



Commercial Products Group
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DOCUMENT	REV	CN
256881	E	1107

Model ASHX

PowerTone® Amplified Speaker for Hazardous Location

SAFETY MESSAGE

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with this product. Listed below are some other important safety instructions and precautions you should follow.

Selection of mounting location for this device, its controls and routing of wiring should be made by the Facilities Engineer and the Safety Engineer. Listed below are some other important safety instructions and precautions you should follow.

- This unit must be installed and maintained by a qualified electrician in accordance with NFPA 72 and national and local electrical and fire codes, under the direction of the authority having jurisdiction.
- Do not connect this unit to system wiring when circuits are energized.
- For optimum sound distribution do not install this device where objects would block the any portion of the front of the speaker.
- All effective warning speakers produce loud sounds which, in certain circumstances, may cause permanent hearing loss. Take appropriate precautions such as wearing hearing protection. Recommendations in OSHA Sound Level Standard (29 CFR 1910) should not be exceeded.
- After installation be sure that all bolts and threaded joints are securely tightened.
- After installation and completion of initial system test, provide a copy of this instruction sheet to all personnel responsible for operation, periodic testing and maintenance of this equipment.
- After installation and completion of initial system test, a program for periodic testing of this device must be established. Refer to NFPA 72, local Fire Codes and the authority having jurisdiction for this information.
- If a malfunctioning unit is encountered, do not attempt any field repair retrofit of parts not covered by these instructions. Return the unit to the factory.

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

GENERAL

The PowerTone Model ASHX is a hazardous location, continuous duty, polarized, 24 Volt dc, indoor/outdoor rated, high output (with internal volume adjustment), amplified speaker for use with fire alarm systems. It is suitable for use in areas with high ambient noise levels that require a loud distinctive signal. A Model UTC tone card (purchased separately) with different tone settings may be used (see table 2). In addition, one of two available Model PTCK plug-in connector cards can be used. The Model PTCK plug-in connector cards will allow use of externally generated tone or voice signals (see table 2) from a remote audio amplifier. This model is suitable for use in NEC hazardous locations Class I, Groups B, C, & D. Its mounting bracket is adjustable to allow positioning to obtain desired sound coverage.

Specification	Rating
UL Listed	File S6476 (Guide UUMW, UEAY) File E190743 (Guide UGKZ)
CSFM Listed	7135-1517:123
NYC MEA Approved	MEA 11-92-E Vol V
Operating voltage	Regulated 24VDC
Supervisory voltage	24VDC max
Operating current (includes tone card or connector card)	0.225A (5.4W) 0.06A standby
Weight (approx)	15 lb (6.8kg)
Size	14.75" (375mm) long, 14.75" (375mm) high, 8.875" (225mm) wide.
Construction	Aluminum enclosure and adjustable steel mounting bracket painted with red enamel.
Environmental rating	Outdoor wet
Temperature range	-40° to +151° F (-40° to +66° C)
Relative Humidity	95% Non-condensing
Hazardous Locations	Class I, Groups B, C, D

Table 1: Specifications

INSTALLATION

WARNING

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 speaker projector is pointed horizontally or slightly downward.

Unpacking

After unpacking the amplified speaker, examine it carefully for possible damage that may have occurred in transit. If equipment has been damaged, immediately file a claim with carrier stating extent of damage. Carefully check all shipping labels and tags for special instructions before removing or destroying them.

Mounting Arrangements

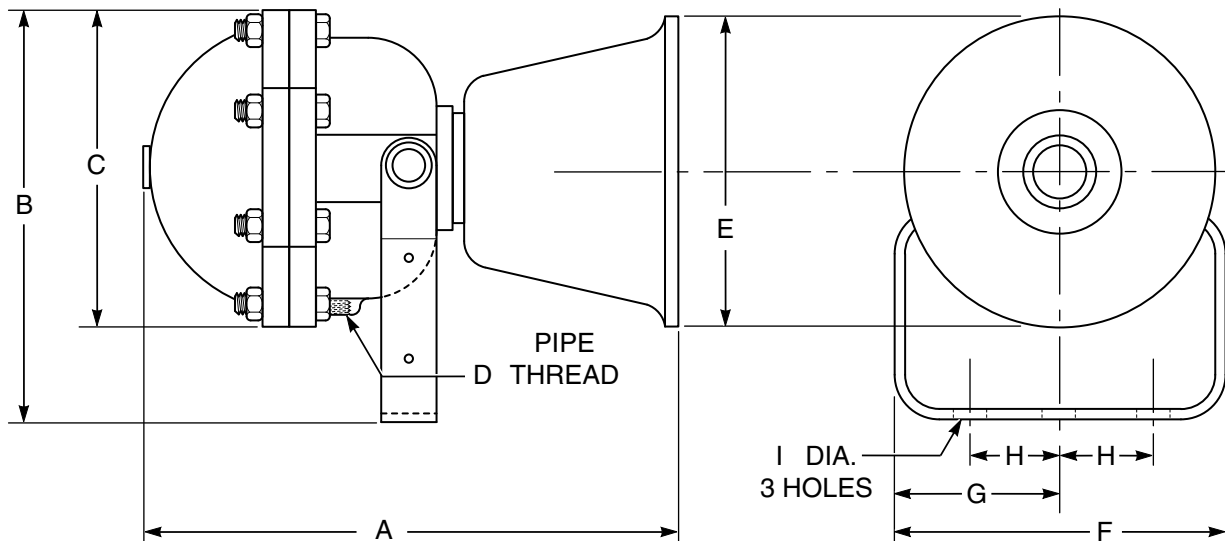
The speaker can be mounted on any relatively flat surface. Conduit connection can be made to 1/2" threaded opening at bottom of housing (see figure 1).

1. Remove the two 1/2-13 hex head bolts, flat washers and lockwashers that secure mounting bracket to unit.

Selection	Name	Description	Audible Frequency (Hz)	Repetition rate (cycles/min)	Audibility	
					dB(A) Sound Power	UL dB(A) Sound Pressure
TM1	Wail	Conventional siren	550-1250	11	117.3	96.7
TM2	Yelp	Rapid siren	550-1250	3.3 Hz	117.4	96.8
TM3	Hi-Lo	Alternating high and low	560 and 760	50	116.3	95.7
TM4	Bell	Bell, struck repeatedly	800	50	114.1	93.5
TM5	Yeow	Descending high to low, repeated	1300 and 550	36	117.3	96.7
TM6	Horn	Steady horn	470	Continuous	112.2	91.6
TM7	Beep	Slow intermittent horn	470	50	111.1	90.5
TM8	Stutter	Rapid intermittent horn	470	5	111.4	90.8
TM9	Slow Whoop	Slow ascending, low to high – repeated	420 and 1160	15	115.9	95.3
TM11	Temporal Slow Whoop	NFPA coded slow whoop (fire alarm use only)	420 and 1160	15	113.0	92.4

Connector card model	Rated voltage				
PTCK25	25 VRMS				111.0 96.4
PTCK70	70 VRMS				114.4 99.8

Table 2: Tone and connector card ratings for Model ASHX



A	B	C	D	E	F	G	H	I
14.75 in.	14.75 in.	8.312 in.	0.500 in.	8.375 in.	8.875 in.	4.500 in.	2.500 in.	0.531 in.
37.5 cm.	37.5 cm.	21.1 cm.	12 mm.	21.3 cm.	22.5 cm.	11.4 cm.	6.35 cm.	13 mm.

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Figure 1: Model ASHX dimensions

2. Select mounting location.

WARNING

Property damage, serious injury, or death could occur if any objects are in front of speaker, severely reducing optimum sound distribution. For maximum effectiveness, ensure that the front of the speaker is clear of obstructions.

3. Using the mounting bracket as a template, scribe drill position marks on the mounting surface. See figure 1 for mounting hole locations and dimensions

CAUTION

Before drilling holes in any surface, be sure both sides of surface are clear of anything that could be damaged.

4. Drill holes at the previously scribed drill position marks to accommodate 1/2" diameter bolts.
5. Secure bracket to mounting surface with 1/2" diameter hex head bolts, lockwashers and hex nuts.
6. Remove eight 5/16-18 x 1-3/4" hex head bolts, lockwashers and hex nuts that secure cover to housing and carefully lift off cover.

WARNING

Property damage, serious injury, or death could occur if the machined sealing surfaces are damaged on this product. To maintain effectiveness of explosion-proof enclosure, be careful to avoid damaging the machined sealing surfaces of cover and housing.

7. Reattach unit to its mounting bracket with two 1/2-13 hex head bolts, flat washers and lockwashers previously removed. Position speaker so as to obtain desired sound coverage then tighten these bolts securely.
8. Before reinstalling the housing cover, read Electrical Connections below and make necessary connections.

Electrical Connection

DANGER

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

National Electrical Code as well as local codes must be adhered to in the installation of these models. All electrical wiring must be routed through approved conduit and fittings as specified.

WARNING

Property damage, serious injury, or death could occur if suitable barriers are not provided for explosive gases and other atmospheres. To reduce the possibility of explosion when this unit is used in Class I, Group B atmospheres, the conduit MUST have a sealing fitting within 18-inches of enclosure. Be sure to refer to the National Electrical Code or the authorities having jurisdiction in the area.

Tone card installation

1. Plug the desired tone card (purchased separately) into the socket as shown in figure 2.
2. See figure 3. Connect the device's red (+) leads to the power source positive (+) lead. Connect the device's black (-) leads to the power source negative (-) lead.

WARNING

Property damage, serious injury, or death could occur if suitable barriers are not provided for explosive gases and other atmospheres. To reduce the possibility of explosion when this unit is used in Class I, Group B atmospheres, the conduit MUST have a sealing fitting within 18-inches of enclosure. Be sure to refer to the National Electrical Code or the authorities having jurisdiction in the area.

3. Carefully reinstall housing cover using eight 5/16-18 x 1-3/4" hex head bolts, lockwashers and hex nuts that were previously removed. Verify that all housing and mounting bolts have been securely tightened.

PTCK Connector kit installation

WARNING

Property damage, serious injury, or death could occur if independent conductors are terminated together; both wires of the same polarity must be used as two separate connections. NFPA 72 requires that the wires be terminated independently to provide electrical supervision of the connection, for both the 24 Vdc speaker power and 25 VRMS or 70 VRMS audio lines.

1. Plug the desired PTCK connector card (purchased separately) into the socket as shown in figure 2.
2. See figure 4. Connect the device's red (+) leads to the power source positive (+) lead. Connect the device's black (-) leads to the power source negative (-) lead.
3. Connect the white leads from the connector card to the audio input and outputs.

NOTE

Check with authority having jurisdiction for proper application of EOL resistor and power supervision relay required (see figure 4).

WARNING

Property damage, serious injury, or death could occur if the housing is not closed properly. To reduce possibility of explosion, housing cover must be kept tight (all eight bolts fully tightened) while circuits are energized.

4. Carefully reinstall housing cover using eight 5/16-18 x 1-3/4" hex head bolts, lockwashers and hex nuts that were previously removed. Verify that all housing and mounting bolts have been securely tightened.

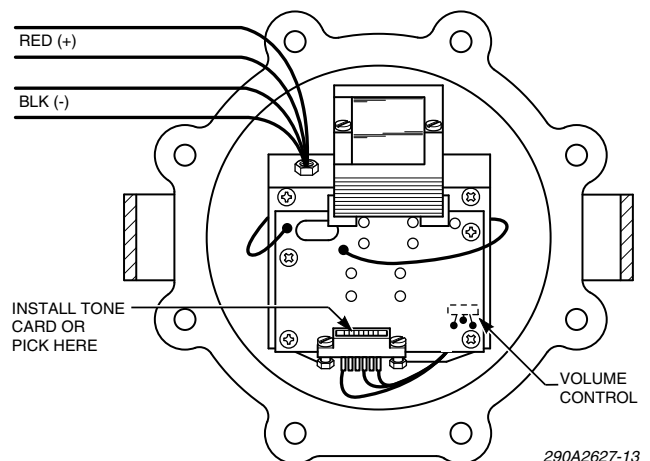


Figure 2: Tone/connector card installation location

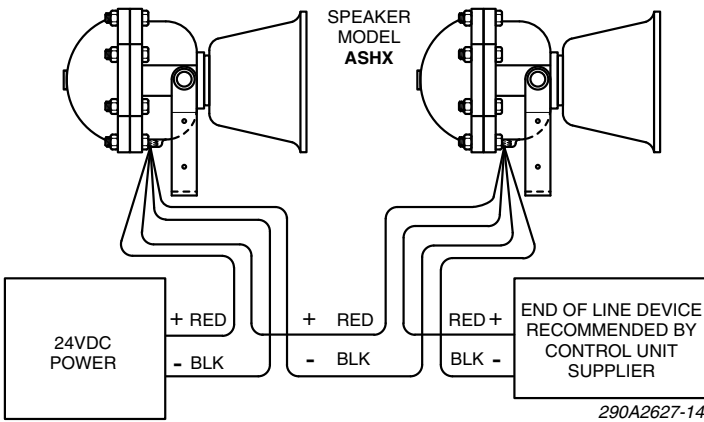


Figure 3: Typical tone card installation wiring

After installation is complete, be sure to test the system to verify that each amplified speaker operates satisfactorily. If it is found that the unit is too loud for its location, an internal volume control can be adjusted. Remove the housing cover and insert a slotted screwdriver with an 1/8" blade into the hole shown in figure 2. Gently turn control to desired loudness. Reinstall the housing cover.

After completion of initial system test, establish a program for periodic testing of this device. Refer to NFPA 72, local Fire Codes and the authority having jurisdiction for this information.

Provide a copy of these instructions for the Safety Engineer, system operator(s) and maintenance personnel.

SAFETY MESSAGE TO OPERATORS

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).

OPERATION/TESTING

WARNING

Under certain conditions these devices are capable of producing sounds loud enough to cause hearing damage. Adequate hearing protection should be worn if standing within close proximity to device while testing. Recommendations in the OSHA Sound Level Standard (29 CFR 1910) should not be exceeded.

Property damage, serious injury, or death could occur if the housing is not closed properly. To reduce possibility of explosion, housing cover must be kept tight (all eight bolts fully tightened) while circuits are energized.

MAINTENANCE

SAFETY MESSAGE TO MAINTENANCE PERSONNEL

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.
- Do not perform maintenance on this unit when circuits are energized.
- Periodic checks should be made to ensure that effectiveness of this device has not been reduced because speaker has become clogged with a foreign substance or because objects have been placed in front of the speaker

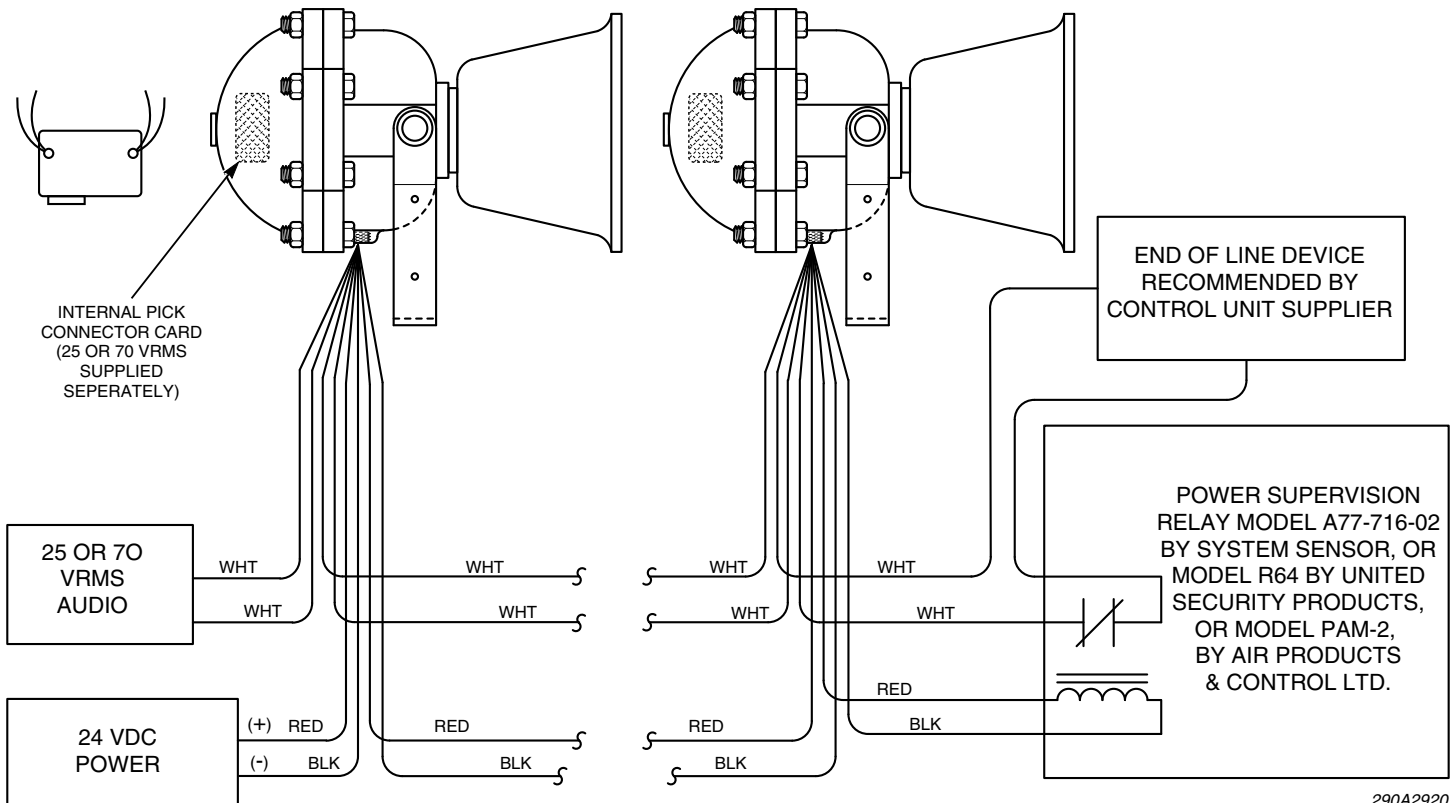


Figure 4: Typical connector card (PTCK) installation wiring

- 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 this device.
- The nameplates, which contain cautionary or other information of importance to maintenance personnel, should not be obscured if exterior of device is painted.

WARNING

Property damage, serious injury or death could occur if this product's machined sealing surfaces are damaged. To maintain the effectiveness of the explosion-proof enclosure, use caution to avoid damaging the machined surfaces.

Periodically check this device to verify that there are no foreign substances in, or in front of, the speaker which will reduce its effectiveness.

Testing should be periodically performed. Refer to NFPA 72, local Fire Codes and the authority having jurisdiction for information.

In the event a repair is required, be sure to refer to the Safety Message to Maintenance Personnel before proceeding.

SERVICE

The factory will service your equipment or provide technical assistance with any problem that cannot be handled locally with satisfaction or promptness.

If any unit is returned to factory for repair, it can be accepted only if we are notified by mail or phone in advance of its arrival. Such notice should clearly indicate service requested and give all pertinent information regarding nature of problem and, if possible, its cause.

To get help with problems or questions not covered in these instructions, contact the Technical Service Department.

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