

Model AM302 and AM302GCX

AudioMaster® Speaker

2561188 Rev C1 0226

Limited Warranty: This product's limited warranty can be found at www.fedsig.com/SSG-Warranty.

SAFETY MESSAGES TO INSTALLERS AND USERS

It is important to follow all instructions shipped with this product. This device is to be installed by trained personnel who are thoroughly familiar with the country electric codes and will follow these guidelines as well as local codes.

The selection of a mounting location for this device, its controls, and wiring routing must be done under the direction of the facilities engineer and the safety engineer. Listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
 - This unit must be installed by a qualified electrician in accordance with National and local Electrical Codes, under the direction of the authority having jurisdiction.
 - Never alter this unit in any manner. Safety in hazardous locations may be jeopardized if additional openings or alterations are made to the device.
 - The nameplates, which contain cautionary or other information of importance to maintenance personnel, should not be obscured if the device's exterior is painted.
 - Do not connect this unit to the system when power is on.
 - All effective warning speakers produce loud sounds, which may cause, in certain situations, permanent hearing loss. The device should be installed far enough away from potential listeners to limit their exposure while still maintaining its effectiveness. The OSHA Code of Federal Regulations 1910.95 Noise Standard provides guidelines which may be used regarding permissible noise exposure levels.
 - All effective warning speakers produce loud sounds which may cause, in certain situations, permanent hearing loss. Take appropriate precautions such as wearing hearing protection.
 - After installation, test the sound system to ensure that it is operating properly.
- Show these instructions to your Safety Engineer and then file them in a safe place and refer to them when maintaining and/or reinstalling the unit.
 - After installation and the completion of an initial system test, a program for periodic testing of this device must be established. Refer to the authority having jurisdiction for this information.
 - Consult the authority having jurisdiction in your area regarding the proper use and installation of this product.
 - Even if your warning system is operating properly, it may not be completely effective. People may not hear or heed your warning signal. You must recognize this fact and ensure that your warning signal achieves its intended effect through proper test/training sequences within your specific application(s).

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

OVERVIEW – The AudioMaster Model AM302 and AM302GCX are 25 V_{rms} and 70 V_{rms} indoor/outdoor rated, selectable power output (9 to 30 watts) loudspeakers for use with general utility signaling systems such as Federal Signal's SelecTone® system. They are designed to reproduce electronically-generated warning tones, which command rapid recognition, and full range voice communication. They are suitable for use in areas with high ambient noise levels. The speaker projector is adjustable and may be repositioned to obtain the desired sound distribution.

The AM302GCX is suitable for use in Class I, Division 2, Groups A, B, C, & D; Class II, Division 2, Groups F & G; Class III Hazardous, and Non-hazardous Locations.



Figure 1 Dimensions

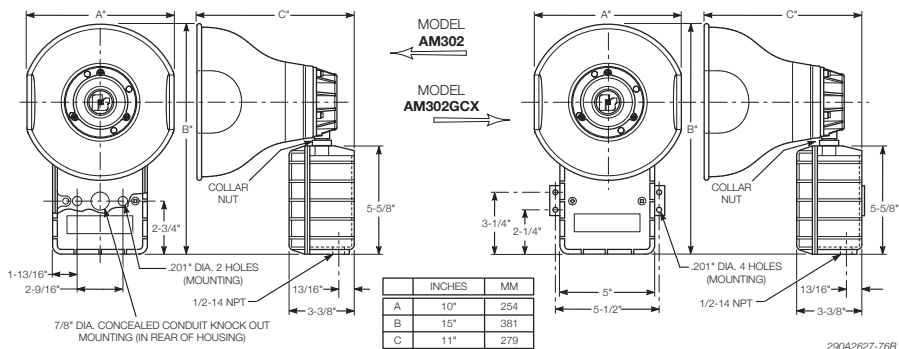


Table 1 Specifications

Operating Voltage	25 V _{rms} or 70 V _{rms}
Power Input (selectable)	9 W, 15 W, and 30 W
Maximum Supervisory Voltage	50 Vdc
Weight (approx.)	7 lb (3.2 kg)
Size (H x W x D)	14 x 10 x 11 in (356 x 254 x 279 mm)
Construction	Aluminum enclosure painted with gray electrostatic powder coating. Amplifier housing sealed with neoprene rubber gasket.

Table 3 UL Directionality Data

Horizontal Axis	
Angle	OSPL (dBA)
0° (ref)	0 (ref)
+/- 17	-3
+/- 28	-6
+/- 90	-18.9
Vertical Axis	
Angle	OSPL (dBA)
0° (ref)	0 (ref)
+/- 19	-3
+/- 30	-6
+/- 90	-18.9

Unpacking the Device – After unpacking the speaker, examine it for damage and verify the parts. If a part is missing or damaged, do not attempt to install the device. Contact Federal Signal Customer Support.

Installing the Speaker

CAUTION

MAINTAIN RATING: To maintain the hazardous location rating of the Model AM302GCX, do not use the 7/8" knockout (concealed conduit mounting).

The speaker can be mounted on any relatively flat surface. A conduit connection can be made to the 1/2" threaded opening at the bottom of the housing, or to the 7/8" knockout in the rear of the housing. After the mounting location and mounting method have been selected, proceed with the instructions that follow.

Table 2 Power Tap Settings vs. Sound Output

Power Tap	UL Omnidirectional Sound Level at 10' dB(A) per UL1480	Sound Level dB(A) at 10' on axis
9 W	N/A	104
15 W	102	109
30 W	105	112

Flat Surface Mounting

To mount the speaker on a flat surface:

1. Remove and retain the two screws that secure the cover to the housing. Remove the cover.

WARNING

OBSTRUCTION HAZARD: Property damage, serious injury, or death could occur if an accumulation of water, snow, dust, etc. resides in the speaker projector, severely reducing or preventing operation of this device. Mount the unit so the speaker has no obstructions.

2. Select the mounting location, and place the rear of the housing against the mounting surface.
3. Using the mounting holes (two inside the AM302's housing or four in the AM302GCX's external mounting bracket) as a template, scribe drill-position marks on the mounting surface. See Figure 1 for mounting hole locations and dimensions.

NOTICE

DRILLING PRECAUTIONS: When drilling holes, check the area you are drilling into to ensure that you do not damage nearby items while drilling.

4. Secure the unit to the mounting surface with #10 screws appropriate for the type of mounting surface material.

WARNING

WIRE DAMAGE: Property damage, serious injury or death could occur if the projector is mishandled during installation or over time. DO NOT rotate the projector more than 180 degrees, or the internal speaker wiring may be damaged.

5. Reposition the speaker projector if necessary to obtain the desired sound coverage. Loosen the collar nut (see Figure 1) and move the projector to the desired position.
6. Before reinstalling the housing cover, follow the instructions in the Electrical Connections section.

Model AM302 Concealed Conduit Mounting

1. Remove and retain the two screws that secure the cover to the housing. Remove the cover.
2. Remove the 7/8" knockout at the rear of the housing.
3. Install the conduit connection.
4. Select the mounting location and place the rear of the housing against the mounting surface.
5. Using the two mounting holes as a template, scribe drill-position marks on the mounting surface. See Figure 1 for mounting hole locations and dimensions.

NOTICE

DRILLING PRECAUTIONS: When drilling holes, check the area you are drilling into to ensure that you do not damage nearby items while drilling.

6. Secure the unit to the mounting surface with #10 screws appropriate for the type of mounting surface material.

WARNING

WIRE DAMAGE: Property damage, serious injury or death could occur if the projector is mishandled during installation or over time. DO NOT rotate the projector more than 180 degrees, or internal speaker wiring may be damaged.

7. Reposition the speaker projector if necessary to obtain the desired sound coverage. Loosen the collar nut (see Figure 1) and move the projector to the desired position.
8. Before reinstalling the housing cover, follow the instructions in the Electrical Connections section.

Electrical Connections

WARNING

SHOCK HAZARD: To avoid electrical shock, do not connect wires when circuits are energized.

WARNING

WIRE GAUGE: Audio wires should be sized properly by your licensed installation electrician for your service application. This cable requires a twisted shielded pair with an 18AWG minimum and should produce no more than 15% signal loss over the length of the cable run.

Adhere to National Electrical Code as well as local codes when installing these models. All electrical wiring must be routed through approved conduit and fittings.

1. Connect the audio common (-) leads to the speaker's common terminal. See Figures 2 and 3.
2. Connect the audio positive (+) leads to the 25 V or 70 V terminal, depending on the external signal source voltage. See Figures 2 and 3.
3. Create a 4-inch-long jumper using 14 to 22 AWG wire. Connect one end of the jumper wire to the terminal marked with the desired wattage. See Figure 3. Connect the other end to the terminal marked "SPK."

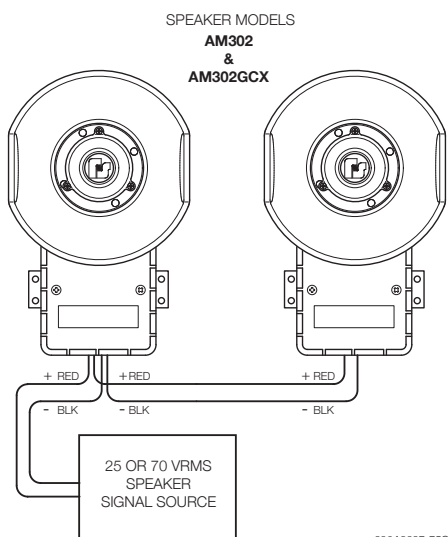
NOTE: Only three of the five wattage terminals marked on the terminal block are for use on the AM302 and AM302GCX. For proper operation, the speaker wire should be connected to one of these terminals as indicated in Figure 3. The remaining two wattage terminals are not used.

4. Ensure that the neoprene rubber cover gasket is properly seated in the housing groove and reinstall the housing cover.

WARNING

EXPLOSION HAZARD: Property damage, serious injury, or death could occur if the housing is not closed properly. To reduce the possibility of an explosion, the Model AM302GCX's housing cover must be kept tight while circuits are energized.

Figure 2 Typical Installation Wiring



290A2627-75C

Testing the Speaker

⚠ WARNING

SOUND HAZARD: Under certain conditions, these devices are capable of producing sounds loud enough to cause hearing damage. Adequate hearing protection must be worn if standing within close proximity to the device while testing. Do not exceed recommendations in the OSHA Sound Level Standard (29 CFR 1910).

1. After installation is complete, test the system to verify that each speaker operates satisfactorily. If the unit is too loud for its location, a lower wattage tap may be selected. Carefully remove the housing cover and move the speaker's internal yellow lead to a lower wattage tap. See Figure 3. Reinstall the housing cover and retest the speaker.

⚠ WARNING

EXPLOSION HAZARD: Property damage, serious injury, or death could occur if the housing is not closed properly. To reduce the possibility of an explosion, the Model AM302GCX's housing cover must be kept tight while circuits are energized.

2. After completion of initial system test, establish a program for periodic testing of this device. Refer to the authority having jurisdiction for this information.
3. Provide a copy of these instructions for the Safety Engineer, system operator(s), and maintenance personnel.

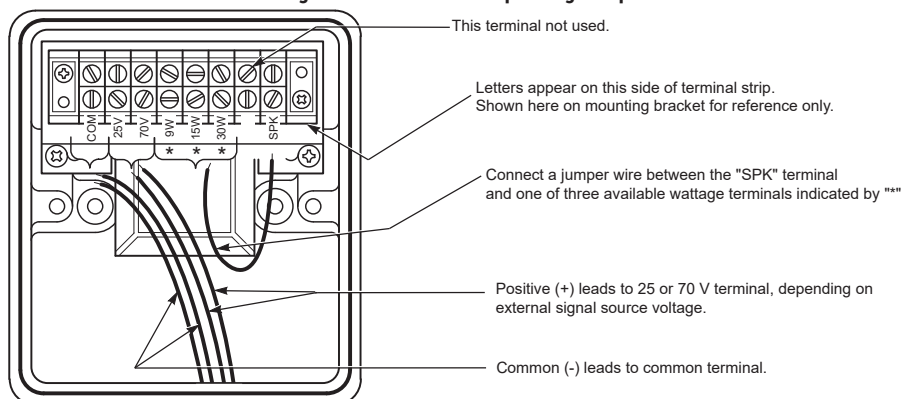
SAFETY MESSAGES TO MAINTENANCE PERSONNEL

⚠: Even if your warning system is operating properly, it may not be completely effective. People may not hear or heed your warning signal. You must recognize this fact and ensure that your warning signal achieves its intended effect through proper test/training sequences within your specific application(s).

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

- Read and understand all instructions before performing maintenance on this unit.
- To reduce the risk of electrical shock, or ignition of hazardous atmospheres, do not perform maintenance or service on this unit when circuits are energized.
- Make periodic checks to ensure that the effectiveness of this device has not been reduced because the speaker has become clogged with a foreign substance or because objects have been placed in front of the speaker.

Figure 3 Internal Multi-Tap Wiring Setup



290A2627-74B

- Any maintenance to this unit **MUST** be performed by a trained electrician in accordance with NEC guidelines and local codes.
- Never alter this unit in any manner. Safety in hazardous locations may be jeopardized if additional openings or alterations are made to Model AM302GCX.
- The nameplates, which contain cautionary or other information of importance to maintenance personnel, should not be obscured if the exterior of the device is painted.

To maintain the device:

- Periodically check this device to verify that there are no foreign substances in or in front of the speaker that could reduce its effectiveness.
- Periodically test the device. Refer to the authority having jurisdiction for information.
- In the event a volume adjustment or other repair is required, be sure to refer to the Safety Message For Maintenance Personnel before proceeding.

Maintenance and Service

WARNING

Unauthorized repair/servicing of the unit may result in degradation of performance and/or property damage, serious injury, or death to you or others. If the unit malfunctions, do not attempt any field repair/retrofit of parts.

WARNING

EXPLOSION HAZARD: Substitution of components may impair suitability for Class I, Division 2. Do not replace the transformer or capacitor unless power has been switched off and the area is known to be non-hazardous.

Technical Assistance: Contact our Technical Support Team at +1 708-587-3587 or signalsupport@fedsig.com.

Repair Service: A return authorization is required. Contact your Authorized Distributor or Federal Signal Customer Support. Defective products under warranty will be repaired or replaced at Federal Signal's discretion.

Product Returns: Returns require authorization from Federal Signal. Contact your Authorized Distributor for more information on our return policy or to request a return.



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