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

The Special Treasure Hunters Model 62T Treasuremaster

General Instructions

This special model was designed especially for treasurehunting, and it does not normally respond to minerals, magnetic iron, black sand, nails and hard steel bolts, but just to high conductive metals, and does not have a Mineral setting.

The Metal-Null Control is the control used to tune the instrument in for metal detection.

The Radio Tuner Control is the large Radio Tuning Control, which is used for a very fine adjustment of the meter, and to keep the instrument in proper adjustment while operating.

There is a Range Control to control the metering ranges of the instrument for checking meter readings to locate the center of the metal object that the instrument has detected, if the object is large.

The OFF-ON Power Switch is for turning on the power of the instrument, and when through using the instrument, this Power Switch should always be in the OFF position, as not to discharge the batteries.

The Battery Check Control, above the OFF-ON Power Switch must be OFF, except when checking batteries.

There are five waterproof loops included with this model, which consists of a 6 inch, 12 inch, 18 inch and 24 inch loops that have open centers. Any of these four loops may be used in fresh or salt water. When used in salt water, they should always be carefully washed off in fresh water, when through using them.

There is also a special solid loop (no hole in the center), that measures approximately 6 1/4 inches. This is the famous TRIPLET loop, and is the best loop for small objects. The most sensitive section of this loop is approximately 2 1/4 inches, (back under the loop) from the front outside edge of the loop, for the smallest objects. The TRIPLET loop will detect a single dime standing on edge, just under the surface of the ground and is used for detecting single small objects just under the surface a few inches, the size of a single 10¢ silver coin, and a little deeper on more than one. The small TRIPLET loop contains three special pretuned high sensitivity coils, all three operating at the same time, and at three different depths.

The Triplet is so highly tuned, and so sensitive that the first coil will automatically react to a tiny natural gold nugget, as small as a single grain of wheat, just beneath the surface of a piece of quartz rock, invisible to the eye, and too small to be detected with the #2 coil.

The second coil is for searching for larger objects the size of a single small coin, or ring that is beyond the range of the #1 coil, and too small to be detected with the #3 coil.

The third coil is for searching for small objects the size of a silver quarter, as well as larger metal objects that are beyond the range of the #2 coil.

There is no limit to the large size of the metal object that the #3 coil will react to. (The larger the object, the deeper it may be detected.)

The Triplet loop will automatically react to the smallest detectable object as well as the largest ones, in or out of water. (The Triplet loop cannot be used in salt water, but it can be used in fresh water.) In our laboratory testing, and using a single tiny silver nugget, approximately 1/2 the size of a match head, the nugget was detected through approximately 2 inches of quartz rock. There are no dead spots on this loop-full detection clear across the face of the entire loop!

Special Notice

The Triplet Loop will tune very sharp, and have a very narrow Null. This is normal for this particular loop.

This loop is excellent for checking walls, ceilings, cellars, foundations, tree trunks, etc., for small or large hidden metal objects. For deeper detection the 12, 18 and 24 inch loops are used on larger objects.

The special 24 inch loop is for depths up to several feet for large buried or hidden metal objects. This is excellent for exploring for chests, bullion, guns, large sacks of coins, and numerous other large metal objects that have been hidden.

OPERATING INSTRUCTIONS

1. Install the exploring loop rod and the exploring loop, by first inserting the rod in the sleeve located underneath the instrument, so that the rod protrudes out from under the front end of the instrument.

2. Install the loop selected on the front of the rod. Spiral the surplus cable around the rod and plug the loop cable's four pronged plug into the front of the instrument in the socket provided. (The prong with the hole in the end, plugs in the top of the socket.) It is important that the surplus cable be wrapped around the loop rod, so the cable does not

catch on brush, twigs, etc., when prospecting. You cannot make an improper connection as the loop plug has two large prongs and two small prongs, which must match the holes in the socket, or the plug cannot be inserted.

3. Turn the large Radio Tuning Control to #50, so that the #50 is directly at the top of the dial, and is in line with the marker.

4. Turn the Null-Metal Control to NULL, which is located just above the Large Radio Tuning Control. You will notice a yellow circle located just below the word NULL. Turn the Null-Metal Control so that the marker is in line with the circle just below the word NULL.

5. Turn the Range Control to the #4 position.

6. Turn the OFF-ON Power Switch from the OFF position to the ON position. A squeal or motorboating sound may now be heard. If so, slowly turn the selector control knob located on the front end of the instrument to the Left, or to the Right, whichever direction that lowers and slows the sound, until the sound just stops. If you continue to turn this control after the sound stops, it will start again. If this occurs, back the control up, until the sound stops, and leave it set in the center of the dead spot, (where no sound is heard).

7. Turn the Range Control to the #1 position.

8. Turn the Null-Metal Control to the LEFT, until the motorboating sound just starts in the speaker. Then turn very slowly, the large Radio Tuning Control to the RIGHT, until the motorboating sound just stops, but turn the control <u>no more than necessary to JUST stop the motorboating</u>, as turning this control <u>too far</u> will greatly reduce the sensitivity of the instrument and its detectability. While this adjustment is being made, the instrument should be held with the exploring loop just three of four inches above the surface to be explored, when using the 12 inch, 18 inch or 24 inch loops, and one to two inches above the surface when using the Triplet loop, or the 6 inch loop, and searching for smaller objects.

GENERAL INFORMATION AND OPERATING HINTS

When the instrument is set and the exploring loop passes over a detectable metal object, a motorboating sound will at once be heard in the speaker, and a reading will register on the meter. As soon as the loop passes the metal object, the motorboating sound will cease, and the meter reading will return to Zero. Also, the larger the object the louder and faster the motorboating sound, and the higher the meter reading. The smaller the object the slower and lower is the motorboating sound, and the lower is the meter reading. Be careful to hold the exploring loop as evenly as possible, and as constantly as possible at the same height that you held it when you adjusted the Radio Tuner Control. Do not lower the loop more than necessary in walking as the steadier you hold the loop, the more accurate the readings will be. (Raising and lowering the loop excessively can cause false readings.) The highest reading that you receive, on the less sensitive meter ranges would usually be over the center of the object you are detecting.

As soon as you move the loop from over the metal object, the meter reading will return to Zero, and the sound in the speaker will cease. The louder the sound in the speaker, the larger is the object, and the higher is the reading on the meter. It takes very little metal to give the instrument a full scale reading on the #1 position. It takes four times as much to give a full scale reading on the #4 position. The highest reading and the loudest sound, is when you are over the center of the metal object.

Also when checking and you receive a reading over a metal object, hold the loop the same height over this object, when testing it, do not place the loop down on the object, as you could receive a reverse, or false reading by overloading the oscillator circuit. The loop should be held at the normal operating height, and should never be pushed down on a metal object that has been detected.

Be systematic in searching. Slowly and systematically cover a small defined area at a time for the greatest accuracy. A good policy is to hold the loop, flat with the surface being searched, then holding the loop closely over the surface, and at the same time, keeping a slow beat in the speaker, (with the Range Control on the #1 or #2 position, if the ground is magnetic, you will most likely have to use the #2 position), slowly and carefully move the loop from the Left to the Right in front of you. (Be sure to keep the loop at the same height, just above the surface). Then take a short step forward, and move the loop the width of the loop forward, and slowly move the loop from the Right back to the Left. In this way, you will be covering a width of approximately 6 feet

by the width of the loop. If you are using the 6 inch loop, the coverage will be approximately 6 inches by 6 feet on each pass. If you are using the 12 inch loop, it would be 12 inches by 6 feet for each pass, and the 18 inch loop would be 18 inches by 6 feet, etc.

For single small sub-surface coins, use the 6 inch Triplet loop. For objects the size of a small cannon ball, the 12 inch loop may be used.

If necessary for deeper larger objects, such as buried chests, the 18 and 24 inch loops will give still more depth of detection on these larger objects, over the smaller loops.

By measuring the width and the length that you receive your highest readings, while passing over a metal object, you can estimate the approximate size.

When exploring with the instrument it is a good point to remember, that a deep, large object may not give any higher reading, than a shallow, small object. Also as a rule, the longer a metal object has been buried, the deeper or easier it may be detected. A small fresh buried object, may not be detectable, but after a certain period of burial time, is easily detected, as the ground becomes electrically conductive from the metal. As an example of this, you may at times locate old tin cans, and after digging them up, and again replacing the dirt, you may again receive a reading from the material that the can was buried in!

The instrument is the most sensitive to the surface of the object being detected. For example, a single silver dollar just under the surface will usually give the same reading as 2 or 3 silver dollars stacked one on top of the other, as just the TOP dollar, the one closest to the surface is being detected. Now take the same three silver dollars, and lay them flat, close together, but not stacked, and a reading of 2 or 3 times greater will be received. A glass fruit jar full of coins, would give a reading on just the top layer of coins. The same jar broken in the ground with the coins scattered would give a reading several times higher!

When checking walls of an old building, place the loop flat with the surface to be checked, then adjust the instrument with the loop held close to the surface, (the same as when used on the ground).

Should you wish to use any of the loops in water, first place the loop in the water, and submerge it, holding it just above the surface to be explored, then adjust the instrument the same with the loop under the water, as you would for use on dry land. (Do not get the instrument wet, as the instrument is not waterproof.) Deep water loops are available for this model, with 25 or 50 feet lengths of cable for exploring old wells, in lakes, streams, ponds, rivers and in bays. They will operate in both fresh and salt water.

The smaller the loop, the shorter the range of detection, but the smaller the detectable object may be.

The 24 inch loop has greater range of detection than the 6 inch loop, but it does not detect small objects. The 24 inch loop is used for deeper detection in looking for large buried treasures or metal objects. These loops are interchangeable, and the only difference is that the detection is for various uses, which the instrument may be used for. The small loop will detect larger objects, as well as small objects, but it does not detect them as deep. In brushy areas, the 12 or 18 inch loops may be used for searching for large treasures, where the 24 inch loop may be too large to use!

You may detect detectable surface nuggets of gold, copper or silver using the Triplet loop, as well as coins, rings, etc.

While this instrument is very ruggedly built, it should not be subjected to undue jars, or jolts, as excessive jolting can loosen up some of the electronic elements in the instrument, and could result in erratic or inaccurate readings.

Do not expect to learn all of the possibilities and uses of this instrument at once, as due to its flexibility, you will find that you will constantly learn more things and more uses for the equipment with experience.

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NEW VARYING FREQUENCY BEAT CIRCUIT

SPECIAL INSTRUCTIONS

62T Treasuremaster

A special Varying Frequency Beat Circuit has been added to this instrument. To use this circuit, proceed as follows:

Turn the Metal-Null Control to Null, so that the marker on the Control Knob is pointing at the circle just under the word NULL. Leave-It-On This-Setting-And-Do-Not-Change it while using the instrument in the following way.

Turn the Radio Tuner to #50.

Turn the small toggle switch located just behind the handle from the OFF position to the ON position.

Turn the OFF-ON Switch, located just below the Radio Tuner to the ON position.

Turn the Power Switch to the ON position.

Turn the Range Control to the #4 position.

Turn the Front End Tuner Zero Control to NULL, where no sound is heard. On one side of the little Black Knob on the front end of the instrument, you will find the figure 1 on one side. Turn this knob slowly to the Right toward #1 until the beat just starts in the speaker.

Slowly adjust the Radio Tuner, until the meter hand just reads 0. (If the meter hand is on #50, turn the Radio Tuner, slowly towards the Right clockwise, (the beat will increase), until the meter hand slowly swings to the Left to 0.

In this position, the beat will slow or stop, when the loop is passed over a metal object, (depending on the size), and the meter hand will swing to the Right. (Should you detect the presence of a mineral - Black Sand, magnetic iron, or hard metal objects, the beat will increase while the loop is held over the object, but no meter reading will be had). When the instrument is properly adjusted and used, the meter reads only when detecting non-magnetic conductive metals.

You may notice a slight increase in the frequency of the beat, after several minutes of operation, so it is a good policy to slowly turn the Radio Tuner to

the Left slightly, until the meter pointer just starts to move slightly (to tremble) and to still keep a 0 reading on the meter. This slight adjustment of the Radio Tuner, should be made every 5 or 10 minutes of operation, to maintain peak sensitivity. It is not necessary, but it will enable you to hold the instrument at its highest degree of sensitivity, especially for locating the hard to detect, small or deeper objects.

You will notice that the instrument is beating at a high frequency, in this setting, and when detecting a small object, you will receive a reading on the meter, and yet you may notice very little, or no change in the frequency of the beat. This is due to the exceptionally high sensitivity of the metering circuit, and to minimize meter drift, in varying temperatures.

This setting is the best to use in areas, where drifting of the meter reading may be exceptionally high.

Should you desire to operate the instrument at a slower beat, you may do so by turning the Range Control from the #4 position to the #3 position, then very slowly turn the Radio Tuner, to the LEFT to slow the beat, until the meter pointer just starts to move, at 0 (to the left of the meter dial.)

Should you wish to operate the instrument at a still slower beat, turn the Range Control from the #3 setting to the #2 setting, and slowly turn the Radio Tuner Control Knob, to the Left, until the beat slows and the meter pointer just-starts-to-move (to tremble) just-on-or-just-below 0.

To operate the instrument at a still slower beat, you may do so by turning the Range Control from the #2 position to the #1 position, and slowly turn the Radio Tuner Control Knob to the Left, until the beat slows, and the meter pointer just starts to move, and is hovering on or just below 0. In the #1 and #2 positions, the beat change is more noticeable, when detecting small objects, than when the instrument is used in the #3 and #4 positions, but the instrument still retains its high sensitivity in the #3 and #4 positions, with a slight increase in meter sensitivity in the #2 and #1 positions.

Use the Range Control settings, which are more suitable to you, for the area you use the instrument in.

When through using the instrument with this special circuit:

Turn the OFF-ON Switch (located just below the Radio Tuner Control) to the OFF position, and the small toggle switch (located just behind the handle) from the ON position to the OFF position. Turn the F.E.T. Zero control, which is the small Knob on the front end of the instrument slightly to the Left, until the beat stops in the speaker, and no sound is heard.

The instrument is now ready to adjust and use with the regular circuit, as outlined in the instruction book.

Remember, when using the regular standard circuit, the small toggle switch located just behind the handle, and the OFF-ON switch below the Radio Tuner, must both be in their OFF positions.

BATTERY INFORMATION

The following information has been assembled to help you in every way possible to buy, replace, substitute, and get the most life from a set of batteries.

Your metal detector came with one, or a combination of the following batteries. All are standard and available from all major manufacturers:

	Eveready	Burgess	Marathon	Ray-O-Vac	RCA
2 1 1/2 volt	W353 (1.75)	2F	3011	11	VS141
9 volt	246 (1.85)	2N6	1602	1602	VS305
67 1/2 volt	467 (3.85)	XX45	4200	200	VS016

PRICES: Apply only to Eveready batteries, but all brands will be approximately the same.

BATTERY LIFE: This will vary with different conditions. The following is only an estimate, and is intended to serve as a guide for replacement:

1 1/2 volt	100 hours
9 volt	300 hours
67 1/2 volt	200 hours

SUBSTITUTION: The 1 1/2 volt battery is not always readily available, and the drawing illustrates a substitute that is very adequate and economical. The following instructions should make this an easy project for anyone.

Tape the three batteries together with a thin piece of cardboard for backing. Take three standard flashlight batteries, and the plug-in socket from your dead W353. Solder any small copper wire or any wire that solders easily, across the terminals of all three batteries, leaving a pigtail, approximately 2 inches long. Solder a similar wire to the base of each battery leaving a 2 inch pigtail.

Take the plug-in socket, which you removed from the old battery, and solder the two pigtails to the terminals to which the old wires were soldered. CAUTION.. be sure that the wire, which goes across the base of the batteries is connected to the terminal that has the smaller hold, and the wire that crosses the battery terminals is to be soldered to the larger hole.

Battery Information

After all wiring and soldering is complete, wrap the entire unit in an insulating material-paper, tape, etc. This will prevent shorting out against the metal sides of the instrument. If these instructions are not completely clear, simply observe the manner in which the old W353 is constructed.

Another substitution that may prove helpful, is using the small 9 volt battery usually found in transistor radios (Eveready #216, Burgess 2U6, RCA VS323, Ray-O-Vac 1604, etc.), to replace the 9 volt Eveready #246. This in no way impairs the operation of your instrument. Its only disadvantage is shorter life.

TROUBLES USUALLY DUE TO LOW OR DEFECTIVE BATTERY OR BATTERIES:

Loss of Sensitivity: weak 1 1/2 volt

Low Volume: 9 volt

Wide Null: low 1 1/2 volt

Static: Low 67 1/2 volt, improper connection, or defective battery.

Excessive Drift: 67 1/2 volt and/or 1 1/2 volt

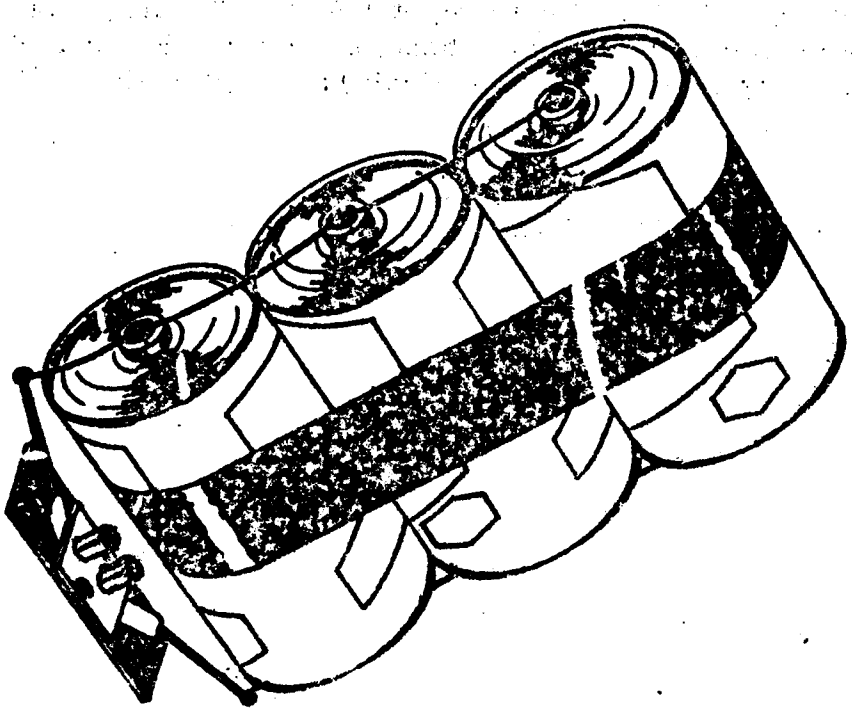
Leaking Battery (usually 1 1/2 volt): Short or switch left "ON"

Storage: Remove all batteries

Ordering New Batteries: Order by manufacturers number, or NEDA number, both are on most batteries.

Excessive Battery Drain: Instrument left "ON" when not in use; short circuit; loose connection; extreme heat or cold; old batteries (which go down quickly, suggesting excessive drain); defective tube (IR5 or IU4).

WHITE'S ELECTRONICS, INC



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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