

TEKNETICS 9000 "COINCOMPUTER"

"Advanced Professional Metal Detector
Featuring LCD Readout"



Owners Manual

Teknetics, inc.
"dedicated to quality
and performance"

Phone (503) 451-1238
300 Market Drive
Lebanon, Oregon 97355

IMPORTANT

Protect your investment - Record the serial number (located inside the "A" Battery compartment) of the unit and the purchase date in the space below. Always reference this information in any correspondence.

Model No.	Serial No.	Purchase Date
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Please retain your shipping carton. In the event your detector should ever require repair - this package will afford the best possible protection for shipping. (Also good for storage of detector).

WARNING

This TEKNETICS instrument is sealed at the factory to protect your warranty rights. Any evidence of tampering with the seals will automatically void any warranty rights you may have. Return the instrument to the factory or your nearest authorized service station.

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FOREWORD

Teknetics is a corporation formed by individuals who are dedicated to the premise that the products they manufacture should have lasting quality, the latest in design technology and the maximum range of features that can be obtained for your money.

With these goals in mind, from its first inception, your detector was designed by an engineering group which has many years invested in the field of detectors, having already designed the major innovations in use by other manufacturers.

By carefully reading the instructions in this manual, you will obtain all of the advantages designed into your instrument, but the best performance can only be achieved by practice until you are proficient enough to be able to identify even the slightest variation in target response.

GOOD HUNTING!

SURVEYING - Iron stakes established in earlier surveys can be more easily located, especially when overgrown with weeds, and covered with debris.

LOGGERS - Nails, spikes, etc., can be easily located before costly damage to an expensive blade and eliminate danger to the operator.

LAW ENFORCEMENT - Using a metal detector to systematically sweep suspected areas for discarded weapons or stolen property is a common practice today.

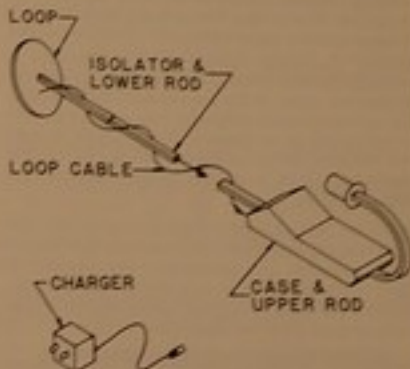
PIPES AND CABLES - Before causing damage, a metal locator can be used to determine the location of buried pipes and cables prior to digging.

There are just a few of the many possibilities. Areas to search are limited only by your imagination.

ASSEMBLY

Carefully unpack your detector and check to see that you have all the parts shown.

Assemble the detector by placing the lower rod into the upper rod. Wrap the cable around the rod and connect to the loop plug on the case as shown.



Note: At this time you may need to charge the batteries.

BATTERIES

Your new Teknetics detector is equipped with factory installed rechargeable Nickel Cadmium batteries which will save many hundreds of dollars in battery purchases as they may be recharged as many as a thousand times or more.

The batteries will require charging for a period of 14 to 15 hours to bring them to full capacity, as they are shipped in the unit only partially charged. It is not necessary to remove the batteries to recharge them. Simply plug the charger into the charger socket on rear of detector and connect to an electrical outlet. Once charged, a minimum of seven hours continuous use can be expected.

Nickel Cadmium batteries can develop a memory pattern limiting their available capacity. If they are used in the instrument, for example, for two hours each time and then recharged, the capacity will be reduced to this amount. Should this happen, recharge the batteries and use the instrument until it will no longer operate and then recharge.

There are two charge modes available. For normal charging set the POWER switch to "Norm". If the batteries are completely discharged, 14 hours of charge time is required to fully charge. For a partial charge, a good rule of thumb is two hours charge time for each hour of use.

The second mode of charging is for storage. Once the cells have been fully charged, the Power switch can be set to the "Store" position. In this mode, the unit will receive a small "Trickle" charge that will keep that batteries at full charge. This way the instrument is ready to use at all times with full capacity available.

The "store" charge is intended for short term storage and should be used no longer that two or three months at a time.

ALTERNATE BATTERIES

Fourteen (14) 1½ volt AA Penlight Alkaline batteries may be used instead of the Ni-cads supplied if they are in need of charging and time is not available to wait.

Remove the compartment doors on the bottom of the case and remove the cells being sure to store them so they will not short. Install the Alkaline cells according to the legend for + and -.

CAUTION: DO NOT CONNECT THE CHARGER TO THE INSTRUMENT WITH ANY BATTERIES INSTALLED EXCEPT NI-CADS. There is danger of explosion which may result in not only damage to the instrument, but also personal injury.

CHECKING BATTERY CONDITION

To check the condition of the batteries installed in the detector, turn the "POWER" switch to "ON" and the "DISPLAY" switch to "A" Batt for the "A" batteries, and to "B" Batt for the "B" batteries.

The following chart shows approximate display readings for fully charged batteries:

	Ni-Cads	Alkaline
"A" Battery	50	75
"B" Battery	90	100

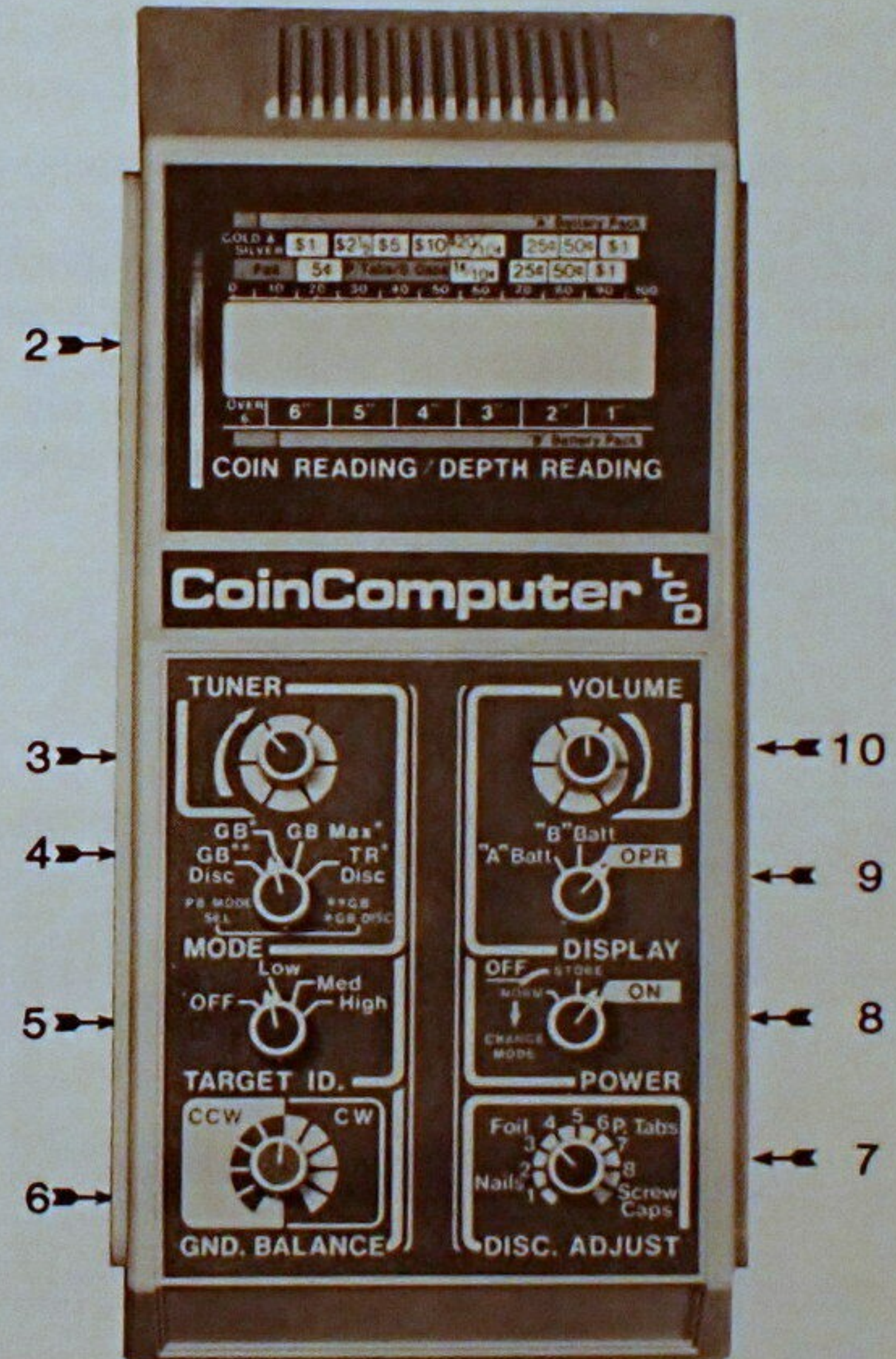
Recharge your Ni-Cads or replace your 1½ volt cells when the batteries read in the RED zones.

IDENTIFICATION OF CONTROLS AND FEATURES

1. Push button - Used for retuning and temporary mode selection.
2. LCD - Liquid crystal display provides target identification and depth. Also displays mode of operation and battery condition.
3. Tuner - Adjusts "Threshold" setting.
4. Mode - Selects primary mode of operation.
5. Target ID - Selects degree of target identification accuracy versus ground mineralization.
6. GND Balance - Adjusts the detector to "balance" out or neutralize ground mineralization.
7. Disc. Adjust - Selects the level of discrimination desired by the operator.
8. Power - Turns the detector on and off and selects charge mode.
9. Display - Selects display of "A" or "B" battery condition or "operate" mode.
10. Volume - Adjusts loudness of Speaker or Headphone sound.

IDENTIFICATION OF CONTROLS AND FEATURES

NOTE: Item #1 push button located in handle not shown.



**SPECIAL FEATURE
LCD READOUT**

The Teknetics 9000 is a remarkably advanced and precision engineered metal detector. It features the very latest advancements in metal detector technology.

The amazing "Coincomputer" 9000 incorporates a unique and ultramodern LCD readout. The liquid crystal display provides a truly phenomenal wealth of information to the TH'er. Just a simple glance at the display, after a few sweeps over the target, will tell you the depth of the find and indicate with a great deal of accuracy what the find may be.

NOTE:

The liquid crystal display used in your detector is rugged and reliable. Proper care will extend the life of the LCD and ensure that the display will always be ready to operate.

Observe the following practices:

1. Protect the LCD from extended exposure to bright sunlight.
2. Keep the detector out of high temperature and high humidity environments such as a closed car on a hot, sunny day.

3. Keep the detector out of low temperature environments. Temperatures below -15°C (5°F) may result in the display being sluggish until the instrument is returned to normal operating temperature.
4. Use only a very soft cloth (not a t-shirt) to clean the LCD overlay.

LCD DISPLAY IDENTIFICATION



NOTE: ALL SEGMENTS SHOWN LIT FOR IDENTIFICATION ONLY.

TUNING

Proper tuning and ground balancing is essential in order to achieve optimum performance from your metal detector.

"Tuning" means: First, adjusting your detector to its "Threshold" and second, adjusting or "balancing" out the ground mineralization at the site to be searched.

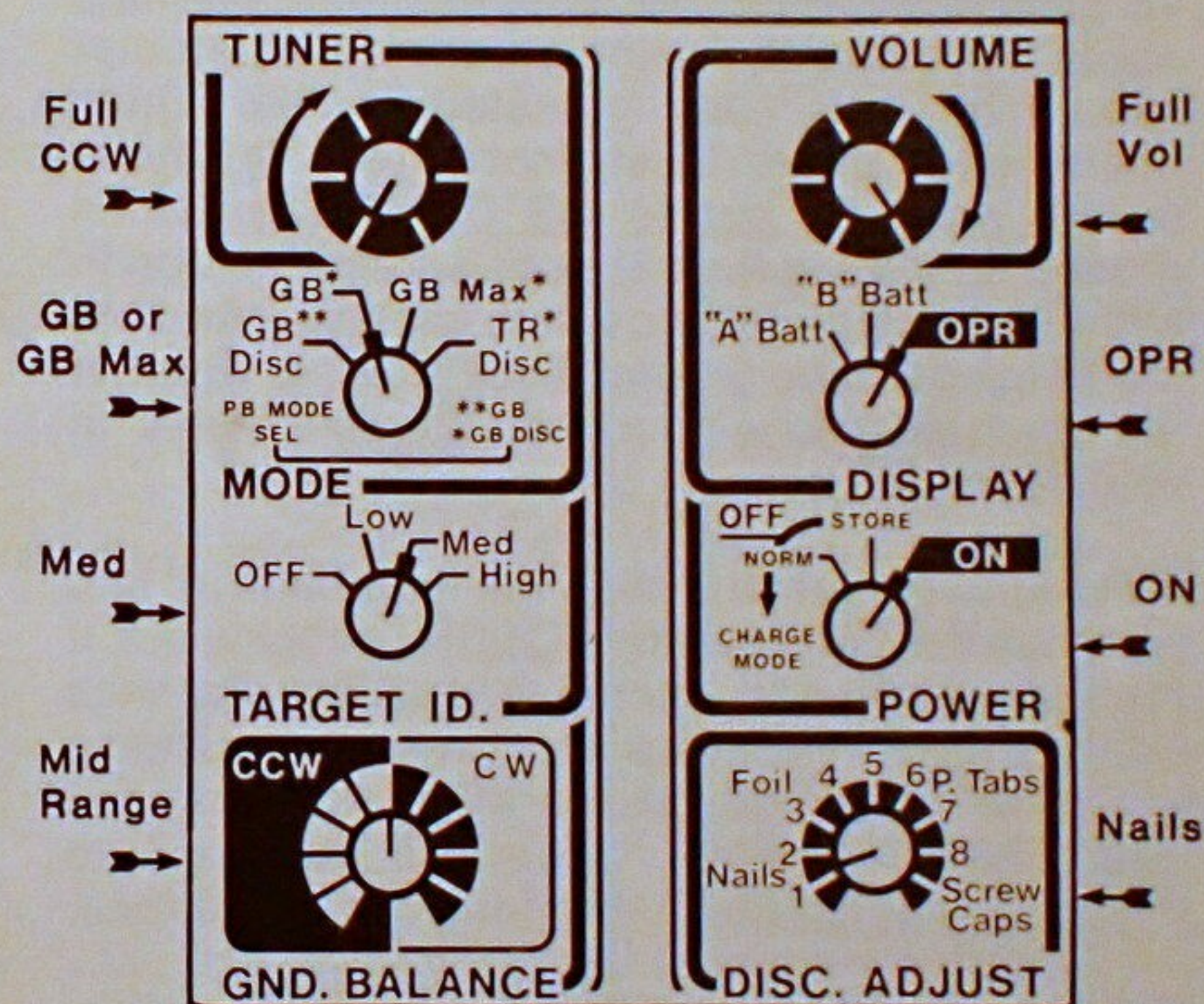
Start by setting the "Threshold" as follows:

CAUTION: Be sure the loop is at least three feet away from any metal area, and that your batteries are fully charged.

Set the controls as shown on page 13.

Press and hold in the push button on the handle and slowly increase the TUNER clockwise until a barely audible tone is heard. Release the push button. The detector is now tuned to its "Threshold". Passing a coin near the loop will cause an increase in the tone.

Once set, should the threshold change for any reason, other than actually changing the TUNER control, it can be reset by momentarily pressing the push button. Retuning to threshold is one function of the push button, the other is mode changing - more on this later.



GROUND BALANCING

The objective of "ground balancing" is to adjust the GND Balance control to a point at which the tuning Threshold does not change as the loop is lowered to ground level. Mineralization present in the soil will cause the threshold tone to go up or down until the detector is properly ground balanced.

To ground balance the detector, hold the loop about three feet above the ground. (The detector should be "ON" and adjusted to the tuning "Threshold" as previously instructed). The mode switch must be set to GB or GB Max when ground balancing the detector. Lower the loop to within approximately one inch of the ground. As the loop nears the ground, listen to hear whether the threshold tone increases or decreases in volume.

If the tone decreases, raise the loop back up and increase the GND Balance Control (clockwise). If the tone increases, decrease the GND Balance Control (counter-clockwise). Press and release the push button to retune after changing the GND Balance Control. Lower the loop back to the ground again and listen for a change in tone.

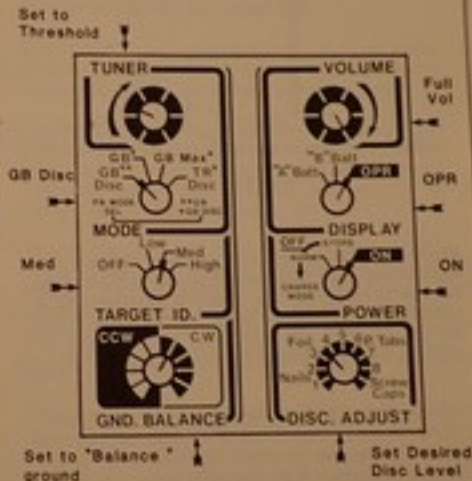
This must be done as many times as necessary until there is no change in the threshold tone with the loop near the ground or in the air.

NOTE: If there is difficulty in making the adjustment, you may be over a hidden metal object. Move to another area and try again.

GROUND BALANCE DISCRIMINATE

The G.B. Disc. Mode is a ground balanced discriminate mode. This mode relies on motion (sweeping the target) in order to function properly.

To use the G.B. Disc. Mode, start with the instrument tuned and ground balanced as described earlier. Next, set the controls as shown:



The marked off areas of the LCD overlay are for general reference - there may be some overlapping of targets into adjacent areas.

NOTE: The Target ID Mode is equipped with Target Signal overload alarm. When swinging the loop over a target if the audio tone should momentarily drop in frequency, this is a warning, the circuits have been overloaded by a too strong signal. (This overload will not harm the detector). The Target Identification reading will not be accurate. If this happens, you will have to begin over and slow the sweep down or sweep the loop at a higher distance above the target. The overload signal functions only when the Target ID is on.

When the Target ID is turned "OFF" two or three segments of the bar graph may stay lit - this is normal.

If you are in an area where many targets are close together, then use the GB Mode to identify the targets, since the GB mode has a smaller apparent pick-up pattern. Remember - the loop must be in motion to activate the Target Identification Circuits.

DEPTH READING

The bottom bar graph of the LCD indicates the depth of a single coin up to six inches deep.

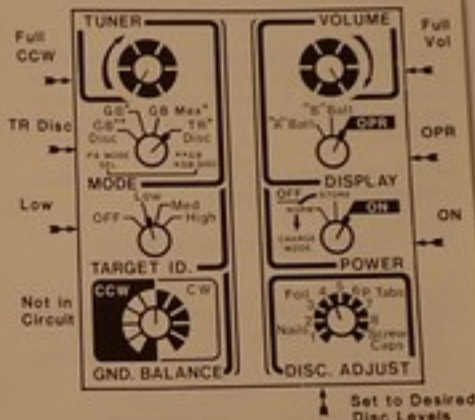
Once a good target has been located, press and release the push button to reset the depth scale. Then place the loop on the ground directly over the target (you will be centered over the target when the bar graph shows the closest distance to the target).

The depth reading works in all modes.

T.R. DISCRIMINATE

The TR Disc mode can be used on beaches, in houses, or other areas where mineralization is not present. The TR Disc mode will not cancel the effects of mineralized soil.

To use the TR Disc Mode, set the controls as shown



With the loop in the air, adjust the threshold as described earlier. Lower the loop to the ground. Press and release the push button to retune. Keep the loop level and at the same height above the ground while searching. Good targets will cause a sharp positive signal while bad targets will cause a negative response depending on the Disc. adjust setting.

Sweep the loop over the search area as shown.



Good objects will respond with a good positive signal tone. Bad objects will cause a negative or broken tone. When the detector responds to a good target, switch the Mode control back to GB for pinpointing. GB can also be selected by pushing in and holding the push button.

NOTE: The discriminate adjust setting determines whether certain metal objects will cause a positive or negative audio response. For example, when set to reject pull tabs - nails, foil, and nickels will cause negative audio response.

TARGET IDENTIFICATION

Target identification can be used in conjunction with any mode to identify positive target responses. Sweeping the loop over the Target activates the Target ID circuitry except in its "OFF" position.

The Target ID Switch has four (4) positions: Off, Low, Medium, and High. The "LOW" position is for use in areas containing very low mineralization or no mineralization such as some beach areas. This position requires two or three sweeps to identify the Target.

The "MED" position can be used in most areas of mineralization. This position requires six or seven sweeps to accurately identify a target.

The "HIGH" position is for use in areas of very heavy mineralization or areas where the detector is subject to a lot of interference, such as club treasure hunts. This position requires six or seven sweeps for accuracy.

To use the Target ID, start with the detector properly tuned and ground balanced in the GB mode. Turn the Target ID Switch to the position most suited to the area being searched. In most cases the "Medium" position will work best - use it if you are not sure of the mineralization in the area.

Proceed to search the area. When a target is located simply sweep the loop back and forth over the target six or seven times - stop - and look at the top bar graph of the LCD. The probable target will be indicated on the chart above the last lit segment of the bar graph. The Target ID reading on the LCD will remain unchanged until a new target is checked.

4. Pinpointing the target: Pinpointing is important, it helps to avoid damage to the object and ground.

"X"ing as shown helps to pinpoint the target:



5. Your 9000 can tell you many things about a particular target that can be helpful in determining whether or not to dig. Make use of all the information available as an example:

Depth reading can be an indicator of coin age - older coins are usually deeper. The sound response can tell a lot - a coin usually gives a good solid sound regardless of sweep direction. When checking a target, listen to the "Size" of the sound in the GB mode - a large target produces sound over a greater area than does a single coin. CAUTION: Because ring styles vary a great deal, rings may read anywhere on the Target I.D. scale. Our findings to date indicate that many ladies' gold rings will read almost the same as a nickel.

6. Respect the rights and property of others. Check local laws and ask permission to hunt. Always fill all holes and avoid damage to lawns.

FIELD APPLICATIONS

COIN HUNTING

Coin hunting, or coinshooting as it is sometimes called, is the use of a metal detector to locate coins and small jewelry wherever people have been and may have lost such items.

The Teknetics 9000 is an excellent coinshooting detector. To coin hunt, adjust the detector for normal outdoor use at the hunt site. Adjust the Discrimination control to the level of trash rejection desired. CAUTION: High discrimination settings will reject Nickels and small gold rings and gold coins. However, with the 9000 LCD a very low discrimination setting can be used. When the discriminate audio tone signals a good target, the Target ID can be used to identify the target. *

Once it has been determined the target is good, it's depth can be checked.

Carefully remove the target taking care not to damage the object. In lawn areas, caution should be exercised so as to not damage the grass or leave unsightly and dangerous holes.

NOTE: The discriminate control only affects the audio response - the LCD will show all objects that are foil and above regardless of the Disc. adjust setting.

*Freshly buried coins may not readout on the LCD exactly the same as coins buried for a long time.

RELIC HUNTING

Old homesteads, ghost towns, and battle fields are some of the areas that may yield interesting and valuable old relics. Since most any item may be of interest, you might want to hunt these

areas without using any discrimination or a minimum discrimination setting. In fact for the greatest depth possible, you may want to use the GB Max Mode.

To use the GB Max, set the threshold and ground balance as described earlier, except do so with the Mode switch set to GB Max.

PROSPECTING

The 9000 can be used to locate gold nuggets, silver and copper nuggets, and black sand pockets.

To hunt for nuggets adjust the detector for operation in the GB or GB Max Mode and search known gold or silver bearing regions. The loop can be submerged underwater for searching shallow streams. The instrument case is not waterproof - protect it from water or rain.

BEACHCOMBING

Beachcombing is a lot like coinshooting except the digging is usually easier. A simple scoop with a screen or holes to allow the sand to escape works quite well.

Wetted beach sand is usually so conductive that maintaining ground balance may be difficult. You may find that it is best to ground balance over dry sand (if mineralization is present) and then switch to GB Disc. for searching over wet salt sand.

If the sand is non-mineralized the TR Disc. mode can be used. By adjusting the Disc. wet salt sand can actually be "Tuned" out normally between nails and foil on the dial.

DETECTOR CARE AND SERVICE

The following precautions & service tips will help ensure your detector's long life and performance.

Cleaning: The loop and rod are waterproof. They can be cleaned with fresh water and a mild non-abrasive cleanser. The case can be wiped clean with a damp cloth. After cleaning, dry the instrument thoroughly. **CAUTION:** The detector case is not waterproof, and water - if allowed to enter it - will damage electronic components.

Weather Conditions: Your detector has been engineered with durability in mind. However, like any fine electronic equipment, your detector should be protected from excessively cold or hot weather. Freezing or excessive heat can damage the electronic components. The case is not waterproof, protect it from rain.

Additional Precautions: Avoid dropping your detector. Sharp blows to the loop should also be avoided.

Storage: Store the detector in a cool dry place - not in a hot attic, etc...

The following service tips may help if trouble is encountered:

1. The detector will not operate (dead):
 - a) Check battery condition.
 - b) Check controls for intermittent operation.
 - c) Check the loop cable connection to case.
2. Erratic Operation:
 - a) Check battery condition.
 - b) Check to see that the loop cable is wrapped

ped snugly around the rod and properly connected.

3. Oscillating or pulsing tone:
 - a) This effect can be caused by external electrical sources such as: power lines, television sets, CB radios, and/or other nearby detectors.
4. The detector "drifts" or slowly changes in tone:
 - a) Sudden temperature changes can cause "drift" - allow time to stabilize.
 - b) Apparent drift may be due to improper ground balancing, or use of the TR Disc. mode in mineralized areas.
 - c) Component failure can cause rapid steady drift.
5. No sensitivity:
 - a) The GB Disc. & Target ID modes rely on motion to produce a sufficient signal for activating these circuits.
 - b) Mineralization can greatly reduce depth of the TR Disc. Mode.
 - c) Improper ground balancing.
 - d) Check battery condition.

VERIFICATION OF PERFORMANCE

In order to familiarize yourself with the operation of your detector and to be assured of all the modes of operation, the adjustment instructions may be carried out indoors if the following precautions are followed: Remove metal objects such as watches and rings and be sure that other large metal objects are at least several feet away so that there is no influences on the detector. Television, fluorescent lighting, microwave and other types of equipment of this nature can cause interference.

SPECIFICATIONS

Operating Frequency: 6592 Hz Crystal Controlled

Audio Frequency: 412 Hz

Weight: 4 lbs. 11 oz.

Optimum Temperature Range: 33°-100°F

Optimum Humidity Range: 0%-75%

Power Requirements: 9v & 12v DC (Nominal)

Batteries: 14 Individual Nicad Cells

Battery Life Expectancy: 7 to 10 hrs. continuous use (PER CHARGE)

Depth Capability: U.S. 25 Cent Piece @ 9" to 10"
Your actual depth may vary somewhat as a result of ground conditions, length of time the object has been buried, and your skill.

Loop Diameter: 7 1/4 inch.

Loop Weight: 8 1/4 oz.

Loop Type: Bi-planar Concentric

Integrated Circuits: 46 I.C.'s - equivalent to over 9,300 Transistors

Special Feature: LCD Readout of depth & probable target. Also indicates battery condition, mode of operation, and battery charge condition.

Modes of Operation: G.B. Disc., G.B., G.B. Max., T.R. Disc.

TEKNETICS, INC. reserves the right to modify, improve, or otherwise change the design capabilities or specifications of its detectors without further notice.

PUSH BUTTON MODE CHANGING

As mentioned earlier, the push button is used to "Retune" by momentarily pressing it. The push button can also be used to change modes.

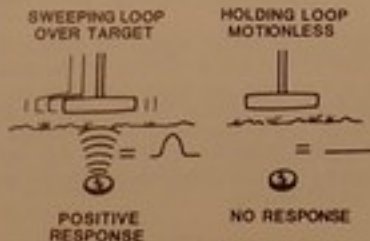
As an example if the mode switch is set to the GB Mode, pushing in on the push button and holding it in will switch the detector to it's GB Disc. Mode until the button is released. The LCD will display which mode you are in.

The push button can also be used as an aid in pinpointing. As the loop is moved nearer the target, pressing & releasing the push button detunes the target signal making it easier to pinpoint.

NOTE: When detuning to pinpoint, the depth reading will not be accurate.

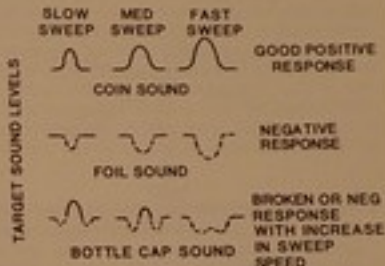
TIPS FOR OPERATION

1. This detector relies on motion to activate both GB Disc. mode and the Target ID circuitry. The following is an example of how this works:



2. Interpreting different types of responses:

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



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



SIX YEAR LIMITED WARRANTY

TEKNETICS warrants each new instrument delivered to the original consumer or its authorized dealers to be free from defects in material and workmanship under intended normal use as described in the operation instruction manual, provided the original consumer registers the warranty with TEKNETICS within ten (10) days after purchase. The warranty is extended only to the individual or legal entity (registered consumer) whose name appears on the warranty registration card filed with TEKNETICS and may not be transferred to any other individual or legal entity.

Should your instrument fail within the warranty period due to defective parts or workmanship, return the unit, prepaid, WITH PROOF OF PURCHASE (copy of the bill of sale), accompanied by \$10.00 to defray the costs of packaging and return freight, directly to TEKNETICS or any authorized service center.

TEKNETICS assumes no obligation to pay the registered consumer a cash refund. This remedy represents the full extent of the manufacturer's liability with regard to these products and is in lieu of all other remedies. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The provisions of this warranty shall not apply to any instrument that has been subjected to misuse, use contrary to the instruction manual, negligence and/or physical damage, or which has been repaired or altered by anyone other than TEKNETICS or an authorized service center.

TEKNETICS will:

From the date of the sale for a period of:

6 YEARS - Replace defective parts at no charge, labor will be charged for.

2 YEARS - Replace defective parts and furnish labor at no charge.

90 DAYS - Replace defective parts and furnish labor at no charge and prepay the costs of packaging and return freight, when the dealer from whom the instrument was purchased has made verification of a defect.

There are no express warranties other than as contained in this statement and any implied warranties shall expire 90 days after the date of purchase. Some states do not allow limitations on the length of an implied warranty so this limitation may not apply to you.

WARNING!

This TEKNETICS instrument is sealed at the factory to protect your warranty rights. Any evidence of tampering with the seals will automatically void any warranty rights you may have. Return the instrument to the factory or your nearest authorized service station.

A PEEK INSIDE

Your TEKNETICS 9000 LCD has over 9000 equivalent transistors.

For those customers who are curious as to what the inside looks like, we enclose the following photo:



NOTES