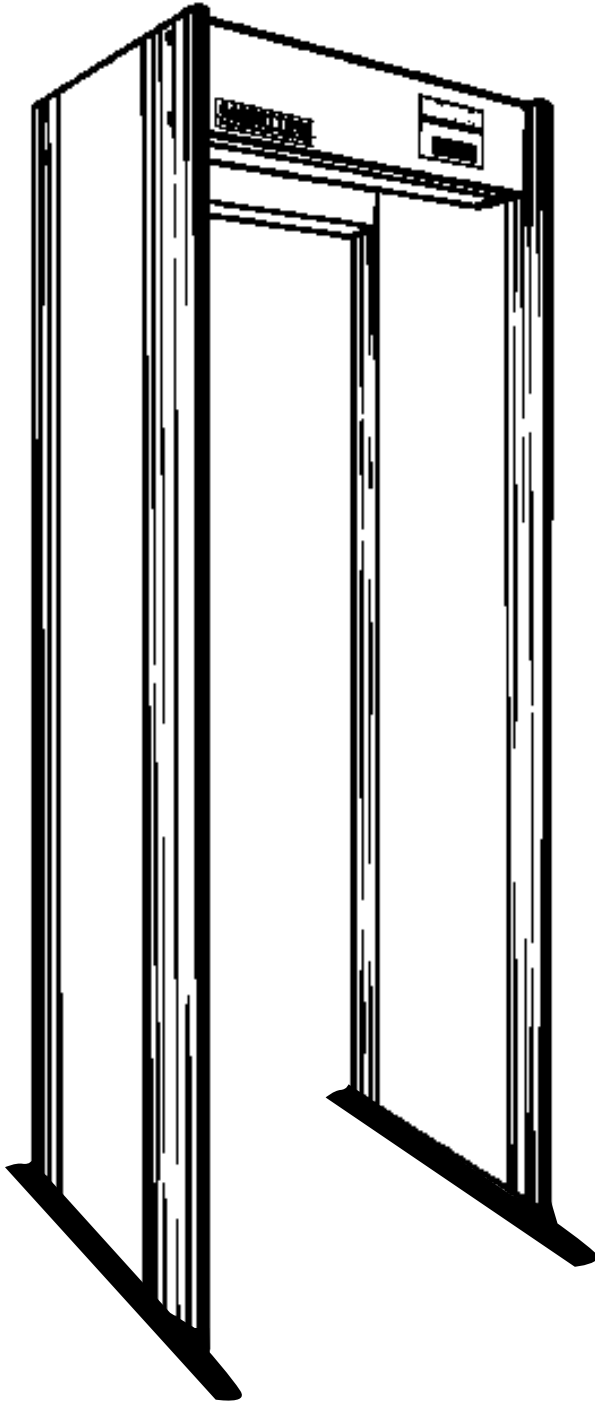


OWNER'S MANUAL MAGNASCANNER PD 6500

MODEL 11678XX



GARRETT
METAL DETECTORS

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Read Thoroughly Before Operating



CAUTION! Use of this equipment in a manner not specified by the manufacturer may result in damage to property or injury to persons.

Technical Specifications

Electrical: 100 — 240 V~ +10% — -15%
1.0 — 0.5A
50/60 Hz

Installation Category: II

Pollution Degree: 2

Maximum Relative Humidity: 95% non-condensing

Operating Temperature: -20 — 70C

Maximum Altitude: 3000 meters

Place the PD 6500 in an area where it is protected from direct rain, mist and/or condensation and position it on a level, stable floor free from vibration.

DO NOT place the PD 6500 next to telephone systems, television monitors, electric motors, transformers, power cables, or control circuits; excessive electrical noise will trigger bar graph activity.



CAUTION! PD 6500 must be firmly anchored to the floor or optional stabilizer base attached to reduce the risk of injury to persons or property damage due to accidental knock down.

Do not drive nails or drill holes into the side panels.

Screen patrons only when the green ready light is on to ensure proper operation.

Test the unit daily and whenever the screening environment changes.

NOTE:

Security metal detectors are designed for use within a total security screening plan. It is the end user's responsibility to define the overall plan and ensure that it operates effectively.

SYMBOLS:



Alternating current



Protective conductor terminal



CAUTION! Risk of electric shock



CAUTION! Refer to accompanying documentation

1. GENERAL DESCRIPTION

The Garrett Magnascanner PD 6500 is an advanced, microprocessor-based walk-through metal detector that provides superior metal discrimination and detection. It is a versatile and easily-portable walk-through that can operate by a remote console or battery pack when necessary.

Boasting an enlarged detection field that comprises several horizontal and vertical zones, the Magnascanner PD 6500 can detect weapons within 33 distinct areas of the walk-through. This enlarged detection field increases overall throughput dramatically by revealing the exact locations that need investigation.

A bright, highly visible LED (Light Emitting Diode) bar graph and lights indicating ready and alarm conditions make it easy for the operator to interpret information. Pacing lights located on side panels of the entrance side indicate whether or not a patron may enter the walk-through. Pinpoint lights, located on the side panels of the exit side, comprise 11 distinct pinpoint arrays that help the operator identify the precise location of a metal object—whether it is on the left, right or in the center of the body, or from head to toe.

An LCD, located in the overhead panel and backlit for easy viewing, reports calibration and operational information, including program and base sensitivity settings, operator functions and fault indications. The LCD provides information on instructions and control functions, as well as a handy traffic count.

A convenient dual access code system protects calibration settings and eliminates the need for keys to storage compartments. Calibration settings are further protected by a non-resettable sequence code that enables the supervisor to monitor any changes—successful or otherwise—that are made to the set up or program and base sensitivity. In addition, a tamper alarm reports any unauthorized access attempts. An automatic self test begins each time the OPERATE touchpad is pressed. In addition, fail safe, self-testing circuitry provides information on operational interferences.

Other features of the Magnascanner PD 6500 include superior sensitivity, stability and noise rejection. All electronics are built into the overhead panel, thereby eliminating the problems often associated with a cable-connected console.

2. CONTROLS, INTERNAL MODULES & ALARMS

2.1. DISPLAY PANEL

2.1.1. BAR GRAPH

The LED bar graph comprises a series of lights that represent the level of metal detection activity occurring within the archway. The degree of detection intensity varies depending on the quantity and composition of the metallic object(s).

2.1.2. READY LIGHT

The green **READY** light appears when power is on and the PD 6500 is ready to detect metal. The ready light must be illuminated before a patron is permitted to enter the walk-through.

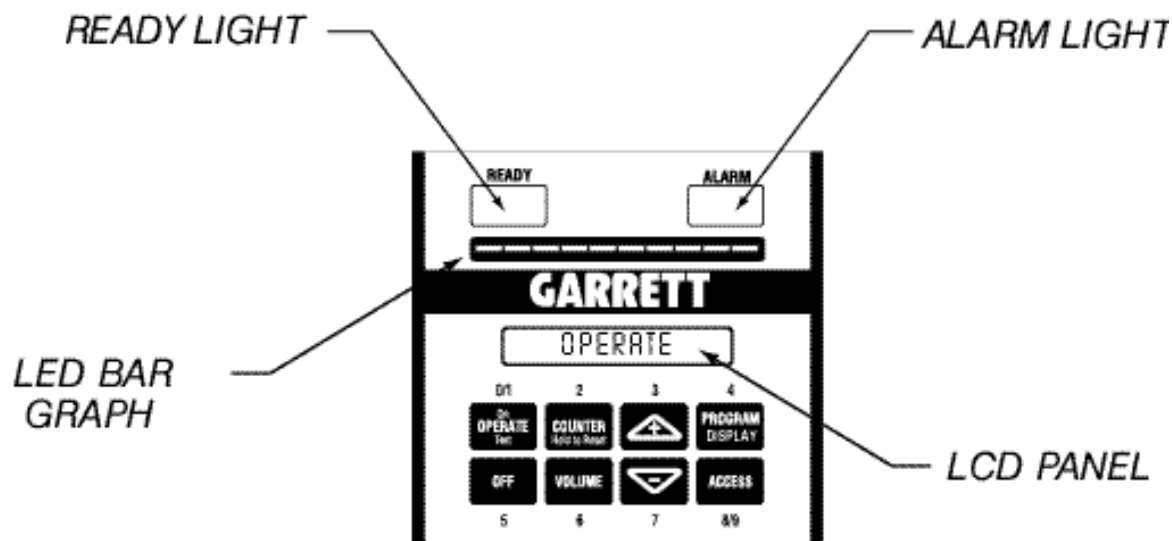


Figure 2-1

2.1.4. LCD (LIQUID CRYSTAL DISPLAY)

The LCD is an ongoing visual display located in the overhead panel. The LCD reports calibration and operational information, including program and sensitivity settings, operator functions and fault indication. The LCD displays all self-prompting regulation and control functions as well as a handy traffic count.

2.1.5. ALARM LIGHT

The red **ALARM** light appears when the unit detects an amount of metal within the walk-through according to the program and base sensitivity settings. The alarm light appears even when the audio volume is off. Operators should follow the supervisor's instructions regarding the appropriate response to alarms. Remember that the cause of every alarm must be determined for any detector to be effective in an overall security plan.

2.2. TOUCHPADS

A total of eight touchpad controls are located in the overhead control panel. All of the touchpads, except **ACCESS**, may be used by the operator according to the supervisor's instructions.

2.2.1. OPERATE

The **OPERATE** touchpad is used to turn on the PD 6500, initiate a self test and place the PD 6500 in Operate mode within ten seconds. Activate the self test any time by pressing **OPERATE**. The operator should inform the supervisor about any problems that appear on the LCD. (see Section 4)

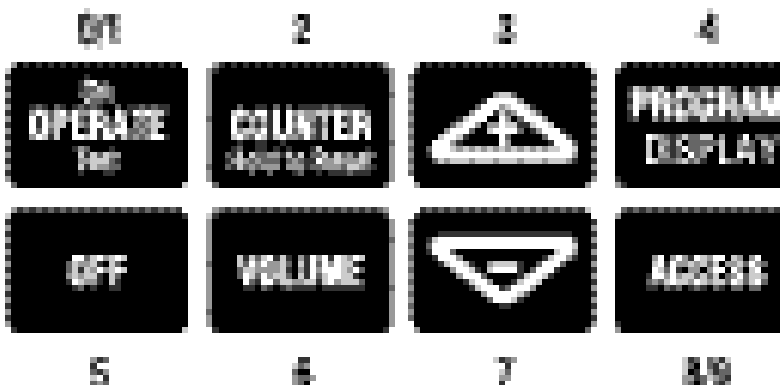


Figure 2-2

2.2.2. OFF

The **OFF** touchpad is used to turn off the PD 6500, ensuring that all of the information and settings are stored in memory until the detector is ready to resume full operation.

2.2.3. COUNTER

The **COUNTER** touchpad is used to obtain an automatic update on the traffic count that appears on the LCD. To return the traffic count to zero, press and hold the touchpad for a few seconds. If information other than the current traffic count appears on the LCD, simply press **COUNTER** and the traffic count (CT #) will appear along with the number of changes that have been made to program/base sensitivity settings (SEQ #).

2.2.4. VOLUME

The **VOLUME** touchpad is used to access the volume control of the audio alarm. Use the plus (+) and minus (-) touchpads to adjust the volume.

2.2.5. + AND -

The plus (+) and minus (-) touchpads are used to change numerical settings, activate certain on/off functions and adjust the volume of the audio alarm.

2.2.6. PROGRAM DISPLAY

The **PROGRAM DISPLAY** touchpad enables the user to view the program and base sensitivity settings on the LCD.

2.2.7. ACCESS

Special Note

The operator should NEVER touch this control.

The **ACCESS** touchpad is used only by the supervisor to calibrate the PD 6500 and perform installation adjustments.

The supervisor uses the **ACCESS** touchpad to change the program and base sensitivity settings, and to control functions, such as multi-unit synchronization, pulse frequency and tone. A dual access, non-resettable sequence code protects the control settings by indicating any access attempts—successful or otherwise. When **ACCESS** is pressed, a “chirping” sound occurs and the message, *ENTER PASS CODE* appears on the LCD, prompting the operator to enter an access code. If no code is entered, the chirping continues for 10 seconds and then normal operation resumes. If an invalid code is entered, a tamper alarm sounds and *ACCESS DENIED* appears on the LCD for five seconds. An asterisk (*) appears on the sequence counter indicating an unsuccessful attempt to access the program/ base sensitivity settings or the Installation mode.

If the **ACCESS** touchpad is mistakenly pressed, the tamper alarm sounds; however, no action is necessary. After ten seconds the alarm ceases and normal operation resumes.

2.3. PINPOINT LIGHTS

Pinpoint lights, comprising 11 distinct pinpoint arrays, are located on the side panels of the exit side. These lights help the operator to identify the precise location of a metal object within the walk-through, whether it is on the left, right or in the center of the body, or from head to toe. (See Figure 2-4.)

2.4. PACING LIGHTS

Pacing lights located on side panels of the entrance side indicate whether or not a patron may enter the walk-through. The green light indicates walk and the red light indicates wait. (See Figure 2-4.)

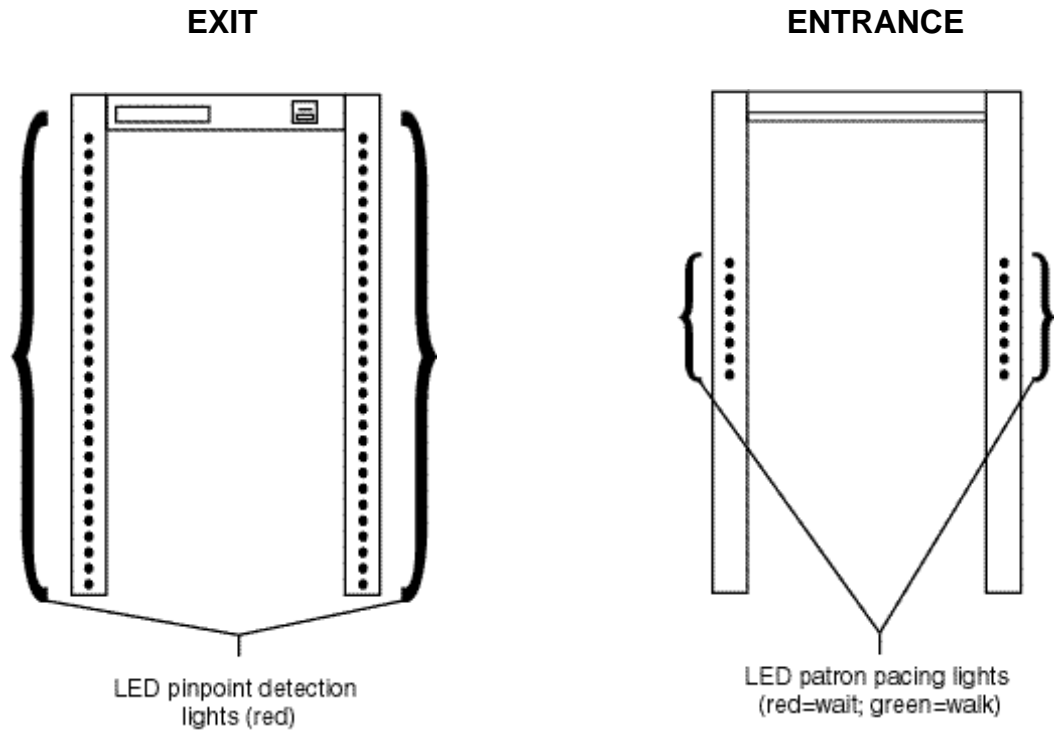


Figure 2-4

2.5. DETECTION UNIT (INTERNAL MODULES)

Two metal covers protect (from left) the **controller module** (containing the top circuit board, middle circuit board and the transmitter control board) and the **power module**. (See Figure 2-5)

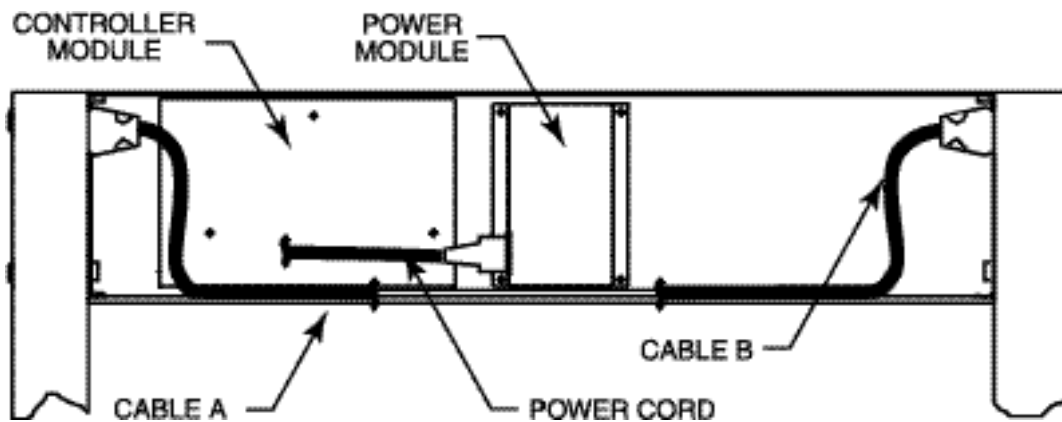


Figure 2-5

2.5.1. CONTROLLER MODULE

The controller module, located in the overhead panel, contains all of the circuit boards required for operation. The cables that connect the controller module to the side panels are plugged into connectors at the top of each panel. **The controller module cover should not be removed except in order to:**

- Connect wires to remote alarm relays or synchronization circuitry (See Section 11.4);
- Attach the battery pack module (See Section 11.5);
- Revert access codes to factory settings (See Section 5.13).

2.5.2. POWER MODULE

The power module supplies the power required for operation. Ensure that the power cord is plugged into the connector on the lower left side of the module.

2.6. ALARMS

Both the supervisor and the operator should familiarize themselves with the PD 6500's audio alarms: Standard, Warble and Tamper.

2.6.1. STANDARD ALARM

Occurs when the red **ALARM** light appears. The standard alarm indicates that an alarmable amount of metal (according to the program and sensitivity settings) has been detected; Garrett's special built-in circuitry helps suppress excess electronic noise signals from a variety of sources, including X-ray monitors, horizontal synchronization and closed-circuit television.

Metal detectors sometimes register nuisance alarms, triggered by nearby metal objects or interference from electrical or mechanical environmental noise from large motors, computers, fluorescent lighting or other sources. The Magnascanner's IR Analysis is a feature that helps minimize the occurrence of audible nuisance alarms by ensuring that an alarm activates only if a person passes through the archway. On rare occasions a nuisance source may trigger the alarm as a person passes through the archway. An operator must never dismiss a nuisance alarm because there exists the possibility of a person intentionally bumping against the detector wall and blaming the alarm on the bump.

Therefore, if an alarm sounds when a person is passing through the archway, he/she must re-enter the PD 6500 and/or be scanned with a hand-held metal detector. **An inspection is not complete until the cause of EVERY ALARM is determined. There are no exceptions.**

Although no walk-through detector is immune from possible nuisance alarms, if Magnascanner PD 6500 is installed properly, few such alarms should occur.

2.6.2. WARBLE ALARM

Occurs when a large metal object, such as a wheelchair, piece of furniture, or metal container, moves through or near the Magnascanner and saturates the detector's receiver circuits. The warble sound prompts the operator to correct the situation before allowing anyone to pass through the metal detector.

2.6.3. TAMPER ALARM

When the **ACCESS** touchpad is pressed, the detector beeps for about ten seconds until a valid four-digit numerical access code is entered. If a person or object passes through the archway during this time, an alarm will activate. If an invalid code is entered, the message: *ACCESS DENIED*, appears, then an audible tamper alarm sounds and normal operation resumes.

Each access attempt is indicated by an increase in the sequence code as reported on the LCD. Any unauthorized access attempt that activates the tamper alarm is indicated by an asterisk (*). The operator should notify the supervisor whenever a tamper alarm occurs.

3. INSTALLATION INSTRUCTIONS

3.1. SITE SELECTION

Before choosing a site for the Magnascanner PD 6500, it is important to consider the volume and throughput of pedestrian traffic, space availability and overall environmental conditions. Position the Magnascanner PD 6500 on a level, stable floor where it remains unaffected by rain, mist or condensation.

To avoid external metal interference, ensure that there are no large metal items within three feet of the PD 6500. Nearby moving metallic objects, such as an escalator or a revolving door can also cause false alarms, as can electrical interference from radio telephones, television monitors, powerful electronic motors and transformers, power cables and control circuits.

To meet stability requirements, the PD 6500 must be firmly secured to the ground. Anchor the unit to the floor, using the 1/4" mounting holes located at the base of each panel. Position the PD 6500 in the desired location. Using the panels as guides, mark and drill the holes, then secure the walk-through using the appropriate mounting devices. Tighten only to prevent rocking; DO NOT overtighten. Finally, ensure that the power cable is protected from pedestrian and vehicular traffic.

3.2. ASSEMBLY

1. Verify that the following contents are included:

- Panel A
- Panel B
- Detection unit
- Crosspiece
- 2' AC jumper cord
- 10' power cord
- Eight 1/4-20x3" screws
- Eight finishing washers

Accessories:

- Owner's manual
- Operator's manual
- Access code card
- Instruction video
- Pocket item container

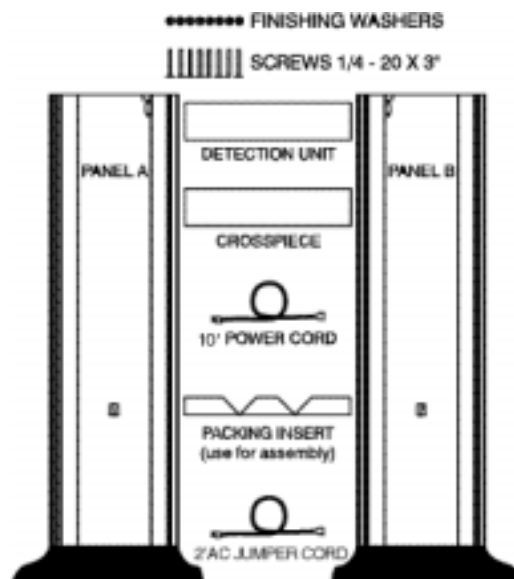


Figure 3-1

2. Arrange the major components as shown in Figure 3-1.

3. Place any one of six packing inserts on floor as shown in Figure 3-2.

Lay detection unit (with touchpad panel facing down) on styrofoam. Connect detection unit to panels A and B using four screws and finishing washers; **do not tighten**.

3.2. ASSEMBLY (CONT'D)

4. Open the door of the detection unit. Select a panel for power use (keeping in mind the location of the electrical outlet) and connect the AC jumper cord to said panel and the power module. Then, connect cables A and B to the corresponding panels. (See Figure 3-3.)
5. Remove power cord from the base of the panel to which the AC jumper cord has been connected.
6. Use the four remaining screws and washers to attach the crosspiece to the two panels as shown in Figure 3-4.
7. Use two or more people to lift PD 6500 to a vertical position and move to desired location. (See Figure 3-5.)
8. Ensure the PD 6500 is physically stable.
9. Tighten all screws with a slotted screwdriver.
10. Connect the power cord to the panel chosen for power in Step 4 and proceed with the installation adjustments. (See Section 5.)

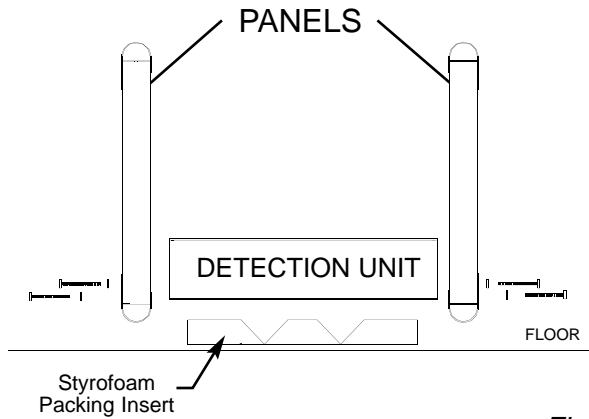


Figure 3-2

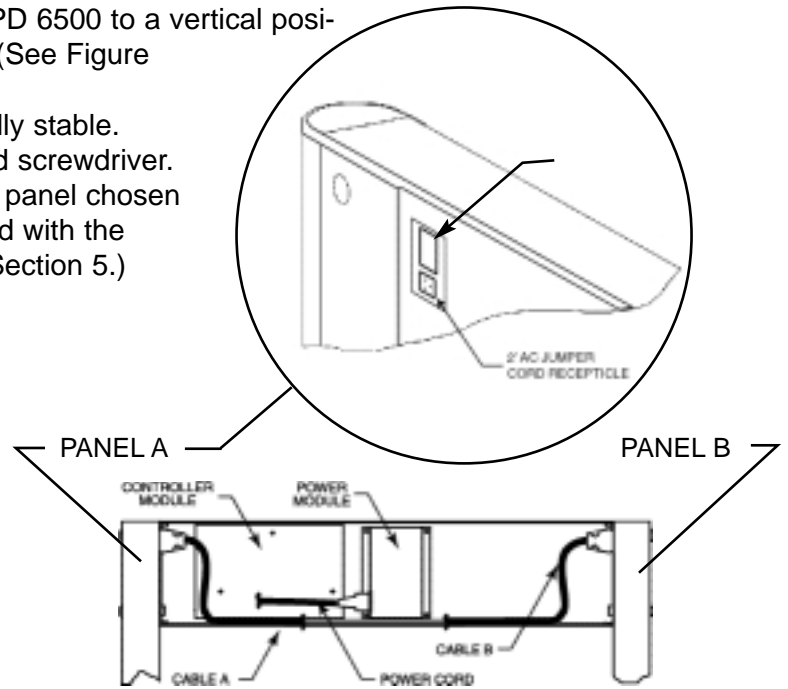


Figure 3-3

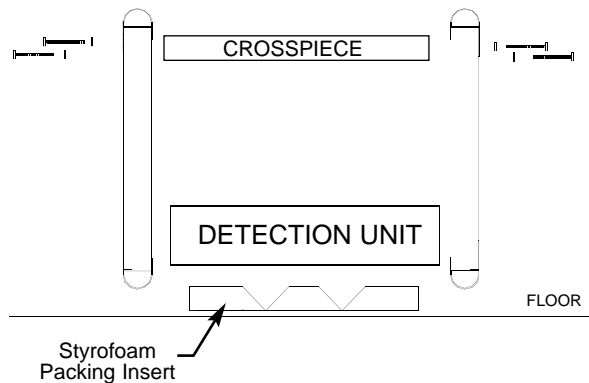


Figure 3-4

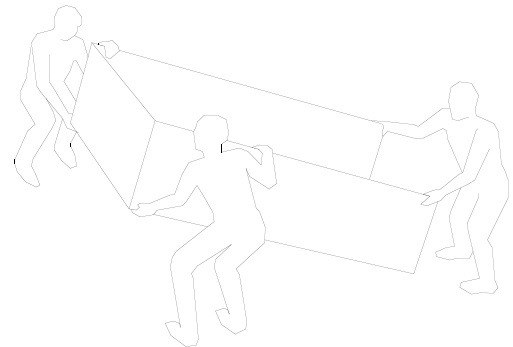


Figure 3-5

4. SYSTEM INFORMATION

4.1. OPERATING INFORMATION

When you press the **OPERATE** touchpad for the first time, the **READY** light appears and the LCD displays the message, *GARRETT SECURITY*. Press **OPERATE** again to display the following information, in sequence:

LCD MESSAGE	DEFINITION
1. S/N #####*	serial number
2. VERSION #.##	software version
3. 60 or 50 Hz	line frequency
4. SYNC MASTER or SLAVE	synchronization
5. CHANNEL 1,2, or 3	channel status
6. PROG: XXXXXXXX	program type
7. BASE SENSE: ###	base sensitivity setting
8. SELF TEST...	self test in progress
9. BATT POWER XX%	strength of battery when in use
10. SELF TEST OK	self test reveals no problems
11. OPERATE	resume operate mode

4.2. SELF TEST

Should the self test reveal a problem a “failure” message will appear (e.g., *SYNC FAIL*). (Refer to Table 4-1 for a list of possible failures and remedies.)

4.2.1. CRITICAL FAILURES AND NON-CRITICAL FAILURES

Failures are classified as either “critical” or “non critical”. A critical failure prevents the PD 6500 from operating and must be corrected immediately. When a critical failure occurs, the audio alarm sounds, the overhead display begins flashing and the message, *SYSTEM FAILURE*, appears on the LCD.

A non-critical failure does not prevent the PD 6500 from operating; however, it should be corrected as soon as possible.

CRITICAL FAILURES	NON-CRITICAL FAILURES
<ul style="list-style-type: none"> • TX A or B FAIL • POWER MOD FAIL • RX A or B BOARD FAIL • RX A or B ZN # PK FAIL • CABLE MISCONNECT 	<ul style="list-style-type: none"> • NO SLAVE OUTPUT • SLAVE SYNC • AC SYNC or SYNC FAIL • RX or TX OPTIC FAIL • RX A or B ZN # BAL FAIL

**MAGNASCANNER PD 6500
OWNER'S MANUAL**

Table 4-1

Self Test: Possible Failures and Remedies

Failure	Verify and/or replace	Special Note
*TX A FAIL	1. Panel A cables & connectors 2. Transmitter control board 3. Panel A	
*TX B FAIL	1. Panel B cables and connectors 2. Transmitter control board 3. Panel B	
NO SLAVE OUTPUT	1. Verify connections to slave unit 2. Verify TX board	
SLAVE SYNC	1. Verify connections from master unit 2. Verify TX board	
SYNC FAIL	1. Power connections to TX board 2. Power supply module 3. Transmitter control board	
AC SYNC FAIL		Ensure line voltage is between 100 and 240 VAC.
TX OPTIC FAIL	TX optic board assembly in panel A	
RX OPTIC FAIL	RX optic board assembly in panel B	Ensure no <i>TX OPTIC FAIL</i> or blockage of IR beam at waist level of archway.
*POWER MOD FAIL	Power module	Ensure line voltage is between 100 and 240 VAC.
*RXA BOARD FAIL	40-pin cable connection to top board and top-board cable	
*RXB BOARD FAIL	40-pin cable connection to middle board and middle-board cable	
RXA Zn # BAL FAIL	1. Cable and connector to panel A 2. Top board (# = zone with balance failure)	Ensure no large metal object nearby. If necessary, move object or relocate PD 6500.
RXB Zn # BAL FAIL	1. Cable and connector to panel B 2. Middle board (# = zone with balance failure)	Ensure no large metal object nearby. If necessary, move object or relocate PD 6500.
*RXA Zn # PK FAIL	1. Panel A cable and connectors 2. Top board, panel A	Ensure no <i>TX A</i> or <i>B FAIL</i> .
*RXB Zn # PK FAIL	1. Panel B cable and connectors 2. Middle board, panel B	Ensure no <i>TX A</i> or <i>B FAIL</i> .
*CABLE MISCONNECT	Ensure that the cables attached to the top and middle circuit boards are connected as described in the inside cover of the controller module.	

***Critical failure; PD 6500 cannot operate properly. Correct IMMEDIATELY.**

5. INSTALLATION ADJUSTMENTS

The Installation Adjustments mode enables the installer to make initial adjustments to the PD 6500 and ensure it is functioning properly and free from interference. To access this mode, press the **ACCESS** touchpad and enter the factory code: 5678. The adjustable functions are displayed as follows, along with an underlined sample message in parentheses:

Press **ACCESS** to scroll through the menu selections.

5.1. **LANGUAGE** (*LANGUAGE ENGLISH*)

The LCD provides prompts in several languages; select one using the + or – touchpads

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.2. **RX BALANCE** (*RX BAL OK 10*)

RX balance refers to the balance level of the receiving antennas. Any number less than 50 is acceptable. A number greater than 50 will elicit the message, *RX BAL #*, and the pinpoint lights within the problem zone will illuminate. Should this occur, ensure that there is no large metal object adjacent to the PD 6500. Then, ensure that the balance number has fallen below 50 and the corresponding pinpoint lights are off.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.3. **PACING LIGHTS** (*PACE LIGHTS ON*)

Pacing lights located on the side panels of the entrance side indicate whether or not a patron may enter the walk-through. The green lights indicate walk and the red lights indicate wait. Use the + or – touchpads to turn the pacing lights on or off.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.4. **ZN (ZONE) LIGHTS** (*ZONE LIGHT: 2 SEC*)

This function establishes the duration that the pinpoint lights remain illuminated. Using the + or – touchpads, select one of the following options: *ZONE LIGHT: OFF*; *ZONE LIGHT: 2 SEC*; *ZONE LIGHT: 3 SEC*; or *ZONE LIGHT: 4 SEC*.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.5 **ZONE SENSITIVITY**

Adjusting the sensitivity of the six horizontal zones helps establish an optimal detection field. Each zone adjustment is based on a percentage of the base sensitivity. The top to bottom horizontal zones and their corresponding pinpoint lights are referred to as zones one to six.

5.5.1. ZONE 1-5 (ZONE 1=165+0%)

The sensitivity of the first five zones can be adjusted from -15% to +15% of the base sensitivity. For example an adjustment of zero percent means that the sensitivity of a given zone is equal to the base sensitivity.

The following are a few examples of adjustments based on a base sensitivity setting of 165.

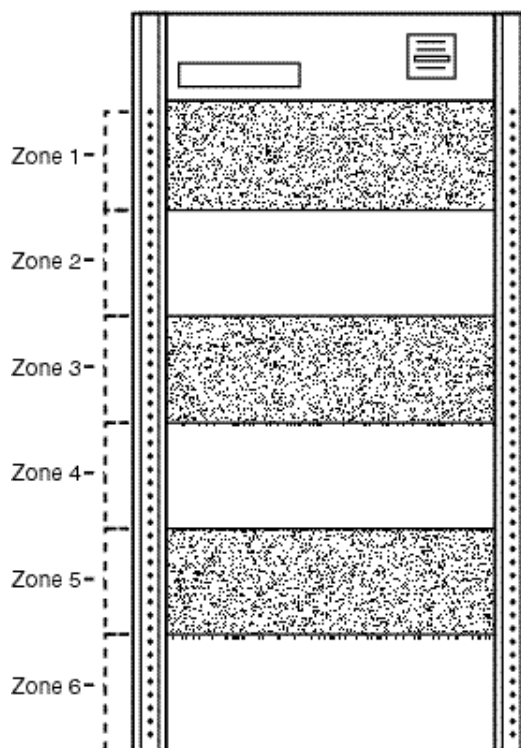
- ZONE 1= 165+0% (Zone 1 is set to the base sensitivity)
- ZONE 1= 165+15% (Zone 1 sensitivity is 15% greater than the base sensitivity)
- ZONE 1= 165-15% (Zone 1 sensitivity is 15% less than the base sensitivity)

Press **ACCESS** for the next zone adjustment or **OPERATE** to resume normal operation.

5.5.2. ZONE 6 (ZONE 6=165+192%)

Zone 6 offers a broader range of sensitivity adjustments. To adjust Zone 6, simply follow the same instructions for zones one through five, keeping in mind that the zone sensitivity may be adjusted from 63% less to 192% greater than the base sensitivity.

The installer should consult the supervisor regarding the application requirements of the installation.



5.6 **TONE** (*TONE 5*)

A total of nine tone levels can be accessed using the + or – touchpads. A number corresponding to the tone selection appears on the LCD.

Press **ACCESS** for next adjustment or **OPERATE** to resume normal operation.

5.7. **CHANNEL** (*CHANNEL 1*)

This feature enables multiple walk-through metal detectors to operate simultaneously in proximity. Use Channels 1 and 2 when two PD 6500s are operating near each other. In cases where three or more PD 6500s are operating near each other, use Channels 1, 2 and 3 respectively and then repeat the channel sequence on any additional walk-throughs. (See Section 11.3.) Use channels A,B,C,D when operating with CS 5000.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.8. **VIDEO FILTER** (*VIDEO FILTER 1*)

A video filter enables the PD 6500 to operate effectively in proximity to a variety of video terminals, including x-ray monitors, computers and closed circuit televisions. Use the + and – touchpads to select from 63 filter settings. If you observe noise at the desired base sensitivity setting, increment the video filter to the setting with the least amount of interference as shown by the bar graph.

Press **ACCESS** for next adjustment or **OPERATE** to resume normal operation.

5.9. **SYNCHRONIZATION** (*SYNC MASTER*)

Synchronization is factory preset to *MASTER*. Refer to Section 11.3 for a more detailed explanation of synchronization.

SYNC MASTER, provides the PD 6500 with a self-generated synchronization from the power line.

SYNC SLAVE, synchronizes the PD 6500 from a second signal on the sync terminal located on the left edge of the transmitter controller board.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.10. **RELAY** (*RELAY N/C*)

This feature enables you to change the AC and DC relay circuits to “normally open” (*RELAY N/O*) or “normally closed” (*RELAY N/C*) depending on the installation requirements. Use the + and – touchpads to make a selection.

Press **ACCESS** for next adjustment or **OPERATE** to resume normal operation.

5.11. **ALTER SUPERVISOR ADJUSTMENTS** (+ TO ALTER CODE1)

The Supervisor Adjustments code (referred to as *CODE1*) is factory preset to 1234. To change it:

1. Press the **+** touchpad.
2. Enter a new four-digit code.
3. When the LCD prompts, *REPEAT CODE*, re-enter the new four-digit code. The message, *CODE ENTERED OK*, should appear. (If the message, *INVALID ENTRY*, appears, repeat steps 2 and 3.)

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

5.12. **ALTER INSTALLATION ADJUSTMENTS** (+ TO ALTER CODE2)

The Installation Adjustments code (referred to as *CODE2*) is factory preset to 5678. To change it:

1. Press the **+** touchpad.
2. Enter a new four-digit code.
3. When the LCD prompts, *REPEAT CODE*, re-enter the new four-digit code. The message, *CODE ENTERED OK*, should appear. (If the message, *INVALID ENTRY*, appears, repeat steps 2 and 3.)

NOTE: To revert to factory settings:

1. Open the main cover of the detection unit.
2. Remove the three screws attached to the controller module cover.
3. With power turned on and the unit in Operate mode, press and hold the **ACCESS CODE RESET** button (on the left side of the circuit board) for five seconds. (See Figure 10-1.)
4. The codes for the Supervisor Adjustments and Installation Adjustments modes should revert to **1234** and **5678** respectively.

Special Note

For added security, both access codes should be changed from the factory settings and revealed only to those who use them. Record the new access codes on the access settings card that accompanies this manual. Codes should be changed periodically, especially when changes in personnel occur.

Press **OPERATE** to exit the Installation Adjustments mode and resume normal operation. (If **ACCESS** is pressed, the Installation Adjustments cycle starts over, beginning with the prompt, *RX BALANCE*.)

6. SUPERVISOR ADJUSTMENTS

Adjustments to program and base sensitivity settings, and IR Analysis are made within the Supervisor Adjustments mode (referred to as *CODE1*).

To access the Supervisor Adjustments mode for the first time, press the **ACCESS** touchpad and enter the factory code: 1234. The factory settings will appear on the LCD with a blinking program designation. Press the **ACCESS** touchpad to scroll through the list of possible adjustments.

6.1. **PROGRAM SELECTION** (*PROG: AIRPORTS*)

Several programs have been developed for use with the Garrett Magnascanner PD 6500 to meet a variety of security needs. (See Section 11-2 for a complete list of programs and their respective applications.)

The Program Selection mode enables the supervisor to select a program (e.g., schools, airports, loss prevention) that best meets the needs of the screening installation. For example, when you select *PROG: AIRPORTS*, the PD 6500 detects guns, but eliminates certain metal objects from detection; in this case, innocuous items such as keys, loose change and cigarette packs. When you select *PRISONS*, the unit detects all metal objects.

After accessing the Program Selection mode with the correct four-digit code, use the + and – touchpads to scroll through the selections.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

6.2. **BASE SENSE** (*BASE SENSE: 165*)

Two hundred base sensitivity settings are available for each program. At higher sensitivity settings, smaller metal objects are detected. Conversely, at lower sensitivity settings, larger metal objects are detected. Keep in mind that the sensitivity should be set high enough so that the smallest forbidden object (depending on your security needs) can be detected.

Special Note

A final decision on program and base sensitivity settings is the sole responsibility of the end user and must be determined by the intent of the security application.

6.2. **BASE SENSE (CONT'D)**

Sample routine:

Press **ACCESS** until *BASE SENSE: #* (current base sensitivity setting) appears on the LCD.

1. Note the base sensitivity setting that appears (e.g., *BASE SENSE: 165*)
2. Ensure that you are metal free.
3. Hold the OTP or place it on your person.
4. Walk through the metal detector.
5. If an alarm sounds, go to Step 7.
6. If no alarm sounds, increment the base sense number by five (e.g., from 165 to 170) and reenter the walk-through. Repeat this process until an alarm sounds. Note the new base sense number. (Note: to fine-tune the setting you may want to increase or decrease the number by one.)
7. The response of a detection field depends on the location AND orientation of the forbidden object. Therefore, repeat the aforementioned routine at least five times; each time changing the test piece's location and/or orientation and noting each base sensitivity setting that triggers an alarm.
8. Once you are satisfied that you have performed enough tests, (i.e., an alarm sounds each time you pass the OTP through the metal detector) choose the lowest setting that detected the forbidden object AND overlooked most innocuous items.

Special Note:

When performing tests, you should place the OTP in locations/orientations where you suspect detection would be most difficult.

After choosing the base sensitivity, press **ACCESS** to make another adjustment or **OPERATE** to resume normal operation.

6.3. **IR ANALYSIS (IR ANALYSIS ON)**

An infrared sensor improves the analysis of the detection signal, increases traffic flow, helps prevent false alarms and provides an accurate traffic count. Although useful, the IR Analysis is not required for operation and may be disabled if desired using the minus (-) touchpad.

Press **ACCESS** for the next adjustment or **OPERATE** to resume normal operation.

6.4. **ALARM LEVEL (ALARM LEVEL 123)**

Alarm level is an optional tool that helps you determine the lowest level of sensitivity required to activate an alarm for a particular metal object. This information can then be used to determine the desired level of sensitivity.

6.4. **ALARM LEVEL (CONT'D)**

Sample routine:

Press ACCESS until *ALARM LEVEL: #* (current alarm level setting) appears on the LCD.

1. Note the alarm level that appears (e.g., *ALARM LEVEL: 123*)
2. Press the + (plus) touchpad.
3. Ensure that you are metal free.
4. Hold the OTP or place it on your person.
5. Walk through the metal detector.
6. Note the new alarm level reading.
7. Change the test piece's location and/or orientation.
8. Repeat steps two through seven several times until you are satisfied that you've performed enough tests (i.e., an alarm sounds each time you pass the OTP through the metal detector).
9. Choose the highest reading that detected the forbidden object.
10. Return to the base sense mode and enter the alarm level reading that you chose in Step 8 as the base sensitivity. To confirm that the new base sensitivity setting is appropriate, test the OTP at varying locations and orientations within the walk-through, particularly in spots where you suspect detection is most difficult.

After choosing the base sensitivity, press ACCESS to make another adjustment or OPERATE to resume normal operation.

7. SUPERVISOR RESPONSIBILITIES

7.1. **CALIBRATION**

To maximize screening throughput, you need to properly calibrate the PD 6500. You accomplish this by selecting the most appropriate program and sensitivity settings for your security application.

Choose a program that easily detects all forbidden metallic objects, yet ignores innocuous metallic items, such as jewelry, coins, belt buckles, etc. (For helpful tips on selecting programs, see Section 11.2.)

Next, select the lowest base sensitivity level at which the smallest forbidden metallic object can be detected. (For helpful tips on selecting base sensitivity, see Section 6.2.)

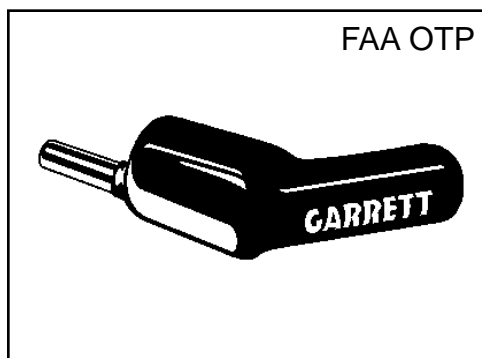
Adjust the zone sensitivity settings as needed. (See Section 5.5.1.)

7.2. **FAA TEST PIECE**

Once the PD 6500 is calibrated, an OTP (Operational Test Piece) can be used as a substitute for the forbidden object in subsequent routine verifications. An OTP is an object similar in size, shape and composition to the smallest forbidden target and is considered an acceptable means of verifying calibration.

Garrett offers an optional OTP that meets the specifications of the U.S. Federal Aviation Administration (FAA) (Garrett Accessory #1600600). The FAA's OTPs are similar to the ones used for routine tests of metal detectors in U.S. airports.

You may want to consider other test pieces if the requirements for your screening installation differ from those of the FAA.



7.3. **FUNCTIONAL TEST**

A standard, functional test is essential in order to ensure that the PD 6500 is always well-calibrated and functioning properly. The test should complement your overall security plan and be performed daily. Pass an OTP and/or other objects at varying locations and orientations within the archway. Note the number of repetitions that you need to trigger successful alarms.

Whoever performs the routine test must be free of metallic items, including shoes with steel toes or shanks prior to testing. A hand-held metal detector can be used to confirm that the tester is metal free.

8. **OPERATOR RESPONSIBILITIES**

The operator must follow the supervisor's instructions regarding use of the Magnascanner PD 6500 and the appropriate response to alarms.

The operator's ongoing responsibility is to ensure that the PD 6500 always operates according to the information displayed on the LCD and to determine the cause of alarms.

The operator should ensure that the:

- Magnascanner PD 6500 is always operating properly;
- Program and sensitivity settings are accurate by pressing **PROGRAM DISPLAY**;
- LED bar graph shows minimal interference (two lights maximum);
- Green **READY** light is on; and
- Functional test is performed according to the supervisor's instructions.

8.1. **READY LIGHT**

The green **READY** light must appear before a patron is permitted to enter the walk-through for inspection.

If the **READY** light shuts off and remains off, the operator should immediately press the **OPERATE** touchpad. A self-test program will begin and the results will appear on the LCD. During this time, no one is permitted to enter the walk-through. Traffic may resume only when the **READY** light reappears and remains on. If the **READY** light does not reappear or a failure message appears on the LCD, the operator should consult the supervisor.

8.2. **DIAGNOSTIC PROBLEMS**

As a general rule, the operator should follow the supervisor's instructions regarding the appropriate response to failures revealed by the self test. However, the operator may be able to remedy the following failures:

- RX OPTIC FAIL:** Ensure the openings for the optical sensor (located inside both side panels at approximately 30 inches from the floor) are not blocked.

- RX A or B ZN # BAL FAIL:** Ensure there is no large metal object near the PD 6500.

If the self test reveals a failure that severely limits or prohibits the PD 6500's performance, the alarm will sound, the LED display will flash, and the message, *SYSTEM FAILURE*, will appear on the LCD. The LED will continue flashing until the power is turned off or the failure is remedied.

The operator should inform the supervisor of any problems that occur.

8.3. **RESPONDING TO ALARMS**

If a patron triggers an alarm and the alarm light appears, the operator should instruct the individual to step outside the walk-through and remove any metal objects from their body and/or clothing. The operator should then either scan the patron with a hand-held metal detector, such as a Super Scanner or an Enforcer G-2, or ask the patron to re-enter the walk-through.

If an alarm sounds after the patron reenters the walk-through, he or she must be re-scanned with a hand-held metal detector.

The pinpoint lights facilitate the screening process by indicating the location of *all* alarmable objects within 33 pinpoint areas. In cases where there is more than one object, the lights appear in each array that requires investigation. This enables the operator to know from which area(s) objects require removal and to concentrate on the problem areas when hand scanning, resulting in improved overall security and increased throughput.

8.3. **RESPONDING TO ALARMS (CONT'D)**

If the operator finds a weapon or another forbidden object, he or she should follow the supervisor's instructions regarding the appropriate response.

Remember that the cause of every alarm MUST be determined. Operators should consult the supervisor about the Operator Responsibilities.

Special Note

The Magnascanner PD 6500 is a highly-advanced and reliable security metal detector. However, its success ultimately depends on the training and diligence of the men and women who operate it, and the overall security plan of which it is a part.

9. TECHNICAL SPECIFICATIONS

9.1. **ELECTRONICS**

Digital-controlled pulse induction metal detector with multi-zone detection; target location discernible on the left and right sides of the body, from head to toe. (Both the detection and control circuitries comprise microprocessors.) Modular-designed electronics facilitate assembly and maintenance.

9.2. **DETECTION FIELD**

A multi-zone detection field that provides complete horizontal and vertical uniformity. The sensitivity of each field can be adjusted to meet the requirements of specific security applications. The PD 6500's unique design enables the operator to identify targets within 33 pinpoint areas. Detection is precise, regardless of a target's location or orientation within the archway.

9.3. **LANGUAGE**

Multilingual LCD reporting.

9.4. **SELF TEST**

As soon as the PD 6500 is turned on, a self test occurs and the LCD reports the results.

9.5. **PROGRAM**

Several standard programs are available which meet a variety of security and loss-prevention applications.

9.6. **SENSITIVITY**

Two hundred sensitivity levels are available for each program. Sensitivity is used to calibrate the detector to detect precise quantities of metal.

9.7. MEMORY

An electrically erasable non-volatile memory stores all of the program settings whether power is on or off. Batteries are not required.

9.8. DETECTION UNIT

The LCD, LED bar graph, touchpad controls, and the wiring, connections, and electronics are stored neatly in the overhead panel. This integrated storage space eliminates the problems often associated with an external control box.

9.9. CONTROL OUTPUTS

Solid state switches (low voltage AC or DC) for operating external alarms and control devices.

9.10. INDICATORS

The ready light appears when power is on and the PD 6500 is ready to detect metal. The alarm light and audible alarm activate when a metal object is detected within the archway. An LED bar graph displays the amplitude of the detection signal. A large back-alpha numeric multi-language liquid crystal display (LCD) with backlight reports all regulating, controlling and self-prompting functions.

Pinpoint lights located on the side panels of the exit side help the operator to identify the precise location of a metal object within the walk-through, whether it is on the left, center, or right side of the body, or from head to toe. In cases when the unit detects more than one object, the pinpoint lights in the corresponding zones illuminate.

Pacing lights located on the side panels of the entrance side indicate whether or not a patron may enter the walk-through. Green lights indicate walk and red lights indicate wait.

9.11. TRAFFIC COUNTER

A built-in and resettable traffic counter calculates the number of persons who pass through the walk-through; the count is displayed on the LCD.

9.12. TAMPERPROOF

Dual-level access codes are required to set or change all sensitivity settings and detection programs; one level for use by supervisors to select program and sensitivity settings and the other for initial set up and overall control. A non-resettable sequence code logs any access attempts to the sensitivity codes. An audible alarm reports any unauthorized access attempt.

9.13. CONSTRUCTION

The PD 6500 is made of attractive scratch- and mar-resistant laminate with resilient end caps, a control panel and heavy-duty aluminum crosspieces.

9.14. REGULATORY INFORMATION

The Garrett Magnascanner PD 6500 PD meets or exceeds all of the requirements for the 1991 Federal Aviation Administration (FAA) airport applications and specifications, as well as the requirements of the National Institute of Law Enforcement and Criminal Justice (NILECJ) standard # 0601.00, security levels 1–5. Conforms to the new European Electromagnetic Compatibility Directive, 89/336/EE; EN 55011, Group 2, Class B; EN 50082-1.

Programs have been specifically designed to meet the FAA's three-gun test and the Undetectable Firearm Act of 1991. The unit also complies with IEC standards for Safety Requirements for Electronic Measuring Apparatus and meets eye safety requirements of the AEL Class 1LED product CENELEC EN60825-1.

9.15. INFRARED ANALYSIS

The performance of the Magnascanner PD 6500 is improved by an optional infrared sensor that:

- minimizes the effects of noise and other external influences by limiting the detection capabilities to only those individuals and objects that are passing through the detector;
- greatly reduces the occurrence of nuisance alarms by inhibiting alarm activity without a person in the archway. In circumstances where large metal objects, such as luggage or supply carts and x-ray equipment, pass by or are located near the unit, the sensor automatically inhibits the alarm;
- generates a traffic count of the number of persons passing through the detector.

9.16. INTERFERENCE REJECTION

100% sensor coil Faraday shielding; special built-in circuitry by Garrett to suppress noise and ignore x-ray monitor horizontal sync. Coil design and circuitry reduces physical interference. RFI-EMI filters provide attenuation from 10 MHz to 1000 MHz.

9.17. MASKING

Unique microprocessor programming helps lessen the likelihood of dissimilar metal objects canceling one another and evading detection.

9.18. SYNCHRONIZATION

Multiple channels permit several Magnascanners to operate simultaneously and in close proximity to one another.

9.19. ELECTRICAL REQUIREMENTS

Fully automatic 100 to 240 VAC: 2 amps maximum; 50/60 Hertz, power: 55 watts maximum; no rewiring, switching or adjustments required. Power supply meets UL, CSA, TUV and VDE standards. Also complies with IEC standards for Safety Requirements for Electronic Measuring Apparatus and the Federal Communications Commission Class B standards for noise emission from commercial electrical equipment.

9.20. OPERATING TEMPERATURES

-4F (-20C) to +158F (70C)

9.21. HUMIDITY

Up to 95% non-condensing.

9.22. THROUGHPUT RATE

Continuous detection means throughput is not limited by electronics; more than 60 detections per minute is reasonable; overall throughput is maximized by a low false alarm rate and an alarm display that helps locate targets.

9.23. OPTIONAL FEATURES

- **2225400:** Dual battery back-up permits approximately eight hours of operation with quick recharge (12 hours maximum);
- **1168000:** Magna Dolly wheel assembly for easy portability.

9.24. WEIGHT

126 lbs.

9.25. WARRANTY

24 months, parts and labor.

9.26. MODEL NUMBERS

1167800: Garrett PD 6500 Pinpoint Detection Walk-Through Metal Detector

1167820: Garrett PD 6500 Pinpoint Detection Walk-Through Metal Detector International

9.27. DIMENSIONS

- **Passageway interior:** Width: 30" (0.76m) Height: 80"(2m)
Depth: 23"(0.57m)
- **Overall Exterior:** Width: 35" (0.9m) Height: 87"(2.2m)
Depth: 23"(0.57m)
- **Shipping:** Width: 33.5" (232.4cm) Height: 91.5"(15.9cm)
Depth: 6.25"(15.9cm)
Weight: 149 lbs

9.28. PUBLIC SAFETY

The Magnascanner has been tested in accordance with and meets the electromagnetic safety requirements of:

- Institute of Electrical and Electronics Engineers: "A Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz." IEEE C95.1- 1991 section 4.12;
- Occupational and Safety Health Administration: "Radiation Protection Guide," CFR 1910.97 section (2)i;
- National Institute of Law enforcement and Criminal Justice: "Standards for Walk-Through Metal Detectors for Use in Weapons Detection," NILECJ-STD-0601.00 section 4.11;
- Canada Health and Welfare: "Performance Standards (walk-through)", RPB-SC-18 section 3.2.2 which addresses the issue of electromagnetic effects to cardiac pacemakers.

Our research has produced no information which would indicate that the Garrett products would have any adverse effects on medical implants, pregnancy, recording media, or magnetic strips. Any additional recommendations or directives issued by personal physicians or medical equipment manufacturers should be followed. If, for any reason (e.g., doctor's orders, etc.), a patron objects to being scanned with a metal detector, it is recommended that an alternative procedure (e.g., manual hand search, non-admittance, etc.) be a part of the overall security plan.

10. MAINTENANCE & REPAIR

10.1. *PERIODIC MAINTENANCE*

Periodic maintenance requires that you inspect for loose or damaged parts and clean the surface of the PD 6500's exterior. The following procedure is recommended:

1. Open the access door of the detection unit and ensure that the connectors are snapped securely and the screws and nuts are in place.
2. Inspect the windows of the IR sensor to ensure they are not blocked.
3. Ensure that the eight screws that attach the crosspiece and detection unit to the panels are in place and tight.
4. Ensure that the archway sits flat on the floor and does not sway or rock.
5. Ensure that the power cord and cable to remote devices are neither frayed nor broken. If necessary, replace immediately.
6. Clean exterior surfaces with mild soap and water only. Use only denatured alcohol for heavy-duty cleaning.

10.2. *REPAIR*

The Magnascanner's modular design facilitates assembly and maintenance.

If problems are site-related, see Section 3.1 or contact the factory for assistance. Often, adjusting or relocating the equipment, or removing nearby objects resolves problems.

If the equipment does not perform properly, contact your dealer or the factory for assistance.

10.3. *MODULE REPLACEMENT*

The system comprises a series of removable and replaceable modules that are tested and calibrated independently, thereby eliminating the need for adjustments to the electronic assembly.

However, after any component is replaced, **the system must be tested thoroughly** to confirm that the PD 6500 operates properly.

CONTROLLER MODULE

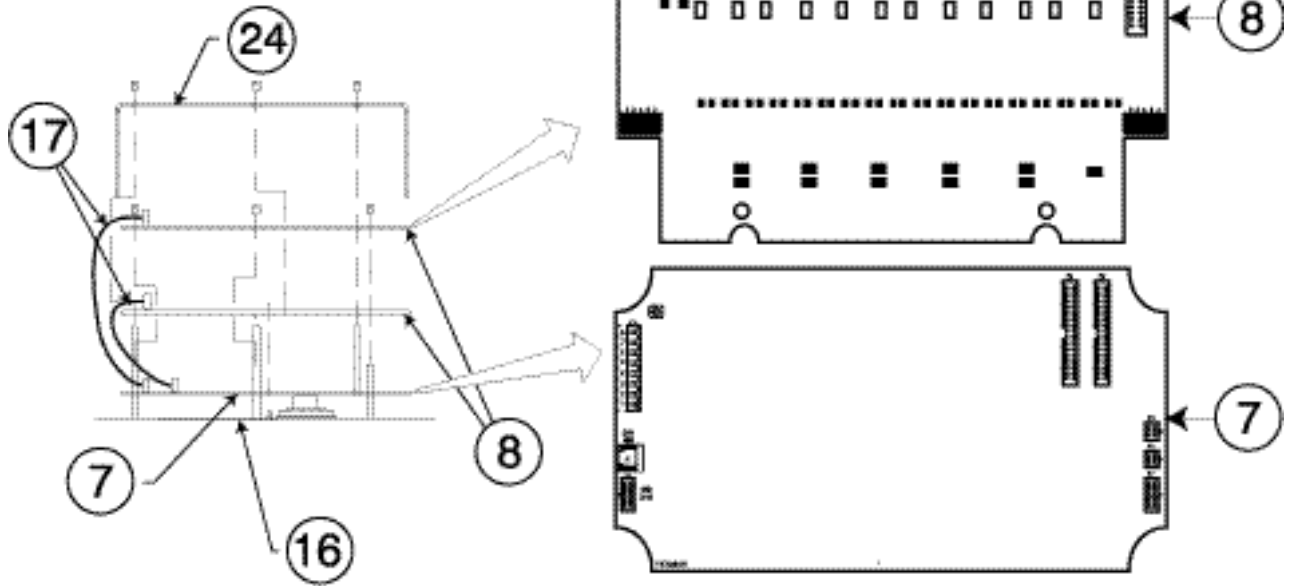


Figure 10-1

DETECTION UNIT

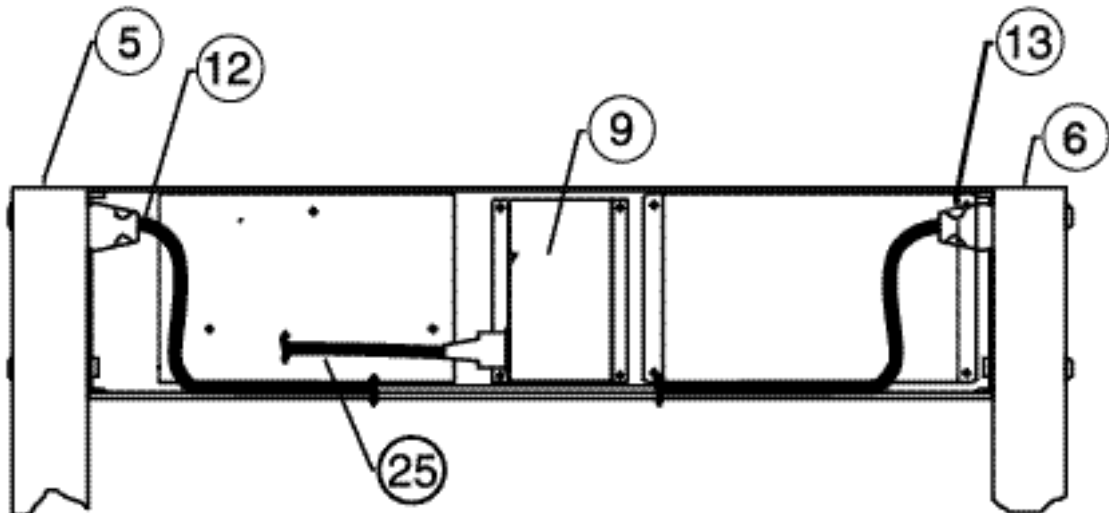


Figure 10-2

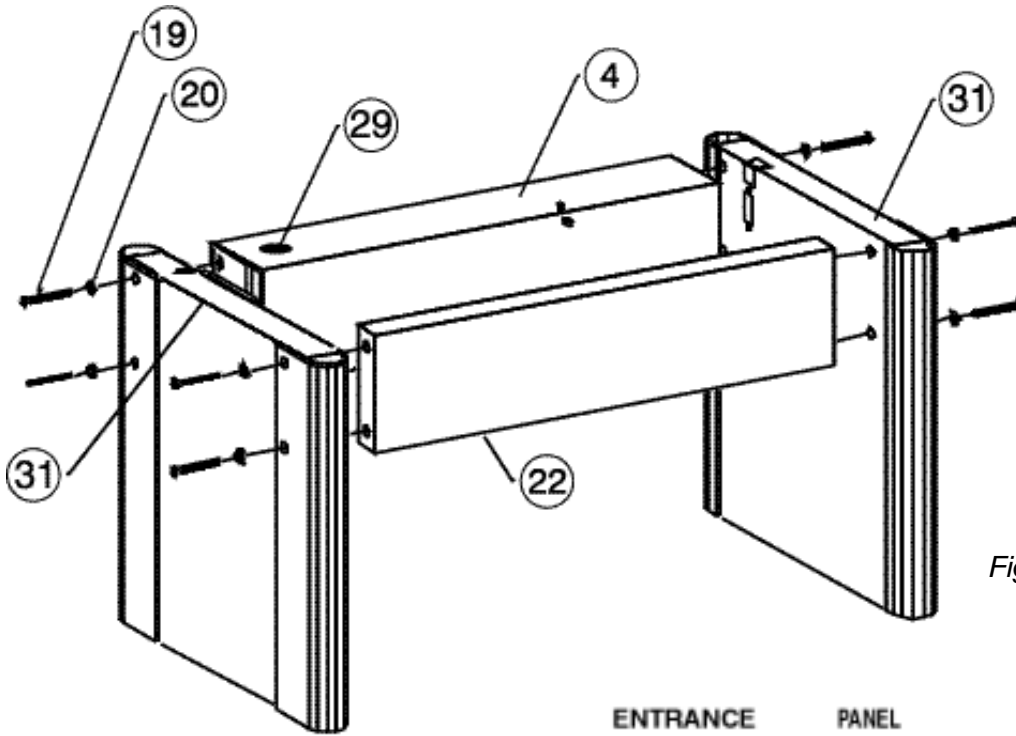


Figure 10-3

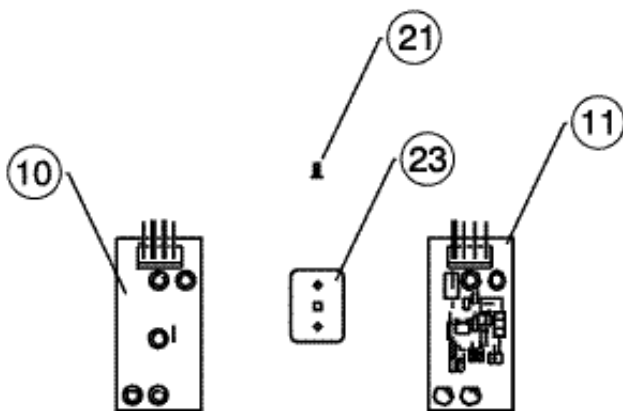


Figure 10-4

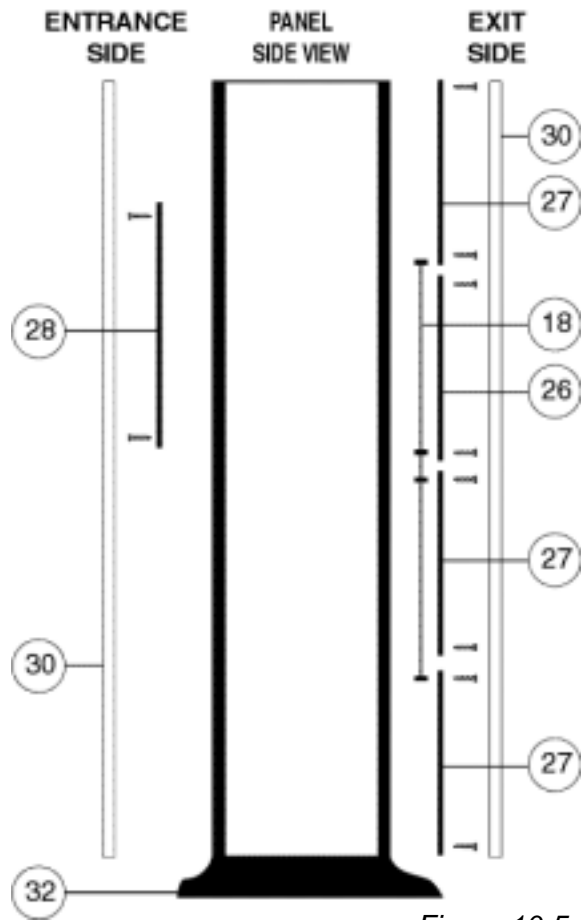


Figure 10-5

10.4. REPLACEMENT PARTS

Table 10-1

ITEM	DESCRIPTION	PART #	QTY
1	Access Code Card	1562300	2
2	Operation Manual	1531200	1
3	VHS Video Tape	1673000	1
4	Detection Unit	2232302	1
5	Panel A	2232102	1
6	Panel B	2232202	1
7	TX/Controller Board Pcb Ass'y	2338202	1
8	RX Pcb Ass'y	2338102	2
9	Power Supply Module 110/220 V	2338602	1
10	IR Emitter Pcb Ass'y	2333702	1
11	IR Detector Pcb Ass'y	2333802	1
12	Cable Ass'y A Det Unit (Short)	2417100	1
13	Cable Ass'y B Det Unit (Long)	2417200	1
14	Power Cord — Euro Plug	9421300	1
15	Power Cord 110V 10'	9411500	1
16	Touchpanel	9425100	1
17	Ribbon Cable 40x3.5 (Tx/Rx)	2416800	2
18	Ribbon Cable 12x44 (Light Bar)	2416900	2
19	Screw 1/4-20x3	9820400	8
20	Finishing Washer	9820500	8
21	Screw 4-40x3/8 flat head, light beige	9822980	4
22	Crosspiece	9968800	1
23	Cover with Window	9969590	2
24	Controller Cover	9997000	1
25	AC Cord Jumper	9427600	1
26	Light Bar Controller Red (Exit) Pcb Ass'y	2338402	2
27	Light Bar Slave Set (Exit) Pcb Ass'y	2338502	2
28	Light Bar Controller Red/Green (Entrance) Pcb Ass'y	2338412	2
29	Hole Plug	9832300	1
30	Extrusion Lens	9999200	4
31	Cap Panel	9999800	2
32	Boot Panel	9999900	2

10.5. **WARRANTY**

Garrett Electronics, Inc. ("Garrett") warrants that this Magnascanner PD 6500 Metal Detector is protected by the following limited parts and labor warranty for a period of 24 months (the "Warranty").

During this 24-month period Garrett will inspect and evaluate all security equipment returned to its authorized repair station or factory to determine if the equipment meets Garrett's performance specifications. Garrett will repair or replace—at no charge to the owner—all parts determined faulty. This Warranty does not cover batteries nor any and all failures caused by abuse, tampering, theft, failure due to weather, battery acid or other contaminants and equipment repairs made by an unauthorized party.

This warranty is expressly in lieu of all other warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose.

The Buyer acknowledges that any oral statements about the merchandise described in this contract made by Seller's representatives, if any such statements were made, do not constitute warranties, shall not be relied upon by the Buyer and are not a part of this contract for sale. The entire contract is embodied in this writing. This writing constitutes the final expression of the parties' agreement and is a complete and exclusive statement of the terms of this agreement.

The parties agree that the Buyer's sole and exclusive remedy against Seller shall be for the repair and replacement of defective parts. The Buyer agrees that no remedy (including, but not limited to, incidental or consequential damages for lost sales, lost profits, injury to person or property) shall be available to him.

11.2. PROGRAMS

The Magnascanner PD 6500 offers several programs designed to help meet specific security needs.

Table 11-1

<u>PD 6500</u>	<u>Description/Use(s)</u>
Airports Schools Courthouse Buildings Sp Events Nuclear	General weapons detection programs that provides excellent discrimination against pocket items, such as cigarette packs, coins and jewelry. Exceeds FAA requirements (i.e., three-gun test). High throughput.
Prisons	A specialized weapons detection program that detects all metals ; highest level of security available. Exceeds FAA requirements (i.e., three-gun test). Low throughput.
Loss Prev1 Loss Prev2 Loss Prev3 Loss Prev4 Loss Prev5 Loss Prev6	Loss prevention programs one to six are used to detect metals ranging from conductive and/or non-ferrous to non-conductive and/or ferrous respectively. Loss Prev1 is designed to detect all metals , particularly good conductors, such as jewelry, computer components and most coins. Loss Prev2 is similar to Loss Prev1 except it is designed to ignore poor conductors, such as cigarette or chewing gum foil and keys. Loss Prev3 to 6 are designed to detect items that are increasingly less conductive and more ferrous (i.e., contain more iron), e.g., Loss Prev3 to 4 detects most guns; Loss Prev5 to 6 detects tools. Low-moderate throughput.
	See Figure 11-1 for a graph representing the trends in detection capabilities of Loss Prevention applications, <i>Loss Prev1</i> to <i>Loss Prev6</i> .

11.2. PROGRAMS (CONT'D)

Alternate

For use as an alternative under difficult environmental conditions, including electrical interference. A general weapons program that provides moderate discrimination against pocket items while offering the best balanced response to all metals. Meets FAA requirements (i.e., three-gun test). **Moderate throughput.**

DETECTABILITY

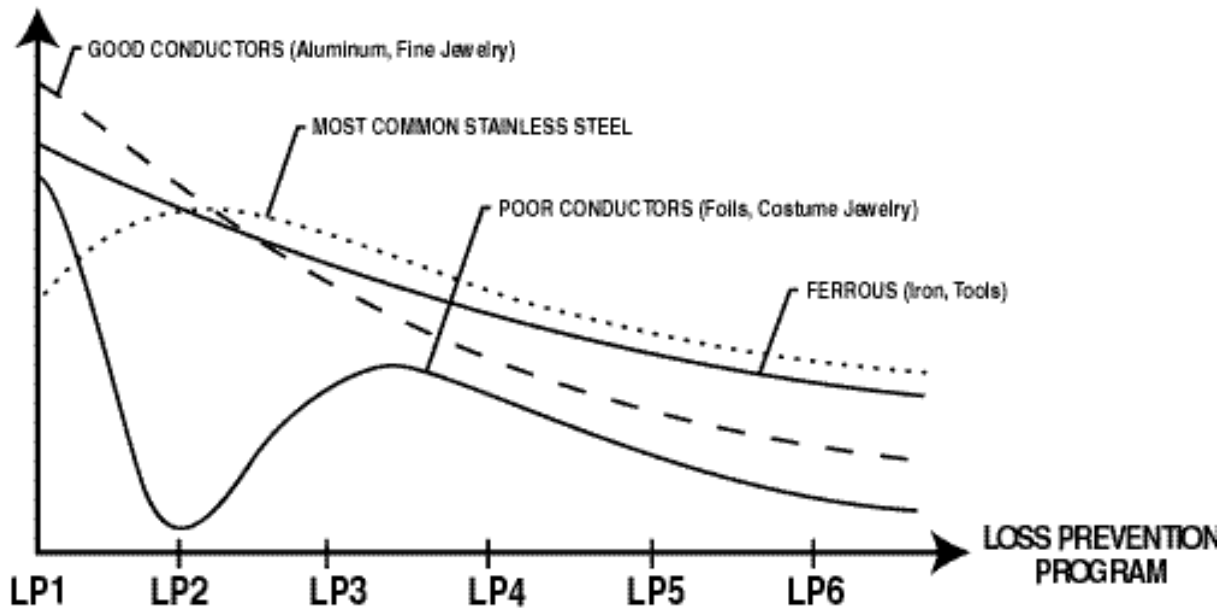


Figure 11-1

Trends in detection capabilities of Loss Prev1 to Loss Prev6.

11.3 MULTIPLE WALK-THROUGH OPERATION

Each PD 6500 must be free from interference from adjoining walk-through metal detectors. To ensure that there is no interference, observe the bar graph of one walk-through while switching the remaining walk-through(s) from **OFF** to **OPERATE**. If a walk-through's bar graph continues flickering, a different set-up may be needed.

There are several ways to install multiple walk-throughs in close proximity. The following examples are aimed to help the installer determine an appropriate method.

11.3.1. CASE 1

Description:

- Two or more PD 6500s that interfere with each other
- Both units plugged into the same AC power line (same circuit breaker)

Procedure:

1. Set all PD 6500's to MASTER.
2. Set end unit (i.e., first or last in a series of PD 6500s) to CHANNEL 1.
3. Set next unit to CHANNEL 2.
4. Set next unit to CHANNEL 3.
5. Repeat pattern for channels 1,2, and 3 for any additional PD 6500s.

11.3.2. CASE 2:

Description:

- Two or more PD 6500s that interfere with each other.
- PD 6500s not plugged into the same AC power line or those with battery back-up option which may be required to operate in the absence of AC power.

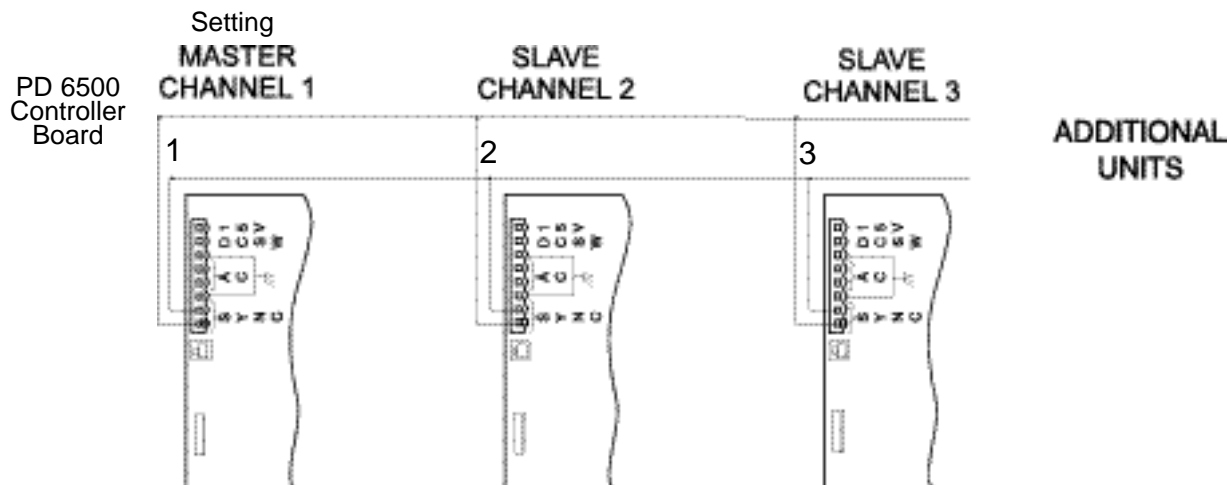


Figure 11-2

Procedure:

1. Disconnect PD 6500s from power line.
2. Open access door of detection unit. (See Figure 10-2.)
3. Remove the three screws that hold controller cover.
4. Use synchronization wire (18 to 24-gauge, 2 conductor) between units; connect as shown. (See Figure 11-2.)
5. With the exception of the end units, the SH1 jumper, located on the controller board assembly must be removed. (See Figure 11-3)
6. Replace covers and reconnect power.
7. Set the end unit (i.e., first or last in a series of PD 6500s) to MASTER CHANNEL 1 and make sure it is always connected to either AC power or battery power.
8. Set all other units to SLAVE.
9. Set the remaining units to CHANNEL 2 and 3 as shown.
10. Repeat pattern of channels 1, 2, and 3 for any additional PD 6500s.

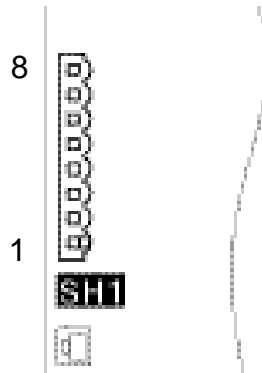


Figure 11-3

11.3.3. CASE 3

Description:

- PD 6500(s) that interfere(s) with MT 5500(s);
- MT 5500 must use channels 1, 2, and 3.

Procedure:

Refer to Case 2.

11.3.4. CASE 4

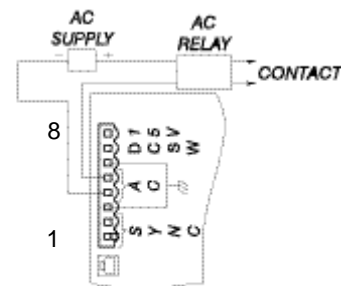
Description:

- PD 6500(s) with CS 5000(s);
- Must use channels A, B, C, and D.

11.4. AC & DC CONTROL

11.4.1 AC CONTROL

To connect an external alarm, a locking device, a VCR/video monitor or other AC component, follow Figure 11-4. The optically-isolated triac output conducts only when the red **ALARM** light is illuminated. Control should not exceed 48Vrms and 100mA. The output is electrically isolated from ground.



CONTROLLER CIRCUIT BOARD

Figure 11-4

11.4.1 AC CONTROL (CONT'D)

Procedure:

1. Disconnect from AC power.
2. Open access door of detection unit.
3. Remove the three screws that hold controller cover.
4. Connect the relay or device to controller circuit board, as shown.
5. Replace cover and reconnect power.

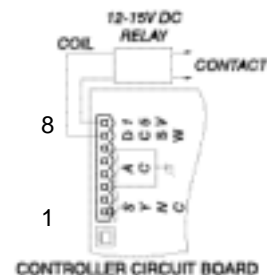


Figure 11-5

11.4.2. DC CONTROL

Figures 11-5 (internal power), 11-6 (external power), and 11-7 (external logic control) show alternatives to connecting an external device that requires a direct, low voltage current. The output is an open collector configuration that can switch 15V at 100mA or less, including connections to computing devices and other equipment requiring low level DC.

Procedure for Figures 11-5, 11-6 and 11-7:

1. Disconnect from AC power.
2. Open access door of detection unit.
3. Remove the three screws that hold controller cover.
4. Connect the relay or device to controller circuit board, as shown.
5. Replace cover and reconnect power.

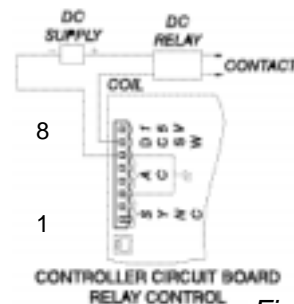


Figure 11-6

11.5. BATTERY PACK MODULE (OPTIONAL)

The battery pack module is a field-installable assembly that provides approximately eight hours of uninterrupted operation. A monitoring circuit ensures that the two 12V batteries charge within 12 hours and then switch to trickle charge to ensure maximum charge without battery damage. An alarm warns the operator when batteries are low.

11.5.1 INSTALLATION

1. Open the access door of the detection unit.
2. Disconnect the AC power plug from the power supply module.
3. Remove the three screws that hold the controller module cover.
4. Remove the four acorn nuts that are attached to the mounting studs of the battery pack module.
5. Install the battery pack module and replace the acorn nuts.
6. Disconnect the power supply module connector from the controller circuit board. (See Figure 11-8.)
7. Reconnect the power supply and battery pack modules. (See Figure 11-9.)
8. Reassemble the system and test.

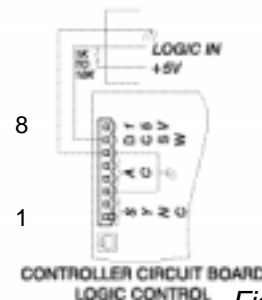


Figure 11-7

DETECTION UNIT

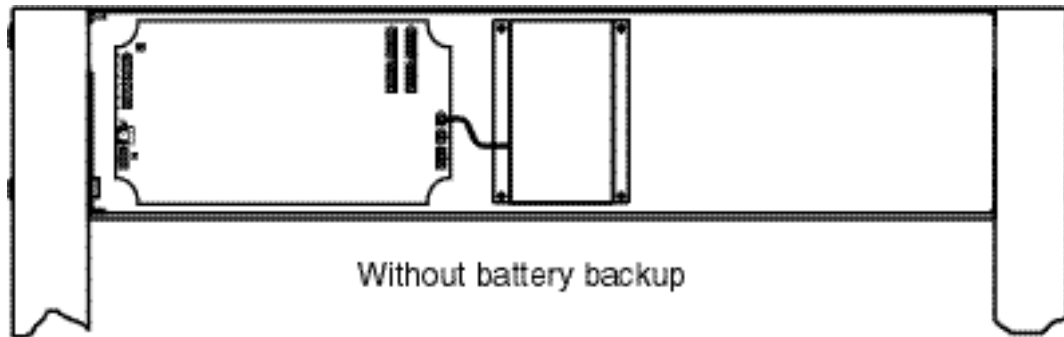


Figure 11-8

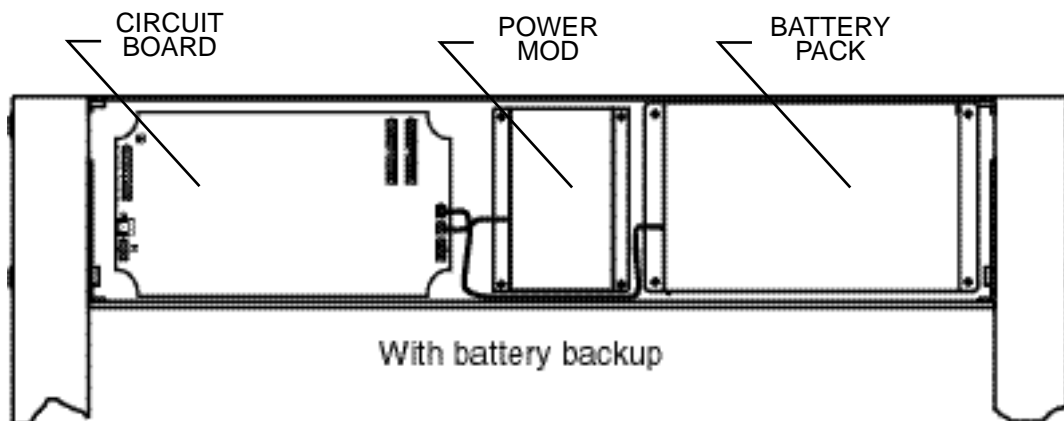


Figure 11-9

11.6 ELECTRICAL WIRING REQUIREMENTS

MAGNASCANNER PD 6500 #1167700

Includes a standard American ground power cord. To replace or remove plug, or to hard wire to an AC junction box, use:

Green	to ground
Black	to line hot
White	to line neutral

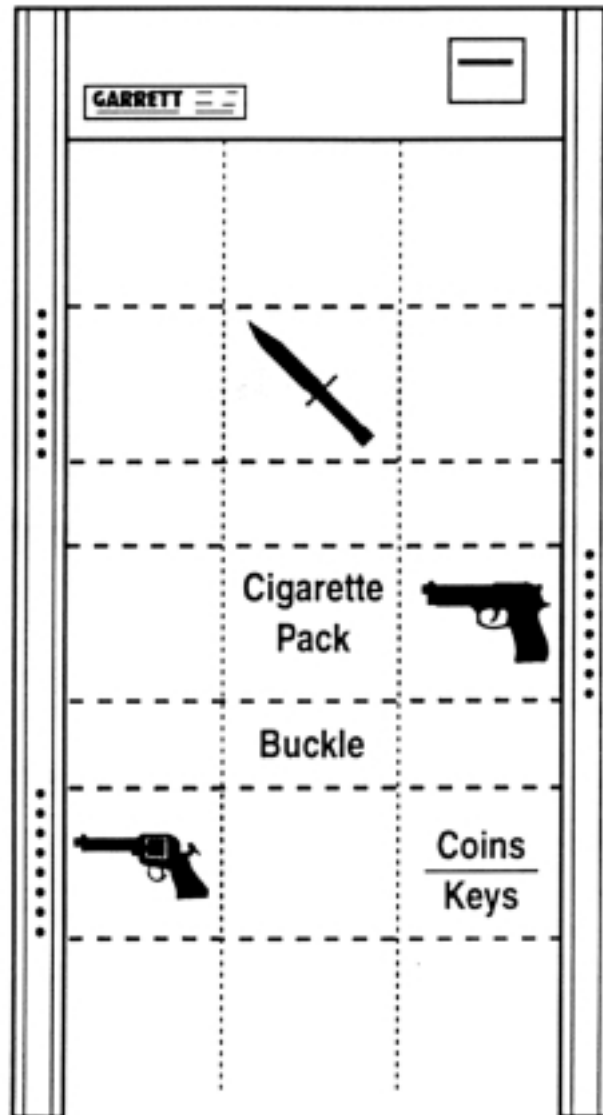
MAGNASCANNER PD 6500 #1167720 (INTERNATIONAL)

Includes a European power cord. To replace or remove plug, or to hard wire to an AC junction box, use:

Green/Yellow	to ground
Brown	to line hot
Blue	to line neutral

Garrett PD 6500

Examples of Pinpoint Detection



The above graphic shows examples of how pinpoint detection is indicated on the PD 6500.

A knife located on the center of a persons body activates pinpoint lights on BOTH sides of the archway. A weapon located either on the right or left side of the body activates pinpoint lights on the right OR left side of the archway respectively.

Note that in this application, the detector does not alarm on harmless personal items, such as coins, keys and cigarette packs.



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