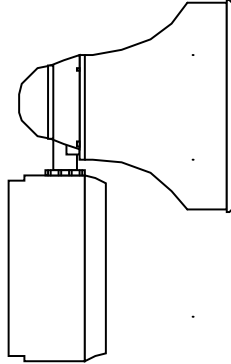


5530MD-24AW Adaptatone Millennium Signal Installation Sheet



Description

The 5530MD-24AW Adaptatone Millennium Signal is a heavy-duty, diode polarized, tone-selectable, indoor/outdoor, NEMA Type 3R audible signaling appliance primarily intended for use in fire alarm systems and other applications requiring electrical supervision of signaling circuit field wiring.

The 5530MD-24AW is UL and cUL Listed as an audible signal appliance for use in Class I, Division 2, Group A, B, C, and D, Class II, Division 2, Group F and G, and Class III, Division 1 and 2 hazardous or nonhazardous locations.

Model	Hazardous locations	Temp. code
5530MD-24AW	Class I, Div. 2, Groups A, B, C, D	T3C ($\leq 160^{\circ}\text{C}$)
	Class II, Div. 2, Groups F, G Class III, Div. 1, 2	T5 (100°C)

The 5530MD-24AW is activated and powered by a fire alarm panel's notification appliance circuit (NAC) or other supervised 24 VDC source, and sounds a high decibel signal determined by the setting of configuration switches inside the appliance. The 5530MD-24AW can be configured for any of the tones listed in Table 1. The speaker direction and output level are easily adjustable.

Installation

The 5530MD-24AW can be mounted on any flat surface or can be used as a freestanding appliance mounted on a rigid pipe. The 5530MD-24AW must be installed in accordance with the latest edition of the *National Electrical Code* or other regulations applicable to the country and locality of installation and by a trained and qualified electrician.

WARNINGS

- Explosion hazard. Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
- Explosion hazard. Substitution of any component may impair suitability for Class I, Division 2.
- Risk of death or serious injury. To prevent fire, shock, and component damage, *do not* service the appliance or remove the circuit board while the circuit is energized.

Note: Any kind of service or maintenance performed while the unit is energized voids the warranty.

To mount the 5530MD-24AW:

- Mount the 5530MD-24AW as shown in Figure 1.

Flat surface mounting: Secure the unit to the mounting surface using the four mounting holes in the mounting plate on the rear of the box. Use the #10 $\times$ 3 wood screws (furnished loose) or other hardware (not supplied) suitable for the mounting surface.

Rigid pipe mounting: Loosen the four cover screws from the signal box and remove the signal box cover.

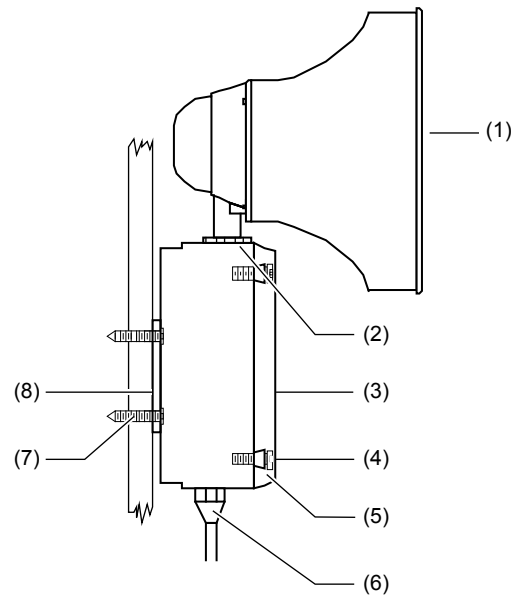
Note: Cover screws are captive. Do not remove them from the cover.

Remove the center knockout in the lower wall of the box and mount the box to a 1/2 in. (13 mm) conduit pipe using a suitable connector.

- Install the wires through a knockout hole in the bottom of the box from a raceway that is approved for the same degree of protection and enclosure type required by the application.

Note: Do not change factory applied finishes.

Figure 1: Mounting



- | | |
|--|--|
| (1) Speaker | (6) Raceway and connection (not supplied) to 1/2 in. (13 mm) knockout hole |
| (2) Large star nut to adjust speaker direction | (7) #10 $\times$ 3 screws or other hardware suitable for the mounting surface (4X) |
| (3) Signal box | (8) Mounting plate |
| (4) Cover screws (4X) | |
| (5) Collar gaskets (4X) | |

Wiring

WARNING: Risk of death or serious injury. To prevent fire and shock, wire the 5530MD-24AW only as described in this installation sheet.

Caution: Risk of system failure. Electrical supervision requires that the wire run be broken at each terminal. Do not loop the field wires around the terminals. Use both sides of the terminal screws as shown in Figure 2.

Note: Terminal block TB1 can be unplugged from the main board to complete the wiring as shown in Figure 2.

To wire and configure the 5530MD-24AW

1. Wire the 5530MD-24AW to a supervised signaling circuit as follows:
 - a. Connect the green ground and yellow striped earth-ground wire to earth ground.
 - b. Connect the incoming power to TB1-1 and TB1-2 as shown in Figure 2. Polarity must be Observed.
 - c. Connect the wires leading to the next signal or end-of-line resistor to TB1-1 and TB1-2 as shown in Figure 2. Polarity must be observed.
2. Set the programming switch on the input board (Figure 3, item 3). Refer to Table 1 to select desired tones.

WARNING: Risk of death or serious injury. High voltage is present when the appliance is energized. High volume may cause harm to personnel in close proximity.

3. Adjust the volume level, if desired, by turning the potentiometer located on the motherboard as shown Figure 3.

Caution: Equipment damage hazard. To ensure the integrity of the 5530MD-24AW assembly when adjusting the speaker direction, make sure the threads in the enclosure remain fully engaged and do not turn the speaker more than 360 degrees from the original factory installed position.

4. To adjust the speaker direction, loosen the large star nut (see Figure 1) and turn the speaker to the approximate desired position. Retighten the nut and turn the speaker slightly clockwise until it is locked into place.

Caution: Equipment damage hazard. Ensure that the cover gasket (P/N P-007549-0069) is adhered into the groove at the cover perimeter and that the four collar gaskets (P/N P-041930-0362) are in place on each cover screw before replacing the signal box cover.

Caution: Equipment damage hazard. When securing the cover, start the screws by hand, making sure they are threaded into the tapped holes in the housing bosses before securing with a screwdriver. Torque signal box cover screws to a minimum of 20 in-lbs. This ensures the required tight fit.

5. Secure the signal box cover using the four cover screws. Torque the signal box cover screws to a minimum of 20 in-lbs.
6. Verify operability.

Maintenance

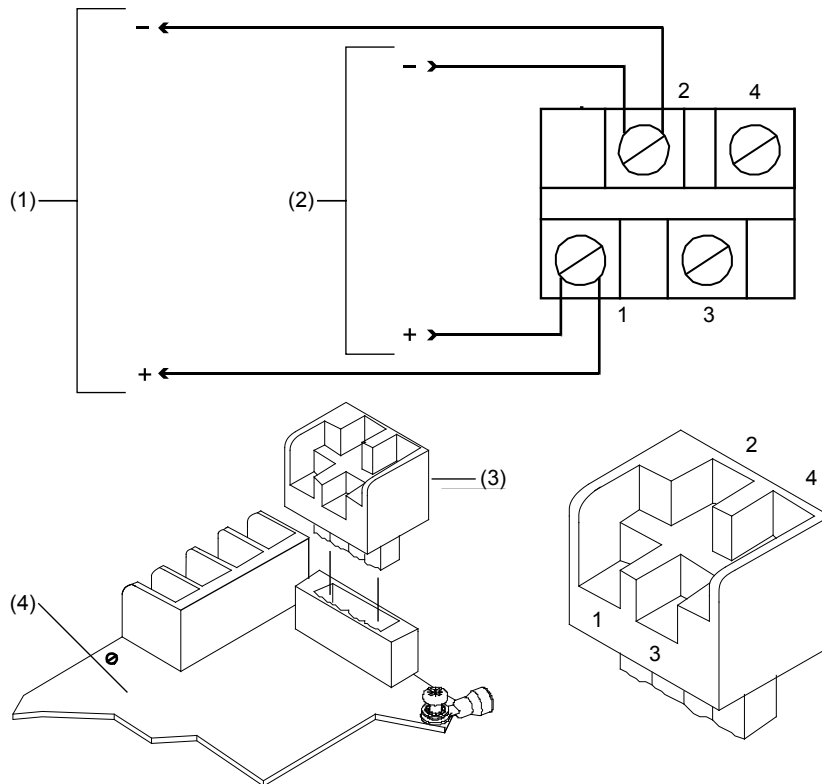
WARNING: Risk of death or serious injury. To prevent fire, shock, and component damage, no work, including circuit board removal, should be performed while the circuit is energized.

Note: Any kind of service or maintenance performed while the unit is energized will void the warranty.

Examine the unit semi-annually for accumulation of dirt. Clean if necessary.

The 5530MD-24AW should be tested annually or as required by the authority having jurisdiction to ensure continuous service.

Figure 2: Wiring to terminal block TB1



Legend

- (1) From control panel signal circuit
- (2) To next signal or end-of-line resistor
- (3) Terminal block TB1
- (4) Main board

Note: Polarity is reversed in supervisory or standby condition.

Figure 3: PC board locations

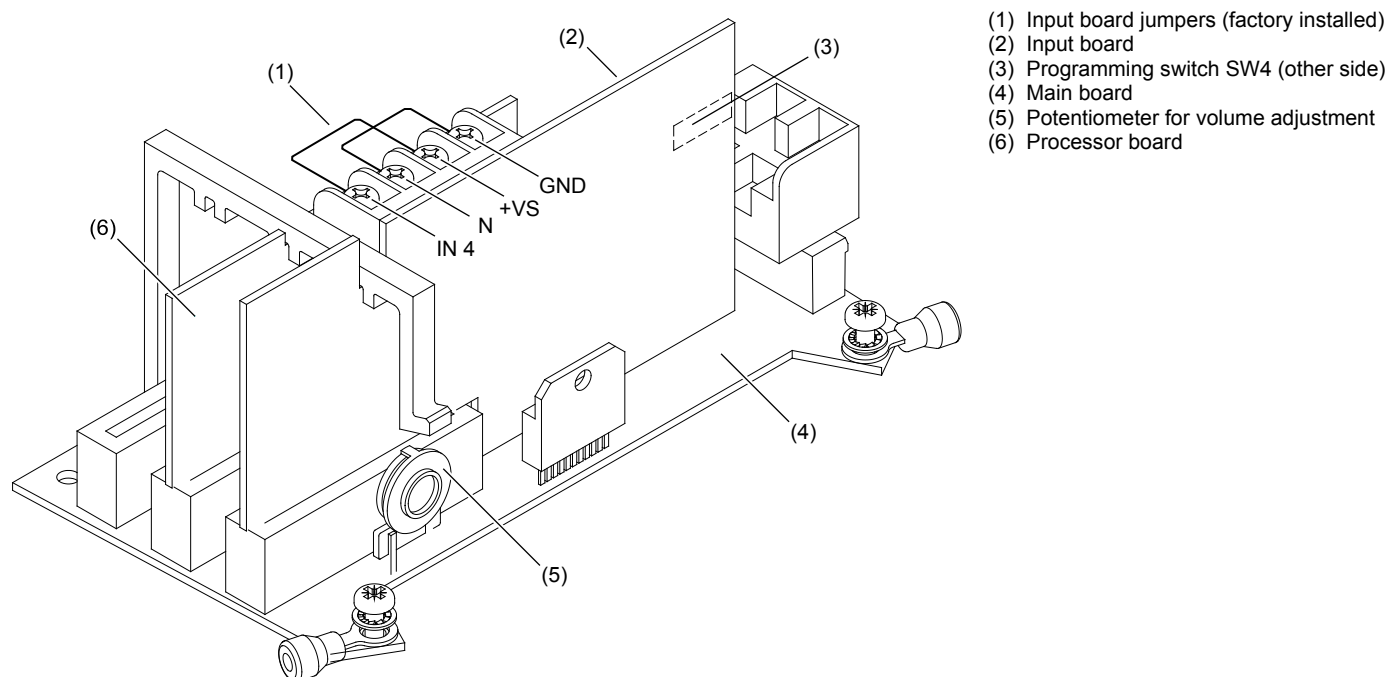


Table 1: Tone programming

Tone	SW4-6	SW4-5	SW4-4	SW4-3	SW4-2	SW4-1	Description	HEX
No Tone	○	○	○	○	○	○	No tone	00
Ding-Dong	○	○	○	○	○	●	Percussive pairs of 700 and 570 Hz tones, each damped to zero	01
Warble	○	○	○	○	●	○	575 and 770 Hz alternately, 87 ms each	02
Siren	○	○	○	○	●	●	600-1250 Hz up and down sweep in 8 s and repeat	03
Stutter	○	○	○	●	○	○	Percussive 470 Hz, 83 ms on, 109 ms off	04
Slow Whoop	○	○	○	●	○	●	600-1250 Hz upward sweep in 4 s and repeat	05
Beep	○	○	○	●	●	○	470 Hz, 0.55 s on, 0.55 s off	06
Chime 1	○	○	○	●	●	●	700 Hz percussive repeat at 1 Hz	07
Fast Whoop	○	○	●	○	○	○	600-1250 Hz upward sweep in 1 s and repeat	08
Hi/Lo	○	○	●	○	○	●	780 to 600 Hz alternately, 0.52 s each	09
Rapid Siren	○	○	●	○	●	○	600-1250 Hz up and down sweep in 0.25 s and repeat	0A
Yeow	○	○	●	○	●	●	1250-600 Hz downward sweep in 1.6 s and repeat	0B
Horn	○	○	●	●	○	○	470 Hz continuous	0C
Air Horn	○	○	●	●	○	●	370 Hz continuous	0D
Dual Tone	○	○	●	●	●	○	450-500 Hz, 0.4 to 0.5 s cycle	0E
Chime 2	○	○	●	●	●	●	575 Hz percussive repeat at 1 Hz	0F
Westminster	○	●	○	○	○	○	Two measures, 411 Hz, 520 Hz, 407 Hz, 312 Hz	10
Three Blind Mice	○	●	○	○	○	●	Four measures, 787 Hz, 714 Hz, 625 Hz, 952 Hz, 333 Hz	11
Phasor	○	●	○	○	●	○	416-625 Hz up and down sweep in 13 ms and repeat	12
Telephone	○	●	○	○	●	●	570 and 770 Hz alternately, 50 ms each for 1.2 s, 1.5 s delay and repeat	13

Tone	SW4-6	SW4-5	SW4-4	SW4-3	SW4-2	SW4-1	Description	HEX
Staircase	○	●	○	●	○	○	440-2000 Hz up and down steps, 750 ms delay and repeat	14
3 Tone Alert	○	●	○	●	●	●	463, 641 and 896 Hz, 200 ms each, 1 s delay and repeat	15
RESERVED	○	●	○	●	●	○	RESERVED	16
RESERVED	○	●	○	●	●	●	RESERVED	17
RESERVED	○	●	●	○	○	○	RESERVED	18
RESERVED	○	●	●	○	○	●	RESERVED	19
RESERVED	○	●	●	○	●	●	RESERVED	1A
NFPA Whoop	○	●	●	○	●	●	Three 422-775 Hz, upward sweeps, 850 ms each, 1 s delay and repeat	1B
3 Pulse Horn [1]	○	●	●	●	○	○	470 Hz, three 0.5 s pulses separated by 0.5 s followed by a 1.5 s delay and repeat <i>For Evacuation Use Only</i>	1C
3 Pulse Air Horn [1]	○	●	●	●	○	●	370 Hz, three 0.5 s pulses separated by 0.5 s followed by a 1.5 s delay and repeat <i>For Evacuation Use Only</i>	1D
3 Pulse Dual Tone [1]	○	●	●	●	●	○	450-500 Hz, 0.4 to 0.5 s cycle, three 0.5 s pulses separated by 0.5 s followed by a 1.5 s delay and repeat <i>For Evacuation Use Only</i>	1E
3 Pulse Chime 2 [1]	○	●	●	●	●	●	575 Hz, three 0.5 s pulses separated by 0.5 s followed by a 1.5 s delay and repeat <i>For Evacuation Use Only</i>	1F
European Police	●	○	○	○	○	○	969 Hz and 800 Hz alternately 0.250 s each	20
European Fire	●	○	○	○	○	●	982 Hz and 864 Hz downward sweep in 0.134 s	21
European Slow Whoop	●	○	○	○	●	○	658 Hz to 1312 Hz upward sweep in 3 s followed by 0.5 s delay and repeat	22
European General	●	○	○	○	●	●	1087 Hz for 0.5 s followed by 0.5 s delay and repeat	23
European Toxic	●	○	○	●	●	○	982 Hz continuous	24
European Police 2	●	○	○	●	○	●	554 Hz and 440 Hz alternately 0.800 s each	25
European Stutter	●	○	○	●	●	○	3876 Hz for 0.146 s followed by 0.102 s delay and repeat	26
European Sweep	●	○	○	●	●	●	1315 Hz to 413 Hz downward sweep in 1.17 s and repeat	27
Telephone 2	●	○	●	○	○	○	Alternate tones at 567 Hz and 326 Hz, for 0.052 s each	28
Buzzer	●	○	●	○	○	●	1315 Hz to 746 Hz alternating for 0.003 s each	29
Genesis Horn Cont	●	○	●	○	●	○	Continuous Genesis horn	2A
Genesis Horn Temp	●	○	●	○	●	●	Temporal Genesis horn	2B
Warning 1	●	○	●	●	○	○	1207 Hz and 493 Hz, alternately 0.002 s each	2C
Warning 2	●	○	●	●	○	●	2336 Hz and 493 Hz, alternately 0.005 s each	2D
Warning 2 Beep	●	○	●	●	●	○	0.500 s of 2336 Hz and 493 Hz each alternating for 0.005 s followed by 1 s delay	2E
Caution	●	○	●	●	●	●	453 Hz for 0.040 s, 235 Hz for 0.020 s, 235 Hz for 0.160 s, 260 Hz for 0.050 s, 260 Hz for 0.100 s, 235 Hz for 0.050 s	2F
Multi-tone	●	●	○	○	○	○	376, 357, 352, 382, 355, 375, 384, 375 and 364 Hz alternately on for 0.050 s	30
Attention	●	●	○	○	○	●	2232, 4545, 3704, 2777, 4347, 3704, 2500 Hz alternately on for 0.003 s	31
High Freq. Steady Alert	●	●	○	○	●	○	2500 Hz continuous	32

Tone	SW4-6	SW4-5	SW4-4	SW4-3	SW4-2	SW4-1	Description	HEX
High Freq. Fast Siren	●	●	○	○	●	●	2500-3048 Hz up and down sweep in 0.130 s	33
High Freq. Slow Siren	●	●	○	●	○	○	2500-3048 Hz up and down sweep in 0.500 s	34
DIN PFEER	●	●	○	●	○	●	Ramp downward from 1336 Hz to 522 Hz in 1.2 s and repeat	35
NF S 32 001	●	●	○	●	●	○	584 Hz for 0.100 s and 461 Hz for 0.400 s	36
Ode to Joy	●	●	○	●	●	●	6.45 s of melody followed by 1 s delay and repeat	37
Twinkle Little Star	●	●	●	○	○	○	13.2 s of melody followed by 1 s delay and repeat	38
Dueling Banjos	●	●	●	○	○	●	10.84 s of melody followed by 1 s delay and repeat	39
La Cucaracha	●	●	●	○	●	○	7.10 s of melody followed by 1 s delay and repeat	3A
Yellow Rose of Texas	●	●	●	○	●	●	19.34 s of melody followed by 1 s delay and repeat	3B

Legend

Closed/On switch=●

Open/Off switch=○

[1] 3 Pulse tones are for evacuation use only. 3 Pulse Horn, 3 Pulse Air Horn, and 3 Pulse Dual Tone are used for ULC fire installations.

Note: The use of evacuation signals on this product, which is not specifically listed for fire alarm use, is subject to the approval of the authority having jurisdiction.

Specifications

Mechanical specifications

Weight	9 lb. (4.1 kg)
Temperature [1]	
Hazardous locations ambient	-31 to +104°F (-35 to +40°C)
Nonhazardous locations variable ambient	-40 to +151°F (-40 to +66°C)
Wire gauge	22 to 12 AWG

[1] Hazardous locations and variable ambient conditions apply only where UL Listings are accepted.

Electrical specifications

Voltage	Current (A) tone on
20 VDC	0.63
24 VDC	0.74
28 VDC	1.0
31 VDC	0.85
20 VFWR 120 Hz	0.69
24 VFWR 120 Hz	0.79

Directional characteristics at power input voltage

Specification	Output sound pressure level at 3 meters
Rated on axis: 0°	85 dBA
Horizontal axis:	
65 deg. and 115 deg.	-3 dBA
60 deg. and 125 deg.	-6 dBA
Vertical axis:	
70 deg. and 110 deg.	-3 dBA
60 deg. and 125 deg.	-6 dBA

Regulatory information

Ratings	ANSI/ISA 12.12.01 CAN/CSA-C22.2 No. 25 CAN/CSA-C22.2 No. 213 UL 464 UL 1480
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Contact information

For contact information, see www.edwardssignaling.com.

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