If you do not have prior experience with a metal detector, we strongly recommend that you:

1) Adjust the Sensitivity to a low setting in the event of false signals. Always begin use at a reduced sensitivity level; this device is designed to work “into-the-noise”, so expect chatter at high sensitivity.

2) 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 searchcoil away from appliances such as computers, televisions and microwave ovens. If your detector beeps erratically, turn off appliances and lights. Also keep the searchcoil away from objects containing metal, such as floors and walls.

3) Use a 9-volt ALKALINE battery only. Do not use Heavy Duty Batteries.
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TROUBLESHOOTING

TROUBLESHOOTING GUIDE

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<td>• Using detector near power lines</td>
<td>• Move away from power lines</td>
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<td></td>
<td>• Using 2 detectors in close proximity</td>
<td>• Keep 2 detectors at least 20’ apart</td>
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<td>• Highly oxidized buried object</td>
<td>• Only dig up repeatable signals</td>
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<td>Constant low tone or constant repeating tones</td>
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<td></td>
<td>• Wrong type of battery</td>
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<td>LCD does not lock on to one Target-ID or detector emits multiple tones</td>
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<td>• Highly oxidized target</td>
<td>• Reduce sensitivity</td>
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<td></td>
<td>• Sensitivity set too high</td>
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</tr>
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<td>No power, no sounds</td>
<td>• Dead battery</td>
<td>• Replace battery</td>
</tr>
<tr>
<td></td>
<td>• Cord not connected securely</td>
<td>• Check connections</td>
</tr>
</tbody>
</table>
DEEP AND TARGET DISPLAY

Please refer to the display on your detector and reference the TARGET-ID categories below applicable to your model (not all detectors include all of these categories).

READING THE DISPLAY

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

The detector will register a consistent Target Identification, upon each sweep of the coil, 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. However, if an object registers in a given category for an unknown buried object, you could be detecting a metallic object other than the object described on the label, but with the same metallic signature. Also, the greater the distance between the target and the coil, the less accurate the Target Identification.

GOLD TARGETS: Gold objects will register toward the middle or left-of-center on the LCD scale.

Gold flakes may register under iron.

Small gold items may register under foil or 5¢.

Large gold items will register toward the center of the scale.

SILVER TARGETS: Silver objects will register to the right of the scale, under dime or higher.

IRON: All sizes of iron 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.

ALUM: Aluminum foil, such as a gum wrapper, will register as foil. A small broken piece of pull tab may also register here.

5¢: Most newer pull-tabs from beverage cans, the type intended to stay attached to the can, will register here. Many gold rings will also register here.

ALUM: Older pull tabs, which always detached completely from the can, register here. Many medium size gold rings also register here.

PT (pull-tabs): Pull-tabs from older beverage cans will register here. Fewer newer pull-tabs will also register here. Many gold rings will also register here.

Iron Register: Large gold items may register under foil or 5¢.

Small gold items may register as foil. A small broken piece of pull tab may also register here.

5¢: Discarded pull-tabs from beverage containers are the most bothersome trash items for treasure hunters. They come in many different shapes and sizes. Pull-tabs can be eliminated from detection, but some other valuable objects can have a magnetic signature similar to pull-tabs, and will also be eliminated when discriminating out pull-tabs.

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. This detector incorporates proprietary circuitry to eliminate false signals from severe ground conditions.

TERRING ONALY

The following terms are used throughout the manual, and are standard terminology among detectorists.

ELIMINATION

Reference to a metal being “eliminated” means that the detector will not emit a tone, nor light up an 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 an important feature of professional metal detectors. Discrimination allows the user to ignore trash and otherwise undesirable objects.

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 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, 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 soil, and can therefore be very hard to isolate from the soil.

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. Pull-tabs can be eliminated from detection, but some other valuable objects can have a magnetic signature similar to pull-tabs, and will also be eliminated when discriminating out pull-tabs.

GROUNDBALANCE

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. This detector incorporates proprietary circuitry to eliminate false signals from severe ground conditions.
2-Digit Target Identification

The 2-digit value in the middle of the screen provides a specific target value to help identify buried targets more accurately. With practice in the field, you will learn to associate target values with specific objects. Coins are more likely to yield the same value with each pass of the coil due to their concentric shape. The presence of multiple targets will yield multiple tones. Trash objects are more likely to yield a different number on each pass. The angle of the coil relative to an object may also influence Target Identification. If waving coins over the searchcoil for practice, wave with the flat side parallel to the searchcoil; this is the position you will most often find coins buried in the ground.

2-Digit TARGET IDENTIFICATION Values

<table>
<thead>
<tr>
<th>Category</th>
<th>Numeric Value Range</th>
<th>Some Common Objects</th>
<th>Typical Values for Common Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>10 - 39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil</td>
<td>40 - 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>56 - 60</td>
<td>US Nickel</td>
<td>58</td>
</tr>
<tr>
<td>Alum</td>
<td>61 - 75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>75 - 79</td>
<td>US Zinc Penny</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>(After 1982)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dime</td>
<td>80 - 85</td>
<td>US Dime</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>(Pre-1982)</td>
<td>US Copper Penny</td>
<td>81 - 82</td>
</tr>
<tr>
<td>Quarter</td>
<td>86 - 90</td>
<td>US Quarter</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50¢+</td>
<td>91 - 99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Half-Dollar</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Silver Dollar</td>
<td>94-96</td>
</tr>
</tbody>
</table>
TARGET IDENTIFICATION

In DISCRIMINATION Mode, targets are identified both audibly and visually as follows:

1. Different pitch tones for different types of metals
2. A 2-digit Target-ID
3. An illuminated icon within the target category best describing it

AUDIOTARGET IDENTIFICATION:

Tones identify targets as follows:

LOW TONE (ID: 1-39)
Ferrous objects, such as iron and steel, like nails and tin cans.
Smallest-sized gold objects and some steel bottle caps

MEDIUM TONE (ID: 40-79)
Foil, pull-tabs (some new style), nickels, steel bottle caps.
Newer pennies (post-1982 are minted from zinc)
Larger gold pieces, small brass objects, and most bottle screw caps.
Most recent-vintage non-US coins.
Pull-tabs (old style, some new style)

HIGH TONE (ID: 80-99)
Silver and copper coins, large brass objects
Older pennies (pre-1982 were minted from copper)
Dimes, quarters, half-dollars, silver dollars
Susan B. Anthony and Sacagawea dollar coins
Flattened aluminum cans (with a stronger signal than a coin)

<table>
<thead>
<tr>
<th>LOW TONE</th>
<th>MEDIUM TONE</th>
<th>HIGH TONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nails &amp; Small Gold</td>
<td>Pull-Tabs, Nickels, Smaller &amp; Larger Gold, Zinc Pennies (Post 1982), Many screw caps</td>
<td>Copper, Silver &amp; Brass Copper Pennies (Pre-1982)</td>
</tr>
</tbody>
</table>

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

ASSEMBLY

**Caution:** Forcing in MIDDLE STEM with CAM LOCK raised may form a burr on camlock. If this happens, remove burr with knife to allow insertion.

1. Position S-Rod upright.
2. Rotate the LOCKING COLLAR fully in the counterclockwise direction.
3. Insert your finger inside the tube and make sure the INTERNAL CAM LOCK is flush with the inside of the tube.

4. Insert the MIDDLE STEM into the S-ROD, with the SILVER BUTTON pointed upward.
5. Rotate the MIDDLE STEM until the SILVER BUTTON locates in the hole.
6. Twist the LOCKING COLLAR fully in the clockwise direction until it locks.
7. Repeat this process on the LOWER STEM.
8. Using the BOLT and KNURLED KNOB, attach the SEARCHCOIL to the LOWER STEM.
9. Adjust the LOWER STEM to a length that lets you maintain a comfortable upright posture, with your arm relaxed at your side, and the SEARCHCOIL parallel to the ground in front of you.
10. Wind the CABLE securely around the STEMS.
11. Connect CABLE PLUG to housing. Do not twist the Cable or Plug. Turn Locking Ring only. Use minimal finger pressure to start the threads. Do not cross-thread. When the Locking Ring is fully engaged over the threaded connector, give it a firm turn to make sure that it is very tight. When the Locking Ring is fully engaged over the threaded connector, it may not cover all of the threads.
12. Tighten both LOCKING COLLARS.

*Note: Very tall users can purchase the optional Extended Lower Stem (TUBESX), for extended reach.*
**BATTERIES**

The detector requires a single 9-volt ALKALINE battery (battery not included).

Do not use ordinary zinc carbon batteries.
Do not use “Heavy Duty” batteries.

Rechargeable batteries can also be used.
If you wish to use rechargeable batteries, we recommend using a Nickel Metal Hydride rechargeable battery.

The battery compartment is located on the back side of the housing.
Slide the battery door to the side and remove it to expose the battery compartment.

**BATTERY LIFE**
Expect 20 to 25 hours of life from a 9-volt alkaline battery.
Rechargeable batteries provide about 8 hours of usage per charge.

**SPEAKER VOLUME AND BATTERY CHARGE**
You may notice the speaker volume drop while one battery segment is illuminated.
With one segment flashing, low speaker volume will be very apparent.

**BATTERY INDICATOR**
The remaining battery life is proportional to the percentage of the battery icon illuminated.

After the battery indicator begins flashing, expect the detector to shut off within 10 minutes.

---

**OPERATION and CONTROLS (cont.)**

**MODE SELECTIONS (continued)**

**3. PINPOINT**
Enter PINPOINT from either Disc or All Metal Mode. Press and hold ⌁ to activate pinpoint. Pinpoint detection is only active as long as you keep ⌁ depressed.

Pinpoint is used to find the exact location of a target which was previously located and identified using the Discrimination Mode. As this mode does not require motion over the target, the user can move the coil more slowly and then narrow the detection field when near the target.

**How to Pinpoint**
Position the searchcoil an inch or two (2.5-5cm) above the ground, and to the side of the target. Then press and hold ⌁. Now move the searchcoil slowly across the target, and the sound will communicate the target’s location. As you sweep from side to side, and hear no sound at the ends of the sweep, the target is located in the middle of that zone, where the sound is loudest. If the sound is loud over a wide area, the buried object is large. Use Pinpoint to trace an outline of such large objects.

**Narrow It Down**
To further narrow the field of detection, position the searchcoil near the center of the response pattern (but not at the exact center), release ⌁, and then quickly press-and-hold it again. Now you will only hear a response when the searchcoil is right over the top of the target. Repeat this procedure to narrow the zone even further. Each time you repeat the procedure, the field of detection will narrow further.

**Consider Purchasing a Pinpointer**
When you kneel down to unearth an object, you may find it frustrating as the object can appear exactly like the surrounding soil. You may hold the object in your hand, and find it necessary to pass a handful of dirt over the searchcoil to see if it contains metal. An easier way is to use a handheld pinpointer. It is a probe-like device which is poked into the ground, making close up pinpointing a snap, reducing digging time, and minimizing the size of the holes you will dig. Teknetics® offers a robust and inexpensive pinpointer designed for this purpose.
OPERATION and CONTROLS (cont.)

MODE SELECTIONS

There are three selections under the MODE section of the display.

- Press MODE to toggle between DISCRIMINATION and ALL METAL.
- Press at any time to activate PINPOINT Mode.

1. DISCRIMINATION Mode

This mode is the default mode, and requires the searchcoil to be in motion in order to detect and identify targets. This is the mode most commonly used for continuous searching. In this mode, targets are identified with distinct tones, and are classified in categories at the bottom of the display. A two-digit numerical value, on a scale of 10 to 99, is displayed in the middle of the screen. The depth range of the target is also displayed at the right of the display. All MENU items can be selected and customized in this mode.

2. ALL METAL Mode

This mode is a motion mode. Target Identification is the same as in Discrimination Mode but target rejection is not possible.

All types of metal objects induce a sound which varies in pitch and volume according to the size of the object and its distance from the coil. For example, a larger object close to the coil will induce a loud, high-pitched tone. A small object, farther from the coil will induce a lower-pitch lower-volume tone.

Use ALL METAL Mode for maximum sensitivity to buried targets.

QUICK-START DEMONSTRATION

I. Supplies Needed

- a Nail
- a Zinc Penny (dated after 1982)
- a Nickel
- a Quarter

II. Position the Detector

a. Place the detector on a table, with the searchcoil hanging over the edge.
   Or better, have a friend hold the detector, with the searchcoil off the ground.
b. Keep the searchcoil away from walls, floors, and metal objects.
c. Remove watches, rings, and jewelry.
d. Turn off lights or appliances, whose electromagnetic emissions may cause interference.
e. Pivot the searchcoil back.

III. Power Up

Press .

IV. Wave each object over the searchcoil

a. Notice a different tone for each object:
   - No Tone: Nail (in default setting iron is not detected)
   - Medium Tone: Zinc Penny & Nickel
   - High Tone: Quarter
b. Motion is required.
   Objects must be in motion over the searchcoil to be detected in this mode.

V. Press once to enter the DISC. LEVEL program

Then press four times.

VI. Wave the nickel and zinc penny

a. Neither coin is detected.

VII. Press the to toggle down to NOTCH. Then press three times

a. “5¢” reappears on the display

VIII. Wave the Nickel

a. The nickel is now again detected.
   b. The nickel has been “notched in.”

IX. Press MODE to toggle down to ALL METAL

X. Pass the quarter over the searchcoil

a. Move the quarter closer to and farther away from the searchcoil. Notice the change in pitch and volume.

XI. Press and hold

a. Hold the quarter motionless over the searchcoil.
   b. Notice that motion is NOT required.
   c. Move the quarter closer, then farther away from the coil. Notice the changing depth reading.
THE BASICS OF METAL DETECTING

A hobby metal detector is intended for locating buried metal objects. When searching for metals, underground or on the surface, you have the following challenges and objectives:

1. Ignoring signals caused by ground minerals.
2. Ignoring signals caused by metal objects that you do not want to find, like pull-tabs.
3. Identifying a buried metal object before you dig it up.
4. Estimating the size and depth of objects, to facilitate digging them up.
5. Eliminating the effects of electromagnetic interference from other electronic devices.

Your Titanium Camo metal detector is designed with these things in mind.

1. Ground Minerals
   All soils contain minerals. Signals from ground minerals can interfere with the signals from metal objects you want to find. All soils differ, and can differ greatly, in the type and amount of ground minerals present. The Titanium Camo has a preset ground elimination setting. No user adjustments are required.

2. Trash
   If searching for coins, which will induce higher tone sounds, you want to ignore items like aluminum foil, nails, and pull-tabs. These undesirable items induce lower tones. You can listen to the sounds of all objects detected, and decide on what you want to dig up. Or you can eliminate unwanted metals from detection by using the DISCRIMINATION feature.

3. Identifying Buried Objects
   When searching in the DISCRIMINATION Mode, different objects induce different tones (high, medium, low) and are classified on the display screen in different categories from left to right. A 2-digit numerical reading is also provided in the middle of the display for more precise Target Identification. The DISCRIMINATION Mode requires motion: sweep the coil over the metal object.

OPERATION and CONTROLS (cont.)

MENU SELECTIONS (continued)

NOTCH (continued)

At any time, the display screen indicates the current category notches or discrimination settings. Any category whose description is not visible will not be detected.

For example, the following settings tell us that:

- The nickel, dime, quarter and 50c categories will be detected.
- All other categories of targets (iron, foil, alum and zinc) will not be detected.

4. VOLUME
   While the VOLUME line is highlighted, use + and - to change the speaker volume.
   The default volume setting is 8. Maximum is 10. Minimum is 0 (volume off). At levels 1, 2 and 3, high tones will be inaudible or barely audible.
   The speaker volume will diminish as battery voltage drops. For maximum speaker volume, use 1 or 2 tones, as the low and bass tones generate the loudest sounds.
   Volume can be set while in either the DISCRIMINATION or ALL METAL Modes, but only one setting applies to both modes. Volume in the two modes cannot be set independently.
4. Size and Depth of Buried Objects
When using the detector in the motion DISCRIMINATION Mode, the relative depth of an object is displayed on the right of the display in a 5-segment format. A more accurate depth reading is available in a no-motion mode, using PINPOINT Mode. Pinpoint displays target depth in inches. Pinpoint does not require the coil to be in motion to detect metals. The ability to hold the searchcoil motionless over the target also aids in tracing an outline of the buried object, or in pinpointing the exact location of the object using techniques described in the pinpointing section.

5. Electromagnetic Interference (EMI)
The searchcoil produces a magnetic field and then detects changes in that magnetic field caused by the presence of metal objects. This magnetic field that the detector creates is also susceptible to the electromagnetic energy produced by other electronic devices. Power lines, microwave ovens, lighting fixtures, TVs, computers, motors, etc... all produce EMI which can interfere with the detector and cause it to beep when no metal is present, and sometimes to beep erratically.

The SENSITIVITY control lets you reduce the strength of this magnetic field, and therefore lessen its susceptibility to EMI. You may want to operate at maximum strength, but the presence of EMI may make this impossible, so if you experience erratic behavior or “false” signals, reduce the sensitivity.

Using Headphones
Using headphones (not included) improves battery life, and prevents the sounds from annoying bystanders. It also allows you to hear subtle changes in the sound more clearly, particularly if searching in a noisy location. For safety reasons, do not use headphones near traffic or where other dangers are present. This device is to be used with interconnecting cables/ headphone cables shorter than three meters.
OPERATION and CONTROLS

POWERING UP

Press  

- The detector always starts in the DISCRIMINATION Mode. Motion is required.
- Default sensitivity is at about 70% of maximum, (08).
- All target categories except iron are illuminated, meaning that all metal objects will be detected except iron.

HOW TO WORK THE CONTROLS

Press MODE button to TOGGLE between the Discrimination and All Metal Modes.

Press MENU button to select the menu item you want to adjust.

Press and hold the Pinpoint button to actuate PINPOINT at any time.

Press  or  Buttons to CHANGE THE SETTING of the active menu item. The active menu item is the Highlighted line on the left side of the display.

OPERATION and CONTROLS (cont.)

MENU SELECTIONS

1. SENSITIVITY

Use  and  to increase or decrease sensitivity while the SENSITIVITY line is highlighted.

Maximum sensitivity setting is 12.
Minimum sensitivity setting is 4.

If the detector beeps erratically or beeps when there are no metal objects being detected, reduce the sensitivity.

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HOW DEEP WILL IT GO?
The Titanium Camo Metal Detector will detect a coin-sized object, like a quarter, to a distance of about 11” from the searchcoil at maximum sensitivity. Large metal objects can be detected to a depth of several feet. Detectability is directly related to the size of the metal object -- the larger the object, the deeper it can be detected.

Accuracy of Target Identification is also related to distance from the coil. Beyond a distance of 8”, the accuracy of Target Identification begins to diminish.

Discrimination and All Metal Modes have independent sensitivity settings. First highlight the mode, then adjust the sensitivity level for that mode.
**OPERATION and CONTROLS**

**POWERING UP**

Press \[ \text{POWER ON/OFF} \]

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   If the detector beeps erratically or beeps when there are no metal objects being detected, reduce the sensitivity.

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3. Identifying a buried metal object before you dig it up.
4. Estimating the size and depth of objects, to facilitate digging them up.
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   All soils contain minerals. Signals from ground minerals can interfere with the signals from metal objects you want to find. All soils differ, and can differ greatly, in the type and amount of ground minerals present. The Titanium Camo has a preset ground elimination setting. No user adjustments are required.

2. **Trash**
   If searching for coins, which will induce higher tone sounds, you want to ignore items like aluminum foil, nails, and pull-tabs. These undesirable items induce lower tones. You can listen to the sounds of all objects detected, and decide on what you want to dig up. Or you can eliminate unwanted metals from detection by using the DISCRIMINATION feature.

3. **Identifying Buried Objects**
   When searching in the DISCRIMINATION Mode, different objects induce different tones (high, medium, low) and are classified on the display screen in different categories from left to right. A 2-digit numerical reading is also provided in the middle of the display for more precise Target Identification. The DISCRIMINATION Mode requires motion: sweep the coil over the metal object.

OPERATION and CONTROLS (cont.)

MENU SELECTIONS (continued)

**NOTCH (continued)**

At any time, the display screen indicates the current category notches or discrimination settings. Any category whose description is not visible will not be detected.

For example, the following settings tell us that:

- The nickel, dime, quarter and 50c categories will be detected.
- All other categories of targets (iron, foil, alum and zinc) will not be detected.

**4. VOLUME**

While the VOLUME line is highlighted, use ↑ and ↓ to change the speaker volume.

The default volume setting is 8. Maximum is 10. Minimum is 0 (volume off). At levels 1, 2 and 3, high tones will be inaudible or barely audible.

The speaker volume will diminish as battery voltage drops. For maximum speaker volume, use 1 or 2 tones, as the low and bass tones generate the loudest sounds.

Volume can be set while in either the DISCRIMINATION or ALL METAL Modes, but only one setting applies to both modes. Volume in the two modes cannot be set independently.
OPERATION and CONTROLS (cont.)

MODE SELECTIONS

There are three selections under the MODE section of the display.

- Press MODE to toggle between DISCRIMINATION and ALL METAL.
- Press at any time to activate PINPOINT Mode.

1. DISCRIMINATION Mode
This mode is the default mode, and requires the searchcoil to be in motion in order to detect and identify targets. This is the mode most commonly used for continuous searching. In this mode, targets are identified with distinct tones, and are classified in categories at the bottom of the display. A two-digit numerical value, on a scale of 10 to 99, is displayed in the middle of the screen. The depth range of the target is also displayed at the right of the display. All MENU items can be selected and customized in this mode.

2. ALL METAL Mode
This mode is a motion mode. Target Identification is the same as in Discrimination Mode but target rejection is not possible.

All types of metal objects induce a sound which varies in pitch and volume according to the size of the object and its distance from the coil. For example, a larger object close to the coil will induce a loud, high-pitched tone. A small object, farther from the coil will induce a lower-pitch lower-volume tone.

Use ALL METAL Mode for maximum sensitivity to buried targets.

QUICK-START DEMONSTRATION

I. Supplies Needed
- a Nail
- a Zinc Penny (dated after 1982)
- a Nickel
- a Quarter

II. Position the Detector

- Place the detector on a table, with the searchcoil hanging over the edge. Or better, have a friend hold the detector, with the searchcoil off the ground.
- Keep the searchcoil away from walls, floors, and metal objects.
- Remove watches, rings, and jewelry.
- Turn off lights or appliances, whose electromagnetic emissions may cause interference.
- Pivot the searchcoil back.

III. Power Up

- Press .

IV. Wave each object over the searchcoil

- Notice a different tone for each object:
  - No Tone: Nail (in default setting iron is not detected)
  - Medium Tone: Zinc Penny & Nickel
  - High Tone: Quarter

- Motion is required.

V. Press once to enter the DISC. LEVEL program

Then press four times.

VI. Wave the nickel and zinc penny

- Neither coin is detected.

VII. Press the to toggle down to NOTCH. Then press three times

- “5¢” reappears on the display

VIII. Wave the Nickel

- The nickel is now again detected.
- The nickel has been “notched in.”

IX. Press to toggle down to ALL METAL

X. Pass the quarter over the searchcoil

- Move the quarter closer to and farther away from the searchcoil. Notice the change in pitch and volume.

XI. Press and hold

- Hold the quarter motionless over the searchcoil.
- Notice that motion is NOT required.
- Move the quarter closer, then farther away from the coil. Notice the changing depth reading.
The detector requires a single 9-volt ALKALINE battery (battery not included).
Do not use ordinary zinc carbon batteries.
Do not use “Heavy Duty” batteries.

Rechargeable batteries can also be used. If you wish to use rechargeable batteries, we recommend using a Nickel Metal Hydride rechargeable battery.

The battery compartment is located on the back side of the housing. Slide the battery door to the side and remove it to expose the battery compartment.

**BATTERY LIFE**
Expect 20 to 25 hours of life from a 9-volt alkaline battery. Rechargeable batteries provide about 8 hours of usage per charge.

**SPEAKER VOLUME AND BATTERY CHARGE**
You may notice the speaker volume drop while one battery segment is illuminated.
With one segment flashing, low speaker volume will be very apparent.

**BATTERY INDICATOR**
The remaining battery life is proportional to the percentage of the battery icon illuminated.

After the battery indicator begins flashing, expect the detector to shut off within 10 minutes.

---

**PINPOINT**
Enter PINPOINT from either Disc or All Metal Mode. Press and hold ⌈ to activate pinpoint. Pinpoint detection is only active for as long as you keep ⌈ depressed.

Pinpoint is used to find the exact location of a target which was previously located and identified using the Discrimination Mode. As this mode does not require motion over the target, the user can move the coil more slowly and then narrow the detection field when near the target.

**How to Pinpoint**
Position the searchcoil an inch or two (2.5-5cm) above the ground, and to the side of the target. Then press and hold ⌈. Now move the searchcoil slowly across the target, and the sound will communicate the target’s location. As you sweep from side to side, and hear no sound at the ends of the sweep, the target is located in the middle of that zone, where the sound is loudest. If the sound is loud over a wide area, the buried object is large. Use Pinpoint to trace an outline of such large objects.

**Narrow It Down**
To further narrow the field of detection, position the searchcoil near the center of the response pattern (but not at the exact center), release ⌈, and then quickly press-and-hold it again. Now you will only hear a response when the searchcoil is right over the top of the target. Repeat this procedure to narrow the zone even further. Each time you repeat the procedure, the field of detection will narrow further.

**Consider Purchasing a Pinpointer**
When you kneel down to unearth an object, you may find it frustrating as the object can appear exactly like the surrounding soil. You may hold the object in your hand, and find it necessary to pass a handful of dirt over the searchcoil to see if it contains metal. An easier way is to use a handheld pinpointer. It is a probe-like device which is poked into the ground, making close up pinpointing a snap, reducing digging time, and minimizing the size of the holes you will dig. Teknetics® offers a robust and inexpensive pinpointer designed for this purpose.
TARGET IDENTIFICATION

In DISCRIMINATION Mode, targets are identified both audibly and visually as follows:

1. Different pitch tones for different types of metals
2. A 2-digit Target-ID
3. An illuminated icon within the target category best describing it

AUDIO TARGET IDENTIFICATION:
Tones identify targets as follows:

LOW TONE (ID: 1-39)
Ferrous objects, such as iron and steel, like nails and tin cans. Smallest-sized gold objects and some steel bottle caps

MEDIUM TONE (ID: 40-79)
Foil, pull-tabs (some new style), nickels, steel bottle caps. Newer pennies (post-1982 are minted from zinc) Larger gold pieces, small brass objects, and most bottle screw caps. Most recent-vintage non-US coins. Pull-tabs (old style, some new style)

HIGH TONE (ID: 80-99)
Silver and copper coins, large brass objects Older pennies (pre-1982 were minted from copper) Dimes, quarters, half-dollars, silver dollars Susan B. Anthony and Sacagawea dollar coins Flattened aluminum cans (with a stronger signal than a coin)

ASSEMBLY

1. Position S-Rod upright.
2. Rotate the LOCKING COLLAR fully in the counterclockwise direction.
3. Insert your finger inside the tube and make sure the INTERNAL CAM LOCK is flush with the inside of the tube.
4. Insert the MIDDLE STEM into the S-ROD, with the SILVER BUTTON pointed upward.
5. Rotate the MIDDLE STEM until the SILVER BUTTON locates in the hole.
6. Twist the LOCKING COLLAR fully in the clockwise direction until it locks.
7. Repeat this process on the LOWER STEM.
8. Using the BOLT and KNURLED KNOB, attach the SEARCHCOIL to the LOWER STEM.
9. Adjust the LOWER STEM to a length that lets you maintain a comfortable upright posture, with your arm relaxed at your side, and the SEARCHCOIL parallel to the ground in front of you.
10. Wind the CABLE securely around the STEMS.
11. Connect CABLE PLUG to housing. Do not twist the Cable or Plug. Turn Locking Ring only. Use minimal finger pressure to start the threads. Do not cross-thread. When the Locking Ring is fully engaged over the threaded connector, give it a firm turn to make sure that it is very tight. When the Locking Ring is fully engaged over the threaded connector, it may not cover all of the threads.
12. Tighten both LOCKING COLLARS.

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

Caution: Forcing in MIDDLE STEM with CAM LOCK raised may form a burr on camlock. If this happens, remove burr with knife to allow insertion.

* Note: Very tall users can purchase the optional Extended Lower Stem (TUBESX), for extended reach.
2-Digit Target Identification
The 2-digit value in the middle of the screen provides a specific target value to help identify buried targets more accurately. With practice in the field, you will learn to associate target values with specific objects. Coins are more likely to yield the same value with each pass of the coil due to their concentric shape. The presence of multiple targets will yield multiple tones. Trash objects are more likely to yield a different number on each pass. The angle of the coil relative to an object may also influence Target Identification. If waving coins over the searchcoil for practice, wave with the flat side parallel to the searchcoil; this is the position you will most often find coins buried in the ground.

2-Digit TARGET IDENTIFICATION Values

<table>
<thead>
<tr>
<th>Category</th>
<th>Numeric Value Range</th>
<th>Some Common Objects</th>
<th>Typical Values for Common Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>10 - 39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil</td>
<td>40 - 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>56 - 60 US Nickel</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>75 - 79 US Zinc Penny</td>
<td>76</td>
<td>(After 1982)</td>
</tr>
<tr>
<td>Alum</td>
<td>61 - 75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quarter</td>
<td>86 - 90 US Quarter</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Dime</td>
<td>80 - 85 US Dime</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Copper Penny</td>
<td>81 - 82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Pre-1982)</td>
<td></td>
</tr>
<tr>
<td>US 50¢+</td>
<td>91 - 99</td>
<td>US Half-Dollar</td>
<td>89</td>
</tr>
<tr>
<td>US Silver Dollar</td>
<td>94 - 96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ASSEMBLY
Armrest Strap
(Optional accessory)
The strap is available for purchase as a separate accessory. Some users prefer to use the strap when swing the detector vigorously, in order to hold the detector secure against the arm.

The detector can also be used without the strap, with no compromise to detector balance and stability under most conditions.
DEPTH AND TARGET DISPLAY

Please refer to the display on your detector and reference the TARGET-ID categories below applicable to your model (not all detectors include all of these categories).

READING THE DISPLAY

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

The detector will register a consistent Target Identification, upon each sweep of the coil, 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. However, if an object registers in a given category for an unknown buried object, you could be detecting a metallic object other than the object described on the label, but with the same metallic signature. Also, the greater the distance between the target and the coil, the less accurate the Target Identification.

GOLD TARGETS Gold objects will register toward the middle or left-of-center on the LCD scale.
Gold flakes may register under iron.
Small gold items may register under foil or 5¢.
Large gold items will register here. Many gold rings will also register here.

SILVER TARGETS: Silver objects will register toward the right of the scale, under dime or higher.

IRON: All sizes of iron 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.

ALUM: Older pull tabs, which always detached completely from the can, register here. Many medium size gold rings also register here.

PT (pull-tabs): Pull-tabs from older beverage cans will register here. Fewer pull-tabs will also register here. Many gold rings will also register here.

S-CAP: 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.

Zinc: Medium conductivity objects and many non-U.S. coins of recent vintage are classified here.

The Target Identification Categories to the right of the display, such as copper coins, 10¢, DIME, 25¢, Quarter, 50¢, $1 accurately identify these U.S. coins. When used in areas outside the U.S., these categories identify coins or metal objects of high relative conductivity (such as silver coins or relics), or large objects made of any type of metal.

CAUTION: The target indications are visual references. Many other types of metal can fall under any one of these categories. While the detector will eliminate or indicate the presence of most common trash items, it is impossible to accurately classify ALL buried objects.

5-SEGMENT DEPTH INDICATOR:
The Depth Indicator is accurate for coin-sized objects. It indicates the depth of the target, in inches as follows:

<table>
<thead>
<tr>
<th>Segments Illuminated</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Segment</td>
<td>0 to 2&quot; deep.</td>
</tr>
<tr>
<td>Top 2 Segments</td>
<td>2&quot; to 3&quot; deep.</td>
</tr>
<tr>
<td>Top 3 Segments</td>
<td>4&quot; to 5&quot; deep.</td>
</tr>
<tr>
<td>Top 4 Segments</td>
<td>6&quot; to 7&quot; deep.</td>
</tr>
<tr>
<td>All Segments</td>
<td>8&quot;+ deep.</td>
</tr>
</tbody>
</table>

Large and irregularly-shaped objects will yield less reliable depth readings.

When passing over an object, the indicators will light up and stay illuminated for three seconds. 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 to differentiate between accurate readings, multiple targets, and highly erratic readings which evidence trash or irregularly shaped objects.

TERMIONALG Y

The following terms are used throughout the manual, and are standard terminology among detectorists.

ELIMINATION
Reference to a metal being “eliminated” means that the detector will not emit a tone, nor light up an 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 an important feature of professional metal detectors. Discrimination allows the user to ignore trash and otherwise undesirable objects.

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 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, 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 soil, and can therefore be very hard to isolate from the soil.

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. Pull-tabs can be eliminated from detection, but some other valuable objects can have a magnetic signature similar to pull-tabs, and will also be eliminated when discriminating out pull-tabs.

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. This detector incorporates proprietary circuitry to eliminate false signals from severe ground conditions.
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## Troubleshooting

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<tr>
<th>SYMPTOM</th>
<th>CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector chatters or beeps erratically</td>
<td>Using detector indoors</td>
<td>Use detector outdoors only</td>
</tr>
<tr>
<td></td>
<td>Using detector near power lines</td>
<td>Move away from power lines</td>
</tr>
<tr>
<td></td>
<td>Using 2 detectors in close proximity</td>
<td>Keep 2 detectors at least 20' apart</td>
</tr>
<tr>
<td></td>
<td>Highly oxidized buried object</td>
<td>Only dig up repeatable signals</td>
</tr>
<tr>
<td></td>
<td>Environmental electromagnetic interference</td>
<td>Reduce sensitivity until erratic signals cease</td>
</tr>
<tr>
<td>Constant low tone or constant repeating tones</td>
<td>Discharged battery</td>
<td>Replace battery</td>
</tr>
<tr>
<td></td>
<td>Wrong type of battery</td>
<td>Use only 9V alkaline battery</td>
</tr>
<tr>
<td>LCD does not lock on to one Target-ID or detector emits multiple tones</td>
<td>Multiple targets present</td>
<td>Move coil slowly at different angles</td>
</tr>
<tr>
<td></td>
<td>Highly oxidized target</td>
<td>Reduce sensitivity</td>
</tr>
<tr>
<td></td>
<td>Sensitivity set too high</td>
<td></td>
</tr>
<tr>
<td>No power, no sounds</td>
<td>Dead battery</td>
<td>Replace battery</td>
</tr>
<tr>
<td></td>
<td>Cord not connected securely</td>
<td>Check connections</td>
</tr>
</tbody>
</table>
If you do not have prior experience with a metal detector, we strongly recommend that you:

1) **Adjust the Sensitivity to a low setting in the event of false signals.** Always begin use at a reduced sensitivity level; this device is designed to work “into-the-noise”, so expect chatter at high sensitivity.

2) **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 searchcoil away from appliances such as computers, televisions and microwave ovens. If your detector beeps erratically, turn off appliances and lights.

3) **Use a 9-volt ALKALINE battery only.** Do not use Heavy Duty Batteries.