

**INSTALLATION AND MAINTENANCE INSTRUCTIONS**



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**SS12/24ADA\* Series Strobes and  
MASS12/24ADA\* Series Horn/Strobes  
for Fire Protective Signaling Systems**

\*ULC models add suffix "A"; strobes and sounder/strobes available in 24VDC, 15cd only

**Table 1. SS12/24ADA Series electrical ratings:**

Model	Supply Voltage Range	Operating Current from Regulated Supply				Operating Current from Full-Wave Rectified Unfiltered Supply			
		Average Operating Current	Peak Current (mA) 20/30V	Peak Current (mA) 10.5V/17V	Inrush Current (mA in excess of Peak)	Average Operating Current (mArms)	Peak Current (mA) 20Vrms/30Vrms	Peak Current (mA) 10.5Vrms/17Vrms	Inrush Current (Amps in excess of Peak)
SS24110ADA SS24110ADAB	20-30V	210	470/500	-	0	245	400/500	-	.080
SS2475ADA SS2475ADAB	20-30V	170	385/400	-	0	200	320/370	-	.040
SS2415ADA SS2415ADAB	20-30V	75	160/180	-	0	90	275/290	-	.020
SS1215ADA SS1215ADAB	10.5-17V	170	-	360/380	0	200	-	330/380	.020
SS241575ADA SS241575ADAB	20-30V	93	210/220	--	0	120	275/290	--	1.0
SS121575ADA SS121575ADAB	10.5-17V	225	--	510/560	0	270	--	500/530	.020
SS2415ADAA	20-30V	175	360/380	--	0	200	330/380	--	.020

**NOTE:** Inrush current duration is less than 20 microseconds (.00002 seconds).

**General Description**

The National Fire Protection Association has published standards and recommended practices for the installation and use of the listed appliances. It is recommended that the installer be familiar with these requirements, local codes, and any special requirements of the local fire authority having jurisdiction.

The Multi-Alert™ sounder and signaling strobe are intended to be connected to the alarm indicating circuit of a UL-listed fire alarm control panel. Both are compatible with DC line supervision. The electronic sounder can be

connected to either 12 or 24 VDC panels. Models SS2415ADA, SS2475ADA, SS24110ADA, SS241575ADA, and combination models incorporating these strobes, require 24 volt panels. Models SS1215ADA, SS121575ADA, MASS1215ADA, and MASS121575ADA require 12 volt panels. Panels may have full-wave rectified, unfiltered power supplies. The strobes produce one flash per second (nominal) with continuous nominal voltage applied.

The MA12/24D is suitable for outdoor applications (-35° to 66° C) when it is used with a WBB Weatherproof Back Box. The signaling strobe is rated for 0° to 49° C and is

**Table 2. Sound Output and Current Ratings for the MA12/24D:**

Sound (Hz)	Clips on Tabs (Note 1)	Current (ma) DC Regulated/ FWR Unfiltered			Output (dBA) (Note 3)		UL (dBA) Ratings (Note 4)		UL (dBA) w/MDL Module Temp. Tone (Note 5)	
		12V	24V	30V	12V	24V	12V	24V	12V	24V
Slow Whoop	ABC	21/40	38/56	46/72	85	92	79	85	N/A	N/A
800 Continuous	BC	15/24	28/45	35/55	87	93	79	85	75	79
800/1000 Alternating	AC	17/32	34/46	43/58	85	92	79	85	N/A	N/A
2400 Interrupted	AB	19/23	35/56	43/64	89	90	79	85	N/A	N/A
2400 Continuous	C	21/31	38/59	46/73	85	94	79	85	75	79
1200 Interrupted	B	13/19	23/33	27/41	85	91	75	82	N/A	N/A
Swept Frequency	A	17/24	34/47	43/60	85	92	79	85	N/A	N/A
Fast Warble	NONE	15/27	30/47	38/59	85	92	79	85	N/A	N/A

Note 1: See Figure 2 for tab clip removal & storage.

Note 2: All models can be powered using full wave rectified unfiltered supplies. Under no circumstances can SS24ADA or MASS24ADA series devices input voltage exceed 33 VDC or be less than 16 VDC (16-33Vrms for full-wave rectified, unfiltered supplies). Under no circumstances can the MA12/24D input voltage exceed 33 VDC or be less than 9.6 VDC. Under no circumstances can a SS12ADA or MASS12ADA series device input

voltage exceed 18.7 VDC or be less than 9.6 VDC (9.6 - 18.7Vrms for full-wave rectified, unfiltered supplies).

Note 3: Measured at 10 feet in an anechoic chamber.

Note 4: Measured in a UL reverberant room.

Note 5: Only continuous tones (800Hz, 2400 Hz) can be temporally coded per UL. Strobes cannot be used on an MDL module providing temporal coding to Multi-Alert™ horns.

NOT suitable for outdoor use.

The rated light output of the SS2415ADA, SS1215ADA, SS241575ADA, SS121575ADA, MASS2415ADA, MASS241575ADA, MASS1215ADA, and MASS121575ADA is 15 cd (See Figure 1).

The rated light output of the SS2475ADA and MASS2475ADA is 75 cd (See Figure 1).

The rated light output of the SS24110ADA and MASS24110ADA is 110 cd (See Figure 1).

**NOTE:** The light output at 0° viewing angle for SS12/241575ADA and MASS12/241575ADA models is 75 cd (See Figure 1).

Any one of eight sounds can be selected on the electronic sounder, as indicated in Table 2. The sound selected determines the maximum current and sound power output per device. See Table 1 for these values.

### Independent Sounder/Strobe Operation

There may be applications where it is desirable to drive the sounder and strobe as independent devices. The System Sensor MASS12/24ADA series sounder/strobes are easily configured for this capability. The terminal connection for this application is shown in Figure 6. Independent strobe operation in a coded system requires a separate uncoded power supply for the strobe.

### Installation

#### A. General:

Slotted head screws are used to attach each device or combination of devices to the electrical outlet box. Phillips head screws are used to attach accessories to the horn. Refer to Figures 3,4,5, and 6 for wiring methods.

**Notes:** Do not loop wires under the terminal screw. Wires connecting the device to the panel must be broken

at the device terminal connection in order to maintain electrical supervision. **Strobe and strobe/horn combination are designed for wall mounting ONLY.**

The sounder is 1-1/4" deep. Back boxes must be 4" square by at least 1-1/2" deep - 2-1/8" deep is recommended.

All strobes must be mounted so that the top of the lens is 24 inches (61 cm) below ceilings or as required by the authority having jurisdiction.

#### B. Sounder mounting:

1. Surface Mount: (See Fig. 7)
2. Semi Flush Mount: (See Fig. 10 and 13)
3. Flush Mount: (See Fig. 12)

#### C. Sounder/Strobe combination mounting:

1. Surface Mount : (See Fig. 9)
  2. Semi Flush Mount: (See Fig. 10 and 13)
- Flush mounting requires the use of the deep box (Part # BB-D) or equivalent. Determine which of the two device holes will be used to attach the device to the box. Mount the flush plate to the sounder using the other two holes with two 1-inch phillips head screws and two square nuts.

#### D. Strobe mounting:

1. Surface Mount: (See Fig. 8)
2. Semi Flush Mount: (See Fig. 11)

Installation procedures must conform to all applicable codes and the requirements of the authority having jurisdiction.

**NOTE:** The rated output of the sounder is specified at 10 feet. It cannot be assumed that the output will meet the NFPA standard of 15 dB over ambient noise at all locations within a room. Additional sounders may be needed to ensure sound output level complies with NFPA requirements.



### The Limitations of Sounder/Strobes

**The Sounder and/or Strobe will not work without power.** The sounder/strobe gets its power from the fire/security panel monitoring the alarm system. If power is cut off for any reason, the sounder/strobe will not provide the desired audio or visual warning.

**The Sounder may not be heard.** The loudness of the sounder meets (or exceeds) current Underwriters Laboratories' standards. However, the sounder may not alert a sound sleeper or one who has recently used drugs or has been drinking alcoholic beverages. The Sounder may not be heard if it is placed on a different floor from the person in hazard or if placed too far away to be heard over the ambient noise such as traffic, air conditioners, machinery or music appliances that may prevent alert persons from hearing the alarm. **The Sounder may not be heard by persons who are hearing impaired.**

**The Signal Strobe may not be seen.** The electronic visual warning signal that flashes at least once every three seconds meets or exceeds current Underwriters Laboratories' standard 1971 and uses an extremely reliable xenon

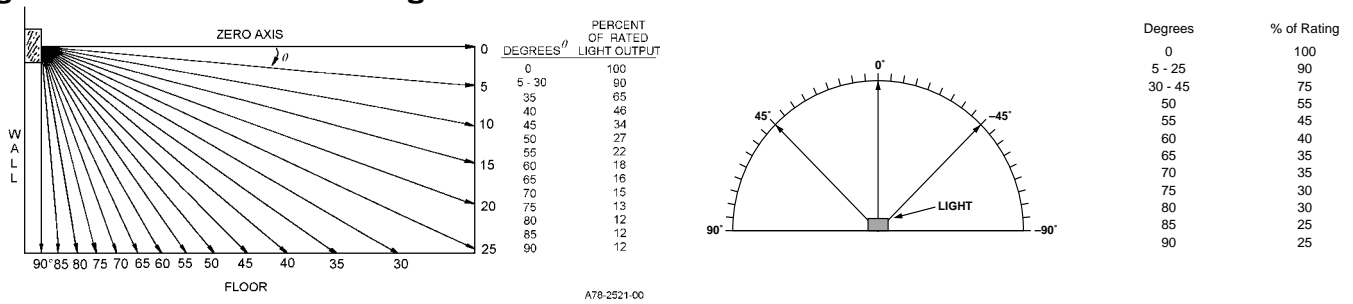
non flash tube. The visual warning signal is suitable for direct viewing and must be installed within an area where it can be seen by building occupants. The strobe must not be installed in direct sunlight or areas of high light intensity (over 60 foot candles) where the visual flash might be disregarded or not seen. **The strobe may not be seen by the visually impaired.**

**The signal strobe may cause seizures.** Individuals who have a positive photic response to visual stimuli with seizures, such as epileptics, should avoid prolonged exposure to environments in which strobe signals, including this strobe, are activated.

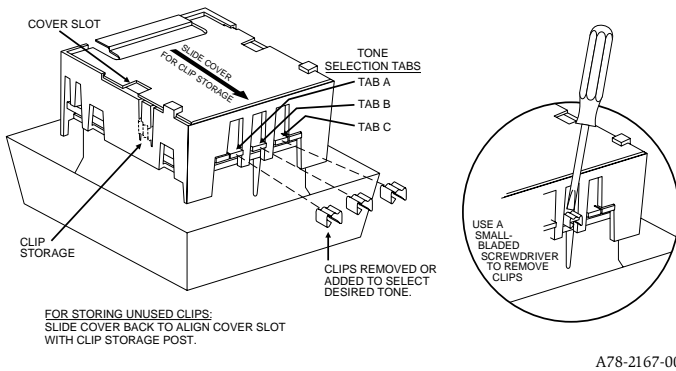
System Sensor recommends that the Multi-Alert Sounder and Signal Strobe always be used in combination so that the risks from any of the above limitations are minimized.

**The signal strobe cannot operate from coded power supplies.** Coded power supplies produce interrupted power. The strobe must have an uninterrupted source of dc power in order to operate correctly.

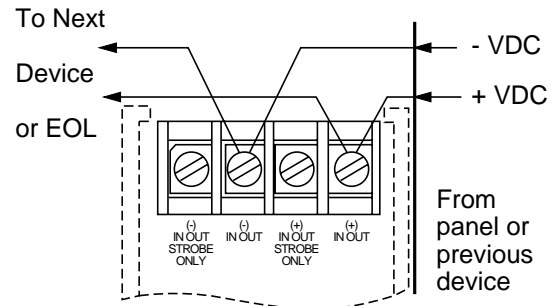
**Figure 1. Vertical and horizontal light distribution:**



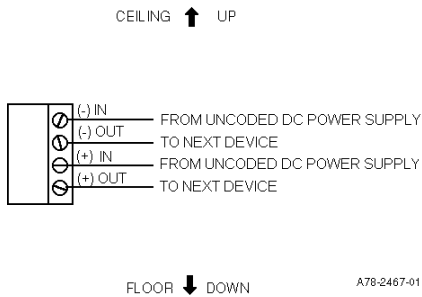
**Figure 2:**



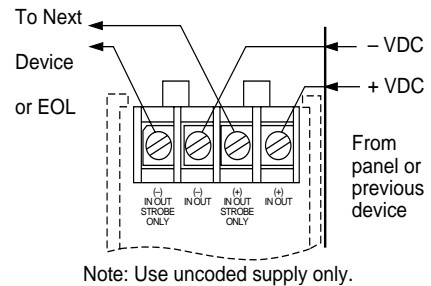
**Figure 3. Multi-alert sounder:**



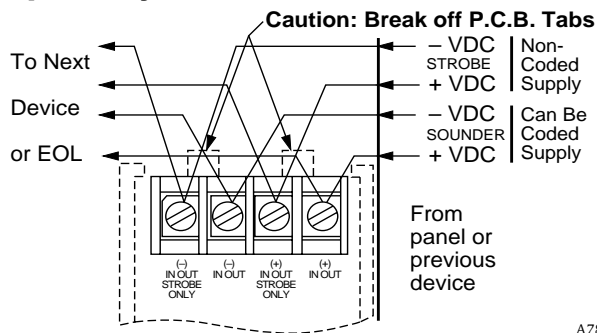
**Figure 4. Strobe:**



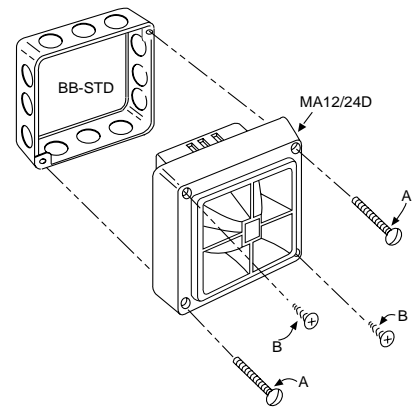
**Figure 5. Multi-alert sounder and strobe operating in tandem:**



**Figure 6. Multi-alert sounder and strobe operating independently:**



**Figure 7. Sounder surface mount:**

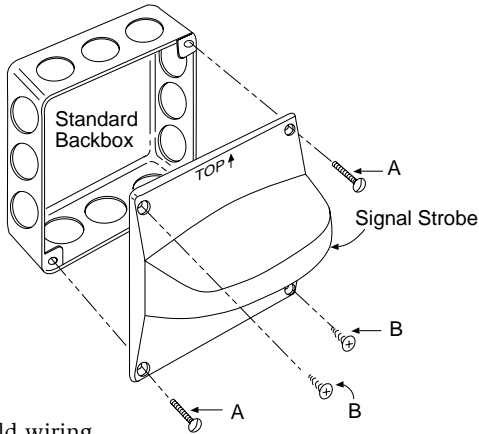


**Screw types used in figure 9 to 15**

- A = 8-32x1-7/16" Slot
- B = #8 Sheet Metal Phillips
- C = 8-32x1" Phillips
- D = #8 Sq. Nut
- E = 8-32x5/8" Slot
- F = 8-32x2-3/4" Slot
- G = 6-32x5/8" Slot

1. Complete field wiring. (See Fig. 5)
2. Screw sounder to box with screw A.
3. Fill remaining holes with screw B.

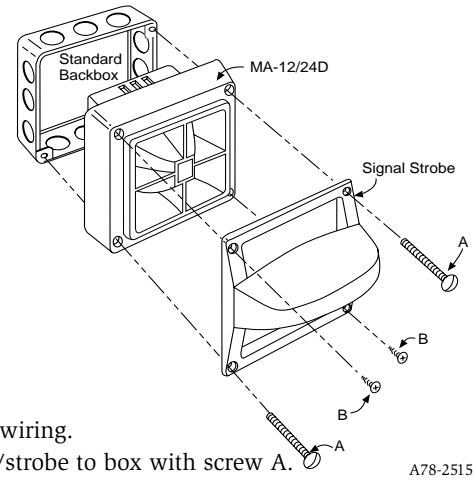
**Figure 8. Strobe surface mount:**



1. Complete field wiring.
2. Screw strobe to box with screw A.
3. Fill remaining holes with screw B.

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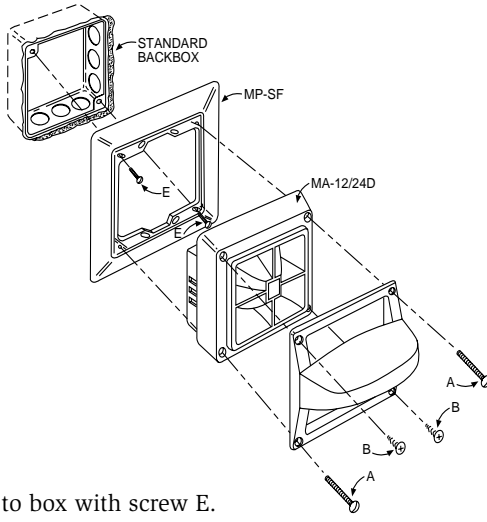
**Figure 9. Sounder/strobe surface mount:**



1. Complete field wiring.
2. Screw sounder/strobe to box with screw A.
3. Fill remaining screw holes with screw B

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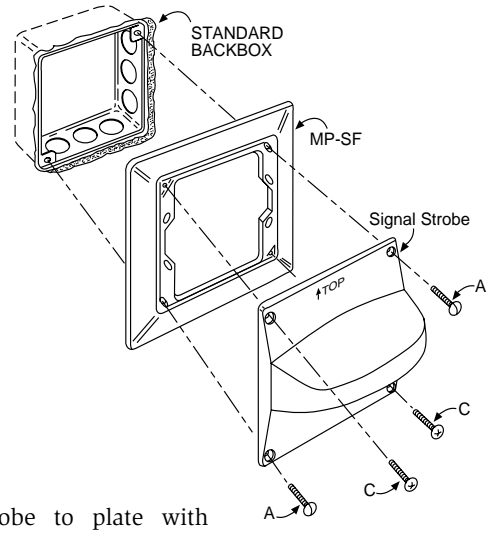
**Figure 10. Sounder or sounder/strobe semi-flush mount:**



1. Screw plate to box with screw E.
2. Complete field wiring. (See Fig. 3, 4, 5, and 6)
3. Screw sounder or sounder/strobe to plate with screw A.
4. Fill remaining holes with screw B.

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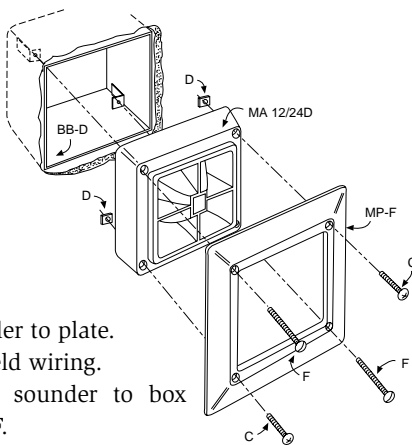
**Figure 11. Strobe semi-flush mount:**



1. Screw strobe to plate with screw C.
2. Complete field wiring.
3. Screw strobe plate to box with screw A.

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**Figure 12. Sounder flush mount (deep box required):**

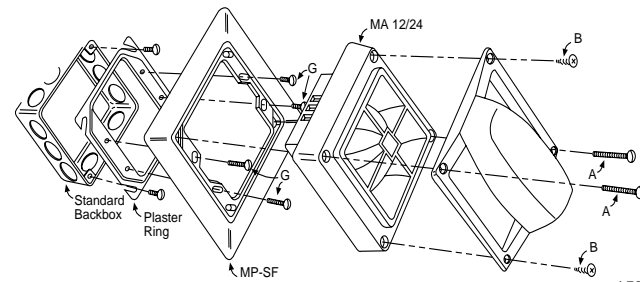


1. Screw sounder to plate.
2. Complete field wiring.
3. Screw plate sounder to box with screw F.

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**Figure 13. Sounder or sounder/strobe semi-flush mount with plaster ring:**

1. Plaster ring should be properly mounted to electrical box with screws supplied with box.
2. Screw plate to plaster ring with screw G.
3. Complete field wiring.
4. Screw sounder/strobe to plate with screw A.
5. Fill remaining holes with screw B.



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