



March 30, 2000

G-250

## SpectrAlert™ Series Horns, Strobes, and Horn/Strobes

Section: Audio/Visual Devices

### GENERAL

**System Sensor SpectrAlert Series** strobes, horns, and combination horn/strobes are UL listed for primary signaling in life safety systems and meet ADA public mode visible signaling requirements. SpectrAlert products can be connected to the alarm indicating circuit of a fire alarm control panel and are compatible with DC line supervision. The SpectrAlert product line mounts to standard backboxes using a universal mounting plate included with each unit. An optional small footprint mounting plate fits to a single-gang box. An accessory backbox skirt gives a cosmetic finish to a 4" x 4" x 1-1/2" or a 2" x 4" x 1-7/8" surface-mounted backbox. All strobe and horn/strobe mounting options require only one screw attachment of product to plate.

These products are designed for 12 and 24 VDC and full-wave rectified unfiltered power. Full-wave rectified operation requires more current than DC operation. For detailed current draw information, consult the Current Draw Tables (*page 2*). The horn/strobe combination products are factory-assembled with jumper wires for in-tandem operation. For independent wiring of horn and strobe, remove jumper wires. When wired for independent operation, the strobe will continue to run while the horn can be silenced. However, the strobe must be running for horn to operate.

**Horns** — The SpectrAlert Series horns and horn/strobes provide two different field-selectable/reversible tones, a high-low field-selectable/reversible sound output setting (low setting on 24-volt models only) and a field-selectable/reversible temp 3 pattern or non-temporal continuous pattern. These field-selectable features are accomplished using pins and jumpers located on the back of each SpectrAlert horn and horn/strobe. An accessory module is not needed to make these field selections. The horn on horn/strobe models will operate on a coded power supply. **Those horn-only models with "HC" in their part numbers will also operate on a coded power supply.** The horn and horn/strobe series includes weatherproof models.

**Strobes** — The ADA-compliant SpectrAlert strobes are electronic visible warning signals that flash at 1 Hz over their operating voltage range. These products are available in 24-volt models at 15, 15/75, 75 and 110 candela intensities and in 12-volt models at 15 and 15/75 candela intensities. The strobe series includes weatherproof models. SpectrAlert products feature dramatic reductions in current requirements.

**Sync•Circuit Module (MDL)** — The Sync•Circuit Module is available for synchronization of strobes and horns and can synchronize two Style Y (class B) circuits or one Style Z (class A) circuit. The module can also generate a synchronized temp 3 tone for System Sensor's Multi-Alert™ and PA400 horn products.\* The synchronization module allows the SpectrAlert horns on combination horn/strobes to be silenced on two-wire systems. SpectrAlert's Sync•Circuit Module can be daisy-chained for multiple zone synchronization. The module does not operate on a coded power supply.

*\*For Multi-Alert and PA400: Strobes must be wired to a continuous source of power (non-coded power supply).*



◀ **S4011 & S5512** (P1215, P121575, P2415, P241575, P2475, P24110). **S5512** (S1215, S121575, S2415, S241575, S2475, S24110). **S4011** (HC12/24).



◀ **CS549** (P2415A, P241575A, P2475A, P24110A, S2415A, S241575A, S2475A, S24110A). **CS548** (H12/24A, HC12/24A).



**0B8A4.AY** (P1215, P121575, P2415, P241575, P2475, P24110, S1215, S121575, S2415, S241575, S2475, S24110, H12/24). **0D4A7.AY** (HC12/24).



California  
State Fire  
Marshal

◀ **7135-1209:173** (P1215, P121575, P2415, P241575, P2475, P24110). **7125-1209:174** (S1215, S121575, S2415, S241575, S2475, S24110). **7135-1209:143** (H12/24, HC12/24).

**MEA** ▶ **319-96-E** (P1215, P121575, P2415, P241575, P2475, P24110, S1215, S121575, S2415, S241575, S2475, S24110, H12/24, HC12/24).



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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact **Fire-Lite Alarms**, One Fire-Lite Place, Northford, Connecticut 06472. Phone: (800) 627-3473, Toll Free FAX: (877) 699-4105, FAX Back: (888) 388-3299  
WEB: [www.firelite.com](http://www.firelite.com)

**ISO 9001**  
**CERTIFIED**  
ENGINEERING & MANUFACTURING

- 24-volt strobe models: 15, 15/75, 75 and 110 candela.
- 12-volt strobe models: 15 and 15/75 candela.
- Horn models operate on 12 and 24 volts.
- Low current draw: reductions as high as 45%.
- Two field-selectable/reversible horn tones:
  - 3000 Hz interrupted
  - electromechanical
- Field-selectable/reversible high-low dBA output on horn (low output on 24-volt models only):
  - 101 peak dBA @ 10 ft. high output.\*
  - 96 peak dBA @ 10 ft. low output.\*
- Field-selectable/reversible temp 3 pattern or non-temp 3 continuous pattern on horn.
- Horn/strobe can be wired either in tandem or independently.
- Weatherproof strobes, horns, and horn/strobes available.
- Horns for use with coded power supply available.
- Universal mounting plate included with each unit.
- One-screw mounting of strobe and horn/strobe to mounting plate.
- SpectrAlert strobe and horn/strobe take up no room in the backbox.

- \*Sound output varies with tone and output options selected; sound levels based upon anechoic room measurements.*

**Input terminals:** 12 to 18 AWG (3.25 mm<sup>2</sup> to 0.51 mm<sup>2</sup>).

**Weight, *horn only*:** 7.2 oz. (204 g).

**Weight, *horn only*:** 7.2 oz. (204 g).

**Weight, *strobe* and *horn/strobe*:** 8.8 oz. (250 g).

**Mounting:** *see diagrams page 4.*

**Operating temperature:** 32°F to 120°F (0°C to 49°C).

**Operating voltage range:\*\*** 12 V: 10.5 - 17 V. 24 V: 20 - 30 V

**\*\* These products should be operated within their rated voltage range. UL does, however, test functional integrity to -20% and +10% of manufacturer's stated ranges.**

## Strobe Only

Candela	AVERAGE CURRENT (mA)												PEAK CURRENT (mA)												IN RUSH CURRENT (mA)											
	12V Models						24V Models						12V Models						24V Models						12V Models						24V Models					
	10.5V		12V		17V		20V		24V		30V		10.5V		12V		17V		20V		24V		30V		10.5V		12V		17V		20V		24V		30V	
	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR		
15	133	159	114	157	81	128	59	120	53	80	46	78	460	460	450	460	420	490	150	270	150	270	140	250	80	108	92	124	140	160	70	230	220	280	270	370
15/75	169	182	142	171	99	150	76	92	66	93	56	132	480	520	490	520	460	480	170	270	170	270	160	270	76	104	88	126	160	185	70	230	210	270	270	360
75	NA	NA	NA	NA	NA	NA	145	170	123	159	102	141	NA	NA	NA	NA	NA	NA	350	440	340	480	330	480	NA	NA	NA	NA	NA	NA	190	240	230	280	280	380
110	NA	NA	NA	NA	NA	NA	169	220	149	191	115	174	NA	NA	NA	NA	NA	NA	460	560	450	520	420	620	NA	NA	NA	NA	NA	NA	190	230	220	280	290	370

			AVERAGE CURRENT (mA)											
			12V Models						24V Models					
Tone	High/Low Volume	Temp /Non	10.5V DC	FWR	12V DC	FWR	17V DC	FWR	20V DC	FWR	24V DC	FWR	30V DC	FWR
Electro- mech.	High	Temp	10	11	10	10	14	14	19	21	25	18	29	23
		Non	10	16	10	19	14	25	17	29	23	34	30	4
	Low	Temp	NA	NA	NA	NA	NA	NA	11	12	13	13	17	17
		Non	NA	NA	NA	NA	NA	NA	12	18	14	19	17	20
3000 Hz Interrupt.	High	Temp	11	13	11	11	16	16	24	26	28	27	37	37
		Non	11	17	11	21	14	28	19	34	27	39	35	4
	Low	Temp	NA	NA	NA	NA	NA	NA	14	14	17	15	21	19
		Non	NA	NA	NA	NA	NA	NA	13	18	16	21	22	2

			AVERAGE CURRENT (mA)											
			12V Models						24V Models					
	High/Low	Temp	10.5V		12V		17V		20V		24V		30V	
Tone	Volume	/Non	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
Electromech.	High	Temp	143	170	124	167	95	142	78	101	78	98	75	141
		Non	143	170	124	167	95	142	69	88	76	100	76	138
	Low	Temp	NA	NA	NA	NA	NA	NA	70	92	86	83	83	132
3000 Hz Interrupt.	High	Non	NA	NA	NA	NA	NA	NA	71	92	67	93	63	132
		Temp	144	172	125	168	97	144	83	106	81	103	83	146
	Low	Non	144	173	125	168	95	146	78	102	80	106	81	143
		Temp	NA	NA	NA	NA	NA	NA	73	94	70	95	67	134
		Non	NA	NA	NA	NA	NA	NA	72	92	69	94	68	132
		Temp	NA	NA	NA	NA	NA	NA	73	94	70	95	67	134

			AVERAGE CURRENT (mA)											
			12V Models						24V Models					
	High/Low	Temp	10.5V		12V		17V		20V		24V		30V	
Tone	Volume	/Non	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
Electro-mech.	High	Temp	NA	NA	NA	NA	NA	NA	164	191	148	167	131	168
		Non	NA	NA	NA	NA	NA	NA	163	188	145	189	132	168
	Low	Temp	NA	NA	NA	NA	NA	NA	156	182	136	162	119	155
		Non	NA	NA	NA	NA	NA	NA	157	182	137	182	119	155
3000 Hz Interrupt.	High	Temp	NA	NA	NA	NA	NA	NA	169	196	151	172	139	173
		Non	NA	NA	NA	NA	NA	NA	164	182	150	175	137	171
	Low	Temp	NA	NA	NA	NA	NA	NA	159	184	140	164	123	161
		Non	NA	NA	NA	NA	NA	NA	158	166	139	163	124	161

			AVERAGE CURRENT (mA)											
			12V Models						24V Models					
	High/Low	Temp	10.5V	12V	17V	20V	24V	30V						
Tone	Volume	/Non	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
Electromech.	High	Temp	178	193	152	181	113	164	95	113	91	111	87	153
		Non	178	193	152	181	113	164	93	110	89	113	88	150
	Low	Temp	NA	NA	NA	NA	NA	NA	87	104	79	106	75	144
3000 Hz Interrupt.	High	Temp	179	195	152	183	115	168	100	118	94	116	95	158
		Non	179	196	152	183	113	168	95	114	93	119	93	154
	Low	Temp	NA	NA	NA	NA	NA	NA	89	106	83	108	79	146
		Non	NA	NA	NA	NA	NA	NA	89	104	82	107	80	144

			AVERAGE CURRENT (mA)											
			12V Models						24V Models					
	High/Low	Temp	10.5V		12V		17V		20V		24V		30V	
Tone	Volume	/Non	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR	DC	FWR
Electro-mech.	High	Temp	NA	NA	NA	NA	NA	NA	188	241	185	209	144	20
		Non	NA	NA	NA	NA	NA	NA	186	238	183	211	145	20
	Low	Temp	NA	NA	NA	NA	NA	NA	180	232	153	204	132	18
		Non	NA	NA	NA	NA	NA	NA	181	232	154	204	132	18
3000 Hz Interrupt.	High	Temp	NA	NA	NA	NA	NA	NA	193	246	168	214	152	20
		Non	NA	NA	NA	NA	NA	NA	188	242	167	217	150	21
	Low	Temp	NA	NA	NA	NA	NA	NA	183	234	157	206	136	18
		Non	NA	NA	NA	NA	NA	NA	182	232	156	205	137	19

## ENGINEERING SPECIFICATIONS

**General** — SpectrAlert horns, strobes and horn/strobes shall be capable of mounting to a standard 4" x 4" x 1-1/2" (10.16 x 10.16 x 3.81 cm) backbox or a single-gang 2" x 4" x 1-1/2" (5.08 x 10.16 x 3.81 cm) backbox using the universal mounting plate included with each SpectrAlert product. Also, SpectrAlert products, when used in conjunction with the accessory SyncCircuit Module, shall be powered from a non-coded power supply and shall operate on 12 or 24 volts. 12-volt rated devices shall have an operating voltage range of 10.5 - 17 volts. 24-volt rated devices shall have an operating voltage range of 20 - 30 volts. SpectrAlert products shall have an operating temperature of 32°F to 120°F (0°C to 49°C) and operate from a regulated DC or full-wave rectified, unfiltered power supply.

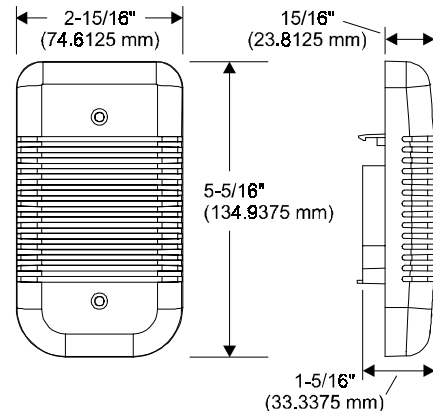
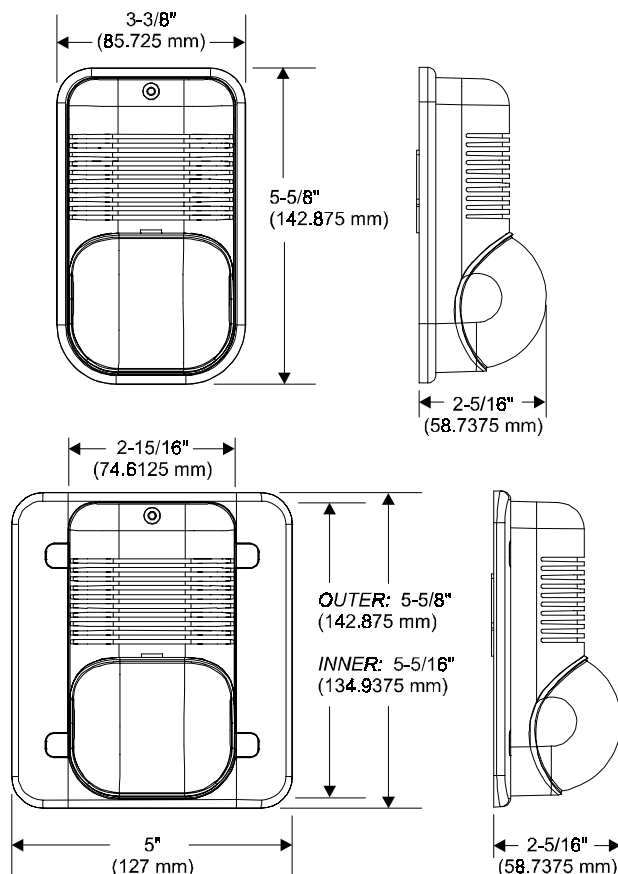
**Horn** — Horn shall be a System Sensor SpectrAlert model \_\_\_\_\_ capable of operating at 12 and 24 volts. Horn shall be listed to UL 464 for fire protective signaling systems. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a temporal 3 pattern and a non-temporal continuous pattern. The horn-only model shall NOT operate on a coded power supply **except** those models (model numbers contain "HC") designed to do so.

**Strobe** — Strobe shall be a System Sensor SpectrAlert model \_\_\_\_\_ listed to UL 1971 and be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

**Horn/Strobe Combination** — Horn/strobe shall be a System Sensor SpectrAlert model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. Horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over its entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a temporal 3 pattern and a non-temporal continuous pattern. Strobes shall be powered independently of the sounder with the removal of factory-installed jumper wires. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

**Module** — Module shall be a System Sensor SyncCircuit model \_\_\_\_\_ listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal 3. Also, the module shall silence the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4-11/16" (119.0625 mm) square x 2-1/8" (53.975 mm) deep backbox and shall control two Style Y (class B) or one Style Z (class A) circuit. Module shall be capable of multiple zone synchronization by daisy-chaining multiple modules together and resynchronizing each other along the chain. The Module shall NOT operate on a coded power supply.

## DIMENSIONS

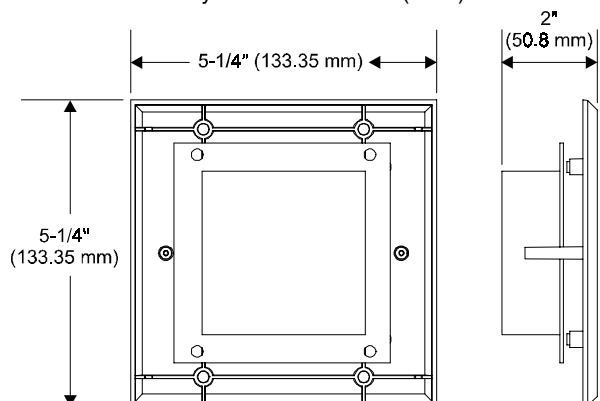


**UPPER LEFT:** Horn/Strobe with Small Footprint Mounting Plate (same dimensions for strobe only).

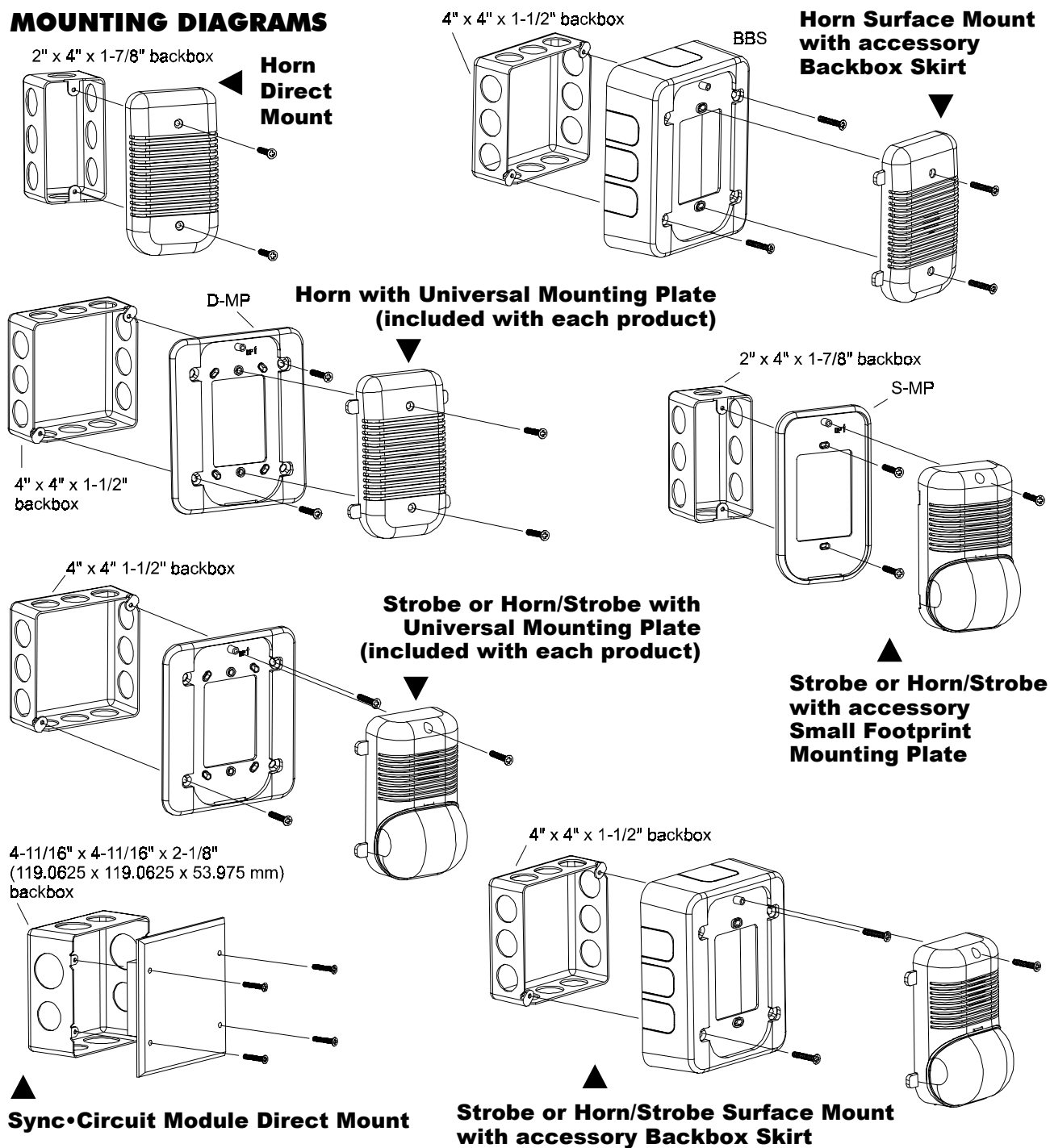
**LOWER LEFT:** Horn/Strobe with Universal Mounting Plate (same dimensions for strobe only).

**UPPER RIGHT:** Horn only (may be mounted with either Small Footprint or Universal Mounting Plate).

**LOWER RIGHT:** SyncCircuit Module (MDL).



## MOUNTING DIAGRAMS



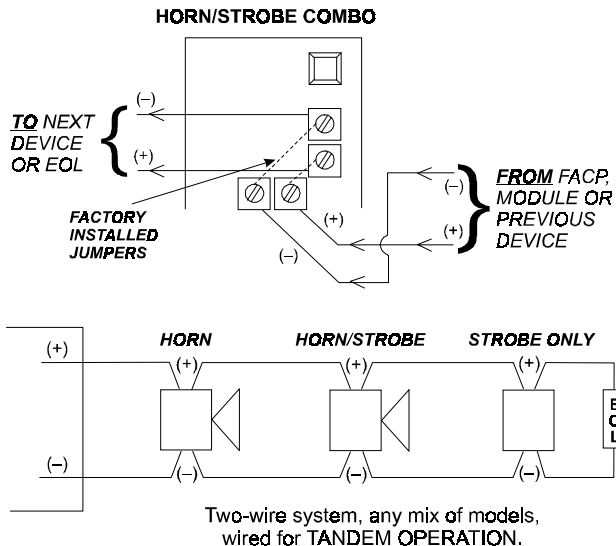
## SOUND OUTPUT GUIDE (dBA)

			UL Reverberant Room dBA @ Volts DC						Anechoic Room Peak dBA @ 10 ft./VDC					
			10.5	12	17	20	24	30	10.5	12	17	20	24	30
Temporal	LOW TONE	Electromechanical	NA	NA	NA	75	75	79	NA	NA	NA	94	96	98
		3000 Hz Interrupted	NA	NA	NA	75	79	79	NA	NA	NA	94	96	98
	HIGH TONE	Electromechanical	75	75	79	82	82	82	94	95	98	100	101	102
		3000 Hz Interrupted	75	75	79	82	85	85	94	95	98	100	101	102
Non-Temporal	LOW TONE	Electromechanical	NA	NA	NA	79	82	85	NA	NA	NA	94	96	98
		3000 Hz Interrupted	NA	NA	NA	82	82	85	NA	NA	NA	94	96	98
	HIGH TONE	Electromechanical	79	79	85	85	88	88	94	95	98	100	101	102
		3000 Hz Interrupted	79	82	85	88	88	90	93	95	98	100	101	102

## WIRING DIAGRAMS

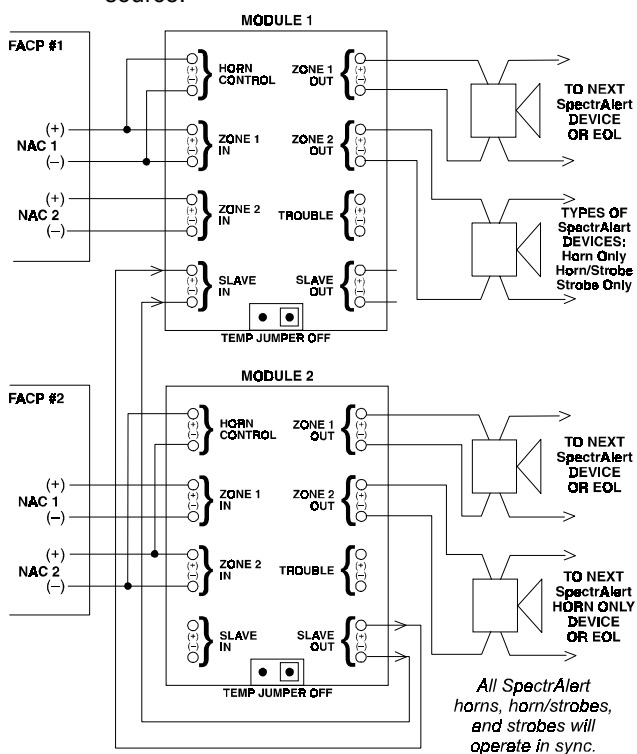
**NOTE:** Do NOT loop wires under terminal screws.

### Tandem Operation



### ▼ Horns silenced over two-wire circuit.

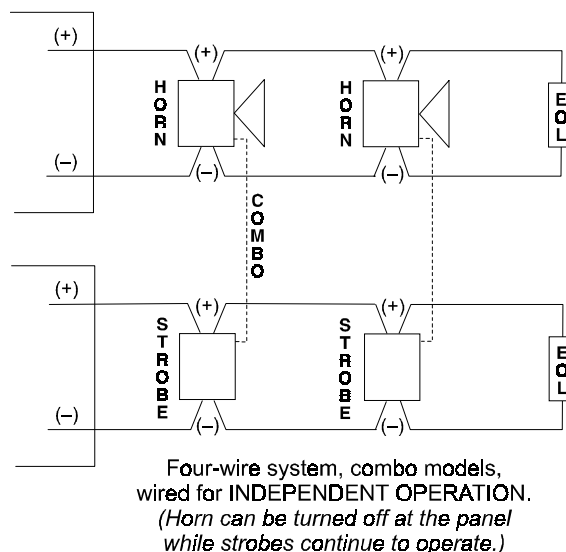
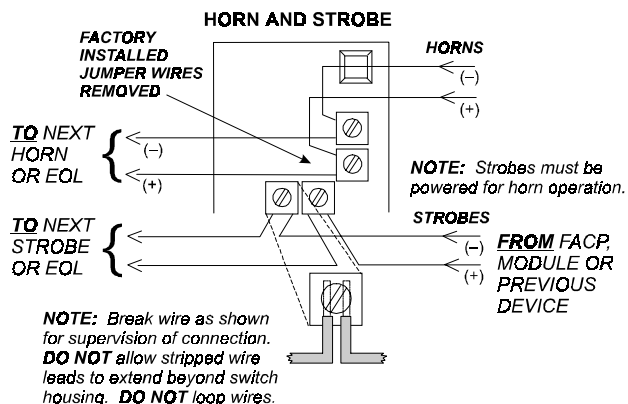
- Any mix of horn/strobes or strobe-only devices is acceptable.
- Horn control connects to interruptible power source.



### DIAGRAM NOTES:

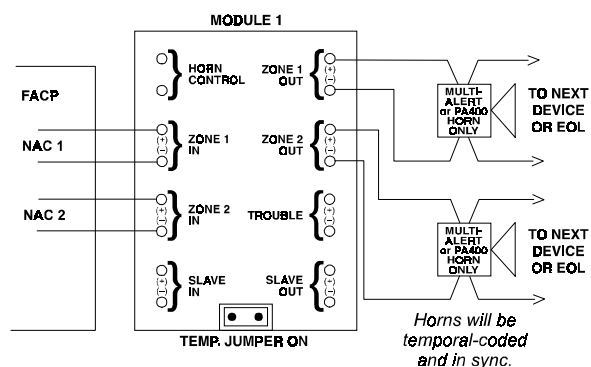
- Any mix of SpectrAlert horn/strobe, strobe-only, or horn-only devices is allowable for Zone 1.
- No devices or horn-only are allowed on Zone 2. If no devices are installed on Zone 2, terminate EOL resistor at horn control terminal.

### Independent Operation



### ▼ Temp 3 coding of Multi-Alert and PA400 sounders.

**NOTE:** Strobes must be powered from non-coded supply.



	RED	WHITE	voltage	candela	avg. mA* @ nom. VDC	avg. mA* @ nom. FWR
<b>Horn/Strobes</b>	P1215	P1215W	12	15	124	167
	P121575	P121575W	12	15/75	152	181
	P2415	P2415W	24	15	78	98
	P241575	P241575W	24	15/75	91	111
	P2475	P2475W	24	75	148	167
	P24110	P24110W	24	110	165	209
	P241575K (weatherproof)	—	24	15/75	91	111
	P2475K (weatherproof)	—	24	75	148	167
	P24110K (weatherproof)	—	24	110	165	209
<b>Canadian Models, Horn/Strobes</b>	P2415A	P2415WA	24	15	78	98
	P241575A	P241575WA	24	15/75	91	111
	P2475A	P2475WA	24	75	148	167
	P24110A	P24110WA	24	110	165	207
	P241575KA (weatherproof)	—	24	15/75	91	111
	P2475KA (weatherproof)	—	24	75	148	167
	P24110KA (weatherproof)	—	24	110	165	209
<b>Spanish Labeling, H/S</b>	P241575F (FUEGO)		24	15/75	91	111
<b>Strobes</b>	S1215	S1215W	12	15	114	157
	S121575	S121575W	12	15/75	142	171
	S2415	S2415W	24	15	53	80
	S241575	S241575W	24	15/75	66	93
	S2475	S2475W	24	75	123	149
	S24110	S24110W	24	110	140	191
	S241575K (weatherproof)	—	24	15/75	66	93
	S2475K (weatherproof)	—	24	75	123	159
	S24110K (weatherproof)	—	24	110	140	191
<b>Canadian Models, Strobes</b>	S2415A	S2415WA	24	15	53	80
	S241575A	S241575WA	24	15/75	66	93
	S2475A	S2475WA	24	75	123	149
	S24110A	S24110WA	24	110	140	191
	S241575KA (weatherproof)	—	24	15/75	66	93
	S2475KA (weatherproof)	—	24	75	123	149
	S24110KA (weatherproof)	—	24	110	140	191
<b>Spanish Labeling, Strobes</b>	S241575F (FUEGO)		24	15/75	66	93
<b>Horns</b>	H12/24	H12/24W	12/24	NA	12 / 23	12 / 21
	H12/24K (weatherproof)	—	12/24	NA	12 / 23	12 / 21
	HC12/24 (coded power)	HC12/24W (coded power)	12/24	NA	12 / 23	12 / 21
	HC12/24K (weatherproof, for coded power)	—	12/24	NA	12 / 23	12 / 21
	H12/24A	H12/24WA	12/24	NA	12 / 23	12 / 21
	H12/24KA (weatherproof)	—	12/24	NA	12 / 23	12 / 21
<b>Accessories ▼</b>	HC12/24A (coded power)	HC12/24WA (coded power)	12/24	NA	12 / 23	12 / 21
<b>Sync•Circuit Module</b>	MDL	MDLW	12/24	NA	16	24
	MDLA	MDLWA	12/24	NA	16	24
<b>Small Footprint Mounting Plate for Single-Gang ONLY</b>	S-MP	S-MPW	NA	NA	NA	NA
<b>Surface-Mount Backbox Skirt</b>	BBS	BBSW	NA	NA	NA	NA
<b>Universal Mounting Plate (replacement)</b>	D-MP	D-MPW	NA	NA	NA	NA
<b>Weatherproof Backbox</b>	WBB	—	NA	NA	NA	NA

**NOTES:** 1) Canadian model numbers end in "A". 2) Latin American model numbers end in "F". 3) All weatherproof models **must** use weatherproof backbox model WBB. 4) All SpectraAlert products are designed for wall-mount only. 5) Installation of less than 75 candela strobes may be permissible under the equivalent facilitation clause of the ADAAG (Sec. 2.2). However, it is the responsibility of the person or entity designing the fire alarm system to determine the acceptability of less than 75 candela strobes. 6) All 15/75 candela strobes or horn/strobes are recommended for 20' x 20' rooms or less. \*For a complete listing of SpectraAlert current requirements, please refer to the Current Draw tables on page 2 of this document, or the Instruction Manual. Horn and horn/strobe current draws assume the horn is set at Temp 3, electromechanical tone, and high audibility.