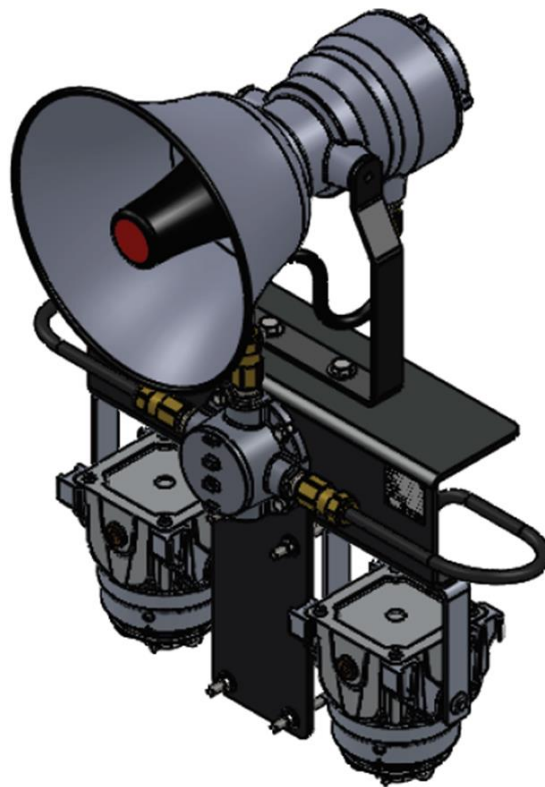




# TELEDYNE DETCON MODEL AV1/V2/AV2-C1D2M

Hazardous Duty Class 1 Division 2 Multi-tone Alarm Station



Operator's Installation and Instruction Manual

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# 1.0 Description

Teledyne Detcon, Inc Model AV2-C1D2M audiovisual alarm stations are designed for installation and use in hazardous duty, corrosive work environments. The unit is Class I, Division 2, Groups B, C, and D. The AV1-C1D2M alarm station consists of one strobe and one siren. The V2-C1D2 alarm station consists of two strobes, and the AV2-C1D2M alarm station consists of two strobes and one horn.

The Alarm Stations are designed to be wired to control circuit alarm devices for the purpose of warning personnel of hazardous conditions. When used in conjunction with Teledyne Detcon, Inc controllers, the alarm station is typically used to provide a low alarm (strobe) and high alarm (strobe/horn) for pre-determined hazardous environmental gas levels (toxic or flammable) as indicated by remote mount sensors.

## 1.1 Strobe

The alarm station strobe is configured with choice of dome colors such as amber, blue, clear, green, or red. Dome guard is included. The rugged warning light is specifically designed for hazardous locations or corrosive environments where a very bright visual signal is required.

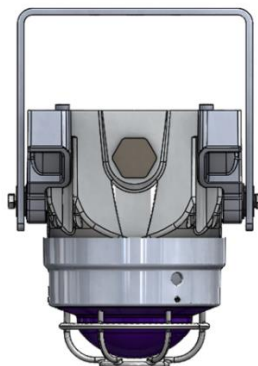


Figure 1 - Strobe

## 1.2 Horn

The alarm station explosion proof siren is a rain-tight, solid-state, audible alarm which features 3 field selectable sounds: Wail, Yelp, and Horn. The explosion proof power alarm siren is suitable for use with voltages of 24VDC, 120VAC, or 240VAC @ 50/60Hz and mounts on a unidirectional mounting bracket with ½” conduit access.



Figure 2 – SSTX3-MV Siren

## 2.0 Installation

The assembly is mounted on a T-shaped aluminum bracket with holes pre-drilled to accommodate (2) U-bolt attachments on a 2.5" maximum diameter pipe. U-bolt size is 3/8-16 x 3". Overall Dimensions are 33"H x 16.5" W x 19.0" D (Figure 3).

The tone for the siren is set using tone selector jumper J4 (Figure 7).

The alarm comes pre-wired for the voltage ordered from the factory (110/220VAC or 24VDC). Control wiring is installed through the opening at bottom of 4-Way Outlet Box. CID2 cable glands and CID2 cable must be used. Connect wiring in accordance with the appropriate wiring diagram (Figure 4 or Figure 5).

The AV1-C1D2M alarm station consists of one strobe and one siren. The V2-C1D2 alarm station consists of two strobes, and the AV2-C1D2M alarm station consists of two strobes and one horn. Use only 12 to 18 AWG wire for power connections. Strip no more than 0.25" of insulation from the ends of the power leads. The unit should be properly grounded according to local electrical codes and specifications. Ground should be connected either to the 4-Way outlet box ground screw or to the ground screw on the terminal block assembly. Optionally, each annunciator can be powered independently by removing the jumper between terminal points 4 and 5, and 5 and 6, and wiring directly to the return path of the annunciator.

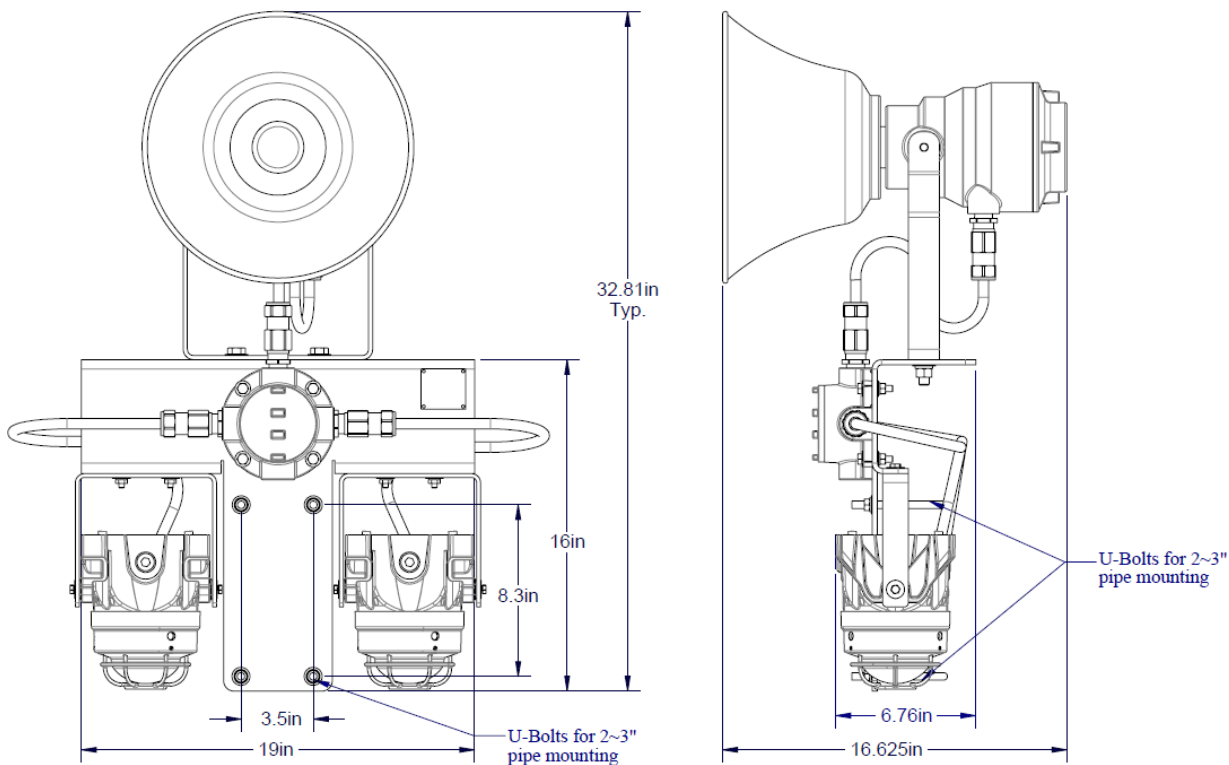


Figure 3 - AV2-C1D2M Dimensional

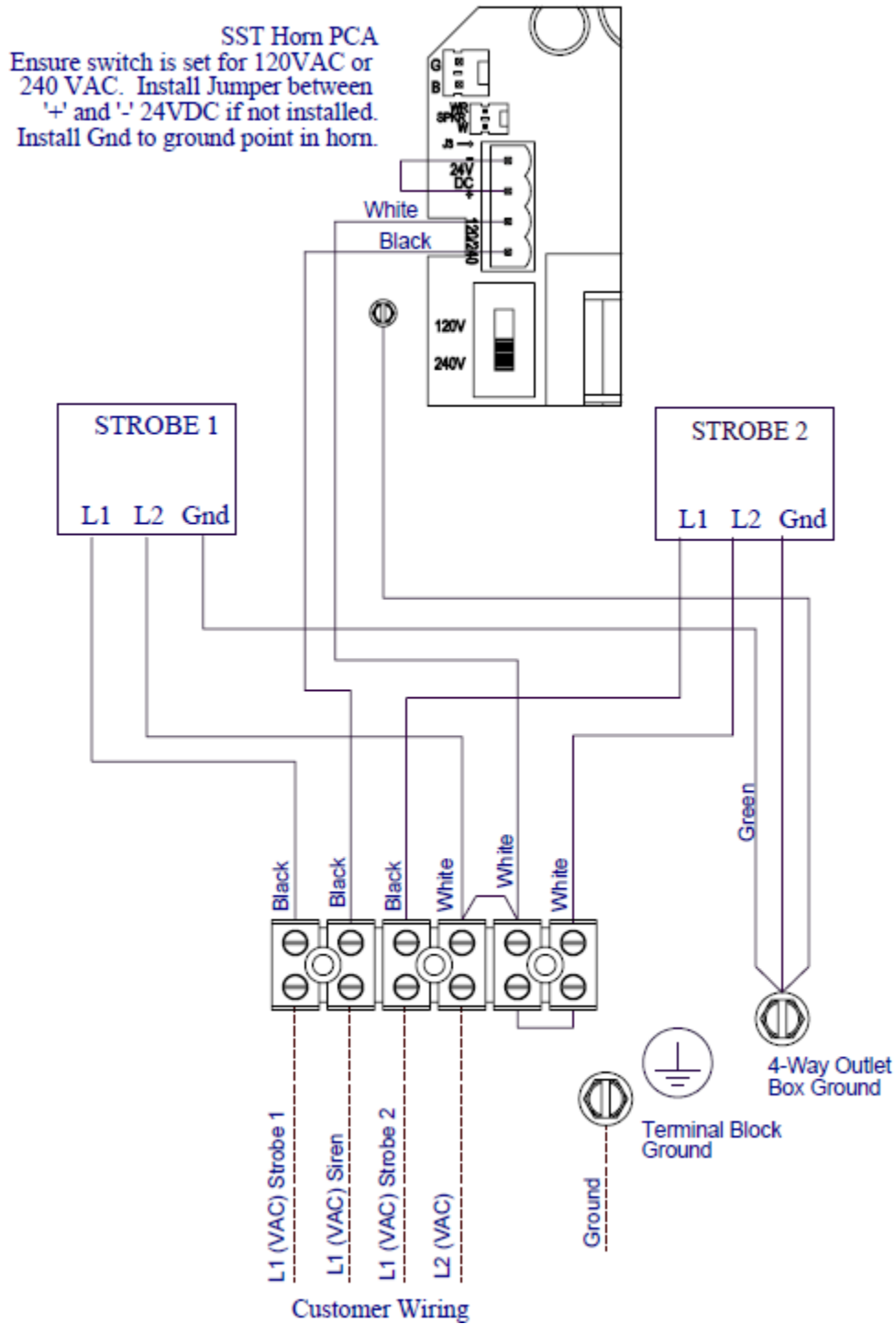


Figure 4 - 120/240VAC wiring diagram

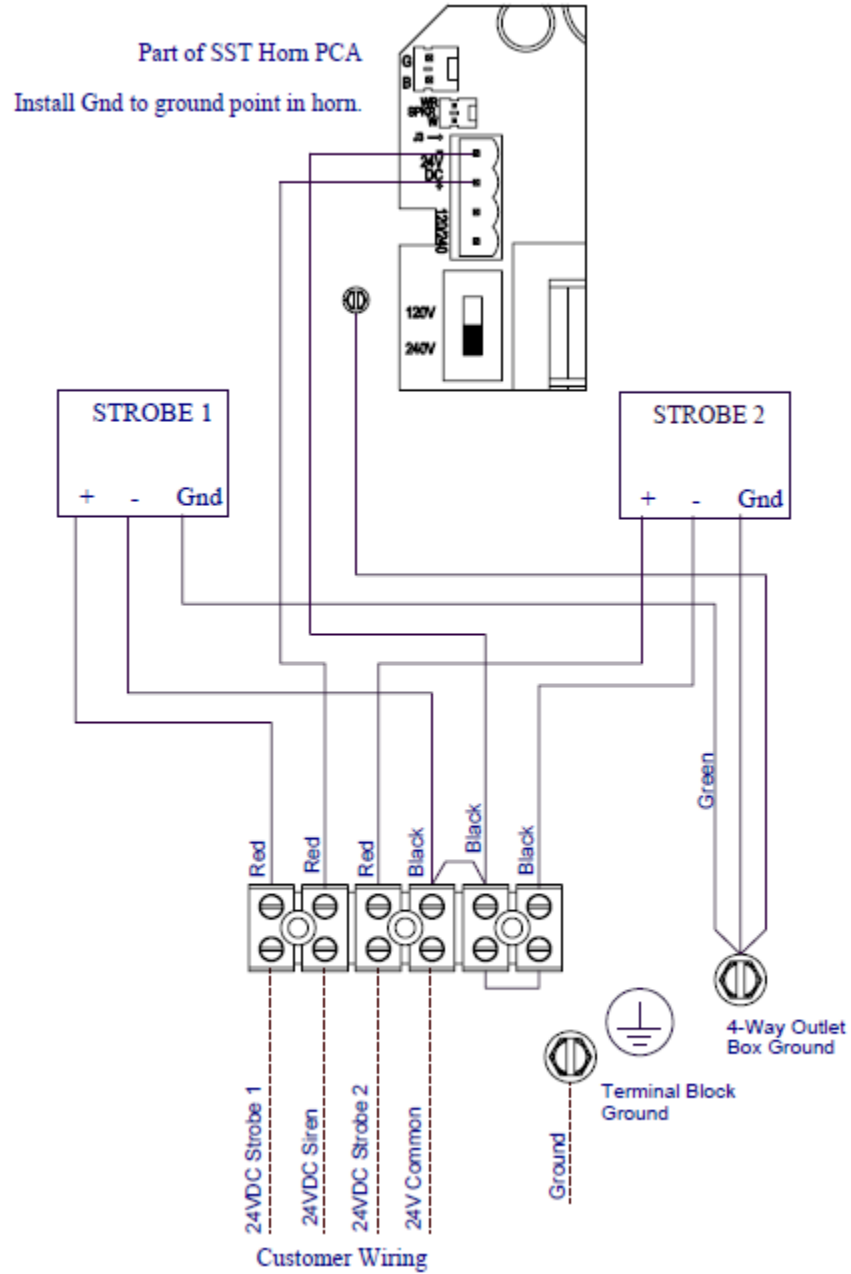


Figure 5 - 24 VDC Wiring



**CAUTION:** Explosion Hazard – DO NOT remove or replace lamps or plug-in modules unless power has been disconnected or the area is free of ignitable concentrations.



**CAUTION:** Explosion Hazard – DO NOT disconnect while the circuit is live or unless the area is free of ignitable concentrations.



**CAUTION:** Explosion Hazard – DO NOT connect or disconnect when energized.



## 3.0 Operation

The AV2-C1D2 Alarm Stations provide two strobes and one horn.

### 3.1 Strobes

The strobes have 8 built-in light patterns with 3 pattern speeds. The default setting is selection 2 from the Strobe Patterns Table 1 below at 60 FPM. To change the pattern selection or pattern rate:

- 1) Loosen the set-screw on the side of the housing (cable entry side) with a 1.5mm hex-key one full turn.
- 2) Remove the lens cover from the housing by turning the cover counter-clockwise. Three 120-degree spaced reliefs are provided for a 3/8" spanner wrench if needed. If the cover will not unscrew, back out the set-screw a few additional turns.
- 3) Loosen the captive Philips screw retaining the printed circuit board.
- 4) Slide out the PCB
- 5) Locate the pattern select DIP switch at SW1 and the adjacent pattern rate potentiometer. "On" is "1".

	PATTERN DESCRIPTION	SWITCH	PATTERN NAME
1	All five segments active. 100% duty cycle	000	Steady On
2	Light flashes at 66% duty cycle. 60/75/90 FPM	100	Flash
3	Light gradually fades on and off. 60/75/90 FPM	010	Swell
4	Three 10ms pulses with 10ms pauses. 60/75/90 FPM	110	Strobe Simulation
5	Simulated reflector rotate (smooth). 60/75/90 RPM	001	Rotate Clockwise
6	Simulated reflector rotate (smooth). 60/75/90 RPM	101	Rotate CCW
7	Simulated reflector rotate (smooth). Stop and reverse at $\pm 90^\circ$ 60/75/90 RPM	011	Half-Rotate "Bounce"
8	Simulated dual light source reflector rotate (pinwheel) 60/75/90 RPM	111	Dual Rotate CW

Table 1 - Strobe Patterns

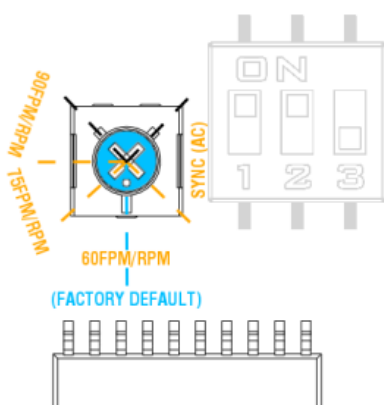


Figure 6 - Flash Pattern Rate Configuration

### 3.2 Horn

The horn has 3 possible tone settings for use in different configurations. The default tone setting of the horn is factory set to “yelp”. To change the tone setting of the horn:

- 1) Loosen the 2 mm set screw
- 2) Remove the rear cover from the horn.
- 3) Set jumper 4 on PCA according to Figure 7.

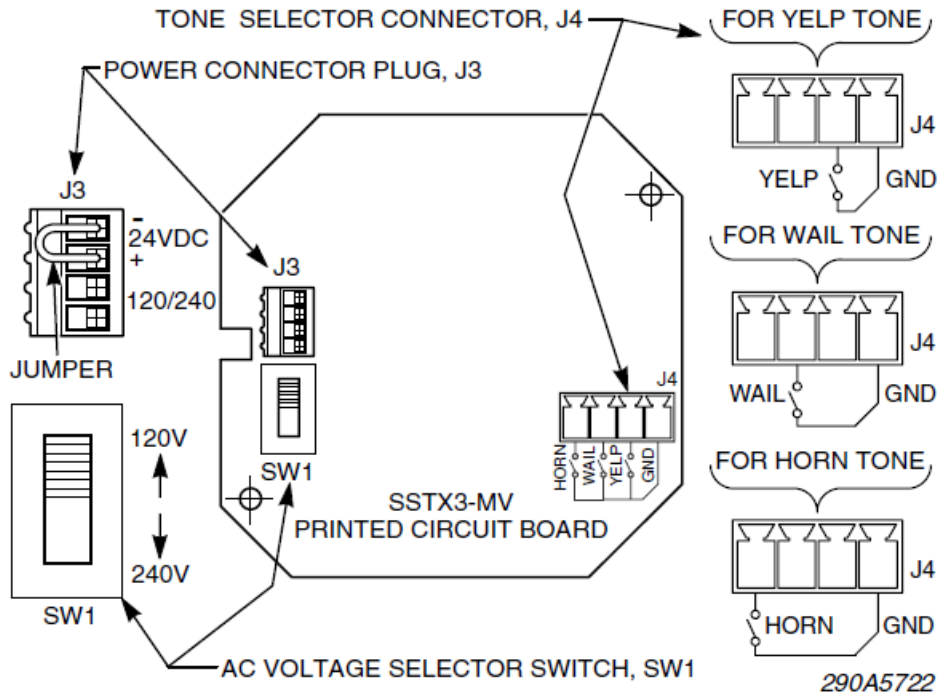


Figure 7 - SSTX-MV printed circuit board

## 4.0 Parts List

Teledyne Detcon Part #	Description
300-679612-ABS	Alarm System Terminal Block Assembly
356-889321-MV0	24 VDC / 120VAC / 240VAC Hazardous Location Siren
354-GLE6X7-240	Federal GLED – 120~240VAC Strobe (X represents color of lamp) Strobe colors: Red (2), Amber (4), Green (5), Blue (6), and Clear (9)

## 5.0 Specifications

Input Voltage:	24VDC, 120VAC (50/60Hz), or 240VAC (50/60Hz)
Current :	1.4A @ 24VDC, 0.77 @ 120VAC, 0.4 @ 240VAC
Mount:	Wall Mount or 2~3" Pipe Mount
Environment Rating:	Designed to meet NEMA 4 specifications
Area Classification:	Designed for use in CID2 Groups B, C, D locations
Ambient Temperature Range:	-50°C to 65°C
Dimensions:	2 Strobes and 1 Horn: 32.8"H X 19.0" W X 16.625" D 1 Strobe and 1 Horn: 32.8"H X 19.0" W X 16.625" D 2 Strobes: 16"H X 19.0" W X 8.5" D
Dome Colors:	Amber, Blue, Clear, Green, and Red
Light Source/Lamp Style:	LED
Lamp Life:	50,000 Hours
Flash Rate/Minute:	60 default – adjustable 60/75/90
Sound Output:	102 to 108dB(A) @ 1 meter (Tone dependent)
Duty Cycle	Continuous
Approvals:	cCSAus
Electrical Classification:	Class I Division 2 Groups C, D T4 Tamb -20°C to +40°C

## 6.0 Warranty

Teledyne Detcon Inc., as manufacturer, warrants under intended normal use each new AV1/V2/AV2-C1D2M Alarm station to be free from defects in material and workmanship for a period of one year. The warranty period begins from the date of shipment to the original purchaser and ends one year thereafter. All warranties and service policies are FOB the Teledyne Detcon, Inc. facility located in The Woodlands, Texas.

## 7.0 Revision Log

Rev.	Date	Changes made	Approval
1.2	03/06/06	Using Tomar WEP1002 siren	BM
1.4	09/07/07	Changed to Federal Signal SSTX-MV siren, addition of spare parts for the Siren	BM
2.0	05/20/08	Modified wiring drawings to show common return and individual activation of siren(s) and horn. Removed Federal Signal spare parts	BM
2.1	11/06/09	Change to title of AV1/AV2-C1D2M, addition of picture and drawings relating to AV1-C1D2M alarm station, addition of Revision log	LU
3.0	05/26/11	Change Terminal Board to Terminal Blocks, and re-wire unit	LU
3.1	02/26/16	Update information for correctness	MM
3.2	06/11/18	Added Cautions to Section 2.0	MM
	12/10/19	Teledyne branding, programmable strobes	JG

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