

## FISHER ACCESSORIES

### STEREO HEADPHONES

All units

### LINED VINYL CARRYING CASE

All units except Gemini II and Body Mounts

### MAHOGANY WOOD CARRYING CASE

Gemini II

### VINYL CARRYING CASE

Gemini II sectional handle

### LEATHERETTE COVERED CARRYING CASE

441, 2, 3, & 551, 2, 3, 5 & LF 930, 960 & 990

### HIP MOUNT KITS

VLF 441, 2, 3 & 551, 2, 3, & 5

### 7' CABLE MOUNTED ON COIL

#### 3.5" COIL

VLF 441, 2, & 3

#### 3.5" COIL COVER

#### 7" COIL

LF 930, 960 & 990

#### 7" COIL COVER

#### 8" COIL

VLF 441, 2, 3 & 551, 2, 3 & 5

#### 8" COIL COVER

#### 11" COIL

VLF 441, 2, 3 & 551, 2, 3, 5 & LF 990

#### 11" COIL COVER

#### 4' EXTENSION ADAPTER

VLF 441, 2, 3 & 551, 2, 3, 5

#### SHOULDER PATCH 3 X 4"

#### JACKET PATCH 6 X 8"

#### TREASURE HUNTING BOOK, R. L. TATHAM

#### FISHER'S CASH/TRASH APRON



# FISHER

## M-Scope® VLF 552-D

### Dual System Discriminator With ISO-Planer Search Head

## Operator's Manual



FISHER RESEARCH LABORATORY

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## PANEL CONTROLS

### 1. BATTERY TEST, DISCRIMINATE, NORMAL.

This is a 3 position rotary switch.

**BATT**, for battery test. There are two sets of batteries, each using 6 AA size cells (see battery changing). The **BATT** position tests the condition of both sets of batteries. Batteries should be discarded if they read below the battery test scale on the meter.

**NORM**, for normal or all metal mode.

**DISC.** for discrimination mode.

### 2. DISCRIMINATION LEVEL ADJUSTMENT.

A single turn control, which is set at -0- for minimum rejection, and -10- for maximum.

### 3. TUNING CONTROL.

The tuning control must be set simultaneously with the push-button thumb control, at the end of the handle grip. The farther clockwise this is tuned, the more audio tone, and the higher the intensity reading on the meter.

The proper adjustment for this control should be a faint audio tone, or verge of sound. This may be accomplished by moving the tuning control clockwise from -0-. This control fine tunes in either mode of operation.

### 4. GROUND REJECTION CONTROL.

The ground rejection control is used in the normal mode for optimum performance, the tuning should be such as to be able to raise or lower the coil without any noticeable change in audio tone.

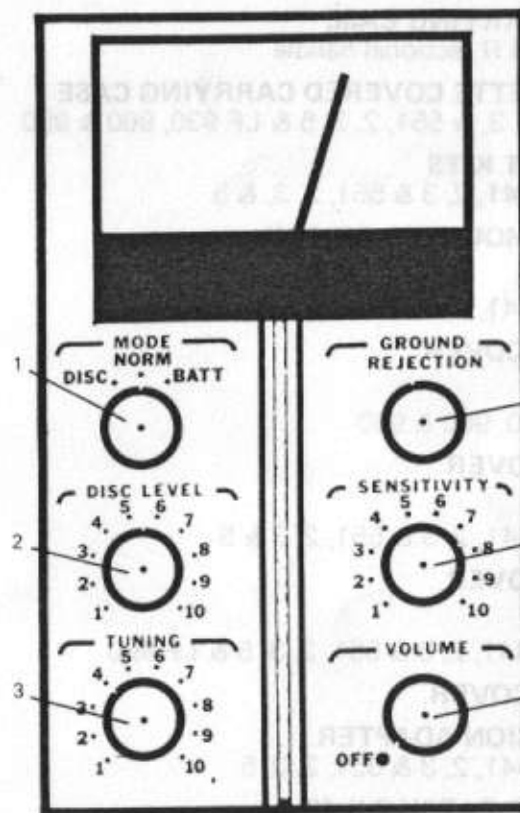
### 5. SENSITIVITY ADJUSTMENT.

The sensitivity adjustment is scaled from -0- to -10-. This controls the sensitivity in both modes of operation, whether in normal or discriminate.

### 6. ON/OFF VOLUME CONTROL.

This control turns the instrument on and adjusts the speaker volume.

FIG. 1 PANEL CONTROLS



- |                                    |                           |
|------------------------------------|---------------------------|
| 1. Mode Switch                     | 4. Ground Rejection       |
| 2. Discrimination Level Adjustment | 5. Sensitivity Adjustment |
| 3. Tuning Control                  | 6. On/Off/Volume          |

## 552-D OPERATORS MANUAL

### GENERAL DESCRIPTION

The 552-D is a true VLF (very low frequency) transmitter-receiver detector. The term VLF relates to the frequencies from 3 KHz to 30 KHz. The 552-D operates at 4.5 KHz regardless of which mode the detector is operated in normal (all metal) or discriminate (rejection) modes.

The principle behind most VLF discriminators today is phase separation. This particular process has proven to be the most effective and quite rewarding, for the coin-shooter and relic hunter alike.

The 552-D has two detection systems. The VLF ground rejection system and the VLF discriminate (rejection) mode. The normal or total detection mode is used for general searching for all types of metals, ferrous (magnetic) or non-ferrous (non-magnetic, precious) metals and can be used in all types of soil conditions, blacksand, saltwater beaches, etc.

The VLF discrimination mode is generally used when searching parks, school grounds, or areas that contain a heavy concentration of unwanted targets, such as bottle caps, nails, foil, pull-tabs, etc.

THE 552-D COMES EQUIPPED WITH A STANDARD 8" ISO-PLANNER SEARCH COIL AND AN ADJUSTABLE HANDLE. THE 8" SEARCH COIL PROVIDES THE RELIC HUNTER OR COIN-SHOOTER WITH BETTER DEPTH PENETRATION THAN SEARCH COILS OF SMALLER DIAMETERS.

### SETTING UP

1. Unpack your instrument carefully. Note that the length of the stem and the angle of the search head are both adjustable. Hold the instrument loosely by the hand grip with your arm straight down at your side. Position the search head so it is parallel with the ground (or floor).

2. Adjust the stem length by loosening the locking ring (turn it clockwise, looking down) until the lower section can be moved in or out, then tighten the locking ring a little - just enough to let it move when you push it - then hold the detector by the hand grip,

keeping your arm straight, and adjust the stem length until the search head is about 1/2 inch from the ground. Tighten the locking ring. Bring your arm a little forward and swing the search head from side to side, trying various positions of your hand on the hand grip. Movement should be natural and easy. If you notice that you must bend your elbow to do this, shorten the stem a little.

3. The 552-D does not ground compensate and discriminate simultaneously. Therefore, the tuning procedure will be somewhat different for each mode (Normal - Discriminate). We recommend that in the beginning, the operator use the normal mode for ground searching and then change to the discriminate mode after an initial target has been located.

### TUNING PROCEDURE

**ALWAYS ALLOW THE INSTRUMENT TO TEMPERATURE ADJUST. PLACE THE UNPACKED DETECTOR NEAR WHERE IT IS TO BE USED, TURNED OFF, FOR 5 TO 10 MINUTES ALLOWING SUFFICIENT TIME FOR THE COMPONENTS TO ADJUST TO LOCAL CONDITIONS.**

Tuning may change temporarily when moving between sunny and shaded areas.

#### Normal mode of operation:

1. Support the top of the handle of the detector against your hip, raise the coil to a minimum of 24" off the ground then turn the ON/OFF/VOLUME control, No. 6, Fig. 1, clockwise to full on.
2. Rotate the Sensitivity Control to mid scale (A higher setting may make unit super sensitive and make tuning very difficult under certain soil conditions).
3. Rotate Mode Switch No. 1, Fig. 1, to BATT. position to test batteries.
4. Rotate Mode Switch No. 1, Fig. 1, to NORM for normal search.
5. Depress the push-button tuner on the end of the handle with your thumb, Fig. 2, No. 1, and rotate the tuning control clockwise from -0- until the needle on the intensity meter reads between -30 - and -40- on the scale, and you can hear distinct audio tone. Release the push button.



6. Now lower the search coil to the ground surface, (when tuning for ground balance the surface being scanned must be free from all metal targets), if when the coil approaches the surface the audio tone decreases, and the intensity needle falls to 0, then raise the coil to the original height (24") rotate the ground rejection control, No. 4, Fig. 1, clockwise, depress the push-button tuner to re-tune, then release and again repeat the previous steps. If the audio tone then increases and the intensity needle raises toward full scale or 100, then the ground rejection control has been adjusted too far. The important thing to remember is if the audio tone and the meter reading decreases, rotate the ground rejection control clockwise in small increments. If the audio tone increases, rotate in the counter-clockwise direction. In order to achieve perfect ground balance, the audio tone and meter reading should remain constant, or with no change when coil is lowered to the ground.

7. Select some targets such as coins, pull-tabs, and small pieces of foil spaced 12 to 18 inches apart. You will notice as the search coil approaches the target, you will start to receive an audio response across the search coil area. Because of this type of reaction, it helps

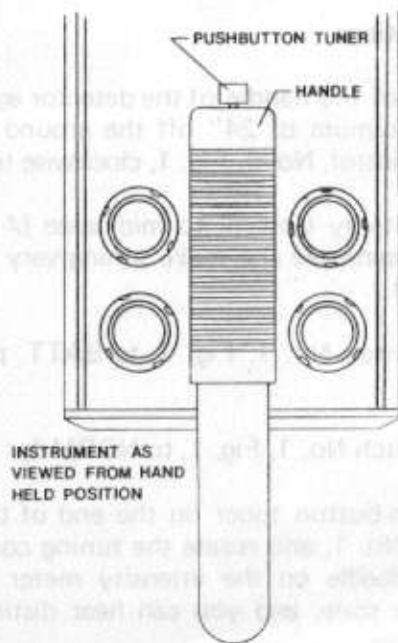


FIG. 2 MODE SELECTOR AND TUNER

in pinpointing, if you raise the coil a few inches above the target and again pass over the target area. This will narrow down the width of the detection response of the search coil

8. In experimenting with your 552-D, we suggest you increase the Sensitivity Control, No. 5, Fig. 1, to maximum. Readjust the Ground Rejection Control, No. 4, Fig. 1, as needed. The purpose of the sensitivity adjustment is to eliminate some of the deeper signals when searching certain areas where the operator is unable to recover these targets without damaging the area being searched, such as public parks or school grounds. Most operators prefer the Sensitivity Control, No. 5, Fig. 1, set about mid scale for normal use.

#### Discriminate mode of operation:

1. With the normal mode properly tuned and operating, rotate the Mode Switch, No. 1, Fig. 1, to DISC.
2. Setting the Discriminate Level Control, No. 2, Fig. 1, will vary depending upon object to be rejected and ground conditions.
3. Rotate the Sensitivity Control No. 5, Fig. 1, to approximately mid-scale. This control can be increased as high as the operator wishes for increased sensitivity. (See step No. 9).
4. Lower the search coil to almost scrubbing the surface, about 1 - 2 inches above the ground.
5. Hold search coil steady and retune by depressing the push-button tuner and adjust tuning knob, No. 3, Fig. 1, for a meter reading of 10 - 15, then release push-button.
6. When using the normal scanning procedure of swinging the search coil in a side-to-side motion, the search coil must be kept at a constant height and on an even plane to the surface being searched. You will notice that if the search coil is raised higher than the original point of tuning, the audio tone will increase. If the search coil is lowered below the original point of tuning, you will receive a decrease or nulling of the audio tone. This effect is

caused from ground reflection, or natural minerals in the soil itself. Because of these natural conditions, it will be necessary to use a slow even motion when moving the coil from left to right.

7. By using the same sample targets, (coins, pull-tabs and small pieces of foil), as you have in normal mode, search in the normal mode to locate the targets. Once the target has been located, move the search coil to the side of the target area left or right, depress the tuning switch to the left, tune in discriminate and again retest the target. For optimum discrimination, the target should be no closer than 2" from the search coil.

8. As you pass over the bad targets, foil, pull-tabs, you may or may not receive an indication. If the foil and pull-tabs give you an audio response, rotate the Disc. Level adjustment, No. 2, Fig. 1, to a higher setting. Again, check your sample targets.

9. In the beginning of the disc. tuning instructions, you were told to set the Sensitivity at mid-scale. The higher the mineralization of the soil conditions, the lower this setting should be. We recommend that in order to familiarize yourself with the 552-D, start with the mid scale settings, and gradually increase the level of adjustment. You will notice that at the higher settings (clockwise) the movement of the search coil (higher or lower) will change the audio response more abruptly, because ground rejection is not achieved in the Disc. Mode.

As with all VLF discriminators, you will have to experiment under actual use conditions with various targets to determine what levels of Disc. Sensitivity are best for the existing soil conditions.

Large items will not be rejected. The operator should experiment with this thought in mind, on objects such as tin cans, etc.

Note: Any time any adjustment or control is changed, the Push Button Tuner Switch, Fig. 2, must be depressed to retune for threshold, or the verge of sound.

As with most electronic devices, there will be some very apparent reactions to various changing conditions. These situations, when

they occur, can logically be explained and corrected for. Therefore, it will be important for you to understand your detector, and its operations.

The 552-D is powered by 12 - 1.5 volt AA penlight cells. In the event the batteries become weak, some of the following may occur:

- a. Motorboat or oscillation noise from the audio output.
- b. Excessively low audio output (no volume).
- c. Poor performance, low level of sensitivity.
- d. May cause drift or the need to constantly retune the detector.

Practice and use your new detector for several hours so you will become more familiar with its particular characteristics. We hope you have many enjoyable hours with your new Fisher detector.

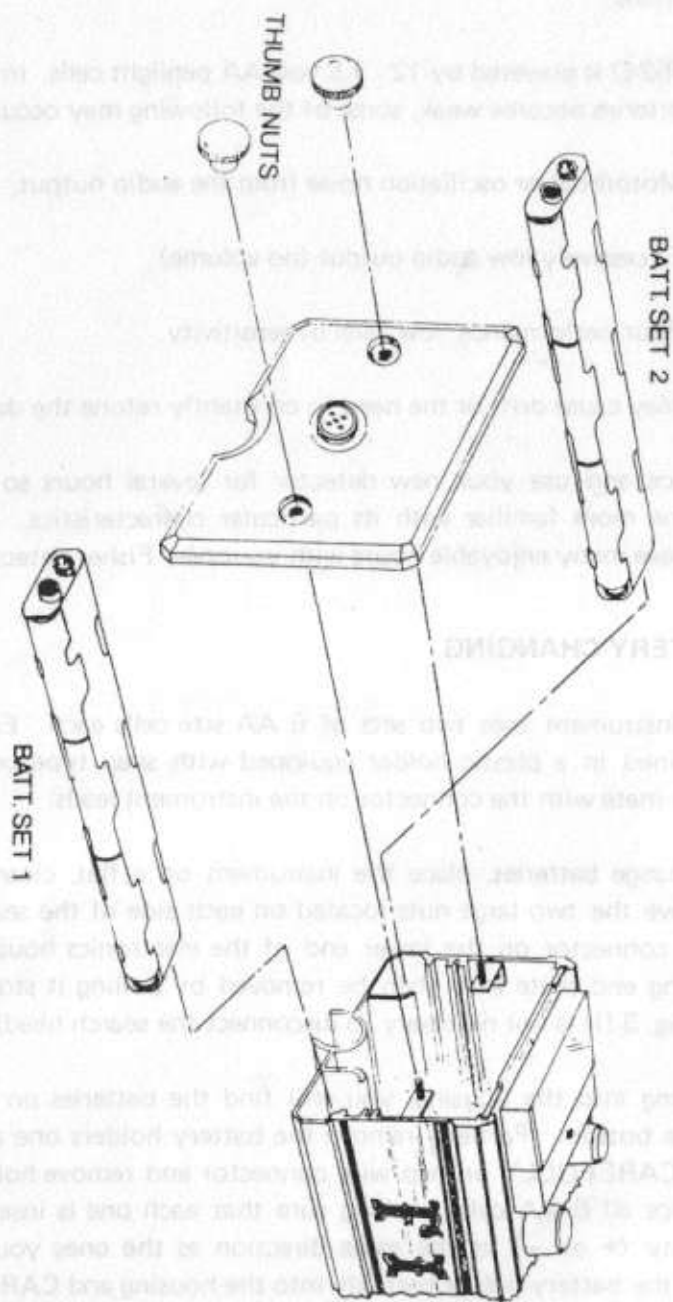
## BATTERY CHANGING

This instrument uses two sets of 6 AA size cells each. Each set is contained in a plastic holder equipped with snap type connectors which mate with the connector on the instrument leads.

To change batteries, place the instrument on a flat, clean surface. Remove the two large nuts located on each side of the search head cable connector on the lower end of the electronics housing. The housing end plate may then be removed by pulling it straight out. See Fig. 3 (It is not necessary to disconnect the search head).

Looking into the housing, you will find the batteries on each side of the bottom. Partially remove the battery holders one at a time, then CAREFULLY unsnap wire connector and remove holder fully. Replace all 6 AA cells, making sure that each one is inserted with polarity (+ or -) in the same direction as the ones you remove. Slide the battery holder partially into the housing and CAREFULLY snap the wire connector back in place, then push the battery holder all the way in. Follow the same procedure with the other set. Replace cover and thumb nuts.

FIG. 3 BATTERY CHANGING



### TREASURE HUNTING AIDS

**PROBE** A 12 inch length of 1/8 inch metal rod (preferably drill rod) pointed at one end and fitted with a stock handle at the other. This tool is very useful for exactly locating your find.

**KNIFE** When working over turf or other grassy areas, a large pocket knife with a 4 inch blade lets you make a clean circular cut around the location pinpointed by the probe. Carefully remove the cut plug, dig out your find and then replace the soil and the plug. If you use this method you will not damage the turf.

**TROWEL** To dig with. A variety of special trowels are advertised in treasure magazines.

**SCOOP** A perforated scoop is very helpful when working in sand or sandy soil. Or you may use your trowel and a sieve made from 1/4 inch mesh wire screening.

Other useful devices are generally offered by your dealer.

### FISHER LIMITED 5 YEAR GOLD SEAL WARRANTY PLEASE READ CAREFULLY

This Fisher instrument has been rigidly tested before shipment and FRL, Incorporated warrants it to be free of manufacturing defects for a period of 5 years after the original date of consumer purchase. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

During the first year of the warranty period, FRL, Incorporated will elect to repair or replace a defective instrument free of charge except for return postage. During the second to fifth years FRL, Incorporated will replace defective parts at no charge except for repair labor and return postage.

This warranty excludes batteries and damage caused by battery leakage. Also excluded is damage caused by wear on search loop housing, misuse, alterations, negligent handling or any abuse which in the opinion of FRL, Incorporated caused failure of the instrument. Some states do not allow the exclusion of incidental or consequential damages, so some of the above exclusions may not apply to you.

The warranty is for the benefit of the original purchaser and is valid only if the warranty registration card has been completed and mailed.

Should warranty service become necessary, write us for the name of the nearest authorized Fisher Repair Station or send the instrument postpaid to: FRL, Inc., 1005 I Street, Los Banos, CA 93635, Tel. (209) 826-3292. Be sure to include your warranty registration number and description of the trouble.

## M-Scope® VLF 552D Detector

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