METAL DEFENDER

AFFORDABLE PROFESSIONAL SECURITY

MD-6

User Manual

Contact

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MEDICAL SAFETY

Metal Defender makes every effort to ensure its products are safe for use. Extensive research by Metal Defender has produced no information which would indicate that its products have any adverse effects on medical implants, pregnancy, recording media or magnetic strips. Metal Defender makes every effort to cooperate with medical device manufacturers and to communicate with agencies such as the United States Food and Drug Administration and Health Canada as a means of assuring product safety. The electromagnetic fields produced by Metal Defender products are similar to those encountered in the daily environment and meet U.S. and International standards for electromagnetic emissions.

Metal Defender recognizes that certain medical devices may have additional requirements which may require special care. Any recommendations or directives issued by personal physicians or medical device manufacturers should be followed. If, for any reason, (e.g. doctors orders, etc.), a patron objects to being scanned with a metal detector, it is recommended that alternative procedures be used.

The following should be considered when developing a security checkpoint screening plan.

• **Traffic Flow** - Traffic flow should remain consistent and encourage unrestricted traffic flow as a means of minimizing the time a person remains within the archway of a walk- through metal detector.

• **Alternative Screening** - Alternative screening methods such as scanning with a handheld metal detector, hand searching or denial of access should be clearly defined in checkpoint screening procedures as approved alternatives to screening with the walk- through metal detector.

• **Personnel Training** - Security screening personnel should be instructed in the care of persons with special medical needs and use of alternative screening methods that meet the requirements of medical practitioners or medical device manufacturers.

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Parts of the Detector

Head Unit (1)

Left Probe (1)

Right Probe (1)

Bolts and Nuts (8)

AC Power Cord (1)

Serial Port Plug (2)

Allen Wrench (1)

Instruction Manual (1)

Keys (2)

Make sure the legs are aligned and so the Power Socket is positioned on the Front Right hand side when facing the Front.

1.   Type: 6 Zone Stand up metal detector

2.   Application: For use in commercial or industrial use. It detects both ferromagnetic and nonferromagnetic items. Detects objects as small as a paperclip.

Due to the device's smaller and lighter size, as well as roller wheel attachments (sold separately), the unit can be mobile.

Components: 2 side panels/probes, 1 main monitor panel/board.

Technical Specifications

Metal Defender's MD-6 Walk-through Metal Detector provides pinpoint accuracy and discrimination features. This detector is effective in all environments including but not limited to airports, government buildings, correctional facilities, and sports venues. While being cost effective it also provides the same security that professionals worldwide receive from other brands.

Standard Programs	Has 6 "Occasions" for pre-programming Unit
Sensitivity	6 Adjustable Zones with sensitivity levels 0-99
Zone Indications	6 Zones
Overhead Control Unit	All Electronics- LCD, Alarm light, LED bar graph, Control Touch pads- Integrated to eliminate wire exposure
Tamper-Proof Settings	4- Digit customizable passcode and physical key for Overhead Control Unit
Self Diagnostics	Upon Startup/Reset Unit will Self-Diagnose
Battery Pack (Optional**)**	8-10 Hours of Backup Battery Charge
Warranty	24-Month standard warranty Limited Parts/Labor
Interior Size	79.2in(H)x27.5in(W)x19.7in(D)
Exterior Size	86.6in(H)x31.5in(W)x19.7in(D)
Shipping weight	2 Pieces per unit - Legs:160lbs Head:45lbs
Temperatures	-20C to 60C Operating-20C to 50C Storing
Power	110-230VAC ± 10%
Weatherproofing	IP65 Water/Dust resistant
Networking (Optional)	Perform statistical analysis of throughput
Camera (Optional)	2megapixel IR Cube Network Camera/ 128 GB SD card/ Motion Capture

Product Features

• Alarm Display, LED lights determine metal objects on both sides

• Built in power supply

• Waterproof for mild outdoor usage

• Computer networking and ability to adjust security settings

General Information

Regional Sensitivity:

The maximum sensitivity can detect metal content as small as a paper clip, in self-regulation between 0-99 sensitivity detection requirements may need to be adjusted. Be sure to determine the items you are looking for beforehand and remove keys, jewelry, belt buckles, and steel toe boots to prevent false alarms. Also make sure that the unit is at least 4 feet from any metal frame door or revolving door.

Waterproof:

Made of PVC synthetic materials, the unit is waterproof for mild outdoor usage.

Smart Statistics:

Intelligent traffic and alarm counting function; can automatically detect the number of passing individuals and the number of alarms that have gone off.

Anti-Interference Ability:

Digital, analog, and left and right balanced technology help in preventing false alarms and false negatives, and greatly improve the anti-jamming capability.

Safety Protection:

Double password protected, allowing only authorized personnel operation and access. Multiple passwords allow for better security parameters. Parameter settings are automatically stored without interrupting power supply protection, both safe and convenient.

Electromagnetic Radiation:

EMC electromagnetic radiation standards; use of weak magnetic field technology, safe for pregnant women, cell phones, film, video tapes and other sound equipment.
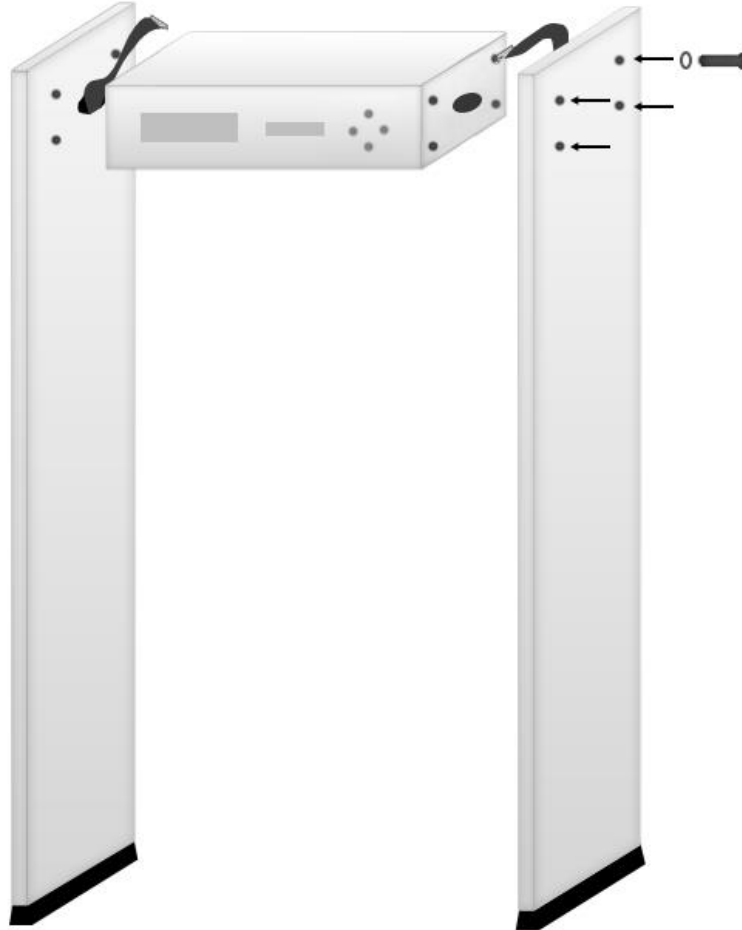
Installation:

This series metal detector has an integrated design, which allows for easy installation or removal within 20 minutes.

Field of Use:

Airport, schools, concert venues, events, railway stations, docks, entertainment facilities, prisons, courts, government departments, factories, examination room, shopping malls, community channels, security check, and prohibited items inspection areas.

Installation Instructions

Please read through the following instructions to properly install, program, and adjust the sensitivity of the Metal Defender walk-through metal detector.
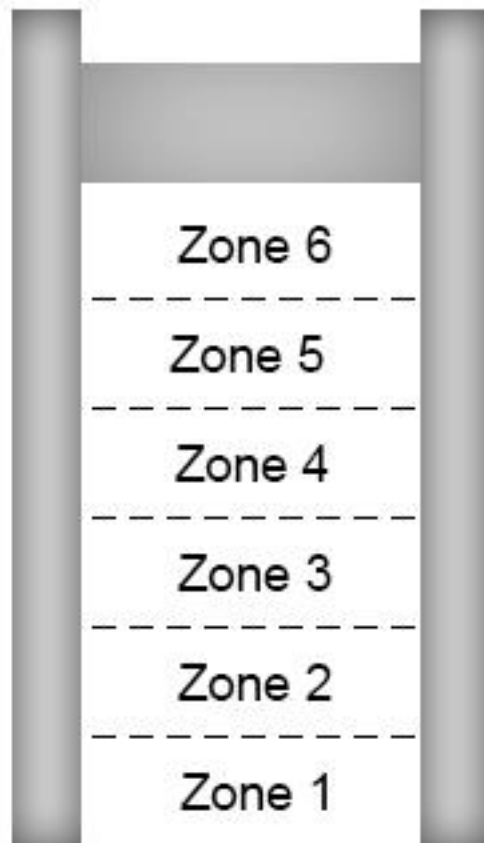

1. Open the boxes and take out the 3 main pieces – Left probe, Right probe, and main board. Place all on the Styrofoam in the position below to properly secure the 3 pieces to form the frame of the unit (see diagram below). The LED display on the main board should be in the upright position facing you. Each probe is identified with an "L" or "R". Make sure the "L" or "R" inside the main board matches the corresponding probe.

2. Take the 8 bolts and nuts in the bag and make sure that they are pushed through each screw hole on the probes and than through the holes in the main board.

3. Using the keys provided with your detector, open the main board using the key hole slot to access the main board.

4. Once you have the 8 bolts securely in place with the probes and main board, take the 8 nuts and tighten securely with the included Allan Wrench (you may need a wrench to hold nut in place when tightening).

5. Each leg has 2 sets of plugs, an 8 pin ribbon connector and a computer style SCSI connector which has several Black and Red wires attached. These 2 plugs connect directly to the control board inside the head unit in to the corresponding port. The Connectors and the Ports are keyed by shape, so they will only go in one way. Carefully lock them into place. This is the Power and communication supply from the CPU to each of the probes/legs. Take care, but be sure to insert fully.

   (If not inserted properly the LED's will not work). Finally, Plug the DC connector inside the main board to the corresponding leg/probe where the AC plug is attached from outside the leg/probe.

6. Shut the main board door and lock the main board with the key to prevent opening while transporting.

7. Please have 2 people lift the detector vertically so it is secure and standing upright on the bottom feet. Move the detector to where you will want to have it.

8. Connect the included AC plug to the power socket on the outside probe where the AC plug was attached inside the main board (during step 5). Plug the A C plug into an electric outlet. Turn the orange power button on. Your unit should light u p and sound off one time. If it does , your unit is up and running. You can adjust sensitivity for the entire unit or for each of the individual zones (see below)

Understanding the Zones

A: Alarm Zone Locations – There are 6 unique and precise zones that will monitor and attempt to detect for metal each time somebody walks through. Each zone can be individually programmed for a specific sensitivity.   Each individual zone will light up when metal is detected and a beep will sound to alert security as to where the metal is located. B: Infrared Sensor – Records each person that passes by.

Understanding the Panel

Passer Number: Will count the number of people that pass through the detector

Warning Times: Will count the number of times the detector found metal

Signal Strong or Weak Indicator: The signal strength of the board. (For best results, have the unit in a location where the signal strength is at zero dots or 1). Many times, the board will detect surrounding metal (door frames, HVAC vents, banisters or metal doors). Please keep the unit about 3 feet away from these types of items, or until the signal indicator is empty or at 1 dot.

Reset: Push when done programming or to put in standby mode. Will reset all passer number and warning times as well.

Enter: Push to confirm new password, input signal digits when adjusting sensitivity.

Setup: Push to change the place cursor when adjusting the password, input the 10's digits when adjusting the sensitivity, inputs the length of the alarm.

Select: Push to enter the debugging procedure, change password and area when adjusting the sensitivity.

Adjusting the Unit Sensitivity and Debugging

1. Please push the RESET button to reach the standby screen on the panel.

The passer number should read : 0000

The warning time should read: 0000

2. Next push the SELECT button to get to the password screen.

The warning time should read: 1234

- 1234 is the initial password, 8888 is the universal password

- 8888 can be used to bypass the password section

3. If the password is correct:

The warning time should read: C000

If the password is incorrect:

The Warning time would read: E000

(After this section, we will explain how to change your password)

If the password is correct, push the ENTER button to get to the next step

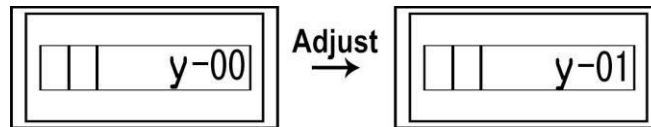If password is incorrect, please enter the 8888 password to bypass and change

4. This is the alarm time length adjustment. You will see the following: The warning time should read: D00X (the X will have a number 0-3)

- The number represents the time in seconds the alarm will sound. The default is 1, but you can use the setup button to adjust.
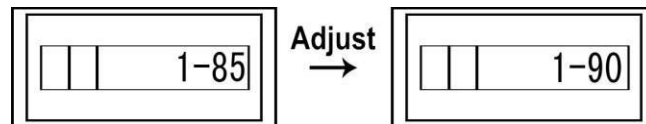
When finished making your alarm time adjustments, please push ENTER

5. This is the alarm volume setting. You will see the following: The warning time should read: y-00
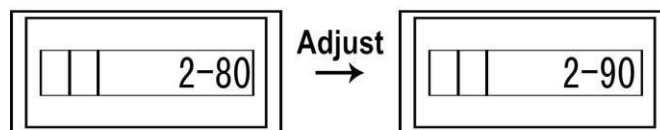
Alarm volume setting: y-00 indicates no sound; y-01 represents bass; y-02 represents the treble, press the [adjust] buttons to adjust the value, press the [ENTER] button to enter the sensitivity setting
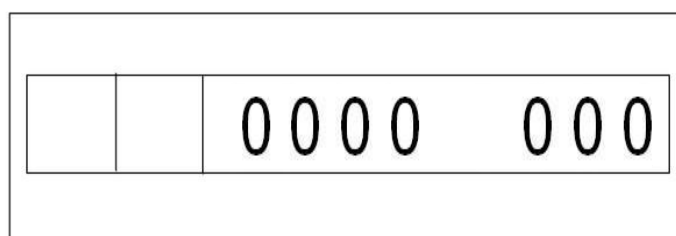

6. Setting sensitivity of the zones. Such as change the first zone sensitivity from 85 to 90, press [adjust] button to change the value.

7. Press [SELECT] button to enter the next zone sensitivity settings, such as change the sensitivity of the second zone from 80 to 90, press [adjust] to change. Use the same method to adjust the remaining 3 to 6 zone sensitivity.
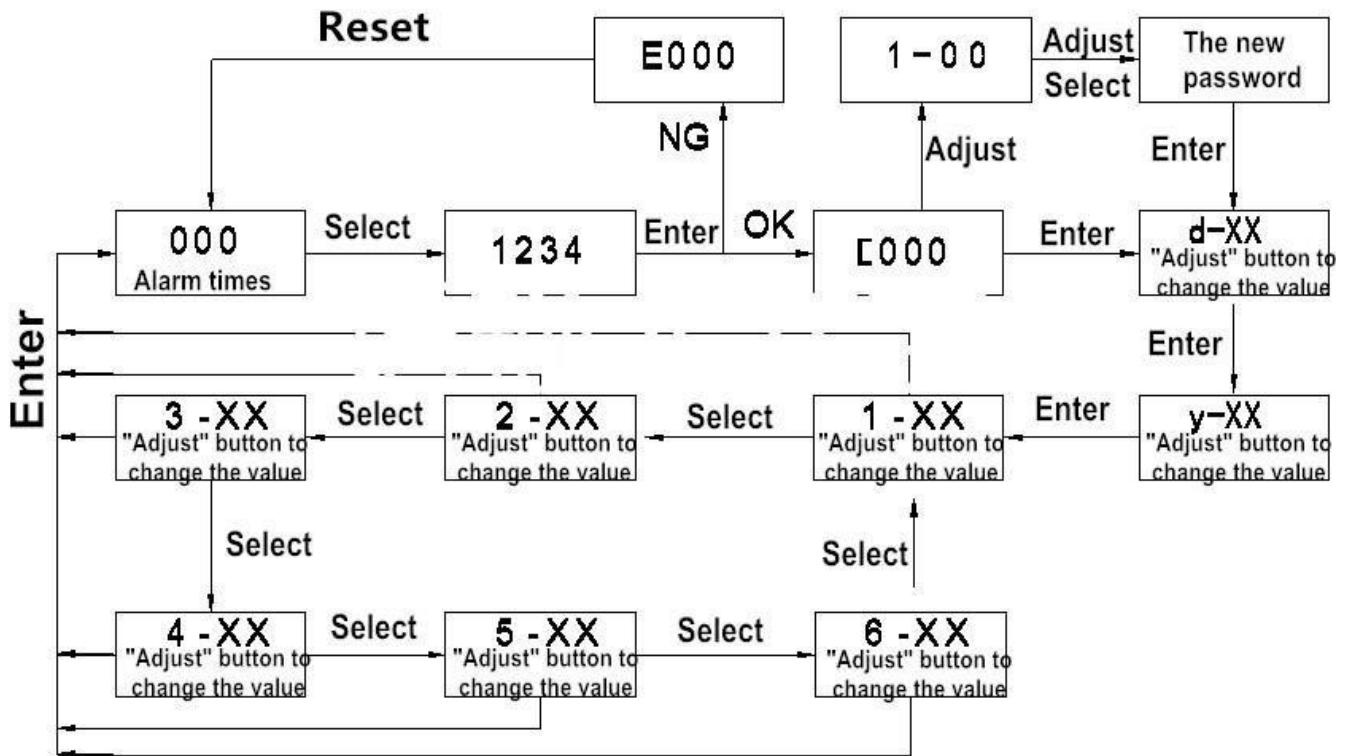

8. Set up the sensitivity of all zones, and then press the [ENTER] button, you can save the previous settings and return to the detection state (shown by the number of alarm times).

A Visual Flowchart to Help Guide with Instructions on Previous Page

[Procedure]

The best way to determine what sensitivity setting would work best for you, is to start on the lowest sensitivity setting – 01 and find an article of metal that you wish to pick up. Walk through with the object and increase sensitivity gradually until the detector picks up the metal. Start with a smaller piece of metal you wish to detect and work from there. If set for smaller traces of metal, the unit will alarm for larger pieces too. (The unit is defaulted at a 65 sensitivity)

Examples of minimum sensitivity settings and what will set unit off

99 – Paper clip, 90 – Coin cell batteries, 80 – Ring, Zippers, Buttons

75 – Box cutter, 65 – Cell Phone, 60 – Belt Buckles, Set of Keys, 45 – Gun

How to Change Your Password

You may want to change your password from the standard 1234 or may find yourself with an error code of E000 when debugging. No worries, the instructions below will show you how to change the password.

Changing without E000 code

The unit comes with the standard 1234 as a password. During the debugging process, that will popup automatically, but if you like to change, hit the enter button.

You will notice that the warning times will read: 0000. This means that the password was correct. To change this password, use the SELECT button to adjust the number for each of the places, and use the SETUP button to switch each place. If you want your password to be 4765 – use the select button until you reached 4, and the setup button will switch to the next position. Use the select button until you reach 7 and continue the process

When you have the password you want, hit the ENTER button until it cycles through past the zone sensitivities. When this is done, the control panel will reset and that would be the new password that must be entered from now on.

Changing with the E000 code

When you get the E000 code when debugging, that means that you entered in the wrong password. To bypass this code and change the password, use the SELECT button to adjust the number for each of the places, and use the SETUP button to switch each place so that you have 8888. When finished press ENTER.

8888 is the bypass password that will allow you to change the password to whatever you wish. Once you insert 8888 into the password and press ENTER, the warning times will read: 0000. To change this password, use the SELECT button to adjust the number for each of the places, and use the SETUP button to switch each place. If you want your password to be 4765 – use the select button until you reached 4, and the setup button will switch to the next position. Use the select button until you reached 7, and continue the process.

When you have the password you want, hit the ENTER button until it cycles through past the zone sensitivities. When this is done, the control panel will reset and that would be the new password that must be entered from now on.

FAQ

What does the signal strength indicator mean?

This is how the unit detects metal. This indicates the density and presence of metal. Sometimes if there are any overhead pipes, hvac vents, metal doors, metal cabinets or florescent light fixtures this may trigger this indicator to light up. Ideally you would want to keep 2-3 feet from these items and find a location where this indicator won't light up continuously.

What if I cannot put in a location where the signal strength indicator will not go off?

If you cannot find a fitting location where the signal strength indicator will not turn off, that is ok, it will just make the unit less sensitive. It will still pick up metal from passer bys, but the sensitivity levels will have to be adjusted higher. A good indication is to adjust your sensitivity 2 points higher for every LED that remains lighted on the signal strength indicator. If your desired sensitivity setting is 70, and if your unit's signal strength indicator continuously has 2 LED's lit at all times, adjust your sensitivity to 74 to accommodate for the surrounding metal around the unit. Sometimes, even moving the unit a few inches or even 90 degrees can help decrease the LED indicator.

What is the right sensitivity setting for me?

The best way to determine what sensitivity setting would work best for you is to start on the lowest sensitivity setting – 01 and find an article of metal that you wish to pick up. Walk through with the object and increase gradually until the detector picks up the metal. Start with a smaller piece of metal you wish to detect and work from there. If set for smaller traces of metal, the unit will alarm for larger pieces too. (The unit is defaulted at a 70 sensitivity).

Examples of minimum sensitivities settings and what will set unit off:

99 – Paper clip, 90 – Coin cell batteries, 80 – Ring, Zippers, Buttons

75 – Box cutter, 70 – Gun / Knife, 65 – Cell Phone, 60 – Belt Buckles, Set of Keys

I set up my unit, but it will not sound when I walk through with metal?

Always remember that the control panel with the buttons and LED should always be facing away from the people walking through. Continue with the flowchart and make sure that your alarm time length is not set at y-00. If set at y-00, the unit is on mute mode and will not give an audio alarm when metal is detected. Secondly, please make sure that the internal AC plug is plugged into the panel where the internal power source is plugged in. Also, please make sure that the correct serial ports inside the head unit are securely fastened in the proper locations.
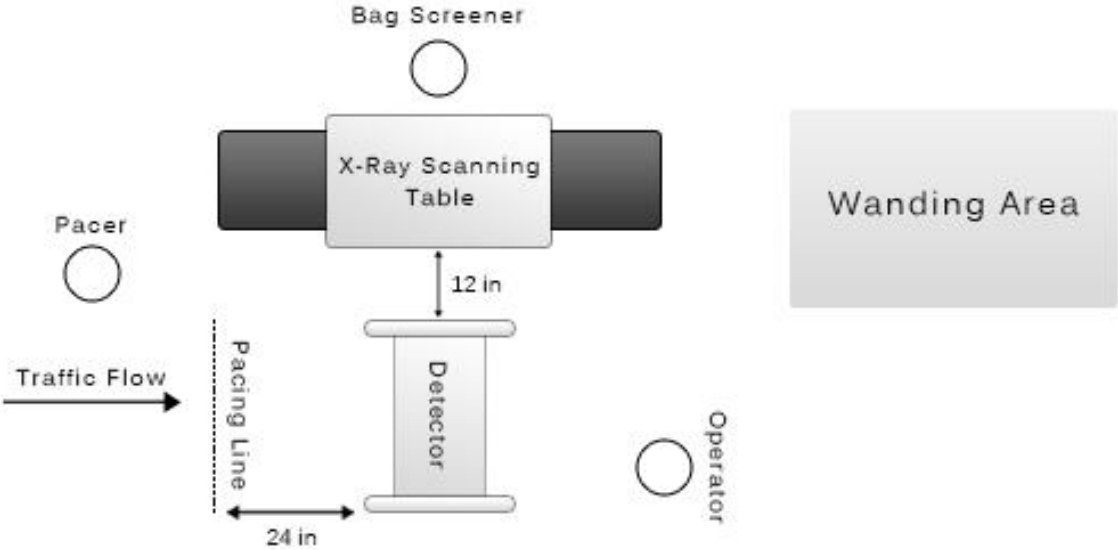
There seems to be a lot of alarm detections occurring, more than we want or expected. Why is this?

Before implementing a metal detector into your security, one must have a plan as to how the equipment is going to best work for them. The best way is to consult who is going to be monitoring the unit and what is the purpose of the unit. For example, if you are looking to catch people stealing small computer IC chips in their pockets, you are going to need a high sensitivity to detect them. One must have a plan as to which items are needed to be put aside before walking through. If you are not sure, or would like a product specialist to assist creating a plan, feel free to contact us at (815) 467-6464.
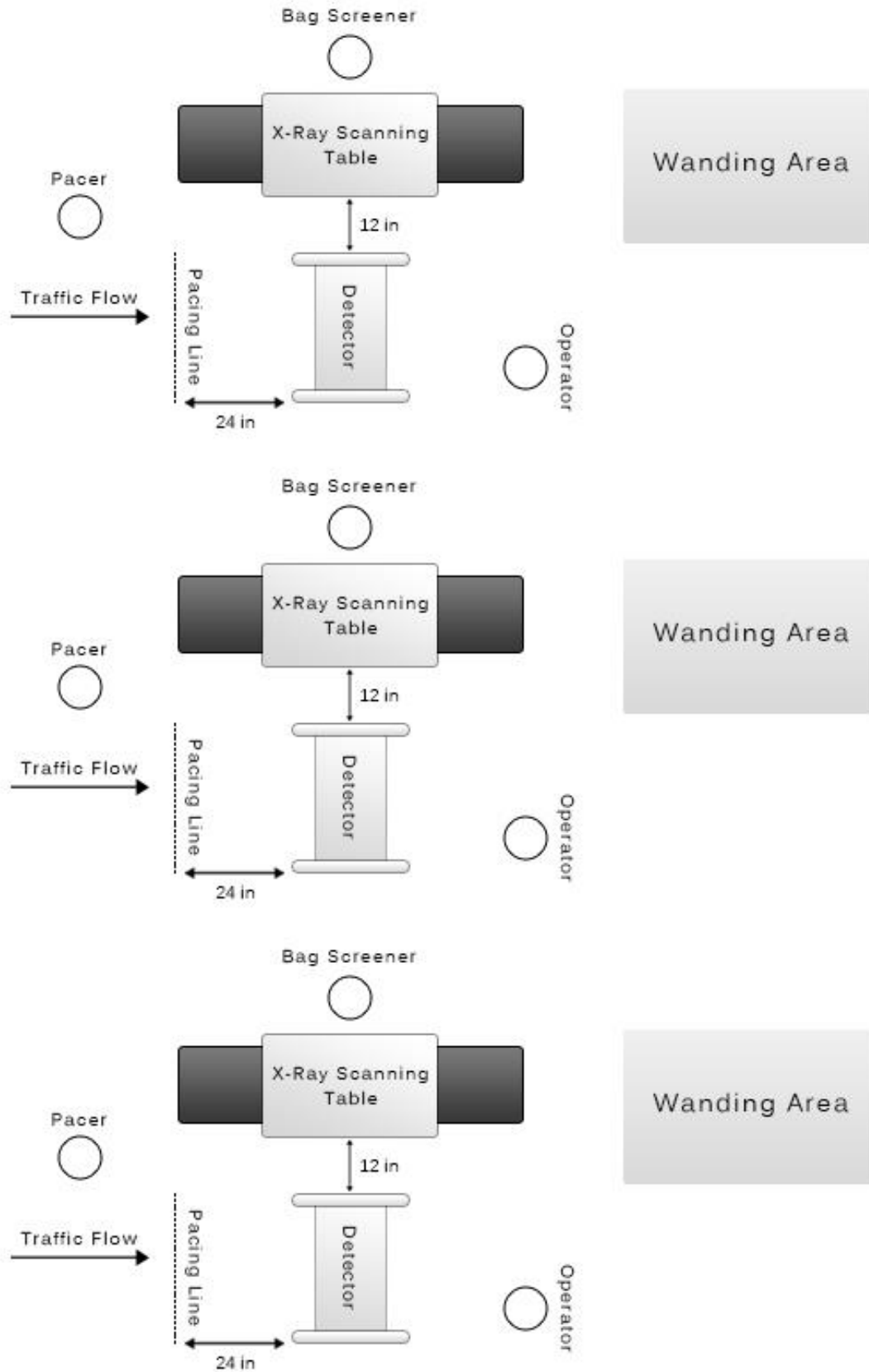
The passerby units are not adjusting or are continuously increasing. What should I do?

The black circular discs on the inside of the panels are the infrared sensors. These pick up when a person walks through the unit. If the unit is not picking up the passerbys, the sensors may have fingerprints or dirt on them. With a cloth towel with rubbing alcohol or window cleaner, rub around the sensor to clean. Also, please check and make sure that the cables are securely fastened to the metal detector leg panels and PC board. If this connection is loose, the unit may not work.

SUGGESTED SINGLE LANE CONFIGURATION

Bag Screener

X-Ray Scanning Table

Wanding Area

Pacer

12 in

Traffic Flow

Pacing Line

Detector

Operator

24 in

SUGGESTED MULTI-LANE CONFIGURAT

Bag Screener

X-Ray Scanning Table

Wanding Area

Pacer

12 in

Pacing Line

Traffic Flow

Detector

Operator

24 in

Bag Screener

X-Ray Scanning Table

Wanding Area

Pacer

12 in

Pacing Line

Traffic Flow

Detector

Operator

24 in

Bag Screener

X-Ray Scanning Table

Wanding Area

Pacer

12 in

Pacing Line

Traffic Flow

Detector

Operator

24 in

2 YEAR WARRANTY INFORMATION

Metal Defender warrants that each piece of security equipment manufactured by Metal Defender is protected by the following limited parts and labor warranty for a period of 24 (twenty-four) months (the "Warranty"). During this 24-month period Metal Defender will inspect and evaluate all equipment returned to its authorized repair station or factory to determine if the equipment meets Metal Defender's performance specifications. Metal Defender 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 SELLERS' REPRESENTATIVES, IF ANY SUCH STATE-MENTS 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 Buyers' sole and exclusive remedy against Seller shall be for the repair and replacement of defective parts. The Buyer agrees that no other 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.

Replacement Parts

Replacement Legs	**Please Call Us Directly For Price:** (815-290-5354) (815-467-6464)
Replacement Head Unit	**Please Call Us Directly For Price:** (815-290-5354) (815-467-6464)
Speaker	$19.99
Zone Card	$22.99
Fuse	$15.99
Power Supply	$34.99
Motherboard	$79.99
Power Cords	$21.99
Set of Nuts + Bolts	$14.99
Battery Back Up	$165.00
Casters	$140.00
Leg Feet (pair x2)	$59.99
Infrared Sensors (pair x2)	$19.99

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