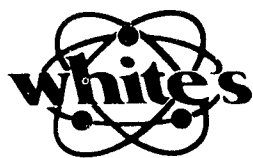


OPERATOR'S MANUAL

white's 6000/Di *PRO Plus*

PROFESSIONAL SERIES Metal Detector

Manufactured by WHITE'S ELECTRONICS, Sweet Home, OR, USA



ATTENTION:

To use your instrument under average conditions, set each of the controls to their  position.

If you need to fine tune the instrument to operate in other than average conditions, please refer to the operator's manual for more detailed information.

**A Message from
Mr. Kenneth White, Sr.
President, White's Electronics**

Congratulations! You are now the proud owner of one of the world's finest detectors. You'll enjoy the many relaxing hours you'll spend with your new detector.

Ahead of you lie exciting experiences you'll never forget. For years to come you'll have yarns to spin about the places you'll visit, the people you'll meet, the history you'll learn, and the treasures and relics you'll uncover. We envy your journey and wish you every success.

Before we tell you how to assemble and operate your instrument, however, there are two important points to leave you with:

1. Your new detector is precision-made and has been carefully tested at our factory. Properly cared for, it will last for years and years. Treat it like a good friend and it should never let you down.
2. Any piece of fine equipment is only as good as the person operating it. Right now your detector is "smarter" than you, so you've got some catching up to do. Become very familiar with your instrument. Practice as much as you can. Soon it will become a part of you.

You and your metal detector will make an outstanding team. We've known many "shooters" who could follow in the tracks of others and find buried coins and rings the others had missed. You've got the equipment to out-shoot most anyone. Now all you need is the practice.

Good Hunting,

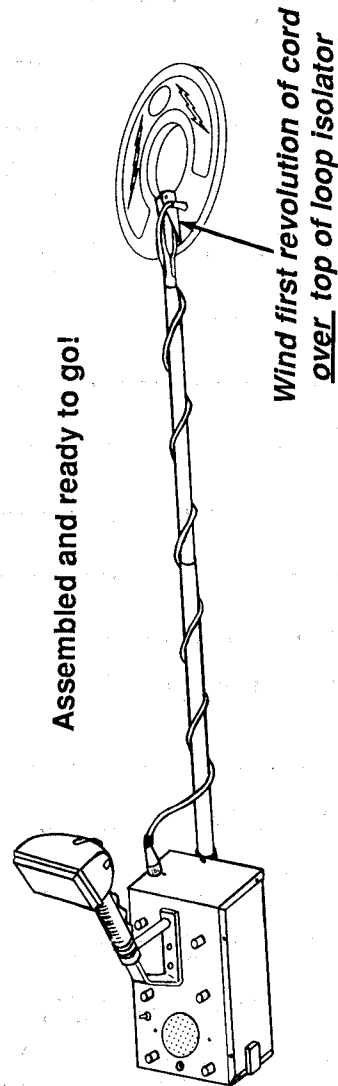
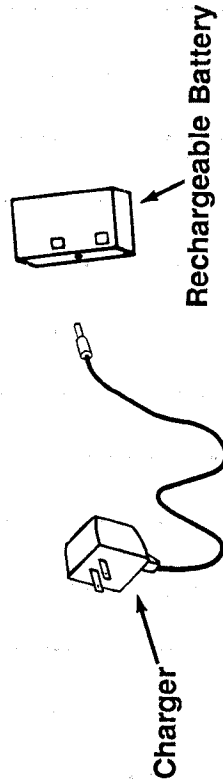
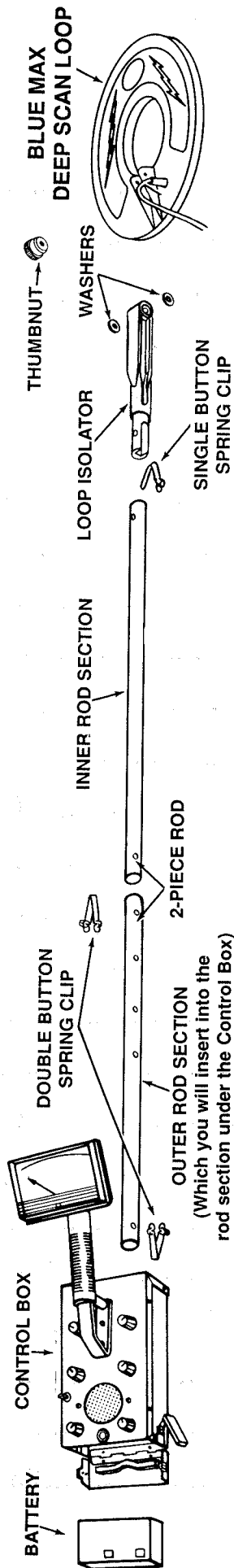
A handwritten signature in black ink that reads "Kenneth White". The signature is written in a cursive, flowing style.

Kenneth White, Sr.

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PARTS IDENTIFICATION AND ASSEMBLY



USING PRESET

To use your 6000/Di Professional Plus under average conditions, set each of the controls to their ∇_P position. If you need to fine tune the instrument to operate in other than average conditions, please refer to the following pages for more detailed information.

MORE ABOUT PRESET

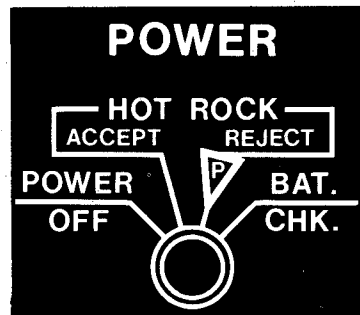
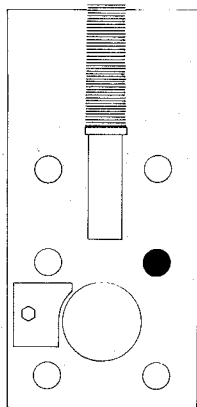
As with any metal detector, PRESET ∇_P is not the "preferred" mode of operation. The best results are always obtained by setting the controls for the exact conditions of the area. However, for the beginner, setting the controls to PRESET ∇_P can give very satisfactory performance with a minimum amount of effort.

Remember, PRESET ∇_P is designed for good performance under average conditions. In areas with extremely strong soil, it may be necessary to fine tune the instrument as described in the following pages.

QUICK TUNING

1. Set the MODE control to GEB/NORM.
2. Set all other controls to PRESET ∇_P .
3. Holding the loop waist high, squeeze the trigger and set the TUNER control for a slight tone. Release the trigger. The threshold is now set.
4. Still holding the loop waist high, push the AGEB switch into the AIR position and release. The instrument should respond with a beep.
5. Place the loop flat on the ground and pull the AGEB switch into the GND position. Don't move the loop until the instrument beeps.
6. Lift the loop and listen for a change in threshold tone. If the tone doesn't change, the instrument is ground balanced. If the tone changes, move over and repeat steps 4 and 5.
7. Now lower the loop to the ground and search by sweeping the loop from side to side overlapping each pass. Each sweep of the loop from left to right and back again should take approximately four seconds.
8. Good targets will sound smooth and solid and the meter will lock onto one indications.
9. Bad targets will sound rough or broken and the meter may jump between several indications.
10. Once a good target has been located squeeze and hold in the TRIGGER SWITCH (located under the meter handle assembly) and "X" the target. The loudest sound and shallowest depth indication (furthest meter movement to the right) indicates the center of the target.

EXPLANATION OF CONTROLS: POWER



QUICKLOOK

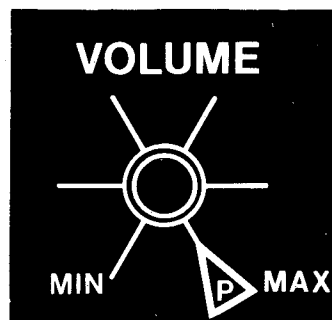
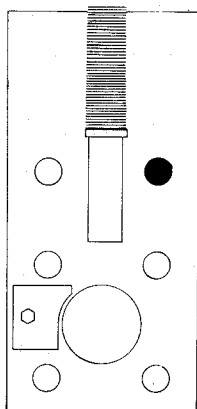
1. The power control turns the detector on and off, selects between HOT ROCK ACCEPT and HOT ROCK REJECT, and tests the battery strength.
2. HOT ROCK ACCEPT/REJECT only effects the GEB/DISC mode.
3. The HOT ROCK REJECT ∇ position is the PRESET selection and should be used by those first learning this model's operation. This REJECT position will reject most hot rocks, (rocks higher in mineralization "Iron" than the surrounding ground). This position should also be used for areas where hot rocks are causing difficulties such as false signals, erratic or unstable operation, or continuous pinging of the audio tone.
4. The HOT ROCK ACCEPT position is an additional option for areas where HOT ROCKS are not a problem or for more experienced operators who can identify HOT ROCKS by their audio and visual characteristics. In some areas slightly better sensitivity may be noted in the HOT ROCK ACCEPT position, and if in doubt this ACCEPT position should be used until HOT ROCKS are known to be a problem.

MORE ABOUT HOT ROCK ACCEPT/REJECT

In the HOT ROCK REJECT ∇ position most hot rocks will not produce a tone, the threshold tone fades or goes quiet and the METER generally will peg fully left and or right firmly.

In the HOT ROCK ACCEPT position most hot rocks will produce a tone however the METER generally will peg fully left and or right firmly and when the trigger is squeezed for pinpointing the signal will disappear.

EXPLANATION OF CONTROLS: VOLUME



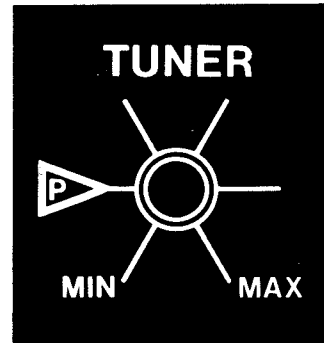
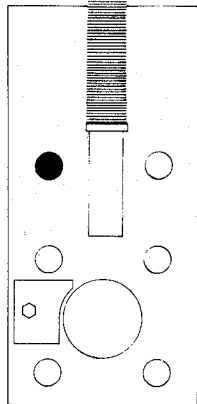
QUICKLOOK

1. The VOLUME controls the maximum level of the audio tone.
2. The detector should be operated at maximum volume for best results.

MORE ABOUT VOLUME

As long as the volume level is set higher than the threshold tone of the tuner control, no significant decrease in sensitivity will be noted at reduced volume levels. This is unlike many White's instruments produced in the past.

EXPLANATION OF CONTROLS: TUNER



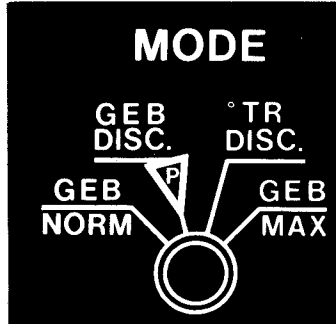
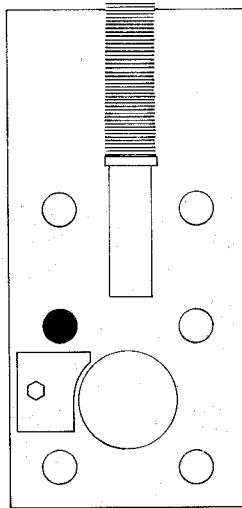
QUICKLOOK

1. The TUNER sets the detector's THRESHOLD.
2. The THRESHOLD is indicated by an audio tone that is barely heard. It represents the detector's maximum operating sensitivity.
3. To set the THRESHOLD:
 - a. Set all controls at ∇P .
 - b. Hold the detector so that its loop is in the air, straight out in front of you, waist high.
 - c. Squeeze and release the TRIGGER SWITCH and turn the TUNER to the right until the tone is barely heard.
4. THE THRESHOLD NEEDS TO BE RESET (TRIGGER) WHENEVER ANY OF THE OTHER CONTROLS ARE ADJUSTED. To reset the THRESHOLD, raise the loop waist high and squeeze and release the TRIGGER.

MORE ON THE TUNER

The tuner control can be adjusted slightly counterclockwise of the PRESET ∇P or threshold tone. This produces what is known as silent operation, where the instrument doesn't make a sound unless metal is being detected. In the GEB/DISC mode, no significant change in sensitivity will be noted when searching in silence. However, the other three modes (GEB/NORM, TR/DISC, and GEB/MAX) will experience a notable decrease in sensitivity when the tuner is set for silent operation. It is recommended to set the tuner for a slight threshold tone.

EXPLANATION OF CONTROLS: MODE



QUICKLOOK

1. The MODE switch selects one of the detector's 4 modes of audio detection.
2. Each MODE is designed for specific search conditions. These conditions include soil mineralization; amount of junk cluttering the area; and the targets to be located.
3. Each mode produces an audio response. It does NOT effect the METER.
4. Each mode is explained in detail on the following pages.
5. GEB/NORM and GEB/MAX detect all metals. GEB/DISC and TR/DISC are discriminate modes.

MORE ON MODE

Each of the four modes of operation have their own characteristics and uses. Please refer to the explanation of each mode in order to better understand their specific purposes.

EXPLANATION OF CONTROLS: MODE: GEB/NORM

QUICKLOOK

1. The GEB/NORM MODE locates ALL METALS while neutralizing the effects of ground mineralization.
 - a. This MODE may best be used for prospecting, relic hunting, and coin hunting in areas where there is little junk, (like pulltabs, nails, bottle caps, etc.)
2. In the GEB/NORM MODE, it must be ground balanced using the Automatic GEB switch. (See page 11).
3. In GEB/NORM, the loop DOES NOT have to be in motion.
4. GEB Automatic Tracking does not occur in the GEB/NORM mode.
 - a. GEB Automatic Tracking is described under the explanation of the Automatic GEB control.

MORE ABOUT GEB/NORM

GEB/NORM is the standard, all metal mode for the Di Pro. It is used when the detection of all metals is desired. This mode can also be used effectively for pinpointing. Pinpointing is described on page 16 .

EXPLANATION OF CONTROLS: MODE: GEB/MAX

QUICKLOOK

- 1 . The GEB/MAX MODE locates all metals while neutralizing the effects of ground mineralization.
 - a. This MODE may best be used for relic hunting, and for locating very deep targets in areas where there is little junk, (like pulltabs, nails, bottlecaps, etc.).
- 2 . In the GEB/MAX MODE, it must be ground balanced using the Automatic GEB switch. (See page 11).
- 3 . In GEB/MAX, the loop does not have to be in motion.
- 4 . GEB/MAX has approximately 30% greater depth penetration than GEB/NORM. NOTE: Due to the increased sensitivity of GEB/MAX, it may have a somewhat rougher tone than GEB/NORM.
- 5 . GEB Automatic Tracking does not occur in the GEB/MAX mode.

MORE ABOUT GEB/MAX

GEB/MAX is the most sensitive mode of the Di Pro. Because it is so sensitive, false signals or interference are more likely to occur in GEB/MAX than in any of the other three modes. When using GEB/MAX, the instrument should be ground balanced as described on pages 11-12. Variations in ground mineralization are more apparent in GEB/MAX.

EXPLANATION OF CONTROLS: MODE: GEB/DISC

QUICKLOOK

- 1 . The GEB/DISC MODE will DISTINGUISH BETWEEN DESIRABLE AND UNDESIRABLE OBJECTS while neutralizing the effects of mineralization.
 - a. This MODE may best be used for coin hunting in areas where there is a great deal of junk, (such as pulltabs, nails and bottlecaps, etc.).
- 3 . In GEB/DISC, the loop MUST be in motion. This is a slow sweep mode.
- 4 . When switching modes with the trigger, the instrument should be ground balanced.
- 5 . When in GEB/DISC MODE, with the Automatic GEB Switch in the GND (tracking) position, the instruments GEB setting will adjust with each sweep of the loop (see page 12).

MORE ABOUT GEB/DISC

The GEB/DISC mode is used to reject both ground and junk items (such as nails, tin, bottlecaps and pulltabs). The DISC control setting determines which targets will be rejected. Targets above the DISC set point produce louder tones. Targets below the set point produce softer or broken tones.

The loop must be in motion (swept) to detect in GEB/DISC mode. When the loop is passed over a target, the instrument will give an audible signal. However, if the loop is stopped over the target, the signal will disappear. To pinpoint, squeeze and hold the trigger. This puts the detector in GEB/NORM mode and the meter reads depth (See page 14).

EXPLANATION OF CONTROLS: MODE: TR/DISC

QUICKLOOK

1. Provides audio discrimination between desirable and undesirable targets but will not neutralize the effects of ground mineralization at the same time.
 - a. This may be used for prospecting, searching in areas with low amounts of mineralization, and in areas where there is no room to swing the loop (as is necessary with the GEB/DISC mode).
 - b. In this function the DISC control is adjusted to distinguish between desirable and undesirable targets. (See page 13).
 - c. To tune the detector in this mode, proceed as follows:
 1. Tune to THRESHOLD as described on page 7.
 2. Lower the loop to approximately 1/2" above the ground.
 3. Squeeze and release the TRIGGER SWITCH with the loop level to the ground and as close to the ground as possible.

NOTE: If the loop is tilted or lifted, the tone may change due to variations of the ground.

- e. When searching in TR/DISC, the loop does not have to be in motion.
 - f. This MODE gets excellent depth penetration wherever it can be used. However, if the ground is mineralized, the detector will frequently give false signals. In mineralized ground, it is best to hunt in one of the 3 GEB MODES.
2. Provides extended ground balance when manually tuned.

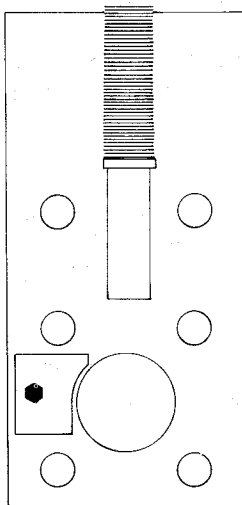
MORE ABOUT TR/DISC

In the TR/DISC mode, the DISC control can be used as an extended ground balance control. This is useful in areas where the ground mineralization is beyond the range of the Automatic GEB control. The DISC control can be used to cancel ground as follows:

1. Set the MODE control to TR/DISC mode.
2. Set the DISC control to the center of the GND REJ. zone.
3. Set all other controls to PRESET ∇ .
4. Holding the loop waist high, squeeze and release the trigger. Then adjust the TUNER control for a slight tone.
5. Lower the loop to the ground and listen for a change in threshold tone. If the tone doesn't change, the instrument is balanced.
6. If the tone increases, turn the DISC control slightly counterclockwise. Hold the loop waist high, squeeze and release the trigger, and repeat step 5.
7. If the tone decreases, turn the DISC control slightly counterclockwise. Then hold the loop waist high, squeeze and release the trigger, and repeat step 5.
8. If you have any difficulty, or if the ground balances well outside the GND REJ. range, you have probably balanced over a target. In this case, move over and try again.

EXPLANATION OF CONTROLS:

GEB



QUICKLOOK

1. The GEB (Ground Exclusion Balance) control is used with all 3 GEB MODES to neutralize the effects of ground mineralization. This ground balances the detector.
2. THE DETECTOR NEEDS TO BE GROUND BALANCED EVERY TIME YOU BEGIN SEARCHING AN AREA. To Ground Balance the detector, set the controls as follows:

TUNER	MODE	GEB	VOLUME	POWER	DISC
THRESHOLD	GEB/NORM GEB/MAX	LOCK			

3. Hold the instrument with the search coil at waist level, away from all metals.
4. Push the automatic GEB switch forward into the AIR position and release. A beep indicates that the air balance is complete.
5. Place the search coil flat on the ground.
6. Pull the automatic GEB switch into the GND position. Hold the loop still until the detector beeps.
7. Lift the loop from the ground and listen for a change in threshold. If the threshold does not change, the detector is balanced.
8. Leave the GEB switch in the GND (track) position to select GEB tracking. Move the switch to the center (LOCK) position to lock the GEB setting. You are now ready to search.

MORE ABOUT GEB

The Automatic GEB switch has two separate functions. First, it allows you to perform a static ground balance using the Air/Ground sequence described above. This is equivalent to ground balancing with the knob on a manual GEB metal detector.

AIR BALANCING HINTS:

When performing a static ground balance, an “air balance” operation should always be succeeded by a “ground balance” operation. Air balancing without a successive ground balance can cause audio drift in the GEB/NORM, GEB/MAX, and TR/DISC modes. It is also good practice to ground balance immediately after the air balance is complete. Waiting for extended periods between these two operations can cause a GEB setting error. Once the ground balance is completed the setting is locked in and the air balance circuit has no further effect.

GROUND BALANCING HINTS:

The two main concerns during the ground balance operation are the tilt angle of the loop and balancing over targets. If the tilt angle of the loop changes between air balance and ground balance, it will cause an error in the GEB setting. The amount of error depends on how much the loop is tilted. The way to avoid this problem is to set the loop at the desired angle before the air/ground sequence and tighten the screw enough that the loop doesn't move when placed on the ground. If the loop does tilt when placed on the ground, simply repeat the air balance before ground balancing. Once the air/ground sequence is complete, changing the tilt angle of the loop will not affect the GEB setting.

The outcome of ground balancing can be checked in the GEB/NORM or MAX mode. This is done by resetting in the air (using the trigger) and moving the loop around on the ground. If the threshold goes away everywhere except the spot you balanced over, then you've balanced over a target. Move the loop over and try again. If the threshold gets louder everywhere, then the ground is outside the instruments GEB range. If the threshold doesn't change between air and ground, then the instrument is ground balanced.

RULES OF THUMB:

Here are some suggestions that should make GEB operation easier:

1. Although the instrument will ground balance in any mode, it is suggested that balancing be done in GEB/NORM or MAX mode. This allows the user to hear if the ground is outside the instruments range and he can immediately verify his results. The GEB status cannot be checked in the discriminate modes.

2. Don't change modes between air and ground balancing. It can cause confusing audio indications and the time spent switching between modes will add to the air balance drift error.
3. If the instrument doesn't succeed in balancing, try again. If you make some inadvertent error, such as tilting the loop or moving it before the ground balance cycle is complete, repeating the air/ground sequence will almost always correct the problem.

GEB TRACKING:

The second function of the Automatic GEB switch is to select GEB tracking. GEB tracking enables the instrument to "self adjust" its GEB setting. As the loop is swept, the tracking system makes incremental adjustments that compensate for changes in the ground. This keeps the instrument ground balanced even if the ground changes as you hunt.

The tracking can be selected by leaving the GEB switch in the "GND" (TRACK) position after completing the air/ground sequence. Whenever the GEB/DISC mode is selected and the GEB switch is in the "GND" (TRACK) position, the tracking system will operate. GEB tracking works only in the GEB/DISC mode.

The center (LOCK) position of the GEB switch turns GEB tracking off. With the switch in this position, the GEB setting remains "locked" where it was last set by the tracking system or by the air/ground sequence.

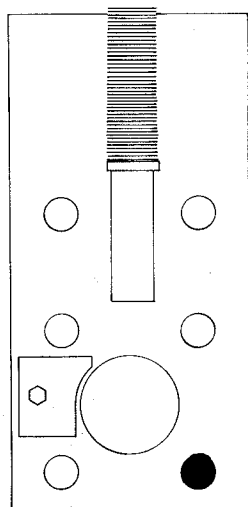
OTHER GEB TRACKING HINTS:

The GEB tracking system always adjusts to the low point of the sweep. If you search with the loop 2" off the ground, that is where the tracking system will balance. If you then check for ground balance with the loop flat on the ground, the GEB setting will be wrong. Thus, it is important to keep the loop close to the ground when searching. If you use an arcing sweep, make sure that its low point is touching or almost touching the ground. If you use a flat sweep, keep it as close to the ground as possible. This should help keep the instrument accurately balanced.

If the area you search has enough junk (iron and other bad targets) that there are always targets under the loop, the tracking system will tend to average these targets. This is also true of areas with large amounts of rust in the ground. If you then move outside the littered area and check ground balance, the setting will probably be wrong. If you continue to hunt as you move out of the littered area, the tracking system should adjust to the cleaner ground.

Although the tracking system works well in most areas, there may be conditions in which it gives poor results. In these areas, balance using the air/ground sequence and then return the GEB switch to the center (LOCK) position. This turns off the tracking system and should give results similar to a manual GEB instrument.

EXPLANATION OF CONTROLS: DISC



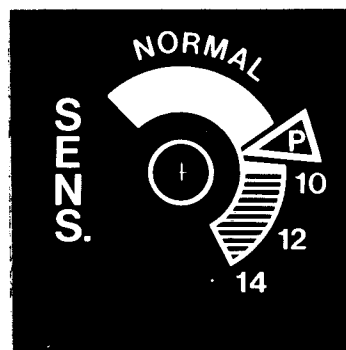
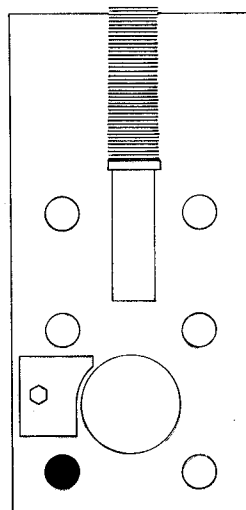
1 ← <u>DISC KNOB</u> RANGE (AUDIO) → 9						
			METER VDI RANGE			
GROUND	SALT (Beach)	NAILS	RINGS			PENNIES ← → DOLLAR
			FOIL	NICKEL	TABS	

Comparison chart to illustrate the effective ranges of the VDI METER and the DISC knob.

QUICKLOOK

1. The DISC (Discrimination) control works with the GEB/DISC and TR/DISC modes to help audibly distinguish between desirable and undesirable targets.
The DISC control allows the user to selectively interpret targets within the range of the above chart. The user sets the discriminate point with the knob, slightly below the desired target (see above chart).
The audio response of targets ABOVE the DISC setpoint produce louder tones. Targets below the setpoint produce softer or broken tones.
EXAMPLE: With the DISC control set at ∇ , nickels and all other U.S. coins will produce a louder, solid tone. Nails and other iron junk will produce a broken, softer tone.
2. The DISC control effects the Audio Discriminator. It does not effect the Visual Discrimination readings.
3. Discrimination should be used only as necessary to avoid passing over desirable targets.
EXAMPLE: When the DISC control is set to reject pulltabs or screw caps, the U.S. nickel, some thin rings and other valuable items may also be rejected.

EXPLANATION OF CONTROLS: SENSITIVITY



QUICKLOOK

Unlike earlier 6000/Di Professional models, the sensitivity control of this model is always activated.

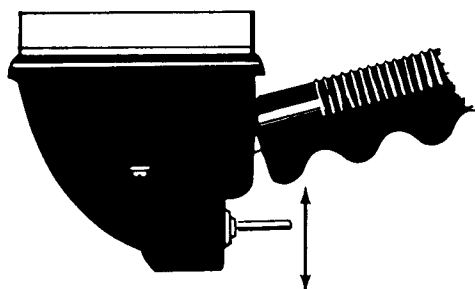
As a general rule, ∇ PRESET works well for operating under average conditions.

The SENS (Sensitivity) control is used to either increase or decrease the sensitivity of the detectors audio tone in the GEB/DISC mode only and the METER indications in all four modes. If interference from external sources such as highly mineralized ground conditions or radio interference causes erratic behavior of the detector, the reduction of the sensitivity control "counterclockwise" will insure effective operation.

Here is a simple procedure for correctly setting the sensitivity. After ground balancing in GEB/NORM or GEB/MAX, find an area free of targets. In the GEB/DISC mode, sweep the loop as you would while searching. At the same time, turn the SENS knob clockwise until the detector responds to the ground. Back the knob off (counterclockwise) to just below where the instrument responds to the ground. This setting gives good results under most conditions.

EXPLANATION OF CONTROLS: TRIGGER SWITCH

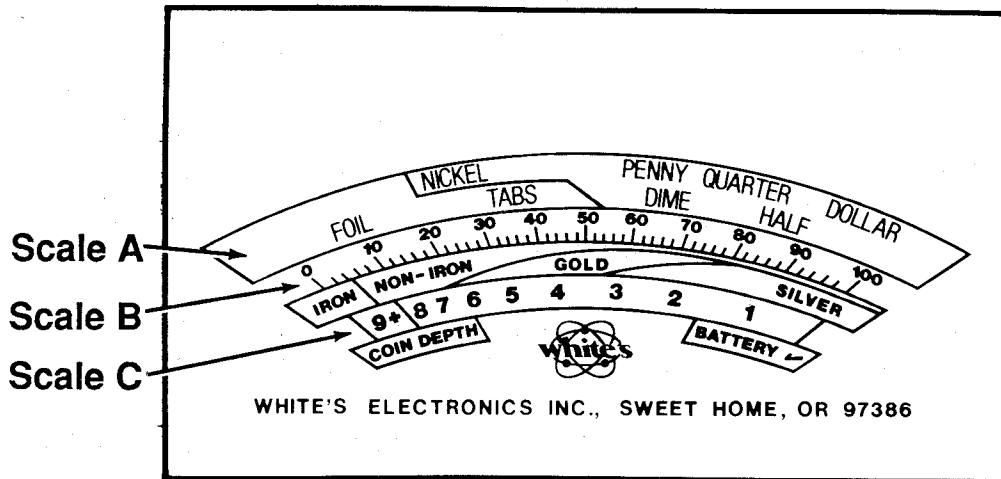
	SQUEEZED			
	TRIGGER NORMAL		TRIGGER IN	
MODE SWITCH	OPR MODE	METER	OPR MODE	METER
GEB NORM	GEB NORM	VDI	GEB DISC	DEPTH
GEB DISC	GEB DISC	VDI	GEB NORM	DEPTH
TR DISC	TR DISC	VDI	GEB MAX	DEPTH
GEB MAX	GEB MAX	VDI	GEB DISC	DEPTH



QUICKLOOK

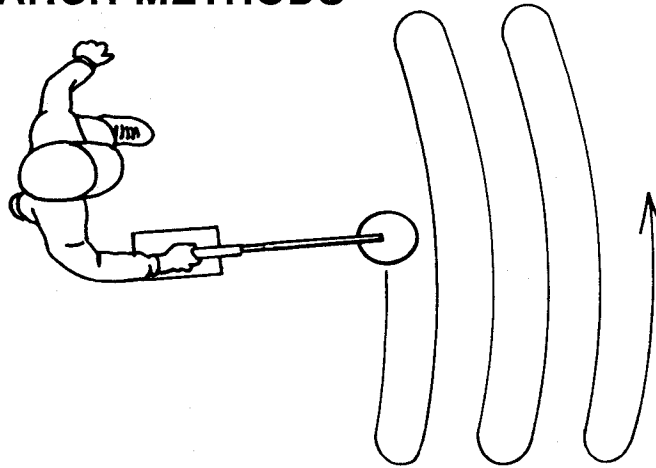
1. The TRIGGER SWITCH is a control that changes the detector's operating mode. The above chart shows these changes:
 - a. **RETUNING:** Regain THRESHOLD by squeezing and releasing the TRIGGER SWITCH. This must be done after any control has been adjusted.
 - b. **MODE CHANGING:** Whenever the TRIGGER SWITCH is squeezed, the operating mode will change from that selected by the MODE switch. See the above chart.
 - c. **METER SWITCHING:** When the TRIGGER SWITCH is squeezed, the Meter Reading changes from Visual Discrimination to Depth Reading.
2. The mode and meter changes activated by squeezing the TRIGGER are locked into place when the TRIGGER switch is pushed forward.

METER



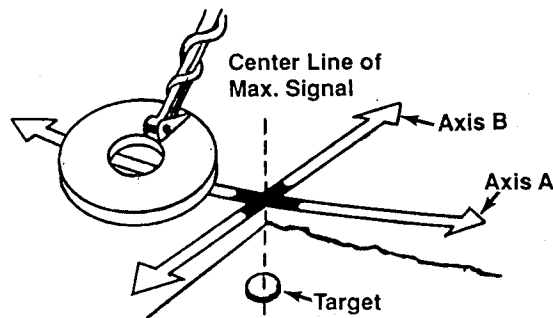
1. The METER indicates the following information:
 - a. VDI (Visual Discrimination Indicator) scale shows the probable identity of various targets and is calibrated to indicate U.S. coins only. The loop must be in motion for VDI to function.
 - b. Reference Scale indicates the target's response in terms of numbers between 0-100. Most objects will register at the same number on the 0-100 Reference Scale. This allows an item to be logged and recognized whenever the METER needle indicates that reference number.
 - c. The Depth Reading scale indicates the depth of coinsized targets in all modes, from surface to 9 inches.
 - d. Battery Good scale indicates the battery pack level is high enough to operate the unit. (Power Switch in BAT. CK.)
2. The unit may audibly detect targets more deeply than the METER will indicate.
3. When the TRIGGER SWITCH is out, the METER indicates Visual Discrimination Scale (a). When the TRIGGER SWITCH is pressed, the METER indicates the Depth scale (c). See chart on page 14.
4. The METER usually indicates a target's probable identity after one or two sweeps with the loop.
 - a. The METER will continue showing this indication until another target is detected or the TRIGGER SWITCH is squeezed and released which resets the METER to "0".

SEARCH METHODS



1. Always keep the loop flat and parallel to the ground. When raised, the depth penetration is decreased.
2. Swing the loop in front while searching. Each swing may cover an area from 4-6 feet in width.
3. The loop should be passed along the ground in smooth, even swings. It does not have to be swung quickly.
4. When a target is detected, sweep it from several directions, noting its Audio and Visual characteristics.
5. Before recovering an item, note its depth on the Meter. This will help avoid hitting and marring the object during removal.

PINPOINTING



It is possible to pinpoint a target in two ways: **DE-TUNING**, using the loudest volume in the GEB/NORM mode, or, using **DEPTH READING** with the TRIGGER held in.

DE-TUNING METHOD

1. Switch to GEB/NORM mode. (This method also works in the GEB/MAX mode.)
 2. Move the loop towards the target until the tone reaches its maximum level. At this point, move the loop across the target at a right angle until again the tone reaches its maximum level.
 3. Squeeze and release the TRIGGER several times as you move the loop over the target area. You will be trying to narrow the detector's response to the target so it will be easier to know when the center of the loop is directly over the target.
 4. When the target is pinpointed, move the loop off to one side.
 5. Squeeze and hold in the TRIGGER (establishing DEPTH READING on the METER). Move the loop back over the target. Read the depth on the target and recover the object.
- NOTE: DEPTH READING is most accurate on coinsized objects.

DEPTH READING METHOD

1. Once you have determined a target is worth digging, squeeze and hold in the TRIGGER. This activates DEPTH READING on the METER.
2. Watch the METER as the loop is moved over the target area.
3. When the METER needle reaches its farthest position to the right, (the shallowest depth), the target is directly below the center of the loop. Read the DEPTH and recover.

Accurate pinpointing makes recovering objects easier; it minimizes the possibility of damaging the object; and, it minimizes damage to the area. Pinpointing is an important part of successful treasure hunting. Experience will help you develop personal techniques.

GEB/DISC OVERLOAD

To prevent incorrect reading in GEB/DISC, your metal detector is equipped with an overload protection circuit. When a target signal is too large, the audio tone is cut short and the VDI scale indicates the last good reading before the overload occurred. This prevents incorrect VDI or audio indications during overload. Normal operation over large targets can be restored by raising the loop or reducing your sweep speed until the audio tone returns to normal length.

WHERE TO SEARCH

Start with your own yard. Valuables can be found anywhere people have congregated, gathered, lived, sat, walked, played, camped, picnicked, traveled, or fought. The following list of locations have produced a great deal of coins, rings, relics, and treasure in the past:

- | | | |
|--------------------|---|-------------------------------|
| • Amusement Parks | • Swimming Holes | • Boardwalk areas |
| • Circus Grounds | • Bridges | • Trails |
| • Racetracks | • Historical Locations | • Parking Strips |
| • Parks | • Old Buildings | • Roadside Points of Interest |
| • Schools | • Forts and Old
Military Installations | • Storm Cellars |
| • Trading Posts | • Carnivals | • Beaches |
| • Hitching Posts | • Fairgrounds | • Old River Crossings |
| • Clotheslines | • Rodeo Grounds | • Past Disaster Areas |
| • Sidewalks | • Playgrounds | • Cabins |
| • Around Old Trees | • Ghost Towns | • Clubhouses |
| • Old Homesteads | • Stage Stops | |
| • Basements | | |

HOW TO SEARCH

You must have permission to search private property from the owner or person in charge of managing the property. In most cases, you can locate the owner through City Hall or the county seat. If the area is city property, contact the Parks and Recreation Department for a permit and any restrictions. If it is a state or federal park, contact the superintendent or groundskeeper. In most cases permission to search is not a problem, given a few restrictions.

SEARCHING. . .Continued

DIGGING

Practice pinpointing and digging in your own yard before searching well manicured lawns. Try pinpointing a coin on top of the ground, then bury it and practice pinpointing.

Always fill in the holes you dig. Cut a plug or horseshoe shape about two square inches maximum, which can be easily replaced once the target is recovered. Many digging tools are available. Contact your dealer.

Always remove all items you recover, and never leave a mess. Holes are both unsightly and dangerous.

We strongly urge you to follow these steps, which will preserve the environment and also the rights of detector operators with as few restrictions as possible.

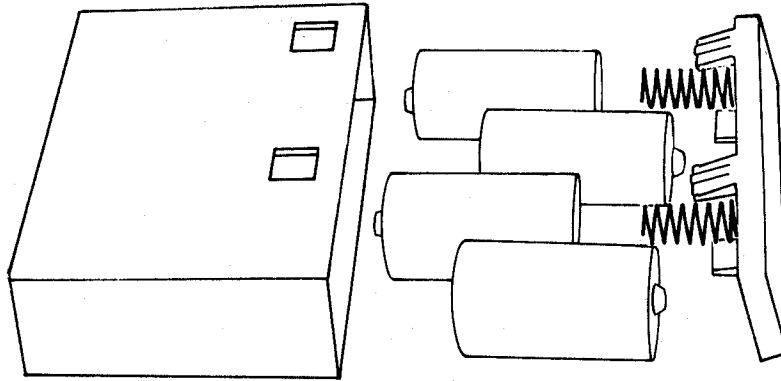
RESPECT

Respect the right of property owner, as well as laws, ordinances, or regulations about searching publicly owned sites. Public officials and private property owners will be more likely to allow continued searching if you do no environmental damage. Consider the scar you may leave before you start digging. This will vary a lot from one part of the country to another depending on soil and climatic conditions. Always keep in mind that other detector operators may be judged by your example.

STANDARD BATTERIES

The standard battery pack holds four ALKALINE batteries. **ALKALINE BATTERIES ARE THE ONLY DISPOSABLE BATTERIES RECOMMENDED FOR THIS INSTRUMENT.** To insert these batteries, proceed as follows:

1. Remove the battery pack from the instrument.
2. Remove the battery pack lid by gently pulling the top sides of the pack apart until the lid springs up.
3. Note the position of each cell. (The flat side of each cell fits against one of the 4 springs.)
4. Remove the dead batteries and replace them with new ones. (If the cells are put in backwards, the detector will not work.)
5. Line up the locking tabs on the lid with the holes on the battery pack. Snap them together.
6. Insert the battery pack into the detector. The two terminal points must touch the pointed contacts inside the instrument.



RECHARGEABLE BATTERIES

Rechargeable NICKEL CADMIUM batteries are included with this instrument. These can be recharged up to 1000 times and should last between 8 and 10 hours after a full charge. Charge the Rechargeable Batteries before their first use.

RECHARGE THE BATTERIES:

1. If the batteries have not been recharged for more than two months. (Batteries slowly lose their charge when stored.)
2. NOTE: Charge the batteries only as necessary. Unnecessary recharging shortens the life of the battery pack.

NOTE: Batteries will last longer when headphones are used.

OPERATING THE CHARGER

1. Insert the charge plug into the battery pack. NOTE: The battery pack may be charged either in, or out of, the detector.
2. Plug the charger into an electrical outlet.
3. The pack will be fully charged within 10 hours.

CAUTIONS ABOUT THE BATTERIES

1. The battery pack should not be left on the charger more than 24 hours.
2. Do not dispose of batteries in a fire.
3. Protect the battery pack from being shorted. Burns may result and the battery pack may be damaged.
4. The rechargeable battery system, (charger and pack), has a specific charge current. Do not attempt to mix other chargers or packs with this system. Batteries may explode if a charge current is too high.
5. Non-rechargeable batteries may explode if they are recharged.
6. Store batteries in a cool, dry place.
7. THE RE-CHARGEABLE BATTERY PACK IS A SEALED UNIT WITH NO CUSTOMER SERVICEABLE PARTS. OPENING IT MAY DAMAGE THE UNIT AND WILL VOID THE WARRANTY.

ADVANCED TUNING

1. Assemble the instrument as described under PARTS IDENTIFICATION AND ASSEMBLY.
2. Install either the "C" cell battery holder filled with "C" cell batteries or the rechargeable battery into the instruments battery compartment (sticker facing up).
3. Turn the POWER CONTROL to the BAT. CK. (Battery Check) position and make sure the METER indicates in the BATTERY  (BATTERY CHECK) area consistently for thirty seconds. If they do not recharge or replace the batteries.
- 4a. When first learning this instrument or for areas where HOT ROCKS (rocks higher in mineralization, "IRON" than the surrounding ground) are abundant, the POWER control should now be turned to the HOT ROCK REJECT  position.
- b. In the HOT ROCK REJECT  position most hot rocks will not produce a tone, the slight hum or threshold fades or goes quiet and the METER generally will peg fully left and or right firmly.
- c. More experienced operators who can identify HOT ROCKS by their audio and visual characteristics should use the HOT ROCK ACCEPT position.
- d. In the HOT ROCK ACCEPT position most hot rocks will produce a tone, however, the METER generally pegs fully left and or right firmly and when the TRIGGER is squeezed for pinpointing the signal will, in most cases, disappear.
5. At this point set all other controls to their  position.
6. Lift the loop to waist level away from the ground, or metals in the area, and squeeze and release the TRIGGER SWITCH located under the METER handle assembly.
7. You should hear a slight continuous hum, (threshold). If you do not, or the continuous hum (threshold) is too loud adjust the TUNER control so that the hum (threshold) is barely heard.
8. Continue to hold the loop at waist level, turn mode control to the GEB/NORM position and again squeeze and release the TRIGGER SWITCH.
9. Push the AUTOMATIC GEB control forward to the AIR position, the instrument should beep, release this control and it will return to its center LOCK position.
10. Now place the loop flat on the ground to be searched and pull the AUTOMATIC GEB control down to the GND AutoTrac position. Hold the loop steady until you hear another beep.
11. Lift the loop to waist level and note that there should be very little or no change in tone.
12. If there is a notable change in tone you may have been on top of a metal. Move over to another location on the ground and repeat steps 10, 11, and 12 until there is as little change in tone as possible as the loop is lifted indicating the ground minerals are being ignored.

13. The AUTOMATIC GEB CONTROL may remain in the GND AUTOTRAC position where it will automatically adjust for changing ground conditions while operating in the GEB/DISC MODE. This is desirable in most areas.
14. In areas containing a lot of decomposed iron (rust) AUTOTRAC may mistake such rust for ground mineral and cause a GEB error, therefore, push the AUTOMATIC GEB control to the LOCK position in such areas.
15. You are now ready to search.
16. If you wish to detect all types of metal or are searching for natural gold nuggets leave the MODE control in the GEB/NORM position or switch to the GEB/MAX MODE and squeeze and release the TRIGGER SWITCH with the loop at waist level.
17. It is advisable to re-ground balance (**above Advanced Tuning steps 9-10**) after switching to the GEB/MAX MODE.
18. If you wish to reject or discriminate against junk targets (like nails, bottle caps, foil, etc.) and are searching for coins, relics, etc. we would suggest switching to the GEB/DISC MODE and squeeze and release the TRIGGER SWITCH with the loop at waist level.
19. GEB/DISC is the most commonly used MODE and while operating in this MODE the loop must always be in motion (swept) in order to detect metals. Squeeze and hold the TRIGGER SWITCH and "X" the target to pinpoint its precise location.
20. The GEB/DISC MODE produces a wide variety of different sounds depending on the target and the DISC CONTROL setting. Basically smooth solid sounds are good targets and ratty broken sounds are junk targets.
21. If you wish to reject or discriminate against junk targets (like nails, bottle caps, foil, etc.) and are in a very low mineralized area or an area where you cannot sweep the loop as is required in the GEB/DISC MODE we would suggest the TR/DISC MODE. To use the TR/DISC MODE turn MODE control to TR/DISC hold the loop approximately one inch from the ground, squeeze and release the TRIGGER SWITCH, lower the loop to the ground and search. In the TR/DISC MODE the loop doesn't have to be in motion to detect metal.
22. The TR/DISC MODE may also be used to manually ground balance the instrument thereby eliminating the effects of mineralization and responding to all metals. This procedure allows for extended ground balance and is described under the section TR/DISC EXPLANATION.
23. The SENS (SENSITIVITY) control effects the METER sensitivity in all modes and the audio tone in the GEB/DISC mode.  PRESET works well for most conditions.
24. If the METER jumps around for no reason and/or the tone sounds off as the loop is held stationary, reduce the SENS control (counterclockwise) until the METER and or tone become smooth and stable.

25. Increasing the SENS CONTROL (clockwise) will increase detector sensitivity (depth). The SENS control should remain at the furthest clockwise position which will allow for smooth stable METER and audio tone indications.
26. It is recommended to leave the DISC control at the ∇_P PRESET position for most conditions. The METER should be used to eliminate junk targets like foil and pull tabs. If this setting is not acceptable increase discrimination by turning the DISC control clockwise or decrease by turning counterclockwise. Squeeze and release the TRIGGER SWITCH with the loop at waist level and search. Caution: If the DISC control is set much higher (clockwise) than ∇_P PRESET nickels and some gold will be rejected.
27. It is recommended to leave the VOLUME control on ∇_P PRESET. If however, targets produce too loud of tone reduce volume by turning VOLUME control counterclockwise.
28. Under normal search conditions the V.D.I. METER will lock on (read one indication consistently). If the V.D.I. METER doesn't lock on one indication (jumps around) the target is generally an alloy such as a bottle cap. If however, the target gives a smooth solid sound and the METER doesn't lock on, check the depth by squeezing and holding the TRIGGER SWITCH and "X" the target. If the target is very deep (six inches or over) the target should be dug. Dig all questionable targets.
29. Some very old or deep junk targets will fool both the audio (speaker sound) and the METER therefore do not be too concerned if an occasional junk target reads like a good target. These circuits are designed to eliminate the majority of junk targets while detecting the majority of good targets.
30. When the TRIGGER SWITCH is squeezed and held the METER reads the probable target depth. This calibration is based on use with the eight inch loop and coin sized targets. If the target is larger or smaller than coin size or if the loop being used is larger or smaller than the standard eight inch size the depth meter will be consistently incorrect, however, will be predictable with experience. These factors will not effect the V.D.I. METER target indications.
31. The way the loop is swept, both speed and relationship to the ground, will have a major impact on how this instrument performs. A sweep of the loop from left to right and back should take approximately four seconds. Practice with coins and junk targets placed on top of the ground to see how this unit responds.
32. There is no substitute for field experience. After reading this manual use your instrument in the field then again read this manual and we are sure these operating procedures will become easier to understand.

PROPER CARE OF YOUR DETECTOR

The following are precautions you should take to protect your instrument from harm, ensure its long life and avoid nullifying the warranty.

CLEANING: The loop and probe are waterproof. They can be cleaned with fresh water and a mild cleanser. After cleaning, however, dry the instrument thoroughly. **CAUTION:** The instrument case is not waterproof, and water - if allowed to enter it - will damage electronic components.

WEATHER CONDITIONS: Protect your detector from excessively cold weather. Freezing can damage the electronic components, the case and/or the battery. Excessive heat can also damage the instrument. Never leave it in the sun. If it's left in a car on a hot day, cover it to protect it from the direct rays of the sun, and then leave the windows slightly open to permit ventilation. Protect your detector if you operate it in the rain, as water may get into the instrument case.

SALT WATER: Salt water is very corrosive! Immediately after your detector has been exposed to salt water, rinse it thoroughly with fresh water, being careful not to allow water to enter the instrument case. Then wipe it with a cloth dampened with fresh water and dry it thoroughly.

ADDITIONAL PRECAUTIONS:

- a. Avoid dropping your detector.
- b. Do not use any lubricants on any part of your metal detector.
- c. Avoid sharp jars to the loop.
- d. Do not allow battery to corrode inside the instrument.
- e. Do not alter or modify your instrument during its warranty period. Alterations will void the warranty.

A NATIONAL SERVICE PROGRAM

THE SERIAL NUMBER IS ON THE SILVER TAG INSIDE THE BATTERY COMPARTMENT.

THE CODE NUMBER IS ON THE WHITE TAG.

White's Electronics has always been concerned with the absolute quality of its mineral/metal detectors. Service after-the-sale is also of equal importance. In an effort to further the quality of service to our customers, White's reorganized its warranty service program significantly. There are now four factory authorized National Warranty Service Centers located regionally around the continental U.S. These Service Centers are identical to the Factory Service Center in Sweet Home, Oregon. In order to ensure you will get the finest service possible for your detector, the technicians in each National Warranty Service Center are Factory trained and given on-going training for new products and improved service techniques. They can also repair your out of warranty instruments with efficiency and timeliness.

Simply return the detector to the dealer where you purchased the unit. The unit must be accompanied by a completed service coupon provided by your dealer. You must provide proof of date of purchase before the unit is shipped.

If the unit has failed within the first 90 days of purchase, shipping will be prepaid.

If the unit fails after the first 90-day period, the customer is responsible for shipping costs. Please also include \$5.00 for return postage, handling and insurance.

Any repair work performed by other than a White's National Warranty Service Center will automatically void the warranty.

If a problem occurs with your metal detector, first contact the White's dealer who sold it to you. In many cases your dealer can solve the problem. If not, the dealer will have your detector repaired under the Warranty Program. All of White's National Service Centers, located throughout the country, are owned and operated by factory trained technicians. These centers are fully equipped and the personnel fully trained with on-going programs at White's in order to service your mineral/metal detector. With this program, the average repair time has actually been reduced from weeks to days!

**TO LEARN THE NAME AND LOCATION OF YOUR NEAREST WHITE'S
DEALER CALL: TOLL FREE 1/800/547/6911**

1. White's Electronics

1011 Pleasant Valley Rd.
Sweet Home, OR 97386
(541) 367-6121
FAX (541) 367-2968

2. Electronic Exploration

700 South Main
Lombard, IL 60148
(630) 620-0618
FAX (630) 620-1005
1-800-392-3223

Geoquest

106 US Hwy 46
Saddlebrook, NJ 07663
(973) 772-7443
FAX (973) 772-7773
1-877-772-7443

4. Centreville Electronics

13810 B Braddock Rd.
Centreville, VA 20121
(703) 631-0202
FAX (703) 222-8625
1-888-645-0202



AUTHORIZED SERVICE CENTERS

GLOSSARY OF TERMS

ACCEPT: To detect or respond to a good target.

ALKALINE BATTERY: Type of non-rechargeable battery that has the ability to sustain longer periods of current drain and greater storage life than standard carbon-zinc type.

AIR BALANCE: Tuning procedure that prepares for GROUND BALANCE.

AIR TEST: Testing or experimenting the response of a metal detector to various objects with the loop positioned away from the ground.

ALL METAL: Mode or function that responds to all types of metal, iron, foil, nickel, copper, silver, gold, etc.

AUDIBLE THRESHOLD: A slight and continuous tone or hum that makes it easy to hear changes in audio, (adjust the TUNER CONTROL for a slight hum or threshold).

AUDIO MODE: A condition of operation selected by the detector operator for specific conditions, operating characteristics and or features.

AUDIO: Volume or tone produced by a speaker or other sound emitting device.

AUDIO RESPONSE: See AUDIO

AUTOMATIC G.E.B.: Control which adjusts detector to ignore ground mineralization, **See Ground Balance.**

BAD TARGETS: See JUNK TARGETS

BAT: Battery, (Power Source)

BENCH TEST: (See AIR TEST)

COIN SIZE: The approximate size of a coin (penny, dime, etc.).

CONDUCTIVITY: The readiness with which a metal transmits an electrical current.

CONTINUES: Uninterrupted, continued.

CONTROL BOX: Blue aluminum body of instrument, (case).

DETECT: Respond by audio (speaker volume) and/or meter indication.

DISCRIMINATION: The ability to accept or reject signals or targets of different characteristics, nails, bottle caps, coins, etc.

DISTINGUISH: (Discern) to perceive as being different.

FALSE SIGNALS: Erratic tones, beeps and/or meter indications that are not caused by the detection of metal.

FERRITE: Mineral sample consisting essentially of an iron oxide.

FREQUENCY: The number of complete alternating current cycles produced by the transmit oscillator per second.

GEB: Ground Exclusion Balance (See GROUND BALANCE)

GND (Ground): Dirt or surface of the earth.

GOOD TARGETS: Metals determined by the position of the DISC control to be acceptable. Desirable targets.

GROUND: Dirt or the surface of the earth.

GROUND BALANCE: The cancellation of ground mineralization to ignore the masking effect ground minerals have over metal.

INDICATE: Advise, proclaim, or point out.

INTERFERENCE: Confusion of received signals due to external sources such as radio or ground conditions.

JUNK TARGETS: Metals determined to be trash or rejects; iron, foil, pull tabs etc.

LOOP: (Search Coil) Circular housing containing multiple windings (DISK).

METAL: Metallic substances iron, foil, nickel, aluminum, gold, brass, lead, zinc, copper, silver, etc.

MINERAL: Ferric oxide (iron) or other such non-organic substances, naturally occurring in the ground.

MINERALIZED GROUND: Any soil, sand, gravel etc. that contains conductive or non-conductive components (MINERALS).

MODE: See AUDIO MODE

MOTION MODE: An AUDIO MODE that requires loop motion, movement or sweep, to respond to metal targets.

NEUTRALIZE: To counteract the effect of.

NON-FERROUS: Not of iron; metals of the precious class (copper, silver, gold, etc.).

NON-MOTION: Mode that doesn't require loop motion, movement or sweep to respond to metal.

OPTIMUM: Peak or maximum possible results.

OVERLAP: Refers to the amount of loop sweep advance not being greater than the loops physical diameter.

PERFORMANCE: Efficiency, the manner in which an instrument performs.

PINPOINT: Finding the targets exact location with respect to the loops physical center.

PRESET: ∇^P Control position or setting determined to be ideal for average search conditions.

PROBABLE IDENTIFICATION: Most likely identification.

PROCEDURE: A series of steps followed in a definite order.

RECHARGEABLE BATTERY: Battery that is designed to be recharged or restore anew the active materials within.

REJECT: Discriminate, cancel response or effect.

RETUNE: (RESET) or clear by use of TRIGGER SWITCH.

S.A.T.: (Self Adjusting Threshold) feature which maintains stable operation over varied conditions.

SELECT: Choose between two or more options.

SENSITIVITY: (SENS) Capacity or degree to which an instrument responds.

SET: Tune or adjust.

SHALLOWEST: Closest to surface.

SIGNAL: Response (See DETECT).

SLOW MOTION: A description of loop speed required to operate a motion mode.

STABLE: Ability of a metal detector to maintain smooth operation without false signals, interference.

SWEEP: Loop movement from side to side.

SWEPT: (See SWEEP).

TARGET: Any object buried in the ground or used in an AIR TEST that causes a metal detector to respond.

THRESHOLD: (See AUDIBLE THRESHOLD).

TUNING: Setting of an instruments controls.

UNDESIRABLE: Not wanted.

V.D.I.: (Visual Discrimination Indication) Meter that indicates probable target identity or conductivity.

V.D.I. LEVEL: Meter Sensitivity.

WAIST LEVEL: Height or distance from an operators waist or hips to the ground.

"X": Cross the target from two different sides, 90 degrees from each other.

WHITE'S ELECTRONICS LIMITED WARRANTY

If within two years (24 months) from the original date of purchase your White's detector fails due to defects in either material or workmanship, Whites Electronics will repair or replace, at its option, all necessary parts without charge for parts or labor.

Simply return the detector to the dealer where you purchased it. The unit must be accompanied by a completed service coupon provided by your dealer. You must provide proof of date of purchase before the unit is shipped.

If the unit has failed within the first 90 days of purchase, shipping will be prepaid.

If the unit fails after the first 90-day period, the customer is responsible for shipping costs. Please also include \$5.00 for return postage, handling and insurance.

Items excluded from this warranty are non-rechargeable batteries, headphones and other accessories.

The warranty is not transferable. Nor is it valid unless the Warranty Registration Card is returned to the factory address below within ten (10) days of original purchase for the purpose of recording that date, which is the actual commencement date of the warranty.

The warranty does not cover damage caused by accident, misuse, neglect, alterations, modifications, or unauthorized service.

Duration of any implied warranties (e.g., merchantability and fitness for a particular purpose) shall not be longer than the stated warranty.

Neither the manufacture nor the retailer shall be liable for any incidental or consequential damages resulting from defects or failures to perform.

Some states, however, do not allow limitations on the length of implied warranties, or the exclusion of incidental or consequential damages. Therefore, the above limitations and exclusions may not apply to you.

In addition, the stated warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

White's Electronics, Inc.
1011 Pleasant Valley Rd.
Sweet Home, OR 97386

TREASURE HUNTER'S CODE OF ETHICS

1. Respect the rights and property of others.
2. Observe all laws, whether national, state or local.
3. Aid law enforcement officials whenever possible.
4. Never destroy priceless, historical or archeological treasures.
5. Leave the land and vegetation as it was. Fill in all holes.
6. Remove all trash and litter when you leave.
7. All treasure hunters may be judged by the example you set. Always conduct yourself with courtesy and consideration for others.

WHITE'S ELECTRONICS, INC.

White's Electronics, Inc. 1011 Pleasant Valley Road • Sweet Home, Oregon 97386