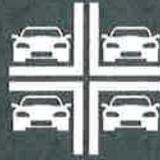


# EXHIBIT 1



# EXHIBIT 2



**PARKPLUS**  
HIGH DENSITY PARKING SYSTEMS



# LShd

**LIFT-SLIDING**  
Semi-Automated  
Parking System

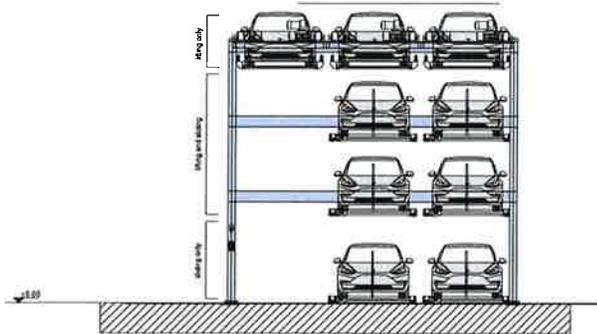


# SPEC SHEET

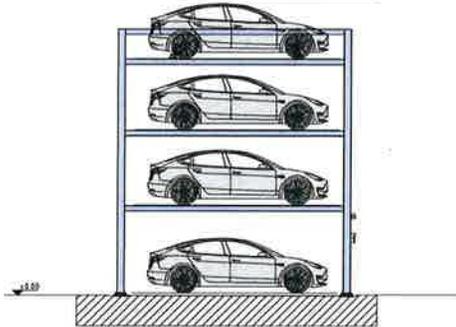
# PARKPLUS LS LIFT-SLIDING



\* Typical LS System



Front View



Side View

## Applications

Lift-Sliding System can be installed in attended/valet applications and self-park applications:

- Multi-Family Residential Buildings
- Indoor & Outdoor Installations
- Low & High Rise Buildings
- Commercial Buildings
- Surface Lots

The **PARKPLUS** Semi-Automated Lift-Sliding Parking System is a multi-level customizable vehicle storage and retrieval system for storing cars in vertical and horizontal arrays. The Lift-Slide uses Programmable Logic Control (PLC) software to move stacked cars on platforms to receive and present vehicles at grade, providing direct access to stacked vehicles without removing other vehicles from the system.

Entire assembly comes pre-welded and is assembled in the field. System is designed to be mounted on grade with an engineered foundation. System can be designed to stack up to 5 vehicles above grade and up to 2 vehicles below grade, with a maximum vertical stacking capacity of 7 vehicles in the space usually occupied by a single vehicle. There are no horizontal limitations to the system.

The **PARKPLUS** Lift-Sliding System is designed to be installed indoors and outdoors. System can be customized with external cladding/siding, garage doors and roof, per project specifications. Platform height is set at fixed height between 5'-2" min. and 7'-0" max. Each city may have minimum height requirements and different clear requirements for code required parking. Owner/Architect should review with local planning and building departments. **MEP coordination with project team must meet code requirements and satisfy equipment clearances.**

## Suitable for

- Standard passenger vehicles
  - SUVs
- \*Custom Solutions Available*

## Specifications

Load per Platform:	5,200 lbs.
Weight of Unit:	(Determined by Model)
Length of Stall:	19'-9"
Width of Stall:	8'-2 1/2"
Height of Unit:	(Determined by Model)

*\*Excluding column dimensions of structural framework*

*\*Custom Dimensions Available*

Operation:	Electric Control Panel Programmable Logic Control (PLC) Automatic with Manual Override
------------	---

Control:	Push Button Control Key Fob Remote Control (Optional) Mobile App (Optional)
----------	--

## Power

Lift Motor: 3 HP – 5 HP

Traversing Motor: 0.55 HP

## Electrical

1 Disconnect required per system module

3 PH 208V (100Amp)-480V (60Amp) / 60HZ

All control wiring is a Class 2 Circuit 24V

Power & Electrical specifications vary per Product Model

- **Cost-Effective, Multi-Layered Parking Solution**
- **In-house Design, Manufacturing, Installation & Service**
- **Minimal Moving Parts – Reduced Maintenance**
- **Self Parking – No Attendant Required**



## Operation

Each module requires an empty stack – allows for shifting of platforms. User will always park & retrieve car from same position on grade. Dedicated spaces/platforms can be assigned.

### PARKING / STORAGE

- User requests platform by keypad/push-button control, key fob remote control and or mobile app.
- System prepares platform and presents at grade level
- Safety gate opens when platform is in position
- Driver pulls vehicle onto platform
- Driver engages parking brake, shuts off vehicle

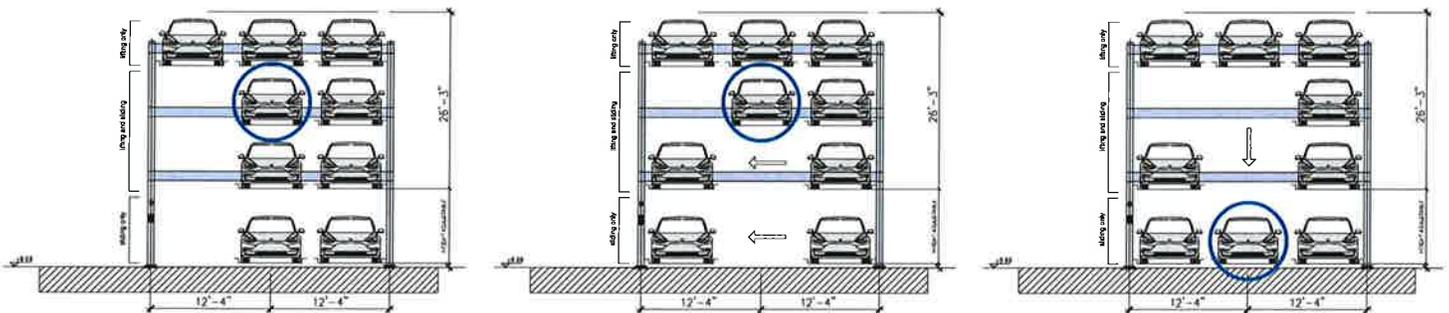
- Driver exits vehicle and completes storage command at keypad
- Safety gate closes
- Vehicle is transferred to specified storage position

### RETRIEVAL

- User requests retrieval at keypad
- Process is followed in reverse
- System presents vehicle at same position of loading
- Driver enters vehicle, starts and drives away
- Safety gate closes
- System returns to neutral

*A system of safety feature ensures normal operation of each cycle.*

\* System shown at capacity



1. Stand by mode. Vehicle requested.

2. Slide-motion initiated.

3. Vehicle presented at ground level.

## ADDITIONAL INFORMATION

### Safety

System is equipped with limit switches which limit motions to correct system levels and positions. Motion detectors and lasers detect obstructions within system and stop operation in emergency. System requires operator reset to check safety and obstruction removal. System is equipped with safety locking system. The safety hook system holds full weight of vehicle on platform in locked position. System is equipped with a secondary (anti-fall) safety system. System is equipped with Visual and Audible alarms and Emergency Stops. Safety Gates are required for Self Parking and In-ground units.

### Fire Protection

In most metropolitan areas, car stacker systems are reviewed as similar to high piled storage and non-building structures. Fire rating of structural components is not required. Sprinklers may be required per following section. Each city may have fire department guidelines.

### Fire Sprinklers

**Outdoor:** 1. Most cities do not require fire sprinklers. 2. May need to conform to additional zoning regulations and building code requirements.

**Indoor:** 1. Installation shall be in a sprinklered garage. In tandem array, additional sprinkler requirements may apply. 2. Sprinkler Plans filed and approved by local municipality. 3. Sprinkler system designed as required by NFPA 13 and local building codes. 4. Clear building height within parking area must accommodate height of equipment plus additional requirements for adequate coverage of fire sprinklers.

### Temperature

This device is designed to operate between 20° and 120° F.

### Loading

Structural design and loading is provided on a project by project basis and is dependant on seismic zones, soil conditions and other environmental conditions.

### Warranty

12-month Standard Manufacturer's Warranty on new equipment.

Extended Warranty is available at time of purchase.

### Service

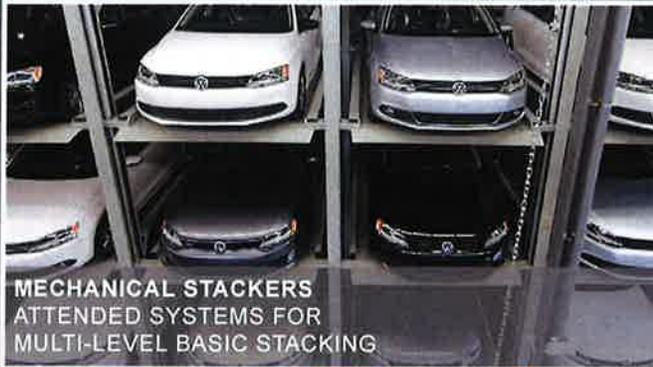
At end of 12-month warranty period a service contract is available upon request.

Rental option includes Service & Maintenance for full term.

### Approvals

- OTCR Certified, City of New York
- LAETL Approved, LARR#Pending, City of Los Angeles
- ISO Compliant
- California Seismic Code Compliant
- Miami Dade County Compliant
- Approved in Multiple U.S. Cities

# HIGH DENSITY PARKING SYSTEMS FOR 50 YEARS



**MECHANICAL STACKERS**  
ATTENDED SYSTEMS FOR  
MULTI-LEVEL BASIC STACKING



**AUTOMATED SYSTEMS**  
ADVANCED TECHNOLOGIES FOR  
ROBOTIC PARKING SOLUTIONS



**SEMI-AUTOMATED SYSTEMS**  
HYBRID DESIGN FOR  
SELF-PARK OR ATTENDED STACKING



**DISPLAY UNITS**  
CREATIVE SOLUTIONS FOR  
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## OUR GLOBAL FOOTPRINT



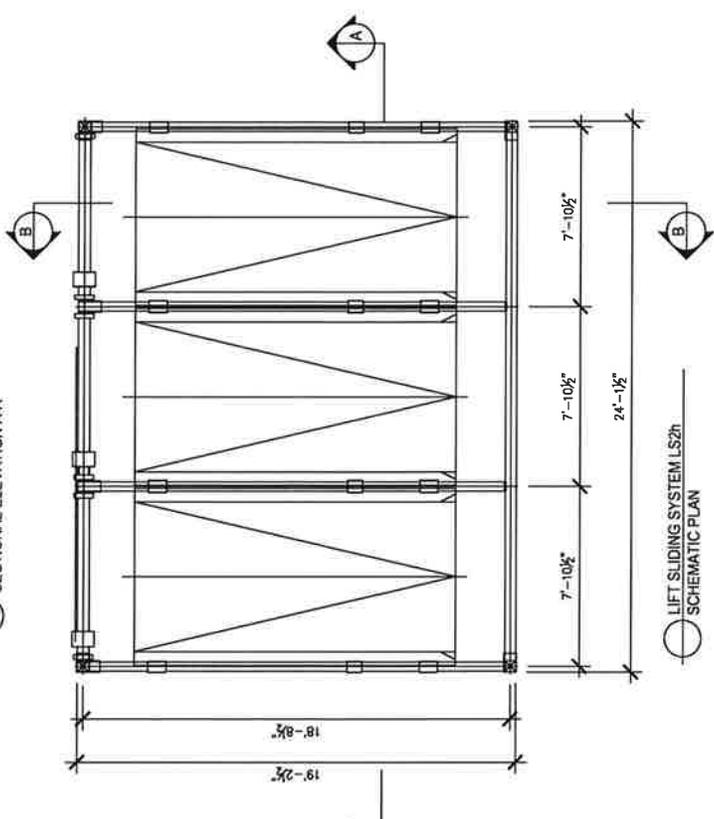
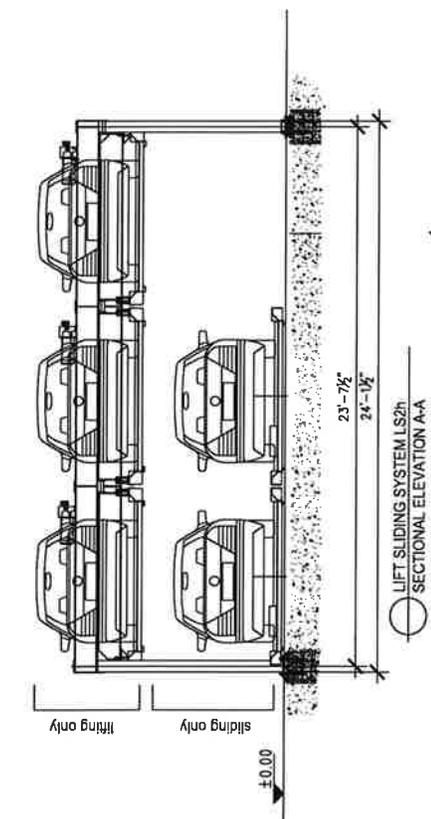
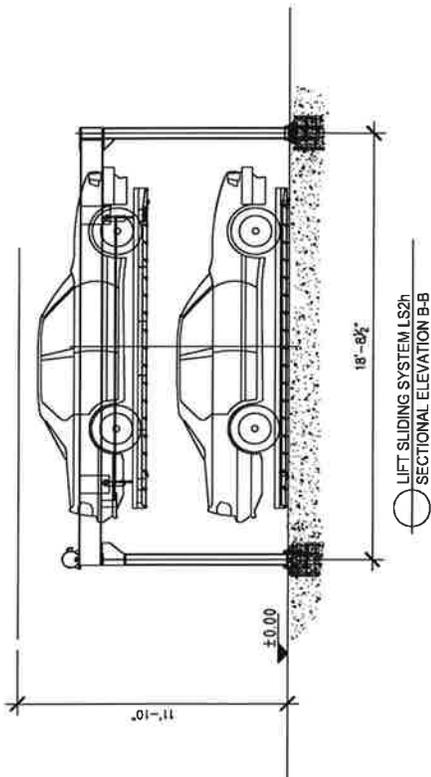
CALL US: **8-444-PARKPLUS**



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**PARK PLUS Inc.™**

PARKING SYSTEMS

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DATE:	
DRAWN BY:	
CHECKED BY:	
PROJECT	DRAWING

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PROJECT  
**LIFT SLIDING PARKING SYSTEM**  
 TECHNICAL SPECIFICATION  
 SEMI-AUTOMATED PARKING SYSTEM

DRAWING DESCRIPTION  
**MODEL LS2h**  
 DRAWING NOT TO SCALE



REVISIONS:  
 △



**PARKPLUS**  
HIGH DENSITY VEHICLE STORAGE



**CORPORATE  
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## FUNCTIONAL SPECIFICATION

### LIFT SLIDING® SEMI-AUTOMATED PARKING SYSTEM



## Table of Contents

I. Brief Introduction .....	2
II. Basic Technical Parameters .....	3
III. Equipment Structure.....	3
IV. Operating Procedure.....	4
V. Principal Components .....	4
VI. Operations of Control Panel .....	6

### I. Brief Introduction

The semi-automatic Lift-Sliding® high density parking system comprises of a steel framework that contains a system of vertically and laterally moveable vehicle storage platforms designed to provide direct access to stacked vehicles without the need of removing other vehicles from the system. The mechanics are controlled through the use of a PLC (Programmable Logic Control) unit that allows users of the system to self-park their vehicles, therefore eliminating the need for a parking attendant or reducing the labor required to typically manage the operation. This system is designed to stack a maximum of 15 vehicles above grade and 3 vehicles below grade, giving a maximum stacking capability of 18 vehicles in a space otherwise occupied by a single vehicle. The number of vertical stacks is virtually unlimited, although large systems are divided into smaller groups in order to increase efficiency.

Vehicles enter the system at grade level and are loaded on a specified platform. This platform will be placed in a dedicated position in the system until the retrieval process is initiated, which then presents the vehicle at the same position of initial loading. A complete system of safety features ensures normal operation of each given cycle.

The system can be completed with standard garage doors that are integrated and programmed with the PLC to open or close only when the system is ready; all mechanical movement within the system will only function once the system has detected that no person, animal or object is in interference with or obstructing normal operation.

Product performance is in compliance with ISO (International Standards Organization) and has MEA-certification (Materials and Equipment Acceptance) for the City of New York, and is in the process of receiving LARR approvals in Los Angeles.

## II. Basic Technical Parameters

The basic technical parameters of this model are listed for the example below: (This table is to be read in conjunction with the diagrams on the following pages)

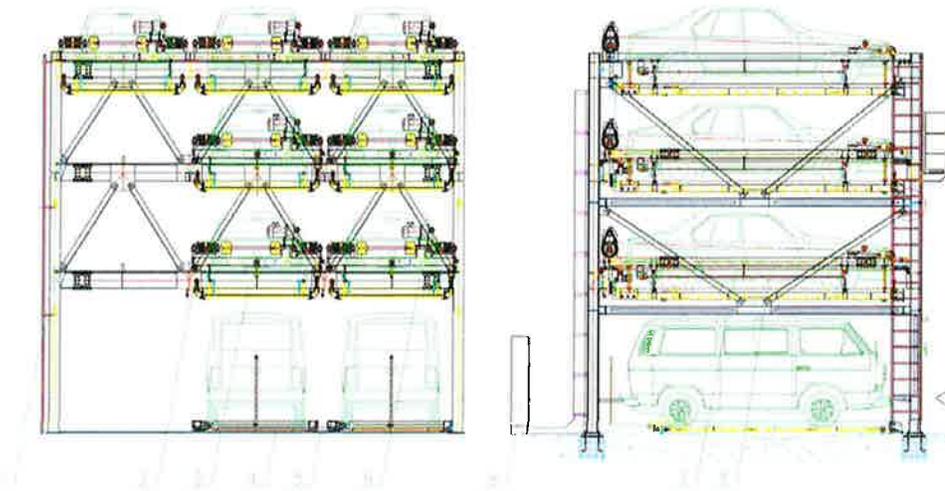
Example: LS system comprised of 4 vehicles above grade of 3 stacks, providing 9 platforms.

MODEL #	LS 4H_3 (9 spaces)	
Vehicle Size:	Length x width x height	Ground Level: 17' x 6'-6" x 8'-1"
		Upper Levels: 17' x 6'-6" x 6'-0"
		Below Grade: 17' x 6'-6" x 8'-1"
Max Weight:	6000 lbs	
Drive Method	Wire rope driven by brake motor	
Speed:	Lifting	13 ft. per minute
	Traversing	26 ft. per minute
Power:	Lift Motor	3 HP
	Traversing Motor	0.55 HP
Power Supply:	3phase/220V/60HZ	
Controls:	Control Panel and Programmable Logic Control (PLC)	

## III. Equipment Structure

This model of semi-automated parking equipment is comprised of a stand-alone four-level steel structure containing nine platforms, as illustrated below.

1. Framework, 2. Lifting Gear, 3. Top Deck, 4. Bottom Deck, 5. Fixing Base, 6. Accessory, 7. Lateral Moving Fixture, 8. Safety Mechanism

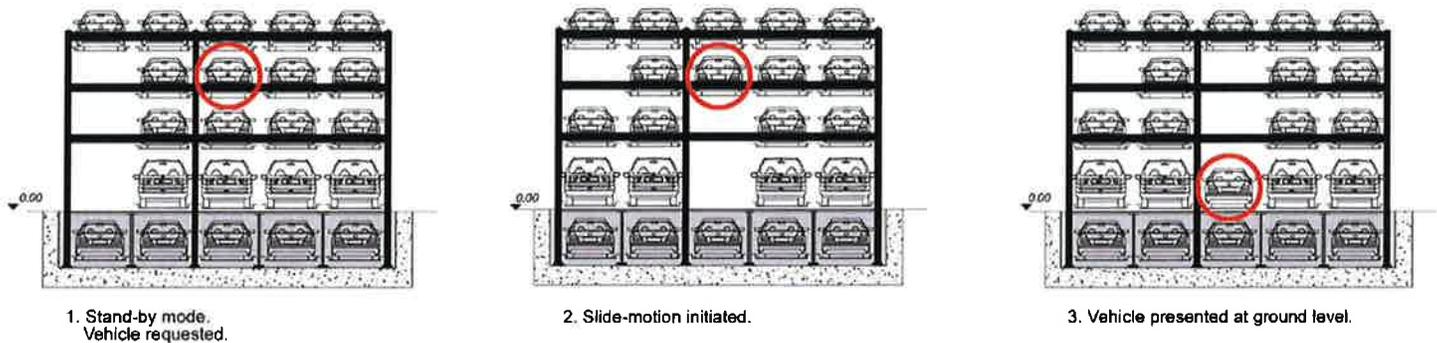


## IV. Operating Procedure

- Select the desired Platform by pressing the code number followed by “START”.
- All Platforms below the required Platform will move laterally to create a free aisle.
- The selected Platform will then move down the aisle into position.
- Once the platform reaches ground level and is positioned correctly, the vehicle may be loaded onto the platform.
- A new cycle will begin when the system is prompted for another command.

The operating procedure is demonstrated by the following figure:

\*System shown at capacity



## V. Principal Components

1. **Structural Framework:** The structural framework is comprised of steel members and joined with high-strength bolts. H-profile steel columns have been adopted for the frontal and rear vertical supports (8" x 8"), the frontal and rear cross beams (12" x 6") and longitudinal beams (6" x 6").
2. **Platforms:** The platforms are comprised of perimeter members, with galvanized steel plates as a support structure for the vehicle. These move vertically by means of cables connected to a winding drum, and move laterally by means of roller wheels on guides.
3. **Lifting Gears:** The lifting gears consist of a motor, sprocket wheels, chain, winding drum, wire rope, transmission shaft, pulleys and ball bearings with a base. While running, the speed-reduction motor unit with brake will drive the sprocket wheels through a chain to rotate the transmission shaft. The winding drum fixed on the transmission shaft will rotate and reel the wire over it, which in turn will lift the parking Platform that is fixed to the wire rope.

#### 4. Safety Features

- BrakeMotors
- Anti-fall Safety Hooks and Guide Rods,
- Infra-red beams and Limit Switches to monitor a variety of functions
- Visual and Audible warning and devices
- Safety Gates as required

#### 5. Moving Fixtures:

Lateral moving fixtures are arranged at the first, second and third levels to drive Platforms to move laterally. Vertical movement is only on the second, third and fourth levels. Therefore the top-most platform on any given system is for lifting only; the ground level platform is for sliding only; and any level in-between is for lifting and sliding. All below-grade levels are lifting platforms only.

#### 6. Control Systems

##### 6.1 Sensing Elements:

- Upper Overrun Switch: To detect any overrun condition of top deck at upper position
- Upper Limit Switch: To detect the upper position of the top deck.
- Lower Limit Switch: To detect the down position of the top deck.
- Lower Overrun Switch: To detect any overrun condition of top deck at lower position
- Thermo Relay: To detect any over load of motors
- Protective Relay: To detect any lack of phase, anti-phase, over voltage or under-voltage of power supply.
- Over-length Sense switch: To detect any vehicle that is too long
- Over-height Sense Switch: To detect any vehicle that is too high.

##### 6.2 Control Elements

- Programmable Logic Controller (PLC): To process the signals from sensing elements and output to action elements
- Control Box: As the operating device of the system, this enables the system to run in manual or automatic mode.

##### 6.3 Action Elements

- Motors for Lateral Movement: To drive platforms to move laterally.
- Lifting Motor: To drive platforms to move vertically.

##### 6.4 Vehicle Detecting System:

- A pair of photoelectric switches is arranged respectively inside the frontal and rear vertical columns of the system to detect any over length or unauthorized entry of a person or vehicle. If this occurs, the system will automatically stop and give off an audible and visual alarm

while indicating fault codes on the control panel.

## **VI. Operations of Control Panel**

The control panel controls the system in either automatic operation mode or manual mode. In normal operation, the control panel is accessed by key switch. For commissioning or troubleshooting purposes, an override facility permits manual operation.



*Prepared by*

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[info@parkplusinc.com](mailto:info@parkplusinc.com)



# EXHIBIT 3

The foregoing instrument was endorsed for record as follows: The property affected by this instrument is situate in the City of NEW ROCHELLE, in County of Westchester, New York.

A true copy of the original SURRENDER OF A LEASE and acknowledgments thereof with certificates recorded Apr. 9, 1925, at 10.55 A.M. At request of Westchester Title & Trust Company.

*Mickie Muntan*

Register.

EDWARD S. BURTIS & S.

TO

RELLSTAB BROS. INC.,

THIS INDENTURE, made the eighth (8th) day of April, nineteen hundred and twenty-five, BETWEEN EDWARD S. BURTIS and GEORGIANNA R. BURTIS, husband and wife, of the City of New Rochelle, County of Westchester and State of New York, parties of the first part, and RELSTAB BROS. INC., a corporation organized and existing under the laws of the State of New York, having its principal office at Number 31 North Avenue, in the City of New Rochelle, County of Westchester, and State of New York, party of the second part, WITNESSETH, that the parties of the first part, in consideration of ONE DOLLAR, lawful money of the United States, AND OTHER GOOD AND VALUABLE CONSIDERATION, paid by the party of the second part, do hereby grant and release unto the party of the second part, its successor, successors and assigns forever. ~~ALL~~ ALL those certain lots, pieces or parcels of land, with the buildings and improvements thereon, situate, lying and being in the Village of Larchmont, Town of MAMARONECK, County of Westchester and State of New York, shown and designated on a certain map entitled, "Map of land in Larchmont" surveyed by L.E. Van Etten, C.E., and filed in the office of the Register of Westchester County: on May 31st, 1902, in volume 14 of maps at page 68, as the southwesterly one half of lot Number three (3), and the northeasterly one half of lot Number five (5) and the whole of lot Number four (4) said lot and parts of lots when taken together in one parcel are more particularly bounded and described as follows:- BEGINNING at a point on the southeasterly side of Larchmont Avenue, as laid down on said map distant fifty seven and fifty hundredths (57-50) feet southwesterly from the point formed by the intersection of the said southeasterly side of Larchmont Avenue, with the southwesterly side of Chatsworth Avenue, as laid down on said map, running thence south 52° 22' 45" east part of the way through a party wall, one hundred and three and nineteen hundredths (103.19) feet to the northwesterly side of lot Number ten (10) as shown on said map; running thence south 37° 37' 15" west along the northwesterly line of said lot Number ten (10) fifty (50) feet; running thence north 52° 22' 45" west part of the way through a party wall, one hundred and three (103) feet to the southeasterly side of Larchmont Avenue; and running thence north 37° 24' 05" east along the said southeasterly side of Larchmont



STATE OF NEW YORK, COUNTY OF WESTCHESTER, SS: On the eighth (8th) day of April, nineteen hundred and twenty-five, before me came EDWARD S. BURTIS and GEORGIANNA R. BURTIS, husband and wife, to me known to be the individuals described in and who executed the foregoing instrument, and the severally duly acknowledged that they executed the same.

MORGAN H. SEACORD, Notary Public, Westchester County, N.Y.

The foregoing instrument was endorsed for record as follows: The property affected by this instrument is situate in the Town of MAMARONECK, in County of Westchester, N.Y.

A true copy of the original DEED and acknowledgment thereof recorded Apr. 9, 1925, at 3.37 P.M. At request of Tierney, Schrenkeisen, & Kettner.

*Muhli Muntz* Register.

CATHRYN E. CHISHOLM, :  
TO :

MAE BATCHLOR KENNELLY, : THIS INDENTURE, made the 8th day of April, in the year nineteen hundred and twenty-five, BETWEEN CATHRYN E. CHISHOLM, residing at 25 Midland Ave., White Plains, N.Y., party of the first part, and MAE BATCHLOR KENNELLY, residing at 63 Mamaroneck Ave., White Plains, N.Y., party of the second part; WITNESSETH, that the said party of the first part, in consideration of ONE (\$1.00) DOLLAR AND OTHER GOOD AND VALUABLE CONSIDERATIONS, DOLLARS, lawful money of the United States, paid by the party of the second part, do hereby grant and release unto the said party of the second part, her heirs and assigns forever. ALL that certain lot, piece or parcel of land, situate, lying and being in the City of WHITE PLAINS, County of Westchester and State of New York, known and designated as and by the lot Number twenty (20) on a certain map entitled, "Survey of property subdivided for Buena Vista Land Co. in the City of White Plains, Westchester Co., N.Y." made by Ward Carpenter & Co. Inc., Constructing Engineers, & surveyors, and filed in the office of the Register of the County of Westchester on March 3rd, 1923, by the Map Number 2488. BEING the same premises conveyed to the party of the first part hereto by Buena Vista Land Company, Inc. by a deed dated May 10th, 1923, and recorded in the office of the Register of the County of Westchester on May 11, 1923, in Liber 2427 of conveyances at page 394. TOGETHER with the appurtenances and all the estate and rights of the part-- of the first part in and to said premises. TO HAVE AND TO HOLD the above granted premises unto the said party of the second part, her heirs and assigns forever. SUBJECT to restrictive covenants of record. And the said party of the first part does covenant with said party of the second part as follows: FIRST.- That said party of the first part --- seized of the said premises in fee simple, and has good right to

# EXHIBIT 4



# PASS Signs

## **Configuration of the System:**

The CAR COMING sign will be mounted outside the garage exit viewable from all directions.

The 11x17 Sign will read: **STOP Pedestrian X-ING**. This will be mounted inside the garage so that the driver can see the sign before exiting the parking garage.

A Hawk 2 Motion Detector will be mounted in each exit lane to detect vehicles exiting. Vehicles entering and pedestrians walking through the area will not trigger the Hawk

### **When a vehicle is detected exiting:**

The Hawk 2 will trigger the Control Board located inside the CAR COMING Sign. The Control Board will activate the following:

- Flashing CAR COMING letters on the CAR COMING Sign
- Flashing Amber LED Alert on the CAR COMING Sign
- Voice Alert on the CAR COMING Sign – “Attention. Vehicle Exiting. Watch for Vehicles”
- Flashing **STOP Pedestrian X-ING** sign facing the drivers

### **Variables of Operations**

The Control Board has a dial to adjust the length of Activation Time

A PT724A Timer will be installed in next to PSC2 Control Board to shut off the Voice Alert at designated times (typical is 9pm – 7am M-F, 9pm to 8am on weekends)

Thank you

Jeff Terrozas

## Operations

### How the System Operates

An output trigger from a traffic control device activates the system when a vehicle is detected exiting a parking facility or blind corner.

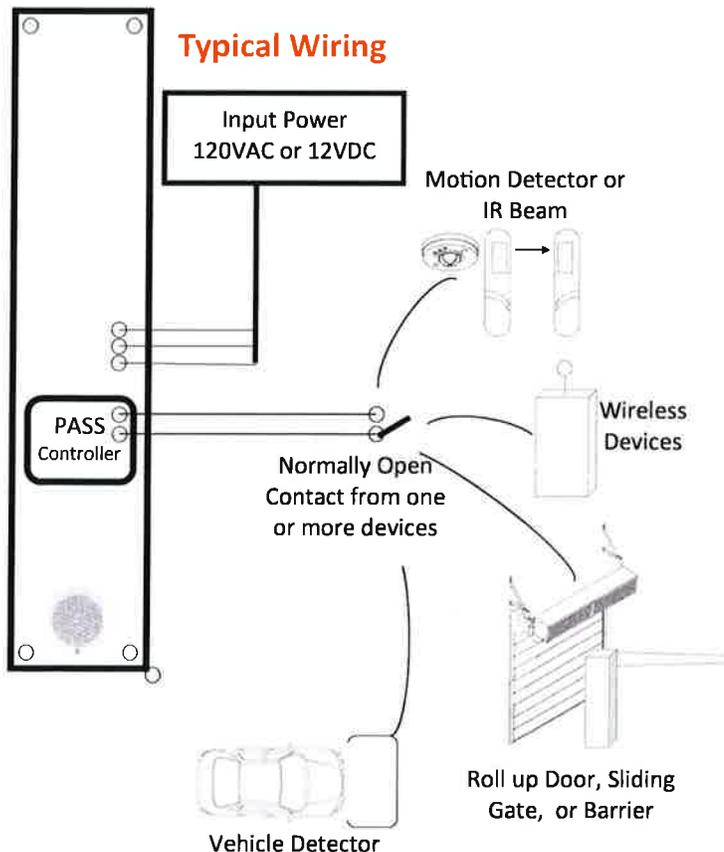
(see types of triggers diagram below)

A PASS Control board is integrated inside the Sign Enclosure.

The trigger is received by INPUT 1 of the PASS Control. This activates the three alerts - Voice, Yellow Flashing, and Backlit Text

The duration of the alerts is controlled by the Activation Timer (0-60 Seconds)

Note: If the end user would like the Backlit Text to also flash, move Output 1 wiring to Output 2



## Specifications

### Dimensions

Height: 40"

Wide: 10"

Face: 8"

Shape: Prism

### Colors

Enclosure: Hammered Copper Vein

Message Lettering: White

Flashing Alert: Amber

### Electrical

LED lighting 50,000 hrs

Power In: 120VAC or 12VDC 2.5A

Power Out: 12VDC

Trigger Inputs: Dry Normally Open

Waterproof transformer (120V/12V) is integrated inside the sign enclosure

### Audio

MP3 USB Card for voice message

25 Watt Water Resistant Speaker

10 Watt Amplifier

Message can be changed easily onsite

Output is 0-90db

### PASS Control Board (Integrated)

12VDC Input Power

12VDC Output Power (for motion or detector)

MP3 Voice Board SD Micro Card

Activation Timer Dial 0-60 Seconds

Delay before Activation Dial 0-15 Seconds

Volume Dial 0-90dB

Input 1: Activates Sign

Input2: For Directional Logic Inputs

Output 1: Steady Output

Output 2: Flashing 1 sec On/Off Output

Speaker Output

Headphone Jack for testing

Input 1 Test Button

Input 2 Test Button





**Saving Lives, Preventing Accidents, Everyday**



Bright backlit displays

Flashing or steady lit message



Voice or Audio Alert



Integrated timer and power supply

Connect to sensor to activate



## Intelligent Messaging Sign - Backlit 11x17

### Proactive Protection

- Mitigate RISK
- Avoid lawsuits
- Reduce liability
- Protect pedestrians
- Avoid workers comp

### Applications

- Warn cars when pedestrians are exiting an elevator lobby
- Warn pedestrians when a delivery truck is exiting a dock
- Warn over height vehicles that they will not fit in parking garage
- Warn cars that another is coming up the ramp
- Many many more custom applications

**PASS Signs**  
Pedestrian Alert Safety Signs

Have questions?  
We make it easy for you.  
480-689-1993  
support@passigns.com

## Operations

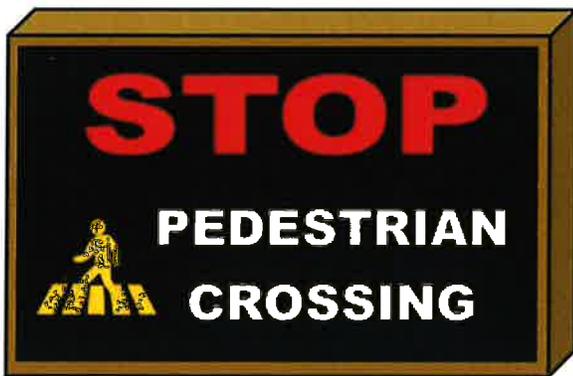
### How the System Operates

An output trigger from a traffic control device activates the system when a vehicle or pedestrian detected exiting.

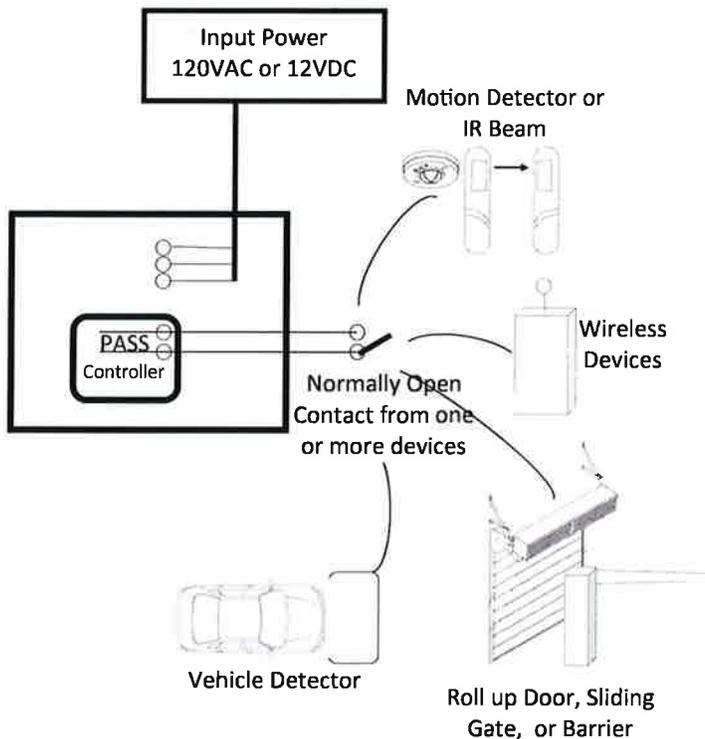
(see types of triggers diagram below)

A PASS Control board is integrated inside the Sign Enclosure.

The trigger is received by INPUT 1 of the PASS Control. This activates the two alerts - Voice and Backlit Text



### Typical Wiring



## Specifications

### Dimensions

Enclosure: 13" x 19" x 3"

Face: 11x17"

Shape: Rectangle, 16 AWG steel

### Colors

Enclosure: Hammered Copper, Powder Coated  
Covered areas only. Minimum weather protection.

Message Lettering: Various, Custom

### Electrical

LED Light Bulbs - Selectable Flashing or Steady

Power In: 120VAC 1A or 12VDC 3A

Power Out: 12VDC 1A for sensors

Trigger Inputs: Dry Normally Open

Waterproof transformer (120V/12V) is integrated inside the sign enclosure

### Audio

MP3 USB Card for voice message

20 Watt Water Resistant Speaker

10 Watt Amplifier

Message can be changed easily onsite with USB cord

Output is 0-90db

### PASS Control Board (Integrated)

12VDC Input Power

12VDC Output Power (for motion or detector)

MP3 Voice Board

Activation Timer Dial 0-60 Seconds

Volume Dial 0-90dB

Input 1: Activates Sign

Output 1: Steady Output

Output 2: Flashing 1 sec On/Off Output

Speaker Output

Input 1 Test Button



## SPECIFICATIONS

Operating frequency	24.150 GHz
Output power (EIRP)	≤20dBm
Detectable speed	0.1 m/s min.
Vertical directionality	0...60°
Horizontal directionality	+/- 45°
Installation height	Max. 6 m
Range	1...10 m adjustable
Relay control time	1...6 sec. adjustable
Relay output configuration	Form C (SPDT)
Relay contact rating	1A @ 24V AC/DC
Detection indicator	Red LED
Operating temperature	-4°F...122°F (-20°C...50°C)
Supply Voltage	12...24 VDC/VAC
Operating current	Max. 40mA
Dimensions	6.3"(160mm) x 3.8"(95mm) x 4.4"(110mm)
Weight	1.0 lbs. (450 g)
Housing	ABS (plastic)
Connection	6.5' (2m) cable
Mechanical protection	IP66

## CAUTIONS AND WARNINGS

This product is an accessory or part of a system. Always read and follow the manufacturer's instructions for the equipment before connecting this product. Comply with all applicable codes and safety regulations. Failure to do so may result in damage, injury or death

## WARRANTY

### WARRANTY

EMX Industries Incorporated warrants all products to be free of defects in materials and workmanship for a period of two years under normal use and service from the date of sale to our customer. This warranty does not cover normal wear and tear, abuse, misuse, overloading, altered products, damage caused by incorrect connections, lightning damage, or use other than intended design.

There is no warranty of merchantability. There are no warranties expressed or implied or any affirmation of fact or representation except as set forth herein.

EMX Industries Inc. sole responsibility and liability, and the purchaser's exclusive remedy shall be limited to the repair or replacement at EMX Industries option of a part or parts found not conforming to the warranty. In no event shall EMX Industries Inc. be liable for damages of any nature, including incidental or consequential damages, including but not limited to damages resulting from non-conformity, defect in material or workmanship.

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## HAWK 2 INDUSTRIAL MOTION SENSOR



## OPERATING INSTRUCTIONS

### MATERIALS SUPPLIED

- Operating Instructions
- HAWK 2 Sensor

### GENERAL DESCRIPTION

The HAWK 2 is a planar technology microwave detector working in the K band. It is the ideal solution for operating all types of fast doors and industrial gates. It detects the movement of people and vehicles in the monitored area. With an appealing style, it can also be used for operating automatic doors.

Easy to install at a height of up to 20ft (6 meters), it has a versatile mechanical orientation system for accurate positioning to the required coverage area. The detection sensitivity and direction of movement (toward, away or both) are programmed by DIP switch setting. A microprocessor processes the received Doppler signals and provides set of form C relay contacts for external connection.

The LED on the front of the HAWK 2 indicates detection.

### SET-UP

The HAWK 2 motion sensor can be configured in the mono direction mode (one direction only) or in the bi-directional mode (both directions). Remove the rubber plug from the lower section of the detector (FIG. 1-A) and set the required function using the dip-switch (FIG. 1-B) settings per the following table.

#### Setting the detection range

It is possible to define the controlled area by changing the angle of the detector and the position of the dip-switch 4 (Fig. 3). Using trimmer TR1 (FIG. 1-F) the sensitivity can be optimized to activate detection only for the desired area.

SW1	SW2	SW4	SENSITIVITY	FUNCTION
OFF	-	ON	Low	Detect in both directions
OFF	-	OFF	High	Detect in both directions
ON	OFF	ON	Low	Detect approaching
ON	OFF	OFF	High	Detect approaching
ON	ON	ON	Low	Detect leaving
ON	ON	OFF	High	Detect leaving

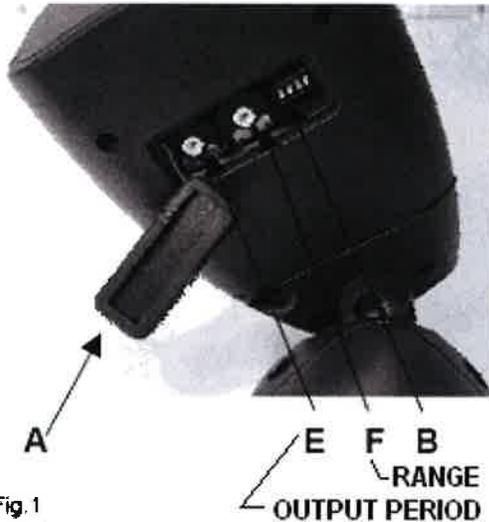


Fig. 1

#### Relay contact setting

The HAWK 2 output is a form C set of relay contacts. The setting options are indicated in the following table. These conditions are valid when the device is powered.

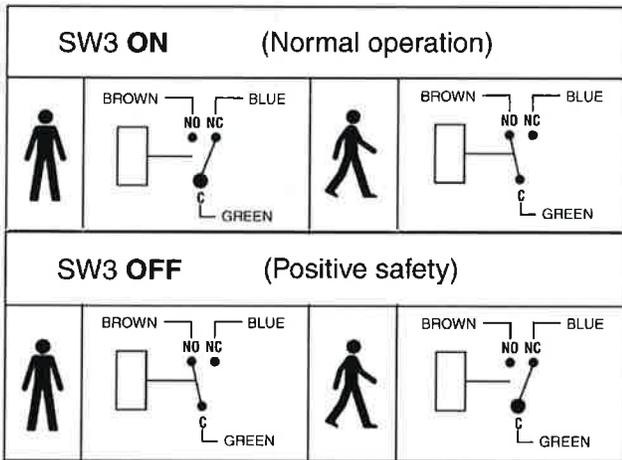


Figure 2

#### Adjusting activation period

Trimmer TR2 (FIG. 1-E) is used to set the desired duration of the output contact, variable from 1 to 6 seconds.

## INSTALLATION

The HAWK 2 can be installed at a height of 10 to 20ft. (3 to 6 meters) to cover an area of 10 to 100 sq. ft. (3 to 30 sq. meters).

The HAWK 2 can be installed at the center of the door to be controlled, or on the side on non-vibrating structures (walls or ceiling) at a maximum height of 20 ft. Use the template supplied with the unit for preparing the mounting holes.

Fasten the device using the prepared holes, remove the lower cover of the mounting base and loosen the screw that locks the detector orientation. Aim the detector toward the area to be controlled and lock the screw in that position.

For proper operation, do not install HAWK 2:

- Facing the moving parts of a door
- Facing fluorescent lights (minimum distance 6.5 ft.)
- Facing area where rain could provoke water fluxes

These conditions could cause undesired opening of the door.

## WIRING

Connect the pre-wired cable as indicated in table 1.

WIRE COLOR	DESCRIPTION
Red	12-24VAC/DC
Black	12-24VAC/DC
Green	Relay contact COMMON
Brown or Yellow	Relay contact NORMALLY OPEN (unpowered)
Blue	Relay contact NORMALLY CLOSED (unpowered)

## SENSITIVITY PATTERNS

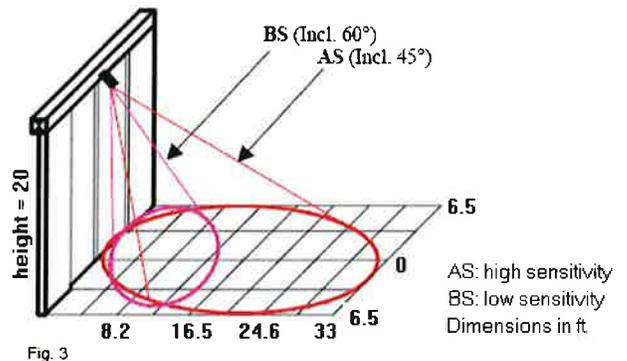


Fig. 3

AS: high sensitivity  
BS: low sensitivity  
Dimensions in ft.

# PT724A

## Single Channel Annual Event Timer

### Description

Altronix PT724A extremely versatile 24 Hour 365 Day Event Timers is designed to support a wide range of applications: Home and Building Automation, Security, Access Control, Lighting Control, etc. PT724A is equipped with an independently controlled form "C" relay contact that provides many latching and/or momentary operations during a program schedule of your choice. Events may be set for single or multiple operations on a daily and/or weekly schedule.



PT724A

### Specifications

#### Input

**Voltage** 12 or 24VAC or VDC operation.

#### Relay

**Contact Rating** Form "C" 10A/120VAC or 28VDC contacts.

**Standby Current** 10mA (relay off)  
50mA (relay on).

#### Timer

EE Prom memory protects against loss of programming due to power failure.

Accurate crystal controlled clock.

Momentary and/or Latching Events.

50 individually programmed daily/weekly events.

Block programming capacity can accommodate a total of 350 events per week.

10 programmable Holiday dates.

"First man in" option.

Standard or Daylight Savings Time settings.

Automatic compensation for leap year.

#### Indicators (LCD)

Alphanumeric LCD display simplifies programming.

#### Back-up Battery *(not included)*

**Type** Sealed lead acid or gel type.

**Failover** Upon AC loss, instantaneous.

Optional lithium battery (Altronix LB2032 ) backup maintains clock.

#### Physical and Environmental

##### Dimensions (L x W x H)

5.25" x 3" x 1" (133.35mm x 76.2mm x 25.4mm).

**Product Weight** 0.48 lbs. (0.22 kg).

**Shipping Weight** 0.5 lbs. (0.23 kg).

##### Temperature

**Operating** -20°C to 49°C (-4°F to 120°F).

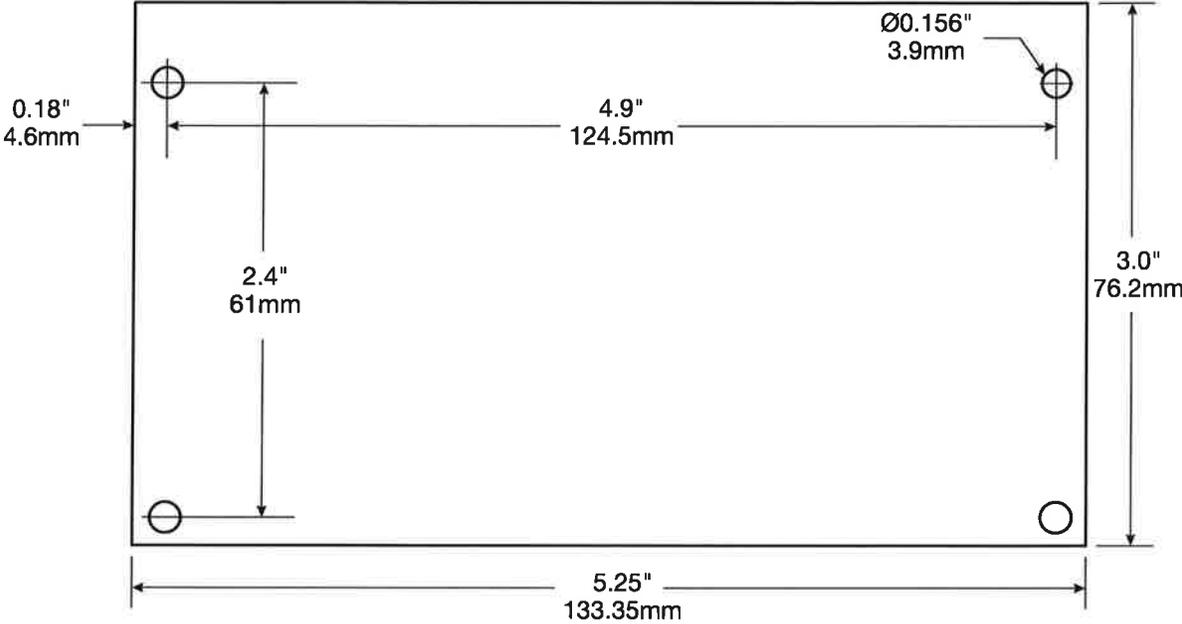
**Storage** -25°C to 70°C (-13°F to 158°F).

**Relative Humidity** 85% +/-5%.

# PT724A Single Channel Annual Event Timer

## Board Dimensions (L x W x H) and Drawing

5.25" x 3" x 1" (133.35mm x 76.2mm x 25.4mm)



## Operations

### How the System Operates

A motion detector detects a pedestrian walking towards a dangerous cross area. The motion detector outputs to the PASS Controller input. (see types of triggers diagram below)

A PASS Control board is integrated inside the Sign Enclosure.

The trigger is received by INPUT 1 of the PASS Control. This activates the three alerts - Voice, Orange pedestrian silhouette, and Backlit Text

The duration of the alerts is controlled by the Activation Timer (0-60 Seconds)

## Specifications

### Dimensions

Height: 36"

Wide: 7"

Face: 7"

Shape: Block

### Colors

Enclosure: Black, Covered areas only. Minimum weather protection.

Message Lettering: White

Pedestrian Silhouette: Hazard Orange

### Electrical

12VDC LED Light Panels

Power In: 120VAC 1amp

Power Out: 12VDC

Trigger Inputs: Dry Normally Open

Waterproof transformer (120V/12V) is integrated inside the sign enclosure

### Audio

VM-1 Audio Card for voice message

20 Watt Water Resistant Speaker

10 Watt Amplifier

Message can be changed easily onsite with USB

Output is 0-90db

### PASS Control Board (Integrated)

12VDC Input Power

12VDC Output Power (for motion or detector)

MP3 Voice Board SD Micro Card

Activation Timer Dial 0-60 Seconds

Delay before Activation Dial 0-15 Seconds

Volume Dial 0-90dB

Input 1: Activates Sign

Input2: For Directional Logic Inputs

Output 1: Steady Output

Output 2: Flashing 1 sec On/Off Output

Speaker Output

Headphone Jack for testing

Input 1 Test Button

Input 2 Test Button

