

FISHER

M-Scope® VLF 555-D Dual System Discriminator With ISO-Planer Search Head

Operator's Manual



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PANEL CONTROLS

1. DISCRIMINATION LEVEL ADJUST.

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

2. NORMAL SENSITIVITY ADJUST.

As its name indicates, this control governs the sensitivity of the instrument in the normal mode. Minimum sensitivity is the extreme counter-clockwise position of the knob, and as the knob is turned clockwise, the sensitivity level increases.

3. DISCRIMINATE SENSITIVITY.

Provides a separate level of sensitivity for the discriminate mode only.

4. TUNING.

This control is used to adjust the detector's threshold (the most sensitive point for target indication). The toggle tuner, Fig. 2, must be pressed to the right for normal mode, to the left for discriminate, while adjusting the tuning control.

5. INTENSITY METER.

The meter system is used as a target intensity meter for pinpointing, and for checking the voltage remaining on the batteries when battery test is being used.

6-7. GROUND REJECTION CONTROL.

This important control permits neutralizing or "balancing out" the effects of the ground. Note that it is a dual knob. The large knob is a coarse, or rapid adjustment. A simple adjustment procedure cancels out the annoying effects of varying terrain. This is explained in the TUNING PROCEDURE section of this manual.

8. SPEAKER MUTE AND BATTERY TEST SWITCH.

This switch performs these functions:

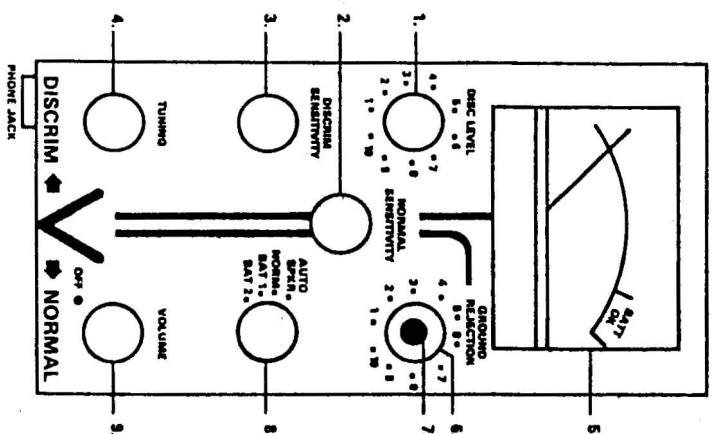
AUTO-SPKR: In this position the speaker tone is muted when the instrument is placed horizontally on the ground. The meter reading is not affected. This acts as a battery saver while digging for a find, because the speaker amplifier is turned off. **NORM:** The speaker muting function is disabled. This is the usual operating position for the switch.

9.

POWER ON/OFF/VOLUME.

This control turns the instrument on and adjusts the speaker volume. Its operation is similar to those on radio and TV sets.

FIG. 1 PANEL CONTROLS



1. DISCRIMINATE PHASE LEVEL
2. NORMAL MODE SENSITIVITY
3. DISCRIMINATOR SENSITIVITY
4. TUNING
5. INTENSITY METER BATTERY TEST INDICATOR
6. COARSE GROUND REJECTION
7. FINE GROUND REJECTION
8. SPEAKER MUTING & BATTERY TEST
9. POWER ON-OFF & VOLUME

555-D OPERATORS MANUAL

GENERAL DESCRIPTION

The 555-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 555-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 555-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 555-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.

THE EXCLUSIVE, UNIQUE, ADJUSTABLE HANDLE-GRIP HAS BEEN PROVIDED AS AN ADDITIONAL FEATURE WHICH ALLOWS THE USER TO CHANGE THE POSITION OF THE HANDLE-GRIP, WHICH ALSO CHANGES THE BALANCE POINT.

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. Adjustable handle-grip. To change the position of the handle-grip, loosen the locking ring by turning it counter-clockwise as you're looking down at the unit with the coil pointing away from you. The adjustable portion can be moved forward approximately 2" by pulling on the grip. After adjustment, tighten the locking ring.

4. The 555-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. 9, Fig. 1, clockwise to full on.
2. Rotate the Normal Sensitivity Control to mid scale (A higher setting may make unit super sensitive and make tuning very difficult under certain soil conditions).
3. Rotate Auto/Spkr. Control, No. 8, Fig. 1, to BATT 1, then to BATT 2, to check battery condition.

4. Rotate Auto/Spkr. Control, No. 8, Fig. 1, to NORM for normal search.
5. Press Dual-Synchro Tuner switch, Fig. 2, to right with your thumb and rotate the tuning control, No. 4, Fig. 2, until you receive a meter reading of approximately 30- to 40-. Now release the DST switch and let it return to center.
6. While holding the search coil at least 24" above the ground, set the Ground Rejection Control, No. 6 and 7, Fig. 1, with the knob pointers at -6- or -7-, press the DST switch to the right to reach threshold and then lower the search coil to the ground. (Note: the area of ground being adjusted to must be free from all metal targets). If the audio tone increases, raise the search coil to the original 24" height and rotate the small control, No. 7, Fig. 1, one full turn counter-clockwise and re-tune by pressing the toggle switch to the right, again lower the search coil to the ground. If the audio tone decreases, you have adjusted the rejection level too high and must readjust by turning the center control, No. 7, Fig. 1, clockwise in small degrees, one number at a time, re-tune and again check the ground response. If no noticeable audio change or meter deflection occurs, the ground rejection control has been set properly for ground balance. Press DST switch to right and hold. Readjust tuning to a meter reading of 10-15, or a light audio tone. Release DST switch.

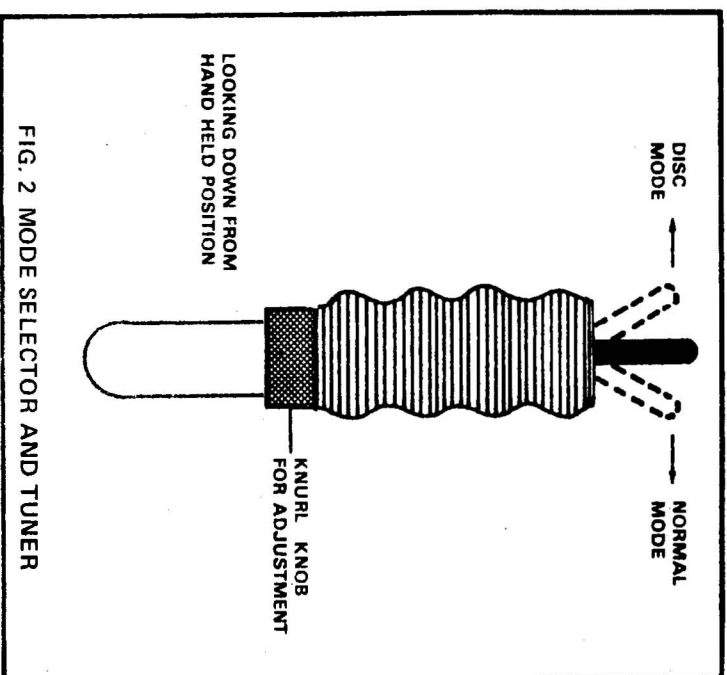


FIG. 2 MODE SELECTOR AND TUNER

7. Select some targets such as coins, pull-tabs, small pieces of foil spaced 12 to 18 inches apart. When you pass over the coins with the search coil, you will notice the detection or response area will be in the center of the coil.
8. Now scan the ferrous targets. You will notice as the outer edge of the search coil approaches the target, you will immediately start to receive an audio response across the entire search coil area. Because of this type of reaction, it helps 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.
9. In experimenting with your 555-D, we suggest you increase the Normal Sensitivity Control, No. 2, Fig. 1, to maximum. Readjust the Ground Rejection Control, No. 7, 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. 2, Fig. 1, set about mid scale for normal use.

Discriminate mode of operation:

1. With the normal mode properly tuned and operating, press the DST switch to the left. This action will place the unit in the discriminate mode. The meter and audio will be at the same tuning point as set in the normal mode.
2. Setting the Discriminate Level Control, No. 1, Fig. 1, will vary depending upon object to be rejected and ground conditions.
3. Rotate the Discriminate Sensitivity Control No. 3, 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 the ground, almost scrubbing the surface, about 1 - 2 inches above the surface.
5. Hold the search coil steady, and retune by pressing the DST switch to the left. Then release.
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. 1, 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 Disc. Sensitivity at mid scale. The higher the mineralization of the soil conditions, the lower this setting should be set. We recommend that in order to familiarize yourself with the 555-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 their 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 DST must be pressed to right for normal, or left for discriminate to return for threshold, or the verge of sound.

Additional tips and operations characteristics of the VLF-555D discriminator:

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 555-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. Motor boat 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 return 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.

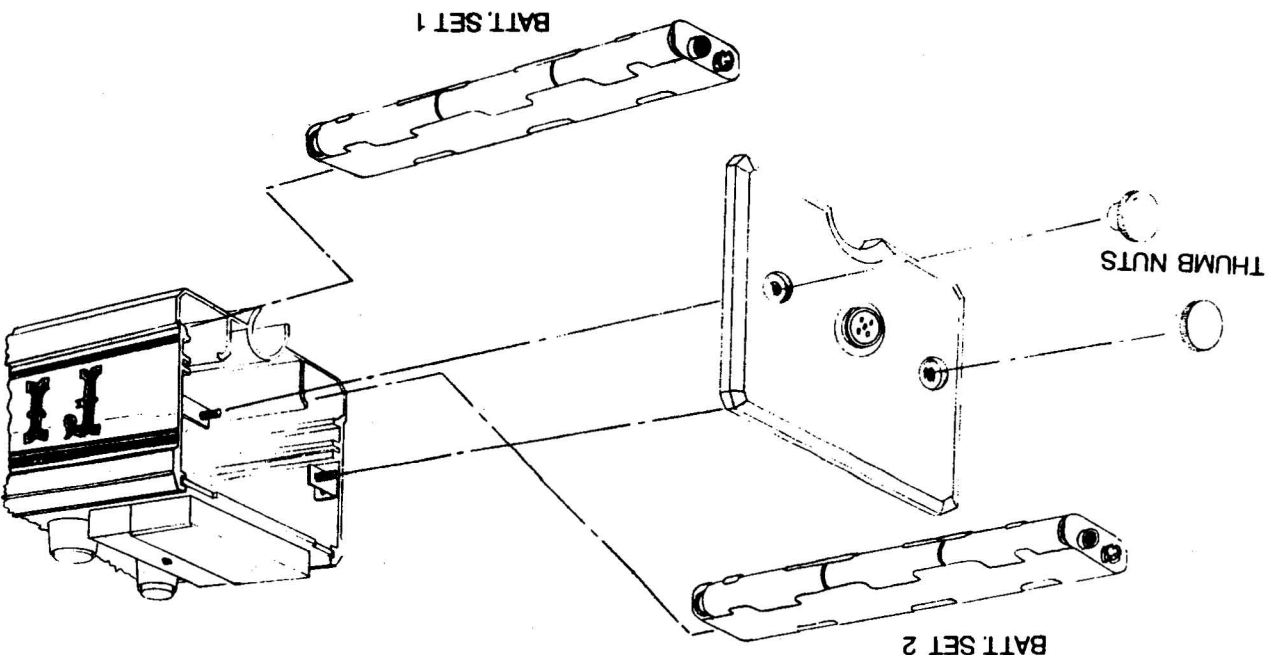


FIG. 3 BATTERY CHANGING

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 F.R.L., 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, F.R.L., Incorporated will elect to repair or replace a defective instrument free of charge except for return postage. During the second to fifth years F.R.L., 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 F.R.L., 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: F.R.L., 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 555-D Detector

FISHER RESEARCH LABORATORY

1005 I Street

Los Banos, CA 93635

Tel: (209) 826-3292

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

VL F 441, 2, 3 & 551, 2, 3, & 5

ZERO BUOYANCY COILS

7' CABLE MOUNTED ON COIL

3.5" COIL

VL F 441, 2, & 3

3.5" COIL COVER

7" COIL

LF 930, 960 & 990

7" COIL COVER

8" COIL

VL F 441, 2, 3 & 551, 2, 3 & 5

8" COIL COVER

11" COIL

VL F 441, 2, 3 & 551, 2, 3, 5 & LF 990

11" COIL COVER

4' EXTENSION ADAPTER

VL F 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

FRL-870075A

FISHER

m-Scope® VLF 555-D
Dual System
Discriminator
With 150-Planner
Search Head

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