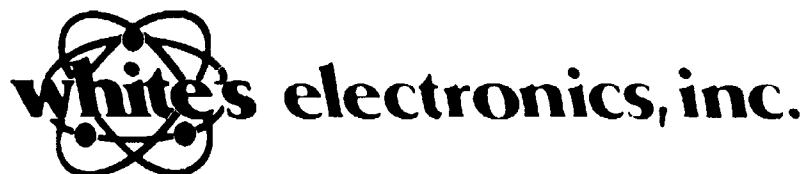


white's
EAGLE II



OPERATOR'S MANUAL



A Message from
Mr. Kenneth White, Jr.
Vice-President, White's Electronics, Inc.

Congratulations! You are now the proud owner of one of the world's finest metal detectors.

The **EAGLE[®] II** represents the second in a new generation of state-of-the-art metal detectors. Prior to the release of the **EAGLE[®]**, many of this instruments' features were thought impossible. White's has again pioneered and introduced new technology, destined to change the metal detector industry forever. We have made many changes and additions to this new model. Read the following instruction manual carefully and refer back to it as often as necessary. Any piece of fine equipment is only as good as the person operating it. Become familiar with your **EAGLE[®]** and practice. There is no substitute for field experience.

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

Good Hunting!

A handwritten signature in black ink, reading "Kenneth R. White, Jr." in a cursive script.

Kenneth R. White, Jr.

FORWARD

This manual has been prepared for those of you who have purchased the **EAGLE® II** for the first time or have upgraded your original **EAGLE®** with the new software and will provide a wealth of information.

Read this manual carefully, experiment, and refer to the GLOSSARY OF TERMS whenever necessary.

The **EAGLE® II** has a split personality.

On one hand it can be the easiest metal detector in the world to operate. You can take advantage of state-of-the-art features and technology without ever concerning yourself with what these features are or how to adjust them. Frustration is unnecessary. By using the SIMPLIFIED INSTRUCTIONS you can search for COINS and JEWELRY, PROSPECT for GOLD, look for RELICS and ARTIFACTS, or comb the BEACHES. You can use the Preset Starting Programs; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC and "C" BEACH with the confidence of knowing these programs are designed and used by experienced professionals.

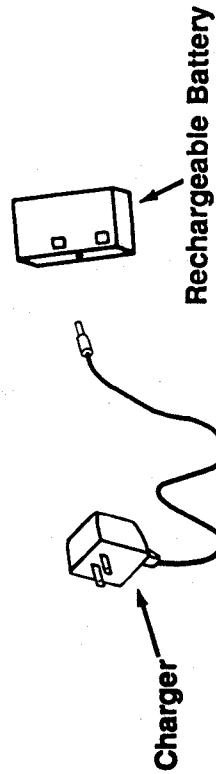
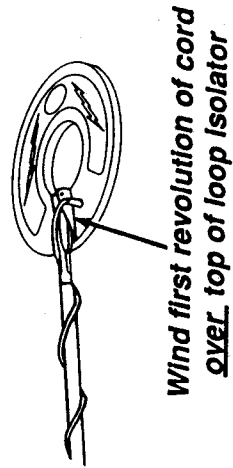
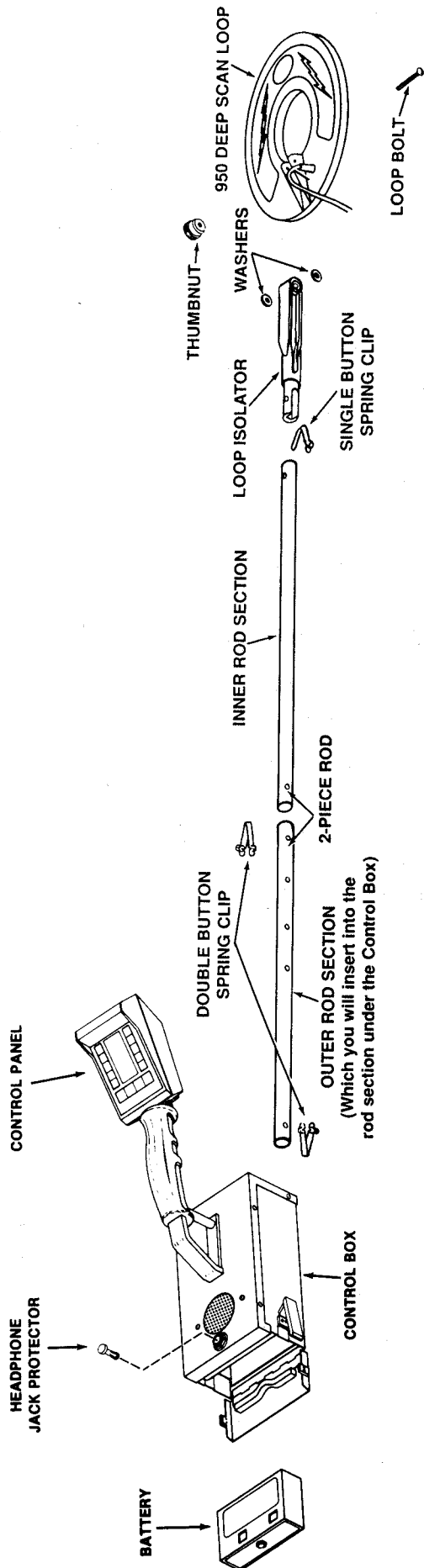
On the other hand, with the knowledge this manual provides and field experience, you may develop custom programs to suit your needs and personal preference and retain such programs for future use. Never before have so many options been available on a metal detector.

After you have studied this manual and start using your instrument in the field you may want to refer to a condensed instruction card labeled HELP in your battery compartment. Use these condensed instructions to refresh your memory.

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PARTS IDENTIFICATION & ASSEMBLY



SIMPLIFIED INSTRUCTIONS

1. Assemble your instrument as shown on page four.
2. Install either four "C" cell alkaline batteries in the holder or use the rechargeable battery. If the instrument will not turn on or LOW BAT indication persists, replace or recharge the batteries.
3. Make sure the TRIGGER SWITCH is in the center search position.
4. Press the ON/OFF control once, the display will show everything for a moment, wait for it to clear and show AIR PROMPT .
5. Press AUDIO MODE control to select one of the three available **Preset Starting Programs**;
"A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH
6. If no Preset program is selected "A" COIN and JEWELRY program will automatically be in effect.
7. Hold loop at waist level, away from known metals or the ground and press AIR control. 
A. If you hear a multinote beep, reposition the loop and again press AIR control.  should appear.
8. When the GND PROMPT  appears on the display, place the loop flat on the ground and press GND control.
A. If you hear a multinote beep, reposition the loop and again press GND control.
B. If multinote beep persists, ignore it.
9. All other controls are preset based on the selection made in step #5 above.
10. Pass the loop smoothly over the ground, slightly overlapping each sweep. The loop must be swept or in motion to detect metals.
11. Once a good solid tone and consistently good display indication are noted, squeeze and hold the trigger. "X" the target, the loudest volume and lowest display number DEEP indicates the target is pinpointed below the physical center of the loop. Loop motion is not required when the TRIGGER SWITCH is squeezed for pinpointing.
12. Before continuing to search, squeeze and release the TRIGGER SWITCH with the loop at waist level to reset or clear for further searching.

EXPLANATION OF CONTROLS

PRIMARY CONTROLS: TRIGGER SWITCH, ON/OFF, AIR, GND & LAMP

The **PRIMARY CONTROLS**, labeled in **GREEN**, are the only controls that require setting each time you operate the EAGLE®. All other controls may use preselected settings, determined by the selected **STARTING PROGRAM**.

I. **TRIGGER SWITCH** Located on the handle below the display.

- A. Always use the center search position during tuning and searching.
- B. Use the squeezed and held position to pinpoint.
- C. Use the forward lock position to lock into the pinpoint mode.
- D. After pinpointing, always squeeze and release the **TRIGGER SWITCH** with the loop at waist level before continuing. This resets or clears for further searching.
- E. Immediately after pressing **ON/OFF** control, squeezing and releasing the **TRIGGER SWITCH**, returns instrument to the exact settings prior to turning it off (memory recovery). Memory recovery will only work if the battery remains within 3.8 - 6.0 volts and is not removed for more than 30 seconds.
- F. When the **TRIGGER SWITCH** is squeezed and held or pushed forward to lock, additional options become available and will be described in detail later in this instruction manual.

II. **ON/OFF**

- A. Press once to turn power **ON**, press again to turn power **OFF**.
- B. If **ON/OFF** doesn't turn power **ON**, replace or recharge the batteries.
- C. **LAMP** automatically turns off with **ON/OFF** control.
- D. Once instrument is turned **ON**, everything will be visible on the display for a few seconds and then clear, showing **AIR PROMPT** .
- E. If controls are not used for twenty minutes, the instrument will automatically turn off.

III. **AUDIO MODE**

- A. After instrument is turned on press **AUDIO MODE** control to select one of three available **PRE-SET STARTING PROGRAMS**; "A" **COIN & JEWELRY**, "B" **PROSPECTING & RELIC**, "C" **BEACH**

IV. **AIR**

- A. Prepares the instrument to **GND** (ground) balance.
- B. Hold loop at waist level, away from known metals or the ground and press **AIR** control.
- C. Multinote beep indicates error. Reposition the loop, away from known metals or the ground and again press **AIR** control.
- D. You should hear a solid beep and then the display should show **GND PROMPT** .

PRIMARY CONTROLS continued. . .

V. GND



- A. Balances the instrument to ignore ground minerals.
- B. Place the loop flat on the ground and press GND control.
- C. Multinote beep indicates either an error, such as balancing over metal, or no minerals were present so a preselected GND setting was selected.
- D. Reposition the loop and again press the GND control. If multinote beep persists, ignore it as the ground is probably not mineralized.
- E. Do not adjust the loop to rod angle between AIR and GND balance. If angle is adjusted, then repeat AIR/GND balance sequence.
- F. To bench or air test the EAGLE® capabilities, avoid loss of sensitivity by either using a mineral sample in place of the ground during GND balance or keep pressing the GND control until the multinote beep occurs indicating the instrument has reverted to a preselected GND setting.

VI. LAMP

- A. Press LAMP control once to turn on LAMP.
- B. Press LAMP control again to turn LAMP off.
- C. LAMP automatically turns off with ON/OFF control.
- D. Memory recovery will not return LAMP to on position.
- E. LAMP use will reduce battery life.
- F. LAMP bulb can be replaced only by authorized service centers.
- G. Press and hold LAMP control to check battery voltage.
 - 1. 49 would indicate 4.9 volts, the normal fully charged voltage of the rechargeable battery.
 - 2. Four 1.5 volt alkaline "C" cell batteries are recommended for the standard battery holder and when new, check at about 6.0 volts.
 - 3. A voltage regulator insures no performance differences between these two types of batteries other than actual life.
 - 4. Battery strength is continually monitored and when LOW BAT persists on the display, the battery is getting weak.
 - 5. After checking battery voltage, if the LAMP is not needed, press and release LAMP control a second time to turn LAMP off.

OPERATION REVIEW

PRIMARY CONTROLS

1. **TRIGGER SWITCH** Center (Search) position.
2. Press ON/OFF and wait for AIR PROMPT .
3. Press AUDIO MODE control to select one of the three available PRESET STARTING PROGRAMS; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH.
4. Hold the loop at waist level, away from known metals or the ground and press AIR. If you hear a multinote beep, reposition the loop and again press AIR. You should hear a solid beep and GND PROMPT  should appear.
5. Place the loop flat on the ground and press GND. If you hear a multinote beep, reposition the loop and again press GND. If multinote beep persists, ignore it, as the ground is probably not mineralized.
6. To check battery voltage, press and hold LAMP control. 49 indicates 4.9 volts.
7. To turn LAMP on or off, press and release the LAMP control.
8. Search, sweeping loop smoothly and evenly over the ground, slightly overlapping each sweep. The loop must be in motion to detect.
9. Once a consistently good beep and display indication are noted, squeeze and hold the TRIGGER and "X" the target. Loudest volume and shallowest DEEP number indicate target center. The loop does not have to be in motion when the TRIGGER SWITCH is squeezed.
10. Before continuing to search, squeeze and release the TRIGGER SWITCH with loop at waist level.
11. To turn detector OFF, press ON/OFF control.
12. If no controls are pressed for 20 minutes, the EAGLE will turn off automatically.

It is vital that you understand the **PRIMARY CONTROLS** before continuing, as all other controls are optionally adjustable and adjustment will depend on personal preference and application.

EXPLANATION OF CONTROLS

SECONDARY CONTROLS: AUDIO MODE, SENS, VOL ▲ VOL ▼

The **SECONDARY** controls, labeled in **YELLOW**, start out as preselected settings determined by the selection of one of the three available PRESET STARTING PROGRAMS; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH. After setting the PRIMARY controls, set the SECONDARY controls based on application and personal preference.

I. AUDIO MODE

- A. Used after ON/OFF control to select between one of three available PRESET STARTING PROGRAMS; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH. These three complete programs are not to be confused with the separate three AUDIO MODES.
- B. Selects between the three major AUDIO MODES:
 - 1. Audible Threshold indicated as "A" on the display is the preselected starting mode.
 - a. Audible Threshold mode "A" is a standard motion discrimination mode with a continuous slight tone.
 - b. When DISC ON control is in the ON position (indicated by a prompt on the display beside the DISC ON button) mode A accepts or rejects targets based on the discriminate program.
 - c. When DISC ON control is in the off position (no prompt on display beside DISC ON button) mode A becomes an all-metal nonmotion mode.
 - d. When the TRIGGER SWITCH is squeezed and held, the display switches to depth and intensity reading, the mode switches to all metal nonmotion pinpointing and as the loop is passed over the target "X" ratchet pinpointing will automatically aid in centering the target.
 - 2. Silent Search indicated as "B" on the display is achieved by pressing the AUDIO MODE control once (B appears on the display).
 - a. Silent Search is a motion discriminate mode that is silent until a target is accepted.
 - b. DISC ON control has little effect on the B mode except for turning on or off the discriminate program.
 - c. When the TRIGGER SWITCH is squeezed and held, the display switches to depth and intensity reading, the mode switches to all metal nonmotion pinpointing and as the loop is passed over the target "X" ratchet pinpointing will automatically aid in centering the target.
 - 3. Audible Threshold (Tone I.D.) indicated as "C" on the display is achieved by pressing the AUDIO MODE control again (C appears on the display).
 - a. Audible Threshold TONE I.D. is both a motion and non-motion mode combined.

SECONDARY CONTROLS continued. . .

- b. When DISC ON control is in the on position (indicated by a prompt on display by DISC ON control) the C mode produces a high tone for targets accepted by the discriminate program and a lower or medium tone for targets rejected by the discriminate program.
 - c. When DISC ON control is in the off position (no prompt on display beside DISC ON control) mode C produces the lower or medium tone for all metals.
 - d. When the TRIGGER SWITCH is squeezed and held, the display switches to depth and intensity reading, the mode switches to all metal nonmotion pinpointing and as the loop is passed over the target "X" ratchet pinpoint will automatically aid in centering the target.
4. Pressing AUDIO MODE control again will return to "A" Audible Threshold.
- C. Select among AUDIO MODES based on application and personal preference.
- D. It is not recommended to avoid ratchet pinpointing since this is a convenient automatic feature with no known disadvantages. If, however, for some reason, you wish to avoid ratchet pinpointing, use AUDIO MODE "A" or "C" and set DISC ON control to the off position (no prompt on display beside DISC ON control).

II. SENS (Sensitivity)

- A. Selects between seven A.C. (motion mode) sensitivity levels.
- B. Numbers appear on display by SENS control.
- C. Number 7 is the most sensitive level.
- D. Press SENS control to increase sensitivity. (Returns to level one from level seven).
- E. Use the highest number that doesn't produce false signals or instability.
- F. Sensitivity is adjustable because of different interference levels. Few areas will allow a maximum sensitivity level of 7. Ideally use the highest level the area will permit. If interference becomes a problem reduce sensitivity.
- G. The sensitivity level will have no effect on overload or saturation indicated by White's logo disappearing from the display. If overload occurs sweep the loop slightly higher from the ground or obtain the ATTENUATOR accessory for use in such areas. Overload is usually caused by highly magnetic ground.

SECONDARY CONTROLS continued. . .

III. AUTO TRAC

- A. Automatically makes corrections to the GND (ground) balance as you search.
- B. Starts out turned ON, indicated by a small prompt on the display next to the AUTO TRAC control.
- C. Press once to turn AUTO TRAC feature OFF, small display prompt disappears and GND (ground) balance remains as originally set.
- D. Press again, small prompt appears on display next to AUTO TRAC control. AUTO TRAC is on.
- E. For most conditions, leave AUTO TRAC on for best results.

IV. VOL VOL Minimum (Threshold)

- A. Increases or decreases threshold or minimum volume, indicated by a tone that is barely heard.
- B. Press VOL controls to increase or decrease threshold.
- C. 35 levels are available, represented as segments of the bar graph near VOL controls. The taller the bar graph, the higher the threshold level.
- D. Each segment of the bar graph represents multiple threshold levels.
- E. The threshold (VOL controls) may be held down for continuous adjustment up or down the available 35 levels of Threshold.
- F. This bar graph is also an intensity scale in the pinpoint mode (TRIGGER squeezed), indicated by an additional line beside the bar graph.
- G. Select the lowest threshold level adequate for your hearing needs.
- H. High threshold levels will reduce battery life.

OPERATION REVIEW

SECONDARY CONTROLS

First, set the PRIMARY CONTROLS, then:

1. To change AUDIO MODES, press AUDIO MODE control "A" Audible Threshold, "B" Silent Search, "C" Audible Threshold (Tone I.D.). Sequence repeats.
2. Adjust A.C. (motion mode) sensitivity by pressing SENS control. Use the highest number that doesn't produce false signals. Returns to level one after level seven.
3. Leave AUTO TRAC ON or turn OFF by pressing AUTO TRAC once.
4. Adjust minimum volume (threshold) by pressing VOL controls. Select the lowest level adequate for your hearing needs.
5. You are now ready to search. Discrimination and all other settings have been preselected based on the chosen PRESET STARTING PROGRAM; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH
6. Sweep the loop smoothly and evenly over the ground, slightly overlapping each sweep. The loop must be in motion for detection of metal.
7. Once a consistently good beep and display indication are noted, squeeze and hold the TRIGGER SWITCH and "X" the target. The loudest volume and shallowest DEEP number indicate target center. The loop does not have to be in motion when the TRIGGER SWITCH is squeezed and held.
8. After recovering the target, squeeze and release the TRIGGER SWITCH with the loop at waist level before continuing. This resets or clears for further searching.
9. The SECONDARY controls should be understood thoroughly before continuing.

EXPLANATION OF CONTROLS

DISCRIMINATE CONTROLS: DISC ON, LRN ACC CLR, LRN REJ SET, EDIT ▲ EDIT ▼

After setting the PRIMARY and SECONDARY controls, use the **DISCRIMINATE CONTROLS**, labeled in **BLUE** to program or adjust DISCRIMINATION OPTIONS. Preset settings are based on the selected starting programs; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH. Use the DISCRIMINATE controls to change preset settings.

I. **DISC ON** DISCRIMINATE ON

- A. Discrimination ON is indicated by a small prompt on the display beside the DISC ON control.
- B. Press once, small prompt on display disappears, now the discriminate circuit is OFF and all metals strong enough to be detected will be.
- C. Press again, small prompt on display appears and metals are accepted or rejected based on the discriminate memory.

II. **LRN ACC CLR** LEARN ACCEPT "CLEAR"

- A. Used to learn to accept target samples; "Teach Accept".
- B. To LEARN ACCEPT, first set PRIMARY and SECONDARY controls.
 - 1. Then, press LRN ACC CLR control once. MEM should appear on the display as well as a small prompt beside LRN ACC CLR control.
 - 2. Pass the targets one at a time to be learned acceptable about four inches from the loop, four to six passes or until the good tone is consistent.
 - 3. Press LRN ACC CLR again, MEM and small prompt on display should disappear and you are ready to search.
- C. Used to clear targets for accept response during Editing. See EDIT ▲ EDIT ▼ controls.
- D. Do not attempt to LEARN targets that do not produce consistent tone and display indications.
- E. You may use target samples in the air or in the ground to LEARN ACCEPT.

DISCRIMINATE CONTROLS continued. . .

III. LRN REJ SET LEARN REJECT "SET"

- A. Used to learn to reject target samples; "TEACH REJECT".
- B. To LEARN REJECT, first set PRIMARY and SECONDARY controls.
 - 1. Press LRN REJ SET control once. MEM should appear on the display as well as a small prompt near LRN REJ SET control.
 - 2. Pass the targets to be learned reject, one at a time about four inches from the loop, four to six passes or until the reject tone is consistent.
 - 3. Press LRN REJ SET again, MEM and small prompt on display should disappear and you are ready to search.
- C. Use to SET targets for rejection or discriminate response during Editing. See EDIT ▲ EDIT ▼ .
- D. Do not attempt to learn targets that do not produce consistent tone and display indications.
- E. You may use target samples in the air or in the ground to LEARN REJECT.

IV. EDIT ▲ EDIT ▼

- A. Used to enter EDIT (DISCRIMINATE OPTION) mode and scroll or view the LOW 96-0-95 target numbers.
- B. First set PRIMARY and SECONDARY controls and make sure TRIGGER SWITCH is in the center position.
- C. Press either EDIT once to enter the EDIT mode. The instrument will not respond to metal in this mode. MEM should be visible on the display.
- D. Now use EDIT ▲ and EDIT ▼ to scroll up ▲ and down ▼ LOW 96-0-95 target range.
 - 1. For each of the target numbers press either LRN ACC CLR to clear the number to be accepted or press the LRN REJ SET to SET the number for rejection.
 - 2. When SET appears on the display, that target number is SET for rejection.
 - 3. When SET doesn't appear on the display, that target number is clear to be accepted.
- E. To exit from the EDIT mode to an operate mode, squeeze and release the TRIGGER SWITCH.

DISCRIMINATE CONTROLS continued. . .

F. **BLOCK EDIT** Editing large section of the target range.

1. First set PRIMARY and SECONDARY controls and make sure TRIGGER SWITCH is in the center position.
2. Press either EDIT control once to enter EDIT mode, MEM should appear on the display.
3. To clear or accept a large section of the target range, press LRN ACC CLR twice. Small prompt should appear on display near LRN ACC CLR control.
 - a. Now use EDIT controls to adjust block.
 - b. Each target number that comes into view will automatically be CLEAR for accept.
 - c. To exit BLOCK EDIT mode to regular EDIT mode, press LRN ACC CLR control again. Small prompt disappears from display near LRN ACC CLR control.
 - d. To exit BLOCK EDIT mode to an operate mode, squeeze and release the TRIGGER SWITCH.
4. To set or reject a large section of the target range, press LRN REJ SET twice. Small prompt should appear on display near LRN REJ SET control.
 - a. Now use EDIT controls to adjust block.
 - b. Each target number that comes into view will automatically be SET for reject.
 - c. To exit BLOCK EDIT mode to regular EDIT mode, press LRN REJ SET control again. Small prompt disappears from display near LRN REJ SET control.
 - d. To exit BLOCK EDIT mode to an operate mode, squeeze and release the TRIGGER SWITCH.

G. **TWO QUADRANT V.D.I.**

Displays two V.D.I. target ranges LOW 96-0-95, during normal operation, to allow more precise identification of iron alloys.

1. First set PRIMARY and SECONDARY controls and make sure TRIGGER SWITCH is in the center position.
2. Press either EDIT control once to enter EDIT mode, MEM should appear on display.
3. Press AUTO TRAC® control once to turn on TWO QUADRANT V.D.I.. Small prompt should appear on display near AUTO TRAC control.
4. Press AUTO TRAC control again to turn off TWO QUADRANT V.D.I.. Small prompt should disappear from display.
5. To exit to an operate mode, squeeze and release the TRIGGER SWITCH.
6. All target numbers LOW 96-0-95 can be programmed for accept or reject, (SEE EDIT).

DISCRIMINATE CONTROLS continued. . .

H. VISUAL DISC

Eliminates V.D.I. target numbers from appearing on the display, if they are programmed for reject.

1. First set PRIMARY and SECONDARY controls and make sure TRIGGER SWITCH is in the center position.
2. Press either EDIT control once to enter the EDIT mode, MEM should be visible on the display.
3. Press DISC ON control once to turn on VISUAL DISC. Small prompt should appear on display near DISC ON control.
4. Press DISC ON control again to turn off VISUAL DISC. Small prompt disappears from display.
5. Target numbers that appear or do not appear are based on the main discriminate memory (LRN ACC, LRN REJ, EDIT).
6. VISUAL DISC is separate and therefore unaffected by the audio discriminator. However, both are programmed at the same time via main discriminate memory (LRN ACC, LRN REJ, EDIT).
7. To exit to an operate mode squeeze and release the TRIGGER SWITCH.

I. MEMORY RECOVERY

Retaining a program or setting you have selected.

1. Once the instrument is turned off, then turned on again and GND balanced, all discriminate memory as well as all other settings will revert to the preselected settings based on the selected **Preset Starting Program**; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH.
2. To retain discriminate memory program settings you have selected as well as other settings immediately after pressing ON/OFF control to turn the instrument on, squeeze and release the TRIGGER SWITCH.
3. MEMORY RECOVERY will only work if the battery remains within 3.8 - 6.0 volts and is not removed for more than 30 seconds.

OPERATION REVIEW

DISCRIMINATE CONTROLS

First set the PRIMARY and SECONDARY controls, then:

1. Switch entire discriminate circuit off or back on by pressing DISC ON control. Prompt indicates on, no prompt indicates off.
2. Program Discrimination Learn by pressing either LRN ACC (Learn Accept) or LRN REJ (Learn Reject) once, PROMPT and MEM appear on display. Pass sample targets four to six times about four inches from the loop. Press LRN ACC (Learn Accept) or LRN REJ (Learn Reject) again to return to operate. PROMPT and MEM disappear.
3. EDIT Discrimination Program by pressing either EDIT control to enter the EDIT, (DISCRIMINATE OPTION) mode. MEM appears on the display. Use EDIT ▲ and EDIT ▼ to view the entire LOW 96-0-95 V.D.I. range and corresponding indication (iron, foil, nickel, etc.). For each of the LOW 96-0-95 numbers, press either CLR (Learn Accept) to clear for accept or SET (Learn Reject) to set for rejection. SET appears on display for targets SET for rejection. SET does not appear for V.D.I. numbers cleared for acceptance. Squeeze and release the TRIGGER SWITCH to return to a search mode.
4. To BLOCK EDIT large sections of the LOW 96-0-95 target range, first press either EDIT control to enter the EDIT mode. MEM appears on display. Then press twice either CLR (LEARN ACCEPT) or SET (LEARN REJECT). Prompt should appear on the display. Now each V.D.I. number that appears on the display throughout the use of the EDIT controls will automatically be either CLR (LEARN ACCEPT) or SET (LEARN REJECT), whichever was pressed. Press the same control (CLR or SET), to exit to regular EDIT mode or squeeze and release the TRIGGER SWITCH to exit to an operate mode.
5. To turn on TWO QUADRANT V.D.I. first press either EDIT control to enter the EDIT (DISCRIMINATE OPTION) mode. Then press AUTO TRAC control once, a small prompt should appear on the display near the AUTO TRAC control. Squeeze and release TRIGGER SWITCH to exit to an operate mode. Repeat process (push either EDIT control, push AUTO TRAC control, small prompt disappears from display near AUTO TRAC control) to turn off TWO QUADRANT V.D.I..

OPERATION REVIEW

DISCRIMINATE CONTROLS continued. . .

6. To turn on VISUAL DISC first press either EDIT control to enter the EDIT (DISCRIMINATE OPTION) mode. Then press DISC ON control once, a small prompt should appear on the display near the DISC ON control.

Squeeze and release the TRIGGER SWITCH to exit to an operate mode. Repeat process (push either EDIT control, push DISC ON control, small prompt disappears from display near DISC ON control) to turn off VISUAL DISC.
7. You are now ready to search. Sweep the loop smoothly and evenly over the ground, slightly overlapping each sweep. The loop must be in motion to detect metals.
8. Once a consistently good beep and display indication are noted, squeeze and hold the TRIGGER SWITCH and "X" the target. The loudest volume and shallowest DEEP number indicate target center. The loop does not have to be in motion to detect metals when the TRIGGER SWITCH is squeezed and held. After recovering the target and before continuing to search, squeeze and release the TRIGGER SWITCH with the loop at waist level to reset or clear for further searching.
9. After turning the instrument off Discriminate memory and all other settings prior to turning the instrument off may be retained. To retain these settings after pressing the ON/OFF control to turn the instrument ON immediately squeeze and release the TRIGGER SWITCH, "Memory Recovery" is then activated and all controls return to their prior settings.

AUDIO OPTIONS

When the TRIGGER SWITCH is squeezed and held or pushed forward to lock the **SECONDARY** controls labeled in **YELLOW** and **DISCRIMINATE** controls labeled in **BLUE** change to adjust AUDIO OPTIONS. All the following adjustments are made with the TRIGGER SWITCH either squeezed and held or pushed forward to lock.

- I. **SECONDARY** controls labeled in **YELLOW** when the TRIGGER SWITCH is squeezed:
 - A. AUTO TRAC® control turns ON/OFF S.A.T. (Self Adjusting Threshold), which maintains an even threshold over inconsistent ground. Press AUTO TRAC control once, prompt beside AUTO TRAC control indicates S.A.T. ON, press again prompt disappears indicating S.A.T. is off.
 1. S.A.T. is best used in AUDIO MODES A or C when DISC control is off, (detecting all metals).
 2. When using S.A.T. the loop should always be in motion, (swept), in order to detect metals.
 3. See ADVANCED OPTIONS for additional adjustment of S.A.T..
 - B. AUDIO MODE control adjusts AUDIO FREQUENCY (pitch). Press AUDIO MODE control to select between the three available audio frequencies. Select a frequency based on personal preference.
 1. Starts out in the "B" normal frequency.
 2. Press once for "C" high frequency.
 3. Press again for "A" low frequency.
 4. Press again and returns to "B" (repeats).
 - C. VOL▲VOL▼ controls maximum target volume. Press VOL▲ to increase or VOL▼ to decrease maximum target volume.
 1. Select the lowest volume adequate for your hearing needs.
 2. High volume levels will reduce battery life.
 3. Volume level will be indicated by a tone (beep) as the VOL controls are adjusted.

AUDIO OPTIONS continued. . .

- D. SENS (Sensitivity) control adjusts D.C. (non-motion mode) sensitivity.
1. Five levels are available.
 2. Press SENS control to increase D.C. sensitivity.
 3. Higher numbers indicate higher sensitivity levels.
 4. Returns to level 1 after level 5.
 5. Use the highest number that doesn't produce false signals or instability.
 6. Sensitivity is adjustable because of different interference levels. Few areas will allow a maximum sensitivity level of 5. Ideally use the highest level the area will permit. If interference becomes a problem reduce sensitivity.
 7. The sensitivity level will have no effect on overload or saturation indicated by the White's logo disappearing from the display. If overload occurs sweep the loop slightly higher from the ground or obtain the ATTENUATOR accessory for use in such areas. Overload is usually caused by highly magnetic ground.
- II. The **DISCRIMINATE CONTROLS** labeled in **BLUE** when the TRIGGER SWITCH is squeezed:
- A. DISC ON control turns ON/OFF AUTOMATIC SENSITIVITY which will reduce false signals from variations in the ground.
1. Press DISC ON control once, prompt appears beside DISC ON control indicating AUTOMATIC SENSITIVITY is on.
 2. Press DISC ON control again, prompt disappears indicating AUTOMATIC SENSITIVITY is off.
 3. Regular A.C. and D.C. sensitivity adjustments are still in effect regardless of the use of the AUTOMATIC SENSITIVITY feature.
- B. The LRN ACC control turns ON/OFF EXTENDED AUDIO which uses audio frequency and volume level to indicate target intensity in the non-motion modes "A" and "C", (DISC OFF).
1. Press LRN ACC control once, prompt appears beside LRN ACC control indicating EXTENDED AUDIO is on.
 2. Press LRN ACC control again, prompt disappears indicating EXTENDED AUDIO is off.
 3. EXTENDED AUDIO only functions in AUDIO MODES "A" or "C" (DISC OFF).

AUDIO OPTIONS continued. . .

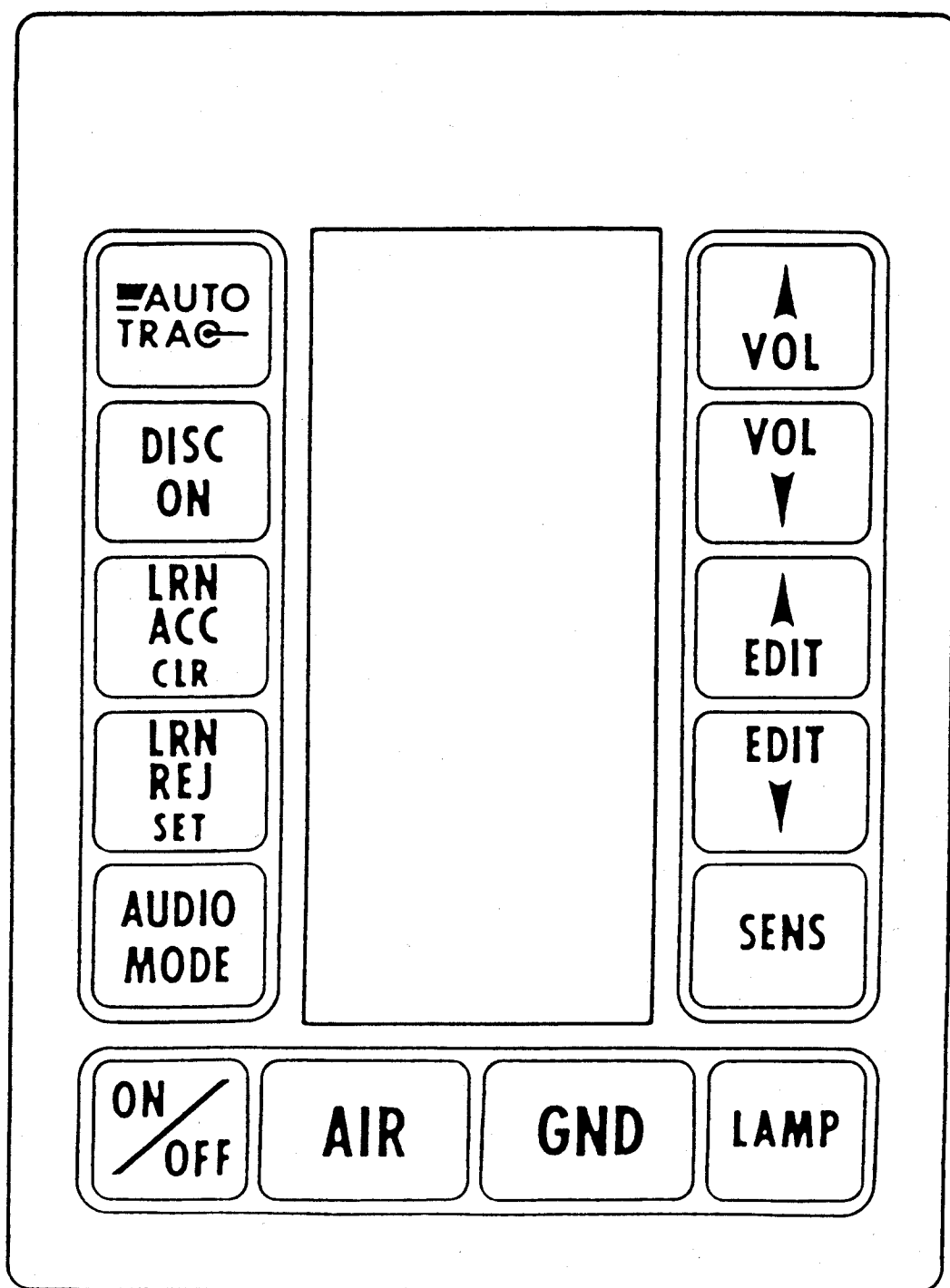
- C. The LRN REJ control turns ON/OFF MODULATED AUDIO which changes the motion modes so that target volume is depended upon target intensity.
 - 1. Press LRN REJ control once, prompt appears beside LRN REJ control indicating MODULATED AUDIO is ON.
 - 2. Press LRN REJ control again, prompt disappears indicating MODULATED AUDIO is OFF.
 - 3. Deeper or weaker targets produce softer tones and stronger targets produce louder tones when MODULATED AUDIO is used.
- D. Pressing either EDIT control switches to ADVANCED OPTIONS.
 - 1. See ADVANCED OPTIONS for more information.

DISPLAY

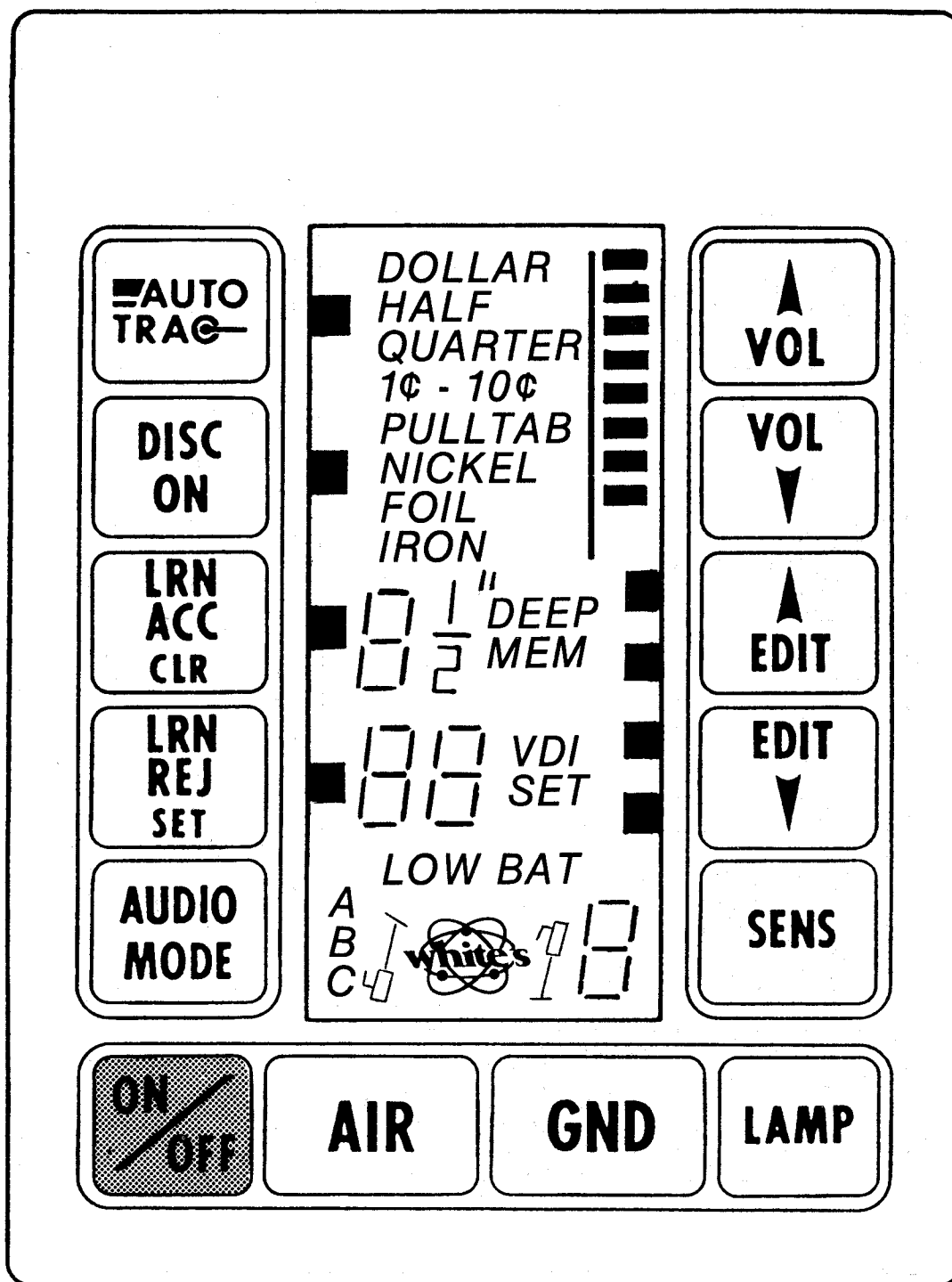
- I. The DISPLAY provides a wealth of information for the operator.
 - A. When first turned on, the DISPLAY will complete a self test by showing everything for a few seconds.
 - B. The DISPLAY will then clear and request selection of one of the three available **Preset Starting Programs**; "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH and request an AIR balance .
 1. First press the AUDIO MODE control to select the Preset Starting Program "A", "B" or "C" which appears beside the AUDIO MODE control.
 2. Now hold the loop in the air, waist level, away from known metals or the ground and press the AIR control.
 3. If AIR balance was in error, AIR balance prompt will continue to be visible on the DISPLAY. (Reposition the loop, away from known metals or the ground and again press AIR control). GND prompt  should appear.
 - C. The GND prompt indicates GND balance is required. (Place loop flat on ground and press GND control).
 - D. The DISPLAY shows the setting or level of each control.
 1. Beside the AUDIO MODE control on the display:
 - "A" indicates **Audible Threshold** mode
 - "B" indicates **Silent Search** mode
 - "C" indicates **Audible Threshold (Tone I.D.)** mode
 2. Beside the SENS (sensitivity) control on the display, numbers indicate the sensitivity level. The higher the number the more sensitive the setting.
 3. Next to the VOL (volume) control on the display, minimum volume or threshold is indicated by a bar graph. The taller the bar graph the higher the VOL (threshold) level.

DISPLAY continued. . .

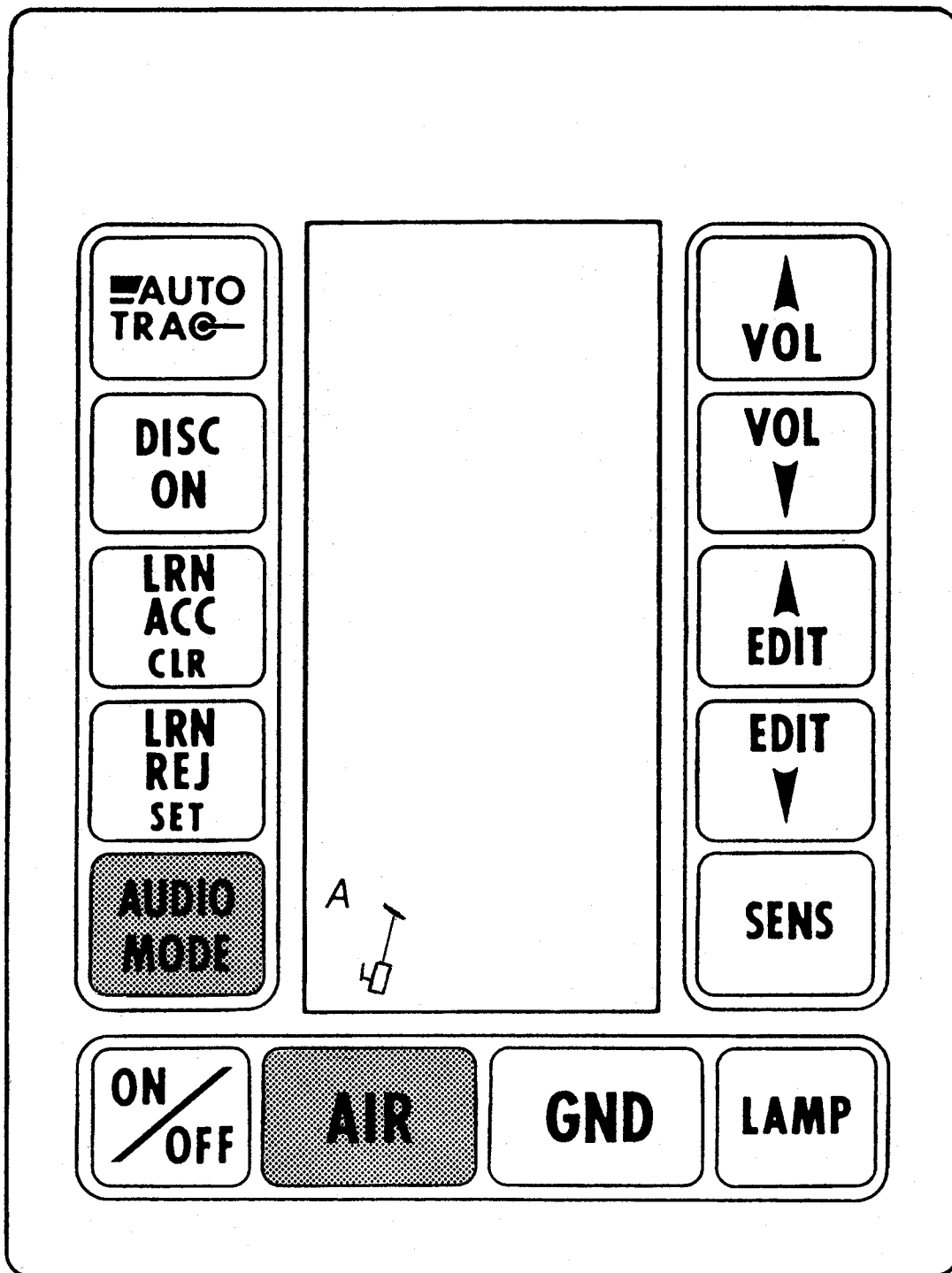
4. MEM (memory) appearing on the display indicates the discriminate memory is open for adjustment.
 5. White's logo appearing at the bottom of the display indicates the instrument is in an operating mode and will respond to metal. If when operating in a normal search mode White's logo disappears from the display the instrument is overloading due to a strong target, lift the loop a few inches higher and again sweep the area where overload occurred.
 6. Reasonably consistent or repeatable V.D.I. numbers and corresponding indication—iron, foil, nickel, tab, etc. indicate targets probable identity.
 7. When the TRIGGER SWITCH is squeezed and held the display switches to indicate the depth of coin sized targets. The DEEP number is the depth in inches.
 8. The status of other controls are indicated by a prompt (small square beside control) if that control or function is on, and no prompt is visible when that control or function is off.
- E. The following pages show the different display indications and the proper procedure for each indication.
- F. The prompts indicate the AUDIO OPTIONS when the TRIGGER is held. See page 40 for details.



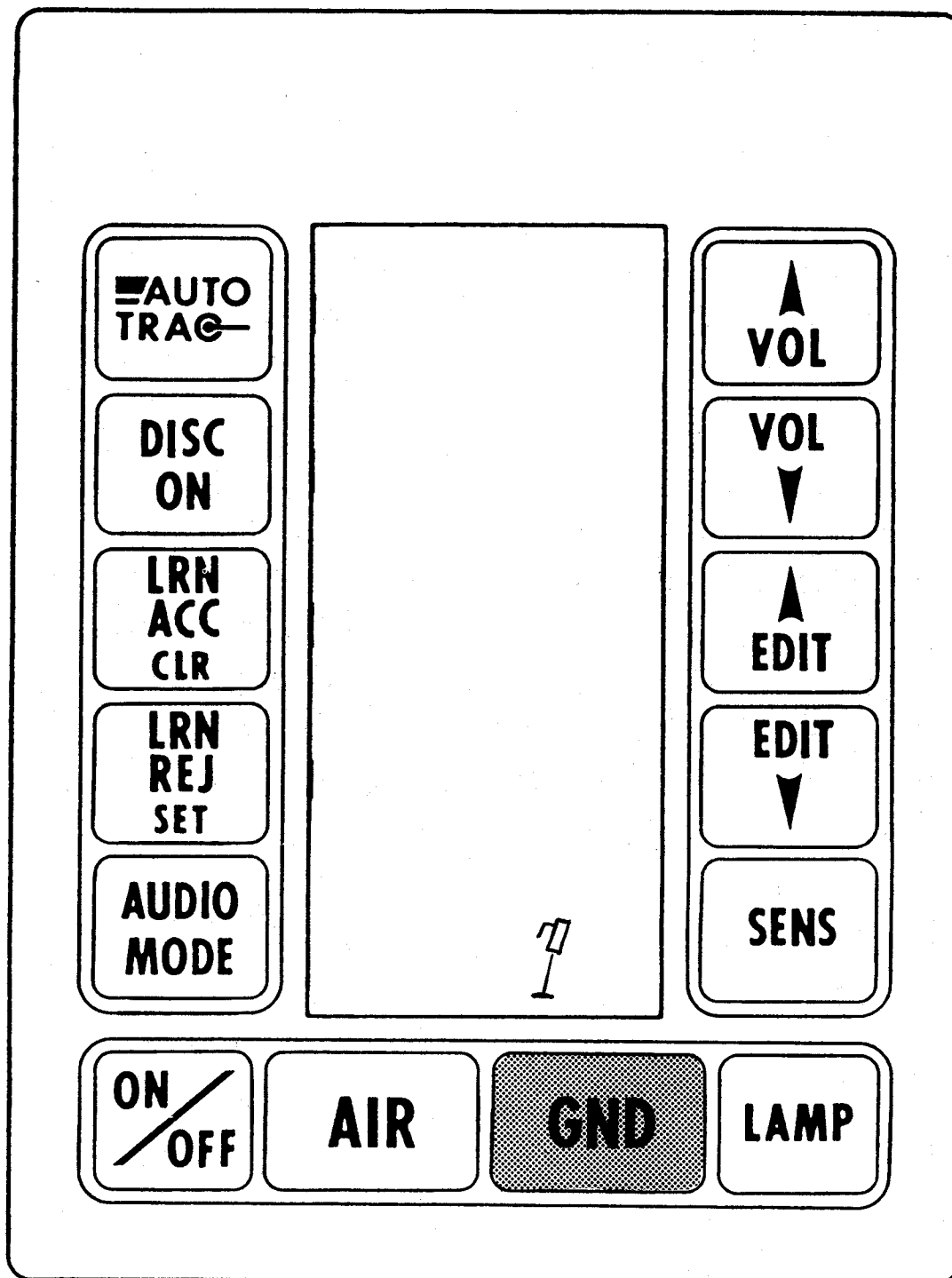
When **OFF**, nothing appears on the display.



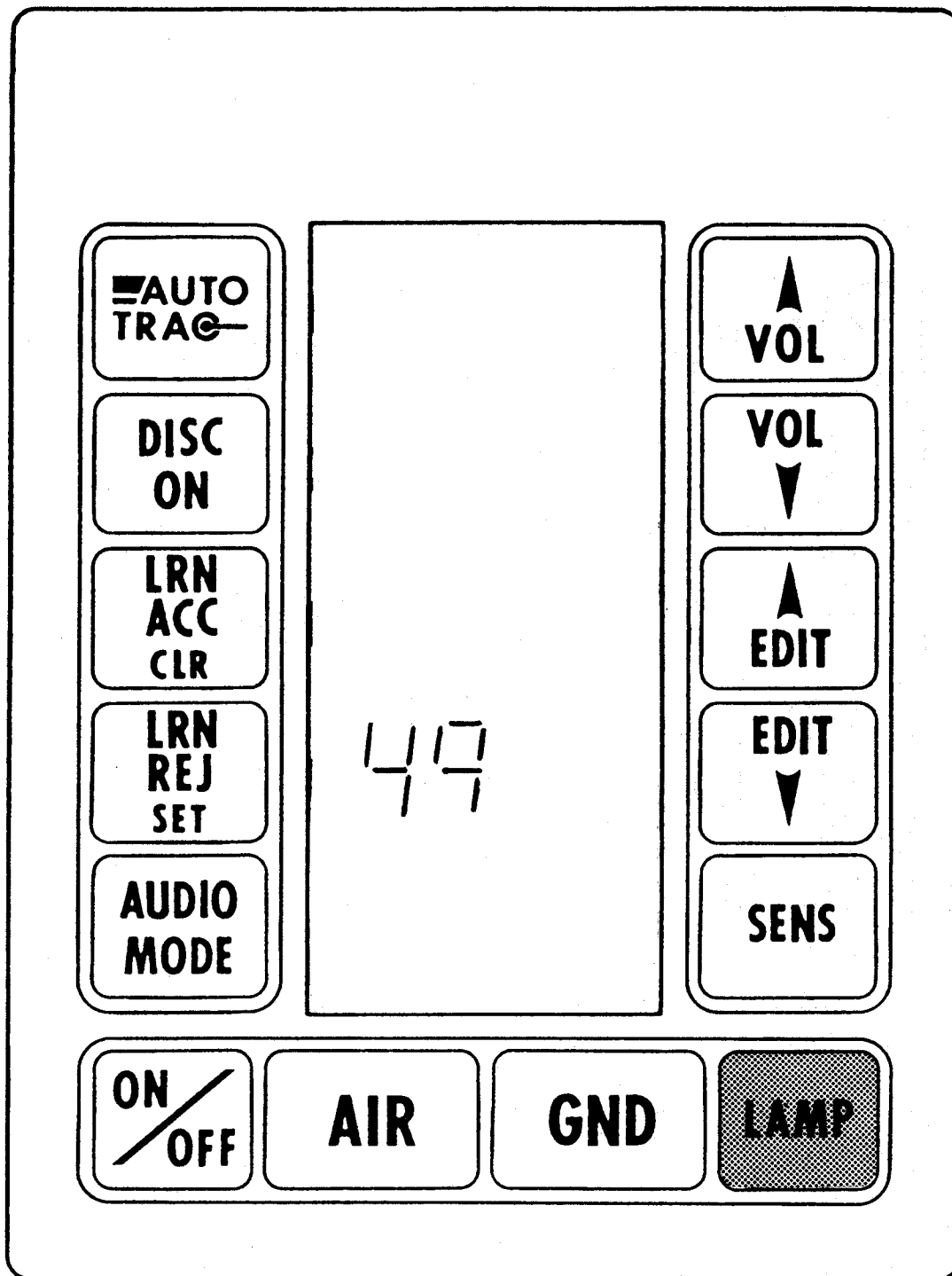
Press **ON/OFF** control once, all display items are visible for a few moments. If nothing appears on the display, recharge or replace the batteries.



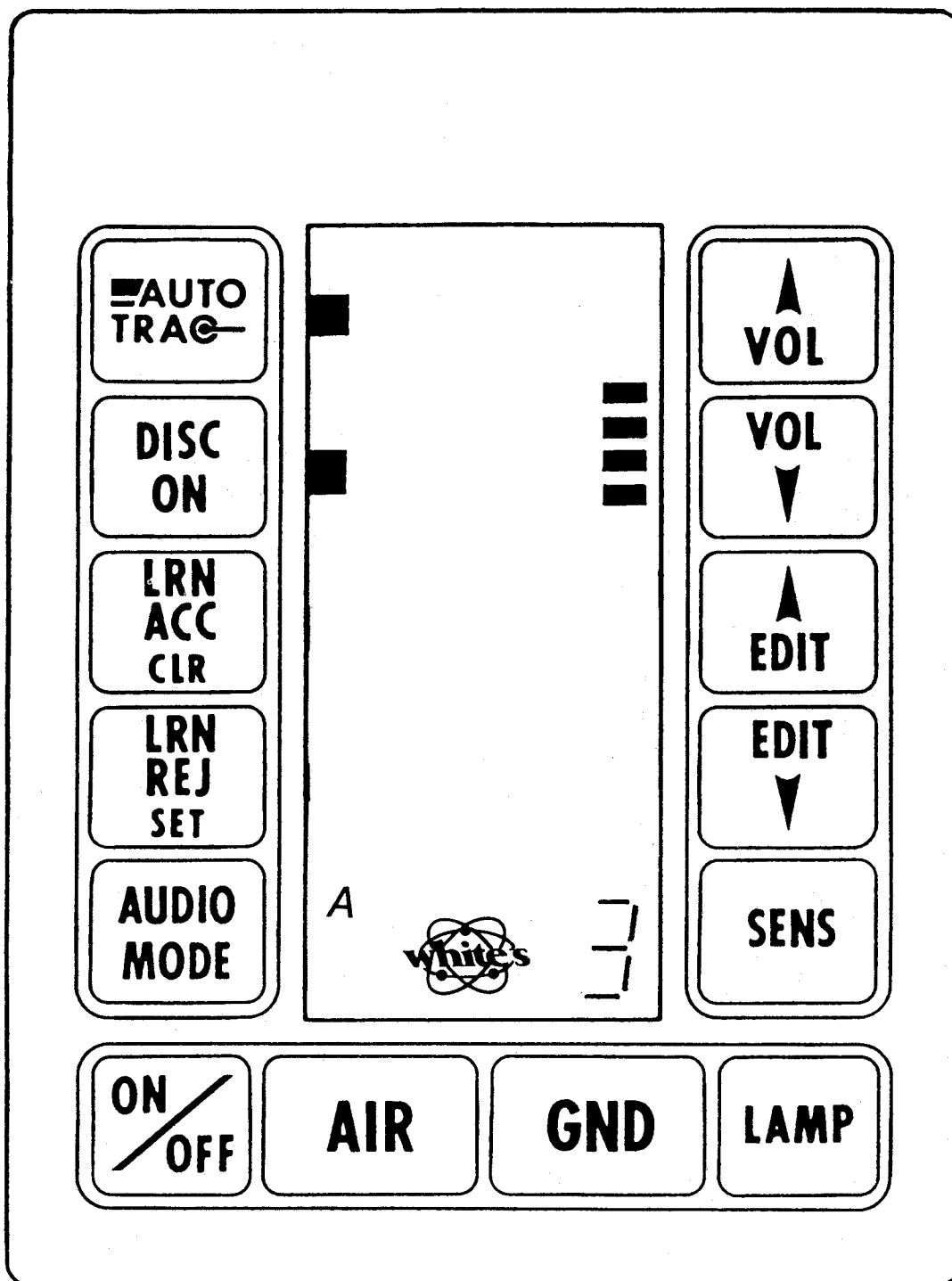
Display clears, showing Preselcted Program (AUDIO MODE Control) and AIR prompt. Select desired Preset Program by pushing AUDIO MODE control "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH. Hold the loop at waist level away from known metals or the ground and press **AIR** control. Instrument should give a solid beep and GND prompt should appear. If you hear a multinote beep, reposition the loop away from known metals or the ground and again press **AIR** control.



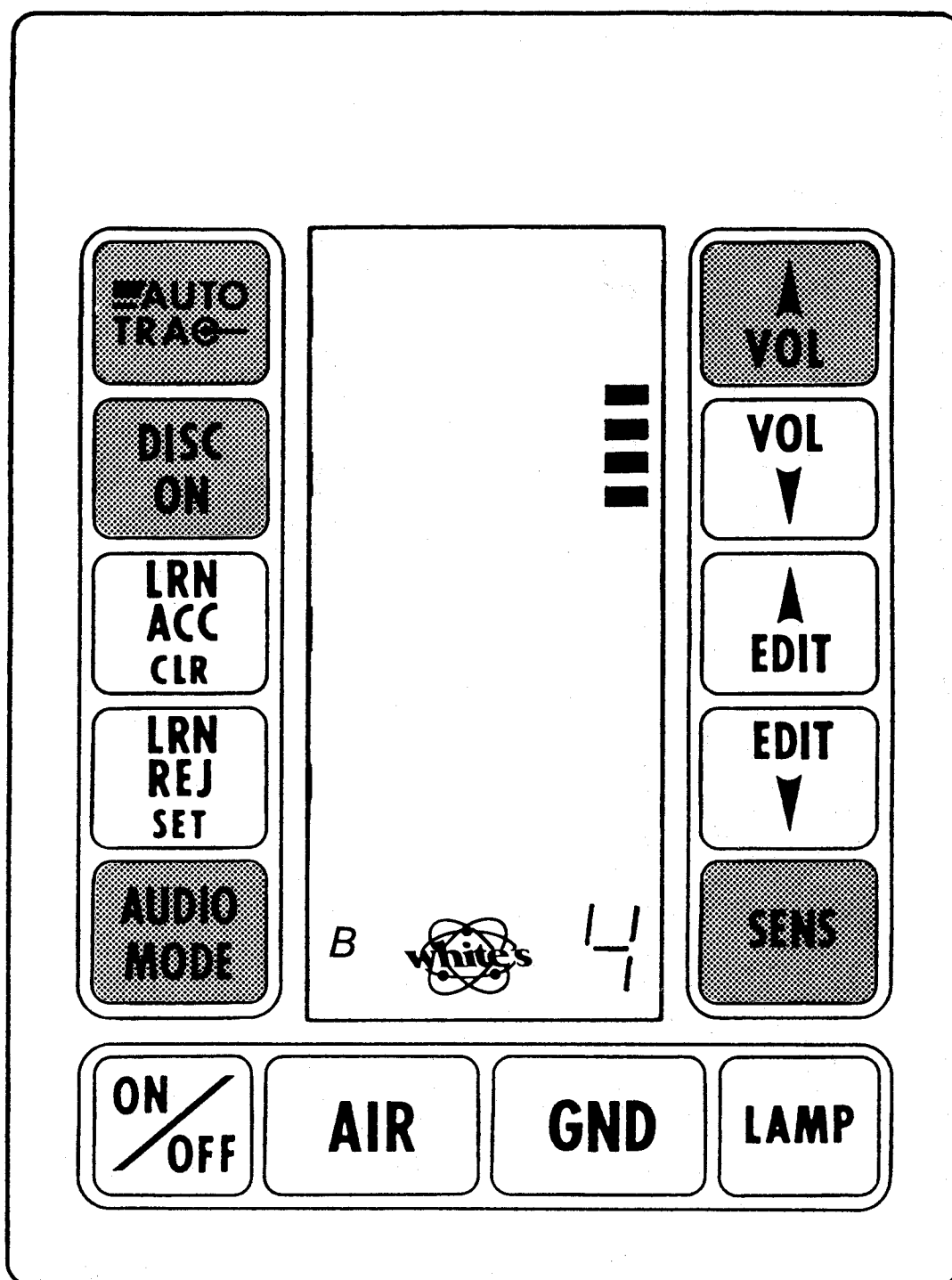
When **GND** prompt appears place the loop flat on the ground and press **GND** control. Multinote beep indicates you either balanced on top of metal or there weren't enough ground minerals to balance so the **GND** selected a predetermined level. In either case, reposition the loop and again press **GND** control. If multinote beep persists, ignore it. The ground is probably not mineralized. Normally you will hear a solid beep.



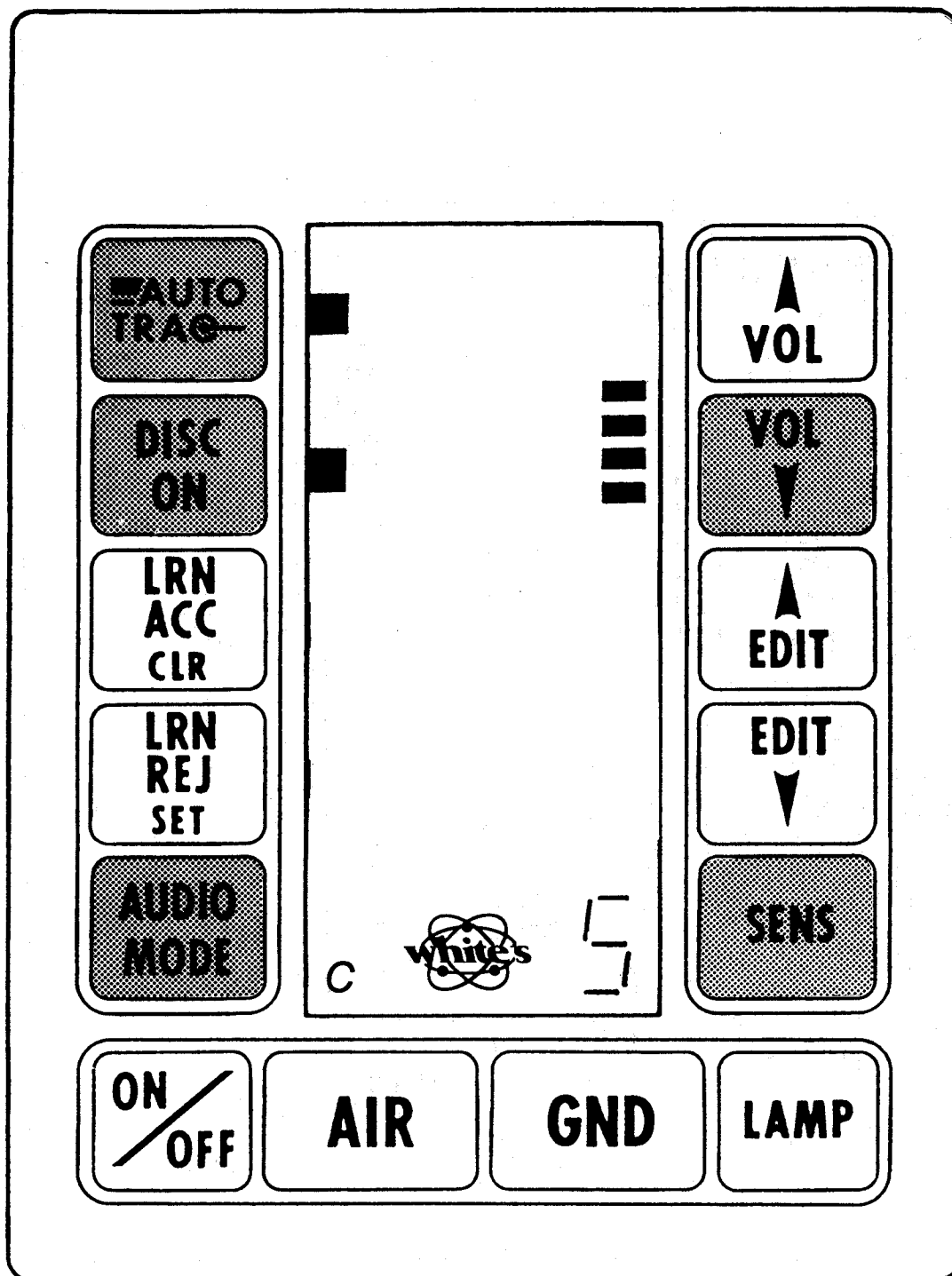
Press and hold the **LAMP** control to check battery voltage. 49 means 4.9 volts. LOW BAT will persist when the batteries are getting weak. 4.9 volts is the normal fully charged voltage of the rechargeable battery. Standard batteries when new should show about 6.0 volts. A built-in voltage regulator insures that no performance differences exist between these two types of batteries other than actual battery life. Leave **LAMP** (headlight) on if needed, if not press and release LAMP control a second time to turn off **LAMP**.



You're now ready to detect. "A" indicates the instrument is in the "A" Audible Threshold Mode. White's logo indicates the instrument will respond to metal. Number 3 indicates sensitivity level 3. Prompts beside **AUTO TRAC** and **DISC ON** indicate these controls are in the ON position. The four segments of the bar graph indicate the minimum volume (threshold) level. If a target is very strong White's logo may disappear indicating an overload. Raise the loop a few inches higher and again sweep the target.



Pressing **AUDIO MODE** control once switches to the "B" Silent Search Mode.
 Pressing **SENS** control once increases sensitivity to level 4.
 Pressing **AUTO TRAC**[®] control once turns AUTO TRAC off, no prompt.
 Pressing **DISC ON** control once turns DISC off, no prompt.
 Pressing **VOL** ▲ control once increases minimum volume (threshold).



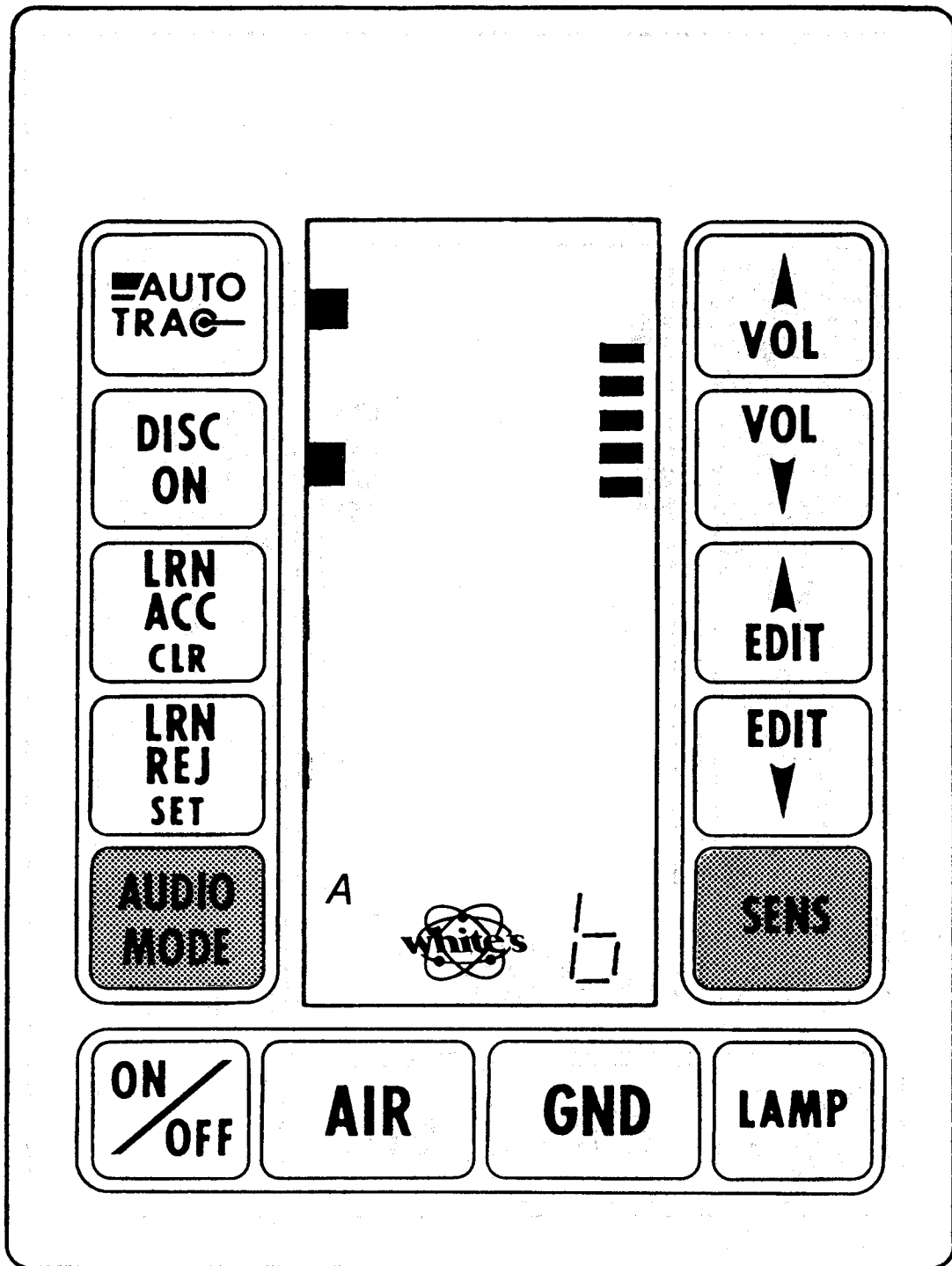
Pressing **AUDIO MODE** control again switches to the "C" Audible Threshold Tone I.D. Mode.

Pressing **SENS** control again increases sensitivity to level 5.

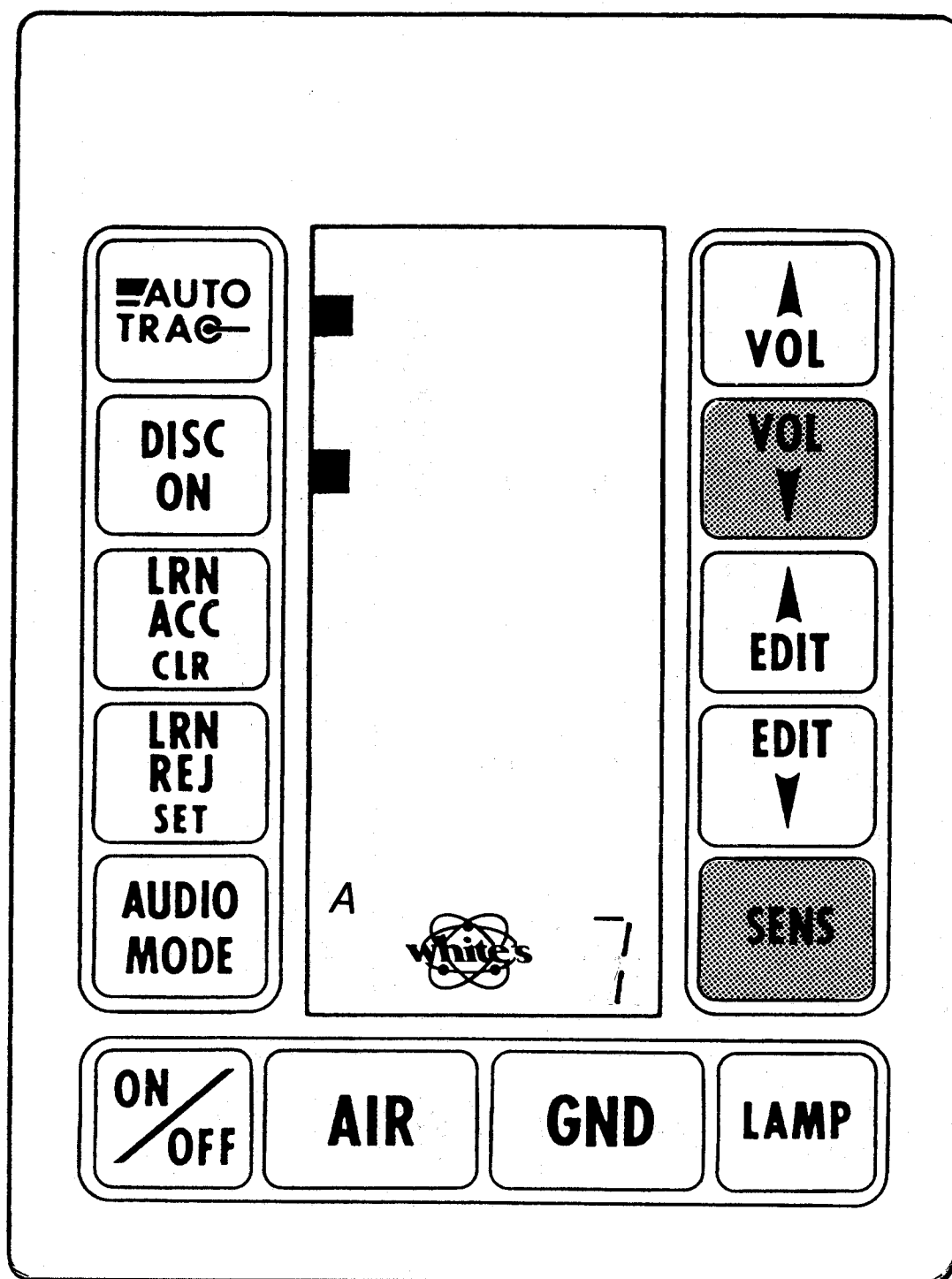
Pressing **AUTO TRAC**[®] control again turns **AUTO TRAC**[®] on, indicated by a prompt beside the control.

Pressing **DISC ON** control again turns **DISC** on, indicated by a prompt beside the control.

Pressing **VOL** ▼ decreases minimum volume (threshold).

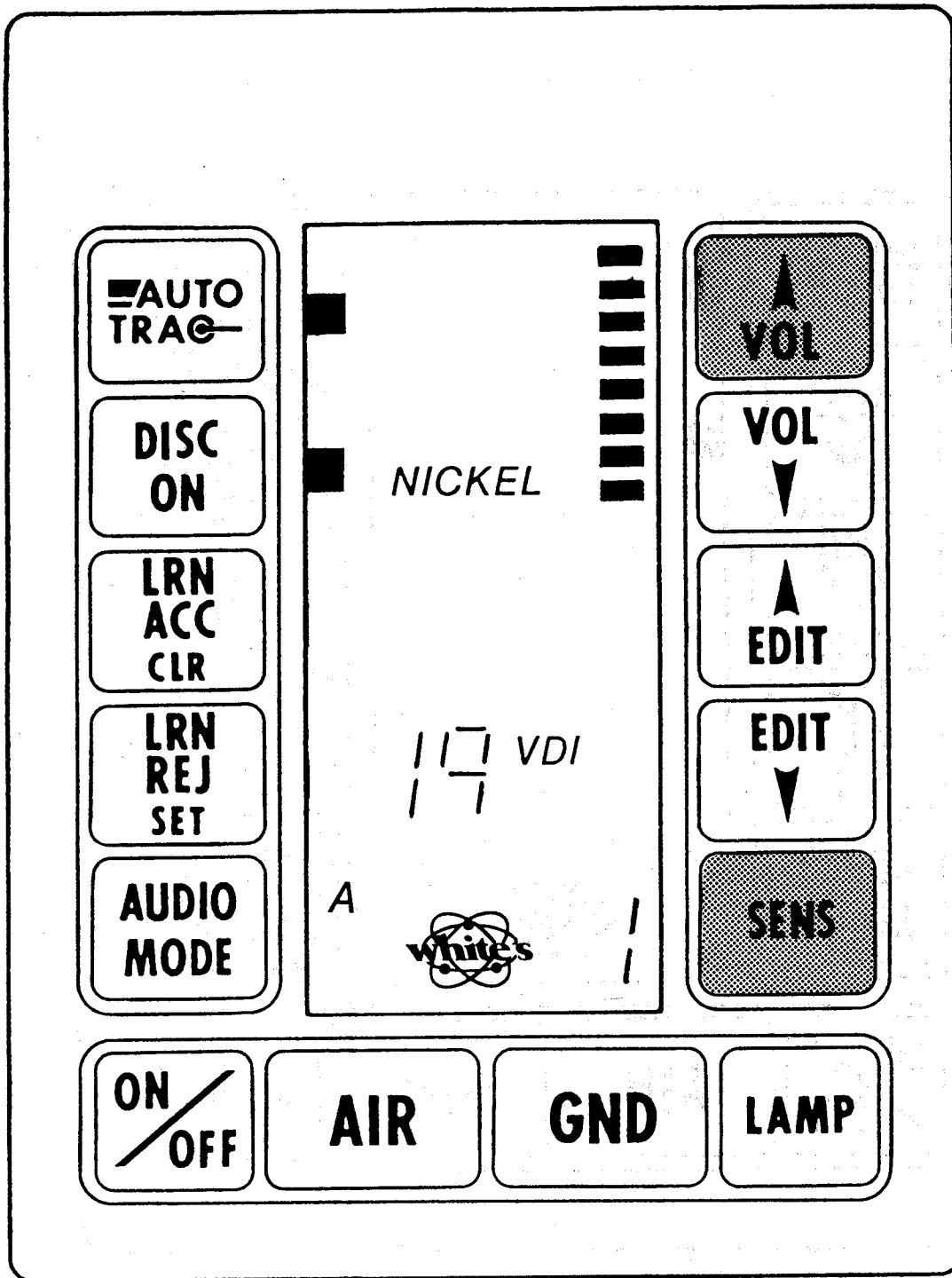


Pressing **AUDIO MODE** control a third time returns to the "A" Audible Threshold Mode.
Pressing **SENS** control a third time switches to sensitivity level 6.



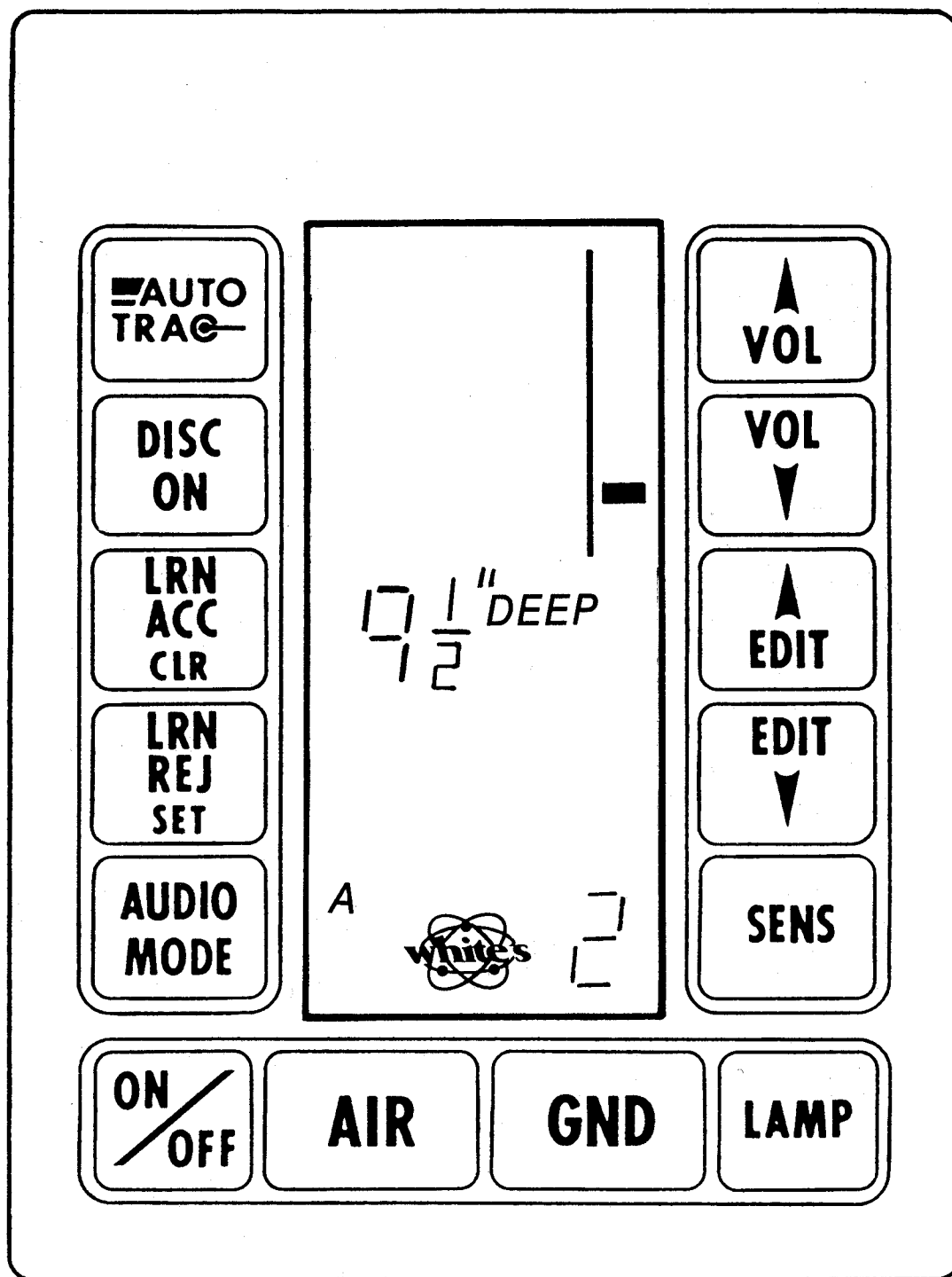
Pressing **SENS** control again switches to sensitivity level 7.

Pressing **VOL ▼** 18 or more times decreases minimum volume (threshold) to its lowest possible level.

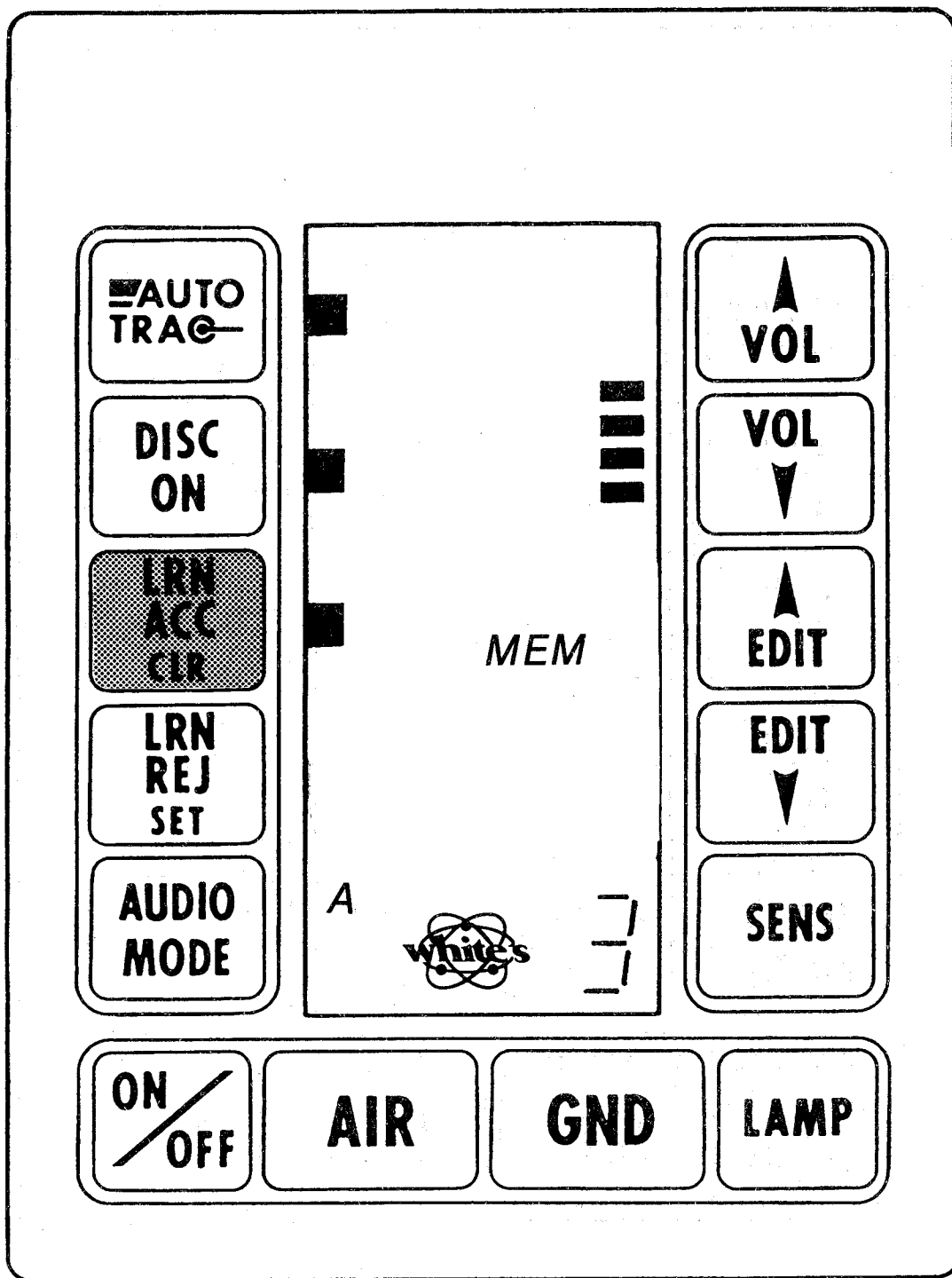


Pressing **SENS** control again switches to sensitivity level 1.

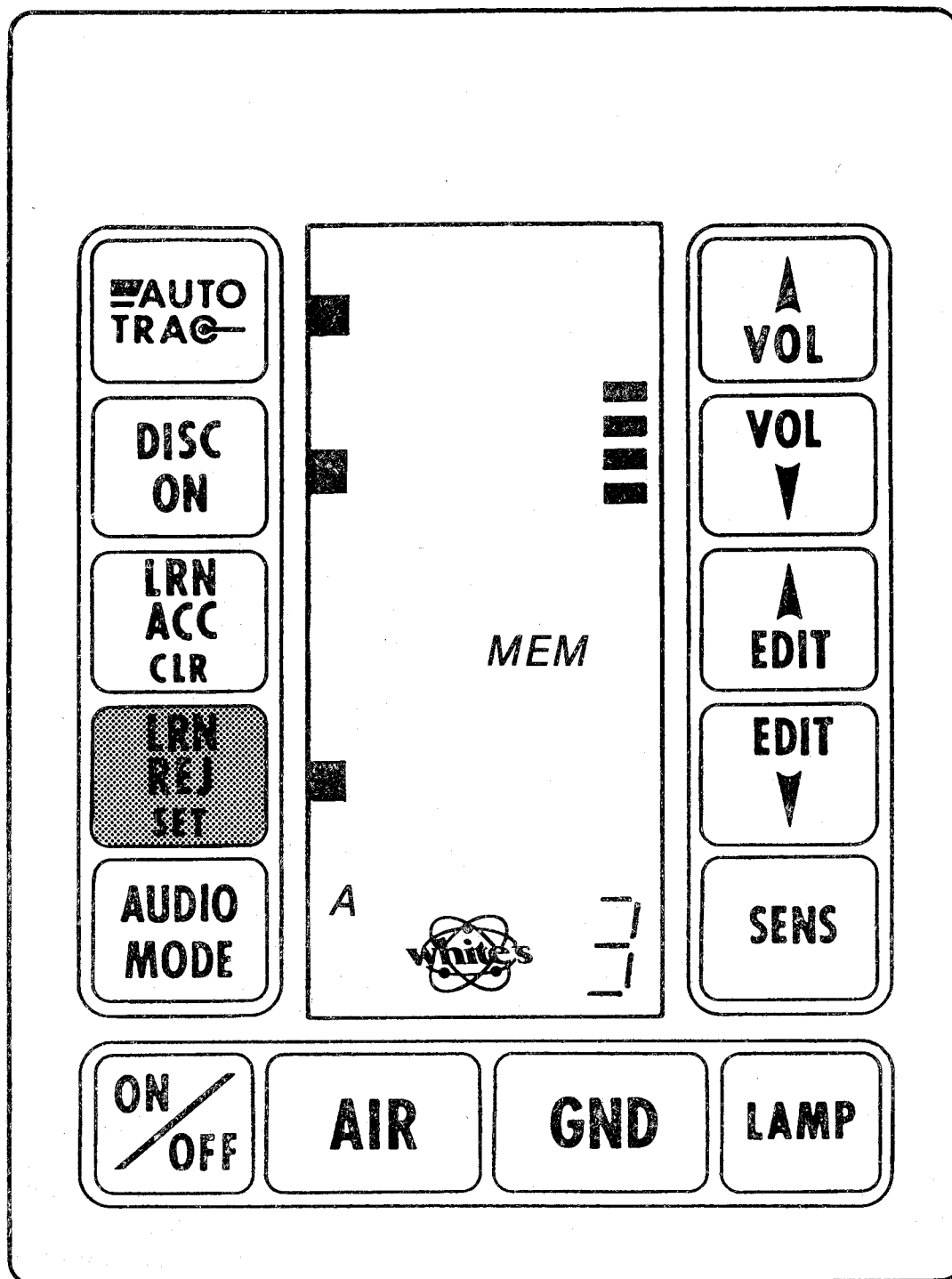
Pressing **VOL** ▲ 35 or more times increases minimum volume (threshold) to its maximum level. When the loop is passed over a target producing an audio tone (beep), reasonably consistent V.D.I. numbers and their corresponding indication tell the target probable identification.



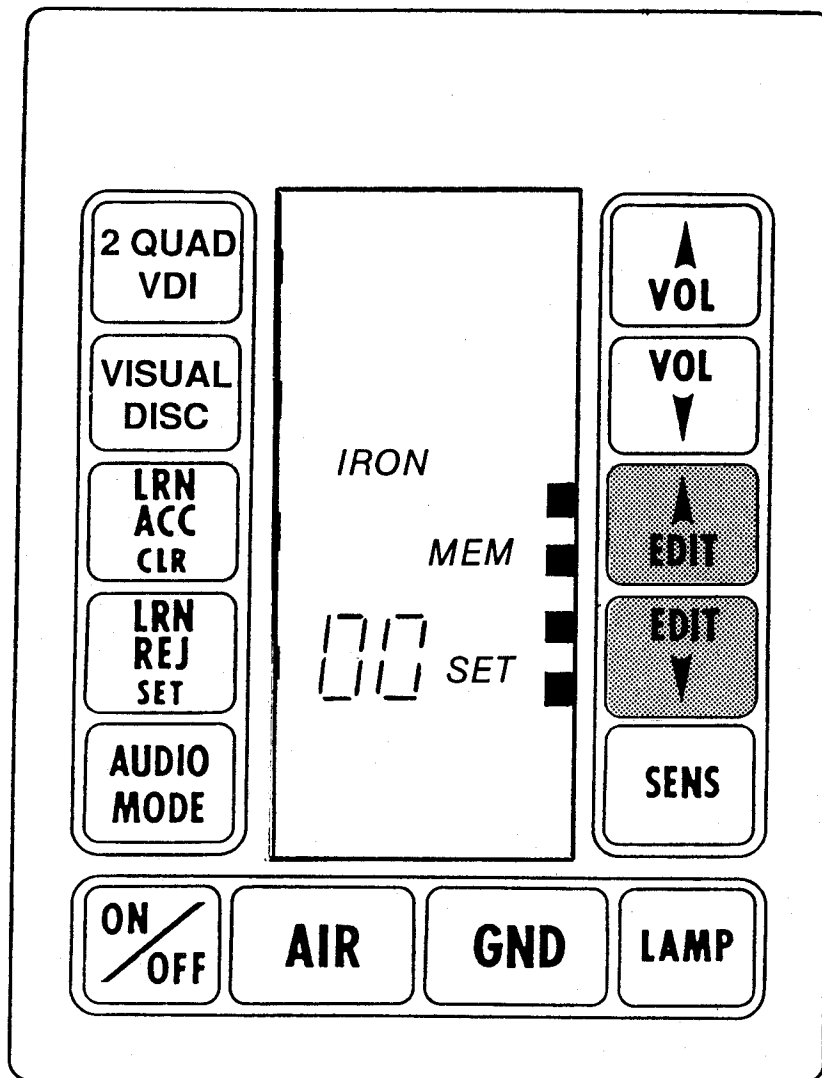
Squeezing and holding the TRIGGER switches to the pinpoint and depth reading mode. **DEEP** number indicates target depth in inches. An additional line will appear beside the volume bar graph meaning this graph is now showing signal intensity rather than threshold level. "X" the target to determine depth and the precise location of the target, the shallowest **DEEP** number and tallest bar graph indicate target center. Release the **TRIGGER SWITCH** to return to a normal operating mode.



Press **LRN ACC**, prompt appears beside **LRN ACC** control and **MEM** is visible. The instrument is ready to learn to accept target samples. Pass sample targets, one at a time, four to six passes approximately four inches from the loop. Pressing **LRN ACC** again, will lock these targets into memory and they will now be accepted (detected). Prompt and **MEM** will disappear and the instrument is returned to an operating mode.

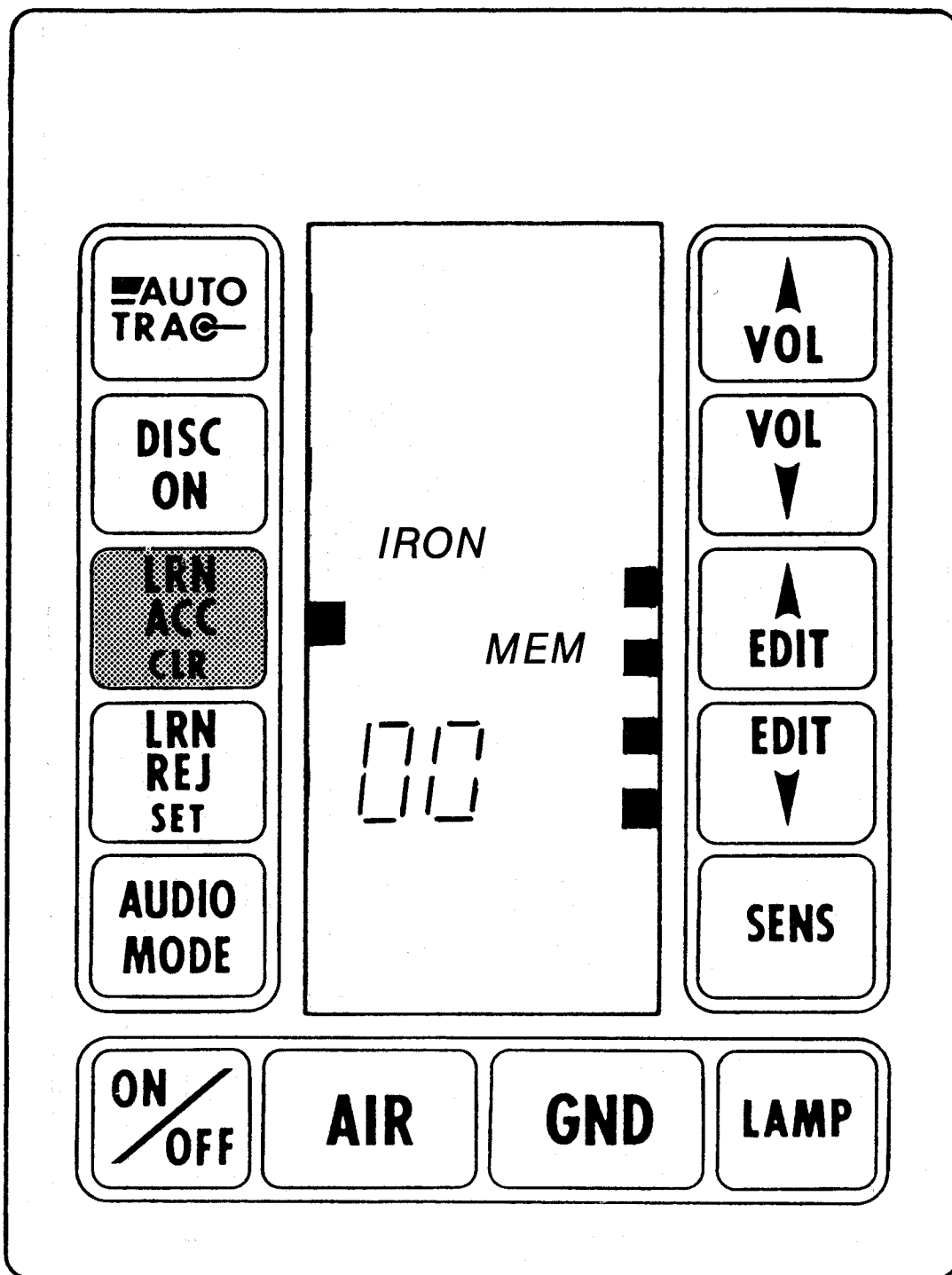


Press **LRN REJ**, prompt appears beside **LRN ACC** control and **MEM** is visible. The instrument is ready to learn to reject target samples. Pass sample targets, one at a time, four to six passes approximately four inches from the loop. Pressing **LRN REJ** again will lock these targets into memory and they will now be rejected (discriminated). Prompt and **MEM** will disappear and the instrument is returned to an operating mode.

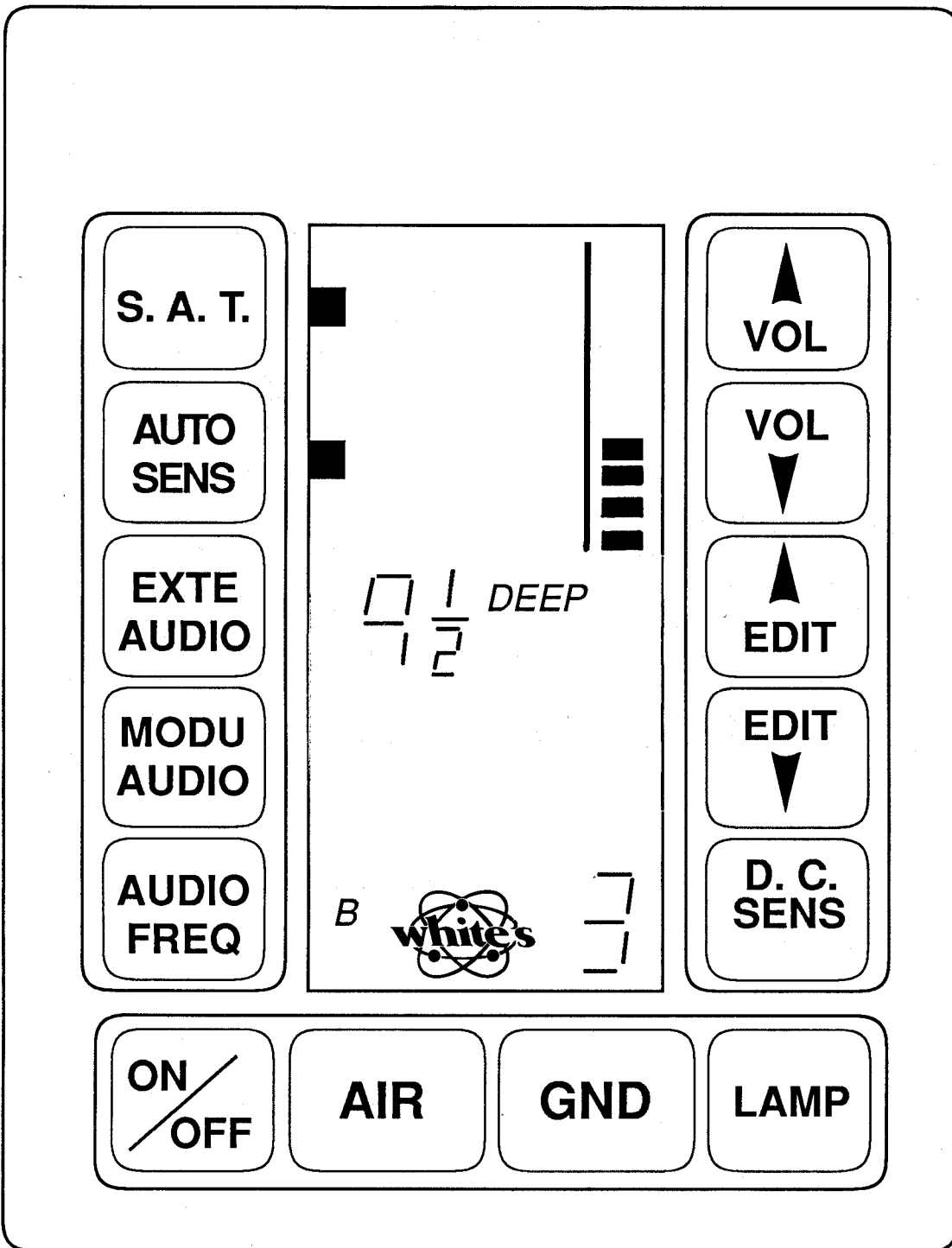


Press either **EDIT** control to enter **EDIT** mode. Four prompts appear beside **EDIT** controls. Use the **EDIT** controls to view LOW 96-0-95 target numbers and corresponding indication—iron, foil, nickels, etc. **SET** appears for each of the LOW 96-0-95 target numbers set for reject. **SET** doesn't appear for the LOW 96-0-95 target numbers clear (CLR) for accept. White's logo doesn't appear because the instrument will not respond to metal in this mode. For each of the LOW 96-0-95 target numbers, press either **CLR** to clear for accept or **SET** to set for reject.

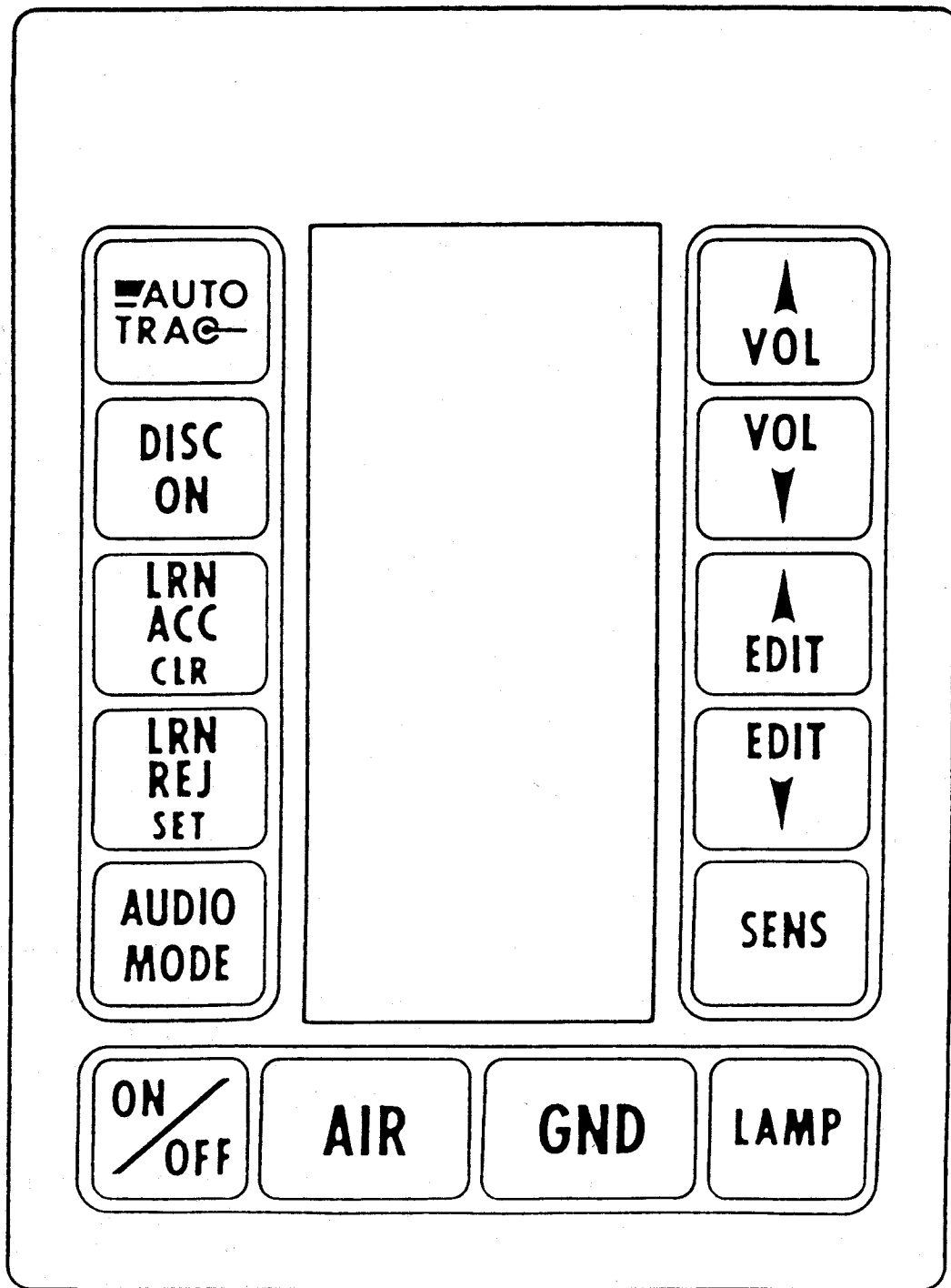
Once in the **EDIT** mode **TWO QUADRANT V.D.I.**, which allows viewing of LOW 96-0 iron range, may be turned on or off by pressing **AUTO TRAC**® control, (prompt beside **AUTO TRAC** control indicates ON, no prompt indicates OFF). Additionally **VISUAL DISC**, which makes target numbers LOW 96-0-95 programmed for reject no longer appear on the display, may be turned on or off by pressing **DISC ON** control (prompt beside **DISC ON** control indicates ON, no prompt indicates OFF). Squeeze and release the **TRIGGER SWITCH** to return to normal operation.



Once you enter the **EDIT** mode by pressing either **EDIT** control, press either **CLR** or **SET** twice. Prompt appears beside control to block edit large sections of the LOW 96-0-95 target numbers. Then using the **EDIT** controls, each number that appears will automatically be changed to **CLR (Accept)** or **SET (Reject)** status, whichever was pressed. Press the same control again (**CLR**) or (**SET**) to return to the normal **EDIT** mode. Squeeze and release the **TRIGGER SWITCH** to return to normal operation. White's logo doesn't appear because the instrument will not respond to metal in this mode.



LOCK the **TRIGGER SWITCH** forward and now the **AUTO TRAC®** control turns ON/OFF **S.A.T.** (Self Adjusting Threshold), the **DISC ON** control turns ON/OFF **AUTOMATIC SENSITIVITY**, **LRN ACC** turns ON/OFF **EXTENDED AUDIO**, **LRN REJ** turns ON/OFF **MODULATED AUDIO**, **AUDIO MODE** selects between three available AUDIO FREQUENCIES—**VOL ▲ VOL ▼** adjust maximum target volume, **SENS** selects D.C. non-motion mode sensitivity and either **EDIT** control will switch to the **ADVANCED OPTIONS MODE**. Squeeze and release **TRIGGER SWITCH** to return to normal operation.



Press **ON/OFF** control to turn instrument OFF. The instrument will automatically turn itself OFF if no controls are used for twenty minutes.

STEP-BY-STEP TUNING

1. TRIGGER SWITCH, center (search) position.
2. Press ON/OFF and wait for DISPLAY to clear. Showing Preset Starting Program "A" and AIR prompt .
3. Select Preset Starting Program by pushing AUDIO MODE control, "A" COIN & JEWELRY, "B" PROSPECTING & RELIC, "C" BEACH.
4. Hold loop waist level, away from known metals or the ground and press AIR. If you hear a multinote beep, reposition the loop and again press AIR. You should hear a solid beep and GND prompt  should appear.
5. Place the loop flat on the ground and press GND control. If you hear a multinote beep, reposition the loop and again press GND. If multinote beep persists, ignore it.
6. To check battery voltage, press and hold LAMP control.
7. To turn LAMP on or off, press LAMP control.
8. To change AUDIO MODES, press AUDIO MODE; "A" Threshold, "B" Silent Search, "C" Tone I.D.
9. Adjust A.C. (motion mode) sensitivity by pressing SENS control. Use the highest number that does not produce false signals. (Returns to level 1 after level 7).
10. Leave AUTO TRAC on or turn off by pressing AUTO TRAC once.
11. Adjust minimum volume (threshold) by pressing VOL  or VOL .
12. Switch off or turn back on audio discriminate circuit by pressing DISC ON control.
13. Teach discrimination, program discriminate Learn by pressing either LRN ACC (LEARN ACCEPT) or LRN REJ (LEARN REJECT) once, PROMPT and MEM appears on display, then pass sample targets four to six times about four inches from the loop. Press LRN ACC (LEARN ACCEPT) or LRN REJ (LEARN REJECT) again to return to operate. PROMPT AND MEM disappear.
14. Manually EDIT Discriminate Program by pressing either EDIT control to enter the EDIT mode, MEM appears on the display. Use EDIT  and EDIT  to view the entire LOW 96-0-95 V.D.I. target range and corresponding indication—iron, foil, nickel, etc. For each of the LOW 96-0-95 target numbers, press either CLR (LEARN ACCEPT) to clear for accept or SET (LEARN REJECT) to set for rejection. SET appears on display for targets SET for rejection. SET does not appear for V.D.I. numbers clear for acceptance. Squeeze and release the TRIGGER SWITCH to exit to an operate mode.

STEP-BY-STEP TUNING continued. . .

15. To BLOCK EDIT large sections of the LOW 96-0-95 target range, first press either EDIT control to enter the EDIT mode. MEM appears on display. Then press twice either CLR (LEARN ACCEPT) or SET (LEARN REJECT). Prompt should appear on the display. Now each V.D.I. number that appears on the display throughout the use of the EDIT controls will automatically be either CLR (LEARN ACCEPT) or SET (LEARN REJECT), whichever was pressed. Press the same control (CLR or SET), to exit to regular EDIT mode or squeeze and release the TRIGGER SWITCH to exit to an operate mode.
16. To turn on or off TWO QUADRANT V.D.I. (LOW 96-0 target range), first press either EDIT control to enter EDIT mode then press AUTO TRAC control, prompt appears beside AUTO TRAC indicating ON. Press AUTO TRAC again, prompt disappears indicating TWO QUADRANT V.D.I. is OFF. Squeeze and release TRIGGER SWITCH to exit to an operate mode.
17. To turn on or off VISUAL DISC (eliminates rejected V.D.I. numbers from appearing) first press either EDIT control to enter the EDIT mode, then press DISC ON control, prompt appears beside DISC ON indicating ON. Press DISC ON again, prompt disappears indicating VISUAL DISC is off. Squeeze and release TRIGGER SWITCH to exit to an operate mode.
18. You are now ready to search. Sweep the loop smoothly and evenly over the ground, slightly overlapping each sweep. The loop must be in motion to detect metals.
19. Once display indication is noted, squeeze and hold the TRIGGER SWITCH and "X" the target. The loudest volume and shallowest DEEP reading indicate target center.
20. After recovering the target and before continuing to search, squeeze and release the TRIGGER SWITCH with the loop at waist level to reset or clear for further searching.
21. To turn the instrument off, press ON/OFF control.
22. To retain settings prior to turning off, squeeze and release the TRIGGER SWITCH immediately after pressing ON/OFF control to turn the instrument ON.

STEP-BY-STEP TUNING continued. . .

23. When the TRIGGER SWITCH is squeezed and held or pushed forward to lock, **AUDIO OPTIONS** are made possible. Release TRIGGER SWITCH to return to normal operation.

A. S.A.T. (Self Adjusting Threshold)

Squeeze and hold TRIGGER SWITCH, press AUTO TRAC, prompt appears indicating ON. Press AUTO TRAC again, prompt disappears indicating OFF.

B. AUDIO FREQUENCY (Pitch)

Squeeze and hold TRIGGER SWITCH press AUDIO MODE control to select between the three available AUDIO FREQUENCIES, "B" Normal, "C" High, "A" Low, (repeats).

C. TARGET VOLUME

Squeeze and hold TRIGGER SWITCH, press VOL ▲ VOL ▼ to adjust TARGET VOLUME indicated by a tone (beep) as adjustment is made.

D. D.C. SENS (D.C. non-motion mode sensitivity)

Squeeze and hold TRIGGER SWITCH, press SENS control to select levels 1-5 D.C. Sensitivity.

E. AUTOMATIC SENSITIVITY

Squeeze and hold TRIGGER SWITCH, press DISC ON control, prompt appears indicating ON. Press DISC ON again, prompt disappears indicating OFF.

F. EXTENDED AUDIO

Squeeze and hold TRIGGER SWITCH, press LRN ACC control, prompt appears indicating ON. Press LRN ACC again, prompt disappears indicating OFF.

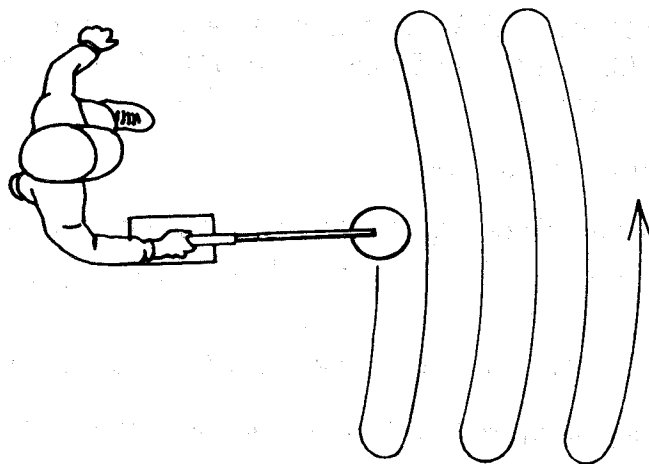
G. MODULATED AUDIO

Squeeze and hold TRIGGER SWITCH, press LRN REJ control, prompt appears indicating ON. Press LRN REJ again, prompt disappears indicating OFF.

H. ADVANCED OPTIONS

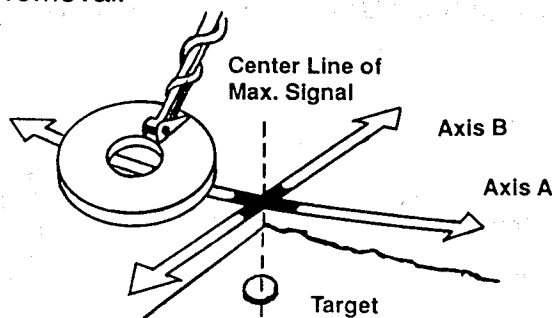
Squeeze and hold TRIGGER SWITCH, press either EDIT control to enter ADVANCED OPTIONS. See **Advanced Options** for details.

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 DISPLAY. This will help avoid hitting and marring the object during removal.

PINPOINTING



1. Once you have determined a target is worth digging, squeeze and hold in the **TRIGGER SWITCH**. This activates the pinpoint mode and displays depth and intensity reading.
2. Watch the display as the loop is moved over the target "X".
3. When the display **DEEP** number reaches its lowest number (the shallowest depth) and the intensity bar graph (beside VOL controls) reaches its tallest point, the target is directly below the center of the loop. Read the depth and dig.

Accurate pinpointing makes recovering targets 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 this skill.

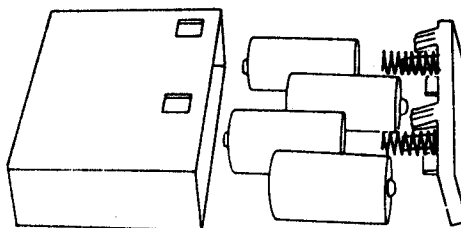
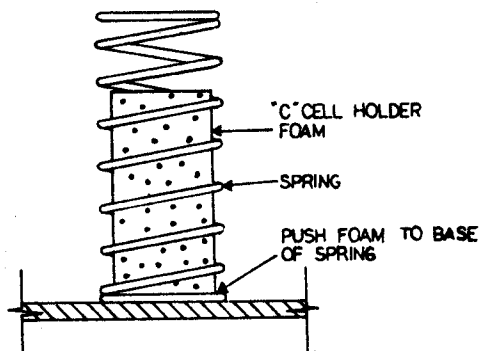
STANDARD BATTERIES

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 instrument.
2. Remove the battery pack lid gently pulling the top sides of the pack apart until the lid springs up, or apply gentle pressure down on the four locking tab openings, two on each side.
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.

"C" Cell Holder Instructions

**"C" SIZE ALKALINE BATTERIES ARE THE ONLY BATTERIES
RECOMMENDED FOR THIS HOLDER**



Installation Instructions:

1. Push foam into the four springs.
2. Install 4 batteries (not included) with the flat side of each cell against one of the four springs. (If the cells are in backward, the detector will not work.)

RECHARGEABLE BATTERIES

Rechargeable **NICKEL CADMIUM** batteries are included with this instrument. These can be recharged up to 1000 times if the batteries have not been stored for extended periods of time (several years). Charge will last approximately 7 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 when necessary. Unnecessary recharging shortens the life of the battery pack.

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. The light on the charger will glow if connected properly.
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 the 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), have a specific charge current. Do not attempt to mix other charges or packs with this system. Batteries may explode if a charger current is too high.
5. Non-rechargeable batteries may explode if they are recharged.
6. Store batteries in a cool, dry place.
7. Avoid an absolute discharge, eliminating all voltage within these batteries will damage them.
8. The rechargeable battery pack is a sealed unit with no customer serviceable parts. Opening it may damage the unit and will void the warranty.
9. Store rechargeable batteries with a full charge. When storing rechargeable batteries for extended periods of time always recharge them about once every three months. Batteries stored without a charge may become defective. In many cases, the discharge recharge cycle to erase the memory will also work to revive batteries that have been in storage.

CAUTION

"MEMORY" OF RECHARGEABLE BATTERIES

Nickel Cadmium (rechargeable) batteries are long lasting, powerful batteries that are excellent for operating your metal detector. These batteries can be recharged many times, thereby, saving you hundreds of dollars over the course of their life. But this very rechargeable advantage can have limitations. If these batteries are not discharged properly (no longer test good) they may develop a "memory". This shortens battery life.

The most common cause of the memory characteristic is repeated booster charges. In other words, if you recharge your batteries over and over again, after only three hours of use, the batteries will eventually only hold a three hour charge.

To avoid the occurrence of this characteristic, it is best to wait until LOW BAT appears on the display before recharging. You may then recharge these batteries for eight to ten hours. This should result in a maximum charge. If your batteries develop a "memory", the following method can be used to erase it:

1. Discharge the rechargeable battery through normal use.
2. Charge the batteries for eight to ten hours.
3. Repeat steps 1 and 2 three to five times or until the "memory" situation is corrected.

If the batteries still have the "memory" characteristic after five discharge-recharge cycles, new batteries are needed. Rechargeable "memory" is not covered by the warranty as it is considered the result of misuse and/or neglect.

New batteries or batteries that have been in storage may require three to five discharge-recharge cycles to reach their full output potential.

In many cases, the charger is the cause of the rechargeable battery problems. When sending in the rechargeable battery for testing, always include the charger and a letter describing the problem you are experiencing.

Rechargeable battery life and longevity will vary with climatic conditions, model, tuning, and operating procedures, as well as individual differences between batteries and instruments of the same type.

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 rod or 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 batteries. 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.

SALTWATER: 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 batteries 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. Since January 1982, there have been ten 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!

**For the Name and Location of Your Nearest White's Dealer,
CALL: TOLL-FREE 1-800-547-6911**

AUTHORIZED WHITE'S SERVICE CENTERS



1. White's Electronics, Inc.
1011 Pleasant Valley Rd.
Sweet Home, OR 97386
(503) 367-6121

3. Electronic Exploration
575 W. Harrison Rd.
Lombard, IL 60148
(312) 620-0618

5. United Metal Detectors
13821 Lee Hwy.
Centreville, VA 22020
(703) 631-0202

2. KOCI Detector Sales/Service
1917 N. Kansas St.
Hastings, NE 68901
(402) 463-4705

4. Geo-Quest
106 U.S. Hwy. 46
Saddlebrook, NJ 07662
(201) 772-7443

KEY SPECIFICATIONS

APPROXIMATE BATTERY LIFE

RECHARGEABLE	7 HOURS
ALKALINE	9 HOURS

BATTERY CHANGING

Approximate Memory Hold Time	30 SECONDS
Approximate Master Reset Time	3 MINUTES

ENVIRONMENT

Optimum Humidity Range	0 - 75%
Optimum Temperature Range	33° - 100°F 0° - 38°C

FREQUENCIES

OPERATING	6.59 KHz
AUDIO NORMAL	412 Hz
AUDIO HIGH	824 Hz
AUDIO LOW	206 Hz
C MODE Good Target	Twice Audio Frequency
CONTROL BUTTONS	1648 Hz
MULTITONE	412 Hz - 1648 Hz

SEARCHING

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

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.

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.

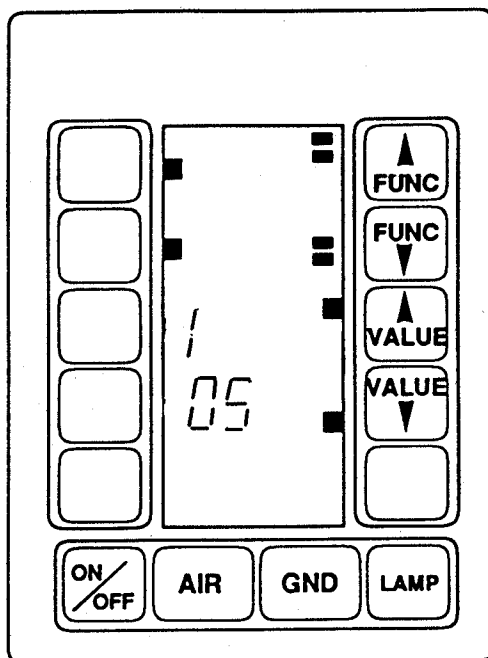
RESPECT

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.

ADVANCED OPTIONS

Once you have mastered all the EAGLE'S other options and controls there are additional fine adjustments advanced operators may make. These fine adjustments can be used to enhance certain operating characteristics. To make these fine adjustments you must first enter the **ADVANCED OPTIONS MODE**.

- I. To enter the **ADVANCED OPTION MODE** squeeze and hold the **TRIGGER SWITCH** and push and release either **EDIT** control. You may now release the **TRIGGER SWITCH** and you are in the **ADVANCED OPTION MODE**.



- A. The **VOL ▲ VOL ▼** controls select which **FUNCTION** or option is to be adjusted. The **FUNCTION** or **OPTION** appears on the display as the upper number, (shown as number one on the above display).
- B. The **EDIT ▲ EDIT ▼** controls select the value or setting of the particular **FUNCTION** you selected. The value or range number appears on the display as the lower number (shown as number five on the above display).

ADVANCED OPTIONS continued. . .

D. The following chart shows the available ADVANCED OPTIONS their USER EDIT or display number, Preset setting, Range, and notes regarding the range numbers. Use this chart for reference.

	FUNCTION	PRESET "A"	RANGE	NOTES
1	S. A. T. DELAY	6	0 - 10	0 = FASTEST 10 = SLOWEST
2	BC REJ	1	0 - 2	0=LIGHT, 1=NORMAL, 2=HEAVY
3	SEARCH SPEED	0	0 - 1	0=NORMAL, 1=FAST
4	TRACK LEVEL	10	1 - 25	HIGHER NUMBERS TRACK LESS
5	ASENS LEVEL	10	0 - 20	HIGHER NUMBERS REDUCE EFFECT
6	RESERVED	0	0 - 1	
7	USER AC SENS	0	0 - 99	0 = OFF LOW NUMBERS MORE SENSITIVE, HIGH NUMBERS LESS SENSITIVE
8	PROSPECTING	0	0 - 7	4 = NO TRACK INHIBIT, 2 = NO LABELS, 1 = ABS VALUE
9	SEE TRACK	0	0 - 1	1 = TRACKING VISIBLE VIA VERTICAL LINE

EXPLANATION OF ADVANCED OPTIONS

Use the VOL ▲ VOL ▼ to select the function number then use the EDIT ▲ EDIT ▼ controls to set the range number for the following options. Squeeze and release TRIGGER SWITCH to return to normal operation.

I. S.A.T. DELAY (Self Adjusting Threshold Speed)

This function indicated as number one on the display adjusts the speed with which Self Adjusting Threshold performs its reset of the Threshold tone.

- A. Fast Action S.A.T. is activated from range "0 - 3" and is characterized by large targets adjusting out faster than small targets producing a constant recovery time.
- B. Slow Action S.A.T. is activated from range "4 - 10" and produces a constant correction characteristic that adjusts all targets at the same rate. If you stop over a large target and then continue searching it may take a while for this system to recover, squeeze and release the TRIGGER SWITCH.

II. BOTTLE CAP REJECT

This function indicated as number two on the display adjusts how the detector responds to iron targets.

- A. In range setting "0" all targets are treated equally.
- B. In range setting "1" reject targets in the LOW area quadrant II, (below V.D.I. #0) are given more reject weight than reject targets in quadrant I (above V.D.I. #0).
- C. In range setting "2" more of the discriminate filter response is heard producing that characteristic "broken up" sound on bottle caps and other iron targets while coins sound more smooth.
- D. In general bottle caps become more apparent by their sound as you increase the range number. Unfortunately deep coins sound worse too, so the experienced user will refer to his depth meter.

III. SEARCH SPEED

This function indicated as number three on the display changes the way the audio system responds to filtered target signals.

- A. In range "0" you don't hear the target after the filters reach their maximum response. This setting is considered standard slow sweep for many past and current models.
- B. In range "1" you hear the target throughout the filters response. Additionally the reject, accept, weighting and audio hold time are altered. The net effect is a quicker response which should prove useful in high trash areas or competition treasure hunts.

EXPLANATION OF ADVANCED OPTIONS continued. . .

IV. TRAC LEVEL (AUTO TRAC ADJUSTMENT SPEED)

This function indicated as number four on the display controls the Adjustment Speed in which AUTO TRAC adjusts for changing conditions.

- A. The range numbers control the minimum amount of ground change required to activate AUTO TRAC.
- B. Range "1-5" may best be used for difficult ground conditions or those hunting in all-metal mode. This range may also be useful in low mineralized areas.
- C. Range "6-25" reduces the effect of AUTO TRAC in case this feature causes problems in a certain area or is adjusting to much over targets.
- D. There is a 1/2 second stop in AUTO TRAC every time the instrument responds either visually or by Audio tone, thus the higher the A.C. SENS (motion mode sensitivity) the less AUTO TRAC works. This can be switched off by selecting a value of 4-7 in Advanced function number 8.
- E. You may see when AUTO TRAC is adjusting, by using function "9", SEE TRAC.

V. AUTO SENS LEVEL (Automatic Sensitivity Level)

This function indicated as number 5 on the display minimizes false signals from ground variations.

- A. Larger range numbers have less false target rejection.
- B. Small range numbers have more false target rejection.
- C. Sensitivity will be slightly reduced at high levels of false target rejection.

VI. RESERVED

Indicated as number "6" on the display is not in use.

VII. USER A.C. SENSITIVITY

This function indicated as number seven on the display allows for an alternate way to control A.C. (motion mode) sensitivity.

- A. Range number "0" is the OFF position.
- B. Range 1 - 95 selects the sensitivity of a new sensitivity level indicated under normal operation as "0" on the A.C SENS control.
- C. This alternate sensitivity setting allows for sensitivity settings above, below and between the normal 1 - 7 available settings.

EXPLANATION OF ADVANCED OPTIONS continued. . .

D. Larger range numbers are less sensitive.

E. The following chart makes a comparison between standard sensitivity levels and available range number sensitivity levels.

SENSITIVITY LEVEL	EAGLE II RANGE NUMBER	SOFTWARE UPDATE RANGE NUMBER
	95	99
	85	90
	75	85
LESS SENSITIVE	65	75
1	55	68
2	50	54
3	45	48
4	40	39
5	35	30
6	30	24
7	25	18
MORE SENSITIVE	20	15
OFF	0	0

F. Operation at sensitivity levels higher than level 7 will be limited by noise. Modulated Audio helps reduce this effect.

VIII. PROSPECTING

This function indicated as number eight on the display controls three different options.

A. ABSOLUTE VALUE

This is a special audio mode that gets louder for any change in target strength. When this option is selected any D.C. (non-motion mode) except pinpointing is affected. When the TRIGGER SWITCH is squeezed and released the audio returns to threshold. If the target signal increases or decreases the audio level will increase. This feature is intended for use with specialty loops.

B. V.D.I. LABEL OFF

If you are using this instrument for prospecting or relic hunting or any other application besides looking for coins then the labels IRON, NICKEL, TAB etc. are not of much use and can be turned off. This is preset in the prospecting mode "B".

EXPLANATION OF ADVANCED OPTIONS continued. . .

C. TRAC INHIBIT OFF

Select this option if you want AUTO TRAC to continue to adjust even when the main filters are processing a target. You may wish to try this option when searching in very mineralized ground.

D. The **following chart** shows Range number at the left and the possible combinations of the three above options on the right.

RANGE NUMBER	ABSOLUTE VALUE	V.D.I. LABELS	TRAC INHIBIT
0	OFF	ON	ON
1	ON	ON	ON
2	OFF	OFF	ON
3	ON	OFF	ON
4	OFF	ON	OFF
5	ON	ON	OFF
6	OFF	OFF	OFF
7	ON	OFF	OFF

E. Use the VOL controls to select number eight then use EDIT controls to select the range number which provides the combination of these three options you desire.

IX. SEE AUTO TRAC

If you wish you may view when AUTO TRAC is adjusting for changing ground conditions indicated by the appearance of the vertical line by VOL controls.

A. Use the VOL controls to select number 9 then use the EDIT controls to select the range number, 0 or 1.

B. Range number "0" AUTO TRAC not visible.

C. Range number "1" AUTO TRAC will become visible by the vertical line appearing near the VOL controls, during normal operation.

PRESET STARTING PROGRAM

"A" COIN & JEWELRY

I. The "A" COIN & JEWELRY STARTING PROGRAM is as follows:

A. SECONDARY CONTROLS

- 1. AUDIO MODEA
- 2.  ON
- 3. MINIMUM VOLUME (Threshold)60dB
- 4. SENS A.C. (Sensitivity Motion)3

B. DISCRIMINATE CONTROLS

- 1. DISC ONON
- 2. DISC ACCEPT (CLEAR)9 - 27, 50 - 95
- 3. DISC REJECT (SET)LOW 96 - 8, 28 - 49
- 4. TWO QUADRANT V.D.I. OFF
- 5. VISUAL DISCON

C. AUDIO OPTIONS (TRIGGER squeezed or locked)

- 1. S.A.T. (Self Adjusting Threshold)ON
- 2. AUTO SENS OFF
- 3. EXTENDED AUDIO OFF
- 4. MODULATED AUDIO OFF
- 5. AUDIO FREQUENCYB
- 6. MAXIMUM VOLUME (TARGET)103dB
- 7. SENS D.C. (Sensitivity non-motion) 2

D. ADVANCED OPTIONS

- 1. S.A.T. DELAY6
- 2. BC REJ1
- 3. SEARCH SPEED0
- 4. TRACK LEVEL10
- 5. A SENS LEVEL10
- 6. RESERVEDNA
- 7. USER AC SENS0
- 8. PROSPECTING0
- 9. SEE TRACK 0

E. OPTIONS (suggested)

- 1. Increase AC(SENS) Sensitivity to the highest number which will produce smooth operation.
- 2. Increase DISC ACCEPT (clear) V. D. I. numbers between 28 - 40 which will increase the number of both rings and pulltabs dug.

PRESET STARTING PROGRAM

"B" PROSPECTING & RELIC

I. The "B" PROSPECTING & RELIC STARTING PROGRAM is as follows:

A. SECONDARY CONTROLS

1. AUDIO MODEA
2. ON
3. MINIMUM VOLUME (Threshold)60dB
4. SENS A.C. (Sensitivity motion)4

B. DISCRIMINATE CONTROLS

1. DISC ONOFF
2. DISC ACCEPT (CLEAR)LOW 19 - 0 - 95
3. DISC REJECT (SET)LOW 96 - LOW 20
4. TWO QUADRANT V.D.I.ON
5. VISUAL DISCON

C. AUDIO OPTIONS (TRIGGER squeezed)

1. S.A.T. (Self Adjusting Threshold)ON
2. AUTO SENSOFF
3. EXTENDED AUDIOOFF
4. MODULATED AUDIOOFF
5. AUDIO FREQUENCYB
6. MAXIMUM VOLUME (TARGET)103dB
7. SENS D.C. (Sensitivity non-motion)4

D. ADVANCED OPTIONS

1. S. A. T. DELAY0
2. BC REJ1
3. SEARCH SPEED0
4. TRACK LEVEL10
5. A SENS LEVEL10
6. RESERVEDNA
7. USER AC SENS0
8. PROSPECTING2
9. SEE TRACK0

E. OPTIONS (suggested)

1. RELIC hunters may wish to turn off VISUAL DISC and or DISC ACCEPT (CLEAR) V. D. I. numbers between LOW 96 - LOW 20 to accept more iron targets.
2. RELIC hunters may also wish to turn off S. A. T. Or use a slower S. A. T. DELAY.
3. Many RELIC hunters turn on DISC and program for specific relics.

PRESET STARTING PROGRAM

"C" BEACH

I. The "C" BEACH STARTING PROGRAM is as follows:

A. SECONDARY CONTROLS

1. AUDIO MODEA
2. ~~AUTO TRAC~~®ON
3. MINIMUM VOLUME (Threshold)68dB
4. SENS A.C. (Sensitivity motion)4

B. DISCRIMINATE CONTROLS

1. DISC ONON
2. DISC ACCEPT (CLEAR) 8 - 95
3. DISC REJECT (SET).....LOW 96 - 0 - 7
4. TWO QUADRANT V.D.I.ON
5. VISUAL DISCON

C. AUDIO OPTIONS (TRIGGER squeezed or locked)

1. S.A.T. (Self Adjusting Threshold)ON
2. AUTO SENSOFF
3. EXTENDED AUDIOOFF
4. MODULATED AUDIOOFF
5. AUDIO FREQUENCYB
6. MAXIMUM VOLUME (TARGET)103dB
7. SENS D.C. (Sensitivity non-motion)3

D. ADVANCED OPTIONS

1. S. A. T. DELAY4
2. BC REJ1
3. SEARCH SPEED0
4. TRACK LEVEL10
5. A SENS LEVEL10
6. RESERVEDNA
7. USER AC SENS.....0
8. PROSPECTING0
9. SEE TRACK0

E. OPTIONS (suggested)

1. The following Ring Enhancement Program may interest those searching beaches.

RING ENHANCEMENT PROGRAM

for

PRESET MODE "A"

The Preset Program of MODE "A" is designed to give the average user the opportunity to dig a large number of rings while at the same time rejecting most pulltabs.

The following program was devised by Karl Chulick after analyzing over 350 rings and over a thousand pulltabs of all styles. It took into consideration the areas of acceptance which produced the largest number of rings per dig. It has proven very successful in the field to produce more rings per hour spent Treasure Hunting. The user must be aware that in order to dig all jewelry one must dig all pulltabs. However, since there are only so many hours in a day. . . A program of this sort is very helpful. It is also understood, that even with this program, some rings will be sacrificed and some pulltabs will be dug.

In order to enter this modification, select MODE "A" after the unit is turned on. AIR and GROUND balance as prescribed. Enter the EDIT function in the prescribed fashion by pressing either EDIT pad. Program your discriminator for the following V.D.I. numbers. Consult your manual or ask your dealer for help.

- (96) TO - (01) = REJECT (SET)

00 TO 14 = REJECT (SET)

15 TO 18 = ACCEPT (CLEAR)

19 TO 23 = REJECT (SET)

24 TO 34 = ACCEPT (CLEAR)

35 TO 36 = REJECT (SET)

37 TO 40 = ACCEPT (CLEAR)

41 = REJECT (SET)

42 TO 52 = ACCEPT (CLEAR)

53 TO 55 = REJECT (SET)

56 TO 63 = ACCEPT (CLEAR)

64 TO 95 = ACCEPT (CLEAR) Add These Numbers If You Wish To Accept Coins

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GLOSSARY OF TERMS

ACCEPT: To detect; Discrimination is clear so as to respond to a target.

ADVANCED OPTIONS: MODE or tuning procedure where advanced features may be adjusted, (SEE LAYER).

AIR BALANCE: Tuning procedure that prepares for GND (ground balance).

AIR CONTROL: Control that performs "AIR BALANCE". (Hold loop in air, away from known metals or ground and press **AIR** control).

AIR PROMPT : Display indication that appears when AIR BALANCE is required.

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

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.

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

ATTENUATOR: Accessory to counter the effects of highly magnetic ground, see OVERLOAD.

AUDIBLE THRESHOLD: A slight and continuous tone or hum that makes it easy to hear changes in audio.

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

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

AUDIO OPTIONS: MODE or tuning procedure where options directly related to audio may be adjusted, (SEE LAYER).

AUDIO FREQUENCY: The tone or pitch of the audio; bass, treble, etc.

AUTO SENS: (Automatic Sensitivity) feature which reduces false signals from ground mineralization, chatter.

AUTO TRAC®: A feature that monitors GND (ground) balance and makes corrections to it as ground mineralization changes.

BAR GRAPH: Graphic means of indicated level (BAR CHART).

BAT: Battery, "power source".

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

GLOSSARY OF TERMS continued. . .

BLOCK EDIT: EDITING large sections of the V.D.I. target numbers simultaneously to ACCEPT or REJECT status.

CENTER: Middle position considering the outside edges.

CLR: "Clear" (Learn Accept); to detect, (See ACCEPT). To fix or prepare a V.D.I. number for accept. Also see LRN ACC CLR, PROGRAM.

CLEVIS: Loop isolator, short plastic section between rod assembly and loop.

CONTROL BOX: Blue aluminum body of instrument, "case".

CONTROL CLUSTER: Panel where all controls are located.

DISCRIMINATE MEMORY: LOW 96 - 0 -95 V.D.I. numbers, CLEAR Accept or SET Reject status.

DISCRIMINATE OPTIONS: MODE or tuning procedure where the discriminator may be adjusted (SEE LAYER).

DISCRIMINATOR: A circuit that can be adjusted to accept or reject signals or targets of different characteristics.

DISPLAY: Liquid crystal exhibit of information located on control cluster, used as graphic visual indicator.

EDIT: To alter or rearrange to suit a particular purpose, (SEE PROGRAM).

EXTENDED AUDIO: Feature for use in all metal modes, DISC OFF, AUDIO MODES A and C which produces higher audio frequency and volume for more intense targets.

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

FERRITE SAMPLE: Mineral sample consisting essentially of an iron oxide.

FILTER: Electrical circuit which processes signals, suppressing or minimizing waves or oscillations of certain frequencies.

FOURTH LAYER: Advanced layer accessed by holding in TRIGGER SWITCH and pushing either EDIT control, exit by squeezing and releasing TRIGGER SWITCH.

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

GND (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.

GND CONTROL: Control that performs ground balance, the cancellation of ground mineralization.

GND PROMPT  : Display indication that appears when GND BALANCE is required.

HEAVY DUTY BOTTLE CAP REJECT: Special feature that produces more broken or ratty tones on bottle caps or other iron alloys.

GLOSSARY OF TERMS continued. . .

IMMEDIATELY: At once, without delay.

INDICATE: Advise, proclaim, or point out.

INTENSITY GRAPH: Bar graph or chart that indicates signal strength in segments.

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

LAYER: The use or function of the controls and display can be changed. Each change in control or display function is considered a LAYER, DISCRIMINATE OPTIONS, AUDIO OPTIONS, ADVANCED OPTIONS.

LCD: (Liquid Crystal Display) Used as graphic visual indicator, see "Display".

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

LRN ACC CLR: (Learn Accept Clear) Control used to teach or learn accept and/or to clear for acceptance in the EDIT (CLEAR ACCEPT).

LRN REJ SET: (Learn Reject Set) Control used to teach or learn reject and/or to SET targets for reject in the EDIT mode, (SET REJECT).

MEM: (Memory) Recall, reproducing what has been learned, set and retained.

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

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

MINERALIZED GROUND: Any soil that contains conductive or non-conductive components, MINERALS.

MODE: SEE AUDIO MODE

MODULATED AUDIO: Feature for use in discriminate modes, DISC ON, which allows for the strength or intensity of the target to dictate the volume. No audio gate in motion modes.

MOTION MODE: An AUDIO MODE that requires loop motion to respond to metal targets.

MULTINOTE BEEP: More than two beeps or audio responses of varied frequencies, tone or pitch.

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

NON-MOTION: Mode that does not require loop motion to respond to metal.

NOTCH: Slot or category representing a specific point on the discriminate range. Each individual V.D.I. target number LOW 96-0-95 represents a notch. Each notch can be clear for accept or set for reject.

OPTIONALLY ADJUSTABLE: Controls that utilized preselected settings for average conditions, therefore, do not have to be set each time you operate.

OPTIONS: Adjustments or selections.

GLOSSARY OF TERMS continued. . .

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

OVERLOAD: (Saturation) Condition where White's logo disappears from the display indicating the instrument is not capable of responding to additional metal until the logo returns. Caused by highly magnetic ground or very large intense targets which cause the instrument to exceed its maximum response capability. (SEE ATTENUATOR).

PERSIST: Continue to occur.

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

PRE- SELECTED: Controls that start out at settings or levels determined by the factory to be ideal for average conditions.

PRESET: (Pre-selected)

PRESET STARTING PROGRAM: When the instrument is first turned on, the AUDIO MODE control can be used to select between three complete starting programs; "A" COIN & JEWELRY, "B" PROSPECTING AND RELIC, "C" BEACH. These three starting programs effect all settings including discrimination AUDIO and ADVANCED LAYER options.

PRIMARY CONTROLS: Controls that require setting each time you operate (TRIGGER SWITCH, ON/OFF, AIR, GND, LAMP).

PROBABLE I.D.: Most likely identification.

PROGRAM EDIT: Setting the discriminate memory (LOW 96-0-95 V.D.I. numbers) to clear accept or set reject status manually through use of the EDIT mode.

PROGRAM LEARN: Adjusting the discriminate memory by example, teach by example, learn accept or learn reject.

PROGRAM: To work out a sequence of operation to be performed by electronic equipment. Prepare, instruct, or set for a particular result.

PROGRAMMABLE: Ability to be programmed.

PROMPT: Reminder, display indication that tells either the tuning step required, control level or setting, mode or function.

RANGE: The class of admissible values of a variable.

RATCHET PINPOINTING: Automatic feature (activated by squeezing and holding the TRIGGER SWITCH) which will aid in centering the targets' precise location, PINPOINTING.

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

REJECT: Discriminate or cancel response to a metal.

RESET: Clear for further search. Counter or clear the effect of Ratchet Pinpointing so as to be prepared for the next target.

GLOSSARY OF TERMS continued. . .

RETUNE: (Reset) clear for further search, TRIGGER SWITCH squeeze and release.

REVERT: Turn back to, return to.

S.A.T.: (Self Adjusting Threshold) Feature for use in all metal modes, (DISC OFF) that maintains stable operation over varied ground conditions.

SATURATION: (SEE OVERLOAD)

SECONDARY CONTROLS: Controls that start out at settings or levels determined to be ideal for average conditions, AUDIO MODE, SENS, AUTO TRAC®, VOL.

SELF TEST: Automatic test conducted by the instrument when first turned on.

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

SENS A.C.: Sensitivity Alternating Current effects the motion modes only.

SENS D.C.: Sensitivity Direct Current effects the non-motion modes only.

SET: "SET" (Learn Reject) To reject, (SEE REJECT), to fix or prepare a V.D.I. number for reject. Also see DISCRIMINATE, LRN REJ SET, PROGRAM.

SIGNAL: Response or indication from audio or display indicating the presence of metal.

SILENT SEARCH: Mode or option that is completely quiet until a metal is detected. No AUDIBLE THRESHOLD.

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

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

STATUS: Condition, position.

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

TARGET MASKING: When high concentrations of mineral or trash metals cause other valuable targets to be rejected.

TARGET NUMBERS: V.D.I. numbers LOW 96-0-95 that appear on the display indicating targets probable identification.

TARGET RANGE: (SEE TARGET NUMBERS)

THRESHOLD: SEE AUDIBLE THRESHOLD

THIRD LAYER OPTIONS: Accessed by squeezing and holding TRIGGER SWITCH, controls take on new options, exit by releasing TRIGGER SWITCH.

TONE I.D.: (TONE IDENTIFICATION) Feature or mode that produces a high frequency tone for targets accepted by the discriminate memory and a lower or medium frequency tone for targets rejected by the discriminate memory.

TWO QUADRANT V.D.I.: Feature that allows viewing of the complete target range LOW 96-0-95.

GLOSSARY OF TERMS continued. . .

V.D.I.: (VISUAL DISCRIMINATION INDICATION) Display that indicates probable target identity or conductivity. Visual discrimination.

VISUAL DISC: Feature which makes V.D.I. Target numbers programmed for reject no longer appear on the display.

VOL: (VOLUME) Loudness, sound or audio level.

VOLTAGE REGULATOR: Circuitry that controls the amount of voltage/current that enters the circuit board.

WEIGH: To measure or apportion as if on scales, definite quantity.

WHITE'S LOGO: White's emblem.

WINDOW: With each of the Four Layers of options the display shows different information. This different display information is considered different windows of information.
(SEE LAYER).

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.

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