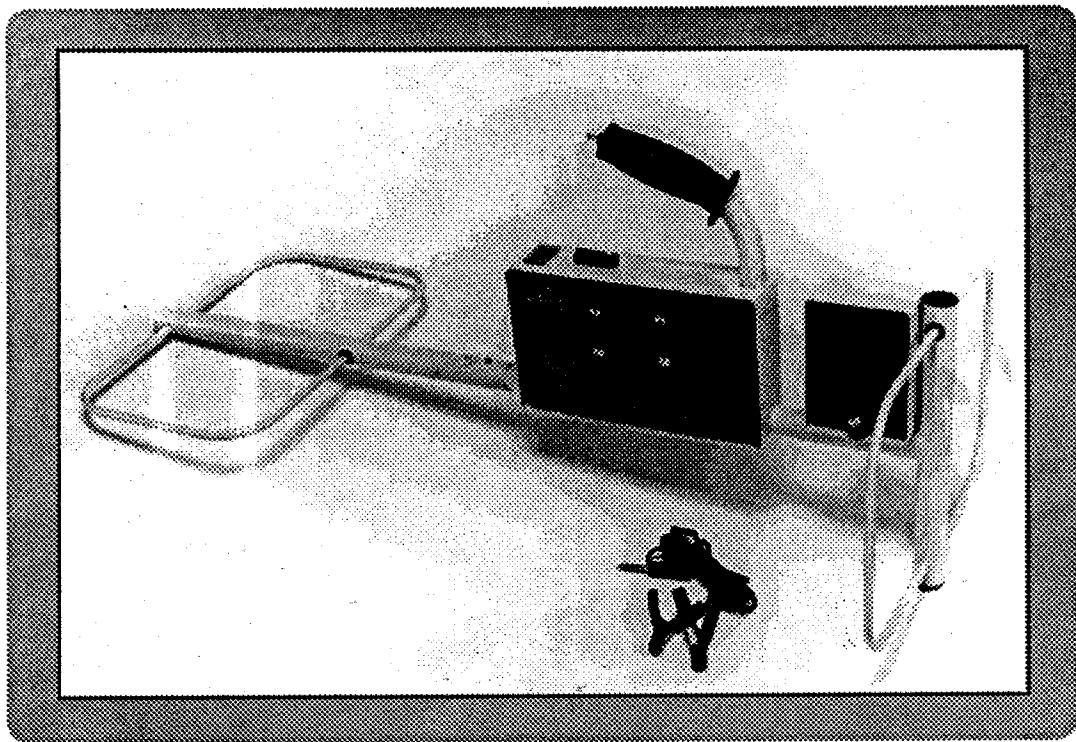




# PCL 500

## INSTRUCTION MANUAL



# INTRODUCTION

White's PCL 500 is a metal detector designed specifically for pipe and cable locating and tracing. As such it has many unique features and capabilities not normally found on hobby metal detectors.

To fully benefit from the PCL 500 capabilities we would suggest that you read the following information carefully. Additionally we advise that you practice on a few known lines. Natural gas meters offer an ideal training opportunity as all the different MODES can easily be demonstrated.

No matter how well prepared you are, there will always be situations that present particular difficulties to the pipe and cable location operator. There are always logical explanations for why some lines are more difficult to trace than others. Practice and experience generally will resolve such difficulties, and allow tracing of such lines.

The PCL 500 will save time and money when used properly.

When dealing with electrical, gas, toxin, and high pressure lines, use extreme caution.

Never clip on to live lines. Never dig live lines. Always turn off the electricity prior to attempting tracing. Always make sure gas lines are turned off prior to digging.

Even though the approximate depth of a line can be determined, do not bet your life on the accuracy of your determination. It's better to dig the last several feet by hand than to rupture a line. Safety should always be the number one priority.

Take reasonable care when storing your PCL 500. Store in a cool dry area, with the batteries removed. Avoid hard freeze, and extreme heat during storage. Avoid unnecessary roughhousing.

We are pleased you have selected White's Electronics for your detection needs!

Should you develop an interest in other types of metal locators please telephone toll free 1-800-547-6911.

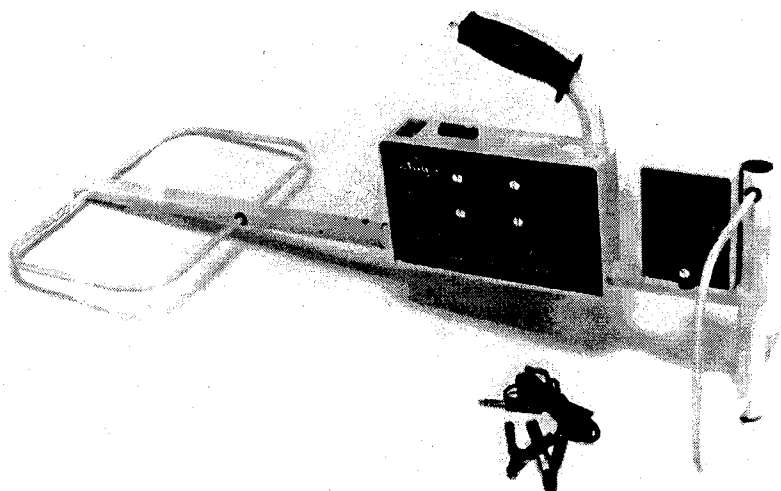


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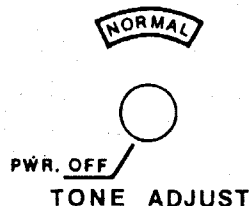
# Assembly & Batteries

1. Remove all parts from the shipping container.
2. Check to assure you have the following;
  - A. Main control box.
  - B. Transmitter antenna, (small control box attached).
  - C. Receive antenna.
  - D. One eight cell battery holder with eight one and a half volt AA batteries.
  - E. One six cell battery holder with six one and a half volt AA batteries.
  - F. Clip on lead.
3. Connect the transmit antenna and receiver antenna to the main control box as shown below. Antennas lock into place with spring activated button.
4. Place the AA one and a half volt batteries in the battery holders so that the flat side (-) of each battery rest against the springs in the holder. The nipple side (+) rests against the steel post.
5. Remove the battery doors from both the main control box and the small transmit control box, by removing the two thumbnuts located on each door. Connect the eight cell battery holder to the battery lead of the main control box. Connect the six cell battery holder to the battery lead inside the smaller transmit control box. Secure the battery doors using the provided thumbnuts. Alkaline batteries are recommended. They should last up to twenty hours of use.
6. The instrument is now fully assembled and ready to use.



# Description Of Controls

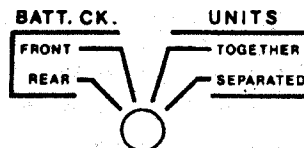
## I. TONE ADJUST, (ON / OFF)



A. The TONE ADJUST turns the main control box power on / off and, sets the slight background hum necessary for optimum metal detection.

B. When the Transmit antenna, identified by the attached small control box, is connected to the main control box the power on is indicated by the POWER ON INDICATOR light, located on the small control box. Be sure to turn TONE ADJUST fully counterclockwise (PWR. OFF), when not in use thereby saving the batteries from unnecessary drainage.

C. When attempting to use the detector in any MODE, or when checking the battery condition of the FRONT unit, the TONE ADJUST needs to be turned clockwise so that a very slight hum or background sound is heard continuously during use.



## II. FRONT MODE

### A. BATT. CK. (Battery check)

### FRONT MODE

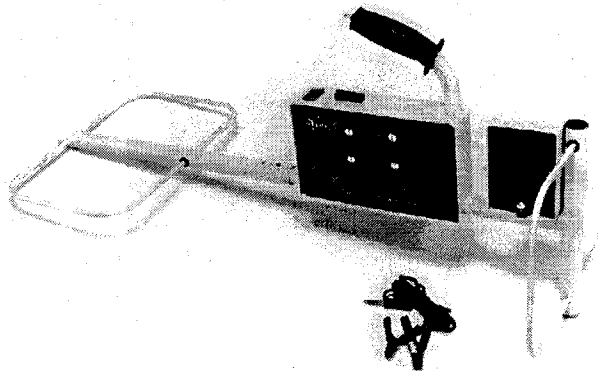
1. **(REAR)** To test the condition of the REAR battery first make sure TONE ADJUST is set fully counterclockwise, PWR.OFF. Next place the FRONT MODE on the REAR setting, turn the REAR MODE control located on the small control box ON to the INDUCE setting, and view the REAR battery condition on the METER. Batteries should test within the band of the METER located on the right hand side of the meter face. Batteries that do not check within this band will not provide desirable performance.

2. **(FRONT)** To test the condition of the FRONT battery, place the REAR MODE on the PWR. OFF position, turn the TONE CONTROL clockwise until a slight hum is heard, place the FRONT MODE on the FRONT position, and view the battery condition on the METER. Again batteries should test within the band of the METER located on the right hand side of the METER face. Batteries that do not check within this band will not provide desirable performance.

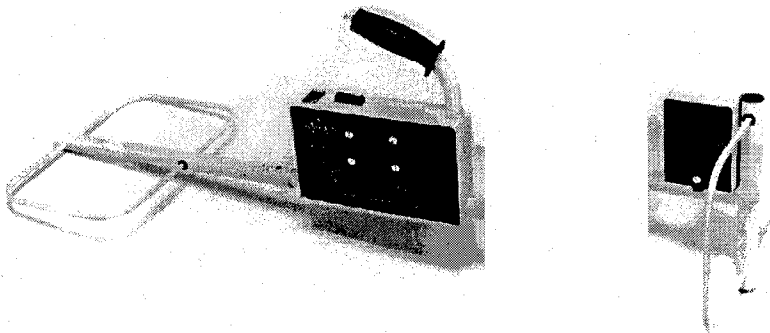
## Front Mode Control Continued

### B. UNITS

1. **(TOGETHER)** Whenever the Transmit antenna and accompanying small REAR control box is attached to the main control box, the UNITS TOGETHER setting must be used. The REAR MODE must also be in the TOGETHER position for the metal detector to perform properly. The TOGETHER position is used to locate unknown metals or to locate and trace metals that cannot be accessed for the CLIP ON method. When used in the TOGETHER MODE the PCL 500 will respond to all types of metals that are an acceptable size, thus the CLIP ON method may be better suited to areas that have significant amount of undesired metals.



2. **(SEPARATED)** When the Transmit antenna and accompanying small REAR control box are separated from the main control box, the UNITS SEPARATED must be used. Additionally the REAR MODE control must be placed in one of the SEPARATED positions, INDUCE, CLIP NO GROUND, or CLIP GROUNDED ACCESSORY. During the SEPARATE MODE, as well as all other search MODES, the front receive antenna remains attached to the main FRONT control box, as it is used to receive the signal transmitted by the transmitter. See REAR MODE Control for more on UNITS SEPARATED.



### **III. GROUND REJECT**

**A.** The GROUND REJECT control is used in the UNITS TOGETHER MODE to tune out the ground mineralization. By tuning out the ground, the detector achieves better penetration (meaning increased detection depth). Additionally, smoother more stable performance is noted when the ground is rejected.

**B.** When using the UNITS TOGETHER MODE with the transmit antenna and accompanying small REAR control box attached to the FRONT main control box, the PCL 500 is ready to be tuned to reject the ground.

**1.** Set each of the controls as follows:

REAR MODE ----- TOGETHER (PWR. OFF)  
FRONT MODE ----- UNITS TOGETHER  
SENSITIVITY----- NORMAL  
GROUND REJECT-----NORMAL  
HANDLE TOGGLE-----CENTER

**2.** At this point make sure there is no metal on your person, hold the detector so that you are standing upright, arm and elbow straight.

**3.** Push the HANDLE TOGGLE to the right and hold it in this temporary position while turning the TONE ADJUST until a slight hum is heard.

**4.** Release the HANDLE TOGGLE and lift the PCL 500 slightly, about 15 inches, while listening to the detector sound.

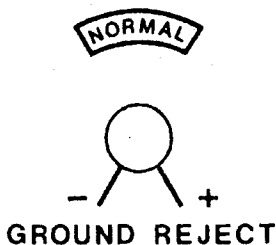
**5.** If the sound blares loudly, turn the GROUND REJECT control slightly clockwise, lower the PCL 500 back to the elbow locked position, press the HANDLE TOGGLE to the right temporarily position and release, and again lift the detector slightly listening to the detector sound.

**6.** If the sound notably fades as the detector is lifted, turn the GROUND REJECT counterclockwise slightly, lower the PCL 500 back to the elbow locked position, press the HANDLE TOGGLE to the right temporary position and release, and again lift the detector listening to the detector sound.

**7.** Continue the two above steps until the least possible change in detector sound is noted as the PCL 500 is lifted.

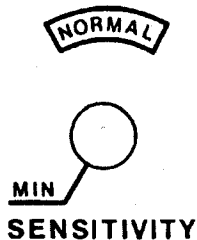
### GROUND REJECTION HELPFUL HINTS

The GROUND REJECTION control can not be set correctly over or near metal targets. Additionally metal on your person, belt buckles, watches, knives, car keys, steel toe boots, etc. will make setting the GROUND REJECTION impossible. Remove all metal from your person prior to attempting to set the ground rejection. If it still seems difficult, move to a different spot on the ground away from cars, fences, or metals in the ground, and again attempt the above procedure. If the SENSITIVITY control is set to high for the area, Ground REJECTION will also be difficult, try again at a reduced SENSITIVITY setting. Any time the SENSITIVITY is altered the GROUND REJECT procedure should also be reset using the above steps.



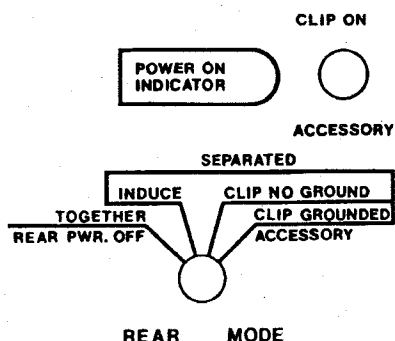
### IV. SENSITIVITY

A. The SENSITIVITY control selects the weakest target response necessary to cause the PCL 500 to respond. Certainly it has an effect on depth penetration however, its primary purpose is for stability. The NORMAL band is well suited for most detection needs. However SENSITIVITY can be increased by turning the SENSITIVITY control clockwise, to achieve greater penetration on known lines, or to increase tracing distance. Caution if the SENSITIVITY is set too high, the detector will become unstable and likely produce false target responses. Electrical interference from generators, relays, and other electronic sources may also cause instabilities which require reduced SENSITIVITY. Reduced SENSITIVITY is achieved by turning the SENSITIVITY control counterclockwise. Use the NORMAL band for most applications and increase or decrease SENSITIVITY as needed.



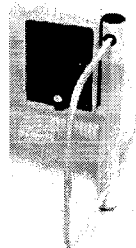
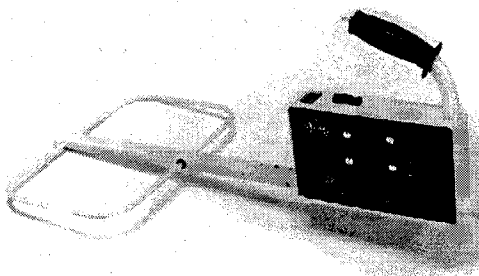
## Description Of Controls Continued

### V. REAR MODE



#### A. REAR PWR. OFF / TOGETHER

The REAR POWER OFF / TOGETHER position is used during the UNITS TOGETHER search configuration. UNITS TOGETHER indicates that both antennas, front receive and rear transmit, are attached to the main control box. UNITS TOGETHER is used to search for unknown metals. This position is necessary for testing the condition of the FRONT batteries. When the PCL 500 is not in use, make sure the REAR MODE is set to the TOGETHER / REAR PWR. OFF position, so that the POWER ON INDICATOR light is not shining. This avoids un



#### B. INDUCE

INDUCE is the first of the UNITS SEPARATED positions, all of which are designed for tracing known lines. The advantage of INDUCE is direct contact to the line is not necessary. If the location of one section of the line is known, INDUCE can send an electronic signal through the ground into the line thereby livening it for tracing. The disadvantage becomes apparent when there is more than one line, all lines near the transmitter become live and thus produce a responses. It can therefore become difficult to separate the desired line from those near it. Additionally the CLIP on provides a little more powerful signal for tracing.

## INDUCE Continued

1. To **INDUCE** separate the transmit antenna with accompanying REAR small control box, and place the FRONT MODE on the SEPARATE position. Set the SENSITIVITY and GROUND REJECT in their NORMAL bands.
2. Set the transmit antenna over the area the line is known to be, so that the antenna is closest to the ground, REAR control box is positioned on top away from the ground.
3. Set the REAR MODE to the INDUCE position. Leave the transmit section in position over the line.
4. Take the FRONT main control box, hold the HANDLE TOGGLE to the right temporary position while turning the TONE ADJUST for a slight hum, then release the HANDLE TOGGLE. Now press the HANDLE TOGGLE to the left lock position and leave it there.
5. Point the shaft coming from the FRONT main control box to the FRONT receive antenna straight at the ground. In doing so, the HANDLE TOGGLE will also be pointing at the ground.
6. Sweep the FRONT main control box and connected receive antenna until a "**BEEP**" target response is heard. Once located, the line can easily be followed. Increased SENSITIVITY will increase depth penetration, and trace distance. The transmitter may need to be moved further ahead on the line for extreme trace distances.
7. Difficulties may require repositioning the REAR transmit antenna over the line.

## REAR MODE CONTINUED

### C. CLIP NO GROUND

CLIP NO GROUND is the first of the MODES to utilize the Clip On Lead for direct connection to the line. A direct connection results in the specific line being isolated from others in the area. Additionally the Clip On Lead results in the capability of tracing lines beneath metal reinforced concrete. Direct clip on is always the preferred method for tracing due to its increased efficiency. Cleanly broken lines will trace to the brake point and no further.

1. To trace a line using the CLIP NO GROUND first separate the transmit antenna and accompanying small REAR control box, and set the FRONT MODE on UNITS SEPARATED, SENSITIVITY to the NORMAL band, and the GROUND REJECT to the NORMAL band.
2. Plug the Clip On Cable into the small REAR control box female jack labeled ACCESSORY, and place the REAR MODE on the CLIP NO GROUND position. POWER ON INDICATOR should be on.
3. Go to the part of the line that is accessible and attach the red clip directly onto the line. Twist the clip back and forth so as to scratch clean the portion of line clipping on to. A direct metal-to-metal contact is necessary for tracing. Electrical line will need to be clipped onto at a point of exposed wire or the isolation removed so as to allow metal-to-metal contact. Let the black clip dangle or rest on the ground, unattached to anything.
4. Leave the transmit antenna and accompanying small REAR control box in position. Take the main control box, press the HANDLE TOGGLE to the right temporary position and hold it while turning the TONE ADJUST for a slight hum, release the HANDLE TOGGLE. Now press the HANDLE TOGGLE to the left lock position and leave it there.
5. Point the shaft coming from the FRONT main control box to the FRONT receiver antenna straight at the area where the line is expected to be located. In doing so the HANDLE TOGGLE will also be pointed at the expected area. Sweep the main control box and receive antenna over the area until a "BEEP" target response is heard. Once located the line can easily be followed. Increasing SENSITIVITY will increase depth penetration, and trace distance. The transmitter and clip on may need to be moved further ahead on the line for extreme trace distances. This will require digging to the line at the point of furthest trace.
6. Difficulties at this point may require scratching or sanding the line to achieve a more conductive clip on point, or use of the next REAR MODE, CLIP GROUNDED ACCESSORY.

## REAR MODE CONTINUED

### D. CLIP GROUNDED ACCESSORY

CLIP GROUNDED ACCESSORY is by far the most efficient of the PCL 500's tracing modes. It is used identically to the CLIP NO GROUND MODE except that the black clip on contact is utilized and the REAR MODE is set to the CLIP GROUND ACCESSORY position. An operator should use CLIP GROUNDED ACCESSORY whenever possible as it will provide the best possible accuracy and performance.

1. To trace a line using CLIP GROUNDED ACCESSORY first separate the transmit antenna and the accompanying small REAR control box, and set the FRONT MODE on UNITS SEPARATED, SENSITIVITY to the NORMAL band, and the GROUND REJECT to the NORMAL band.
2. Plug the Clip On Cable into the small REAR control box female jack labeled ACCESSORY, and place the REAR MODE on the CLIP GROUNDED position. The POWER ON INDICATOR should be on.
3. Go to the part of the line that is accessible, and attach the red clip directly to the line. Twist the clip back and forth to scratch clean a portion of the line. A direct metal-to-metal contact is necessary for tracing. Electrical line will need to be clipped on at a point of exposed wire or the insulation removed to allow metal-to-metal contact.
4. The black clip will now need to be connected to a good ground. The closer the ground is to the line being traced the better, as long as direct connection to the red clipped on line is not made. In other words if there are two lines in the same hole that are not connected to each other, clip the red contact to the line to be traced and the black to the other. In cases where there is only one line, or when the two lines join at some point such as hot and cold water lines which join at the tank, use the nearest acceptable ground. In an out-of-doors situation it is acceptable to stick something metal into the ground and attaching the black clip for a ground. In electrical situations involving common grounds, try several different clip-on configurations until the desired results are achieved. Steel buildings may pose special ground problems which require the CLIP NO GROUND MODE.
5. Once a ground is achieved leave the transmit antenna and accompanying small REAR control box in position. Take the main control box with front receive antenna attached, press the HANDLE TOGGLE to the right and hold it while turning the TONE ADJUST for a slight hum, release the HANDLE TOGGLE. Now press the HANDLE TOGGLE to the left lock position and leave it there.

## Clip Grounded Accessory Continued

6. Point the shaft coming from the FRONT main control box to the FRONT receive antenna straight at the line to be traced. In doing so the HANDLE TOGGLE will also be pointed at the area the line is located. Sweep the main control box and receive antenna over the area until a "BEEP" target response is heard. Once located the line can easily be followed. Increasing the SENSITIVITY will increase depth penetration, and trace distance. The transmitter and clip on may need to be moved further ahead on the line for extreme trace distances. This will require digging to the line at the point of furthest trace, or tracing from another known access point.

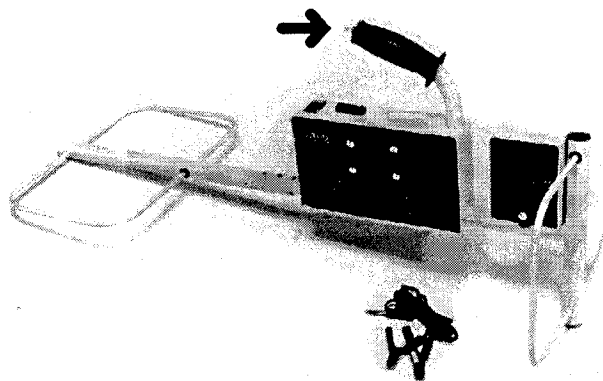
### VI. HANDLE TOGGLE

As the name indicates the HANDLE TOGGLE is located on the end of the hand grip. This toggle has three positions which perform three functions. All references to this control, right or left position, are related as if an operator is holding the detector.

A. The **right hand temporary** position is used to set the TONE ADJUSTMENT control. Press and hold the HANDLE TOGGLE to the right temporary position while turning the TONE ADJUST for a slight hum, then release the HANDLE TOGGLE. This temporary position is also used as a reset during manual pinpointing of a target's precise location. Moving the HANDLE TOGGLE to the reset position and releasing over a target will reduce its response size thus aiding in pinpointing.

B. The **center** position selects the PCL 500 manual operating condition. This center position may also aid in pinpointing however due to its susceptibility of drifting out of tune its generally not recommended for searching.

C. The **left hand** position selects the automatic operating condition. This is the preferred search position as the PCL 500 will automatically maintain its optimum search capabilities. This automatic position, also known as S.A.T. (Self Adjusting Threshold), should only be selected after the TONE ADJUST and GROUND BALANCE controls have been set.



# Field Use

## VII. Searching For Unknown Metals

### A. Units Together

With both the receive and transmit antennas attached to the main control box the PCL 500 will respond to all types of metals of significant size. This can be beneficial if digging in an area where unknown lines are possible. Large areas where lines are known to be located, however their exact positions unknown, is a situation UNITS TOGETHER configuration should be used.

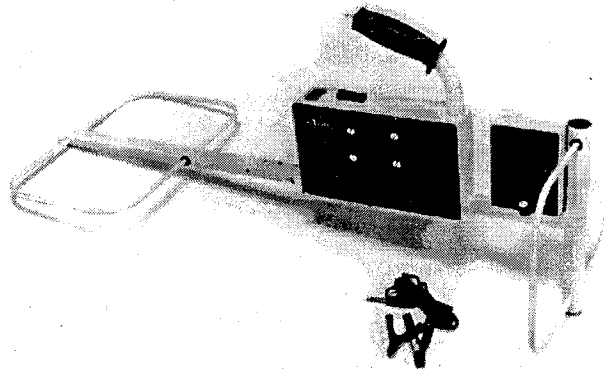
1. To search for unknown metals set each of the controls as follows;  
REAR MODE-----TOGETHER (PWR. OFF)  
FRONT MODE-----UNITS TOGETHER  
SENSITIVITY-----NORMAL  
GROUND REJECT-----NORMAL  
HANDLE TOGGLE-----CENTER
2. Remove all metal from your person, stand upright arm straight, press and hold the HANDLE TOGGLE to the right temporary position and turn the TONE ADJUST for a slight hum.
3. Release the HANDLE TOGGLE and lift the PCL 500 slightly, about 15 inches, and listen to the sound.
4. If the sound blares loudly, turn the GROUND REJECT control slightly clockwise, lower the PCL 500 back to arm straight position, press the HANDLE TOGGLE to the right temporary position and release, and again lift the detector again listening to the sound.
5. If the sound notably fades as the PCL 500 is lifted, turn the GROUND REJECTION counterclockwise slightly, lower the detector back to the arm straight position, press the HANDLE TOGGLE to the right temporary position and release, and again lift the detector listening to the detector sound.
6. Continue the above steps until the least possible change in detector sound is noted as the PCL 500 is lifted.
7. Press the HANDLE TOGGLE to the left hand lock position.
8. The PCL 500 is now ready to be used, hold the detector level and walk fairly briskly.

## Units Together Continued

9. Metals will respond with a **"BEEP"**. The PCL 500 works best with motion therefore it is best to note where the response was heard, or mark the spot and continue walking. A walking back and forth motion works best. It is normal for metal target responses to fade when stopping on top of them for any length of time thus, continued movement, walking is necessary. If stopping on top of the target is desired momentarily, push the **HANDLE TOGGLE** to the center position. Place the **HANDLE TOGGLE** back in the left hand position before continueing to search. Metal targets will automatically pinpoint as the detector is consecutively passed over the general area. Loudest volume, **"BEEP"**, indicates target center.

10. Areas are best searched in a grid pattern. Example: First passes running north and south, second passes running east and west.

11. Since this operating procedure responds to anything that is made of metal, one of the tracing modes is recommended for locating and tracing known lines.



## VIII. Tracing Known Lines

### A. Induce

Induce allows the line to be traced when the location of one section is known however access for direct clip on is not easily available. Induce sends an electronic signal through the ground into the line thereby livening it for tracing.

1. To induce, separate the transmit antenna and accompanying small REAR control box from the main control box. Leave the front receive antenna attached to the main control box.

2. Set the REAR MODE on the INDUCE setting, the POWER ON INDICATOR should be on. Place the REAR unit on the ground where the line is known to be located, antenna toward the ground small control box positioned away from the ground.

3. Set the main control box as follows;

FRONT MODE-----UNITS SEPARATED  
SENSITIVITY-----NORMAL  
GROUND REJECTION-----NORMAL

4. Press and hold the HANDLE TOGGLE to the right and turn the TONE CONTROL for a slight hum.

5. Point the shaft coming from the main control box to the FRONT receive antenna straight at the ground. In doing so the HANDLE TOGGLE will also be pointed at the ground.

6. Sweep the FRONT main control box and connected receive antenna until a "BEEP" target response is heard. Once located the line can easily be followed. Increased SENSITIVITY will increase depth penetration, and trace distance. The transmitter and accompanying small control box may need to be moved further ahead on the line for extreme trace distances.

7. Difficulties may require repositioning the transmitter and accompanying small control box over the line.

8. Only metallic lines can be traced. Plastic line, without metallic trace marking foil, will require a plumers snake or other metallic line to be run inside it before tracing can be completed.

9. Induce works very well however there are some disadvantages. For example, any metallic line near the transmitter will be livened and thus possibly confused with the desired line. The CLIP NO GROUND and CLIP GROUNDED ACCESSORY can ignore other lines and metal obstacles in the area.

## Tracing Known Lines Continued

### B. CLIP ON

The Clip ON method makes use of the Clip On lead to make direct contact with the line, and thus isolate it from other metals in the area. There are two basic Clip On methods, Clip On No Ground, and Clip Grounded Accessory. Two Clip On Modes are necessary due to the different configuration of lines one may encounter using the PCL 500.

#### a. CLIP NO GROUND

1. Separate the transmit antenna and accompanying small control box from the main control box. Plug the accessory clip on lead into the REAR transmit female jack labeled ACCESSORY, and place the REAR MODE on CLIP NO GROUND.
2. Go to an accessible portion of the line and attach the red clip. Twist the clip back and forth to scratch clean the contacted portion of line. Direct metal to metal contact is necessary for tracing. Electrical line will need to be clipped onto at a point of exposed wire or the insulation removed so as to allow metal to metal contact. Let the black clip dangle or rest on the ground, unattached to anything. Leave the transmit antenna and accompanying small control box in position.
3. Set the main control box controls as follows:  
FRONT MODE-----SEPARATE  
SENSITIVITY-----NORMAL  
GROUND REJECT-----NORMAL
4. Press the HANDLE TOGGLE to the right and hold it there while turning the TONE ADJUST for a slight hum. Release the HANDLE TOGGLE and press it to the left lock position.
5. Point the shaft coming from the main control box to the FRONT receive antenna straight at the area the line is expected to be located. In doing so the HANDLE TOGGLE will also be pointed at the expected area. Sweep the main control box and receive antenna over the area until a "BEEP" target response is heard. Once located, the line can easily be followed. Increasing the SENSITIVITY will increase depth penetration and trace distance. The clip on and transmitter may need to be moved further ahead on the line for extreme trace distances. This will require digging the line at the point of furthest trace.
6. Difficulties at this point may require scratching or sanding the line to achieve a more conductive clip on point, or use of the next REAR MODE, CLIP GROUNDED ACCESSORY.

## Tracing Known Lines Continued

### b. CLIP GROUNDED ACCESSORY

1. Separate the transmit antenna and accompanying small control box from the main control box. Plug the accessory clip on lead into the REAR transmit female jack labeled ACCESSORY, and place the REAR MODE on CLIP GROUNDED ACCESSORY.
2. Go to where the line is accessible and attach the red clip directly to the line. Twist the clip back and forth to scratch clean the portion of line contacting. Direct metal-to-metal contact is necessary for tracing. Electrical line will need to be contacted at a point of exposed wire or the insulation removed to allow direct metal-to-metal contact.
3. The black clip will now need to be connected to a good ground. The closer the ground is to the line being traced the better, so long as direct connection to the red clipped on line is not made. In other words if there are two lines in the same hole that are not connected to each other, clip the red lead onto one and the black lead onto the other. In cases where there is only one line, or when the two lines join at some point such as hot and cold water lines that join at the tank, use the nearest acceptable ground. In an out of doors situation it is acceptable to stick something metal into the ground and attach the black lead onto it for a ground. In electrical situations involving common grounds try several different configurations until the desired results are achieved. Steel buildings may pose special ground problems which require the CLIP NO GROUND MODE.
4. Once a ground is achieved leave the transmit antenna and accompanying small control box in position. Pick up the main control box and attached receive antenna and set the controls as follows:  
FRONT MODE-----UNITS SEPARATED  
SENSITIVITY-----NORMAL  
GROUND REJECT-----NORMAL
5. Press the HANDLE TOGGLE to the right and hold it there while turning the TONE ADJUST for a slight hum. Release the HANDLE TOGGLE, then press it to the right lock position and leave it there.
6. Point the shaft coming from the main control box to the FRONT receive antenna at the area the line is expected. In doing so the HANDLE TOGGLE will also be pointed at the expected area. Sweep the main control box and attached receive antenna over the area until a "BEEP" target response is heard. Once located the line can easily be followed. Increasing the SENSITIVITY will increase depth penetration and trace distance. The transmitter and clip on may need to be moved further ahead on the line for extreme trace distance. This will require digging the line at the point of furthest trace or tracing from another accessible location.

## **IX. Pinpointing & Determining Target Depth**

### **A. Pinpointing**

1. Determine exactly where to dig by sweeping over the target several times. The PCL 500 will automatically shrink the response so that approximate location can easily be determined by the loudest volume.
2. To further pinpoint place the HANDLE TOGGLE in the center position. Slowly sweep over the area the "BEEP" was heard while pressing the HANDLE TOGGLE to the left temporary position and releasing several times. If the target response completely goes away simply press the HANDLE TOGGLE to the right temporary position several more times and the target response should return.
3. In the UNITS TOGETHER configuration pinpointing can more easily be determined by backing the unit into the target response so that the REAR transmit antenna passes over the target first. Detection will occur when the REAR antenna first comes into position over the target. When the FRONT receive antenna passes over the target first it is not unusual for detection to be noted as center of the main control box passes over the target.
4. Pinpointing is easier in the UNITS SEPERATED configuration. In fact even line direction can be determined by first pinpointing the line, then placing the end of the receive antenna on the pinpoint spot. Spin the receive antenna slowly, when the receive antenna lines up with the direction of the line the strongest response, "BEEP", will be heard.

### **B. Determining Target Depth**

1. Once a target has been pinpointed its depth can be determined. Mark the pinpointed spot carefully.
2. Go off to one side and press the HANDLE TOGGLE to the right reset position and release so that it now rest in the center position.
3. Now approach the pinpoint mark slowly.
4. At the point the target response, "BEEP", is heard, the distance from the DEPTH CENTER decal on the receive antenna, to the pinpoint mark is the approximate depth the target is in the ground.

# **Headphones**

## **X. Headphones**

- 1.** Mono Headphones of about 8 to 16 ohms are recommended for use with the PCL 500.
- 2.** When used, battery life will increase, additionally outside noise is reduced thus letting the operator concentrate on the sounds the detector produces.
- 3.** In high noise construction areas, headphones may be necessary to enable the operator to hear the PCL 500.

## **White`s Electronics, Inc. Limited Warranty**

If within one year (12 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 White`s Factory address listed below. The detector must be accompanied with a detailed explanation of the symptoms of the failure. You must provide proof of purchase date before the unit is serviced under warranty.

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

The warranty is not registered by White`s unless the warranty card is completed and returned to the factory soon after purchase.

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

Duration of any implied warranties (e, g., merchantability and fitness for a particular purpose) shall not be longer than the stated warranty. Neither the manufacture nor the retailer shall be libel for any incidental or consequential damages. Some States, however, do not allow limitations on the length of implied warranties, or the exclusion of incidental or consequential damages. Therefore, the above limitations 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 manufacture of your metal detector. Any extended warranty period beyond one year, which may be provided by your Dealer or other third party, on your detector, is without White`s authority, involvement, and consent and will not be honored by White`s Electronics.

**White`s Electronics  
1011 Pleasant Valley Road  
Sweet Home, OR. 97386**



**White's Electronics, Inc.**  
**1011 Pleasant Valley Road**  
**Sweet Home, OR USA 97386**  
**(503) 367-6121**  
**FAX: 503-367-2968**