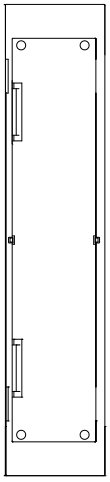
3-ZA20A, 3-ZA20B, 3-ZA40A, 3-ZA40B Zoned Audio Amplifiers Installation Sheet



Description

The 20 and 40 watt zoned audio amplifier modules are key components in emergency communication systems that consist of audible and visible notification appliances. Models are available in Class A and Class B versions. See Table 1 for a list of model numbers. The amplifiers provide the following:

- 20 or 40 watts of power
- Standard output line levels of 25 VRMS or 70 VRMS
- A 1 kHz temporal (3-3-3) tone to use as an evacuation signal and a 20 SPM tone to use as an alert signal in the event of a failure of audio distribution

Each amplifier is also provided with an independently controlled supervised, power limited 24 VDC NAC circuit. This facilitates the addition of visual notification appliances to audio notification circuits.

Each zoned audio amplifier requires one space on the rail chassis assembly.

Table 1: Models

Model	Description
3-ZA20A	20 watt zoned amplifier Class A or Class B audio Class A or Class B 24 VDC outputs
3-ZA20B	20 watt zoned amplifier Class B audio Class B 24 VDC outputs
3-ZA40A	40 watt zoned amplifier Class A or Class B audio Class A or Class B 24 VDC outputs
3-ZA40B	40 watt zoned amplifier Class B audio Class B 24 VDC outputs

Installation

Install and wire this device in accordance with applicable national and local codes, ordinances, and regulations.

Caution: Operating the amplifier at an output greater than that required by the speaker may overdrive the speaker circuit and result in damage to the equipment.

To install the amplifier:

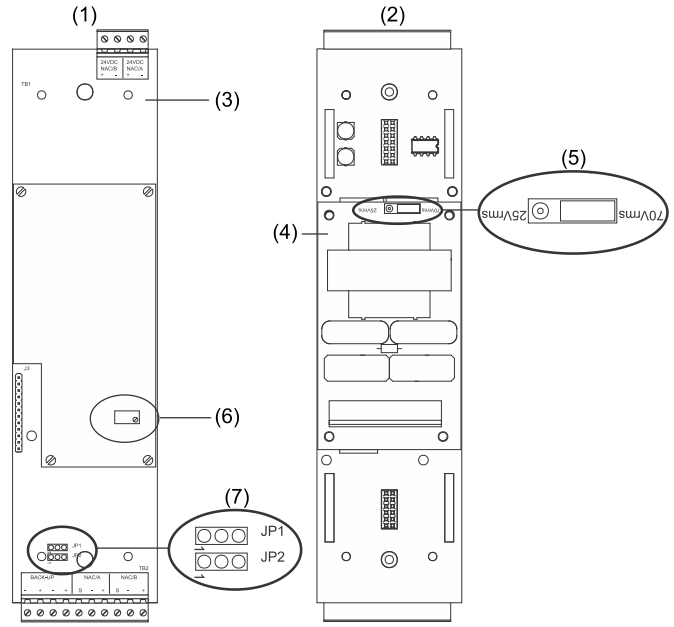
1. Remove all power from the panel.
2. Set jumpers JP1 and JP2 on the audio power module for 25 or 70 VRMS, depending on the input required by the audio circuit speakers. See Figure 1.

	JP1	JP2
25 VRMS	2 to 3	2 to 3
70 VRMS	1 to 2	1 to 2

3. Set the jumper on the audio amp transformer for 25 or 70 VRMS, depending on the input required by the audio circuit speakers. See Figure 1.
4. Slide the module into the required rail/slot position.
5. Gently push the module into the connectors to ensure good contact.
6. Secure the module to the rail by pushing in the top and bottom snap rivet fasteners.
7. Connect the field wiring. See Figure 2 through Figure 5.

Note: The gain control pot (Figure 1) should be adjusted to the desired output levels using a 1 kHz signal after installation. Fully counter clockwise is maximum gain and fully clockwise is minimum gain.

Figure 1: Jumper and gain control settings



(1) Front view
(2) Rear view
(3) Audio power module
(4) Audio amp transformer
(5) Configuration jumper
(6) Output gain control adjust
(7) Configuration jumpers

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Wiring diagrams

Figure 2: Typical 25 or 70 VRMS notification appliance circuit wiring

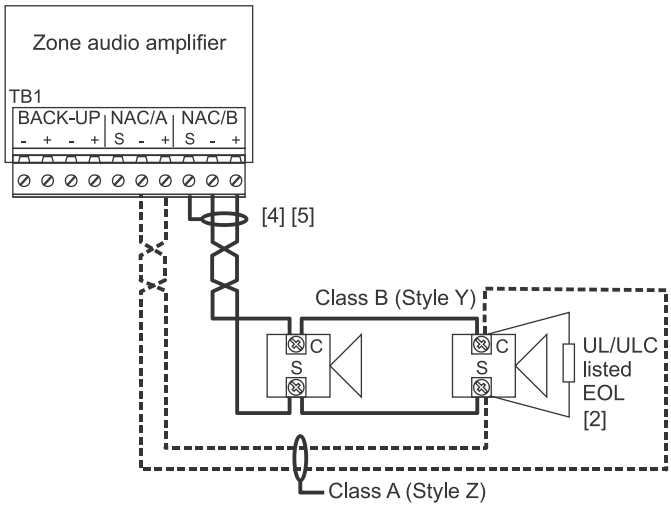
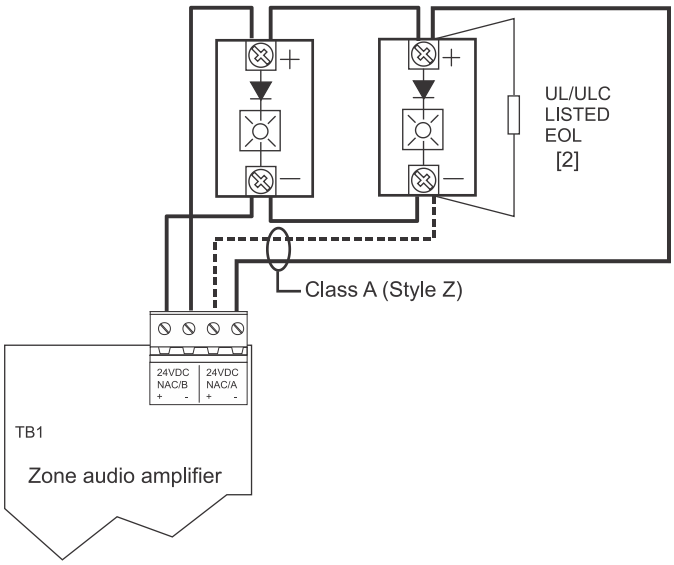


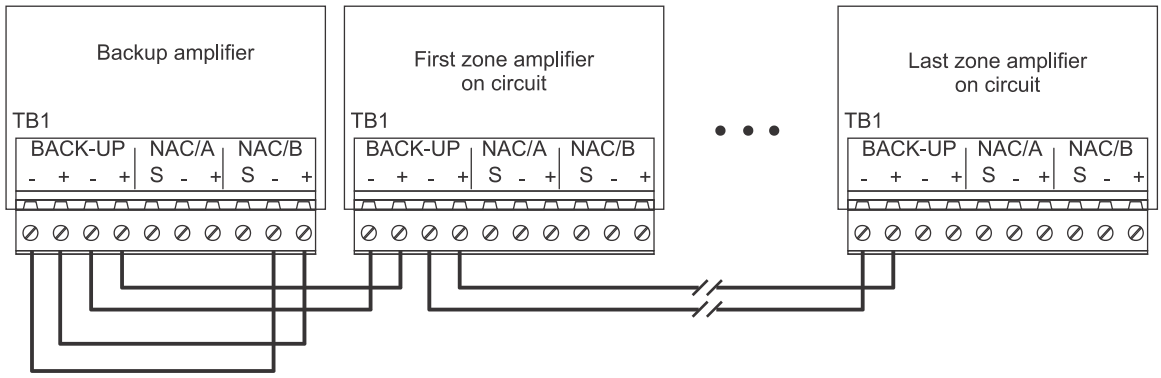
Figure 3: Typical 24 VDC notification appliance circuit wiring



Notes for Figure 2 and Figure 3

1. All wiring is supervised and power-limited.
2. Install listed 15 k Ω resistor on last device only when wired as Class B riser.
3. Polarity designations on connector indicate output signal polarity for circuit supervision. The polarity reverses in an alarm condition.
4. Shield required when audio riser and telephone riser share the same conduit.
5. Twisted pair not required only when audio circuit riser shares conduit exclusively with 24 VDC riser or in conduit by itself.
6. A maximum of 10 Signature Series CC1 or CC2 modules may be installed on the speaker circuit.
7. For maximum wire resistance, refer to the panel installation and service manual or technical reference manual.
8. Synchronization of Genesis strobes is accomplished through the use of G1M, G1M-RM, SIGA-CC1S, and SIGA-MCC1S modules. Refer to the panel compatibility list.

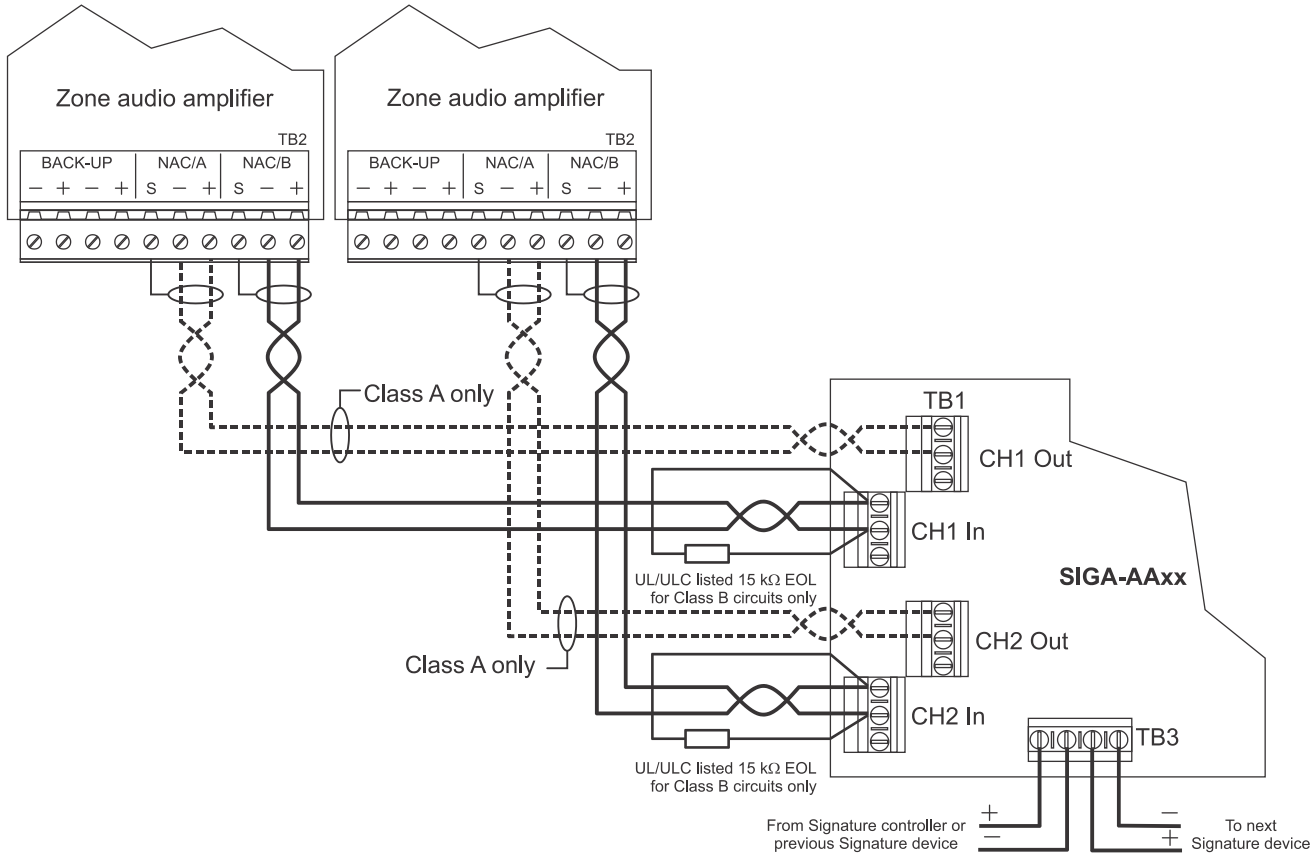
Figure 4: Backup amplifier wiring



Notes

1. All wiring is supervised and power-limited.
2. Backup amplifier must be rated greater than or equal to the other amplifiers to which it is connected and must be installed in the same enclosure.
3. Backup amplifier wiring must be rated greater than or equal to the field wiring used on amplifiers connected to the backup amplifier.

Figure 5: Typical wiring connecting to SIGA-AAxx audio amplifier



Notes

1. Configure the zone audio amplifiers for 25 VRMS
2. A maximum of 16 SIGA-AAxx audio amplifiers may be connected to the output of a single zone audio amplifier
3. Shield required when the audio riser wiring shares the same conduit as the telephone riser

Specifications

Current	
Standby	62 mA
Alarm	1.12 A (3-ZA20A/20B) 2.48 A (3-ZA40A/40B)
Frequency response	400 Hz to 4 kHz at ±3 dB
Harmonic Distortion	< 7%
Audio circuit	
Input	8-channel, multiplexed digitized audio:
Wiring	Class B or Class A
Output	20 or 40 W at 25 or 70 VRMS [1]
EOL resistor	15 kΩ (internal on 3-ZA20A/40A)
24 VDC NAC circuit	
Wiring	Class B or Class A
Voltage	24 VDC nominal
Current	3.5 A
EOL resistor	15 kΩ (internal on 3-ZA20A/40A)
Special applications	Refer to the panel compatibility list.
Wire size	12 to 18 AWG (4.0 to 1.0 mm²)
Space requirements	1 rail space
Operating environment	
Temperature	32 to 120 °F (0 to 49 °C)
Relative humidity	93% noncondensing

[1] For Canadian installations, 70 VRMS is nonpower-limited.

Regulatory information

Environmental class	UL/ULC: Indoor dry

Contact information

For contact information, see www.edwardsfiresafety.com.