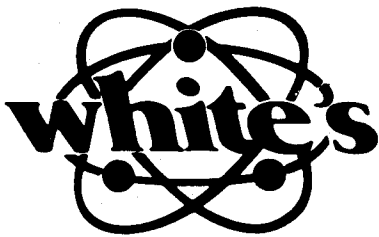
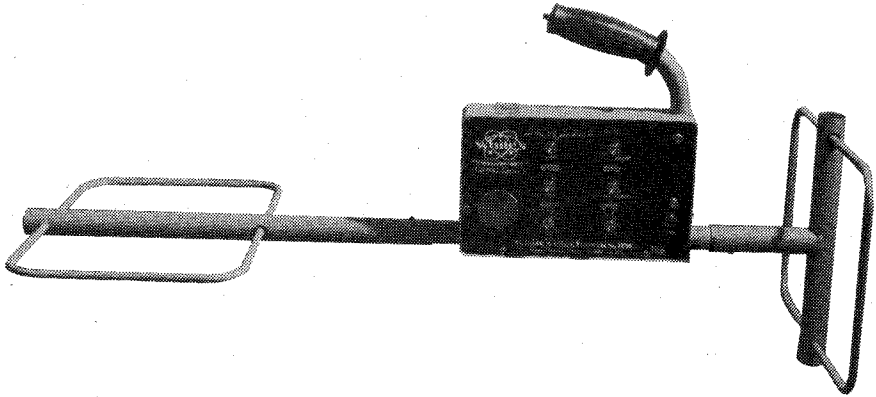


OPERATING MANUAL
TREASUREMASTER
TM 600 SERIES 2



Congratulations on the purchase of our all new TREASUREMASTER 600 Series 2 metal detector.

We here at White's have worked very hard over the past thirty years to bring you the finest metal detectors money can buy. We have some of the finest engineers and technicians, using the latest in computers and test equipment, developing new products. Our assembly personnel are true craftsmen, carefully building each detector by hand and testing their workmanship for quality through every phase of construction. Our service personnel, including those at the factory and those trained at the factory to work in the field at White's National Warranty Service Centers, are highly skilled at repairing our instruments. And, White's management staff is constantly in touch with users in the field so we will know the needs and problems of our customers. By understanding the needs of the user, we are able to produce metal detectors that are unsurpassed in the field. Today, we are working harder than ever for you!

ASSEMBLY

Slide the loop sleeves over the control box sleeves, front and back, as shown on cover photo.

FEATURES

A. GROUND REJECT CIRCUIT

In the ground reject mode signals are processed to extract only those coming from the metallic targets. Signals coming from other sources are greatly reduced or eliminated.

Examples of other sources fall in two main categories:

1. Mineralized or conductive ground which in turn acts like a large piece of metal.
2. External sources of interference such as high voltage power lines, industrial electrical noise, radio and television transmitters, automobile ignition noise, etc.

DESCRIPTION OF FRONT PANEL CONTROL AND JACKS

RECEIVER - Front Unit

TONE ADJUST: This control adjusts the volume of the threshold or audio tone.

A low tone may be selected for use in quiet environments or when headphones are being used. Higher tones are selected for noisier environments. The tone volume will be adequate for most applications if the control is set at the center of the "normal band". Generally, the lower the tone setting the better.

MODE SWITCH: This control selects the "mode of operation" for the TM600 S2. Three modes of operation can be selected by this control.

1. **Bat. Ck.:** In this position the strength of the internal battery is checked on the meter.
2. **Ground Reject Mode:** This position is selected when the instrument is to be used for the location of all metallic targets with little or no "false" responses from mineralized ground. Ground to instrument distance changes cause little or no effect while using this mode of operation.
3. **Non-ground Reject Mode:** This position is selected when the instrument is to be used for the location of ground density changes, or to determine the type of metal being detected. Note: Location of metallic targets becomes progressively more dif-

ficult in highly mineralized soil conditions. Due to the fact that in this mode the TM600 S2 is highly sensitive to changes in ground conditions, it is very important to maintain constant ground to locator distance.

Return mode switch to **PWR OFF** position when the locator is not in use.

THE PUSH BUTTON CONTROL: Located at the tip of the carrying handle, the control is momentarily depressed to instantly set the TM600 S2 to its optimum operation conditions, and is used in ALL MODES of operation.

SENSITIVITY CONTROL: Adjusts instrument's detection sensitivity. Positioning of the control to the center of the "normal" band is usually adequate for most locate operations. Maximum sensitivity is with control adjusted fully clockwise, and should only be used when maximum depth of detection is required.

GROUND REJECT CONTROL: This control is used in the GROUND REJECT mode only and is adjusted to desensitize the locator to highly mineralized soil conditions. Adjustment of this control to the center of the "normal" band may be adequate for most soil conditions.

HEADPHONE JACK: The speaker is automatically turned off when headphones are plugged in. Maximum detection depth and longest battery life are achieved through the use of headphones.

NULL 1 AND 2 CONTROLS: These controls are used to ignore all signals *not* coming from either the target or ground. They are usually set once and need not be changed unless the operator wishes to change the type of response to various target metal types or soil density changes.

BATTERY CHECK PROCEDURE

Turn the mode switch to the battery check position. Read condition of batteries on meter. It is good practice to check batteries every time the instrument is used. Uses penlight AA batteries.

OPERATION IN THE GROUND REJECT MODE

OPERATING PROCEDURE:

Position all controls to the center of their "NORMAL" bands. Position mode switch to GROUND REJECT ON position. Momentarily depress the Push Button control. An audio tone should come from the speaker and the meter should read approximately 3 on the scale. At this time the TONE ADJUST control may be adjusted for the operator. Generally, low tone levels are best.

Handle-mounted Push Button control calibrates locator instantly, electronically for maximum sensitivity.

Battery check and mode change are accomplished with a single switch adjustment.

A multi-purpose, sensitive meter is used to monitor received target signals, and to check batteries.

Tone adjust control sets the level of the threshold tone desired by the operator. Tone level is independent of meter readings.

BATTERY COMPARTMENT: Contains a battery pack with 6 "AA" Alkaline batteries. Battery life is 20 hours. **NOTE:** To access batteries for replacement, remove thumb-screws on this panel.

Snap together solid aluminum construction allows extremely easy field assembly. All connections are made when units are assembled.

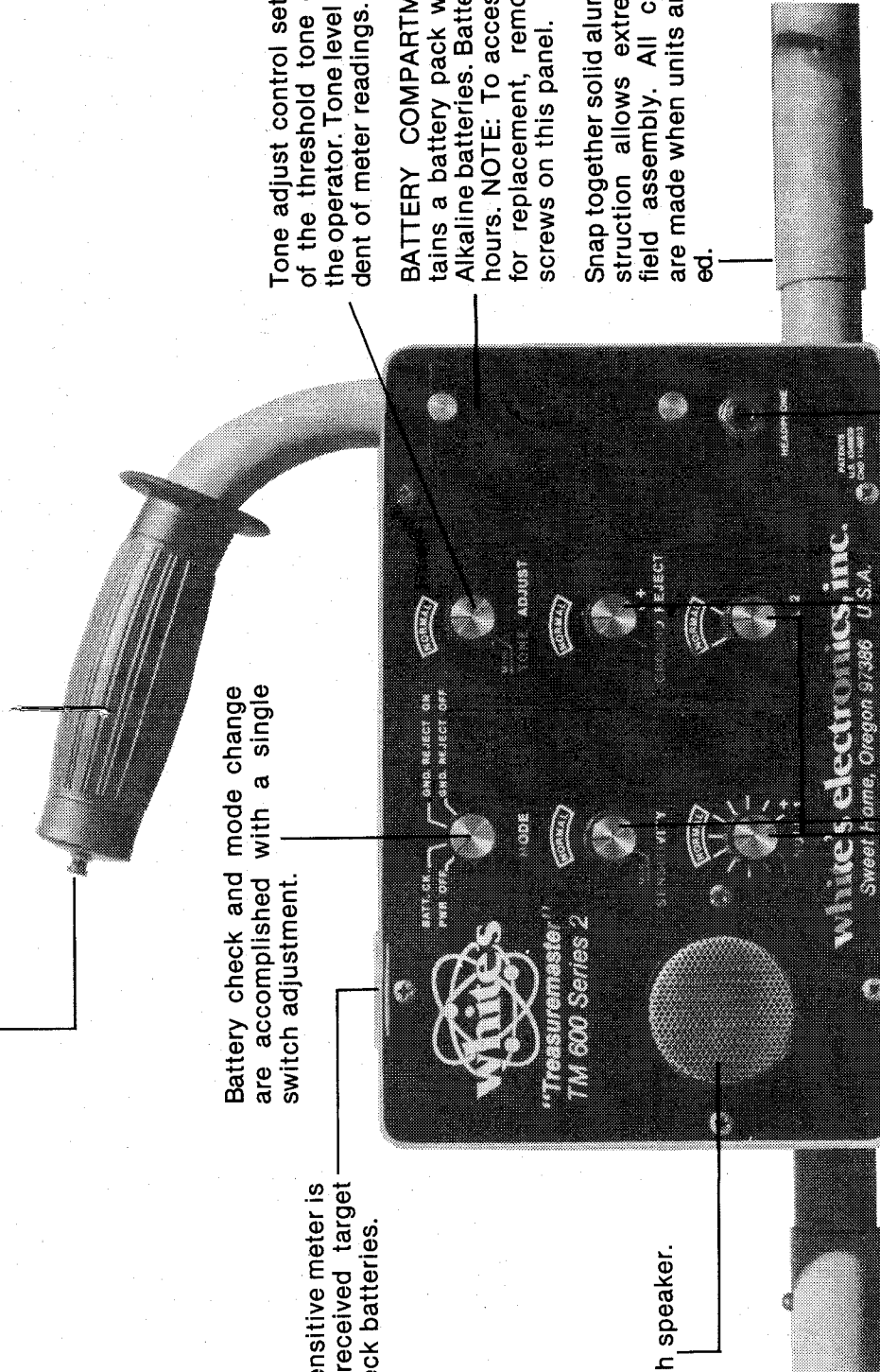
Headphone jack is used in highly noisy environments and to hear even the faintest responses from the deepest targets. Use of headphone allows for maximum battery life.

Ground Reject Control is adjusted to eliminate false responses due to changing ground conditions. It is not necessary to hold locator at a constant height above ground.

Nulling controls. Set them once and forget. Allows operator to select positive or negative responses to metal or non-metal targets.

Sensitivity control allows operator to adjust locator depth of detection.

2 1/2 inch speaker.



NULLING PROCEDURE:

Adjustment of Null 1 and Null 2 controls. The object of these adjustments is to null or cancel the signals **NOT** coming from a target or the ground. The signals to be cancelled are coming from all the metal parts which make up the TM600 S2 case, loops, handle, etc. and must be nulled before use. The TM600 S2 **MUST** be held away from large metal objects such as cars, fences, buried metal objects, etc. during nulling operations.

Position mode switch to GROUND REJECT OFF position. Position all controls to the center of the normal band. Adjust Null 1 and Null 2 controls to their center position. Momentarily depress the Push Button control in the handle.

A low tone will be heard and the meter should read around 2 or 3 divisions. (Try to hold the locator at waist height during nulling operations.)

Starting with Null 1, adjust the position of this control in order to make the meter reading and tone level go **down**. As the meter falls to zero, momentarily depress the Push Button control to bring the meter pointer back to 2 or 3 divisions. Repeat this procedure until it is no longer possible to get the meter to go to zero. As the Null Point is passed, the meter and tone level will actually start to rise as Null 1 is adjusted past the Null Point.

Once the Null Point is found with Null 1, move to Null 2 and do the same procedure. Try to hold the instrument still during the nulling operations. Go back and forth between Null 1 and Null 2 until no more improvement can be made to the Null. A perfect Null will appear as a "dip" in the meter as each control is moved slightly out of "Null" or the "minimum" position. Make note "or mark" these positions for future reference.

Usually this procedure need only be done once, as little change can be expected during operation for any reasonable period of time. Return mode switch to GROUND REJECT ON position.

GROUND REJECT PROCEDURE:

(Stay away from all metallic objects...cars, pipe, concrete rebar, etc.)

Once initial operating conditions are set, the instrument is adjusted to reject most mineral responses caused by the ground itself. This adjustment is not critical and most of the ground responses are rejected with the GROUND REJECT control centered in the "NORMAL" band. To check the "Ground Rejection", hold the instrument at arm's length (approximately 18" above the ground) and momentarily depress the Push Button control. The tone will be heard, and the meter will indicate about 3. Raise the instrument approximately 6" more above the ground. If the tone changes little or none at all, then the GROUND REJECT control setting is adequate. If not, adjust in the following manner:

1. If the tone level and meter reading went **DOWN** when the instrument was raised, the **GROUND REJECT** control needs to be moved **slightly** in the counterclockwise direction.

Lower the unit back to arm's length position, momentarily depress the Push Button control and again raise the instrument 6" more above the ground. If the tone level and meter reading still go **DOWN**, then repeat this procedure until the tone level and meter reading remain more or less the same as the instrument when raised the 6" above the ground.

If the tone level and meter reading go **UP** when the instrument is lowered then you have turned the **GROUND REJECT** control too far to the left.

2. If in the beginning the tone and meter reading go **UP**, then just the opposite procedure is required. Adjust the **GROUND REJECT** control **slightly** in the clockwise direction. Again repeat this procedure until the tone level and meter reading change little or none at all as the instrument is raised 6" more above the ground.

The ground reject procedure becomes more critical as the sensitivity is increased. **THE SENSITIVITY** control need not be advanced past the "Normal" band for most operations. If the **GROUND REJECT** procedure can not be accomplished as set out above, try moving to a different location as you may be over a buried metal object.

LOCATING BURIED METAL OBJECTS:

The most efficient way to search an area is to use the grid like search pattern over the area selected. Try to keep the grid lines no more than 6 feet apart. Make several passes in one direction, then turn 90° and make several more passes to assure that you have not missed any buried object. The target will usually be pinpointed under the front loop.

Sometimes deeper targets will appear to locate closer toward the rear of the instrument. Usually this will be no more than 3 or 4 inches from the front loop even for the deepest targets.

The tone volume will increase and the meter will read higher when the instrument is passed over a buried metal object. When the target is close to the surface, the meter may go off scale and the tone will no longer increase. The target will appear to be **VERY** large. This is normal. Now the target must be "narrowed down" to determine its location more accurately.

Start to pass over the target from one direction. When the meter goes "off scale", momentarily depress the Push Button control to bring the meter back on scale. Continue to cross the target in the same direction as started, momentarily depressing the Push Button control to keep the meter pointer "on scale". There will be a point where the meter reading and speaker tone will "peak" out and start to drop back down. It is at this peak that the Front Loop is over the buried metal object.

The operator should practice with isolated objects on the surface of the ground to become familiar with their responses.

Be sure to keep away from large known metal objects such as cars, fences, etc. to prevent false responses from affecting the accuracy of the operation.

OPERATION IN THE NON-GROUND REJECT MODE

Adjust mode switch to GROUND REJECT OFF position.

Recheck Nulling as in **GROUND REJECT** procedure. Adjust *Null 1* and *Null 2* controls for the best "dip" or "Null". Now adjust *Null 1* control one division in the clockwise direction. When *Null 1* is moved in the clockwise direction 1 division, increase in ground density will cause the tone to increase, as will detection of ferrous or iron targets.

For **positive** responses to **non-ferrous** targets (such as gold, silver, copper, etc.) adjust the *Null 1* control 1 division in the counterclockwise direction. Any increase in ground density will give a negative (tone will decrease) response when the *Null 1* control is set 1 division in the counterclockwise direction from the "dip" or null position.

It is not recommended to "hunt" in a non-ground reject mode unless changes in ground density are being sought. When the TM600 S2 is being used, try to hold the instrument as close to a constant height as possible.

Once a positive response is noted, the spot may be pinpointed by finding the maximum point. This maximum point should be verified from four different directions (90° apart) to be sure of the exact pinpoint location and relative size of the ground density change or hole. NOTE: When looking for holes or voids, the *Null 1* control should be one division on the counterclockwise side of the "null" or "dip" point. The instrument tone and meter reading will both increase when ground density goes down or a hole is detected.

SERVICE

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.

TO LEARN THE NAME AND LOCATION OF YOUR NEAREST WHITE'S DEALER CALL:

TOLL FREE — 1-800-547-6911

White's Electronics, Inc. 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, White's Electronics will repair or replace at its option, all necessary parts without charge for parts or labor.

Simply return the complete detector to the dealer where you purchased it, or to your nearest Authorized Service Center. The unit must be accompanied by a detailed explanation of the symptoms of the failure. You must provide proof of date-of-purchase before the unit is serviced.

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

The warranty is not transferable. Nor is it registered 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.

The warranty does not cover damage caused by accident, misuse, neglect, alterations, modifications, unauthorized service, or prolonged exposure to corrosive compounds, including saltwater.

Duration of any implied warranties (e.g., merchantability and fitness for a particular purpose) shall not be longer than the stated warranty. Neither the manufacturer or retailer shall be liable for any incidental or consequential damages. Some states, however, do not allow limitations on 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.

THE FOREGOING IS THE ONLY WARRANTY PROVIDED BY WHITE'S AS THE MANUFACTURER OF YOUR METAL DETECTOR. ANY "EXTENDED WARRANTY" PERIOD BEYOND TWO YEARS, WHICH MAY BE PROVIDED BY A DEALER OR OTHER THIRD PARTY, ON YOUR DETECTOR, IS WITHOUT WHITE'S AUTHORITY, INVOLVEMENT, AND CONSENT AND WILL NOT BE HONORED BY WHITE'S.



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