Multi-zones Metal Detector

USERS MANUAL

Please read the user manual thoroughly before installing the equipment

CAUTION

Please read This Manual Carefully Before Operation

CAUTION

Use of this equipment in a manner not specified by the manufacturer may result in

Damage to property or injury to persons.

Electrical	:100 or 220 VAC +-10%
	50 or 60Hz
	35 Watts
Maximum Relative Humidity	:To 95% non-condensing
Operating Temperature	:-4 F°(-20°C)to+158F(+70°C)

Maximum Altitude: 3000meters

CAUTION !

The facilities must be firmly anchored to the floor or

Optional adhesive floor mounts attached to reduce the risk of injury to

Persons or property damage due to accidental knock down

If you have a problem with your product, please call or Email to our company

Please have the following information available when you call or E-mail:

1. Model and the serial number of the product you have purchased
2. A description of the problem and any error messages that was displayed.
3. Your contact information including;

● Your   name

● Your   companies name

● E-Mail address

6.3.   PRODUCT WARRANTY INFORMATION

multi zones series walk through metal detectors against defects in factory faults or materials. Under recommended use, for one year perild from the date of purchase to the original user. Liability in all events is limited to the purchase price paid.

5.2. OPERATORS RESPONSIBILITIES

The operator must follow the supervisor's instructions regarding use of the multi zones series and appropriate response to alarms.

The operator's ongoing responsibility is to ensure that the multi zones series Always operates according to the information displayed on the panel and to Determine the cause of the alarms.

The operator should ensure that:

- multi zones Series Walk Through is always operating properly.
- sensitivity settings are correct
- LED bar graph shows minimal interference
- green Waiting light is on
- operational testing is performed according to the Supervisor's instructions.

6. MAINTENANCE AND REPAIR

6.1. LOCATING NOISE SOURCES

multi zones series walk through uses latest digital signal processing technologies To eliminate the effects of most external noise surfaces. However. The high Sensitivity required to detect smaller objects may make the equipment susceptible to Interference from a variety of external sources. The presence of these noise sources May be recognized through unusual bar graph activity typically spiking into the Yellow or red when no one is being screened. The source of the noise may be Mechanical or electrical. Two techniques are often helpful in locating external noise Sources.

6.2 ERROR CODES

multi zones series walk through detectors works very well if ideal environmental Conditions succeeded. There are not much errors occur during operation. One of the Most critical error is E000 for wrong passwords. What the authorized person should Do is entering reset code and re-set the password

- Your shipping address

MEDICAL SAFETY

Our company 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.) 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 hand held 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 personal 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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4.5.   LOSS PREVENTION APPLICATIONS

Some of the previous weapons programs may also serve as asset protection Programs. Programs 5-20 are designed specifically for asset protection screening. It Is likely that one of these standart programs will meet your need. If not, use multi zones series detection enhancement feature to customize a program for your Specific   application.

This is archieved by first selecting a standart program that best meet your security Needs and then tailoring it for optimal detection. Refer to 4 th section for information

4.6.   ELIMINATING FALSE ALARMS

False alarms can be defined as as alarm event that occur when no one is near the Detector. These events are caused by external electromagnetic enterferance of a Frequency comparable the operating frequency of the detector. Practically. The Detector interprets the interference, also feferred to as noise. External interference Sources include x-ray machines, video monitors, photocopy machines, defective Florescent light ballasts and two-way radios. if false alarm occurs they can be eradicated by changing the detector's operating frequency. The bar graph display, provides an indication of the size of the interfering signal. A frequency should be selected that minimizes the number or LED lamps that illuminate.

5. OPERATION

5.1   OPERATIONAL TESTING

Actual forbidden objects should be used as targets for initial calibration. Once the Detector settings are established it is recommended that an operational test piece (OTP) be selected which is similar in size, shape and metallic composition to the Smallest forbidden object. This operational test piece can be used to verity operation On a regular basis. The OTP offers a generally accepted means of veritying Station on a daily basis.

4.2. SUGGESTED PARAMETERS FOR O. T. P. LEVEL

Baseline Sensitivity (SENSE)	45 to 55
Zone 1/7/13 Sensitivity	30
Zone 2/8/14 Sensitivity	60
Zone 3/9/15 Sensitivity	60
Zone 4/10/16 Sensitivity	65
Zone 5/11/17 Sensitivity	50
Zone 6/12/18 Sensitivity	40

Or higher depending on amount of metal in the floor

A small adjustment to baseline sensitivity may be required because of location Variables. Lf support floor contains re-bar, zone 1 sensitivity will have to be increased To a level where the OTP is detected at ankle level.

Atten. According to how many detecting zones what you purchase

4.3. SUGGESTED PARAMETERS FOR THREE GUN TEST LEVEL PROGRAM 1 OR 2

Baseline Sensitivity (SENSE)	45 to 55
Zone 1/7/13 Sensitivity	35
Zone 2/8/14 Sensitivity	65
Zone 3/9/15Sensitivity	75
Zone 4/10/16 Sensitivity	65
Zone 5/11/17Sensitivity	60
Zone 6/12/18 Sensitivity	55

Or higher, depending on amount of metal in floor.

Atten. According to how many detecting zones what you purchase

4.4. INDUSTRIAL APPLICATONS

When people being screened wear footwear with steel protection in the toe caps. Reduce1 (floor zone) sensitivity to avoid false alarms, Under circumstances where The floor contains little or no re-bar zone 12 may need a typical negative sensitivity. e.g.- to – 5%

6. Maintenance And Repair
   6.1 Locating Noise Sources
   6.2 Error Codes
   6.3 Product Warranty Information

1.   GENERAL DESCRIPTION

The Walk through metal detector uses a unique continuous wave multiple sensor Technique. An embedded microprocessor to analyzes data from 6 (12 or 18) individual detection sensors.

An Alarm Display Panel indicates the archway opening; it shows 6 (12 or 18) separate detection zones within the opening. Each of the 6 (12 or 18) zones is monitored individually and typically detects a metal mass the size of a weapon before alarming. This substantially negates the problem of small amounts of harmless metal, such as keys and coins , causing an false alarm. Security personnel can see the location within the archway where a weapon sized object is being carried. If more than one weapon is carried the location of each is displayed.

The ground zone can be used to accurately compensate for signal losses caused by structural metal in a support floor. This independent adjustment eliminates the need to increase the overall sensitivity of the detector and thus reduces false alarms. Except in high sensitivity applications, increasing the floor zone sensitivity does not effect the operation of the upper zones. This means that uniform detection can be maintained through the archway. Walk through metal Detector Zone Detection increases the through put rate of people being screened. A decrease in false alarms from harmless personal metal objects, couples with the ability to identify the location of weapon sized objects

both increases screening efficiency.

Traffic flows faster and more smoothly because of the lower incidence of false alarms. Also, when an alarm occurs the security personal can immediately target the suspect object. Screening speed, accuracy, and quality of security are all enhanced. The Walk Through Metal Detector uses self-diagnostics that monitor
electronic, environmental, interference and metal overload conditions.

The Alarm Display Panel includes a six segment signal strength bar graph that Provides an indication of the size of a detected object and strength of external Interference. Multi function series walk through eliminate common detector Problems such as false alarms, detection, and inconsistent operation. The superior Performance of the Walk through metal detector for benefits everyone; security Personnel have a lower workload, the public suffer less delays and ultimately the   User enjoys higher quality surveillance.

TECHNICAL SPECIFICATIONS

Electronics and Electromagnetics:
Multi function series products uses and embedded microprocessor and features true multiple-zone performance. Each archway passage consists of six separate and distinct detection zones. It combines unique multiple independent sensors with high speed digital signal processing. A built in display panel provides instant visual

Header Assembly, Control Panel and Displays
The control panel at the front of the header assembly contains an on/off key switch, a built in alarm display panel, an LED display panel that shows system operating parameters and a keypad for operating parameter data entry.

Courthouse program for handguns and most small to medium sized knives 35%
Ferrous and non-magnetic stainless steel rods 35%
Ferrous and mixed metal knives (hunting and butcher) 35%
Small thin ferrous metal objects (blades and processor chips) 35% to 70%
All metal base program (ideal for custom detection enhanced program) 35%
Boost ferrous and non-ferrous metal 35%
Detects large ferrous objects while suppressing non-ferrous metals 35%
Detects copper, brass, nickel and aluminum while suppressing other metals 35%
Selectively detects lead 35%
All metal base program with 20% attenuation for all metals 35%
All metal base program with negative spectrum suppression 35%
All metal base program with positive spectrum suppression 35%

4.   SECURITY LEVEL SETTINGS

4.1.   O.T.P.LEVEL
The operational test piece(OTP) simulates the detection response from small Revolver and is manufactured to the specifications of the **U.S.Federal Aviation Administration.** The OTP should be carried at waist height (on an otherwise metal Free person) with the barrel down, The OTP must be detected 100% of the time as The person walks throrgh the unit. This security level is average and is considered Adequate by many security managers for general public weapon screening. Suggested settings are shown below.

Please note that the pass code is 4 digits and 1234 as default. Authorized user can add or delete the user after installation. Please refer page 10 to add or delete the user.

3.4. DETECTOR SETTINGS

Multi function series walk throughs must be adjusted to meet the specific needs of The security application. L t is the responsibility of the end user to determine the Detection level that is required and to adjust the unit accordingly. Actual sample Objects or weapons, Operational Test Pieces, etc. should be used to set the desired Detection level.Periodic checks should be made (at least daily) to insure the Detection level is correct. The detection level is influenced by a combination of the Following program parameters: Baseline (overall) Sensitivity and Zone Sensitivity Settings.

The following sections describe some typical security levels with suggested Operating parameters that can be used as a starting point, Differences in operating Performance will occur because of environmental and location variables. As security Levels increase, a like increase, a like increase in un wanted alarms caused by Innocuous items such as keys, coins, eye glasses etc. will also occur. Lt is, Therefore,in the interests of security and efficiency to use the lowest sensitivity Setting possible, while still providing reliable and consistent detection that fits the Needs and particular requirements of the situation.The following provides a guide on The characteristics of the standard detection programs:

3.4.1. BASELINE SENSITIVITY SETTING REFERENCE DATA
SEVENTH ZONE

Avation program for normal threat levels 35%
Avation program for handguns and medium to large knives 35%
Avation program for handsguns and medium sized kitchen and hunting knives 35%
Courthouse / Prison applications where small knives must be detected 35%

The built in alarm display panel depicts the area within archway opening. It has an LED array showing the 6 (12 or 18) separate detection zones. Multi function series have extra size LED array display on the frame to pinpoint the 6 (12 or 18) zone detect status.. A 6 (12 or 18) segment bar graph shows an object' S signal strength in real-time. Also included are a red alarm event LED, a green Waiting (Ready)LED. All electronics are housed in the header assembly.

1.1.3 System Throughput:

The walk through metal detector accommodates a wide range of walk-through transit speeds. Rapid automatic reset maximizes the system throughput rate to over fifty passes per minute. Multi function series speed range provides consistent detection over a wide range of object transit speeds.

1.1.4 Interference Immunity:

Multi function series walk through type detector advanced design provides excellent interference rejection. Outside interference sources such as computers, fluorescent lights, etc., have minimal impact, enabling the unit to operate in environments that render many detectors inoperable.

1.1.5 Multiple Operating Frequencies:

The walk through metal detector provides eight user selectable operating frequencies. They allow simultaneous operation of multiple units without interconnecting slaving cables.

1.1.6 Uniform Detection:

The field of detection is uniform from top-to-bottom with no hot spots or dead spots. In situations where large amounts of steel re-bar exist in a support floor and cause a drop in detection at ankle height; the loss can be compensated by adjusting the detector. Horizontal axis gain control compensates for detection losses caused by external metal in walls or furniture. It adjust the sensitivity horizontally across each zone.

1.1.7 Memory:

The walk through metal detector utilizes an embedded microprocessor that analyzes data generated by 6 (12 or 18) detection sensors. Whenever adjustments are made to any operating parameter they are automatically retained in memory. When detector is powered down the previously entered operating parameters are retained in memory.

1.1.8 System Security:

Walk through metal detector is pass-code protected and has a locking key switch that connects the AC power. A four digit pass code must be entered before operating parameters can be accessed and changed.
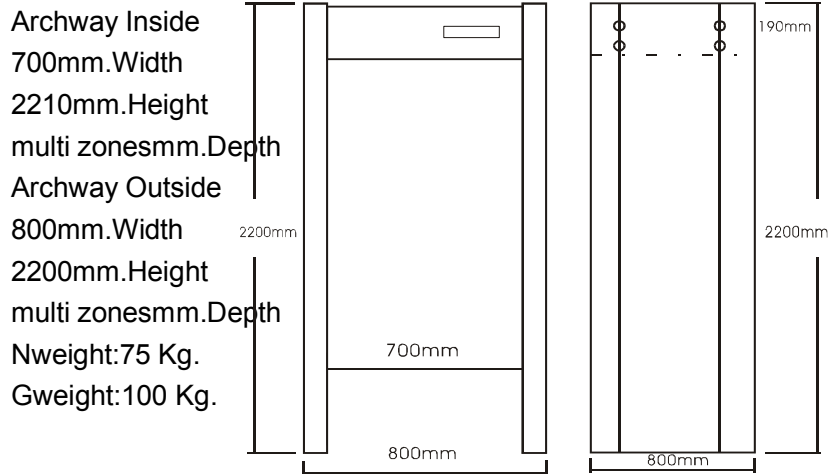
1.1.9 Construction

The walk through metal detector is fire proof panel, coated in a durable scratch resistant two part epoxy finish and aluminium alloy sides, The side panels and header assembly are sturdily constructed for stability and durability.
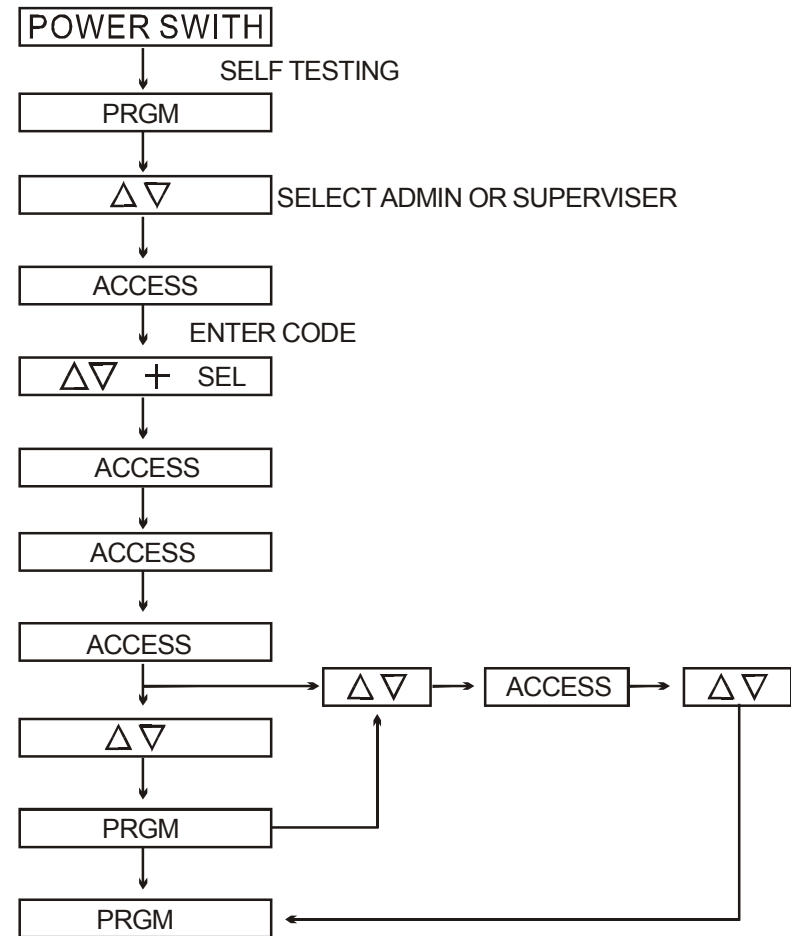
1.1.10 System Diagnostic:

The walk through metal detector has self-diagnostic test rouines. When the unit is powered up it automatically self-tests and calibrates itself to the surrounding environment. Periodic calibration is not needed.

1.1.11 Dimensions

Archway Inside
700mm.Width
2210mm.Height
multi zonesmm.Depth
Archway Outside
800mm.Width
2200mm.Height
multi zonesmm.Depth
Nweight:75 Kg.
Gweight:100 Kg.

The operator should inform the supervisor of any Problems that appear on the screen.

3.2 ADJUSTMENT OF OPERATION PARAMETERS

3.3 SUPERVISOR LEVEL ACCESS

Unauthorized users are not allowed to change the settings of walk through. To Change the security settings, alarm levels, sounds, etc. User must enter the code to Access the supervisor area.

It's simple And works. The six buttons keyboard allow the user to adjust operating parameters And to tailor the unit operation to meet his/her specific security requirements. The Alarm Display provides information on alarm events,signal strength,and abnormal Conditions such as high noise and/or metal overload conditions. Turn the unit on by Interting the key into the Key switch and turming it clockwise. All the L.E.D.elementsLight up in sequence one at a time.

The LED array blinking displays a SELF-TEST message while a self-diagnostic tyest Is in progress. Next it reads CALIBRATION. During this period the unit calibrates Itself to its surrounding environment (always keep moving metal objects and people Clear of the unit when it is undergoing calibration.) If any disturbance to the Surrounding environment occurs during SELF-TEST or CALIBRATION (e.g. metal Cart is moved by the unit,person touches the unit,person walks through it.etc.)the Unit must be returned to the SELF-TEST mode.

To reset,press the (Reset) key on the Keypad. Alternatively. Turn the AC power off And then back on it then automatically self-tests and recalibrates. Multi function Series performs all normal screening operations in this operating mode.

Adjustments to the operating parameter settings cannot be made in this program Mode; for example. Sensitivity values cannot be accessed. Security screening Should always be performed in this mode.

Operating parameters can only be accessed by an authorized person. Entry into the Operating menu is gained by entering a four-digit pass code via the keypad. The Scrolling display program stops when the first digit of the pass-code is enter. Value is the same as above.

3.1. SELF TEST

During start-up unit will initiate a self test that will report the results on the screen. Should the self-test reveal a problem. An error message will appear (e.g.E000). The self-test feature within the unit is in constant operation and will reveal "critical Error". Lf the unit is in 24 hours, 7 days in week operation, a manual self-test should Be done as restarting the WT;

Operating Conditions

Temperature   :-4F° (-20°C) to+158F(+70°C)
Humidity   :To 90% non-condensing

Power Conditions

Fully automatic 100 to 240 VAC, 50 or 60 Hertz, 5 Watts; no rewiring, switching or
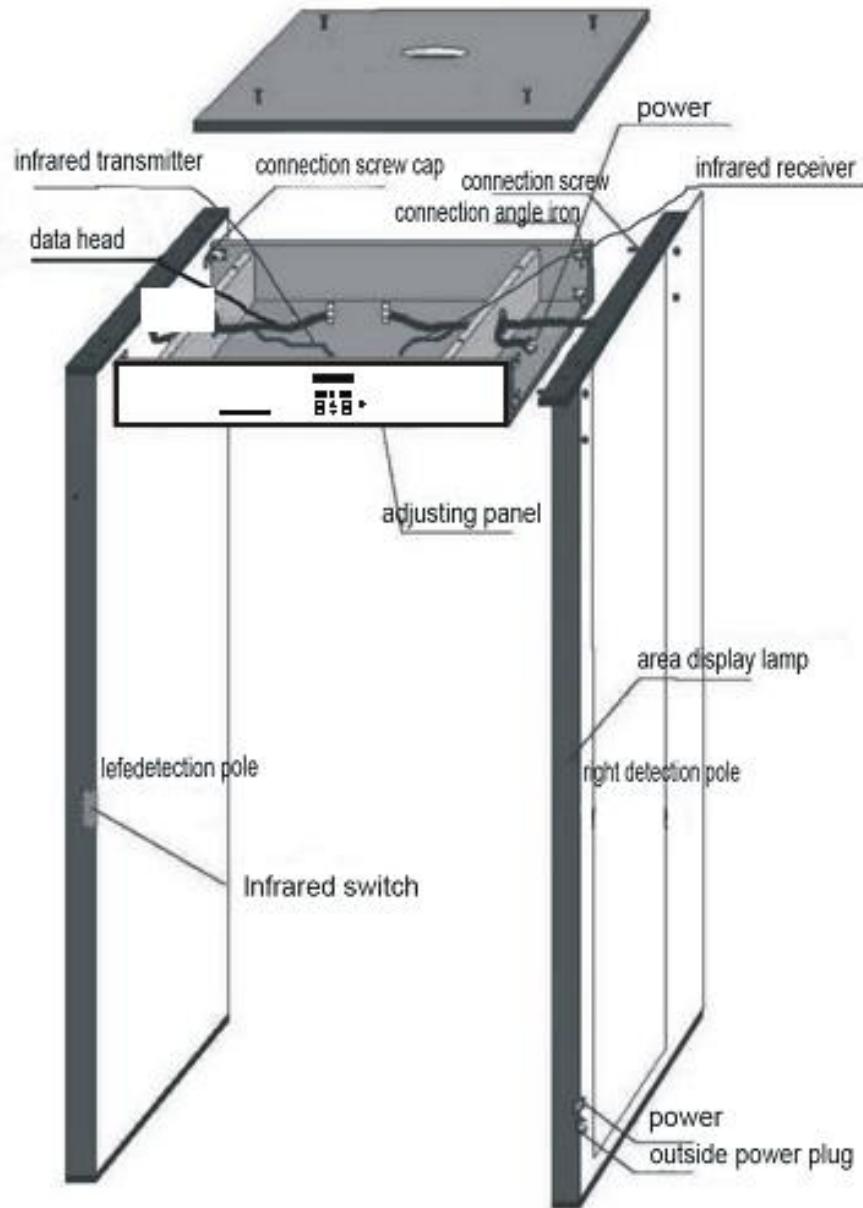adjustments required.

1.2 REGULATORY INFORMATION

Multi function series walk through metal detectors meets industry safety and electromagnetic compability (EMC) standard and comforms to international directives(CE approved).

Well rounded corner design of multi function walk through metal detector series ensures no cutting or tearing of the skin or clothing or otherwise causing bodily injury. A locking key switch protects critical circuitry, cables, wires and AC connectors to prevent tampering or injury.

1.3 PARTS LIST AND DIAGRAM
Parts List:

1.   Header(Electronics enclosure)
2.   Side Panel A
3.   Side Panel B
4.   (8) Bolts
5.   (8) Caps
6.

infrared transmitter

connection screw cap

connection screw

connection angle iron

power

infrared receiver

data head

adjusting panel

area display lamp

lefedetection pole

right detection pole

Infrared switch

power

outside power plug

that the unit be Tested for functionality and interference prior to permanent mounting.

2．4　　　MULTIPLE METAL DETECTOR　INSTALLATION SET-UP

The operating frequency can be changed by opening the top access panel of Header assembly. Locate the analog board see figure 4, and eight operating Frequency DIP switch located in the center of the board.

The six DIP switch allows sixteen separate frequencies to be selectyed, Turn an Individual switch changes the operation frequency. Select by trial-and-error a Frequency that eradicates false alarms and minimizes the nimber of lights that Illuminate on the bar graph.Adjust one switch at a time until a suitable switch Configuration is identified.lt is recommended to reset the detector after each switch Change.

Lf multiple detectors must be operated in parsllel it is necessary to operate them at Different frequencies. A failure to do so will result in them interacting and producing False alarms

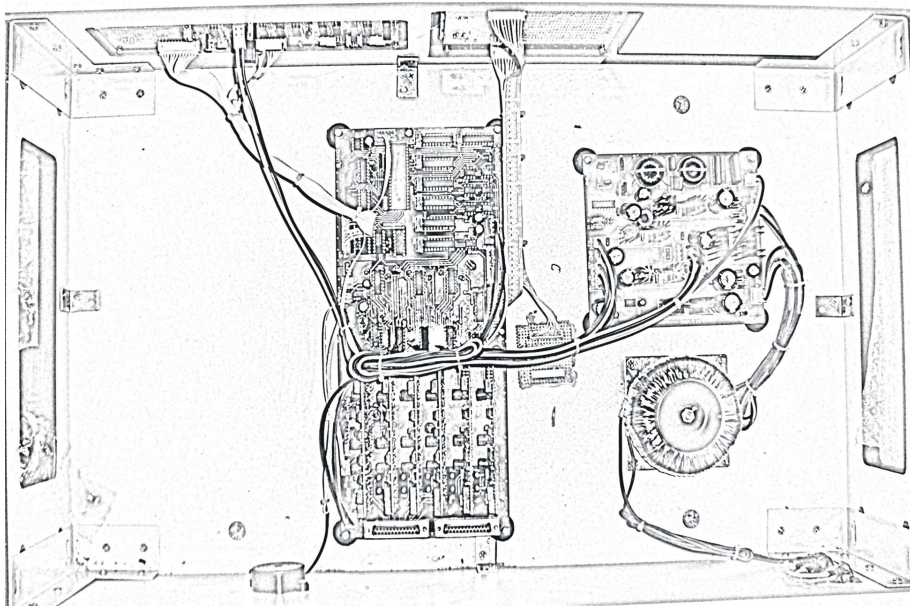| IMPORTANT! |
| --- |
| Only factory technician can use switch A and C to change the sensitivity and frequency Which has been pre-set in the factory. Lt is strongly recommended users not to change Those settings. Users only can adjust switch B to arhieve proper sensitivity. |

2．5　　　COMPLETING THE INSTALLATION

After following the procedures, complete the installation of Multi function series by;

- Connect the unit(s) to the power source
- Select the operating setting
- Select required settings
- Check for interference and verify proper operation.

3.　　CONTROL KEYS & ADJUSTMENT

Multi function series have an Alarm Display Panel with an L.E.D array.

A   **Capture cards of detection**   **B**   **power Supply**

C   **Red Sensor and display cable**   **D**   **Electronics for power**

Panel A is positioned on the left of the header assembly.see figure 1.Lay the two Side panels with their silver connector sockets facing upward.Idelly, assemble the Unit close to the location where it is to be used. The header assembly should be Placed between the side panels and with its control panel facing upward. Turn side Panel Athrough 90 degrees so that the top socket is facing the header assembly. See figure 2.Align the top of the side panel with top of the header

2.3. STAILIZING

The Multi function series may be bolted to the floor using the holes in the unit's Boot or adhesive floor mounting plates.

Stabilizing the unit is particularly important in locations where the floor slopes or Tilting,disorderly,strong winds,etc.,are possible.It is recommended

1.4   DESCRIPTION OF CONTROL KEYS, DISPLAY AND ALARMS

PRGM   Enter the program / Return.

ACESS   Ensure/Continue

△   Upward the menu or Increase parameter one digit

▽   Downward the menu or reduce parameter one digit

SELEC   Select digital . eg:1234,

POWER   another function: 1.2.M sensitivity shortcut key.

Menu Design:

1. ①② walk though passes LCD display :PASSAGE □ □ □ □

2. ①② alarm LCD display: ALARMS □ □ □ □

3. ②   total sensitivity LCD display: BASE SENSE 1 (1-9)

4. ② 6(12 or 18)   zones sensitivity LCD display: ZONE 1～6(12 or 18) ZONE 67(two digits)

5. ②   alarm volume LCD display: VOLUME 0~3. maximum is 3 .

6. ②   three sensitivity setup：1.2.M

7. ② Add user

8. ② Dele user

9   ② 1.2.M select(standby model: pres " POWER " to choose 1.2.M —>ACCESS—>ENTER   code xxxx ,SELEC or △▽－＞(ACESS) or (PRGM)

Attentions: ① SUPERVISER can control   ② ADMIN can control

Details

SELEC button change digital. 0-9.BASE SENSE 1 or others, then Press PRGM back.

Zone 1-6(12 or 18) press △ ▽   button to desired zone,then ACCESS ,SELEC to change digital , △▽ increase or reduce one digit.

when all the parameters were setup, Press   " POWER "   to save sensitivity 1.2 or not. ACCESS to ensure,and PRGM exit to the previous menu.

Display introduction: If work normally, LCD display circular.

ASTROPHISICS INC METAL DETECTOR . MODEL WT2010 . BASE SENSE X.

Press " POWER " several minutes to turn on /off .

During start-up unit will initiate a self test ，displaying " SELF TESTING.... " .

If normal, it'll display digit.
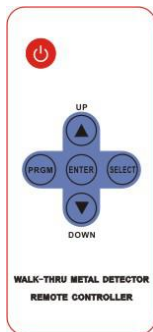
If unnormal，it'll display " SELF TEST FAIL ".

Press PRGM to enter the progra m ,then Press △▽，we can see and select "ADMIN USER " or " SUPERVISER "，press ACCESS，ＬＣＤ display：ENTER CODE xxxx

If make a mistake,ＬＣＤ will display：CODE INVALID，

If corret, it 'll go on.

（ADMIN USER can change all digits, but SUSPERVISER can only see passages and alarms）

Remote controller

Meun: display menu or close the walkthrough metal detector

Enter: confirm what you set up

Up: increase sensitivity / change password

Down: decrease sensitivity /change password

Left: move left to choose number what you want to change
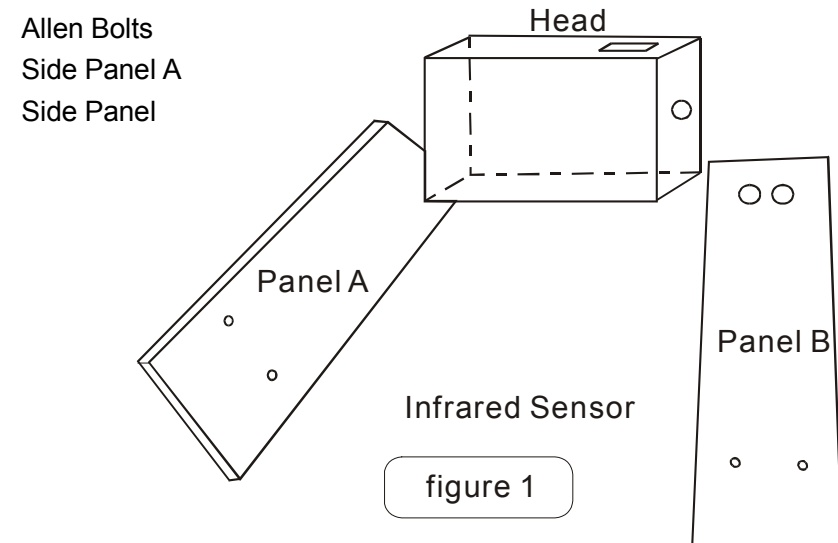
Right : move right to choose number what you want to change

Multi function **series are designed with compact operation Method to enable the easy operation and convenient visual check.**

1.5   DISPLAYS AND ALARM PANEL

1.5.1   Archway Depiction – shows the location of weapons or targeted objescts within the 6 (12 or 18)zones of detection. When an alarm event occurs a horizontal bar of L.E.D. s illuminate and depict the position of the object. Each weapon or contraband sized object that causes an alarm will result in the appropriate zone illumination. Multi function series have the display on each side of frame with large LED light to display .

Allen Bolts

Side Panel A

Side Panel

figure 1

Recommended position to start the installation

Important: Notice the infrared sensor face to each other and identify panel a and panel b, can not be change place.

OVER LOOD OF INNER ELECTRONICS

2. INSTALLATION

2.1 Site selection and Requirements

Multi function series walk through detectors should be installed on a level, solid floor. There should be no large metal objects within 3 feets of the unit. Multi function detector series are designed to detect metal that is moving, hence, closely spaced large metal objects such as metal clad doors, passing metal carts or fork lifts, etc., might cause an alarm event.

Choose your installation site carefully to minimize disturbances from large moving metal objects in the surrounding area. Likewise, care should be taken not to position the unit too close to walls which contain rebar construction or conduit. If the unit must be used near stationary metal the horizontal axis gain control feature can be used to compensate for signal losses. You can use a hand held metal detector to scan walls for the presence of substantial amounts of metal.

The screening area should be planned with enough room to accommodate people waiting to pass through the unit, space for operators and a non-metallic table for de-positing objects removed from pockets and an area for hand scanning. Make sure the unit will not get exposed to rain, mist or condensation. Insure the power cord is routed away from pedestrian traffic.

2.2. Assembly

The two packing cases contain two side panels, a header assembly, eight allen bolts with washers and a wrench, two keys and a power chord. The side panels have identification labels screwed onto their top.
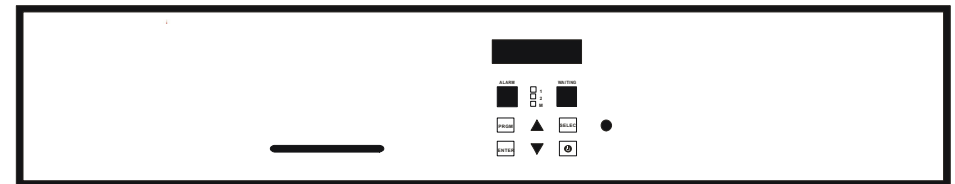
1.5.2 The 9 segment **Real-Time Signal Strenght Bar Graph** –shows signal strength of objects that pass through the archway. Signal level enlarges as metal is inserted. If the signal level into red area the unit alarms. Typically, signal size (number of bars that are illuminated) is proportional to object size. Also it is the installation area quality indicator. When the equipments installed and if metal signal bar do not stop blinking we suggest change a place to install or the walk through metal detectors sensitivity can not set to the best detect level

The signal light will pop up when the unit is self-calibrating or goes into noise or metal overload fault condition. The walk trough metal detector is immune to most noise sources that typically cause problems with walk-through detectors. Howewer, high intensity noise sources such as a nearby plasma arc welder may cause the unit to go into the blink mode.

Likewise, if a large metal object (for instance a filling cabinet) is placed close to the unit it may go into the blink mode. It is not recommended operate the detector this condition. If possible eliminate the noise source or metal object that causes the over load.

1.5.3 **Alarm Indicator Light** (red L.E.D.) – Lights and is accompanied by an audio alarm when a weapon or contraband size is detected.

1.5.4 **Ready Indicator Light** (green L.E.D) – Illuminates when unit automatically resets and is ready to screen next person. Only one person should be within the detection field at any time.

Layout of Multi function