*The powerful, all-terrain solution for locating deeply buried relics, coins and jewelry!*


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AT PRO Owner's Manual

AT™ PRO

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**Owner's Manual**

# THANK YOU FOR CHOOSING GARRETT METAL DETECTORS!

Congratulations on the purchase of your new Garrett *AT Pro*™ metal detector. This enhanced metal detector has been specifically designed for use in more challenging environments such as mineralized grounds and iron-cluttered relic and coin hunting areas.

The *AT Pro* includes Garrett's exclusive Target ID technology and patented discrimination features. Two indicator scales allow you to see the detector's discrimination setting (Lower Scale) as well as the analysis of each target (Upper Scale). In addition, a Digital Target ID scale provides a more specific target value. The *AT Pro* also features High Resolution Iron Discrimination (40 points) for separating desirable targets from iron junk in cluttered areas, several advanced audio features and a standard 8.5" x 11" elliptical Double-D searchcoil engineered for optimum performance in more challenging mineralized soils. In addition, the *AT Pro* can be operated in a very user-friendly Standard (STD) Mode or in a more advanced PRO Mode for experienced hunters.

Backed by more than 45 years of extensive research and development, your Garrett *AT Pro* metal detector is the most advanced of its kind in the industry. Whether you are experienced or a beginner, this machine is well suited for a wide variety of detecting environments. The *AT Pro*'s advanced features are designed for the expert treasure hunter but its Standard Mode can be easily operated by the beginner.

In order to take full advantage of the special features and functions of the *AT Pro*, you are urged to carefully read this instruction manual in its entirety.

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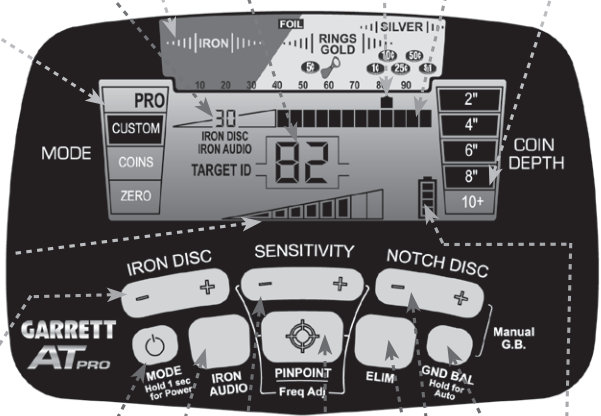
# *AT Pro* CONTROL PANEL




**Target ID Legend** indicates metal types.

**Digital Target ID** (also shows ground balance settings while in GND-BAL mode.)

**Target ID Cursor** indicates probable target identity.

**Lower Scale** indicates notch discrimination pattern.

**High Resolution Iron Discrimination** indicates level of iron discrimination selected.

**Coin Depth Indicator** indicates depth of coin-sized target.

**Mode Indicator**

**Sensitivity Setting**

**Iron Disc Pushbutton** Use (+) or (-) to change iron discrimination level.

**Iron Audio** Use to hear discriminated iron.

**ON / OFF Power:** hold 1 second to turn power on/off.
**MODE:** push quickly to toggle between detection modes.
**RESET:** hold 5 seconds to restore factory settings.

**SENSITIVITY Pushbutton** increases or decreases sensitivity.

**PINPOINT / Frequency Adjust Pushbutton** Press and hold to pinpoint or use with SENSITIVITY (+) or (-) to change frequency.

**ELIM and NOTCH DISC Pushbuttons** Use NOTCH DISC (+) or (-) to select a cursor. Then use ELIM button to set its discrimination on or off.

**GROUND BALANCE Pushbutton** Press and hold for fast auto ground balance or use with NOTCH DISC (+) or (-) for manual ground balance.

**Battery Level Indicator**

## QUICK START GUIDE

**1. Install batteries.**

The *AT Pro* operates with four (4) AA batteries which are already installed by Garrett.

**2. Power ON.** 

Press and release the ON / OFF Power button. The *AT Pro* powers on in the last mode used and is ready to search. (Factory default mode is Coins.)

**3. Select Mode.** 

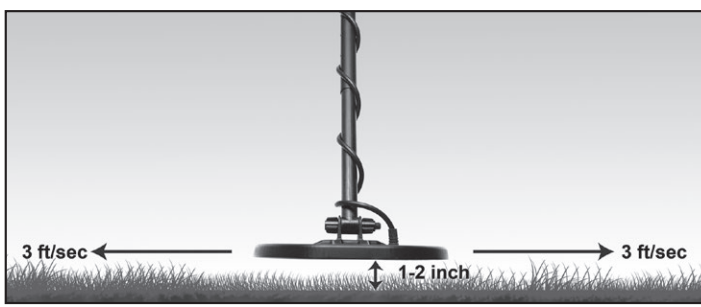

Use the Mode Pushbutton to select a different detection mode, when desired.

**4. Adjust settings.**

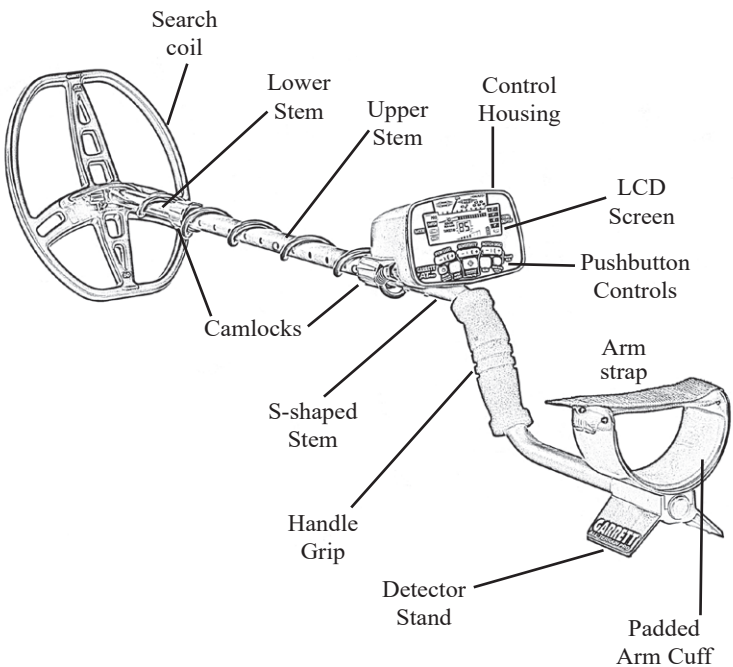
Adjust Sensitivity or Discrimination settings, if desired.

**5. Begin scanning.**

Lower the searchcoil to 1 to 2 inches above the ground and scan the coil left and right at approximately 3ft/second.



## *AT Pro* COMPONENTS



## LIST OF PARTS

No tools are required to assemble the *AT Pro*. Four (4) AA batteries are included with the detector. The box for your detector contains the following parts:

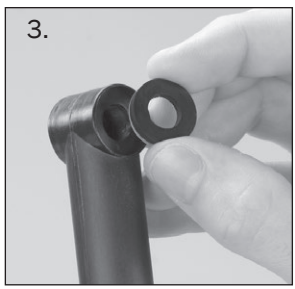
❶ One (1) control housing with S-shaped stem
❷ One (1) upper stem and one (1) lower stem connected, with camlock fasteners
❸ One (1) wing nut, two (2) mounting washers and one (1) threaded bolt
❹ One (1) 8.5" x 11" DD searchcoil
❺ Owner's manual
❻ Warranty Card
❼ Headphones

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

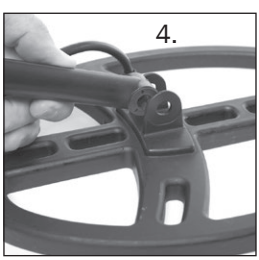
## ASSEMBLY

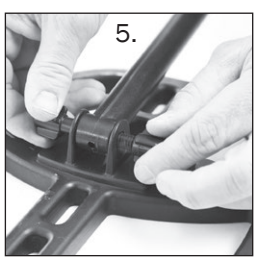
1. Holding the upper and lower stem assembly in front of you (as shown below), twist camlock to the right (clockwise) to loosen.
2. Slide lower stem out to engage spring clips in upper stem holes.
3. Align the holes in the mounting washers with the small posts on the lower stem and press firmly into place.

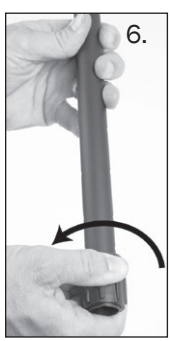





4. Slide the searchcoil onto the stem.
5. Insert the threaded bolt through the holes of the lower stem and searchcoil. Hand-tighten searchcoil assembly with the wing nut.
6. Holding assembly as shown, loosen camlock at the end of the upper shaft by turning counter-clockwise.
   Note: If the camlock collar slides off during loosening, simply slide it back on and tighten slightly.

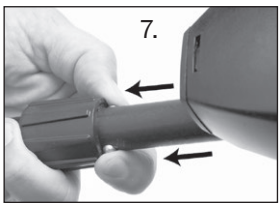


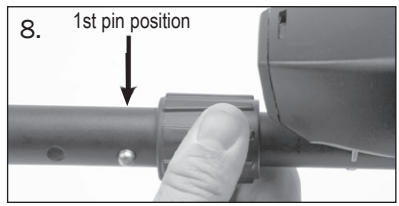



7. Depress the spring clip in the S-stem (containing control housing) and insert S-stem through the upper camlock collar into the upper stem.

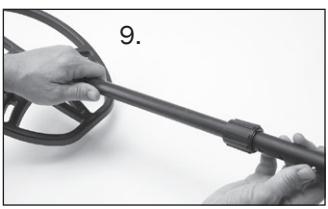
8. The spring clip must be engaged in the FIRST stem opening in order to maintain battery compartment access. Hand-tighten the camlock collar. Do not overtighten!

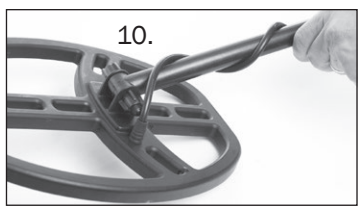



9. Depress the spring clip in the lower stem and adjust to the most comfortable operating length. Hand-tighten the lower stem camlock collar. Do not overtighten!

10. Wrap the cable snugly about the stem with the first turn of the cable over the stem.

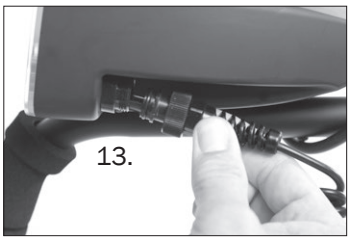



11. Insert the coil connector into the 4-pin connector of the control housing and hand-tighten. After lining up the connector pins, press the connector in firmly, yet carefully, until the O-ring is felt to be fully inserted.

Note: If the O-ring is properly seated, the connector's collar can be easily tightened; if the collar is difficult to turn, the O-ring may not be seated properly.

12. If needed, adjust the arm cuff by removing the screw on the bottom. Move the two-piece cuff to the other hole, reinsert the screw through the headphone cable clip, and tighten.

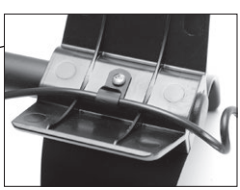




13. If desired, attach headphones to the 2-pin connector of the Control Housing. After lining up the connector pins, press the connector in firmly, yet carefully, until the O-ring is felt to be fully inserted.

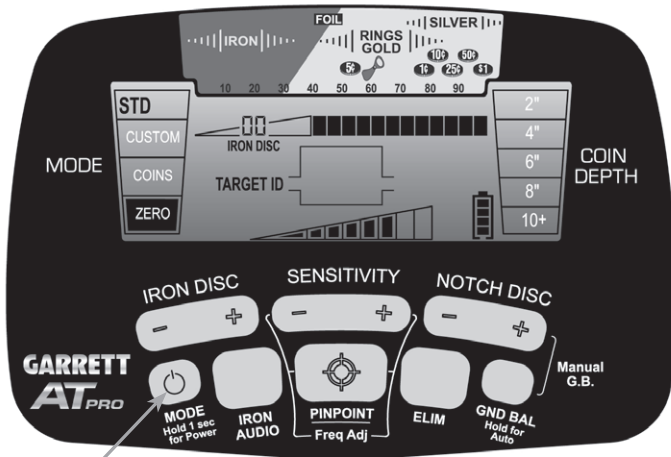
14. Secure the headphone cable under the detector's arm cuff by pressing the cable into the headphone cable clip.

    Note: Headphones are not required but are desired by many hunters to hear faint targets. Connecting the headphones will silence the detector's speaker.

    Note: The provided headphones are for dry use only; see page 55 for optional waterproof headphones.

## POWERING ON




ON/OFF Power and MODE Pushbutton

**Switch the detector on with the power button.**
Press and release to switch the unit ON and resume hunting with the same settings used prior to switching the unit OFF.

**To turn off the detector,** press and hold this pushbutton for one (1) second (until the detector produces a second beep).

**To restore the factory settings,** press and hold the power button for 5 to 10 seconds (until the detector produces a fast double beep).

## SEARCH MODES

The *AT Pro* includes six detection modes: three Standard (STD) Modes and three Professional (PRO) Modes. It is recommended to begin searching with one of the Standard Modes to become familiar with the *AT Pro* before switching to the more advanced audio features provided by the Pro Modes.

**Tap the Mode button to scroll through the six modes**: the modes are Custom, Coins or Zero in the STD Mode and Custom, Coins or Zero in the PRO Mode.

- **Overview of STD Mode vs PRO Mode**

In its Standard (STD) Mode, the *AT Pro* provides a full-strength audio response regardless of a target's amplitude. Many detectorists prefer this consistent, unambiguous, binary (either on or off) target response. The *AT Pro*'s Standard Mode operates in this clean, binary response format in which the target's dominant conductivity is reported by a single tone. This mode offers "quieter" or more stable operation and is preferred by many beginners.

For those who want to hear more target information, Garrett offers a Pro Mode. The benefits of operating in Pro Mode include the ability to hear a target's size and depth via the Proportional Audio and conductivity changes via Tone Roll Audio. Pro Mode also offers faster recovery speed for separating adjacent targets. The advanced audio features of Pro Mode are intended for more skilled users who wish to hear the true signature of targets versus the simpler target response provided in STD Mode.

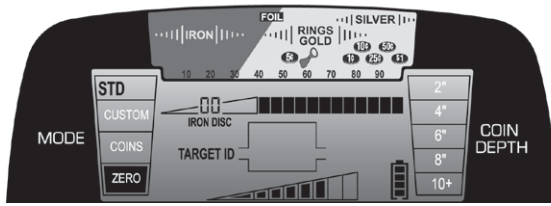
## STANDARD (STD) DETECTION MODES

In the STD modes, the *AT Pro* produces a full-strength binary audio beep to indicate a detected target. Standard detection mode operation is ideal for learning the *AT Pro* because of its consistent audio signals. Detected targets are heard at the same full-strength beep regardless of their size or depth.

Three discrimination patterns are available in the Standard Mode: Zero, Coins or Custom.

Note: These three discrimination patterns are the same in either Standard or Pro modes.

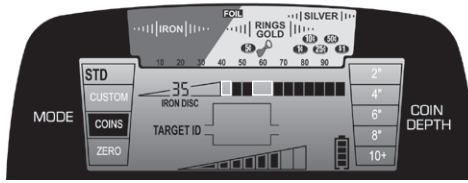
- **ZERO Mode**




Designed to detect every type of metal; use ZERO mode to find all metal items or when the material of the desired object is unknown. All 12 discrimination pixels are switched on and High-Res Iron Discrimination is set to 0 (zero)—indicating that no metal targets have been eliminated.

Switch to the ZERO Mode to aid in locating a target when its signal is inconsistent. Such signals could mean the target is made of iron or a trash target is close to a good target.

- **COINS Mode**




Designed to find most types of coins, jewelry, etc., while eliminating trash items such as iron and foil. High-Res Iron Discrimination level has been preset to 35 to exclude most iron targets. In addition, one pixel of foil and two pixels in the pulltab range have been excluded. Be aware that most pulltabs and pieces of tabs have not been eliminated from detection as these trash items have conductivities similar to small coins and jewelry.

- **CUSTOM Mode**

This mode can be customized by the operator and the *AT Pro* will retain the changes when the detector is switched off. The factory preset for the CUSTOM Mode is the same as the COINS Mode (see above). Begin with this discrimination pattern and then use IRON DISC and NOTCH DISC pushbuttons to customize the discrimination settings.

**Note:** Changes made to the ZERO or COINS modes will not be retained after the detector is switched off. *(For information on the use of IRON DISC and NOTCH DISC, see pages 22–26.)*

## PRO DETECTION MODES

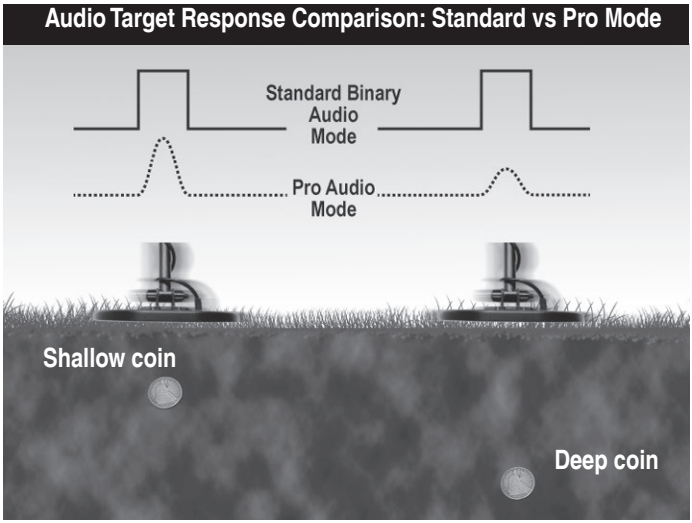
Zero, Coins or Custom have the same discrimination patterns as in STD Mode. In PRO Mode, however, the *AT Pro* utilizes its Pro Audio functions—including Proportional Audio and Tone Roll Audio—to offer more target information.

The Pro Mode audio provides more target information and faster recovery speed for separating adjacent targets. This is especially important in areas where good targets may be scattered amongst iron trash.

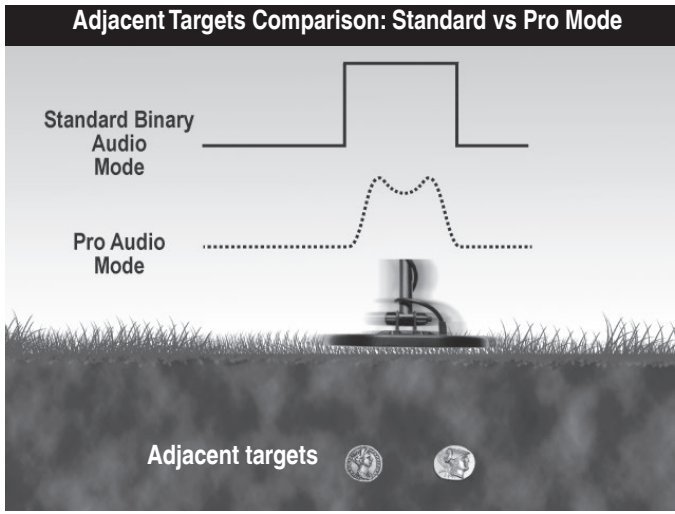
Pro Mode audio by its nature creates more audible chatter than Standard Mode. This is normal because of the additional sensitivity of Pro Mode. The audio depth can exceed Target ID depth in Pro Mode so it is possible to hear deep targets that do not register a Target ID.

### Proportional Audio (Pro Mode)

Proportional audio response means that the loudness of the target's response is proportional to a target's signal strength. This allows the user to hear subtle changes in a target's response. Proportional audio response also allows the user to better judge a target's size, shape and depth and has the additional benefit of faster recovery time for separating adjacent targets.



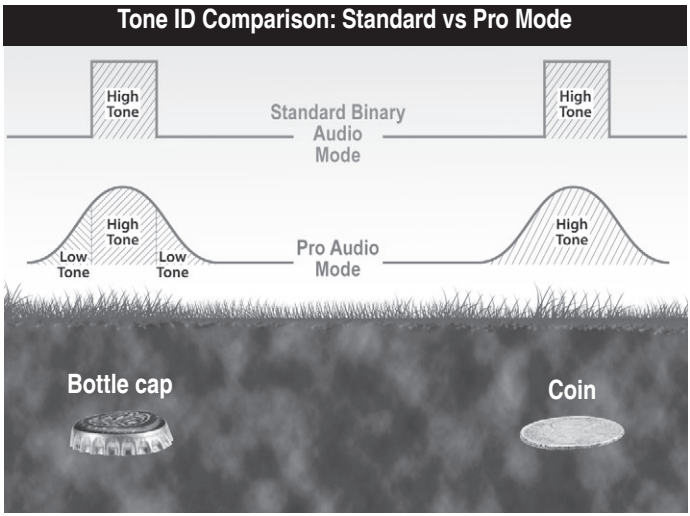

Notice the differences in Standard binary audio versus PRO audio in the two target scenarios above. The binary audio gives a solid, consistent beep for both the shallow and the deep coin. In contrast, PRO Mode's proportional audio provides a stronger signal for the shallow coin and a softer signal for the deeper coin. The actual profile, or signature, of the target's response is heard, thereby providing more information.




These two adjacent coins would produce one strong signal while in STD Mode. In PRO Mode, the proportional audio provides two peaks of audio response to allow the user to identify multiple targets.

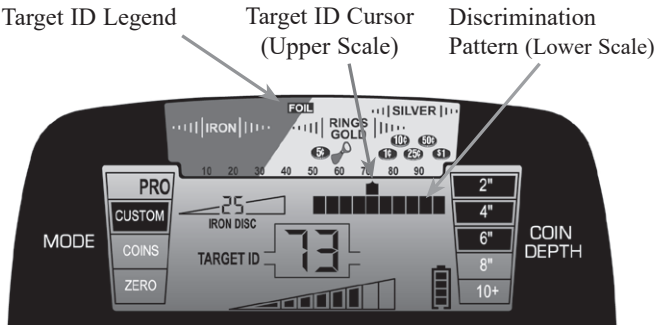
**Tone Roll Audio (Pro Mode)**

This feature of Pro Mode provides the user with more audible target information to help identify targets, particularly flat iron objects, such as bottle caps and washers. Standard Mode audio produces a single tone based upon the target's strongest signal. For flat iron objects, this single tone is often the same as a good target. Tone Roll Audio, however, provides a variance of target tones as the searchcoil approaches and passes over the target. These varying tones of audio provide better overall target information and identification.




While in STD Mode, bottle caps, steel washers and other flat iron objects often sound like good targets, producing a high tone response. This is because the bottle cap's shape and flat surface resembles a coin which can trick the detector. In PRO Mode, however, the bottle cap will produce a very distinctive response with multiple tones. As shown, the bottle cap will produce a distinctive response of Low-High-Low as compared to the coin's response of only High tone.

## TARGET ID INFORMATION




**Target ID Legend**—Works in conjunction with the Target ID Cursor to indicate a target's probable identity. Ferrous (iron) targets will indicate on the left half, non-ferrous targets that are thin or have low conductivity will indicate in the middle, and thick or high conductivity targets (e.g. thick silver) will indicate at the right.

**Target ID Cursor (Upper Scale)**—The Target ID cursor, in conjunction with the Target ID Legend, indicates the probable identity of a detected target. The upper scale consists of twenty (20) graphic segments for Target ID.

**Lower Scale**—The lower scale, or Notch Discrimination Scale, continually indicates the discrimination pattern. The *AT Pro* will produce an audible target response for the pixels that are switched on, and no audible response for those that have been switched off. The Target ID Cursor will always indicate all targets.

The discrimination pattern can be adjusted *(as described in the "Discrimination" section)*.

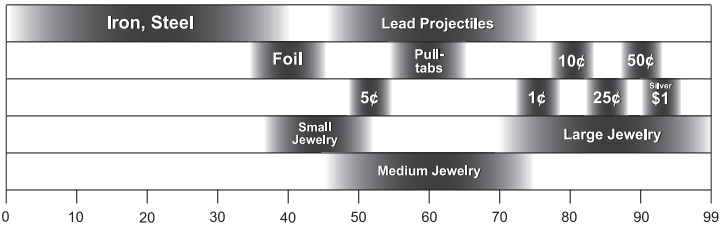
# DIGITAL TARGET ID


The *AT Pro*'s Digital Target ID system provides a specific target value to help identify targets more precisely. Targets are identified on the LCD by number, with items near 1 being the most ferrous. The most conductive targets (such as thick silver) register closer to 99.

The Digital Target ID is a more precise version of the Target ID Cursor shown in the Upper Scale. Each Target ID Cursor has a width of 5 digital points. For example, a Digital Target ID of 73 will light the cursor from 70 to 75.

This system, when used in conjunction with the audio target signals, provides you with more information. The sample chart on the following page provides Digital Target ID ranges of some commonly found items.

It is important to note that while operating in the PRO Mode, the Pro Audio depth can exceed Target ID depth (i.e. faint targets at depth can be heard without providing any Target ID).




Note: Target values can vary based on the orientation of the target in the ground, amount of ground mineralization, etc. It is important to practice in the field to learn how these factors can affect Target ID.

## TONE ID

The Tone ID feature produces three distinct audible tones based on a target's metal type and conductivity:

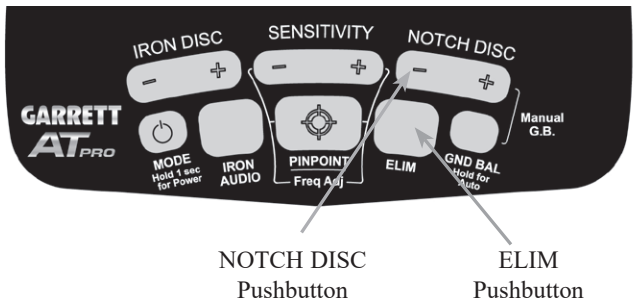
Low-Tone: Ferrous targets such as nails, iron, steel, etc.

Medium-Tone: Small, thin targets that are non-ferrous, such as small jewelry, foil, and some very thin, hammered coins.

High/Bell Tone: Non-ferrous targets with medium to high conductivity, including most coins and jewelry. ***Note:*** PRO Mode produces a high tone; STD Mode produces a bell tone.

## DISCRIMINATION

**Notch Discrimination**—The *AT Pro*'s NOTCH DISC pushbuttons are used in conjunction with the ELIM pushbutton to eliminate trash objects from detection such as foil or pull-tabs.

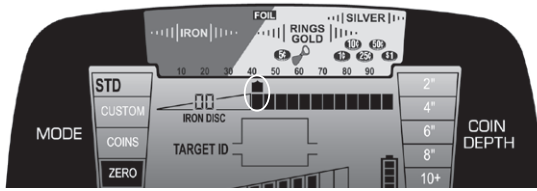



The *AT Pro* has 12 pixels or "notches" of discrimination (in addition to the 40 points of High-Res Iron Discrimination). Any combination of these pixels can be switched on or off based upon your preference. There are two primary methods for modifying the Notch Discrimination Pattern to reject a specific type of trash or unwanted item.

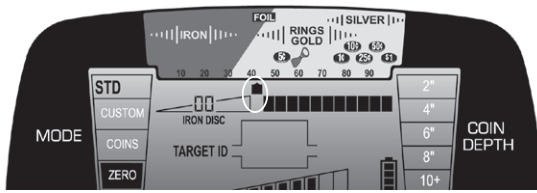
The first method uses the NOTCH DISC and ELIM pushbuttons *(seen above)* to manually modify the Lower Scale's Notch Discrimination pattern.

Use the (+) or (-) NOTCH DISC pushbuttons to move the Target ID cursor to the left or right. Next, press the ELIM pushbutton to eliminate or activate the pixel located on the Lower Scale, directly below the Target ID cursor. *(See illustrations on next page.)*

**Example: Manual Modification of Notch Discrimination Pattern**




Use the NOTCH DISC buttons to position the Target ID Cursor above the pixel you wish to eliminate *(see above illustration)*. Use the ELIM pushbutton to delete this pixel from the Lower Scale *(see below)*. This item is now rejected.




The second method of modifying the Notch Discrimination pattern involves the use of only the ELIM pushbutton. When an unwanted target is audibly detected while hunting, simply push the ELIM button to create a notch at that Target ID Cursor. The next time the *AT Pro* encounters the same trash item, it will not produce an audible signal.

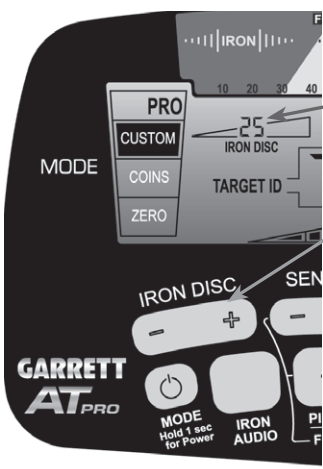
The *AT Pro*'s ELIM pushbutton can also be used *to find specific metal items*. For example, if an earring has been lost, scan the matching earring with the *AT Pro* while in the ZERO mode. Note where the Target ID cursor appears when the earring is scanned. Next, use the NOTCH DISC and ELIM pushbuttons to switch off all the pixels except the one for the earring.

*Note:* Depending upon how the lost earring is laying in the ground, its Target ID may shift a little; therefore, your ability to find it will be enhanced by turning on an additional pixel

on either side. The *AT Pro* is now programmed to find the missing earring based on the conductivity of its matching pair.

Note: The notch discrimination function can be used to modify each Mode's discrimination pattern. Notch Discrimination modifications made while in CUSTOM (either in Standard or Pro mode) will be retained when the detector is switched OFF. However, all changes made to the Notch Discrimination pattern while in ZERO or COINS modes will return to the factory settings when the detector is switched OFF and back ON again.

**Iron Discrimination**—The *AT Pro* features a high-resolution iron discrimination adjustment. This additional resolution allows more precise control of how much iron discrimination can be applied. The level can be adjusted from 0 (no iron discrimination) to 40 (maximum iron discrimination).

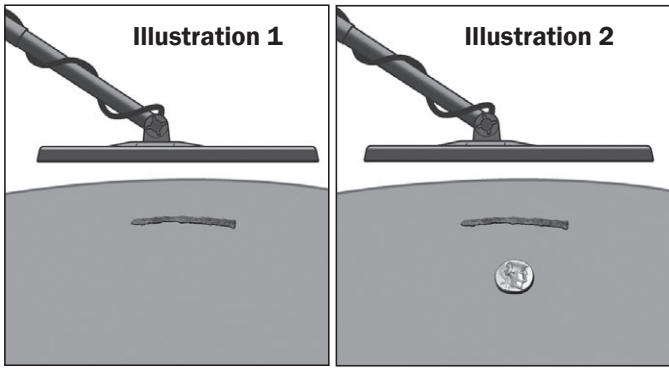



High-Resolution Iron Discrimination Setting

IRON DISC Pushbutton

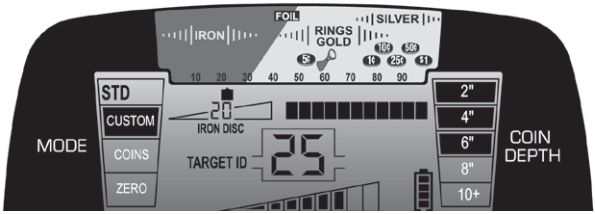
Use the (+) or (-) IRON DISC pushbuttons to adjust the Iron Discrimination up or down. The small two-digit number above the words "IRON DISC" on the LCD indicates the iron discrimination setting.

The examples shown below illustrate how an iron object can often "mask" out the signal of an adjacent good target when too much iron discrimination has been applied. Using the *AT Pro*'s High-Res Iron Discrimination, apply just enough iron discrimination to reject the undesired iron nail shown in this example. By using only a minimal amount of iron discrimination, the detector will detect the combined conductivity of the coin and nail together thus overcoming the potential "masking" problem.

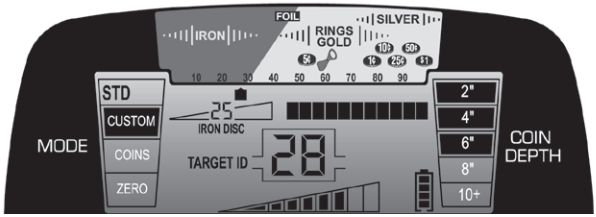



Iron targets, such as the nail shown in Illustration 1, can sometimes mask a good target's signal. If too much iron discrimination is applied, the good target *(seen in Illustration 2)* can be missed. Read page 26 to learn how to apply the proper amount of iron discrimination to eliminate the nail shown in Illustration 1 and still detect the good target shown in Illustration 2.

**Example: Detecting Targets in Trash with High-Res Iron Discrimination**



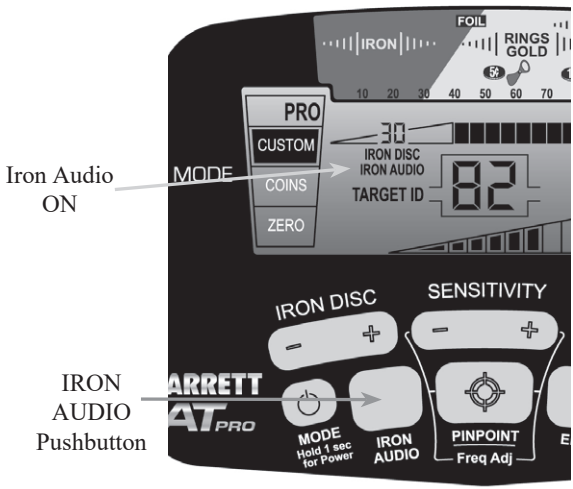

In the illustration above, the *AT Pro* is operating with an IRON DISC setting of 20. The nail seen in Illustration 1 (on page 25) registers from 10 to 25 on the Digital Target ID scale. To eliminate the nail from detection, increase the iron discrimination level to 25 using the IRON DISC (+) pushbutton.




In Illustration 2, the same iron nail is laying above a good coin target. Since the Iron discrimination level is set to 25, the nail by itself would not be detected; however, the two objects have a combined conductivity of more than 25.

Therefore, the good target is detected due to the combined conductivity being higher than that of the discriminated target (nail) alone.

# IRON AUDIO

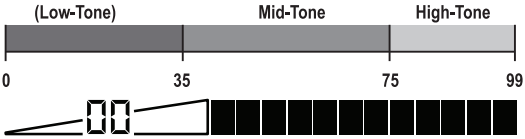



Press and release the IRON AUDIO pushbutton to switch the Iron Audio feature ON/OFF. When this feature is on, the words "IRON AUDIO" appear on the LCD *(as shown in the illustration above)*. The Iron Audio feature can be used in any of the *AT Pro*'s six modes.

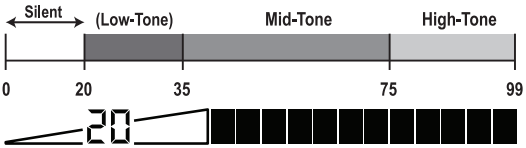
Scattered iron objects in the ground can mask good targets and even create “ghost signals” that appear to be a good target. Garrett’s selectable Iron Audio feature allows the user to hear discriminated iron (normally silenced) in order to know the whole picture and avoid being tricked into digging an undesired target.

Iron Audio also allows adjustment of the mid-tone’s range to include all targets above the iron discrimination setting. The user is adjusting the cut-off between low-tone iron targets and mid-tone targets to better distinguish good targets.

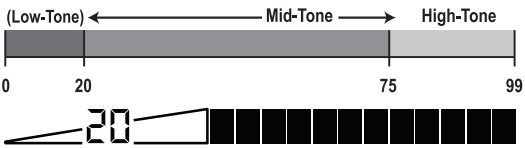
Refer to the illustrations below regarding the use of the Iron Audio feature:



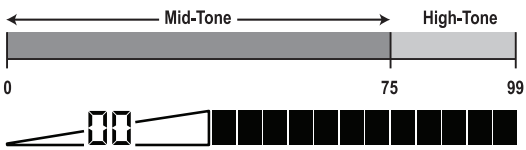

IRON AUDIO OFF: Normal division of low, mid and high tones.




IRON AUDIO OFF: With the Iron Discrimination set to 20, all targets below 20 are silent.




IRON AUDIO ON: Targets below 20 are now heard as a low tone and targets above 20 will produce a mid or high tone.




IRON AUDIO ON: With zero discrimination utilized and with Iron Audio ON, *AT Pro's* low tone is eliminated. The mid-tone extends down to 0.

When Iron Audio is on in the PRO Mode, iron targets will not only be heard, but they will produce an even more distinctive response with multiple tones. For example, a nail will produce several fast low tones as the searchcoil passes over. A flat

iron object like a bottle cap or steel washer will produce a very distinctive Low-High-Low response.

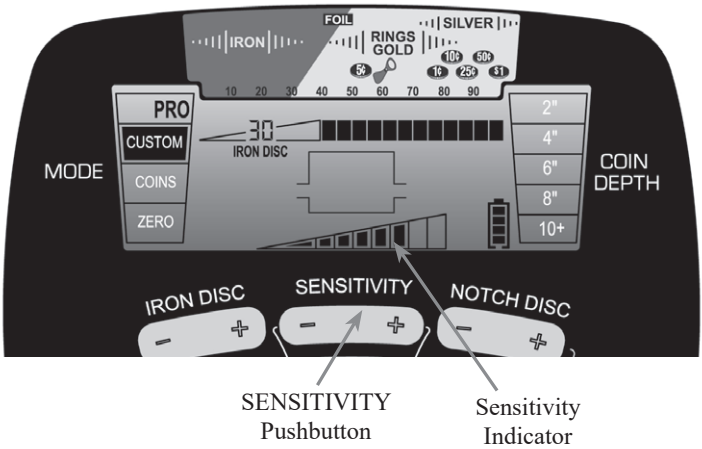
If zero discrimination has been applied, the use of Iron Audio will simply eliminate the low tone.

**Tip for using Iron Audio:** In areas with high concentrations of iron, it is recommended to switch off Iron Audio. Otherwise, it may produce far too many signals. Then, if a target is detected that has a questionable or inconsistent response, switch on Iron Audio to check if it is iron.

To fully appreciate the additional information offered by the Iron Audio feature, conduct the following experiment. Start with the *AT Pro* in Standard (STD) Zero Mode and pass the searchcoil over a bottle cap which is lying flat on the ground. Note that the target response is consistent with the audio of a good target.

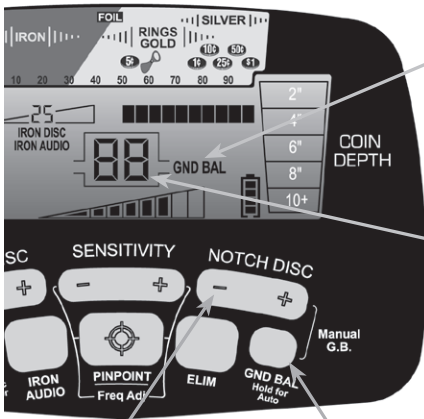
Then, switch the detector into PRO Zero Mode and pass the searchcoil over the bottle cap again. Note the subtle low tones at the beginning and end of the target response, indicating a questionable target that might be made of iron. Finally, set IRON DISC to 35, switch on Iron Audio and pass the coil completely over this target again. The distinctive Low-High-Low response now indicates a target that is unmistakably iron.

## SENSITIVITY




The *AT Pro* has eight (8) settings for sensitivity. Use the (+) or (-) SENSITIVITY buttons to step through the eight levels, which are continuously shown on the LCD.

Use higher sensitivity levels when searching for very small or very deep targets. Use lower sensitivity levels in locations where the detector is behaving erratically due to excessive metallic trash, highly mineralized soils, saltwater beaches, electrical interference or the presence of other metal detectors.




GND BAL Indicator (only displays on LCD when in use)

GND BAL Setting (only displays while in Ground Balance mode)

NOTCH DISC Pushbutton (use with GND BAL)

GND BAL Pushbutton

**GND BAL Pushbutton**—Hold for Automatic Ground Balance or use in conjunction with the NOTCH DISC pushbuttons for Manual Ground Balance.

Detector performance can be negatively affected by ground mineralization. The *AT Pro* can be ground balanced either automatically or manually to cancel unwanted ground signals and obtain maximum stability and target detection.

*Automatic Ground Balance:* Press and hold the GND BAL pushbutton while continually "bouncing" or "pumping" the searchcoil from 1 to 8 inches above the ground. When there is a minimal audio response from the ground, release the pushbutton and begin hunting. The ground balance value will have been indicated in the center of the LCD. Low ground

balance values indicate conductive soil; high ground balance values indicate ferrous soil.

*Manual Ground Balance:* You may want to use the Manual Ground Balance function to ground balance slightly positive to enhance detection of small targets or balance slightly negative to reduce detection of "hot rocks," terra cotta and saltwater.

Press and release the GND BAL pushbutton and continually bounce (pump) the searchcoil from 1 to 8 inches above the ground. If low tones are produced, increase the Ground Balance setting using the (+) NOTCH DISC pushbutton. If high tones are produced, decrease the setting using the (-) NOTCH DISC pushbutton. Press and release the (+) or (-) NOTCH DISC pushbuttons to make single-step adjustments, or press and hold to make large adjustments.

Continue bouncing the coil and making adjustments until a minimum audio response is obtained, indicating the detector is ground balanced. The Ground Balance setting will be indicated on the LCD.

Press and release the GND BAL pushbutton again to exit Manual Ground Balance mode. The Ground Balance setting will be retained when the detector is switched OFF.

Typical Ground Balance Ranges:

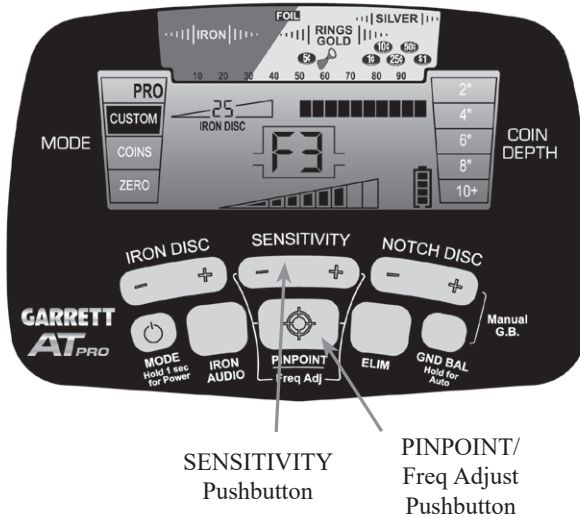
80–99: Highly ferrous (magnetite, ferrous oxide minerals, black sands, hot rocks, terra cotta)

60–80: Moderately mineralized soils (red clay, brown clay, iron-bearing clay minerals, etc.)

20–60: Likely an iron object

0–20: Highly conductive, non-ferrous minerals such as saltwater

# FREQUENCY ADJUSTMENT




Use the PINPOINT/Freq Adj pushbutton in conjunction with the (+) or (-) SENSITIVITY pushbuttons to adjust frequency.

The *AT Pro* is capable of operating at four slightly different frequencies in order to minimize the interference caused by electrical sources (e.g. power lines) or other metal detectors.

To see current frequency setting, hold down the PINPOINT button and press the (+) or (-) SENSITIVITY pushbuttons. Tap one of the SENSITIVITY pushbuttons again to change the frequency to find one with the least amount of interference. The frequency setting (F1–F4) will be indicated on the LCD. Release the PINPOINT button when finished.

Note: Frequency adjustments are small and therefore do not affect target detection capabilities.

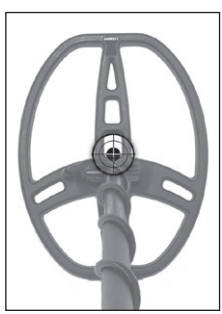
## PINPOINTING

*Press and hold the Pinpoint pushbutton to determine the exact location of a target.* To use the pinpoint function, position the searchcoil to the side of the target's suspected location at a fixed height above the ground (e.g. 1 inch). Press and hold the Pinpoint button and sweep the searchcoil over the target area while maintaining the same fixed height above the ground (e.g. 1 inch). Sweep the searchcoil side-to-side and front-to-back in a crosshair pattern to locate the peak signal. Note: it is recommended to maintain a constant height during the entire Pinpointing process to prevent ground mineralization from producing false signals or masking the target's signal.

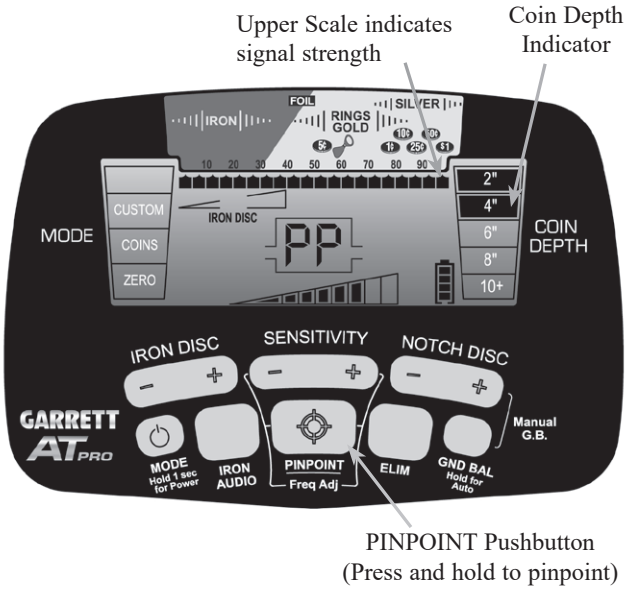
The bar graph on the LCD can also aid in locating the peak signal. When pinpointing, the Upper Scale on the LCD Screen indicates signal strength. When the greatest number of LCD segments (increasing left to right) are shown, the center of the searchcoil is directly over the target with the depth of a coin-sized target shown on the depth scale. The symbol "PP" for pinpoint is displayed on the LCD while pinpointing.

It is recommended to practice pinpointing in a test plot.

***Note:*** The center of detection is under the center of the coil, just ahead of its stem mount. The opening just ahead of the stem mount can serve as your reference point for pinpointing.



Indicates pinpointing center of the 8.5" x 11" searchcoil.




Traditional pinpointing technique using Pinpoint pushbutton.

***Note:*** For best pinpointing results, maintain a constant height above the ground (e.g. 1 inch) and ensure that the detector is properly ground balanced.

**Tip for narrowing the detection area:** Large targets can produce wide signals while pinpointing, making it difficult to precisely locate the target's center. To help pinpoint, the detector can be retuned to the target to narrow the detection field as follows.

While holding down the Pinpoint pushbutton, move the coil toward the target until the LCD just reaches a full-scale response. Then, quickly release and depress the Pinpoint button again to retune the detector and narrow its detection field. Continue moving the searchcoil toward the target to find its central peak response. If needed, repeat the retune process to further narrow the target's response.

A quality hand-held pinpointer such as Garrett's *Pro-Pointer* is a recommended accessory item to speed the target recovery process and to aid in locating secondary targets.

**Coin Depth Indicator**—The depth of a coin, or similar sized target, is indicated in 2-inch increments. Note: targets *larger* than a coin may display shallower than actual depth while targets *smaller* than a coin may display deeper than actual depth.

• **Alternative pinpointing technique: DD-tip or tail**. In the standard pinpointing method described on pages 34, the target is pinpointed beneath the center of the searchcoil. Some detectorists using DD coils prefer to pinpoint off the tip or tail of the searchcoil.

**Image A**


⊕ Indicates target position

**DD "tip" pinpointing technique**

Press and hold the Pinpoint pushbutton and sweep the searchcoil side-to-side to center the target (the point where the strongest audio response is heard and the maximum signal strength is displayed on the LCD).

Then, pull the searchcoil slowly toward you *(see Image A)*, while noting the target signal.

**Image B**

Once the target signal drops off (both audibly and on the LCD meter), shallow targets should be located immediately in front of the searchcoil's tip *(see Image B)*. Deep targets will be under or just inside your searchcoil's tip. This is because the conical shape of the searchcoil's detection field begins bending in slightly as the depth increases.

You can reverse this pinpointing technique to pinpoint off the DD coil's tail; in this case, push the coil away from you. The audio and LCD meter will place the target just off the searchcoil's tail.

• **Alternative pinpointing technique: DD-wiggle**. Quickly locate targets *without using the Pinpoint button* as follows. Continuously swing the searchcoil side-to-side using fast, narrow swings of 2 to 4 inches (i.e. wiggle). While continuing this side-to-side wiggle, slowly move the searchcoil sideways toward the target's suspected position until the audio response produces a consistent, symmetric beat. This indicates the lateral left-to-right position of the target. Then locate the target's front-to-back position by rotating around 90° and repeating the same process.

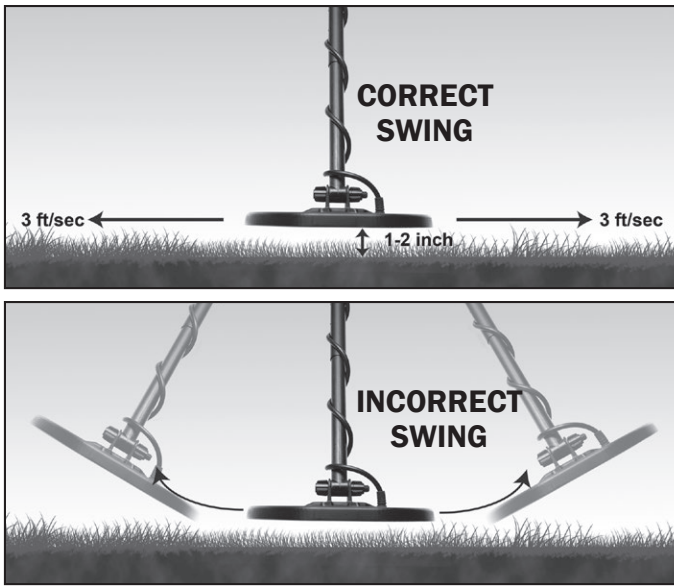
***Tip:*** Practice any or all of these various pinpointing options in your test plot. Choose the technique that works best for you. As you improve your pinpointing accuracy, you will dig smaller holes and increase your productive hunting time.

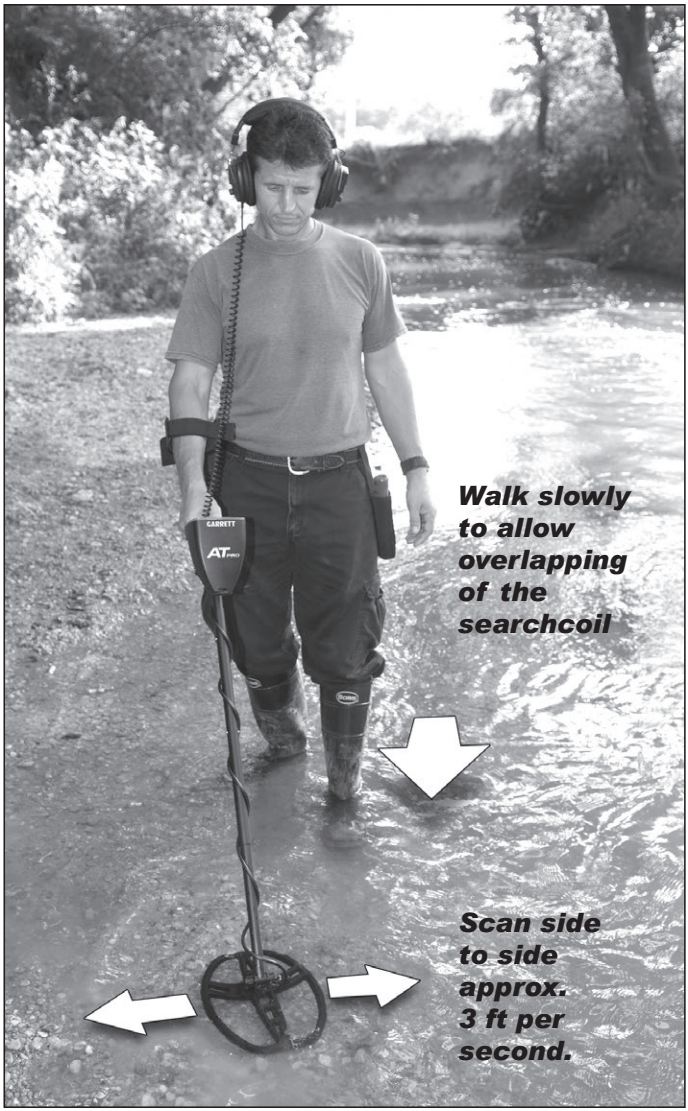
## HUNTING TIPS

- Begin hunting in STD Mode, then switch to PRO Mode after you have become more experienced.

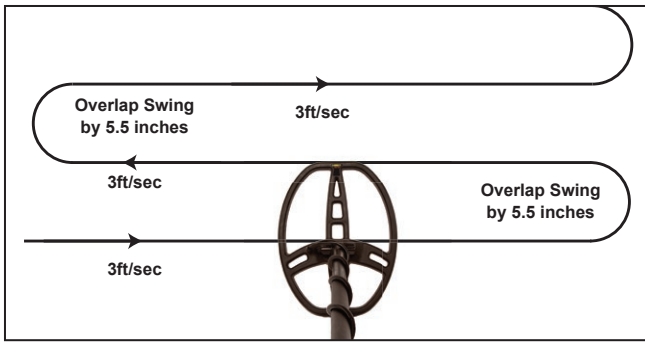
- If you are new to metal detecting, start searching in areas with sandy and loose soil to make it easier to learn how to use your metal detector, pinpoint and dig targets.

- Keep your searchcoil at a constant height of 1 to 2 inches above and parallel to the ground at all times for best detection results. Do not lift or tilt the coil at the end of swings.




GARRETT
AT PRO
Walk slowly to allow overlapping of the searchcoil
Scan side to side approx. 3 ft per second.

- Walk slowly as you scan your searchcoil in a straight line from side to side at a speed of about 2 to 5 feet per second. Advance the searchcoil about half the length of the searchcoil at the end of each sweep.




In order to fully search an area, overlap the swings of your searchcoil by half the length of the coil (about 5.5 inches). Sweep the searchcoil in a straight line or with a slight arc at a sweep speed of about 3ft/sec.

**Tips for saltwater use:** Hunting in a saltwater environment is challenging for any Continous Wave (VLF) metal detector. Saltwater is conductive and produces signals similar to foil. Although the *AT Pro* is not specifically designed for saltwater use, it can be used in this environment.

Proper ground balance is the most important step for stable saltwater operation. To achieve stable operation:

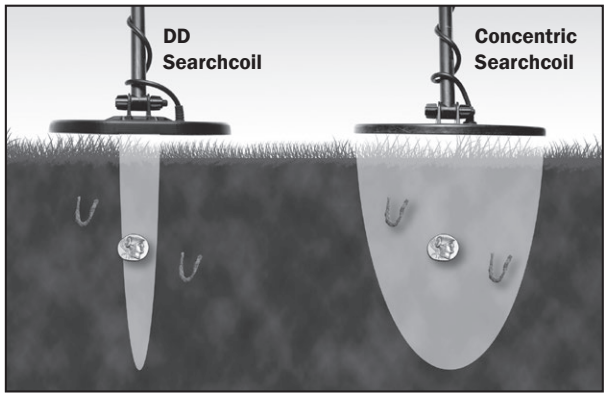
- First, Ground Balance the detector to the area that will be hunted (see pages 31–32). Saltwater beaches typically Ground Balance between 0 and 20.
- If necessary, reduce the Sensitivity until the signals become stable.
- Swing the searchcoil flat and at a constant height. Do not bounce the coil or lift the coil at end of swings.
- Swing the searchcoil parallel to the water's edge.

- The detector will be less stable in shallow, breaking surf where the searchcoil is in and out of the saltwater. In this area the detector is encountering a constantly changing environment produced by the surf, making it difficult for the detector to stabilize.

  To improve stability, negatively bias the ground balance by several points. To do so, simply press and release the Ground Balance button and use the (-) NOTCH DISC pushbutton to manually reduce the ground balance setting. For example, if the Ground Balance number was 11, reduce the Ground Balance number to 7 or 8. Introduce only enough negative bias to achive sufficiently stable operation. Reduce the detector's Sensitivity as needed. *Note:* While some background chatter may remain, the more definitive response of a target can be recognized.
- If necessary, notch out the first pixel under Foil. It is important to note that by notching out this pixel, detection of some small jewelry items will be reduced.

**Tips for locating targets amongst terra cotta/hot rocks:** Magnetic minerals such as hot rocks and terra cotta can mask the presence of good targets. In order to detect a good target, first ground balance the *AT Pro* to the terra cotta or hot rocks that are present. Be aware, however, that the combined Target ID might be very low (e.g. a bronze coin and terra cotta together may register between 10 and 15 on the Digital Target ID). Therefore, Iron Discrimination levels must be reduced in order to ensure detection of good targets covered by the terra cotta. The Iron Audio feature can also be used so that all targets above the point of discrimination produce either a medium or high tone (i.e. "good" targets).

• **Isolating adjacent targets**. The narrow detection field of the *AT Pro*'s DD searchcoil allows better separation of adjacent targets versus a similar size concentric searchcoil. Use narrow swings of the searchcoil in trashy areas to isolate good targets amongst the trash.



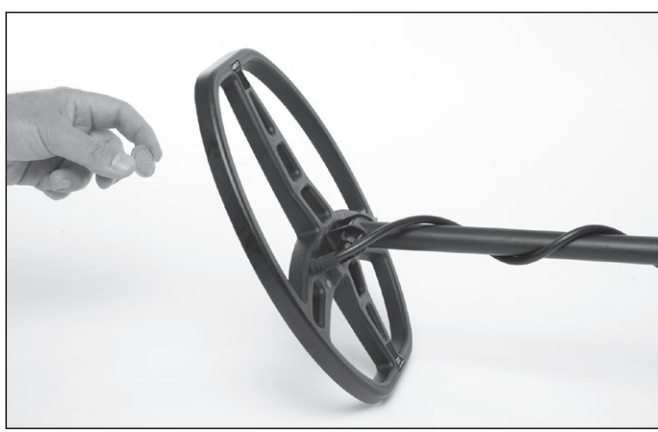

• **Swing your searchcoil parallel to plow lines and the water's edge.** This will minimize the negative effects caused by uneven ground in plowed fields and varying amounts of moisture near the water. Do not swing the searchcoil perpendicular to plow lines and the water's edge, as this may produce abrupt changes in ground response that can reduce the detector's performance.

## BENCH TESTS

You should conduct bench tests to become more familiar with the *AT Pro*'s operation in both Standard and PRO modes. In addition, the use of the Iron Audio feature should be tested in both Standard and PRO modes. Suggested test items should include:

- Coins
- Iron nail
- Bottle cap or steel washer

To conduct a bench test, place the searchcoil on a flat, non-metallic surface that is several feet from other metallic objects. Begin by testing in the STD Mode with the ZERO discrimination pattern. Pass the coins individually across the searchcoil at a distance of 3 to 4 inches. Listen to the audio tone that the detector produces for each coin while also observing the Target ID for each. Next, select the PRO Mode



For bench testing, place the searchcoil on a flat, stable, non-metallic surface that is several feet from other metallic objects.

with ZERO discrimination and pass the same coins across the searchcoil. Observe the sounds as well as the Target ID as each target is tested.

The proportional audio characteristics of the PRO Mode can be easily understood using such bench testing. Pass the coins across the searchcoil at distances that vary from 2 inches to 4 inches to 6 inches. In STD Modes, the test targets will produce a consistent, full-strength tone regardless of their distance from the coil.

***Discrimination bench test:*** A similar test procedure can be used to better understand how to set discrimination levels and the *AT Pro*'s advanced audio characteristics. Begin by testing the iron nail in the STD and PRO Modes with the ZERO discrimination pattern. Listen to the Low-Tone sound an iron object creates and note the Digital Target ID number it produces.

If the iron nail registers up to a 26 on the Digital Target ID, use the IRON DISC pushbuttons to move the Iron Discrimination setting up to 26. Pass the iron nail across the searchcoil again to verify that it has been eliminated. If not, raise the Iron Discrimination setting a little higher using the (+) IRON DISC touchpad until the iron target no longer produces an audible response.

Next, press the IRON AUDIO pushbutton and pass the iron nail across the searchcoil again. Test this target both in STD and PRO Modes with the Iron Audio feature switched on.

***Iron Audio bench test:*** Flat iron objects like bottle caps or steel washers can appear to be good conductive targets to detectors operating in the standard mode. To better understand the benefits of Iron Audio, use a bottle cap to test the *AT Pro*'s advanced audio features.

First, set the detector to Standard Mode with Zero discrimination and pass the bottle cap across the searchcoil

at a distance of 3 to 4 inches. Note that the bottle cap's flat surface gives a Digital Target ID reading in the 75–85 range and produces the high tone of a "good" target.

Next, switch to PRO Mode and pass the bottle cap across the coil again and notice the different audio. The clean sound heard in STD has been replaced with a mixed, chirping tone that has subtle low tones at the beginning and end, indicating a possible junk target. Pass a conductive, coin-sized target across the coil and note its clean high tone in comparison to that of the bottle cap.

Finally, remain in PRO Mode and set IRON DISC to 35 and switch on the Iron Audio feature. Pass the bottle cap completely across the coil again and note the high-tone chirp that is flanked by distinctive low tones on either side. Again, use a conductive, coin-sized target to compare its signature to that of a bottle cap in this PRO Mode Iron Audio setting. The bottle cap makes a response that is unmistakably iron.

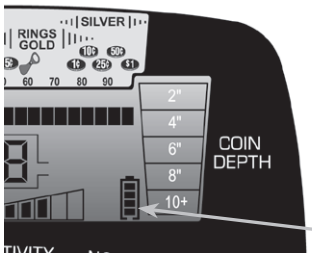
***Final tip:*** Record the results of your bench tests and refer to them when hunting in the field. Knowledge of the PRO Mode and the Iron Audio feature can reduce the amount of trash targets that are dug.

## UNDERWATER OPERATION

The *AT Pro* can be immersed in water to a 10-foot depth (maximum) to search in and along shorelines, rivers, piers, docks or swimming holes. Use of the *AT Pro* at depths exceeding 10 feet can cause leaks and damage the detector. Use of the *AT Pro* beyond the recommended depth will void the manufacturer's warranty. For use in saltwater, see tips on pages 41–42.

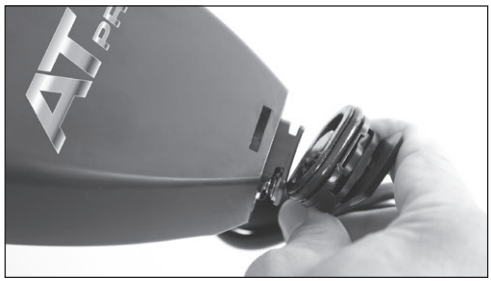
The *AT Pro* is shipped with headphones that include a waterproof connector and cable; do not, however, submerge the headset when searching along waterways. A fully submersible headset is available from Garrett as an optional accessory.

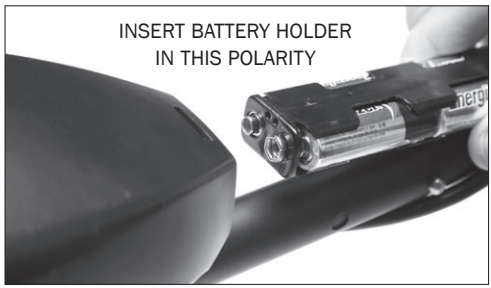
Waterproof headphones *(sold separately)* must be used if the headset is fully immersed in water.




**Battery Replacement**—The *AT Pro* is operating with fresh or fully charged batteries when 4 illuminated bars on the **Battery Level Indicator** *(see above)* are displayed. The detector will maintain full performance until the batteries need to be replaced. Replace batteries when there is only

Remove the battery cover by rotating the cover one-quarter turn in a counterclockwise direction. Grasp the cap by top and bottom and pull it straight back. Slide the battery tray out to replace the batteries.





one segment remaining. NiMH rechargeable batteries may be used. Expect 20 to 40 hours of operation depending on battery type and quality.

Access and replace the batteries by rotating the battery cover housing one-quarter turn counterclockwise. Pull and remove the cap to slide battery holder out. Remove batteries when the *AT Pro* will be stored for longer than 30 days.

The *AT Pro* is a rugged machine, designed for outdoor use in all environments. However, as with all electronic equipment, there are some simple ways to care for the detector to maintain its high performance.

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

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

- Disassemble the stem, and wipe it and the searchcoil clean with a damp cloth.

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

- It is best to use quality alkaline batteries. When changing batteries, be sure to replace with all new batteries for optimum performance.

- Replace protective cover on the connector when not using headphones.

# TROUBLESHOOTING GUIDE

| SYMPTOM | SOLUTION |
|---|---|
| No power | 1. Ensure batteries are installed in the correct position.<br>2. Replace all old batteries with all new batteries. |
| Erratic sounds or target ID cursor movement | 1. Ensure your searchcoil is securely connected with the O-ring properly sealed and that the coil cable is snugly wound around the stem.<br>2. If using the detector indoors, be aware that excessive amounts of electrical interference exists, plus excessive amounts of metal can be found in floors and walls.<br>3. Determine if you are close to other metal detectors or other metal structures such as electrical power lines, wire fences, benches, etc.<br>4. Adjust frequency.<br>5. Reduce your sensitivity setting. |
| Intermittent Signals | Intermittent signals typically mean you've found a deeply buried target or one that is positioned at a difficult angle for your detector to read. Scan from different directions to help define the signal. In the case of multiple targets switch to the ZERO Mode or press the pinpoint button to precisely locate all targets. In trashy areas, use the Super Sniper™ searchcoil. (NOTE: Iron targets may cause Intermittent Signals. You can identify iron targets in ZERO Mode or with the Iron Audio feature). |
| I'm not finding specific targets | Ensure you are using the correct mode for the type hunting you are doing. If specifically hunting for coins, COINS mode should be your best choice to eliminate other undesirable targets. You may also use the ZERO mode, which detects all metal targets to ensure desired targets are detected. |
| Target ID Cursor bounces | If your Target ID Cursor bounces erratically, chances are you've found an iron target. However, a Target ID Cursor may bounce if a good target (such as a coin) is not parallel to the searchcoil (e.g. on edge). It may also bounce if there is one or multiple "junk" targets laying next to the good target. Scan from different directions until your Target ID Cursor becomes more stable.<br>NOTE: Large, flat pieces of iron—depending on their orientation in the ground—can read as a good target or can cause erratic Target ID Cursor movement. Use Iron Audio feature to help identify iron targets. |

## METAL DETECTING CODE OF ETHICS

The following is a Code of Ethics that many treasure hunt clubs endorse and hobbyists follow to preserve our exciting hobby of metal detecting. We encourage you to do the same:

- I will respect private and public property, all historical and archaeological sites and will do no metal detecting on these lands without proper permission.
- I will keep informed on and obey all local and national legislation relating to the discovery and reporting of found treasures.
- I will aid law enforcement officials whenever possible.
- I will cause no willful damage to property of any kind, including fences, signs and buildings.
- I will always fill the holes I dig.
- I will not destroy property, buildings or the remains of deserted structures.
- I will not leave litter or other discarded junk items lying around.
- I will carry all rubbish and dug targets with me when I leave each search area.
- I will observe the Golden Rule, using good outdoor manners and conducting myself at all times in a manner which will add to the stature and public image of all people engaged in the field of metal detection.

## CAUTIONS

When searching for treasure with your Garrett detector, observe these precautions:

- *Never* trespass or hunt on private property without permission.
- Avoid areas where pipelines or electric lines may be buried.
- National and state parks / monuments, etc are absolutely off-limits.
- Deepseeking detectors can detect concealed pipes, wiring and other potentially dangerous material. When those are located, the proper authorities should be notified.
- Do not hunt in a military zone where bombs or other explosives may be buried.
- Do not disturb any pipeline, particularly if it could be carrying flammable gas or liquid.
- Use reasonable caution in digging toward any target, particularly in areas where you are uncertain of the ground conditions.
- If you are unsure about using your metal detector in any area, always seek permission from the proper authorities.

# WARRANTY & SERVICE

Your *AT Pro* detector is warranted for 36 months, limited parts and labor, but does not cover damage caused by alteration, modification, neglect, accident or misuse. Use of the *AT Pro* at submerged depths exceeding 10 feet will void this warranty.

In the event you encounter problems with your *AT Pro* detector please read through this Owner's Manual carefully to ensure the detector is not inoperable due to misadjustments. Press and hold the power pushbutton for 5 seconds to return to the factory settings.

You should also make certain you have:

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

2. Contacted your dealer for help, particularly if you are not familiar with the *AT Pro* detector.

In the event that repairs or warranty service are necessary for your *AT Pro*, contact the local retail outlet where your detector was purchased. To avoid excessive shipping and import charges, do not attempt to return a Garrett product to the factory in the United States.

Information on international warranty/repair needs can be found on the Garrett website: **www.garrett.com**. Click on the Hobby Division and then the Technical Support page for more details.

**4.5" *Super Sniper*™ Searchcoil—**

Part No. 2222500

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

**6.5" x 9" PRO*formance* Concentric Searchcoil—**

Part No. 2222600

Smaller and lighter than the *AT Pro*'s standard DD coil, this waterproof searchcoil offers excellent depth in less mineralized soils.

**9" x 12" PRO*formance* Concentric Searchcoil—**

Part No. 2222700

This larger size concentric searchcoil is waterproof and offers excellent depth in less mineralized soils.

**5" x 8" PRO*formance* DD Searchcoil—**

Part No. 2222800

Small and light, this waterproof searchcoil offers excellent target separation and improves performance in mineralized soils.

**Waterproof Headphones—**

Part No. 2202100

Required when the entire headphone set will be immersed in water.

**Garrett Searchcoil Covers—**

Protect the searchcoil's surface from scratching and chipping during use.

| | |
|---|---|
| 8.5" x 11" DD Coil Cover | Part No. 1606600 *(shown)* |
| 5" x 8" DD Coil Cover | Part No. 1607400 |
| 6.5" x 9" Coil Cover | Part No. 1605700 |
| 9" x 12" Coil Cover | Part No. 1612600 |
| 4.5" Coil Cover | Part No. 1604200 |

**Garrett *PRO-POINTER*® II Pinpointing Detector—**

Part No. 1166050


Enables you to recover detected targets faster. Patented proportional audio/vibration alarm.

**Garrett *PRO-POINTER*® *AT* Pinpointing Detector—**

Part No. 1140900


Waterproof to 10' (3m), adjustable sensitivity, silent/ vibration operation, lost Pro-Pointer alarm.

**Garrett *Z-Lynk*™ Wireless System—**

Part No. 1627110

Make your AT metal detector wireless.


**Visit garrett.com Sport Division to see more accessories.**