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**BOUNTY
HUNTER**

Pioneer 500

Series

M E T A L D E T E C T O R

OWNER'S MANUAL

The Pioneer 500 Series is a professional metal detector. The concepts and terminology can be quite unfamiliar if you are new to the hobby. To understand it quickly and to get the most enjoyment possible from your detector, we strongly recommend that you:

- 1) Watch the video. It is 21 minutes long.
- 2) Turn the Sensitivity knob to a low setting if you get false signals. A little practice is required to understand when and how you can use the sensitivity at or near 100%.
- 3) Do not use indoors. This detector is for outdoor use only. Many household appliances emit electromagnetic energy, which can interfere with the detector. If conducting an indoor demonstration, turn the sensitivity down and keep the search coil away from all floors, walls and metal objects.
- 5) Use 9volt **ALKALINE** batteries only.
- 4) Read this manual.

Most importantly, review the Summary of Operating Modes and the Quick-Start Demo.

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TERMINOLOGY

ELIMINATION

Reference to a metal being "eliminated" means that the detector will not emit a tone, nor light up an LCD indicator, when a specified object passes through the coil's detection field.

DISCRIMINATION

When the detector emits different tones for different types of metals, and when the detector "eliminates" certain metals, we refer to this as the detector "discriminating" among different types of metals. Discrimination is a fixed-start-point elimination system.

NOTCH

Notching is the elimination of an item, or range of items, within the metallic spectrum. We "notch-out" an object selectively. Objects to the left and right on the metallic spectrum are retained. Notching creates a variable rejection window.

RELIC

A relic is an object of interest by reason of its age or its association with the past. Many relics are made of iron, but can also be made of bronze or precious metals.

IRON

Iron is a common, low-grade metal that is often an undesirable target in certain metal detecting applications. Examples of undesirable iron objects are old cans, pipes, bolts, and nails.

Sometimes, the desired target is made of iron. Property markers, for instance, can contain iron. Valuable relics can also be composed of iron; cannon balls, old armaments, and parts of old structures and vehicles can also be composed of iron.

FERROUS

Metals which are made of, or contain, iron.

PINPOINTING

Pinpointing is the process of finding the exact location of a buried object. Long-buried metals can appear exactly like the surrounding earth, and can therefore be very hard to isolate.

PULL-TABS

Discarded pull-tabs from beverage containers are the most bothersome trash items for treasure hunters. They come in many different shapes and sizes. We have incorporated special features into the detector to let you automatically eliminate the most common types, using the AutoNotch Mode. Since there are many different types, some must be "Notched-Out" manually.

GROUND BALANCE

Ground Balancing is the ability of the detector to ignore, or "see through," the earth's naturally occurring minerals, and only sound a tone when a metal object is detected.

WATERPROOF

The search coil can be submerged in water. The control housing and cable-to-housing connection must, however, stay dry.

COINSHOOTING

Finding buried coins is the most popular metal detecting application. The most valuable are very old; take care in unearthing them to avoid damage.

CACHE HUNTING

Pronounced "cash". A cache is a buried or hidden valuable stored inside a case, strong box, or bag.

EASY ASSEMBLY

Assembling your Pioneer 500 Metal Detector is easy and requires no tools.

Just follow these steps:

- 1 Using the supplied bolt and knurled knob, attach the search coil to the lower stem.
- 2 Press the button on the upper end of the lower stem and slide the lower stem into the upper stem.

Adjust the stem to a length that lets you maintain a comfortable upright posture, with your arm relaxed at your side.

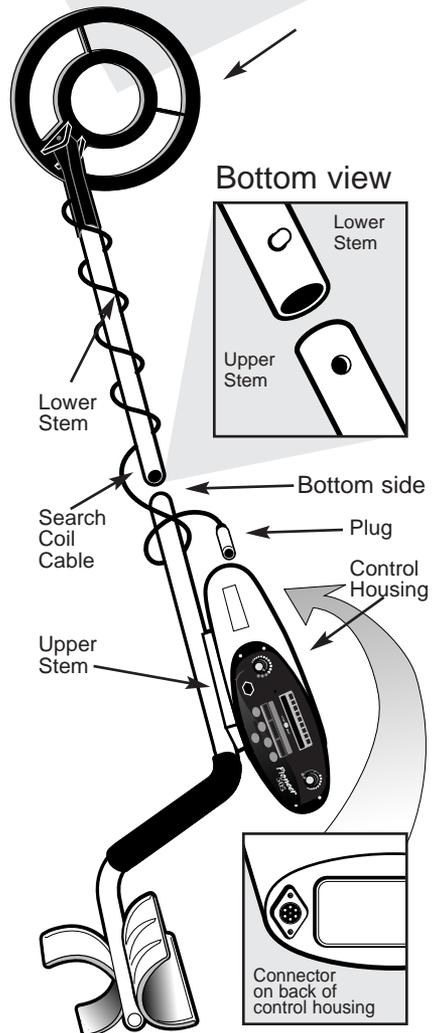
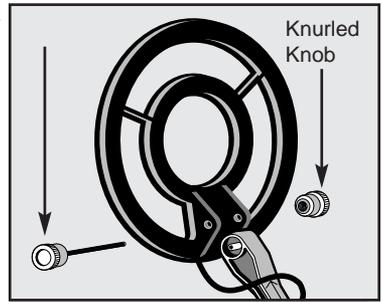
- 3 Wind the search coil cable around the stem. Leave enough slack in the cable to let you adjust the coil when you are hunting on uneven ground. Then tighten the knob at the end of the search coil.

Note: To adjust the coil, simply loosen the knob.

- 4 Insert the coil's plug into the matching connector on the control housing. Be sure the holes and pins line up correctly.

Caution:

- Do not force the plug in. Excess force will cause damage.
- To disconnect the cable, pull on the plug. Do not pull on the cable.



BATTERIES

IMPORTANT: Always use **ALKALINE** batteries for optimal performance. Always remove the batteries for prolonged storage.

CHECK THE BATTERIES if your detector exhibits any of the following symptoms:

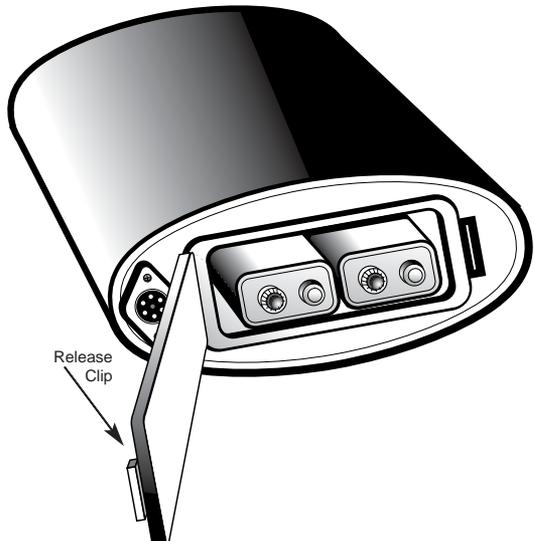
- ❶ The unit does not turn on.
- ❷ Low speaker volume.
- ❸ Unable to tune detector with the discriminate knob.

The Low Battery indicator light will come on and stay on whenever the batteries need replacing. It should flash momentarily when the Power Switch is turned on.

IMPORTANT: Your Pioneer 500 Metal Detector requires two 9-Volt ALKALINE batteries.

Follow these steps to install the batteries.

- ❶ Carefully remove the battery compartment door by pressing the release clip on the right side of the door.
- ❷ Snap one battery onto each of the terminals and place the batteries inside the compartment.
- ❸ Replace the compartment door by carefully inserting opposite side of clip first. Then press down on clip side until battery door snaps into place.



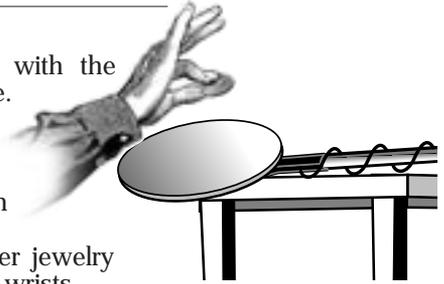
QUICK-START DEMO

I. SUPPLIES NEEDED

- Nickel
- Quarter
- A small piece of aluminum foil
- Dime
- A Nail
- A large screwdriver or other large iron object
- A Zinc Penny (*dated after 1982*)

II. POSITION THE DETECTOR

- Place the detector on a table, with the search coil hanging over the edge. (or better, have a friend hold the detector, with the coil off the ground)
- Keep the search coil away from walls, floors, and metal objects.
- Remove watches, rings and other jewelry or metal objects from hands and wrists.
- Turn off appliances or lights that cause electromagnetic interference.
- Pivot search coil to a position parallel to the ground.



III. POWER UP

- Turn the detector on and turn the sensitivity knob to the 3:00 position.
- Press the GroundTrac button.



IV. HOLD OBJECTS OVER SEARCH COIL

- Notice the single tone, regardless of the object.
- Motion is not required. The detector will emit sound whenever a metal object is over the search coil.

V. ENTER DISCRIMINATION MODE

- Press the DISC button.
- Move the Disc/Notch Knob 100% counterclockwise.



VI. WAVE OBJECTS OVER SEARCH COIL

- Wave coins with flat surface parallel to coil. This is how you'll find them buried in the ground.
- Notice the different tones.
- Watch the LCD indicator for depth and target identification.

VII. DISCRIMINATE

- Waive the nail and slowly turn the Disc/Notch Knob clockwise until the nail is eliminated.
- Continue eliminating objects one-by-one, by turning the Disc/Notch Knob clockwise as you wave each object. Stop turning after the zinc penny is eliminated.
- The objects will be eliminated in this order:
1) Nail 2) ScrewDriver 3) Foil 4) Nickel 5) Penny

VIII. NOTCH

- Press the Notch button.
- Position the Disc/Notch Knob so that the penny is eliminated.
- Notice that the nickel is now detected. The penny has been "notched-out."

BASIC OPERATION

TURN THE DETECTOR ON

Click the left knob to the on position.

Three tones will sound.

The detector automatically enters the ALL-METAL Mode.

NO-MOTION ALL-METAL MODE

To operate in this mode:

- Hold the search coil over the ground surface, about 1/2 inch.
- Press the GroundTrac Button.

The detector will emit only one monotone sound, regardless of the type of metal detected.

If the detector emits a constant tone, retune the detector with the search coil just above the ground surface. Make sure that the ground area chosen for tuning the detector does not contain metal; if unsure, switch into DISC mode and verify that the detector does not emit tones as you sweep the coil over the chosen spot.

Ground conditions can change over short distances. Until you become familiar with the detector's volume level, retune the detector periodically by pressing the GroundTrac button.

Temperature changes also require retuning. If the detector emits a constant tone, or loses sensitivity, retune. If you have stored the detector indoors and move outdoors immediately to a different temperature environment and begin detecting, retune the detector periodically until the coil temperature stabilizes. This retuning is only necessary in the ALL-METAL Mode.

MOTION ALL-METAL Mode

To operate in this mode:

- Turn the right knob, Disc/Notch, 100% counterclockwise, to the off position.
- Press the DISC button.
- Reduce the Sensitivity Control to the 2:00 or 3:00 position.
- Sweep the coil over the surface of the ground.

The detector will emit one of three tones, depending on the type of metal detected.

The top display will indicate the type of metal targeted.

The bottom display will indicate the depth, in inches, of coin-sized objects.

A worthwhile target is evidenced by a consistent tone, and a repeatable target and depth indication as you sweep back and forth over the same spot

SUMMARY OF OPERATING MODES

I. NO-MOTION ALL-METAL MODE

- Deepest Seeking Mode
- No motion is required
- All metals will be detected
- One tone only
- Manual Ground Balance: User must tune and retune with the GroundTrac button.

To Operate: 1) Press All-Metal button.
2) Press GroundTrac button, and re-tune as necessary.

Applications: Pinpointing Objects located in motion modes
Relic Hunting
Cache Hunting

Household applications: finding lost items, locating property markers

II. MOTION ALL-METAL MODE

- Motion Required
- All metals will be detected
- Three-tone Audio Target Identification

To Operate: 1) Press DISC button.
2) Keep Disc/Notch Knob 100% counterclockwise.
3) Reduce Sensitivity Knob in event of false signaling.

Applications: Relic Hunting
Cache Hunting

Household applications: finding lost items, locating property markers

III. DISCRIMINATION MODE

- Motion Required
- Three-tone audio target identification
- Disc/Notch Knob allows user to eliminate unwanted items.
- Discrimination is a fixed-start-point system. Items are cumulatively eliminated.
- As you turn the knob farther clockwise, more objects are eliminated, including the first items eliminated.
- Reduce Sensitivity if the detector emits false or non-repeatable signals.
- Automatic Ground Balance: detector automatically adjusts to ground mineralization as you sweep the coil.

To Operate: 1) Press DISC button
2) Move Disc/Notch Knob to desired setting.
3) Reduce Sensitivity Knob in event of false signaling.

Applications: Coin-Shooting
Jewelry Hunting

IV. NOTCH MODE

- Automatically eliminates all ferrous objects.
- Disc/Notch Knob allows user to eliminate medium-tone trash items, but retain low and high-tone valuables.

To Operate: 1) Press NOTCH button.

Other Operations and Applications: same as Discrimination Mode.

V. AUTONOTCH MODE

- Automatically eliminates all ferrous objects.
- Automatically eliminates most pull-tabs.
- Disc/Notch Knob allows user to eliminate medium-tone trash items, but retain low and high-tone valuables.

To Operate: 1) Press AUTONOTCH button

Other Operations and Applications: same as Discrimination Mode.

LCD TARGET DISPLAY -Motion modes only

READING THE DISPLAY

The LCD Target Display is accurate in the Motion Modes only.

The Liquid Crystal Display (LCD) shows the PROBABLE identification of the targeted metal, as well as the PROBABLE depth of the target, in inches.

Pass the search coil repeatedly over a target, and observe the target readout. The detector will register a repeated, unchanging target identification when a buried target has been located and identified. If, upon repeated passes over the same spot, the target identification reads inconsistently, the target is probably a trash item, or oxidized metal. With practice, you will learn to unearth only the repeatable signals.

The segment identifications are highly accurate, when detecting the objects described on the label. For example, if you pass the coil repeatedly over a nickel, your detector will repeatedly register a nickel. However, if you repeatedly register a nickel, for an unknown buried object, you could be detecting some other metallic object with the same magnetic signature as a nickel.

GOLD TARGETS Gold objects will register on the left side of the LCD scale.

Gold flakes will register under Iron/Foil

Small gold items will register under Pull Tab.

Medium-sized gold items will register under S-caps.

Large gold items will register as Zinc 1¢.

SILVER TARGETS: Silver objects will register to the right of the scale, under 25¢, 50¢, or \$1, depending on the size of the object. The larger the object, the farther to the right it will register.

IRON/FOIL: All sizes of iron and aluminum objects will register on the far-left side of the scale. This could indicate a worthless item such as a nail, or a more valuable historic iron relic.

PULL TAB: All older pull tabs from beverage cans will register here. Most newer pull tabs will register here. Many gold rings will also register here.

S-CAPS: Older screw caps from glass bottles will register here. Large gold rings, like a class ring, could also register here. Some non-U.S. coins of recent vintage will also register here.

1¢ ZINC: Newer pennies (post-1982) will register here. Many non-U.S. coins of recent vintage will also register here.

10¢: Dimes and pre-1982 pennies will register here. Older, pre-1982, pennies are composed of copper, which has a metallic signature similar to a dime.

Caution: The target indications are visual references. Many other types of metal can fall under any one of these categories. You will experience a trash-to-treasure ratio when treasure hunting. The more you practice, the lower you will push your trash-to-treasure ratio. While the Pioneer 500 will eliminate or indicate the presence of most common trash items, it is impossible to accurately classify ALL buried objects. The LCD provides a visual reference to minimize the detection of trash objects. By using the target ID in conjunction with discrimination control and the three-tone audio identification system (discussed later), you can further reduce the trash-to-treasure ratio.

BATTERY / DEPTH INDICATORS & SENSITIVITY ADJUSTMENT

BATTERY INDICATOR:

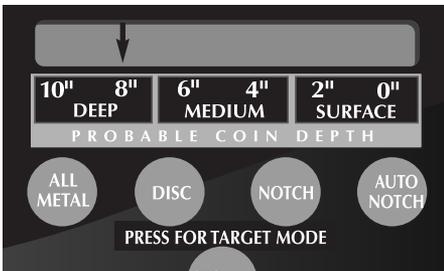
The LOW BATT indicator will flash as the unit is powered on. If the indicator comes on and stays on, replace the batteries.



DEPTH INDICATOR:

The Depth Indicator is accurate for coin-sized objects. It indicates the depth of the target, in inches. Large and irregularly-shaped objects will yield less reliable depth readings

When passing over an object, the depth indicator will light up and stay illuminated until another object is scanned. Pass repeatedly over the suspected target and pause briefly at the end of each sweep to read your display. Repeated indication at the same depth level indicates an accurate target detector. If the depth indication varies with each sweep, try sweeping at different angles; there may be more than one target present. With practice, you will learn the difference between accurate readings, multiple targets, and highly erratic readings which evidence trash or irregularly shaped objects.



Depth indicator locked on 8 inches

SENSITIVITY ADJUSTMENT:

The principle use for the SENSITIVITY knob is to eliminate ELECTROMAGNETIC INTERFERENCE (EMI). EMI is both naturally-occurring and man-made. Common sources of EMI are power lines, both suspended and buried, and broadcasting antennas. Machinery, when in operation, can also produce EMI.

EMI comes from most household appliances, so **YOUR DETECTOR CAN BEHAVE VERY ERRATICALLY INDOORS**. If you want to test it indoors, turn off the TV and microwave. If you have lights with dimmer switches, also turn these off; dimmer switches can produce lots of EMI.

If your detector chatters with the SENSITIVITY knob in the 100% clockwise position, reduce the sensitivity until the chatter stops (usually to the 1:00 or 3:00 position).

If you suspect the presence of deeper targets underneath a shallower target, reduce the SENSITIVITY to eliminate the detection of the deeper target to properly locate and identify the shallower target.:



AUDIO TARGET ID *-Motion modes only*

In the DISC, NOTCH or AUTONOTCH modes, the detector emits three distinct tones, which classify metal objects into categories

IRON & STEEL:

In the DISCRIMINATION mode most iron and steel objects will induce a low tone. Highly oxidized iron can induce a high tone, depending on the Disc/Notch control setting. For instance, some rusted bottle caps will induce a high tone and indicate to the right of the LCD target display.

GOLD:

Gold objects will induce a low or medium tone, depending on their sizes. Very small gold objects will indicate on the left-most segment. Large gold objects will read under the Zinc segment. If you are gold prospecting, you will usually be looking for natural gold in an area which it does not contain much trash, and can therefore ignore the specific segment descriptions.

PULL TABS:

Pull tabs are the most bothersome trash items for detectorist. Most will induce a medium tone. Most will be eliminated automatically in the AUTO NOTCH mode, or alternatively be manually “notched out” in NOTCH mode with the Disc/Notch control. The older pull tabs (those not attached to the can after opening) are sometimes broken in half; these broken tabs can induce low tones. Highly oxidized pull tabs can also induce high tones.

It can be very difficult to differentiate pull tabs from gold rings. When they both induce medium tones, you might notice a “double beep” from a gold ring but a “single beep” from pull tabs. To achieve this distinction, sweep the search coil very slowly, and at different angles. Two tones might signal as the detector passes over each side of the round ring.

COPPER, SILVER & BRASS:

Most valuable coins are composed of these metals and will usually induce a high tone. Valuable objects other than coinage can also be composed of copper, silver and brass.

LOW TONE



Nails & Bottle Caps,
Gold & Nickel

MEDIUM TONE



Old & New Pull Tabs, Zinc,
Pennies (Post 1982), Larger
Gold Objects

HIGH TONE



Copper, Silver & Brass
Copper Pennies (Pre 1982)

Audio Target Identification (ATI) classifies metals into three categories.

IN THE FIELD TECHNIQUES - Motion modes

PINPOINTING

Accurate pinpointing takes practice and is best accomplished by “X-ing” the target area.

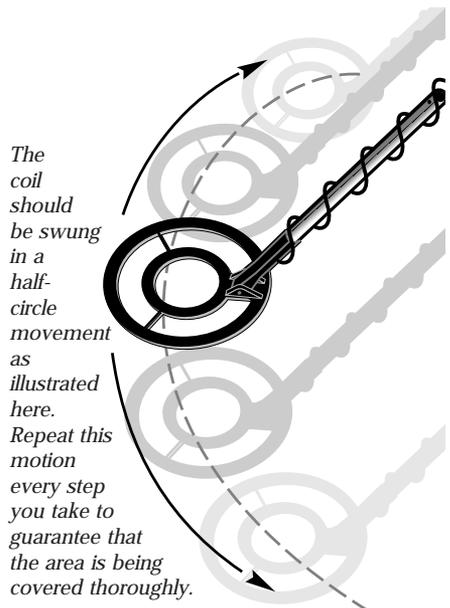
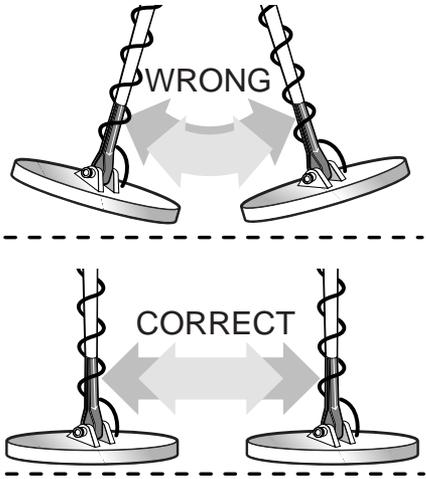
1. Once a buried target is indicated by a good tone response, continue sweeping the coil over the target in a narrowing side-to-side pattern.
2. Take visual note of the place on the ground where the “beep” sounds.
3. Stop the coil directly over this spot on the ground.
4. Now move the coil straight forward and straight back towards you a couple of times.
5. Again make visual note of the spot on the ground at which the “beep” sounds.
6. If needed, “X” the target at different angles to “zero in” on the exact spot on the ground at which the “beep” sounds.



When pinpointing a target, try drawing an “X”, as illustrated, over where the tone is induced.

COIL MOVEMENT

When swinging the coil, be careful to keep it level with the ground about one inch from the surface. Never swing the coil like a pendulum.



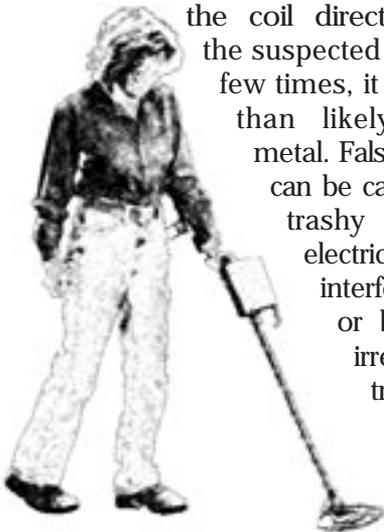
The coil should be swung in a half-circle movement as illustrated here. Repeat this motion every step you take to guarantee that the area is being covered thoroughly.

IN THE FIELD TECHNIQUES - *Motion modes*

After selecting your operating mode, swing the search coil gently side-to-side, slightly overlapping each sweep as you move forward. Make sure you keep your search coil approximately 1 inch above the ground as you search. Raising it in the sweep, or at the ends of your sweep, will cause false readings. Move slowly; hurrying will only cause you to miss targets.

Most good objects will respond with a good repeatable signal.

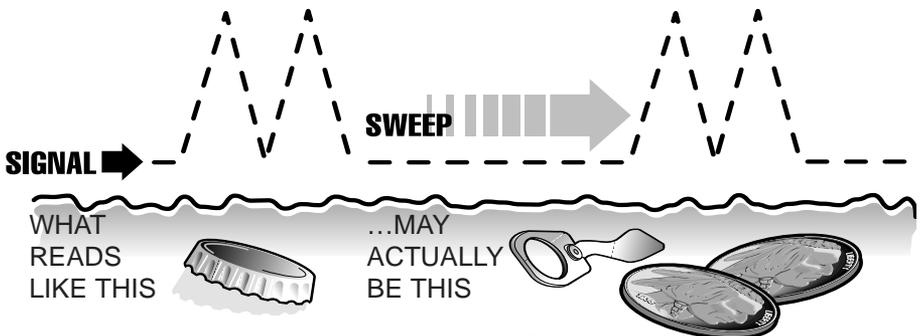
If a signal does not repeat after swinging the coil directly over the suspected target a few times, it is more than likely trash metal. False signals can be caused by trashy ground, electrical interference, or by large irregular trash



objects. These signals are easily recognized by their often broken or non-repeatable nature.

The Pioneer 500 is a very sensitive and deep-seeking detector. It will respond loudly to many targets that other detectors would only detect with a weak signal. Because of this, trash-induced signals and other sources of interference may cause signals that seem confusing. The key to managing these false signals is to dig only those targets that emit a strong repeatable signal. As you sweep the search coil back and forth over the ground, learn to recognize the difference between the signals that occur at random and signals that are stable and repeatable.

When searching very trashy ground, it is best to scan small areas with slow, short overlapping sweeps. To prevent erratic signals and difficult pinpointing in trashy areas, use the Bounty Hunter 4-Inch Gold Nugget Coil.



IN THE FIELD TECHNIQUES - *No-motion modes*

In the No-Motion All-Metal Mode, coil sweep technique is not important. Rather, user retuning is critical.

The detector does not automatically adjust to changing ground and environmental conditions; the operator is required to make the adjustment. If the detector sounds a constant tone over all areas of the ground, retune the detector by pressing the GroundTrac button.

RETUNING

Keep the coil still, just above the ground surface, and press the GroundTrac button. Make sure that the spot on the ground you chose for tuning did not contain metal; pass over the area with the coil again to insure that the detector does not emit a tone.

TEMPERATURE CHANGE

If the detector moves from one temperature environment to another, or if the temperature changes, you must retune the detector until the temperature stabilizes. If you move from a cooler to a warmer environment, the detector may emit a constant tone; if so, retune. If you move from a warmer to cooler environment, the detector may lose sensitivity; if so, retune.

PINPOINTING

Detection Field

The No-Motion's detection field depends on the size of the target.

Large Objects

After detecting a target, lift the coil off the ground to a distance where you hear the faintest tone. Move the coil over the ground at this height. If the tone does not fade, you have detected a large or irregularly shaped object. Outline the object with slow coil movements.

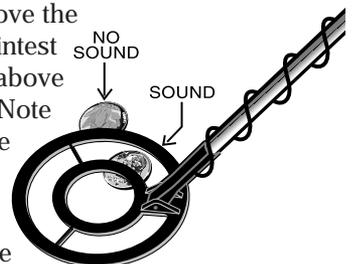
If you can outline an area larger than the size of the inside coil, you then have a large target, or several targets.

Large object can be detected when they enter the range of the outside coil.

Small Objects

After detecting a target, hold the search coil above the ground, at a distance where you hear the faintest tone. While maintaining the coil at this height above the ground, move the coil from side-to-side. Note the spot where the tone is loudest. Then move the coil toward the ground to zero-in on the target's location.

A coin-size object will be detected when the object enters the range of the inner coil.



4-INCH GOLD NUGGET COIL

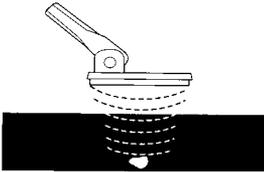
The standard 8-inch coil is great for most detecting applications. In special situations, a smaller coil is needed.

Tight Spaces The 4-inch coil can fit into tight spaces.

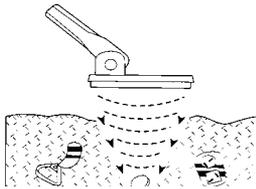
Black Sand "Sees through" black sand, or other highly mineralized soils, because the ratio of metal to detection area is higher. Perfect for gold prospecting.

Trashy Areas Narrow detection field can better separate objects.

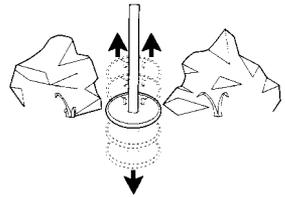
Black Sand



Trashy areas



Narrow areas



TROUBLE SHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
Detector chatters or beeps erratically	<ul style="list-style-type: none"> Using detector indoors Using detector near power lines Using 2 detectors in close proximity Highly oxidized buried object Environmental electromagnetic interference 	<ul style="list-style-type: none"> Use detector outdoors only Move away from power lines Keep 2 detectors at least 20' apart Only dig up repeatable signals Reduce sensitivity until erratic signals cease
Constant low tone or constant repeating tones	<ul style="list-style-type: none"> Discharged batteries Wrong type of batteries 	<ul style="list-style-type: none"> Replace batteries Use only 9V alkaline batteries
LCD does not lock on to one target ID or emits multiple tones	<ul style="list-style-type: none"> Multiple targets present Highly oxidized target Sensitivity set too high 	<ul style="list-style-type: none"> Move coil slowly at different angles Reduce sensitivity
No power, no sounds	<ul style="list-style-type: none"> Dead batteries Batteries connected improperly Cord not connected securely 	<ul style="list-style-type: none"> Replace batteries Check connections

5-YEAR LIMITED WARRANTY

Bounty Hunter Metal Detectors are warranted against defects in workmanship or materials under normal use for five years from date of purchase to the original user. Liability in all events is limited to the purchase price paid. Liability under this Warranty is limited to replacing or repairing, at our option, any Bounty Hunter Detector returned, shipping cost prepaid, to First Texas Products, LP. Damage due to neglect, accidental damage or misuse of this product is not covered by this warranty.

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