

INSTRUCTION MANUAL

SCANNER Models

Gold Scanner Pro
Gold Scanner



COMPASS
Electronics

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COMPASS

TABLE OF CONTENTS

Introduction	2	Field Operation	11
Assembly	2	Electronic Prospecting	13
Side Mounting	3	Beach Hunting	13
Where to Use Your Detector	3	Rejecting Problem Trash	13
Detector Depth Capability/Target Qualifications	4	Pinpointing a Target	14
Batteries	4	Probing and Recovery of a Target	14
Condensed Operating Instructions	5	Theory of Operation	14
Functions and Features of Controls	5	Detector Care and Service	15
Bench Testing Procedures	8	Treasure Hunter's Code of Ethics	15

Congratulations and thank you from all of us at COMPASS

Welcome to the COMPASS recovery team. Your confidence in our products is very much appreciated by management and all employees. It is our hope you enjoy this fascinating hobby, and that many unique and valuable finds be made with your new metal detector.

COMPASS engineers have provided state-of-the-art electronic technology in our detectors. In order to take full advantage of this high tech capability you must read and understand this manual fully. Once the basics are understood, it is important to use your detector as often as possible. The more it is used the more capable you will become, resulting in more rewarding finds.

Good hunting!

ASSEMBLY

As you unpack your detector, give it a thorough inspection for physical damage, paying particular attention to any area where it appears that the shipping carton was fractured or punctured. If physical damage has occurred or any item is missing, do the following: (A) Save the shipping carton and inserts and (B) Call the shipping company and ask that a damage inspection be made. If shipment is by parcel post, contact your local postmaster.

1. Install the plastic isolator rod to the search head with the bolt and thumbnut provided. Ensure that the two rubber washers are inserted in the isolator rod depressions (Fig. 1).
2. With the telescoping shaft extended, insert the large end into the rod at front of the control housing.
3. Slide electronic housing onto search rod.
4. Wrap the search head cord over the top of the shaft (clockwise as you are looking at the top). Do not start wrapping cable underneath. Leave enough slack so that search head angle can be changed through its complete range without cable tightening against shaft.
5. Attach search head connector.

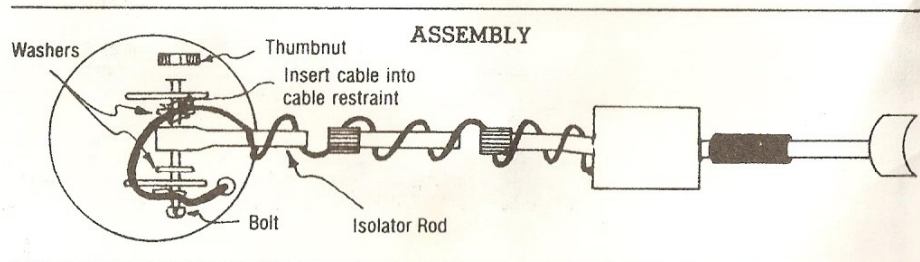
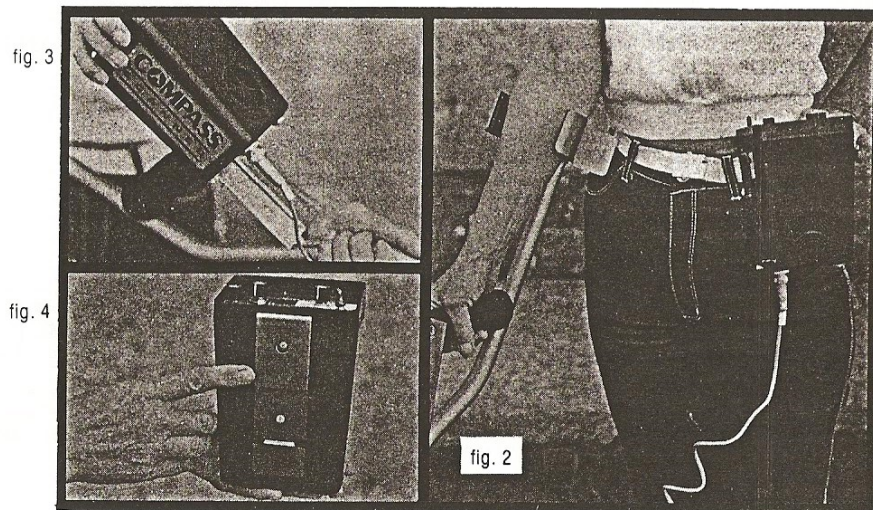


fig. 1

SIDEMOUNTING

Your SCANNER detector is very lightweight and well balanced. However, for long periods of use or competition treasure hunts, sidemounting the electronic housing as shown in fig. 2 provides additional arm comfort.

1. Disconnect the search head cable from the electronic housing.
2. Slide housing off handle by pulling it towards you. Fig. 3
3. A bracket on the underside of housing is provided for sliding over your belt. fig. 4
4. Unwrap search head cable until only a few wraps are left around the rod.
5. Connect search head connector to control housing.



WHERE TO USE YOUR DETECTOR

Following are a few examples of application and where to use your detector. Any item that contains metal in mass can be found with a metal detector.

COINSHOOTING — Any place where people have gathered in groups over the years is an ideal location to coinshoot. Older parks, homes, and schoolyards will produce the older and potentially more valuable silver coins, jewelry, and perhaps the elusive gold coin.

BEACHCOMBING — Popular beaches are a good source for coins and valuable jewelry. After a storm, old sand is moved exposing new territory for the detector.

RELIC HUNTING — Historic battlefields other than national parks can be very exciting to search. Items that can be found include: cannonballs, guns, mini balls, shells, swords, uniform buttons and buckles, knives, coins, etc.

Ghost towns or old mining areas produce many interesting and sometimes valuable artifacts and gold nuggets.

PROSPECTING — Ancient riverbeds, or searching washes, gullies, and old tailings from mines produce gold nuggets with a detector. The largest gold nugget currently in existence weighs 720 oz. and was found with a detector.

CACHE HUNTING — A certain amount of research is usually required to determine the approximate location of a cache or treasure. However, old homestead pokes and grandma's cookie jars are often found using common sense locations such as around the big tree, post hole banks, barns, chicken coops, under the porch, bedroom walls, etc.

Other possible applications include: locating metal property corner stakes or a septic tank, law enforcement, locating nails in logs prior to sawing, detecting metal objects located in animals or humans, metal sprinkler or valve head locating, and shallow pipe detection. COMPASS' Pipe Seeker V is recommended for pipe location, since your SCANNER detector will only locate pipes near the surface.

DETECTOR DEPTH CAPABILITY AND TARGET QUALIFICATIONS

DEPTH CAPABILITY

Factors that determine depth of detection of metal detectors are:

1. **QUALITY OF DETECTOR PERFORMANCE**
2. **OPERATOR SKILL**
3. **MASS AND THICKNESS OF TARGET**

An object's flat surface is much easier to detect than the same object's edge, such as a coin. Thin gold nuggets can be very difficult or impossible to detect.

4. **DETECTOR MODE OF OPERATION**

5. **SIZE OF SEARCH HEAD**

12" head will detect 20% deeper than 8"; a 16" head will detect 40% deeper than an 8" head.

6. **AMOUNT OF GROUND MINERALIZATION**

7. **LENGTH OF TIME TARGET HAS BEEN IN THE GROUND**

Acids and salts in the soil cause corrosion on the metal. The soil then absorbs the corroded metal; thus the object appears to be larger than it actually is (halo effect).

TARGET QUALIFICATIONS

The "SCANNER" detectors will detect most ferrous and all non-ferrous metals that have a mass larger than a match head. The electromagnetic field described in "Theory of Operation" will penetrate through wood, rock, adobe, ice, snow, soil and non-reinforced concrete and asphalt. The metal detector will not detect glass, gems, or sulfides. An object must have a conductive property in order for it to cause a reaction to the search head's magnetic field.

BATTERIES

1. Your Scanner detector operates from three nine volt batteries.
2. For checking condition of batteries refer to FUNCTION AND FEATURES OF CONTROLS #2 BATTERY CHECK.
3. When installing batteries, the polarity of each cell must be inserted properly.
4. If the detector is not to be used for a long period of time, remove and store batteries in a dry, cool place.
5. Alkaline and heavy duty carbon zinc batteries will provide adequate life. Alkaline or extra heavy duty are recommended.
6. To replace batteries loosen screws on battery compartment and remove battery door (fig. 5).

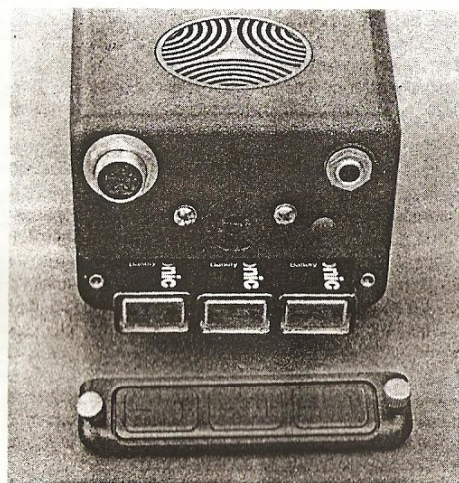


fig. 5

CONDENSED OPERATING INSTRUCTIONS

If your enthusiasm and excitement for using your new detector will not allow for a complete reading of this manual, the following will provide quick and basic operation in the motion discriminate TRASH OUT mode. Remember, for best operation in the ALL METAL mode you should properly ground balance the detector and set the threshold for a faint audio. A preset position is provided on three of the controls that will produce average performance.

1. Turn the GROUND BALANCE control fully clockwise until it stops, then turn it counterclockwise one-half ($\frac{1}{2}$) turn.
2. Set the other three controls at their preset position.
3. The detector is turned on when POWER LEVEL control is moved from the clicked OFF position and set at the preset mark. It is now tuned with an approximate ground adjustment for field operation in the TRASH OUT mode.
4. When the detector is turned on, it is automatically in the TRASH OUT (motion discriminate) mode. Certain trash items will be eliminated. Since this is a motion mode, the search head must be moving to detect a target.
5. Operate with search head on or very near the ground.
6. Once a target is detected, use the non-motion ALL METAL mode for pinpointing the exact location that the target is beneath.
 - A. Place search head on the ground and slightly away from the target.
 - B. Press and release ALL METAL (gold) tactile switch.
 - C. Slide the search head over the target in a (+) cross pattern while listening for the loudest audio response. The target will be directly below the center of the coil. For loud surface targets read "Pin Pointing a Target" on page 14.
7. **Target Identification (Gold Scanner Pro only)**
 - A. Target meter identifies targets in either TRASH OUT or ALL METAL mode.
 - B. Meter locks on target until another target passes under the search head, or either tactile switch is pressed and released.
 - C. To read coin depth, press and hold the ALL METAL tactile switch.

FUNCTION AND FEATURES OF CONTROLS (Fig. 6)

1. **POWER LEVEL**
Turns detector ON and OFF then adjusts the detector's sensitivity for all modes of operation. The preset position is recommended for the first few days of operation. In areas of high mineralization, the preset or lower (CCW) setting is recommended. For low ground mineralization, the higher (clockwise) settings towards MAX can be used. Settings beyond preset in highly mineralized ground may give false signals. Higher settings towards MAX will provide deeper depth of detection.
2. **BATTERY CHECK**
There is no front panel control for battery check. Both models feature continuous monitoring of the two signal control batteries (middle and left facing). When these nominal 9 volt batteries each drop below 5 volts, the pitch of the target signal drops, alerting the operator. The detector will continue to function after that with reduced sensitivity until eventually all sensitivity is lost when the batteries are dead. When the battery check registers below "Battery Good" on the Gold Scanner Pro meter, or when the audio signal drops to the lower, "throaty" sound, you should change the left and center batteries to maintain peak performance. The right hand battery powers the audio signal volume. It will generally last 3 to 5 times longer than the other two batteries. If the target sound intensity becomes diminished, this battery should be changed.

The Gold Scanner Pro includes an additional "turn on" battery check for the first few seconds of operation. Battery life for the target identification models with meter should approach 10 hours using extra heavy duty transistor batteries. Models without the meter should get even longer battery life. Note that batteries also have a longer total life when used for many short periods of time rather than if they are operated continuously until they go dead.
3. **ALL METAL**
Pressing tactile switch down and releasing puts the detector into an all-metal mode of operation. Search head motion is not required to detect an object. As a result, precise pinpointing of target is accomplished in this mode. This mode is the preferred mode for prospecting. It is important to properly adjust the GROUND BALANCE and THRESHOLD controls as explained under "Field Operation".

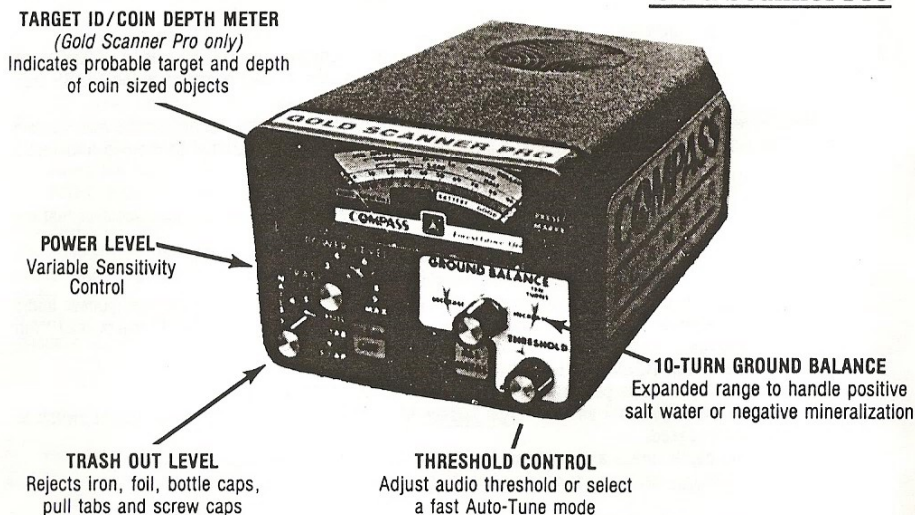
4. TRASH OUT

To operate in TRASH OUT mode, press and release TRASH OUT (red) tactile. Fully adjustable to allow detector to be set to eliminate undesirable targets (nails, bottle caps, foil, pull tabs, and screw caps) from desirable targets (coins, jewelry, gold, relics, etc.). Never use a higher level than necessary for the following reasons:

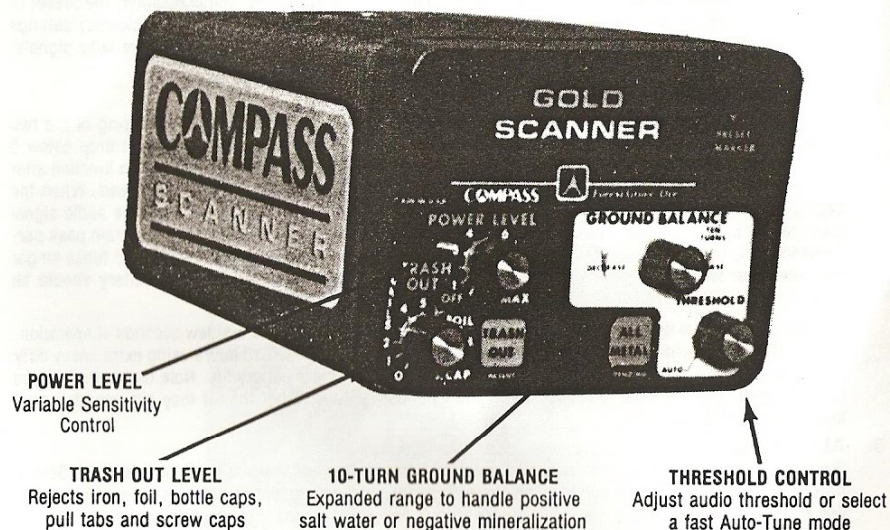
- A. Depth of detection decreases at the higher numbers.
- B. When set to eliminate pull tabs or higher, the U.S. nickel, thin gold nuggets, and some thin gold and silver rings may be rejected. When set higher to screw cap rejection, zinc (1982 or newer) and Indian Head pennies will also be eliminated.

fig. 6

Gold Scanner Pro



Gold Scanner



5. THRESHOLD

When in the ALL METAL mode and with the search head held away from any metal object, adjust the threshold level for a slight audio sound. This will provide optimum performance. With this setting there is a slow auto-tune circuit engaged. When rotated fully counterclockwise to the clicked "AUTO" position, the fast auto-tune circuitry is engaged.

6. GROUND BALANCE

This variable control eliminates the effects of mineralized ground. It is an expanded range, ten-turn precision control designed to eliminate the effects of positive salt water or the highest levels of negative iron mineralization. It works in conjunction with both modes. If the GROUND BALANCE is not properly set, overall depth and sensitivity may be reduced, false signals may occur, and target identification/coin depth (Gold Scanner Pro only) accuracy will be effected. Follow directions under "Field Operation" for proper setting.

7. PHONES

Output for optional COMPASS stereo headphones is provided. Mono headset can also be used. Headphones allow you to hear the deeper targets that produce a softer radio tone. They are highly recommended when detecting in a noisy environment. Headphone operation reduces power consumption which extends battery life. When phones are inserted, speaker is disconnected.

8. SPEAKER

Generates a tone to notify the operator of a found target and the identification category of targets while discriminating. The speaker shuts off when headphones are used.

9. METER (Gold Scanner Pro only)

- A. Metered indication of probable identity of various targets. (Search head must be in motion for metered identification.)
 1. Coin types shown are U.S. coins. The penny is shown in both copper (Cu) and zinc (Zn).
 2. Metered target identification works in all modes of operation.
 3. Detector may audibly detect targets deeper than meter will indicate.
 4. One or two sweeps over target will usually identify it. Meter will continue to show target until another target is detected, or either the TRASH OUT or ALL METAL tactile switches are depressed and released. It is important to sweep the center of the search head over the target for proper target identification.
 5. The 0 to 90 scale can be used to register other trash or desirable targets not shown on the meter scale.
- B. Battery condition is checked automatically each time detector is turned ON.

BENCH TESTING PROCEDURES

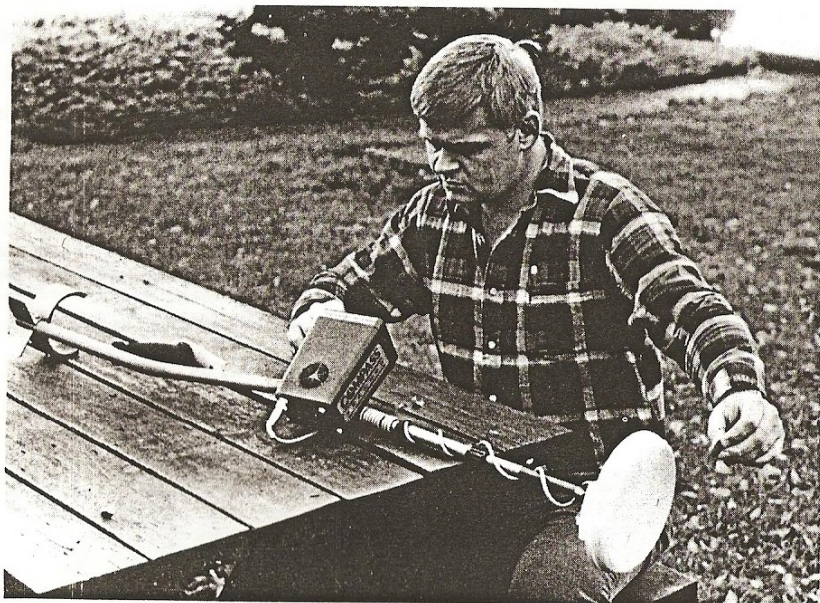
It is important to understand the operation of the detector before detecting under field conditions. Bench testing will teach you the audio reaction of the detector to both "desirable" and "undesirable" targets. Certain targets close to the search head will cause an overload error target response. Moving target 1" to 2" farther from search head will provide correct reading.

1. SET UP

- Set the detector on a table with the search head at least two feet away from any metal object and with the loop bottom facing as shown in fig. 7.
- Remove any rings, watch, or jewelry you may be wearing.
- Obtain the following "desirable" and "undesirable" targets.

a. copper penny (1981 mint date or older)	f. bottle cap
b. zinc penny (1983 mint date or newer)	g. rusty nail
c. U.S. nickel	h. pop bottle aluminum screw cap (not crushed)
d. quarter	i. gum wrapper
e. pull tab ring and lift tab	

fig. 7



2. BENCH TESTING ALL METAL MODE AND POWER LEVEL

- Set all controls as described in steps 1 & 2 of Condensed Operating Instructions on page 5, then press and release the ALL METAL (gold) tactile switch.
- Pass all of the "desirable" and "undesirable" objects as outlined (1.-C.) above over the search head about 2" away from the head. Notice that the coin responses are similar to the trash items. In the ALL METAL mode of operation trash items are not eliminated.
- Hold a coin over the search head. Notice that the coin is detected and continues to provide a signal even though it is stationary. This indicates that the ALL METAL mode does not require search head motion in order to detect a target. As such, the ALL METAL mode is used for pinpointing exact target location. Moving the coin closer and farther away provides a comparison of deeply buried targets versus shallow targets. The strongest target response is in the center of the search head.
- Adjust POWER LEVEL control to 9 o'clock and note the reduction in overall distance away from the search head at which any given target can be detected. Settings toward power OFF allow less depth of detection, but the advantage of smoother operation over highly mineralized ground or noisy electrical areas.

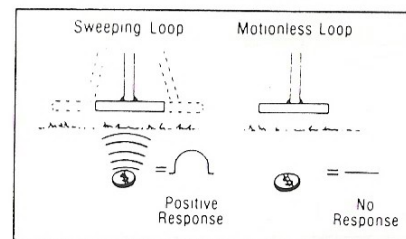
3. BENCH TESTING TRASH OUT (Discriminate) MODE

This mode requires the search head or target to be in motion for detection. See fig. 8.

1. Set Up

- POWER LEVEL to preset position.
- TRASH OUT to S. CAP.
- Press and release TRASH OUT tactile switch.
- Hold a quarter over the search head. The detector will not sound out. It must be in motion as shown in fig. 8.

fig. 8

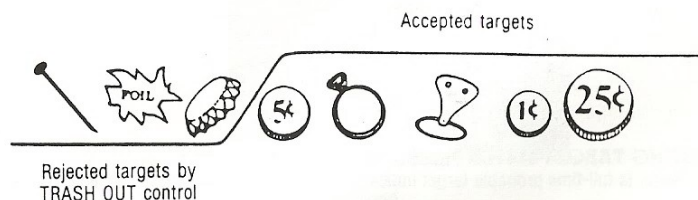


**MOTION REQUIRED TO
DETECT TARGETS
IN TRASH OUT MODE**

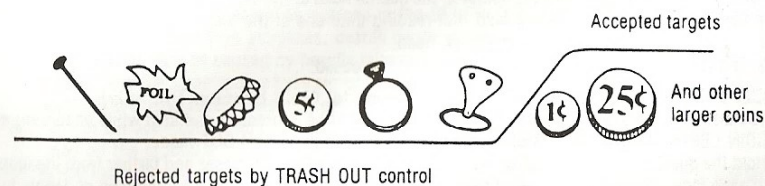
- Pass the quarter and copper penny (1981 or older) back and forth over the search head. The detector will give a positive audio response.
- Move the pull tab over the search head. The audio response will be negative.
- Pass the other targets over the search head and observe audio response. Note the following.
 - The U.S. nickel and zinc penny (1983 or newer) will give a negative audio response.
 - Most rings will give a negative audio response.
 - Certain screw caps may not be rejected.
- Adjust TRASH OUT control to preset position and touch tune (press and release TRASH OUT tactile switch). The zinc penny, nickel, rings, and certain trash targets will now produce a positive audio response. See fig. 9.

fig. 9

TRASH OUT set to PRESET position



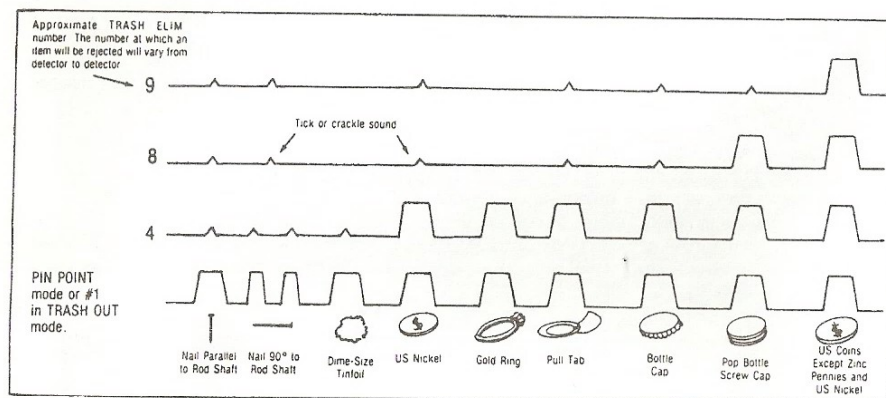
TRASH OUT set to pull tab reject



4. TRASH ELIMINATION CHARACTERISTICS — See fig. 10

1. When the TRASH OUT control is set to eliminate a pull tab off of a pop can, it will also eliminate a U.S. nickel and most rings.
2. When set to eliminate screw caps, Indian Head and zinc pennies (some 1982 and all 1983 or newer mint date) will also be eliminated as well as most rings and the United States nickel.
3. Because of the different metals used in foreign coins, it is difficult to list which of these coins would be eliminated at any given level of trash elimination. When in a country other than the United States, run a bench test of the various coins you wish to detect to determine the maximum level of trash elimination that can be used without eliminating the items desired to detect. The ALL METAL mode could be used which, of course, would detect all coins throughout the world.
4. Large trash items such as a beer can may sound like a good target at all settings of trash elimination. However, with practice you will be able to tell the difference between a large target and a small coin-sized object.

fig. 10



5. BENCH TESTING TARGET METER (model Gold Scanner Pro only)

NOTE: Target Meter is full-time probable target indicator regardless of operate mode selected or setting of TRASH OUT.

- A. Set POWER LEVEL to preset.
- B. Press and release TRASH OUT tactile switch.
- C. Pass each of the targets over the center of the search head at the distance of 2" to 3". Once a target is indicated, the meter needle will hold that reading until one of the following:
 1. Another target is passed over search head.
 2. Either mode tactile switch is depressed and released.

6. BENCH TESTING COIN DEPTH READINGS (model Gold Scanner Pro only)

- A. To measure coin depth, ALL METAL tactile switch must be depressed and held while observing meter COIN DEPTH reading. Coin Depth can not be measured in TRASH OUT mode.
- B. Hold the quarter over the center of the search head. Move the coin closer and farther from the loop and to each side. Notice how the depth reading will change, thereby giving a comparison of deeply buried targets versus shallow targets. The shallowest reading observed should indicate the target is directly beneath the center of the search head.

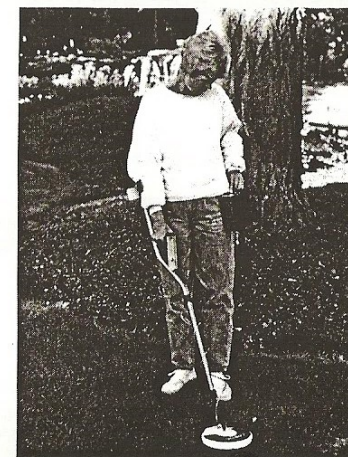
FIELD OPERATION

1. SET UP & TUNING

- A. Turn the GROUND BALANCE control fully CW until it stops, then turn it CCW about 1/2-1 turn.
- B. Set the other three controls at their preset position. The detector is now turned on and set to operate in the motion discriminate TRASH OUT mode.
- C. Hold the search head 12" to 18" above the ground and away from all metal objects. Press and release the ALL METAL (gold) tactile switch to put the detector in the all metal mode. Adjust the THRESHOLD control until a faint audio sound is achieved.
- D. Lower the search head towards the ground. The audio signal will either decrease, increase, or stay the same. Note the change. If there was no change in the threshold, then the detector is properly tuned and ground balanced. If the signal decreased or increased, then ground balance adjustments are necessary.
- E. Raise the search head back to a 12"-18" height and press and release the ALL METAL touch pad to retune to the set threshold level. Adjust the GROUND BALANCE control clockwise if Step D produced a decrease in audio threshold upon lowering the search head, or counterclockwise if Step D produced an increase. Press and release the ALL METAL touch pad to restore the set threshold level and repeat Step D until there is no change or just a slight increase when the search head is very near the ground.
- F. The detector is now properly tuned and ground balanced in the ALL METAL mode. This is the preferred mode for pinpointing a target, electronic prospecting or relic hunting. To operate in the motion discriminate mode press and release the TRASH OUT tactile.
- G. When operating, keep the search head parallel to, and as close to, the ground as practical (fig. 11). COMPASS' optional search head cover is recommended to keep sharp rocks or broken glass from damaging the watertight integrity of the head.

fig. 11

Operate with search head only a foot or so in front of each step. Extending shaft length increases strain on your wrist and arm.

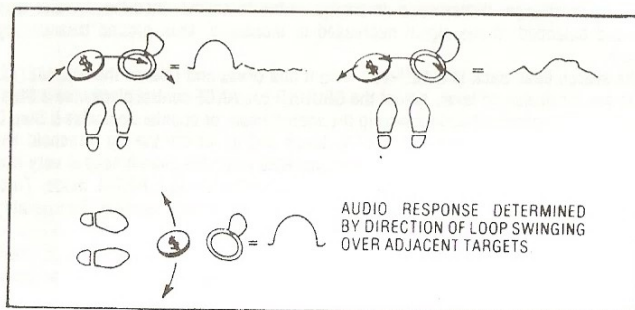


- H. Search at a slow comfortable sweeping speed.
- I. Overlap each sweep by at least 50%.
- J. Scatter various coins and trash items on the ground about 18" apart. Sweep 1" to 2" above them. Use these items to further familiarize yourself with the ALL METAL and TRASH OUT modes of operation. Adjust to different items as outlined in the BENCH TESTING section of this manual.
- K. As ground mineralization increases, overall depth of detection is reduced.
- L. False signals may be caused by heavily mineralized or trashy ground. Often when the search head is passed over the same spot, a false signal will disappear. Increasing the TRASH OUT control to a higher level (#) will help reduce false signals.
- M. Certain surface trash items can cause a false signal. Increasing sweep speed slightly or lifting search head off the ground a couple inches will help.
- N. A nail that is laying flat in the ground and parallel to the rod shaft will sound like a single target. This same nail that is laying 90° to the rod shaft can produce a double hit in the ALL METAL mode that sounds like two targets (see fig. 10).

2. TARGET RESPONSE

A good way to become more familiar with your detector is to bury test objects in the ground at 1" depth and 1' apart. To learn the maximum depth capability, also bury pennies (1981 mint date or older) every inch from 1" to 5" in depth. Bury a dime 2" from a pull tab at 1" depth. Approach the target from all directions while observing different responses as shown in fig. 12.

fig. 12



Prior to burying test items, thoroughly clean the area of all metal targets using the ALL METAL mode. Refer to fig. 10 for proper target responses.

3. COIN DEPTH READING (Gold Scanner Pro)

To measure coin depth, depress, and hold ALL METAL tactile. The shallowest reading observed would indicate the target is directly beneath the center of the search head. Bury coins at different depths to familiarize yourself with this feature.

4. OPERATING IN HIGHLY MINERALIZED GROUND

Heavy mineral ground (high iron content) causes static or good target sounds. The following will help when hunting in this type of soil.

- Lower POWER LEVEL.
- Raise search head until false signals are eliminated and then search at that height.

5. ERRATIC OPERATION FROM ELECTRICAL SOURCE.

This type of interference can be caused by power lines, TV and radio broadcast stations or other types of transmitting equipment. Electrical storms can also be a problem. If this type of interference causes erratic operation the following will help.

- Lower POWER LEVEL.
- Move further away from the source.
- Wrap search cable tightly around search rod.

6. OPERATING IN AREAS WITH A LOT OF TRASH TARGETS.

A high amount of trash targets may cause chatter or excessive crackle or tick sounds. Solutions are as follows:

- Increase TRASH OUT level to screw cap rejection (full clockwise).
- Use COMPASS' optional 3" Gold/Coin search head. This will enable you to get between the trash items to identify the good targets.

ELECTRONIC PROSPECTING

Your GOLD SCANNER is a professional detector; one of the most advanced ever designed for electronic prospecting. It has good see-through capability in black sand in comparison to competitive detectors.

The GOLD SCANNER also offers the benefits of motion discrimination with a fully variable control that can be adjusted to zero (0), which may enable you to eliminate signals from bothersome small iron trash or hot rocks and mineral hot spots.

The GOLD SCANNER PRO features a visual target identification meter which adds to its versatility, making it useful for coin hunting applications. The TID benefits the electronic prospector as well by providing visual identification of trash and/or hot rocks. By using test objects the operator can quickly learn how to apply the audio and/or visual discriminate circuitry in their prospecting applications to help qualify targets located in the ALL METAL mode.

Prospecting for native gold can be an enjoyable and rewarding pastime, but the detectorist must remember a few very important basics to be successful with their detector. In order to produce a signal the object has to have a certain amount of mass. Therefore, fine flake and flour gold is not detectable. Nuggets from match head size and larger are detectable, so the electronic prospector should concentrate on areas where nuggets have been found. Also, since most nuggets are small they can only be found at shallower depths, generally from surface to 2"-3". Signals from such small targets are often softer, weaker signals. Therefore, the detector should be tuned with a faint threshold, proper ground balance, and operated with the search head as close to the ground as possible. Headphones are recommended to enable the operator to hear the weaker signals. Hunting should be done in the ALL METAL mode, and questionable targets checked with the discriminate circuit.

If ground mineralization is not consistent in a given area, then operating in the AUTO TUNE threshold position will help compensate for small mineralization changes. Under these conditions periodic checking for proper GROUND BALANCE setting is important. To engage this AUTO TUNE circuit rotate the THRESHOLD control fully counterclockwise to the clicked "AUTO" position.

The GOLD SCANNER models have a POWER LEVEL control which adjusts the front-end and motion discriminate sensitivity. It is important to adjust the ground balance after setting the desired power level. Refer to POWER LEVEL on page 5.

BEACH HUNTING

The Gold Scanner GROUND BALANCE control has been designed with an expanded range to allow cancellation of the effects of positive conductive salt water and wet salt saturated sand. This is accomplished by rotating the GROUND BALANCE control towards the full CCW position, then following the standard procedures for GROUND BALANCING. As with all hunting situations, it is important to adjust the POWER LEVEL control to match the sensitivity to the existing mineral conditions. The highest settings will generally provide the greatest depth performance; however, it may be necessary to reduce the POWER LEVEL to attain a smooth, chatter-free signal.

Beach hunting may be done in either the motion discriminate TRASH OUT mode or the non-motion ALL METAL mode. In either case proper ground balance is important. Hunting in the ALL METAL mode may produce slightly increased depth of detection. The TRASH OUT mode will allow rejection of bothersome trash. However, the operator should keep in mind that as settings progress above the preset marking, some desirable targets will be eliminated, such as nickels and smaller gold rings and chains. Thin gold chains are easily rejected and lower settings are advised. Since target recovery is quite simple at the beach, a TRASH OUT LEVEL of about #2 will provide excellent target signals from all U.S. coins and almost all gold and silver jewelry.

REJECTING PROBLEM TRASH

Some forms of trash may produce undesirable signals such as bottle caps and small bits of rusty iron. In these cases the discrimination can be increased which may cause a loss of desired targets. Another way to identify and/or reject these trash items is by increasing the sweep speed over the suspected trash target. This usually will either produce a "broken" sound or no sound at all. It also might cause unrepeatable signals (signal from every third or fourth pass for example.)

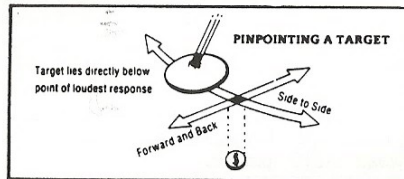
In addition, the Gold Scanner Pro will indicate iron targets even though some may still produce an audio signal. Questionable targets will often cause the meter needle to fluctuate and not lock-on. By using the "edge-pass-rejection" technique those objects will quickly indicate "Iron". Once the target has been pinpointed, advance the search head so the rear edge sweeps over the target. If it indicates "Iron", then cross the target again and sweep across with the front edge. A confirming "Iron" meter reading will indicate an unwanted target.

PINPOINTING A TARGET

Exact location of a target is very important so that when you probe and dig, you will not scratch or damage a valuable coin or item. For pinpointing a target depress and release ALL METAL tactile, sweep over it in a side-to-side, forward-and-back pattern as shown in fig. 14. When the loudest audio is heard, the target is directly below the center of the search head. Long thin rusty items such as a nail can be an exception. A nail can be 2" to 3" away from its pinpointed location, depending upon its angle and the direction in which it lies. If the target is producing a very loud audio response (indicating it is very large or near the surface), use one of the following methods for pinpointing.

1. **DETUNING (ALL METAL mode only):** When over the target, drop the search head to the ground. Press and release ALL METAL tactile, which uses the target to detune detector. Now when sweeping over the target with the search head on the ground, a narrow and fainter audio response will be heard. The target will be under the search head center when the loudest response is heard. The closer the search head center is to being directly over the target when detuned, results in a narrower pick up area. It is possible to set the head directly over the object which would totally tune it out. This would be unusual, and by pressing the head down slightly into the grass will bring the target back into range with just a narrow pick up area which is ideal.
2. **DEPTH READING METHOD (Gold Scanner Pro) (ALL METAL tactile must be depressed and held):** Watch meter as the search head is moved over the target as shown in fig. 13. When the meter needle swings to the farthest right position, the target will be under the center of the search head.

fig. 13



PROBING AND RECOVERY OF A TARGET

PROBING

A 6" to 8" screwdriver makes an ideal probing device. Once your target is pinpointed as outlined under "PINPOINTING A TARGET", insert the screwdriver into the ground gently until it touches the target. In rocky ground probing becomes quite difficult.

DIGGING A TARGET

There are several ways or methods to extract a target, depending on the area being searched.

1. **Beach area:** A sand scoop available at most treasure hunting shops is recommended.
2. **Plugging a lawn area with a long bladed heavy duty hunting knife:** Cut a 3" to 4" diameter circular plug about 3/4 of the way around. Slant the knife slightly towards the center of the plug. Fold the plug back while leaving the 1/4 of the plug still attached to the main lawn area. This will ensure that the plug does not die when replaced. If a full circle plug is cut in a dry lawn, the plug grass will die leaving an obvious sign that a coin hunter was there. Check the plug with your detector. If the target is not there, start extracting soil from the hole and place it on a handkerchief or piece of cardboard. When the object is recovered, replace dirt and plug. Putting the dirt on a handkerchief or on cardboard rather than on the ground makes the grass look normal and it is very difficult to tell that a treasure hunter was there.

THEORY OF OPERATION

A sine wave oscillator drives the transmit coil in the search head. The receive coil is physically positioned and electrically adjusted to produce a null or very low output signal.

Any metal object coming within the electrical field of the transmit coil changes the balance (amplitude and phase) of the signal at the receive coil. This signal in turn is fed to a pair of phase splitters and samplers. A portion of the signal is sampled twice approximately 75° apart. This circuit samples the received signal at the two extremes of the range of signals we are interested in; namely balancing out various ground signals up to but not including elimination of a copper penny. Both signals are amplified (The trash eliminate amplifier discriminates on every item below a penny. The ground balance signal does not discriminate against any item.) By selecting varying percentages of each signal, you can control the amount (degree) of trash elimination. The phase of the selected signal and the ground balance signal are compared. The resultant signal drives the speaker.

DETECTOR CARE AND SERVICE

With proper care, your detector should last for many years. The search head and rod are waterproof and can be cleansed with a mild cleanser. The detector housing is not waterproof and water (particularly salt water), if allowed to enter, will damage the circuit board or electronic components.

1. PROPER CARE

- A. Salt water beach detecting can be very tough on a detector and you should adhere to the following procedures:
 - a. After hunting, rinse loop and rod with fresh water. Using fresh water damp sponge, wipe down complete housing and controls.
 - b. If wind is blowing, use a plastic bag or appropriate detector cover to keep the sand and salt mist from getting into the controls or housing.
- B. When detecting in the rain, use an appropriate detector cover to keep water out of housing.
- C. Store detector in a dry, cool place. Do not store in car or trunk if outside temperature is over 80°F, 27°C.
- D. Avoid excessive shock or jarring. Do not drop detector.
- E. Remove batteries if storing detector over 30 days.

2. SERVICE

Should service become necessary, either contact your dealer or ship prepaid to the factory. If service is required during the warranty period, repairs are done according to the terms of the warranty. When returning a detector to the factory or service center, ensure that it is well packed, preferably in its original carton, prepaid and fully insured. Please include a statement describing the malfunction. Try to be specific. Avoid using phrases such as: "does not work" or "defective". By accurately describing the problem, our technicians can quickly repair and return your detector with our assurance that your problem has been rectified. Your detector will be returned C.O.D. for any non-warranty charges, including shipping charges. Warranty shipping charges will be C.O.D. Please read your warranty card. Return the registration portion to us and save your half of the warranty card for future reference.

TREASURE HUNTER'S CODE OF ETHICS

Metal detectors have been banned in certain parks and on some private land because of misuse by treasure hunters. Don't let this happen in your area. Follow the "Treasure Hunter's Code Of Ethics" and teach them to others.

1. On private land do not treasure hunt without owner's permission. Respect the rights of private property owners.
2. Never destroy or tamper with buildings, historical property, archaeological sites, and burial grounds.
3. Respect and observe federal, state and local laws. Aid law enforcement when needed.
4. Do not litter. Please remove all trash items with proper disposal. Leave the earth's surface and vegetation better than when you found it.
5. Fill all holes and carefully probe and dig so that no one can follow the trail of a bad treasure hunter. You can never tell where a good treasure hunter has been.

FACTORY RECOMMENDED ACCESSORIES

16" Ultra Deep Scan Search Head
12" Deep Scan Search Head
3" Coin and Prospecting Search Head

16" Search Head Protective Cover
12" Search Head Protective Cover
8" Search Head Protective Cover
3" Search Head Protective Cover

Stereo Headset
Protective Vinyl Detector Bag

COMPASS Recovery Team Ball Cap
COMPASS Recovery Team Shoulder Patch
Epoxy Filled Search Head — Eliminates the "cork" effect in water

See your local dealer or contact COMPASS for pricing