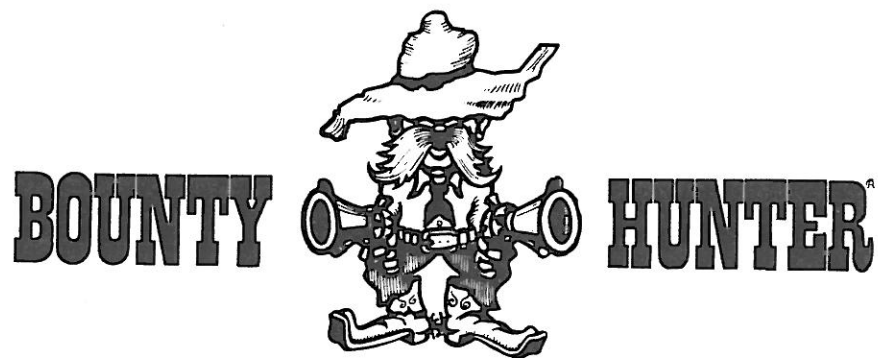




VLFF/TR/D
Owner's Manual

After the initial tuning procedure, the detector can be used effectively in mineralized ground in either two ways:

- A. SEARCH IN SPD MODE/Pinpoint the target in the "ALL METAL" Mode by pressing and holding in the PUSH BUTTON TUNER/MODE Change switch.
- B. SEARCH IN THE "ALL METAL" Mode/Identify the target in the SPD MODE by pressing and holding in the PUSH BUTTON TUNER/MODE Change switch.

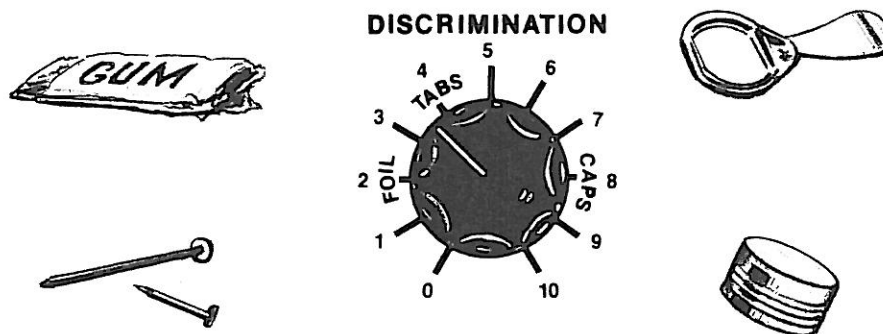
To temporarily switch from "ALL METAL" MODE to SPD or vice versa, all that is necessary is to depress the PUSH BUTTON TUNER/MODE Change switch in the handle and keep it depressed as long as the opposite mode is desired. When in the TR Discriminate mode, holding the push button in places you in the SPD MODE.

When searching an area which is not highly mineralized, the above two methods can still be used, plus the TR DISCRIMINATE Mode can now be utilized. Many Treasure Hunters prefer to use this mode whenever possible because of its conventional TR operating characteristics (i.e., searching, target identification, and pinpointing all accomplished within the same mode). However, the ground adjust is inoperative while the detector is being used in the TR Discrim. Mode, therefore, serious loss in depth and stability occurs in highly mineralized soil.

TUNING THE TR DISCRIMINATE MODE

1. Place the mode switch in the SPD position BEFORE turning the instrument ON.
2. Turn ON-OFF-Volume control fully clockwise and rotate. TUNER clockwise until the threshold is reached, which is the point where sound just begins.
3. Place the MODE SELECT SWITCH to the TR position.

NOTE: When searching in the TR DISCRIMINATE Mode, the search coil must be held at a constant height in respect to ground since raising and lowering the coil can cause drastic changes in the audio level, depending on ground mineralization.



When switching to the DISCRIMINATE Mode, many unwanted items are rejected AUTOMATICALLY (will fail to generate a signal)! The drawing above shows the sequence of rejection using the DISCRIMINATE LEVEL control. As each instrument is individually calibrated, levels may vary slightly from what is shown, but the sequence is still the same.

THESE ITEMS INCLUDE:

FOIL (Includes gum, candy, cigarette wrappers, and miscellaneous thin gauge scrap.)

PULL-TABS From aluminum drink cans.

Unlike other detectors, there is negligible loss of sensitivity (depth capability) when changing from the FOIL level to the PULL-TAB level. However, at this level, as with other manufacturer's discriminators, the Nickel Coins can no longer be detected. Also, because of the shape and nickel content some rings may be bypassed. However, this may be a small price to pay for the convenience of ignoring pull-tabs.

SCREW CAPS

A bothersome obstacle to the Treasure Hunter is the twist-off aluminum screw cap used on many large soft drink bottles. Our detector has a level to counter this problem. In the SCREW CAP level some sensitivity is lost, so it is recommended that, for maximum performance, you discriminate at no higher than the PULL-TAB level unless the search area is heavily strewn with SCREW CAPS. In fact, the best rule of thumb is always to use the lowest level of discrimination possible for a particular area.

The SPD DISCRIMINATION Mode is not affected by ground mineralization, and when used at the beach it will go from wet sand to dry and back without changing tune! the DISCRIMINATE Mode is recommended for areas of heavy surface trash. Any level in this mode will reject small surface area targets such as wire, nails, tacks, rivets - that to other detectors may look like coins! Larger junk targets are easily identifiable because of their erratic signal or widespread signal area.

SECTION 3

FIELD OPERATION

You are now ready to search. This is the time to decide what type of search system you will use. Several things may influence this choice--what you are looking for, the condition of the search area (is it clean or littered with trash), mineralized or not, etc.

First, Treasure Hunting with your metal detector can be roughly divided into four categories:

1. **Coinshooting** Coins and other valuables such as jewelry, rings, watches, etc.
2. **Relic Hunting** These would include cannonballs, muskets, swords, cast iron toys, horsehoes, and anything metal that may be of historical value from a battlefield or ghost town.
3. **Beachcombing** Assuming that anything metallic on or under the beach surface has been put there by accident and is not placed there by nature, you may want to search for the things most likely to be found there . . . again . . . rings, jewelry, coins from bathers or old shipwrecks or even buried treasure chests.
4. **Prospecting** Since the detector can be adjusted to ignore the "Black Sand", precious metals in the form of nuggets or solid ore bodies may be found.

After choosing from one of these categories, we can decide how to use the detector most effectively. Let's start with:

Coinshooting These detectors are the coinshooter's dream come true. Not only does it have a standard TR DISCRIMINATE MODE for searching in non-mineralized soil, but also has the SPD Mode which offers the unique capability of ground cancelling discrimination for mineralized areas.

Normal Coinshooting When operating in neutral or non-mineralized soil, the standard TR DISCRIMINATE MODE can be used. After searching the desired discrimination level, tune the unit to the threshold of sound with the search coil at the desired operating height. Sweep slowly in an overlapping pattern as shown in Figure 6 being careful to keep the search coil at the same distance from the ground throughout the sweep. After locating a target, pinpointing according to the description in Figure 7. Once the strongest signal is obtained, the object is directly beneath the center of the coil.

Coinshooting in Mineralized Soil In many areas you will find it very difficult to maintain depth and stability in the TR DISCRIMINATE MODE. These mineralized areas are where your machine will excel because ground cancellation while discriminating can be obtained in the SPD DISCRIMINATE MODE.

SECTION 1

SIMPLIFIED INSTRUCTIONS

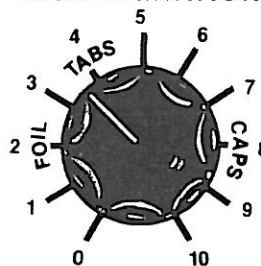
These simplified instructions are merely intended to be a quick introduction to the detector's operation. For the most accurate and successful usage with your new Bounty Hunter Metal Detector, it is imperative that the Detailed Operating Instructions in Section 2 of this manual be read and understood thoroughly.

1. Place mode switch in SPD position.
2. Turn volume control fully clockwise.
3. Adjust tuning control for slightest sound. You are now completely tuned and you're ready to ground adjust. **Caution:** During ground adjust procedure, the ground under and around the coil must be free of metal objects.
4. Place mode switch in the "ALL METAL" position.
5. GROUND ADJUST PROCEDURE
 - a. Lower Search Coil to ground and observe sound change.
 - b. Raise Search Coil from ground and press push button on handle and release.
 - c. When lowering Search Coil to ground, if you get an increase in sound, turn ground adjust control counterclockwise (left). If you get a decrease in sound as you lower the Search Coil turn ground adjust control clockwise (right). You should only adjust or turn ground adjust control in small increments at a time. When you get less and less sound change, adjust the ground adjust control less and less.
 - d. Continue step 2, 3, and 4 until you get no change in sound when lowering Search Coil to the ground. Do not adjust with coil on the ground. You are adjusting for no sound change when you lower coil to the ground.
6. To "Discriminate", set mode switch to SPD.
7. Set "Discrimination Level Control" at desired position, (as shown in Figure 3).

NOTE: The search coil must be moving to detect a target when using the SPD DISCRIMINATE MODE. (See push button tuner/mode change switch, Section 1).

Figure 3

DISCRIMINATION



SECTION 2

DETAILED OPERATING INSTRUCTIONS

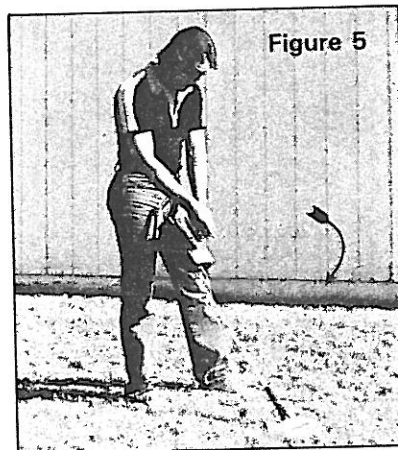
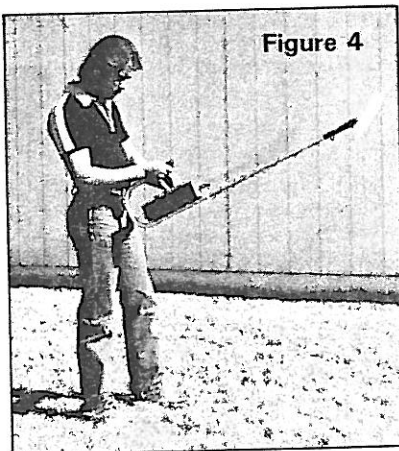
1. Before turning the instrument on, place the mode switch in the SPD position. This mode features the SPD (Synchronous Phase Discrimination) circuitry, which needs no periodic retuning after the environment temperature is reached—therefore, the SPD mode is used for initial tuning to establish the reference levels of the ALL METAL (VLF) MODE. **IMPORTANT!** The instrument MUST be in the SPD MODE during initial tuning to work properly!
2. Turn ON-OFF/Volume control on.
3. Check battery condition by switching to Battery Check Position and read the meter. New batteries should read full scale . . . older batteries (used) OR rechargeable battery packs will read lower on the scale. The new battery-saver system uses batteries until they read .8 on the meter.
4. Turn ON-OFF/Volume control fully clockwise.

INITIAL TUNING

TUNING YOUR METAL DETECTOR IN SPD MODE

5. With the search coil raised (as in Figure 4), and away from any metal objects, turn the tuner clockwise until the sound just starts. This setting is usually referred to as the "Threshold" and is the most effective setting for treasure hunting.

This completes tuning the SPD MODE. Once the instrument reaches the environmental temperature, no retuning will be necessary in this mode.



GROUND ADJUST

6. While holding the detector as shown in Figure 4, place the MODE switch in the ALL METAL position. Changing modes should not significantly change the threshold and signal strength will remain about the same. Should retuning be required, depress the PUSH BUTTON TUNER/MODE Change Switch momentarily and threshold will be restored.

The unit is now ready to be "GROUND ADJUSTED" which eliminates the effects of soil mineralization. THE DETECTOR MUST BE IN THE **ALL METAL MODE** FOR THIS PROCEDURE.

With the detector tuned in a raised position as shown in Figure 4, slowly lower the search coil to the ground as shown in Figure 5. Once the coil is on the ground, notice what the sound level does.

GROUND ADJUST PROCEDURE

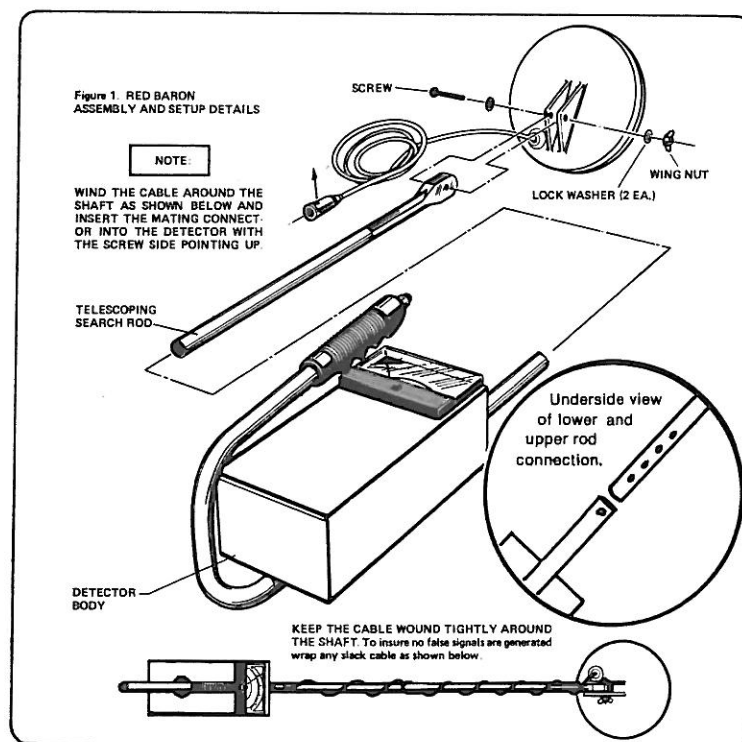
1. Lower Search Coil to ground and observe sound change.
2. Raise Search Coil from ground and press push button on handle and release.
3. When lowering Search Coil to ground, if you get an increase in sound, turn ground adjust control counterclockwise (left). If you get a decrease in sound as you lower the Search Coil turn ground adjust control clockwise (right). You should only adjust or turn ground adjust control in small increments at a time. When you get less and less sound change, adjust the ground adjust control less and less.
4. Continue step 2, 3, and 4 until you get no change in sound when lowering Search Coil to the ground. Do not adjust with coil on the ground. You are adjusting for no sound change when you lower coil to the ground.

CAUTION: During ground adjust procedure, the ground under and around the coil must be free of metal objects.

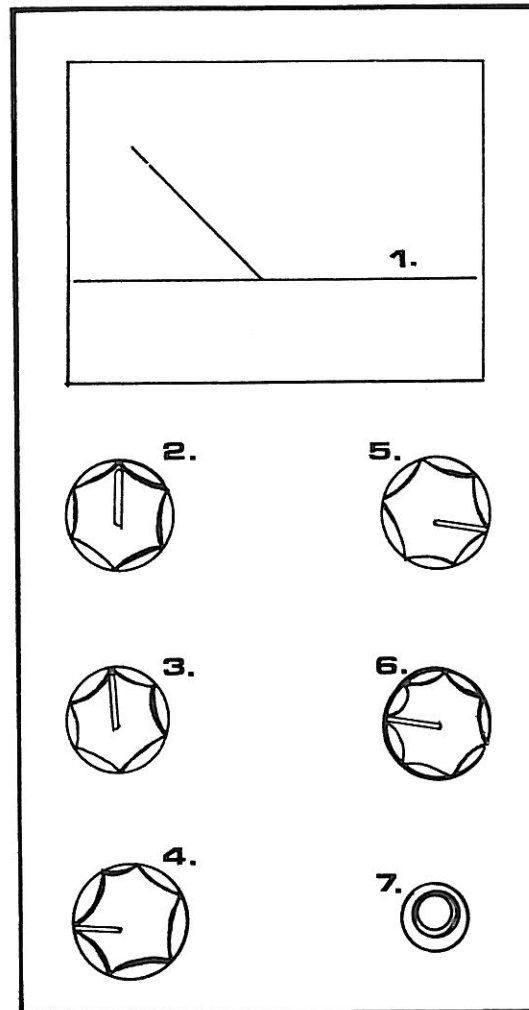
The detector is now tuned for search in the "ALL METAL" Mode. It should only need occasional retuning in the "ALL METAL" Mode as the search progresses, and this can be easily accomplished with a momentary touch of the PUSH BUTTON/MODE Change Switch in the handle.

BOUNTY HUNTER[®]

—Figure 1. Assembly and Set up instructions—



OPERATING CONTROLS



THREE INCH METER

1. Shows intensity of signal and Battery Condition.

TUNING CONTROL

2. Single turn potentiometer with expanded operating range for more precise audio threshold setting.

MODE SELECT CONTROL

3. Selects search mode and also allows check of Battery condition.

GROUND ADJUST CONTROL

4. Allows operator to tune out ground mineralization for maximum depth in all metal mode of operation.

ON-OFF VOLUME CONTROL

5. Combination volume control and on-off switch.

DISCRIMINATION LEVEL SET CONTROL

6. This control is used in TR and SPD Modes to adjust the level of discrimination.

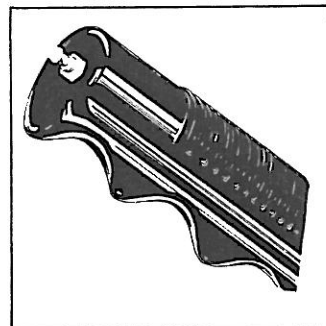
1/4" STEREO STYLE HEADPHONE JACK

- 7.

PUSH BUTTON TUNER/MODE CHANGE SWITCH

Convenient thumb-push button in the tip of the handle may be pressed momentarily to re-establish the tuning threshold...**OR...TO CHANGE MODES...**It is not necessary to change the mode select toggle switch each time. If searching in the ALL-METAL VLF mode, depressing the push-button switches the unit to the S.P.D. DISC mode and keeps it there for as long as the button is depressed.

After target identification, the unit can be returned to ALL-METAL by simply releasing the button. If the Mode Select Switch is placed in S.P.D. DISC mode, the reverse is true. Therefore, searching can be done in S.P.D. DISCRIMINATE but pinpointing is accomplished in ALL-METAL by simply holding the button depressed. Holding the button in when in TR mode switches mode to SPD Disc.



THE "TOO BIG" TARGET SIGNAL

From time to time, you will acquire a good sounding signal that seems to pass all the tests for a coin or other valuable. It will be loud, clear and positive. In fact, targets like this are usually objects having a large surface area and may consist of an alloy or plating that will cause the detector to respond to the non-ferrous portion.

Among these may be aluminum containers, such as beer and pop cans, or a composite item such as a discarded alarm clock.

The big give-a-way to this kind of signal will be its size, both in ground area and signal strength. With practice, you will soon discover the depth capabilities of the detector on certain coins and other objects. If, for example, you normally detect buried pennies at 5 or 6 inches with the coil just above the surface, and you get a strong signal even with the coil 10 inches above the ground, you know that it is not a penny--or even a quarter, or a dollar for that matter!

However, you may want to dig just for the heck of it--to satisfy your curiosity! (It just might be a buried gallon can of coins if the location is right). So, when you get one of these "Super Signals" see how far you can raise the swinging search coil above ground before it fades.

PINPOINTING VERTICALLY (DEPTH ESTIMATING)

The coil-raising technique mentioned above may be used to pinpoint a target vertically. When you acquire a good, compact signal that passes all tests for a target dig, you may raise the coil as you swing until the signal fades and note the maximum distance of the coil from the ground.

Subtract this distance from the depth that a coin or similar object is usually detected and you will have a rough idea of the depth you must dig to uncover the object.

SECTION 4 CARE AND SERVICING PROPER CARE FOR YOUR DETECTOR

Metal detectors are sensitive electronic instruments. Although it does not have to be babied, reasonable care must be taken to help ensure a long trouble-free life for your detector.

KEEP IT CLEAN . . . Take a few minutes after each use to remove dirt and dust. Wipe the housing and wash the coil, especially if it has been dipped in salt water. A plastic bag over the control box at the beach will help protect the unit from sand and prevent corrosion due to salt air.

KEEP IT COOL . . . Never store your detector in an extremely hot environment, such as an automobile trunk in the summer, for extended periods of time. The prolonged heat will not only shorten battery life considerably, but can cause electronic component breakdown.

KEEP IT SAFE . . . Never transport your detector in such a manner that will subject it to extreme vibration or shock. The unit may be cushioned by wrapping it in a blanket or by putting it in a carrying bag or case designed for the purpose.

BATTERY TIPS

USE HEADPHONES Headphones are a must if you wish to obtain the greatest possible detection depth! They reduce substantially the amount of noise caused by such things as traffic, wind, aircraft, ocean surf, etc. With the Bounty Hunter earphones available at your dealer, even the faintest, deepest targets are heard.

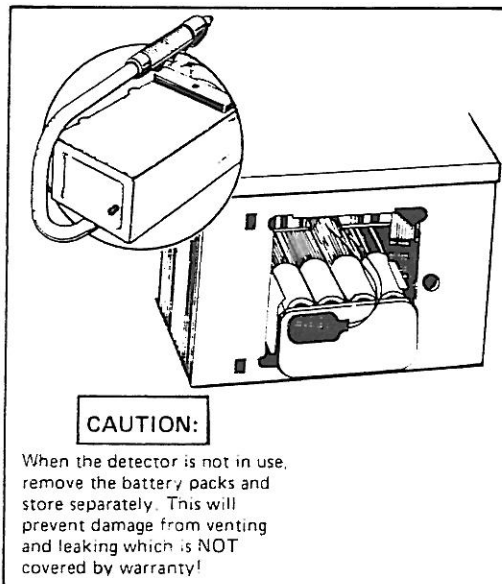
Headphones also increase battery life, as the power requirement for the audio circuitry is greatly reduced.

BATTERY REPLACEMENT Access to the detectors battery pack is gained by pulling out both plastic snap lock fasteners on the rear of the unit and removing the battery door. Switch detector OFF when changing batteries.

The detector is equipped with one 12-volt battery pack made up of 8 size AA penlight batteries. These batteries are easily replaced in the battery pack by pressing the battery against the spring at the negative end and pulling out at the positive end of the battery.

Be sure to observe battery polarity when replacing batteries. The plastic battery holder is marked for proper battery placement on the back of each cell position.

The detector can be properly powered with any good quality AA batteries. However, longer life can be realized with Heavy Duty or Alkaline type batteries. Rechargeable batteries may also be used and the Nickel-Cadmium packs and chargers are available as accessory items.



CAUTION:

When the detector is not in use, remove the battery packs and store separately. This will prevent damage from venting and leaking which is NOT covered by warranty!

NOTE Since each cell of the Ni-Cad battery pack only charges to 1.2 volts, instead of the usual 1.5 volts of regular AA battery, a fully charged pack will not hold 9.6 volts. This will cause the meter to indicate only about 9.6 on the meter on a full charge, but it will power the detector properly for approximately 12 hours.

IMPORTANT To avoid short circuits and possible damage to the detector, replace the battery pack exactly as shown.

ALSO, avoid pinching or otherwise damaging the lead wires as the battery pack is replaced in the detector.

NOTE: The detectors DISCRIMINATOR is designed to identify a target by its metallic composition, whether it is basically conductive or magnetic. There are many objects in the world which metallurgically resemble a coin or valuable object and which you will detect as a coin. However, you will find these objects in the minority and your "batting average" will be much higher than with a normal TR DISCRIMINATOR detector without SPD.

Using the detector set up for rapid coinshooting will enable you to bypass most of the trash targets that confuse even the experts WITHOUT DIGGING. Your detector can make you a winner at the treasure hunts with just a little careful practice.

RELIC HUNTING

In many parts of the country, such as areas where Civil War battles have been fought in fields and forests, relics and historically valuable objects were lost in the heat of battle or abandoned in hasty retreat as the tides of battle changed. In areas such as these, just about any metallic object may be of interest. For locating any and all targets, it is best to use the "ALL METAL" MODE.

1. Follow the Initial Tuning procedure. As soon as the detector has been tuned, it is ready for Relic Hunting.
2. Should you wish to narrow your search to include items like brass buttons, medals, rings or buckles, simply switch to the SPD MODE and set discriminator level to 4. The detector has extraordinary depth capability in the SPD MODE. In your Relic Hunting as well as your Coinshooting you now have your choice of targets.
3. If there is too much miscellaneous ground clutter, such as pull tabs, you may want to increase the DISCRIMINATION level accordingly.

NOTE: Since maximum ground coverage and depth on the larger targets are desired in Relic Hunting, the accessory 12 inch diameter search coil is highly recommended.

BEACHCOMBING

Your detector is the ideal beachcombing companion. Unlike other VLF detectors, this detector can be used in wet sand or dry--salty or fresh water, without retuning--but at VLF DEPTHS! Simply use the SPD MODE.

NOTE: If beachcombing at an ocean beach or other area of high salt concentration, the detector, like all other VLF detectors, will lose stability in the "ALL METAL" MODE. It is best to search in SPD DISCRIMINATE and pinpoint in "ALL METAL" using the PUSH BUTTON TUNER/MODE CHANGE SWITCH.

NOTE: If you are planning to do much serious beachcombing, it would be wise to invest in, or fabricate, a recovery tool similar to a french fry basket to make the job easier.

PROSPECTING

The idea in prospecting is to locate the possible location of gold or similar valuable metals. Usually gold nuggets or dust are located along with "Black Sand"---a form of highly mineralized fine particles.

In order to search for gold nuggets:

1. Place MODE SELECTOR in "ALL METAL" MODE.
2. "Ground Adjust" as outlined in Initial Tuning Section.
3. Search in the most likely areas. A stream bed, wash or dry creek bed is an excellent place to look, especially downstream from known mining and mineral areas.
4. The six inch coil is ideal for prospecting and is preferred by most prospectors for searching crevices and being more sensitive to the tiny gold nuggets.

INDUSTRIAL USES

The detector is ideal for locating cable and pipes, underground and in the home. Saw blade damage can be reduced to minimum by first detecting harmful metal objects embedded in trees. Law enforcement agencies use detectors for the recovery of evidence such as money, jewelry, bullets, cartridges and weapons.

DETECTION TIPS

REJECTING THE STEEL BOTTLE CAP

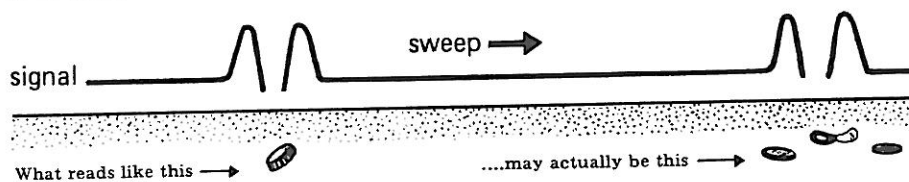
Although the iron bottle cap is rejected at any level of discrimination when operating in the TR DISCRIMINATE MODE, this is not the case when using SPD. While searching in the SPD DISCRIMINATE an iron bottle cap will "blip", but can be mentally identified quite easily.

Once a target signal has been received, take notice of its audio strength at a normal sweep rate. Now sweep over the same target at increased speed and compare the strength to the first response. If the signal diminishes at all, you may leave it for a bad target (iron bottle cap). However, if it gets stronger the faster you sweep over it, it is a good target. With very little practice, this procedure will become second nature and you will begin to experience the real joy of using your detector.

SOME COMMONLY ENCOUNTERED FIELD CONDITIONS

Often you will receive a signal from a target that is difficult to "Read" to really determine what it is. What may seem to be a bad target because of the signal pattern, may be a combination of targets.

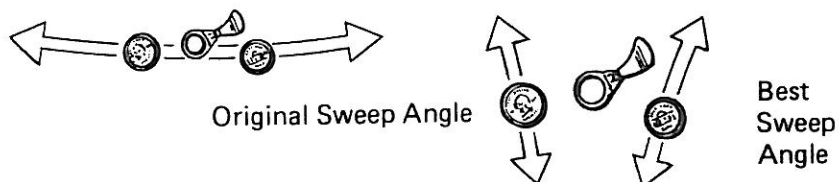
Let's take an example: With the detector set in the SPD MODE and DISCRIMINATE level set at 4.5 to 5.5:



With the audio signal produced, at first you may be tempted to pass on and forget it. Don't! A situation like this may be worth an investigation.

1. Switch to the "ALL METAL" (VLF) MODE for pinpointing.
2. Sweep the search coil across the target area in both directions to see if you can isolate the signal into more than one target.
3. If you do determine that there is more than one target present, try sweeping the coil over it at a more favorable angle in the DISCRIMINATE MODE to get a more reliable reading.

For example:



With the detector in the SPD MODE, increasing the sweep speed makes a "Good" signal better and a "Bad" signal drop out!

NOTE Moving the DISCRIMINATE level to 9 position will cause the bottle cap to disappear more easily.

NOTE: The search coil must be moving to detect a target using the SPD system. However, the detector operates very effectively at slow sweep speeds and with a little practice, you can pinpoint in SPD MODE.

Figure 6

Sweep in a slightly overlapping pattern as shown. Use as you would any normal detector — the search signal should "peak" as the target center is passed. Try to keep the search coil parallel to the ground at all times and avoid lifting the coil off the ground at the end of each swing. This will prevent loss of detection of some deeper targets, since you are putting more distance between the coil and the target on a careless swing.

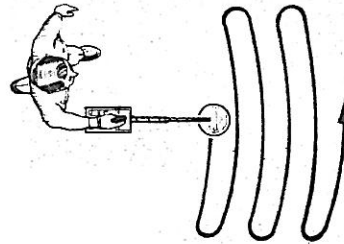
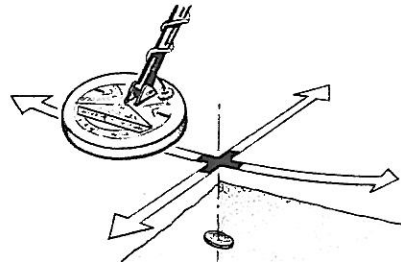


Figure 7

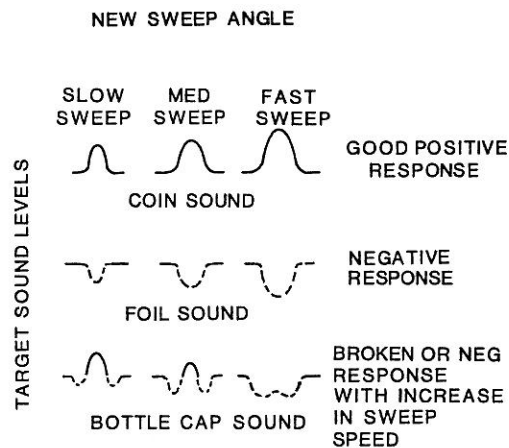
PINPOINTING THE TARGET

When operating with the 8-inch coil, if a target is located generally with a side-to-side sweep, the exact location may be determined by also passing the coil in a forward and back sweep as shown at the right.

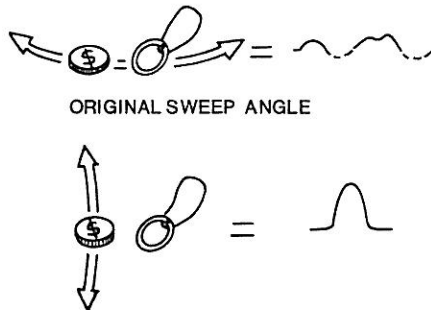


Interpreting Different Types of Responses

You can tell many things about a target just by the sound response of the detector. As an example, if you are using the detector in the SPD DISCRIMINATE MODE with the Disc. adjust set to "Foil" you can expect the following results:



Sometimes targets close together will cause a confusing signal - Try sweeping from different angles to help isolate targets:



RAPID COINSHOOTING

1. After initial SPD tuning and choosing your DISCRIMINATE level, leave the Mode switch in the SPD position.
2. Move the search coil in a broad rapid sweep in a slightly overlapping pattern as shown in Figure 6. Keep the search coil slightly above the ground and avoid coil impact with the ground. This can generate a target-type signal. A good (possibly valuable) target will produce a clean, unbroken signal over the target area. See Table 1 for identification of different types of signals.
3. When a promising signal is established, press the PUSH BUTTON TUNER/MODE Change Switch in the handle to switch to the "ALL METAL" MODE for pinpointing.
4. Pinpoint the target in the "ALL METAL" MODE as shown in Figure 7.

SPECIFICATIONS

- | | |
|---------------------------------|--|
| 1. Operating Frequency | 7.00 KHz |
| 2. Audio Frequency | 420 Hz |
| 3. Operating modes | VLF/SPD
VLF/All Metal
TR/Discriminate |
| 4. Ground Adjust | Single Turn |
| 5. Output Indication | 3" Meter 1 MA Movement |
| 6. Speaker | 2 1/4" impedance |
| 7. Battery Current Consumption | |
| A. No sound | 38 MA |
| B. Normal Operation (Threshold) | 45 MA |
| C. Full sound | 115 MA |
| 8. Battery Supply | 8 ea. AA |
| 9. Battery Life | |
| A. Carbon Zinc | 16 Hrs |
| B. Alkaline | 40 Hrs |
| C. Ni-Cad | 10 Hrs |
| 10. Battery Test | Yes |
| 11. Coil Diameter | 6 inch Ultra wide scan Coplonar
loop, waterproof, lightweight |
| 12. Optional Coils | 8 inch, 12 inch |
| 13. Weight with batteries | 3 lb. 4 oz. |

Treasure Hunter's Code of Ethics:

1. Respect the rights and property of others.
2. Observe all laws, whether national, state or local. Aid law enforcement officials whenever possible.
3. Never destroy priceless historical or archeological treasures.
4. Leave the land and vegetation as it was. Fill in all holes.
5. Remove all trash and litter when you leave.
6. All treasure hunters may be judged by the example you set. Always conduct yourself with courtesy and consideration for others.

BOUNTY HUNTER®

300 Market Drive
Lebanon, Oregon 97355
(503) 451-1494

NOTE: VLF/TR/D Instruction Manual
Part No. 45-MRB-290 INS

Record this part number and file
elsewhere for safe keeping.