GARRETT®
METAL DETECTORS

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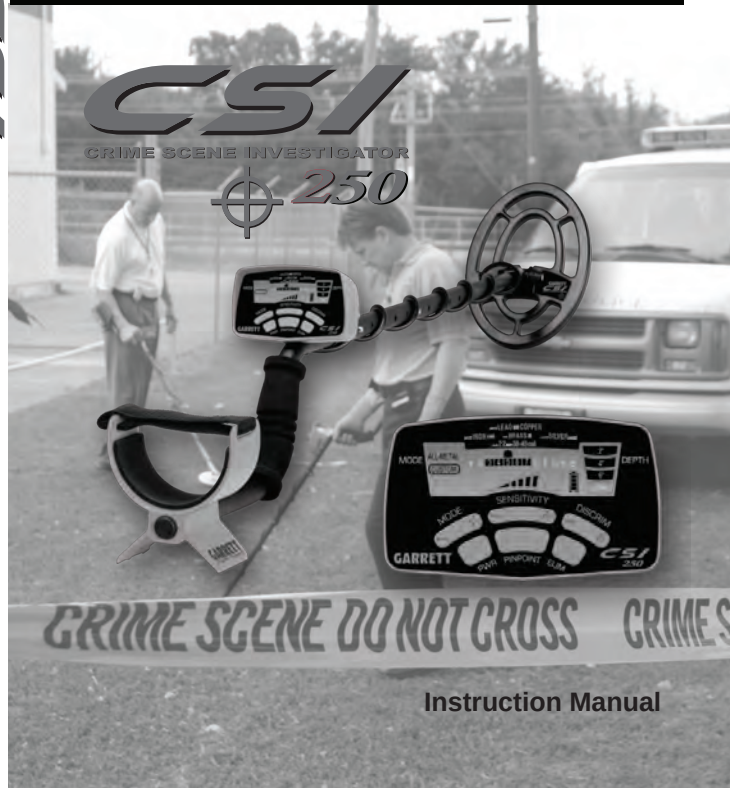
CSI 250 Instruction Manual

GARRETT®
METAL DETECTORS



Instruction Manual

THANK YOU FOR CHOOSING GARRETT METAL DETECTORS!

Thank you for choosing Garrett Metal Detectors' Crime Scene Investigator (CSI) 250 metal detector. This enhanced metal detector incorporates Garrett's exclusive Target ID to help selectively locate all types of metallic evidence. All of our products are backed by 40 years of extensive research and development that ensures your *CSI 250* detector is the most advanced of its kind in the industry.

In order to take full advantage of the special features and functions of the *CSI 250* metal detector, please carefully read this instruction manual in its entirety.

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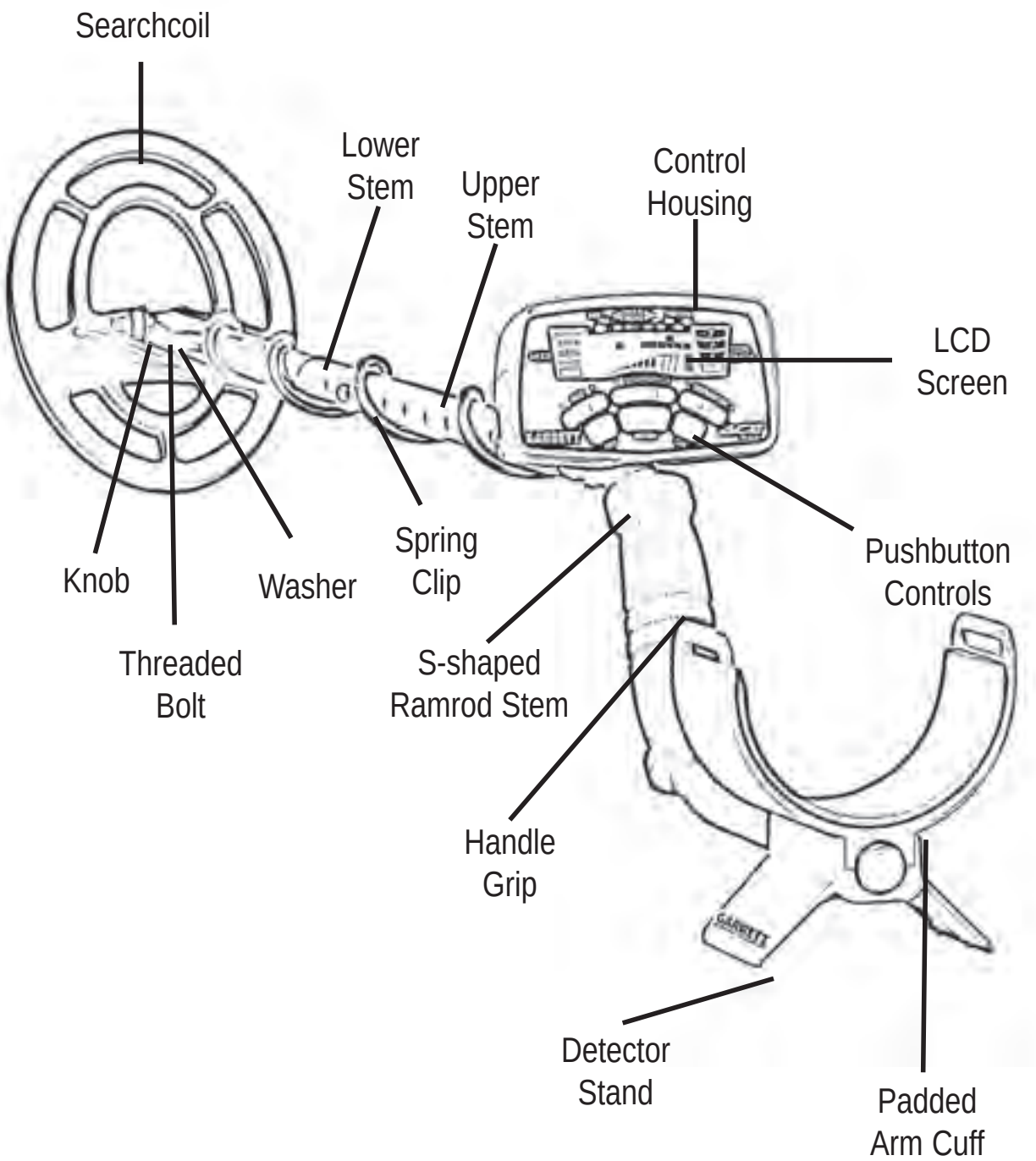
GARRETT CSI 250



PARTS

No tools are required to assemble the *CSI 250*. Four (4) AA batteries are included with the detector.

Before assembling your CSI metal detector make certain you have the complete set of parts, which include:

A. Control Housing with S-shaped Ramrod Stem and Arm Cuff
B. Upper Stem and Lower Stem
C. One (1) Wing Nut
D. Two (2) Mounting Washers
E. One (1) Threaded Bolt
F. Searchcoil with Cable
G. CSI Carrying Case
H. Headphones
I. Warranty Card
J. Instruction Manual

If any part is missing, please contact your local dealer.

ASSEMBLY

1. Press the two Mounting Washers into the Lower Stem. Figure 1-1.

Figure 1-1

2. Slide the Searchcoil onto the Stem. Figure 1-2.

Figure 1-2

3. Insert the Threaded Bolt through the holes of the Lower Stem and Searchcoil. Hand-tighten the searchcoil assembly with the remaining Wing Nut. Figure 1-3.

Figure 1-3

4. Depress the Spring Clip and insert the Control Housing into the Upper Stem. Figure 1-4.

Figure 1-4

5. Depress the Spring Clip in the Lower Stem to adjust to the most comfortable operating length. Figure 1-5.

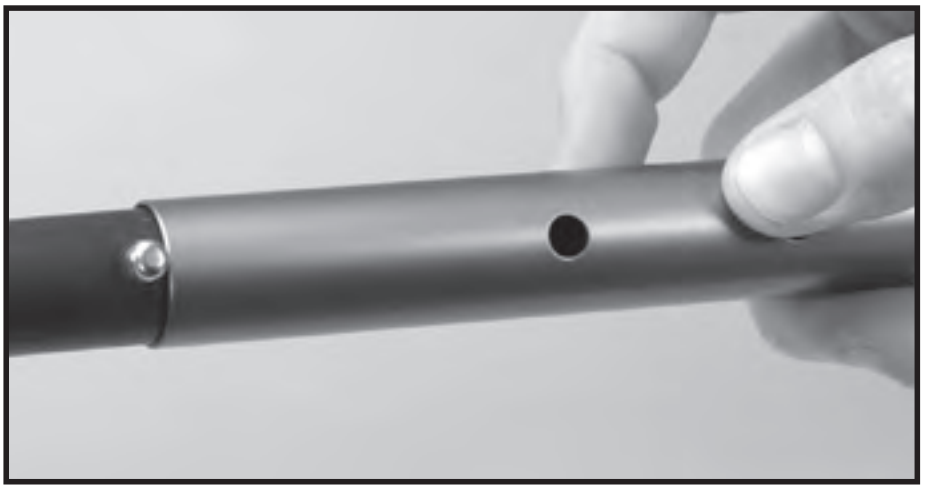


Figure 1-5

6.Wrap the Searchcoil cable snugly about the stem with the first turn of the cable over the stem. Figure 1-6.

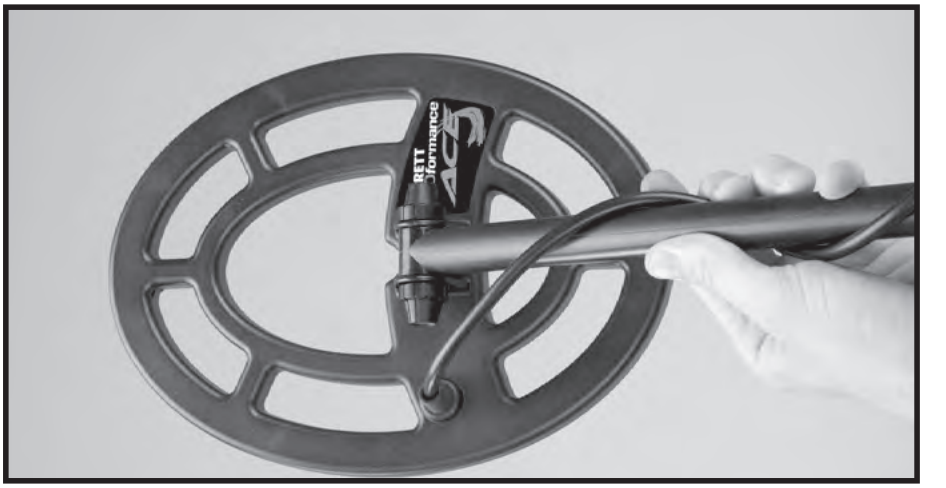


Figure 1-6

7. Insert the Cable into the Connector of the Control Housing and hand-tighten.

Figure 1-7

8. The location of the Arm Cuff may be adjusted by removing the screw on the bottom and rotating the Arm Cuff 180°. Figure 1-8.

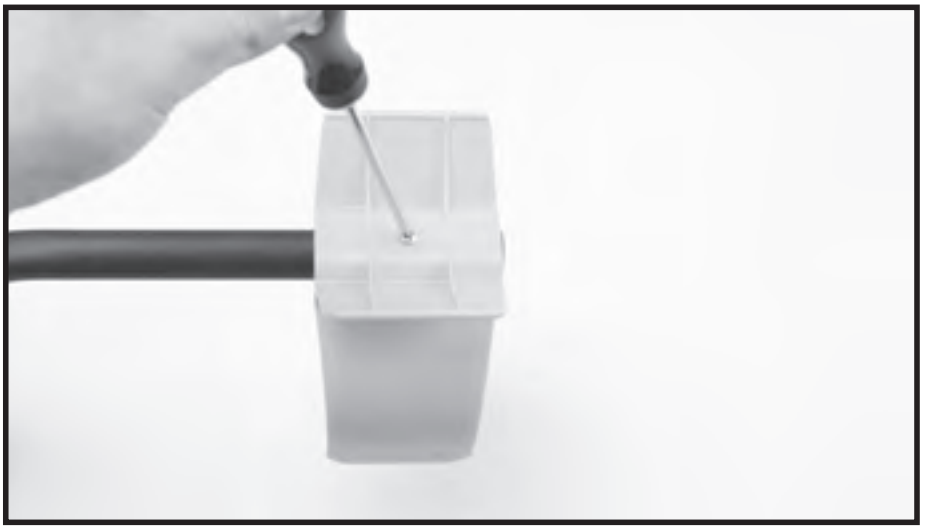
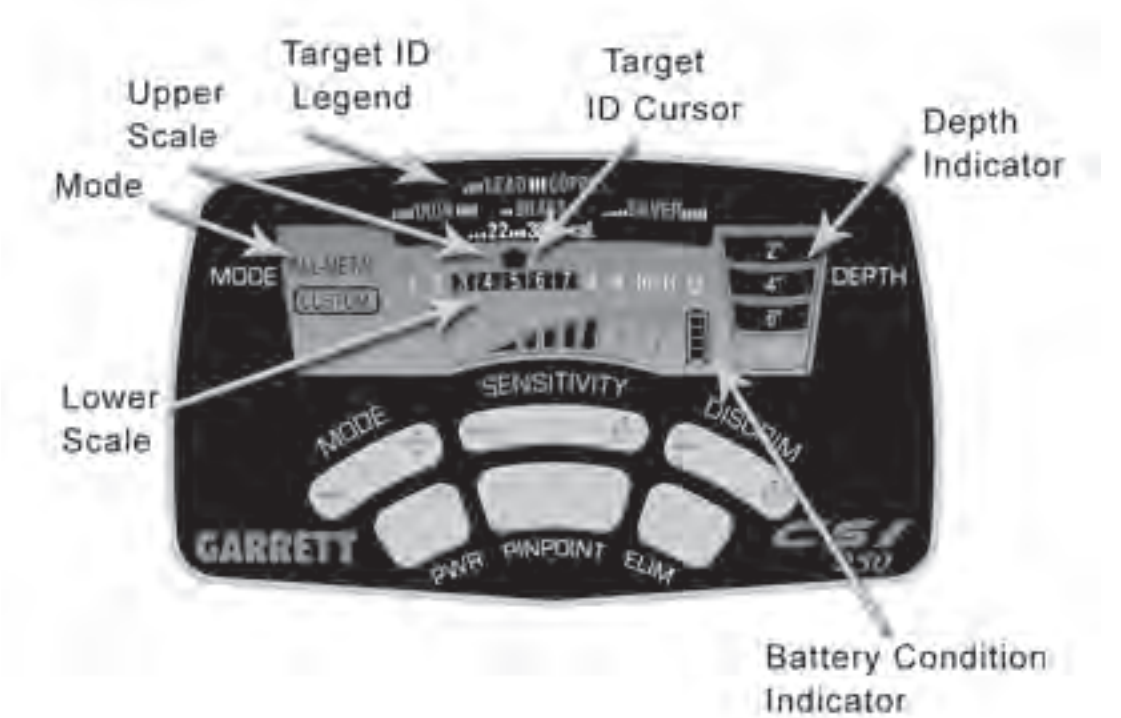


Figure 1-8

FEATURES

The *CSI 250* is designed with Garrett's exclusive Graphic Target ID technology, which indicates the probable identification of a target along a horizontal scale that reads from low conductive metals (e.g. iron) on the left to high conductive metals (e.g. silver) on the right.



1. Mode - Indicates which detection mode is selected by highlighting the corresponding word on the LCD.

2. Target ID Legend - A Target ID Legend is located directly above the LCD screen and indicates commonly found crime scene targets and metals. When a target is detected, the Target ID cursor will appear below the word that most likely indicates the type of target found, based on its conductivity.

3. Target ID Cursor - The Target ID cursor is illuminated in the Upper Scale and indicates the probable identity of a detected target.

4. Lower Scale - The lower horizontal scale, or Notch Discrimination Scale, indicates the discrimination pattern where the *CSI 250* will or will not produce an audible signal when a target is located. This scale can be modified in both detection modes.

No audible signal will be produced when a target is located where a notch is present (those regions of the Lower Scale where no segments are visible).

5. Depth - The depth of an .38 caliber bullet, or similar sized target, will be shown on the LCD screen. Depth is indicated when the LCD scale is illuminated at 2", 4" or 6" or 8+ inches. Sweep over the target with the searchcoil 1" from the soil to get the most accurate reading.

Note: Targets larger than a .38 caliber shell cartridge may display shallower than actual depth while targets smaller than a .38 caliber cartridge may display deeper than actual depth.

6. Battery Condition Indicator - An LCD battery graphic is continuously illuminated to indicate battery level.

Note: For best performance, replace old batteries with quality alkaline AA batteries. NiMH rechargeable batteries may be used, but will have a shorter life per charge. You can expect 20 to 40 hours of operation depending on battery type.

Access and replace the batteries by gently sliding the cover off the control housing. Remove batteries from the *CSI 250* when the unit will be stored for longer than 30 days.

7. Headphone Jack - Headphones with a 1/4" plug can be inserted into the jack found on the reverse side of the Control Housing. Headphones

mask external noise, such as traffic, and may enable you to better identify a target based on its audible signal.

8. Tone ID - The *CSI 250* makes three (Low, Standard, Bell) audible tones when a target is detected. These tones, which are determined by the metal's conductivity, provide additional information about your target.

For example, a steel-core projectile may be indicated with a Low Tone; a .22-casing may produce a standard tone and 9mm copper projectile may be identified with a belltone.

Be sure to listen carefully to the tone of each target during your bench tests. With experience, you will begin to recognize the different tones the *CSI 250* makes when hunting as well as the type of targets they identify.

NOTE: Virtually every U.S. coin will be identified with the belltone feature.

10. Numeric Reference Scale - The numbers 1 - 12 are shown on the Lower Scale of the LCD and serve as a visual reference guide for detected targets based on the target's conductivity. You can use this guide as an additional way to determine where similar targets appear on the LCD.

PUSHBUTTONS / CONTROLS

1. PWR - Press and release the PWR (Power) pushbutton to turn the detector ON and OFF.

Note: After turning detector OFF, wait 3 to 5 seconds before turning the unit ON again.

The PWR (Power) pushbutton can also be used to reset all settings to factory preset by pressing and holding for 5 - 10 seconds, or until the detector beeps twice.

2. MODE - Press the MODE pushbutton to select one of two desired detection modes:

• ALL-METAL Mode - This is the *CSI 250*'s factory default mode and is designed to detect every type of metal (i.e. no discrimination or type of metals eliminated). It is the most effective mode when the exact materials of a desired object are unknown.

• CUSTOM Mode - This Mode can be programmed solely by the operator. The CUSTOM mode is factory preset with the same settings as the ALL-METAL Mode. Using the DISCRIM and ELIM push buttons, an operator can modify the Notch Discrimination settings to individual specifications. These modifications will be retained in the CUSTOM Mode when the *CSI 250* is turned OFF.

The CUSTOM Mode can be used to find specific metal items and ignore other types of metals. For example, if an earring has been lost, scan the

matching earring with the *CSI 250* while in the CUSTOM mode. Note where the target ID cursor appears on the Upper Scale when the earring is scanned.

Next, use the (+) and (-) on the DISCRIM pushbutton to move the Target ID cursor to the left and right. Press the ELIM button to delete the segments on the Lower Scale where the target was not detected. Leave only the segment where the Target ID cursor is illuminated when the earring was scanned. The *CSI 250* is now programmed to find only the missing earring based on the conductivity of its matching pair.

ELIM can also be used to modify the Notch Discrimination Scale to reject a specific type of trash while detecting all other metal. When a trash metal is detected while searching, simply push the ELIM button to create a notch where the Target ID cursor signaled the presence of the trash. The next time

the *CSI 250* encounters the same trash item, it will not produce an audible signal.

NOTE: Make certain that you do not create an elimination notch that would correspond to the target you are seeking.

3. PINPOINT - Press and hold the Pinpoint pushbutton to determine the exact location of a target that is still hidden in the ground, wall or other structure. This allows the searchcoil to remain stationary in order to pinpoint the location of the target.

4. DISCRIM - Use the (+) or (-) on the DISCRIM (Discrimination) pushbutton to move the Target ID cursor to the left or right. Next, use the ELIM Pushbutton to modify the discrimination pattern on the Lower Scale.

5. ELIM - Press the ELIM (Eliminate) pushbutton

to eliminate or activate the LCD segment located on the Lower Scale, directly below the Target ID cursor.

The ELIM function can be used to modify each Mode's discrimination patterns. For example, when an unwanted target is located while searching, press the ELIM pushbutton to create a Notch (delete the segment) on the Lower Scale. This will eliminate the audible signal when that specific target is encountered again.

Note: All Notch Discrimination modifications made while in the CUSTOM mode using the ELIM pushbutton will be retained when the detector is turned OFF. The detector will resume searching with the changes made in the CUSTOM mode when the detector is turned back ON.

However, all changes made to the Notch Discrimination scale using the ELIM pushbutton while in the ALL-METAL mode will not be saved.

The detector will resume hunting in the factory preset ALL-METAL Mode when turned back ON.

6. SENSITIVITY - Press the SENSITIVITY button to step through the eight (8) sensitivity levels, which are continuously shown on the LCD screen.

Always use higher sensitivity levels, especially when searching for very small or deep targets.

Use lower sensitivity levels only in locations where the detector is behaving erratically due to excessive metallic trash interference, high mineral soils, saltwater beaches, the presence of other metal detectors, or there is nearby electrical interference such as power lines.

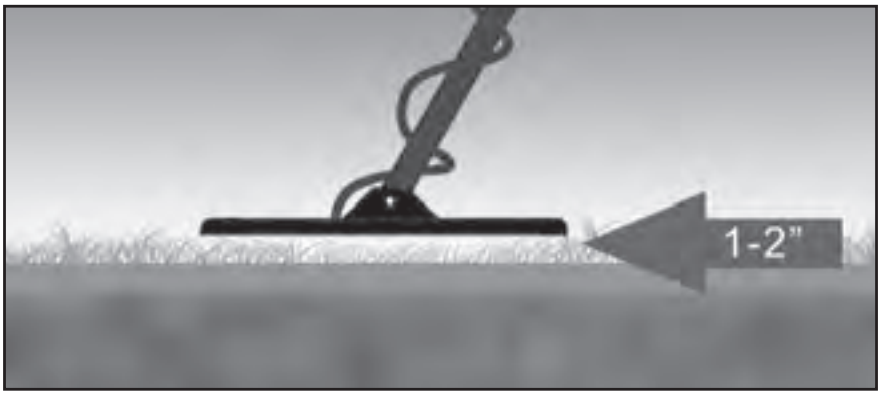
SEARCHING WITH THE CSI 250

Your *CSI 250* is a highly sophisticated, yet easy to operate metal detector. To search a crime scene, simply press the PWR pushbutton and begin searching in the factory preset ALL-METAL mode. This mode will allow you to detect every type of metal object. Using this preset ALL-METAL mode is particularly beneficial especially when you are unsure of the exact type of weapon or metallic evidence you are seeking.

Proper Scanning Techniques

Swing the searchcoil back and forth in front of you in a straight line with a sweep speed of about 3 to 5 feet per second while walking forward at a rate of about 1/2 to 1 foot per second. Maintain your searchcoil at a constant height of about 1 to 2 inches above the ground. When a target is detected it will be audibly and visually indicated by the detector.


Walk
½ - 1 foot
per second
Scan side to side


1-2"

Electronically Pinpointing a Target

When you have detected a target, place the coil on the ground to the side of the target's suspected location, then press and hold the Pinpoint pushbutton. Move the coil left and right, then front to back; the maximum sound will be heard when the target is directly beneath the center of the searchcoil.

Also, when electronically pinpointing, the Upper Scale on the LCD Screen indicates signal strength. When the greatest number of LCD segments (increasing left to right on the scale) is shown, the

center of the searchcoil is directly over the target with the depth of the target shown on the depth scale.

Manually Pinpointing a Target

As an alternative to electronic pinpointing, as just described, you can also manually pinpoint targets by not depressing the Pinpoint pushbutton . Simply draw an imaginary “X” on the ground with the searchcoil where maximum sound occurs. You’ll notice that the searchcoil must be moving and that you cannot maintain detection sound with the searchcoil held completely still above the target.

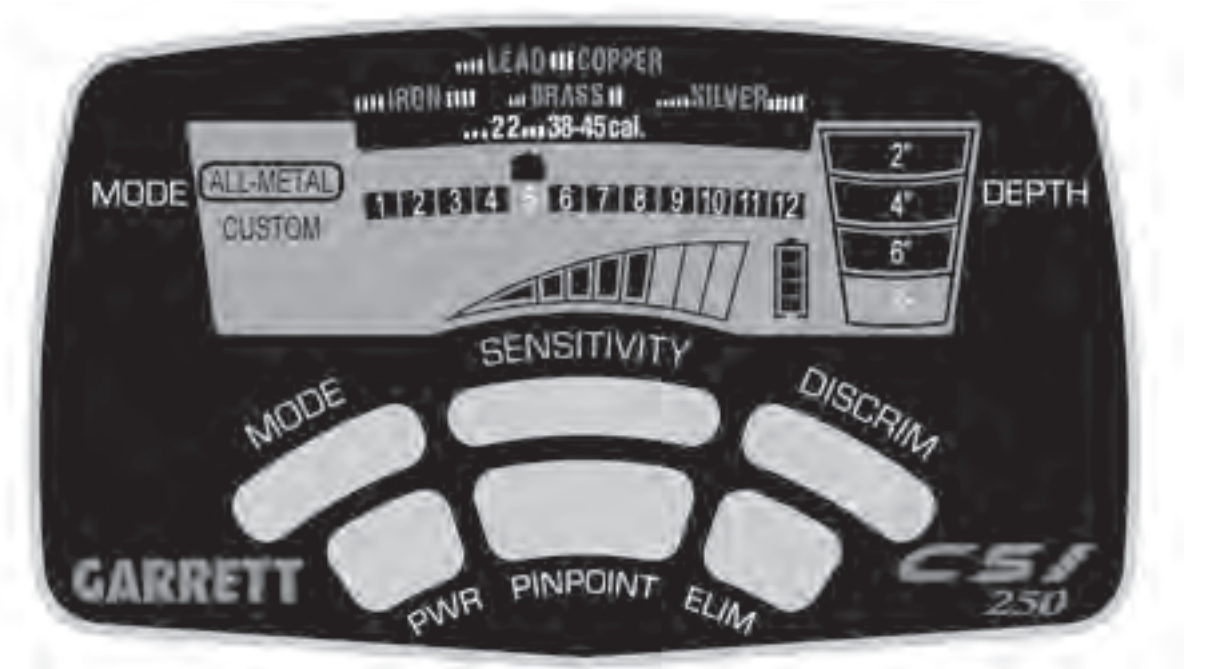
MAKING ADJUSTMENTS

Discrimination

When your *CSI 250* is turned ON for the first time, it will begin operating in the ALL-METAL mode. This means that you will be searching using no discrimination adjustments. Many investigators may never require any discrimination adjustments. However, you can make adjustments by using the ELIM and DISCRIM pushbuttons for specific requirements.

The Lower Scale on the graphic display contains 12 segments. The illuminated segments represent conductivities of the targets that will be detected with an audible signal. Likewise, the absence of an illuminated segment (i.e. notch) on this Lower Scale will suppress an audible signal when a target with this conductivity is detected.

Method 1 - Pass the searchcoil over an object to be accepted or rejected as a target. Or, pass the particular target across the face of the searchcoil about two inches from its surface. If the segment is displayed on the Lower Scale, that particular target will be detected. If you want to reject that type of target, press the ELIM pushbutton. The segment on the Lower Scale will disappear, creating a “reject notch”. If the Lower Scale segment is not displayed, press the ELIM pushbutton to illuminate it, creating an “accept notch” and your *CSI 250* will begin signaling targets represented by that segment.



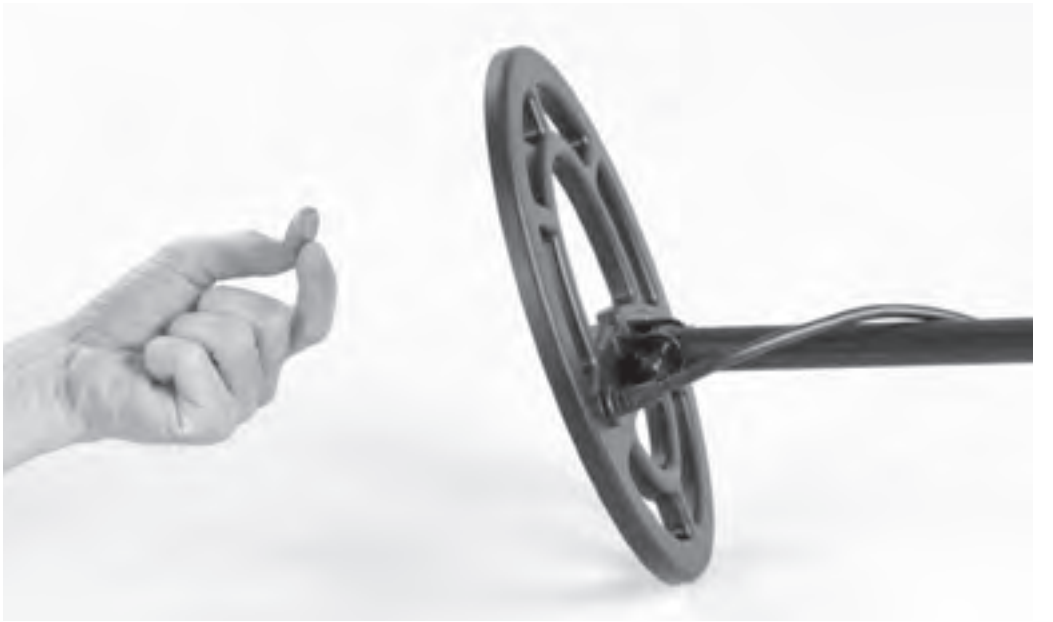
Method 2 - Press the + or - DISCRIM pushbutton to position the Upper Scale cursor above the Lower Scale segment corresponding to the target to be detected or ignored. Determine the target you would like to accept or reject and press the ELIM pushbutton.

Sensitivity

The *CSI 250* has 8 sensitivity settings for achieving maximum depth. However, you many not always be able to operate at full sensitivity. Electromagnetic interference, irregular ground mineralization and other environmental conditions may sometimes require that you operate at reduced detection sensitivity.

Use the + and - Sensitivity pushbuttons to adjust sensitivity to the appropriate level, usually as high as possible while maintaining stable operation.

BENCH TESTS



As you operate the *CSI 250* you will quickly grow more efficient in its use. You can also conduct bench tests to become more familiar with your detector's operation. To conduct a bench test:

1. Place the searchcoil on a flat, non-metallic surface that's several feet from other metallic objects.

2. Select the ALL-METAL Mode as well as experiment with various discrimination patterns.

3. Pass various sought-after metal objects (bullets, casings, knives, etc.) across the searchcoil at a distance of one to two inches. Your metal detector will audibly and visually identify the target. When conducting bench tests you will notice that the *CSI 250* will create one of three tones for each target. These differences in tone are related to the conductivity of the detected target. Low tones indicate low conductivity targets such as iron; standard tones indicate targets like a .22-casing; and a belltone indicates high conductivity targets such as silver coins, etc.

TEST PLOT CONSTRUCTION

Also, it is suggested that you develop a “test plot” to see how various targets appear on the LCD. This test plot will also prove invaluable in training others to use the metal detector. After you select an area for your test plot, scan it thoroughly and remove all metal from the ground.

Next, select targets such as .22 caliber bullets, .38 caliber shell casings, a dummy pistol, knife, bottlecap, nail and pulltab or other targets. Place the targets at varying depths. Be sure to listen carefully to the tone of each target during your test plot. With experience, you will begin to recognize the different tones the *CSI 250* makes when hunting as well as the type of targets they identify.

TROUBLESHOOTING GUIDE

SYMPTOM	SOLUTION
No power	1. Ensure batteries are installed in the correct position. 2. Replace all old batteries with all new batteries
Erratic sounds or target ID cursor movement	1. Ensure your searchcoil is securely connected and the coil cable is tightly wound around the stem 2. Ensure you are not using the detector indoors where excessive amounts of metal are found 3. Reduce your sensitivity setting 4. Determine if you are close to other metal detectors or other metal structures such as electrical power lines, wire fences, benches, etc. (NOTE: Iron targets may cause erratic sounds or Target ID Cursor movement. You can identify iron targets in an All-Metal Mode)
Intermittent Signals	Intermittent signals typically mean you've found a deeply buried target or one that is positioned at a difficult angle for your detector to read. Increase the sensitivity on your detector and scan from different directions until the signal becomes more definite. In the case of multiple targets switch to the All-Metal Mode or press PINPOINT to precisely locate all targets. (NOTE: Iron targets may cause Intermittent Signals. You can identify iron targets in an All-Metal Mode).
I'm not finding specific targets	Ensure you are using the correct mode for the type of searching you are doing. Use the All-Metal mode, which detects all metal targets to ensure desired targets are detected.
Target ID Cursor bounces	If your Target ID Cursor bounces erratically, chances are you've found a trash target. However, a Target ID Cursor may bounce if a good target (such as a knife) is not parallel to the searchcoil (e.g. on edge). It may also bounce if there is one or multiple "junk" targets laying next to the good target. Scan from different directions until your Target ID Cursor becomes more stable.

CARING FOR YOUR CSI 250

Your Garrett detector is a rugged machine, designed for outdoor use. However, as with all electronic equipment there are simple ways you can care for your detector to maintain its high performance.

• Avoid extreme temperatures as much as possible, such as storing the detector in an automobile trunk during the summer or outdoors in sub-freezing weather.

• Keep your detector clean. Wipe the control housing with a damp cloth when necessary.

• Remember your searchcoil is submersible, but your control housing is not. Never submerge the control housing in water.

- Protect your control housing from heavy mist, rain and blowing surf.

- Disassemble the stem, and wipe it and the searchcoil clean with a damp cloth. Be sure not to submerge the connector.

- When storing for longer than one month, remove the batteries from the detector and from their holders as well.

- Always use high quality alkaline batteries. When changing old batteries be sure to replace with all new batteries for optimum performance.

WARRANTY & SERVICE

Your *CSI 250* detector is warranted for 24 months, limited parts and labor, but does not cover damage caused by alteration, modification, neglect, accident or misuse.

In the event you encounter problems with the *CSI 250* detector please read through this Instructor's Manual carefully to ensure the detector is not inoperable due to manual adjustments. On the *CSI 250*, press and hold the POWER Pushbutton for 5 seconds to return the recommended factory settings. Before you return your *CSI 250* detector to the factory make certain you have:

1. Checked your batteries, switches and connectors. Weak batteries are the most common cause of detector "failure."

2. Contacted your dealer, particularly if you are not familiar with the *CSI 250* detector.

3. Included a letter that fully describes the problem and conditions under which they occur.

4. Included your name, agency, address and a phone number where you can be reached between 8:30 a.m. and 4 p.m., C.S.T.

5. Carefully packed the detector in its original shipping box or other suitable box. Make certain that proper insulation or packing material is used to secure all parts. Do not ship stems or headphones, unless they are a part of the problem. Be certain to return all coils. Ship to:

Garrett Metal Detectors
Repair Department
1881 W. State Street
Garland, Texas 75042

You can call Garrett's Customer Service Department at 1-800-234-6151 (U.S.A.) or 1-972-494-6151 (Outside U.S.A.) 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. All equipment will be returned via UPS or parcel post, unless written authorization is given by you to ship collect by air parcel post, UPS Blue (air) or air freight.

International Customers

It is recommended that international customers contact their local dealer for repairs and warranty service to avoid the high costs of international shipping rates. If you do not know where to locate your local dealer please contact the Garrett factory by calling 1-972-494-6151 or e-mail us at security@garrett.com.

ACCESSORIES

Garrett offers a complete line of *CSI 250* accessories. These accessory products are available from your local or dealer or by calling the Garrett factory at 1-800-234-6151.

1. 4.5” Sniper Searchcoil - #2221800

Use when searching for small, shallow targets in trashy or tight places.

2. 8.5x11” DD Searchcoil - #2222000

DD configuration provides greater detection depth and performance in mineralized ground.

3. 9x12” Searchcoil - #2221900

Use the 9x12” searchcoil to obtain greater coverage when searching large areas.

4. CSI *PRO-POINTER*® - #1166020

This companion product to the *CSI 250* will help you recover evidence faster! It features 360° detection with tip pinpointing, audible/vibrating alarms and a led flashlight. The *CSI PRO-POINTER* is water resistant and comes with a woven belt holster.