

White's Electronics, Inc.

1011 PLEASANT VALLEY ROAD

SWEET HOME, OREGON 97386

OPERATORS INSTRUCTIONS



Manufacturers of The World's Largest Line of Mineral and Metal Detectors

MINERAL AND METAL
DETECTORS

ELECTRONIC
MAGNETOMETERS

SUPER GEIGER AND
SCINTILLATION COUNTERS

ULTRA VIOLET
LIGHTS

M-59 TREASURE MASTER INSTRUCTIONS

The TREASURE MASTER is a very sensitive instrument. It is used for the detection of small metallic objects, as well as for locating and picking up detectable gold nuggets.

The instrument is unusual due to the fact that it incorporates both a super-sensitive speaker and a big super-sensitive laboratory type center reading microameter. For soft metals, such as gold, the meter hand will usually swing to the right, and for minerals, the meter hand will swing to the left. The instrument may be used both with the meter and the speaker, or if desired, the meter alone.

To put the instrument into operation, proceed as follows:

1. Turn the PO (power switch) to the ON position.
2. Turn the SPEAKER switch to the ON position.
3. Turn the SPEAKER VOLUME control to the RIGHT for desired volume.
4. Adjust the VERNIER ZERO CONTROL to the fully clockwise position and then turn the control counter-clockwise and note the different frequency response. The lower frequency is when the motor boating that you hear in the speaker is the slowest. If the motor boating sound cannot be stopped completely by turning the VERNIER ZERO control to the extreme right, or if the motor boating will not start by turning the control to the extreme LEFT proceed as follows:
 1. Turn the VERNIER ZERO CONTROL to the extreme RIGHT. Then turn it back to the LEFT approximately 1/3 of the way.
 2. Let the instrument warm up approximately five minutes to stabilize before prospecting. Note knob marked ZERO CONTROL. Adjust this control one turn to the clockwise direction and back one turn in counter-clockwise direction. There should be a point where the motor boating stops completely, this is called the null point. If you cannot find the null by one turn of the control, adjust it further clockwise or counter-clockwise, whichever is necessary. After the null point has been reached adjust very slowly in the clockwise direction until the motor boating has started and as close to a zero reading on the meter as possible. For final zeroing of the meter adjusting of the VERNIER ZERO CONTROL will be necessary.

The faster the motor boating, the least sensitive. To obtain the most sensitivity, hold the instrument with the probe a few inches above the surface to be prospected and slowly turn the VERNIER ZERO control until the motor boating is the slowest and then slowly adjust the SENSITIVITY control until the needle hand averages a zero reading, which is the center of the dial. When this has been accomplished, the instrument is ready for operation. A slight adjustment of the VERNIER ZERO control may occasionally be necessary to keep the instrument on zero, due to the changes in mineralization and formation as you prospect.

Whenever you encounter a metallic object, the meter will usually swing to the right. Always hold the instrument with the loop disc the same height from the ground or surface to be prospected. Raising or lowering the disc will change the reading and the response in the speaker of the instrument. The more mineral content in the formation being prospected, the more sensitive is the meter movement in relation to the ground, and the steadier the instrument must be carried.

Should you be in a non-mineralized area or over solid rock that does not contain mineral, raising and lowering the height of the disc will cause very little reaction in the meter. This is usually the sign of no detectable mineral present.

Over a formation that contains scattered mineralization, raising or lowering the disc will make a pronounced increase or decrease in the meter as well as in the speaker. The more pronounced the increase or decrease, the greater is the mineralization.

It is a good policy to use the speaker along with the meter, as you can determine the frequency the instrument is operating by the sound in the speaker. The faster the sound, the least sensitive is the instrument and the slower the motor boating, the more sensitive. When using the speaker, it is not necessary to watch the meter at all times.

This is a very sensitive instrument and is designed for picking up small valuable objects. The instrument is very light and perfectly balanced.

By checking the instrument against samples of minerals and metals, you soon become accustomed to many of these minerals and in many cases you may determine by the meter reading whether the object is metal or mineral being detected. Iron, in nature, will read to the left and gold will read to the right. Gold is a metal.

The TREASURE MASTER can detect many times, single gold nuggets laying on the surface in the presence of the accompanying iron in the placers. If the loop disc is passed close enough to these nuggets it may then detect them.

TO TEST THE BATTERIES IN THE INSTRUMENT:

Turn the POWER SWITCH to the ON position. Turn the BATTERY CHECK SWITCH to the 1.5 position and read the battery voltage on the dial of the meter. Whenever the meter reading drops to 25 on the dial, replace the 1-1/2 volt battery. There are two positions for the 1-1/2 volt batteries. First turn the switch to 1.5, take your reading and then turn the BATTERY CHECK SWITCH to the next 1.5 and take your reading. This tests all of the 1-1/2 volt batteries in the instrument.

In prospecting for minerals, it is highly recommended that the OREMASTER 3-WAY SUPER LIGHT be used in conjunction with this instrument. Due to the fact that the SUPER LIGHT can, in many cases, identify many of the minerals that are detected with the TREASURE MASTER. In a placer gold deposit, by shining the 3-WAY SUPER LIGHT on the concentrates in the gold pan, you may determine the size of the zircon crystals that will normally be found in the deposit.

If these crystals are heavy and large, you may be closer to the source of the origin of the gold deposit.

If the Zircon crystals are very small and fine, you may be much farther away from the original formation that this gold was in. The coarser the Zircon, the coarser you would expect to find the gold.

The closer you approach the original source of the gold, normally, the larger the crystals would be. The Zircon crystals will turn a beautiful orange color when using the 3-WAY SUPER LIGHT.

When using the TREASURE MASTER, be sure to let the instrument warm up from two to three minutes to stabilize the voltage and frequency before the instrument is used for prospecting. This will give you a more steady and reliable reading.

In case your TREASURE MASTER needs service, always return the instrument directly to WHITE'S ELECTRONICS. Our repairmen are properly equipped to service these instruments efficiently and accurately. Should the instrument be in need of service, it is not usually necessary to return the probe or the aluminum tubing.

GOOD LUCK PROSPECTOR. WE WISH YOU VERY HAPPY PROSPECTING
AND TREASURE HUNTING.

WHITE'S ELECTRONICS

Sweet Home, Oregon

This little loop is very good for testing small samples of quartz that may contain detectable gold, as in our laboratory testing we can detect a single gold nugget as small as a grain of wheat, approximately 2 to 2-1/2 inches from the small loop. Now, this is under laboratory testing, where other minerals are not present to interfere with the reading, and this should not be taken as a possibility in normal prospecting in the field, but just to show the sensitivity of these small loops. It is possible in areas where there may be some small nuggets of this size in lode that are not associated with mineralized sands or other minerals that they could be detected.

We are doing constant research on this type of equipment, and as new devices are perfected, we will bulletin our customers.

In case you would wish to know whether an area is saturating the exploring loop of the instrument, you may lay a 25 cent piece or 50 cent coin on the ground and pass the loop closely over it. If the instrument does not detect this coin, you are receiving saturation or absorption in the formation, and then the small loop should be used. The small loop would also be desirable for checking quartz veins where the gold or mineral content or metal content would be too small for the larger loop. This is a highly scientific and sensitive instrument, and the more experience and use with this instrument the better. It is well to bear in mind that any rock that gives a reading on the instrument should be investigated for the mineral or metal content. A mortar and a gold pan and a magnifying glass would be highly desirable to use on these specimens in order to enable you to determine the mineral content that may be in some of these samples.

One should use plenty of time in prospecting so as to thoroughly cover the ground and not try to cover too large an area at a time. This is why small samples being used for experimenting and testing are so highly desirable to acquaint you with the instruments' reaction to minerals and metals of various sizes and to familiarize yourself with the proper procedure to follow in prospecting and Treasure hunting.

WHITE'S ELECTRONICS RESEARCH LABORATORY

Sweet Home, Oregon

SENSITIVITY AND HIGHLY MINERALIZED AREAS

Due to mineralization changes and content in various areas, and unusual occurrences and reactions that may occur, no set rule or guaranteed performance may be made as to detection performance. In areas of high mineralization, it is sometimes impossible to use all of the sensitivity built into the instrument, and in this case, the sensitivity must be reduced while used in these areas. This type of an area is when an instrument may not be carried, even very carefully, without the meter hand varying greatly in reading.

When this occurs, reduce the sensitivity of the instrument by removing the chrome cap marked sensitivity and turning this slotted screw to the left. The farther this is turned to the left, the less sensitive the instrument becomes. However, this should not be turned too far, but just in order to enable you to use the instrument in the area that is being prospected. As a rule, all the sensitivity possible should be used, but not enough as to make the instrument erratic. In some highly mineralized areas, in placers, gravel bars, etc., where the mineral content may be very high, this could cause an absorbing affect against the field of the instrument, causing it to become insensitive to small objects. When this is encountered, a very small exploring loop should be used, which is available on request at no charge to all Treasure Master and Nugget Master owners.

This small loop will detect small objects that would not be detectable with the larger loop due to the absorbing affect of the surrounding mineral. This loop is interchangeable with the present loop on the instrument, and comes complete with the connecting cable. Small metal objects in these areas that would not be detectable would then be detectable with this little loop. A small loop will not detect quite as deep as the larger loop, but it will pick up very small objects. In prospecting in these areas, extreme care should be exercised to cover as much ground as possible and to do this very carefully.

It is a good policy to first start out with less sensitivity on larger objects to be detected, and then reduce the size of the objects and increase the sensitivity until one becomes familiar with the operation of the instrument. The instrument is extremely sensitive when the sensitivity control is turned to the right and one should not use more sensitivity than he is able to handle for the particular area that is being prospected.

It is of extreme importance to hold the exploring loop as steady as possible and to maintain a constant height when using the instrument. The more sensitivity that is used, the more critical is this height. The less sensitivity being used, the less critical is the height. The instrument should be adjusted so that the meters may be zeroed and carried with the instrument held in a comfortable position, so as not to be tiring. Remember, this is not designed for a water pipe locator, although it is sometimes used for this work. It is designed for locating metal and mineral objects on or just below the surface and for detecting float, mineral veins, outcroppings, and so forth. In regard to ore bodies, there is usually a surface trace or indication of a deposit that is below, due to erosion and decomposition which leaves these particles on the surface and the instrument can detect many of them when they are invisible to the naked eye.

Larger loops are available for deeper objects, but the larger the loop the larger must be the object to be detected, and the smaller the loop the smaller the object may be to be detected. The smaller loop has higher detection on small objects, but is not so effective at any appreciable depth.

Proper Care of Your Detector

The following are precautions you should take to protect your instrument from harm, insure 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—may 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. It's best to lay it in the shade when temporarily not in use. If it's left in a car on a hot day, cover it with a blanket or something similar to protect it from the direct rays of the sun, and then leave the windows slightly open to permit ventilation. Needless to say, protect your detector if you operate it in the rain, as water may get into the instrument case.

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

Storage: If you plan to store your detector for any length of time, unsnap the battery and remove it from the instrument. Whenever your detector is not in use, turn the **VOLUME** knob all the way to the "**PWR OFF**" position.

Service And Warranty Information: If your new metal detector is ever in need of service, ship it to us at the factory address below or to one of the Service Centers listed on the back of the warranty statement. Insure it fully, prepay the charges, and enclose a letter describing the nature of the problem. As long as your detector is under warranty there is no charge other than a small handling and postage fee.

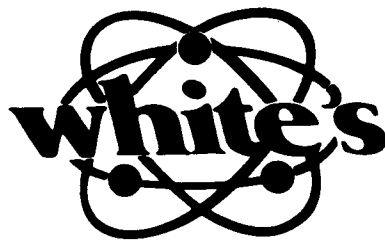
Read your warranty card carefully. It describes completely what is covered and the length of the coverage. If you have any questions don't hesitate to write us. We will be happy to answer any questions you may have.

HELPFUL HINTS AND TIPS

1. "How deep will it go?" Detection depth is determined by five main factors.
 - a. The **SIZE** of the object.
 - b. The **SIZE** of the loop.
 - c. The **LENGTH OF TIME** the object has been buried.
 - d. The **SKILL** of the operator.
 - e. The ground **MINERAL CONTENT**.

The longer an object has been buried, the better you will be able to detect it. A chemical reaction called a "halo effect" between such objects as silver or copper coins and the surrounding soil may cause your detector to register a much larger increase in volume than might otherwise be expected for a small coin. If the halo effect is strong enough, your detector may continue to register even after you have dug up the coin.

2. "What will my detector locate?" Silver, lead, copper, bottle caps, tin foil, pull tabs, cartridge cases, rings, brass and tin cans are just a few of the conductive objects that can be detected. Your detector will not locate sticks, rags, bones, paper, wood or other non-metallic objects.
3. Learn how to interpret the different types of responses from your detector. A nail lying flat in the ground will sometimes produce a double or single reading depending upon whether your loop passed across it lengthwise or across its width. So it's a good idea to sweep your finds from several different directions to try to learn as much as possible about the object you have located. Coins will usually only produce one reading regardless of sweep direction.
4. Rather than waste time, check around the trees for junk items such as foil, pull tabs, bottle caps, etc. This will frequently indicate whether or not someone has already been in the area with a detector.
5. Always "criss-cross" an area when hunting it.
6. After you have dug up a coin, always check the hole again for more. As many as 10 coins have been found in one hole!
7. When beachcombing the best place to look for coins is near the concession stands.
8. Check the shallow water in swimming areas. Most rings and coins are lost when people enter the water.
9. If you make plans for coinshooting, check the history records of the area.
10. Always carry a plastic bag for your detector in case you get caught in the rain.
11. Never ask permission to treasure hunt over the phone. People tend to visualize you using a pick and shovel, making large holes.
12. Join a local historical society or get acquainted with its members.
13. In lawn areas, use a screwdriver of no more than eight inches as your tool. Limit the size of the hole to a **MAXIMUM** of two inches in diameter. Don't forget to fill in the hole. Public and private officials and property owners will be more likely to allow continued treasure hunting if you do no environmental damage.



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