detector clean. Always wipe the housing and LCD after use, and wash the coil when necessary. Your 9.5" searchcoil is submersible. The control housing is not! Never submerge the control housing, and always protect it from heavy mist, rain or blowing surf. Disassemble the stem and wipe it clean after use in sandy areas. When storing longer than about one month, remove batteries from the detector and from their holders as well.

SPECIALIZED HUNTING

Coins

Because of its unique discrimination and imaging capabilities, the *GTI 2500* functions as an outstanding coin hunting detector, especially in its Discriminate/Coins mode. Deepseeking capability and the depth, size and conductivity information available from *DSP* circuitry combined with *TreasureVision* and the *GTI 2500's* ease of handling make this a superb instrument for finding coins.

In addition, target sizing presents a second dimension in discrimination. When you discover a target whose conductivity as shown on the Upper Scale indicates that it might be a coin, check its size. If it's not a B-size target, it can't be a U. S. coin! Whether you choose to hunt for them in a park or on a beach, Garrett's factory-set Discriminate/Coins mode offers discrimination that responds ideally to conditions normally encountered. You may occasionally discover quantities of specific trash targets that are not being eliminated from

detection by factory-set discrimination. You can then use the ACCEPT/REJECT touchpad to eliminate these pesky pieces of junk, no matter which Discriminate mode you are using. Just move your searchcoil across one of them, watch your Upper Scale for its response and push the ACCEPT/REJECT touchpad. The Lower Scale notch vanishes, and you'll have no more trouble from that type of trash metal. With the *GTI 2500* you spend less time digging trash and more time digging coins!

Custom discrimination enables you to design your own coin-hunting mode. Any Custom discrimination selections you make will be retained in the detector's memory even after the instrument has been turned OFF.

Find even more coins by combining the deepseeking capabilities of the *GTI 2500's* All-Metal mode with the discrimination of the Discriminate/Coins mode. When you detect a deep target in the All Metal mode, examine the target ID on the display panel and/or switch to the Coins mode

to double-check the target. Some hobbyists even set up a discrimination notch by blanking out all segments on the left half of the scale.

For literature explaining more about coin hunting see the Recommended Reading section of this Owner's Manual. *The New Successful Coin Hunting* is especially recommended. An Order Blank is included in the back of this manual, or you can call Garrett direct at 1-800-527-4011 to purchase by credit card.

Gold

Gold and other precious metals can be found in various forms with this detector. You will most likely be searching for nuggets, but gold can also be found as lode or hard rock deposits in a vein, usually mixed with other minerals. The *GTI 2500* can be used to locate placer deposits in streams or dry sand, with such gold then being recovered by panning.

Gold is generally found in rock formations with a great many other conductive minerals. A high quality detector such as the *GTI*

2500 with intricate circuitry that cancels out mineralization to permit sophisticated ground balancing can be used to find this gold or any other precious metal.

It must be emphasized, however, that even the *GTI 2500* or any quality detector is usually operated only in the All-Metal mode and very precisely ground balanced if gold is to be found. The new *Fast Track* and *Auto Track* are quite satisfactory, even in extremely mineralized soil, but manual ground balancing is always possible.

All of this is particularly important when searching for tiny gold nuggets. Furthermore, when prospecting, all signaling targets must be located and carefully inspected. It is only in this manner that you can be successful in using a metal detector to discover valuable metal nuggets and ore samples.

Although some hobbyists have experienced success in using the Discriminate mode to locate nuggets, the detector responds more effectively to tiny nuggets in the All-Metal mode. Heavy ground min-

eralization could also limit detection depth when searching in the Discriminate mode. There is a way, however, to let the precise discrimination possible with the *GTI 2500* help you find gold even though discrimination usually limits the amount of small nuggets found. There are some highly productive areas, however, that contain so much iron trash that a small amount of discrimination becomes highly desirable, even necessary.

Here's a suggestion: Occasionally you continually encounter one particularly troublesome trash target in an area where you're hunting for gold. The *GTI 2500* offers you an easy solution. Just switch to the Discriminate/Zero mode and "notch out" that single pesky target. Then, when you encounter suspicious targets in the All-Metal mode, you can quickly and easily check them with your "notched" Zero mode. Or, you can hunt in the Zero mode itself. You may lose some depth on an occasional nugget; but, the time you save could enable you to find more nuggets that you might have missed!

Hot rocks are a problem for any electronic

prospector, whether veteran or weekend adventurer. A "hot rock" can be described as a concentration of non-conductive iron mineral that causes a detector to recognize it as metal when operating in the All Metal mode.

When you suspect that you have a signal from a hot rock, locate the target precisely by pinpointing. Then, move your search-coil away and press the DISCRIMINATE touchpad. You should use the Discriminate / Zero setting which offers no discrimination. Now, scan the target again, trying to keep the exact same distance. If the sound does not change, your target is probably a hot rock. When this happens, ignore the target, switch back to the All-Metal mode and continue searching. If the signal increases at all in the Discriminate mode, you should investigate this target more closely and identify the metal causing your audio to increase.

Hard work, patience and research are three of the keys to success in electronic prospecting. Research is important because gold must be sought in areas

where it is known to exist.

Relics

Relics of all shapes and sizes can be found with a *GTI 2500* when you hunt in its RELICS mode. This mode is especially designed to eliminate those nuisance targets most often encountered in relic hunting. You may also want to search in the ALL METAL or ZERO Discriminate modes, but you must be prepared to dig metallic trash since you will detect all metal targets in these modes.

REPAIR SERVICE

In case of difficulty, read this Owner's Manual again thoroughly to make certain your Garrett *GTI 2500* is not inoperable because of wrong adjustments or improper operating methods. Your dealer may also be able to offer advice. Remember that computerized circuitry of this detector permits you to restore instantly all of its precise factory settings. Simply hold down the POWER touchpad for five (5) seconds. When your detector must be returned to the factory for service, always include a letter with the instrument that describes its problem as fully as possible. Include your name, address and a phone number where you can be contacted between 8:30 a.m. and 4 p.m., Central time.

Before you return your detector to the Garrett factory, make certain:

You have checked batteries and connectors. (Check batteries especially closely. They are the most common cause of detector "failure.")

You have checked with your dealer.

You have tried to restore factory settings.

You have carefully packed the detector in its original shipping carton or other suitable box. Make certain that proper insulation or packing material is used to keep all parts secure. Do not ship stems, headphones or armrests unless they are part of the problem. Be certain to return all coils, unless the problem is mechanical.

Ship to:
Garrett Metal Detectors
1881 West State Street
Garland, TX 75042.

You can call Garrett's Customer Service Department (972) 494-6151, Extension 776, or e-mail at sales@garrett.com if you have further questions.

Please allow approximately one week for Garrett technicians to examine and service your detector after receiving it, plus another week for return shipping. All

equipment will be returned UPS or parcel post unless you give written authorization to ship collect by air parcel post, UPS Blue (air) or air freight.

Special Notice to Foreign Customers:

Customers outside the United States must contact the retail outlet where their product was purchased to arrange for repair or warranty service. To avoid excessive shipping and import charges, do not attempt to return any Garrett products to the factory in the United States without written authorization from Garrett's local agent or representative.

RECOMMENDED READING

Since your Garrett *GTI 2500* is a truly universal detector, all of the RAM books will be pertinent to its use. Of particular interest, however, will be the revised version of Garrett's popular *Modern Metal Detectors*, a basic text that will help you to understand all types of metal detection equipment and how to use them.

A special section of the revised edition is devoted to the use of *One-Touch* computerized detectors.

For beginners, however, the new edition of *Treasure Hunting for Fun and Profit* will prove especially interesting and helpful.

Where can you hunt? How about ghost towns and deserted structures? You will read about them in Charles Garrett's *Ghost Town Treasures*.

Bob Marx's *Buried Treasures You Can Find* locates thousands of sites where treasure is known to have existed. This fine

book also includes much good information about *One-Touch* detectors such as the *GTI 2500*.

You will also be interested in *The New Successful Coin Hunting*, filled with "how to" tips and success stories about coin hunting.

Since the *GTI 2500* is such an excellent detector for hunting for gold nuggets and ore veins, you will be interested in *Find Gold with a Metal Detector*. All hobbyists are urged to familiarize themselves with this most interesting and exciting aspect of metal detecting.

WARNING!

Any metal detector may discover underground power lines, explosives or other items which when struck could cause personal injury. When searching for treasure with your Garrett *GTI 2500*, observe these precautions:

- Do not hunt in an area where you believe there may be shallowly buried underground electric lines or pipes.
- Do not hunt in a military zone where bombs or other explosives may be buried.
- Avoid striking any line known to be or suspected to be carrying electrical power.
- Do not disturb any pipeline, particularly if it could be carrying flammable gas or liquid.
- Use reasonable caution in digging toward any target, particularly in areas where you are uncertain of underground conditions.

RAM BOOKS ORDER FORM

Please send me the following RAM books:

(Please indicate number of copies desired.)

___	<i>New Successful Coin Hunting</i>	\$9.95
___	<i>Treasure Hunting for Fun and Profit</i>	\$9.95
___	<i>Treasure Caches Can Be Found</i>	\$9.95
___	<i>Ghost Town Treasures</i>	\$9.95
___	<i>You Can Find Gold with a Metal Detector</i>	\$9.95
___	<i>Buried Treasures You Can Find</i>	\$14.95
___	<i>Gold of the Americas</i>	\$9.95
___	<i>New Modern Metal Detectors</i>	\$12.95
___	<i>Gold Panning is Easy</i>	\$9.95
___	<i>How to Find Lost Treasure*</i>	\$3.95
___	<i>How to Find Gold</i>	\$3.95
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SPECIFICATIONS

- Detector Type: Very low frequency, transmitter / receiver, *TreasureVision Graphic Target Analyzer* and Imaging Grid for precise target identification, multiple notch discrimination
- Controls: Easy access touchpads
- Display: High visibility LCD adjacent to touchpads; data accessible at any angle
- Detection Frequency: 7.0 kHz, adjustable

Circuitry: Linear transmitter/receiver/filter front end 16-bit data acquisition

- 16-bit Digital Signal Processor (DSP)
- Microcomputer controlled
- Crystal controlled 10 MHz operation
- High reliability surface-mount printed circuit board construction

- Audio Frequency: 275 to 710 Hz
- Batteries: Eight (8) AA
- Battery Life: (Approximate)
 - Alkaline: 35 hrs.
 - Carbon Zinc: 25 hrs.
 - Rechargeable: 25–35 hrs.
- Humidity: 0 to 95% Non-condensing
Temperatures:
Operating: 0 to 130°F.
Storage: -20 to 150°F.
- Construction: Aluminum and high strength glass-filled nylon with handle-mounted control/display panel.
- Weight: (With 9.5 searchcoil) 4 lbs., 8 ozs.

CODE OF ETHICS

Filling holes and obeying no trespassing signs are but two requirements of a dedicated metal detector hobbyist. A sincere request that Charles Garrett makes to every user of one of his detectors is that each place searched be left in a better condition than it was found. Thousands of individuals and organizations have adopted this formal Metal Detector Operators Code of Ethics:

- I will respect private and public property, all historical and archaeological sites and will do no metal detecting on these lands without proper permission.
- I will keep informed on and obey all laws, regulations and rules governing federal, state and local public lands.
- I will aid law enforcement officials whenever possible.
- I will cause no willful damage to property of any kind, including fences, signs and

buildings and will always fill holes I dig.

- I will not destroy property, buildings or the remains of ghost towns and other deserted structures.

- I will not leave litter or uncovered items lying around. I will carry all trash and dug targets with me when I leave each search area.

- I will observe the Golden Rule, using good outdoor manners and conducting myself at all times in a manner which will add to the stature and public image of all people engaged in the field of metal detection.

PATENT PROTECTION

Garrett's high tech instruments are protected by one or more of the following United States Patents and other Patents Pending: 4,398,104, 4,423,377, 4,303,879, 4,334,191, 3,662,225, 4,162,969, 4,334,192, 4,488,115, 4,700,139, 4,709,213

Design 274,704 and 297,221

G. B. Design 2,011,852

Australia Design
111,674.

Other patents pending.

All Garrett detectors are manufactured in the United States of America.

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TM

GARRETT

METAL DETECTORS



OPERATING INSTRUCTIONS:

GTI 2500

ASSEMBLY INSTRUCTIONS:

1. Compress the button ends of the spring clip and insert, button end first, into the lower stem of the detector so that the button ends pop out of the holes. The spring clip is installed at the factory in the upper metal stem. This will enable the stem assembly to be attached to the electronic housing and the over all length of the detector adjusted for a comfortable operating length.
2. Attach the lower stem to the searchcoil by inserting the two rubber washers into the stem and slipping the searchcoil onto the stem. Insert the threaded bolt through the holes and hand-tighten the two knobs.
3. Install the upper stem to the lower and then this assembly to the detector housing by depressing the buttons and coupling the stem to the housing. Adjust for the most comfortable operating length.
4. Wrap the searchcoil cable snugly about the stem with the first turn of the cable over the stem.
5. Insert the cable connector into the connector on the detector housing and hand-tighten securely.

CONTROL FUNCTIONS

Touchpads:

Familiarize yourself with the touchpad controls. Their basic functions are given here. How they can help you find treasure is explained in the Operating Instructions of this Manual.

Power/ Hold to reset:

- Turns the detector on;
- Turns the detector off;
- Returns the detector to factory settings.

Raise searchcoil approximately one foot above the ground. Press the touchpad once, and the detector begins operating. Each time the detector is turned on, the battery condition is reported on the detector's LCD Display and the detector automatically begins operating in the Discriminate Coins mode.

Press once again to turn the detector off. Special memory circuitry will retain all settings made. Also, the detector will switch itself off automatically when no touchpad is pushed and no target is detected during a period of 10 minutes

Menu/Scroll:

Allows the operator to scroll through the following menu items to permit making manual adjustments for personal preferences:

In both Discriminate and All-Metal mode:

- **Sensitivity (Depth)**
- **Threshold (Audio Level)**
- **Frequency**
- **Volume**
- **Tone**
- **Search Image**
- **Talk (Voice)**
- **Battery Indicator**
- **Back Light**

In Discriminate mode only:

- **5 Modes**—*Coins, Jewelry, Relics, Zero, Custom*
- **Surface Elimination**
- **Salt Elimination**
- **Belltone Audio**
- **Bi-Level Audio**

In All-Metal mode only:

- **Manual Ground Balance**
- **Auto Track**

All- Metal (FAST TRACK):

This touchpad serves a dual function. When pressed and released, it places the detector in the All Metal Mode. When pressed and held firmly, the second function, the *Fast Track* Ground Balancing function is activated when the All-Metal mode is in use.

Accept/Reject:

This functions in the Motion Discriminate modes only. Permits acceptance or rejection of specific targets to establish discrimination notches as shown on the lower scale.

Treasure Imaging (PINPOINT – DEPTH):

Press and hold to activate the pinpointing function of the detector when a target has been discovered. This function operates in either mode and causes the depth of coin-sized targets to be displayed on the lower scale. Signal strength is indicated on the upper scale and size and depth of the target is shown on the Imaging Grid. A complete discussion of pinpointing can be found in the Operating Instructions section of these instructions.

OPERATE:

Press to return to the hunting mode after any change or adjustment of controls.

Discriminate (Last Mode):

Returns the detector to the last *previously* used operating mode when operating in the Discriminate mode.

When hunting in the All-Metal mode, activates the Discriminate mode that was last being used.

Treasure Talk:

Permits *Treasure Talk* on demand when a target is detected. Pressing this pad will cause the voice to give the Upper Scale ID number, size and depth of the target last detected.

+ and -

- Permits alternation between the 5 operating modes;
- Permits adjustment of levels of *Sensitivity (Depth)*, *Threshold*, *Frequency*, *Volume*, *Tone*, and *Talk* in the Discriminate and All-Metal modes. *Surface Elimination* in the Discriminate mode; and *Auto Track* in the All-Metal mode.
- Activates (+) or turns off (-) *Rechargeable* battery gauge, *Search Image* and *Backlight* functions in both modes. *Salt Elimination*, *Belltone*, *Bi-Level* target audio in the Discriminate mode.
- Moves LCD segments in the upper scale when discrimination is being set in the Discriminate mode;
- Permits adjustment to be made that achieve precise manual ground balancing in the All-Metal mode.

Display Screen:

The complete operating status of the detector is shown on the screen at all times. When **Treasure Imaging** is pressed and held the size and depth of targets will be shown. The mode in which you are searching will be shown in the column under **Search Mode**. **Menu**, **Search**, and **Image** are shown above the grid in the center to indicate the detector status. **Menu** is shown while the detector is being regulated. **Search** will be illuminated after pressing **Operate** and are hunting, and **Image** when the **Treasure Imaging** touchpad is pressed and held. On the second line are detector functions that may be selected and regulated by use of the **Menu/Scroll** Touchpad. Under the Search Aids column are listed the various search aids selected for use.

Treasure Vision:

This function enables the Display Screen to show the status of detected targets.

Control Information

Graphic Display:

1. Target ID Guide

At the top of the control panel coin denominations are listed for use with the Target Cursor to indicate probable target identification. This is to be used in relationship with the Imaging Grid to further assist in identifying discovered targets. The five letters (A, B, C, D, E) refer to the relative sizes on the Imaging Grid.

2. Upper Scale

- Indicates target discovered
- Indicates target strength when Treasure Imaging is pressed.
- Indicates levels of control setting while in the Menu mode.

3. Lower Scale

- Discrimination segments indicate notches
- Indicates coin depth in inches when in Treasure Imaging.
- Indicates five levels of control settings.

Imaging Grid:

Five target sizes are shown on the color-coded Grid with depth indicated in 2-inch increments by the targets location on the grid. The sizes and definitions are:

Size A—Targets smaller than coins, including small bits of trash or foil.

Size B—All US coins and most rings and small metal trash such as bits of pulltabs.

Size C—Targets larger than coins but smaller than 12 oz. cans such as small belt buckles large rings, and some trash like screwcaps, bottlecaps, and complete pulltabs.

Size D-- Large belt buckles, large jewelry items, 12 oz. cans, and other items of similar size.

Size E—Objects larger than a 12 oz. can, such as kettles, strongboxes, or large metallic trash.

Treasure Talk:

This function provides spoken information to assist in setting the detector and finding targets. Three levels of *Talk* enable you to specify the activity of this function.

- **Menu:** Allows voice prompting only when the detector is being adjusted.
- **Image:** Allows voice prompting both when selections are being made and when target size and depth information is available as the Treasure Imaging touchpad is released.
- **Search:** Provides voice prompting at all times, including Upper Scale ID numbers and size.

Getting Started:

To Begin

- Grasp the handle of your detector and lower the searchcoil to a level about a foot above the ground.
- Press and release the Power Touchpad and Treasure Talk will inform you that the detector is ready to operate and is in the Coins mode.
- The LCD Display shows the mode and the features that are presently active.
- Using the information stated previously in the Control Functions section, changes may be made to the settings if desired.

SCANNING:

1. Move the searchcoil from side to side in front of you in a straight line at a speed of one or two feet per second. Walk slowly forward. Don't be in a hurry!
2. Hold the searchcoil level, and try to maintain a constant height an inch or two off the ground. Skim it lightly over grass, weeds, rocks and other obstructions.
3. Avoid letting the searchcoil swing upward at the end of each sweep.

DISCOVERY:

1. When the searchcoil passes over an acceptable target, the speaker will produce a pronounced audio signal and voice report, if voice is activated.

2. Try to locate the target precisely by scanning back and forth over the target to determine where signals are loudest.
3. Notice all indications on the LCD Display above the touchpad and try to identify the target before digging it up.

Treasure Imaging: (Pinpoint)

Press and hold this touchpad so that you may locate your target more precisely and also determine its relative size and depth.

JUNK TARGETS: When the detector is at the factory-set Motion Discriminate (Coins) it is programmed not to respond to most junk items. Occasionally, you'll encounter targets that cause the detector to respond with quick, sharp sound – not like the clear, strong signal of a coin. Dig up some of the targets that make irregular “blips;” see how they register on the display. Learn to recognize them. Because the detector is primarily programmed to hunt coins in this Getting Started phase, it will also precisely identify small junk targets. Some larger objects such as aluminum cans may present a good audio signal. This is normal.

TO TURN OFF your detector, simply press the Power touchpad, the voice will say, "Power Off" and all battery power is disconnected.

After you have become acquainted with your detector, re-read and study these instructions. When you become completely familiar with the GTI 2500, you will find it can be used effectively to hunt for any kind of treasure.

AFTER TEN HOURS: At this point, you have probably noticed some conflicting readings in areas with a great deal of metal trash, especially when the display attempted to analyze two or more targets. Further operating experience with target identification systems will help you understand more about these so-called false readings.

SPECIAL NOTE ABOUT SETTINGS:

If you are ever unsure about the settings of your detector, press and hold the Power touchpad for 5 seconds or until the voice prompt informs you that the factory settings have been restored.

HEADPHONE JACK:

The headphone jack is located at the center rear of the battery pack located under the arm cuff.

MODE SELECTION AND ADJUSTMENTS:

Discrimination Operating Mode:

In the motion (Discriminate) mode the GTI 2500 functions as a slow-motion detector with precise ground balance. Automatic circuitry requires that the searchcoil be moving to cause an audio target response. In this Motion Mode press **Menu/Scroll** and then + or - to rotate through five different modes of detection. When a particular mode is selected it will be lit constantly and the others four will be flashing. Press **Operate** to begin hunting or **Menu/Scroll** to move to another control selection.

Coins: Discrimination is preset to eliminate detection of lower conductivity trash items such as pulltabs and bottlecaps.

Jewelry: Specifically designed to eliminate trash targets and bottlecaps.

Relics: Specifically designed to eliminate only those very small lower conductivity items that plague relic hunters.

Zero: No discrimination is programmed into this mode, so essentially every metal target will give an audio response.

Custom: This mode is designed to be user-set. Through the use of the **Accept/Reject** touchpad it can be modified for an individual's preference. The settings made to this mode will be retained when the detector is turned off.

Note: When the detector is turned off and then back on, it will begin operating in the mode previously in use.

SETTING DISCRIMINATION:

Setting of Notches

Changes to the preset notches can be made in several ways if so desired. A specific item may be located by turning off all segments on the Lower Scale except for the segment where that target will appear. This can be accomplished by pressing the + or - touchpad to locate the cursor and moving it to the segment that you wish to turn on or turn off. When the cursor is over that segment, press ACCEPT/REJECT to turn the segment on or off.

Another method is to search normally and when a particular item is encountered, press the ACCEPT/REJECT touchpad to turn that segment off. That target will not bother you any longer. NOTE: You may wish to turn off one segment on each side of the one chosen for rejection. This will mean that three segments are off, but it will also insure that the chosen target cannot be recognized any longer.

All of the Discrimination Modes may be adjusted in this manner.

All changes made to the user-set Custom mode will retain changes made to them when the detector is turned off. All changes to the other modes will be lost as they automatically return to the factory settings.

Factory Settings: Remember that the factory settings may be gained at any time simply by pressing and holding the POWER touchpad for approximately 5 seconds. The detector will beep and the voice will announce that all factory set functions have been restored. All changes made by the operator will have been deleted

All-Metal Operating Mode:

In this mode there is no discrimination. When turning the detector on, or switching to this mode the *Fast Track* feature will automatically ground balance the detector and *Ground Track* will keep it continually ground balanced.

Hunt in this mode when you desire the greatest depth and recognize that all metal targets will be reported audibly.

OPERATIONAL SETTINGS

Press **Operate** to set your changes after they have been made. Treasure Talk will report all setting levels as each function is selected and/or changed.

Discrimination Mode: All changes will be reported audibly by the detector's voice function and all adjustments are made using the Menu/Scroll touchpad. These changes are visibly shown on the Upper and/or Lower Scales also.

Sensitivity (Depth): Use the + or - touchpads to adjust the depth (Sensitivity) from your current setting. The changes will be shown on the Upper Scale of the LCD Display.

Threshold: Increase or decrease this setting by use of the + or - touchpads. A minimum audio sound is generally preferred.

Frequency: This detector has eight (8) detecting frequencies. When electronic interference from ambient conditions or those from nearby detectors cause static or erratic operation use of another frequency generally will solve the problem. Use the + or - touchpads to change frequencies after selecting this function for adjustment.

Volume: Using the + or- touchpads adjustments may be made to the maximum volume produced when a target is encountered. This does not affect the audio threshold setting previously discussed.

Tone: Allows adjustment of the audio pitch. Adjust for the tone that suits your hearing. Again, increase or decrease the tone level by use of the + or - touchpad.

Search Aids:

Search Image: When this Search Aid is selected *Treasure Vision* will constantly display the size and depth of accepted targets while you are searching.

Surface Elimination: After selecting this Search Aid use the + or - touchpad to increase or decrease the elimination range from the searchcoil. A maximum of 4 inches of surface elimination is available. All targets in this range will be ignored, so use this function wisely.

Salt Elimination: Use this Search Aid when hunting in any area with a high salt content such as an ocean beach or in tidal waters. Turn this function on or off by using the + or - touchpad.

Backlight: This function lights the detectors control panel at night or in low light situations. It is on automatically when in the Menu mode. Turn this function on or off by using the + or - touchpad.

Audio:

Belltone: The Belltone coin alert will signal the operator with a special ringing sound whenever a target of high conductivity has been located. Belltone is the factory setting for the GTI 2500. This ringing sound is active only for targets equal in conductivity to copper cents and above. This function is turned on or off by using the + or - touchpad.

Bi-Level: Two noticeably different audio sounds are produced when this function is turned on. A standard audio response is given for all targets of a high conductivity than that of a US nickel. Nickels and lesser conductive targets cause a lower audio tone. This function is turned on or off by use of the + or - touchpads.

If neither Belltone nor Bi-Level audio is selected, the detector will operate with only Standard audio.

Talk: Use of this function allows the operator to select the level of Talk desired using the + or - touchpads.

Overload: This is a distinct audio sound emitted when the detector encounters an exceptionally large target fairly near the searchcoil.

Battery Type: By use of the + or- touchpad the type of battery being used is selected. The scale is automatically adjusted for correct reporting of the battery power available.

Audio Warning: This audio sound will occur only if while making changes or adjustment a "wrong" touchpad is pressed.

Additional Information: All personal preference adjustments selected will be retained when the detector is turned off, even when the batteries are removed. However, all Accept/Reject changes made to the Motion Discriminate factory-set modes will be deleted and those modes will return to the factory-set default settings.

The detector must be turned off when the batteries are being replaced.

ALL- METAL MODE

OPERATIONAL SETTINGS:

All-Metal Mode: All changes will be reported audibly by the detector's voice function and all adjustments are made using the + or – touchpads. These changes are also shown on the Upper and/or Lower Scales of the LCD Display.

The following list of control functions is used in both operating modes. Instructions for their use can be found above.

Manual Ground Balance

Depth (Sensitivity)

Threshold

Frequency

Volume

Tone

Search Image

Back Light

Talk

Manual Ground Balance: This function will be used rarely due to the detector's internal circuitry and the *Ground Track* automatic ground balancing method is usually quite satisfactory. However, when Manual Ground balance is desired, press the **Menu** touchpad and scroll to the *Manual Ground Bal* is displayed. Raise the searchcoil a foot or more into the air

and then lower it toward the surface to operating height. Listen closely to the audio sound. If the sound increases press the (–) touch pad one or twice. Raise the coil and then lower it again. Do this until the audio sound remains the same or changes only very little. If the sound decreases the same procedure is done using the (+) touchpad. When the audio sound has little or no increase or decrease press operate to begin hunting or select to move to another function.

The Ground Balance you have set for your detector will not change as long as AutoTrack remains turned off. When Auto Track is operating it will govern the ground balancing function of the GTI 2500.

Auto Track: This Search Aid permits the detector to maintain optimum ground balance automatically, regardless of changing mineralization or other conditions.

Don't Forget: The factory-set levels of all settings and controls can be instantly restored by pressing and holding the POWER touchpad. The detector will beep and the voice will advise that the detector has been re-set to factory settings.

TREASURE IMAGING

When hunting with the Search Image Aid turned off, size and depth information is available only when the **Treasure Imaging** touchpad is pressed and held. The relative size and depth of targets will then be displayed on the Imaging Grid.

Important: the searchcoil must be centered directly over the target to produce accurate size and depth information.

Depth Reading on the Lower Scale

When you press and hold the **Treasure Imaging** touchpad, target depth will be indicated on the Lower Scale. Illumination of Upper Scale segments, from left to right, indicate the strength of the target signal.

While still pressing the **Treasure Imaging** touchpad check the Lower Scale for the target depth in 1" increments. The Imaging Grid will also indicate depth but in 2" increments. Thus a target with a Lower Scale depth of 5" will be rounded up to 6" on the Imaging Grid.

Size/Depth on the Imaging Grid

Note that the size and depth information can change on the grid as the target is being centered beneath the searchcoil. The correct reading on the Imaging Grid will always be the smallest size and the shallowest depth. When these two are achieved at the same time the target is beneath the center of the searchcoil at the depth indicated.

Cone Effect

You may occasionally observe a size and depth reading similar to a cone. Such a reading with multiple indications of size and depth indicates that the detected target is too small or too deep to determine an accurate size and depth. The cone effect may occur when the target is significantly off-center from the searchcoil.

Batteries

The GTI 2500 detectors utilize a battery pack that requires eight (8) standard, alkaline, or rechargeable AA batteries in holders of four (4) each. When replacements are necessary, it is

recommended that only high quality standard, alkaline, or rechargeable batteries be used. It is advisable to remove the battery holders from the pack and the batteries from the holders when the detector is not in use, particularly for a period of weeks. The detector should operate 10 to 15 hours with carbon or rechargeable batteries and a longer time with alkaline batteries. After replacing the batteries perform the factory reset procedure.

Checking Condition:

Battery condition is reported on the LCD Display all the time the detector is turned on. Batteries should be considered weak when less than three (3) bars are displayed. They should be replaced when the battery scale reports only one (1) bar, or when the detector begins making target-like sounds when no target is encountered.

Battery Replacement

1. Turn the detector off.
2. Slide the battery pack to the rear slightly and remove the two battery covers.
3. Take out the two battery holders (which are not connected by wire) by tilting the detector.
4. Remove the old batteries from the holders.
5. Install the new batteries making certain to observe the polarity of the batteries.
6. Re-insert the holders into the battery pack. Make certain that the rivets on the bottom of the holders are toward the center of the battery pack when the holders are inserted.
7. Re-install the battery covers and slide the battery pack back into its normal position beneath the arm cuff.

Note: The detector must be turned off when the batteries are being replaced.

Please note that the detector will lose Audio Threshold and Depth/Sensitivity Settings when the battery pack is removed from the detector for more than approximately four minutes.

After changing the batteries, it is always wise to perform the factory re-set procedure.

OPERATING INSTRUCTIONS

TO BEGIN: Follow the instructions in the "Getting Started Section" for turning on your detector, noting the condition of the batteries, and setting of the Audio Threshold and any other function that may be desired.

MODE DESCRIPTIONS:

ALL METAL: Press and release the ALL METAL touchpad to activate this mode. Hunt in the All Metal mode when the greatest depth of detection is sought, as when searching for caches or deep relics. Electronic prospecting will also be carried out in this mode. Because no discrimination is possible when using this mode, all metal targets will be detected. Use of the LCD Display will give an indication of what kind of metal has been detected and can eliminate some needless digging on shallow targets.

Fast Track ground balancing is accomplished in this mode by pressing and holding the ALL

METAL touchpad while scanning the searchcoil for only a few seconds in a normal manner. Release the touchpad and Auto Track will continue to track ground minerals and instantly make all necessary adjustments.

SETTING DISCRIMINATION: The GTI 2500 features fully adjustable notch discrimination. It offers multiple selectivity and the ability to reject and accept targets in both the ferrous (iron) and non-ferrous ranges.

SEARCHING: Begin your search for coins or other treasure by lowering the searchcoil to a height of from one to two inches above the ground. Scan in front of you at a speed of one to two feet per second by moving the searchcoil from side to side in a straight line (not an arc). Always try to maintain a constant height. At the end of each scan path, move the searchcoil forward approximately one-half to two-thirds its diameter and scan a path in the opposite direction. This overlapping insures that you do not miss targets.

When any acceptable target is found, the sound level from the detector's speaker or headphones will increase to alert you. The voice feature, if activated, will supply verbal target information at this time also. The Imaging Grid will display target size and depth information at this time as well.

TARGET IDENTIFICATION: Target ID, conductivity classification, and size and depth of the last target over which the search coil passed will be indicated on the LCD Display Panel. Encrustation or patina, however, may result in improper classification. It is recommended that you always dig any weak, but audible target signal. It might be a coin just at the edge of your search coil's detection range.

TREASURE IMAGING (Electronic Pinpointing): Electronic pinpointing offers greater accuracy in target location. When a target is located, press and hold the TREASURE IMAGE touch pad to activate the detector's electronic pinpointing mode. A wealth of information is now beneath your fingertip, The Imaging Grid is displaying target size and depth data and the Graphic Target Analyzer (GTA), the Upper and Lower Scales, providing information to assist in the targets recovery. As long as the touch pad is pressed, the detector will operate in this mode. Still pressing the touchpad, place the searchcoil near but not above the target. Then, move the searchcoil over the target area. When sound is loudest and the upper scale reading is at its greatest deflection to the right, the target will be beneath the center of the searchcoil. At the same time, the lower scale reading is at its greatest deflection to the right, measuring depth. These two scales, upper and lower, cannot overlap each other. Depth reading is automatically calibrated regardless the size searchcoil coil used. After the touchpad is released, the detector will automatically return to the mode previously being used.

Practice pinpointing by placing a coin on the ground. Scan over this coin and use both pinpointing techniques just described. Notice how accurately you pinpoint. You should quickly become proficient to within one-quarter of an inch.

SEARCHCOILS: The GTI 2500 may be used with three (3) Scorcher and two Imaging (2) searchcoils and Garrett's Treasure Hound depth multiplier attachment with Eagle Eye Pinpointing.

The 9.5" Imaging searchcoil, provides excellent depth and good scanning width is the most

popular size used by coin hunters and for general searching over parks, playgrounds and beaches. For an area known to produce coins, rings and jewelry, this searchcoil should be used for initial searching.

The 4.5" Non-Imaging searchcoil, offers the ability to recover coins and other valuable objects from areas with large amounts of buried metal trash or in areas adjacent to such metal as playground equipment, fences and buildings. While Imaging is not possible, the 4.5" coils have a smaller diameter; they can detect fewer targets at a time and work in restricted areas. This eliminates the possible "masking" effect of junk targets. Electronic prospectors also quite effectively use the 4.5" Scorcher coil when searching for nuggets.

The 12.5" diameter Imaging searchcoil is useful for large and deep targets such as those normally encountered in cache and relic hunting. It will also detect coins and other small objects at greater depths than the smaller coils. Many coin hunters will switch to this size when a faint signal is heard while using a smaller coil, which may indicate a fringe-area target. There is also a non-Imaging 12.5" searchcoil for those seeking slightly less weight at the expense of Target Imaging.

The 10 x 14 inch Power DD Non-Imaging searchcoil is a must for searching in moderate and highly mineralized ground conditions. It is excellent for cache and relic hunting but its capabilities are not limited to these areas.

Another DD coil is the 5 x 10 Elliptical Non-Imaging searchcoil. For searching tight places where a larger, wider, round searchcoil is less than satisfactory, this coil is a must for every treasure hunter. Similar to the Power DD coil, it easily handles all but the most severe ground mineralization.

The Treasure Hound attachment eliminates the need for a separate "two-box" detector and multiplies the depth to which the detector can detect objects that are larger than a fruit jar. The Treasure Hound allows the detection of large targets more deeply, and is not bothered by small pieces of metal junk – minimizing unnecessary digging. With Eagle Eye Pinpointing You will now know where exactly to dig for those treasures of the past.

The detector automatically identifies that the Treasure Hound is in use and will allow only the All Metal mode selection. Press the ALL METAL touchpad to retune the audio to your preset threshold.

PROFESSIONAL PHASE

COIN HUNTING: After studying this Owner's Manual very carefully, you will be able to perform more tasks with the detector and complete them more easily. The following tips represent the experience of a professional with the detectors.

Deep coin hunting: For maximum depth and to avoid missing a small or very old coin, search in the Zero Discriminate mode. This will prevent missing an especially old coin that is so oxidized that it will be rejected by any discrimination. Should the sound become erratic, press the (-) touchpad to reduce the detection depth until the sound levels out. You are now operating at the maximum sensitivity possible under present ground conditions. The 12.5" searchcoil is recommended for seeking extra-deep coins.

Caution: When operating on ocean beaches where salt is found, do not attempt to hunt in the All Metal mode that requires ground balancing. Even though the Zero Discrimination mode automatically adjusts ground balance, we suggest the Salt Elimination Search Aid be selected to reduce any response the wet, salted sands.

Hunting in trashy areas: Use of Garrett's 4.5" searchcoil can aid tremendously in the search for coins in areas with large accumulations of metal trash. Although any size searchcoil will perform in this arena, the 4.5" searchcoil will produce the best results.

CACHE & RELIC HUNTING: Operating in the All Metal mode, attach the 12.5" Imaging or Non-Imaging searchcoil or the 10 x 14 inch Power DD searchcoil and increase the DEPTH/Sensitivity setting for maximum sensitivity possible (without erratic sound). Scan the searchcoil approximately four to six inches above the ground (depending on ground conditions) to eliminate erratic responses from ground minerals and small bits of metal. You will have super sensitivity and detect all targets dime-sized and larger. Caches and relics previously missed or overlooked will now be detected easily.

ELECTRONIC PROSPECTING: Even though the GTI 2500 detector is a universal detector, and excellent for prospecting, its very low frequency (VLF) circuitry will not detect some microscopic gold.

Nugget Hunting: Using the 9.5" searchcoil or the 10 x 14 inch Power DD Searchcoil the Fast Track ground balance system will leave the detector slightly positive in relation to the ground. This condition makes detection of small nuggets easier as detectors adjusted slightly negative have a tendency to overlook the smaller nuggets.

Hot Rocks: The GTI 2500 detector will instantly identify both types of "hot rocks" in any search area. Test for them in the following manner. Simply scan in the All Metal mode. When you locate a suspected hot rock, press the Last Mode touchpad; scroll to the Zero Discriminate mode, and pass back over the target in the Zero Discriminate mode. If the target is a hot rock, it will not respond. If it has sufficient metal content, it will respond as metal. If it is a large gold nugget or non-ferrous metal, the audio will sound. Because small nuggets or other metallic targets sometimes produce no response in the Discriminate mode, it is advisable to use this method only to test suspected hot rocks that respond loudly and positively to Non-Motion All Metal scanning. Note: Scrolling once to the Zero Discrimination mode establishes that as the "Last Mode". It is not necessary to do this every time you wish to switch to the Last Mode.

Searchcoil sizes will differ according to the area being searched. If the search area is in a dry wash or among large rocks that restrict the use of a 9.5" coil, change to the 4.5" searchcoil. When working in areas that have already been searched, your best option may be to change to the 12.5" searchcoil or the Power DD searchcoil. Extremely small nuggets may be missed with the larger coils, but the increased depth and sensitivity will permit you to detect deep nuggets that may have been previously missed. Professional nugget hunters know that one nugget of decent size is better than hundreds of microscopic ones.

Alkaline salt is heavily present in some rich nugget hunting areas. Attempts to search such areas with metal detectors have met with failure over the years because of the difficulty in ground balancing. However, by using the Power DD searchcoil or the 12.5" searchcoil and

searching in the Zero Discrimination mode and the Salt Elimination Search Aid turned on all targets are accepted, salt is ignored and large nuggets are detected.

Never attempt to operate any large searchcoil too close to heavy salt or extremely negative ground minerals. Maintain an operating height of approximately three to eight inches.

OPERATING RECOMMENDATIONS

As you operate and use your Garrett detector, you will quickly grow more proficient in its use. It is recommended that you build your own test plot. Bury several items, including a nail, a piece of foil, a pulltab, a bottlecap and several coins at depths of about two to eight inches and a foot apart. Clearly mark the location where each article is buried. Practice scanning the targets while listening to and studying the detection signals.

Remember that newly buried objects, especially coins, will be somewhat more difficult to detect than items that have been buried for some time. This is primarily a metallurgical phenomenon. Experiment with various Motion modes to see how your detector responds. Practice trying to pinpoint and locate targets precisely.

When scanning, do not hurry. Scan the searchcoil at a speed of about one to two feet per second. Keep the searchcoil flat and level to the ground. Move it back and forth slowly and steadily while you walk at a pace that is comfortable. Be methodical. Do not skip any areas. Wear headphones for greater sound perception and concentrate on your scanning.

After you have operated your Garrett detector for only a short time, you will be surprised at how proficient you have become in its use. Do not expect to achieve the greatest accuracy and success, however, until you have operated the detector for at least 100 hours or more.

Good hunting!

MAINTENANCE

Always remember that your Garrett detector is a sensitive electronic instrument. It is built to withstand rugged treatment in the outdoors, but you should always handle the detector as carefully as possible.

Try to avoid temperature extremes as much as possible, such as storing the detector in an automobile trunk during hot summer months or outdoors in sub-freezing weather.

Keep your detector clean. Always wipe the housing after use, and wash the coil when necessary. Protect your instrument from dust and sand as much as possible.

Your searchcoil is submersible. The control housing is not! Never submerge the control housing and always protect it from heavy mist, rain or blowing surf.

Disassemble the stem and wipe it clean after use in sandy areas.

When storing longer than about one month, remove batteries from the detector.

REPAIR SERVICE

In case of difficulty, read this Owner's Manual again thoroughly to make certain your detector is not inoperable needlessly. Your dealer may also be able to offer advice.

When your detector must be returned to the factory for service, always include a letter that describes its problem as fully as possible. Before you return your detector to the Garrett factory, make certain:

You have read this Owner's Manual carefully.

You have followed the factory reset procedure. (This will solve many problems.)

You have checked batteries, switches and connectors. (Check batteries especially closely. They are the most common cause of detector "failure".)

You have checked with your dealer, particularly if you are not familiar with this type of metal detector.

You have included a note with the detector describing the problems you are encountering with this detector and conditions under which they occur. Make certain to include your name, address and a phone number where you can be contacted between 8:30 a.m. and 4 p.m., Central Time.

You have carefully packed the detector in its original shipping carton or other suitable box. Make certain that proper insulation or packing material is used to keep all parts secure. Do not ship stems or headphones unless they are part of the problem. Be certain to return all coils, unless the problem is mechanical.

Ship to Garrett Metal Detectors, 1881 W. State St., Garland, TX 75042.

You can call Garrett's Customer Service Department (972-494-6151) if you have further questions.

Please allow approximately one week for Garrett technicians to examine and repair your detector after they receive it, plus another week for return shipping to you. All equipment will be returned UPS or parcel post unless written authorization is given by you to ship collect by air parcel post, UPS Blue (air) or air freight.

MIND YOUR MANNERS

Filling holes and obeying no trespassing signs are but two requirements of a dedicated metal detector hobbyist. A sincere request that Charles Garrett makes to every user of one of his detectors is that each place searched be left in a better condition than it was found. Thousands of individuals and organizations have adopted this formal Metal Detector Operators Code of Ethics:

I will respect private and public property, all historical and archaeological sites and will do no metal detecting on these lands without proper permission.

I will keep informed on and obey all laws, regulations and rules governing federal, state and local public lands.

I will aid law enforcement officials whenever possible.

I will cause no willful damage to property of any kind, including fence, signs and buildings and will always fill holes I dig.

I will not destroy property, buildings or the remains of ghost towns and other deserted structures.

I will not leave litter or uncovered items lying around. I will carry all trash and dug targets with me when I leave each search area.

I will observe the Golden Rule, using good outdoor manners and conducting myself at all times in a manner which will add to the stature and public image of all people engaged in the field of metal detection.

WARNING!

Any metal detector may discover underground power lines; explosives or other items which when struck could cause personal injury. When searching for treasure with your GTI 2500, observe these precautions:

Do not hunt in an area where you believe there may be shallowly buried underground electric lines or pipes.

Do not hunt in a military zone where bombs or other explosives may be buried.

Avoid striking any line known to be or suspected to be carrying electrical power.

Do not disturb any pipeline, particularly if it could be carrying flammable gas or liquid.

Use reasonable caution in digging toward any target, particularly in areas where you are uncertain of underground conditions.

PATENT PROTECTION: Proof of Garrett's excellence is the recognition given them by the following United States patents: 4,709,213; 4,488,115; 4,700,139; 4,398,104; 4,423,377; 4,303,879; 4,334,191; 3,662,255; 4,162,969; 4,334,192; 5,148,151; 5,138,262; 5,721,489; 5,786,696; 5,969,528; Design 274,704 and 297,221; Design 333,990; G.B. Design 2,011,852; Australia Design 111,674 and other patents pending.



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