



# Public Address High-Powered Amplifiers

Models CTS600, CTS1200,  
CTS2000, CTS3000

## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Available in power ratings of 600, 1200, 2000, and 3000 watt
- Two channels
- Selectable dual or mono modes
- In-rush limiting
- Energy efficient
- Integrated coding system
- Dual input sensitivity switches
- ETL Listed

The Federal Signal line of high-powered audio amplifiers provides the flexibility, quality, and performance required in an industrial public address system. AudioMaster® amplifiers are available in four different power ratings from 600 watt to 3000 watt. Each output channel can be independently configured to drive either the step-down transformers in a distributed “constant-voltage” loudspeaker system (70-volt mode) or a system of loudspeakers that do not require step-down transformers (8/4 ohm mode). Additionally, the Models CTS2000 and CTS3000 can operate in 100-volt mode. The 70-volt and 100-volt outputs eliminate the need for step-up transformers, which can create distortion and cause insertion loss.

The quality of AudioMaster amplifiers is apparent in the noise-free, crystal clear highs and lows they reproduce. The grounded bridge design of the CTS series provides for less distortion and thermal stress, and a simpler, more reliable power supply than found in typical stepped “linear” output systems.

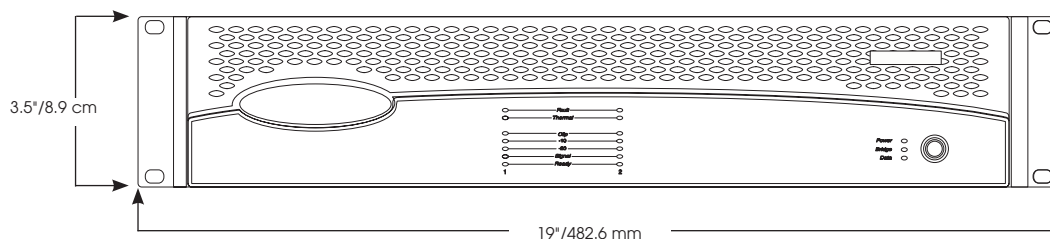
AudioMaster amplifiers consume significantly less power per watt than typical central amplifiers and reduce long term operating costs. A unique soft-start circuit and a four second pseudo-random turn-on delay minimizes inrush currents and eliminates the need for power sequencers.

When combined with the AudioMaster AudioRouter and the complete line of AudioMaster Speakers, these high-powered amplifiers are a key component in a high performance, industrial public address system.

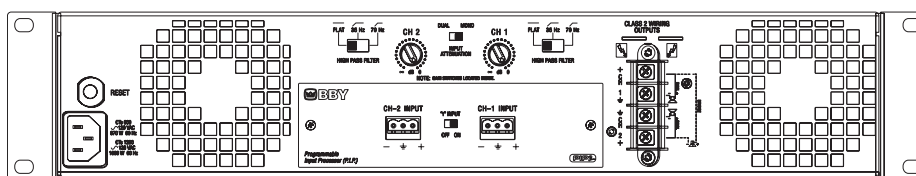
Model	Operating Power	Frequency Response	Output Power
<b>CTS600</b>	120VAC	±0.25dB from 20Hz to 20Khz at 1 watt	600 watt
<b>CTS1200</b>	120VAC	±0.25dB from 20Hz to 20Khz at 1 watt	1200 watt
<b>CTS2000</b>	120VAC	±0.25dB from 20Hz to 20Khz at 1 watt	2000 watt
<b>CTS3000</b>	120VAC	±0.25dB from 20Hz to 20Khz at 1 watt	3000 watt



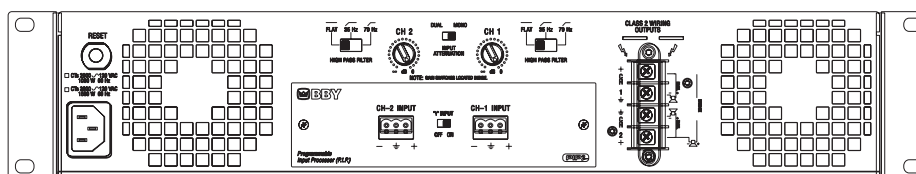
## AMPLIFIERS (CTS600/CTS1200/CTS2000/CTS3000)



**CTS600, CTS1200, CTS2000, CTS3000 - front**



**CTS600, CTS1200 - back**



**CTS2000, CTS3000 - back**

### SPECIFICATIONS

#### Net Weight:

CTS600	23.0 lbs.	11.3 kg
CTS1200	23.0 lbs.	11.3 kg
CTS2000	27.0 lbs.	12.2 kg
CTS3000	27.0 lbs.	12.2 kg

#### Shipping Weight:

CTS600	29.5 lbs.	13.4 kg
CTS1200	29.5 lbs.	13.4 kg
CTS2000	36.2 lbs.	16.4 kg
CTS3000	36.2 lbs.	16.4 kg

#### Dimensions (all models):

Height:	3.5"	8.9 cm
Width:	19.0"	48.3 cm
Depth:	14.21"	36.1 mm

### HOW TO ORDER

- Specify model number
- 240VAC models can be special ordered from the factory.
- Please refer to Model Number Index CTS600/CTS1200/CTS2000/CTS3000 beginning on page 376



## **PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS**

- Operates on 24VDC or 120/240VAC
- Routes audio input to eight zones and eight presets
- Activation of output via buttons or dry contacts
- Access to paging via local microphone or telephone
- Rack mount
- Auxiliary zone and preset models available
- UL and cUL Listed and FCC Approved

# **AudioMaster® Public Address AudioRouter™**

**Models AR2000-P, AR2000-Z, AR2000-M**

The Federal Signal AudioRouter™ is an audio multiplexing system capable of directing selected audio inputs to specific zones. The AudioRouter can be used in a public address system as a central control for routing voice pages, pre-recorded messages, and other audio sources to specified zones or areas within a facility.

The center of the AudioRouter system is the Model AR2000-M. The AR2000-M accepts the following source inputs: 25 Vrms, 70 Vrms, 1 Volt peak-to-peak, a telephone line, and a local microphone. The 25 Vrms and 70 Vrms inputs are designed for use with the AM25CK, AM70CK, or any SelecTone® Command Unit or CommCenter. The 1 Volt peak-to-peak input is suitable for line-level, amplified audio sources, such as CD players. The telephone input allows users to broadcast messages from any telephone in the facility. To page, the user dials the AudioRouter's extension, records a message, and hangs up. The digitally recorded message is stored and broadcast over the system immediately after the call is completed. The local microphone input works with the Federal Signal Models MNC-1 Hand-held Microphone or MSB-1 Desktop Microphone.

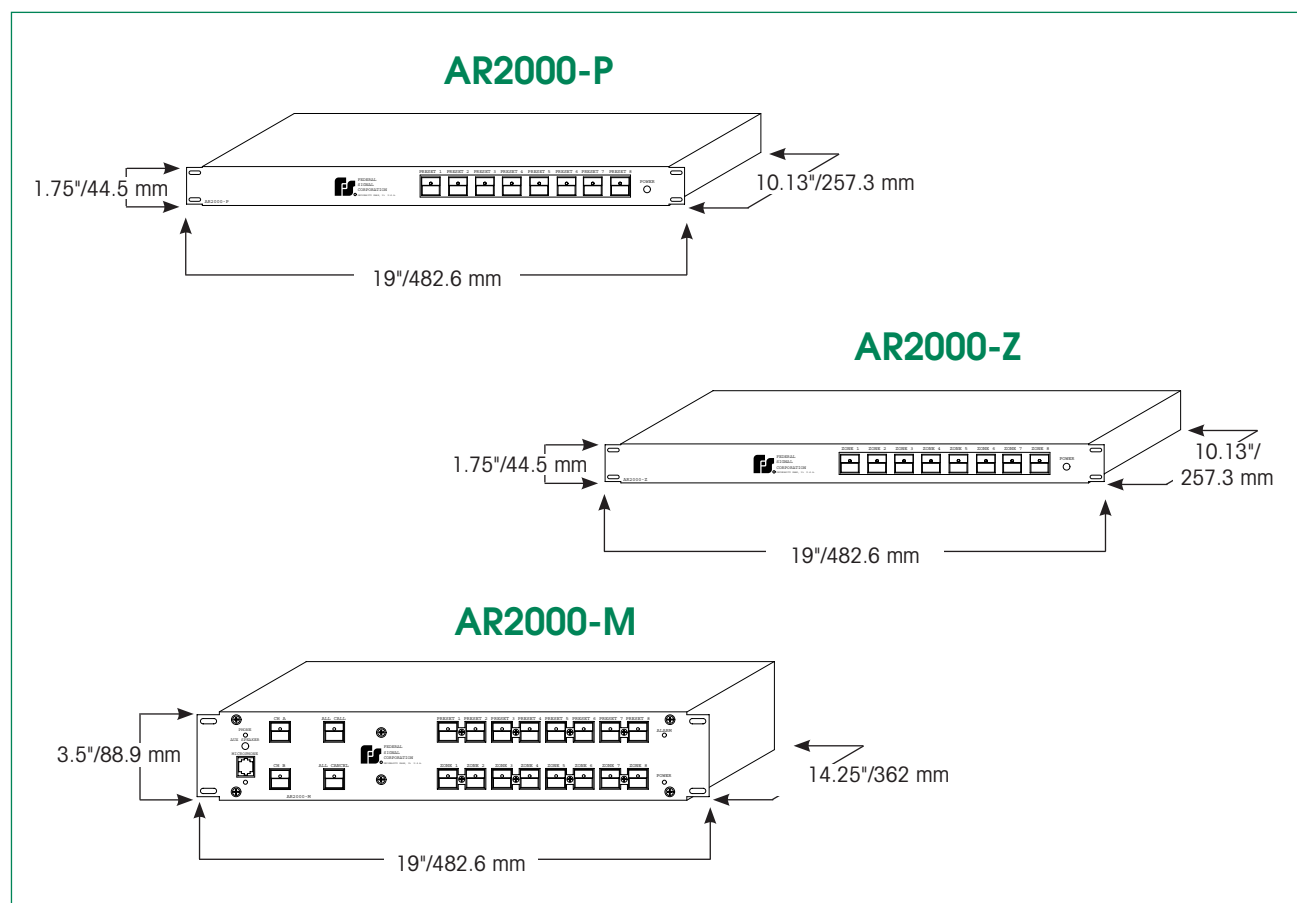
AudioRouter outputs are organized into two source Channels and eight Zones. Combinations of multiple Zones and Channels can be programmed into eight additional Presets. Zones, Channels, and Presets are easily programmed and selected with buttons on the front panel of the unit. Presets can also be activated remotely via dry contacts located on the back panel of the unit. An 'All-Call' button located on the front panel selects all zones simultaneously. Outputs can be configured for 25 Vrms, 70 Vrms, or 1 Volt peak-to-peak. The 25 Vrms and 70 Vrms lines are suitable for use with SelecTone amplified speakers and the 1 Volt peak-to-peak can be coupled with any AudioMaster HP Series Amplifier to drive AudioMaster® Speakers.

Should more than eight Zones and Presets be required, auxiliary units can be added for increased capacity. The AR2000-Z offers eight additional Zones and the AR2000-P offers eight additional Presets. Seven of each model can be installed with a single AR2000-M to provide for a total of 64 Zones and 64 Presets.

The AR2000 operates on 24VDC or 120/240VAC. The AudioRouter is UL Listed to standard 813 Commercial Audio Equipment. The AudioRouter is also FCC Approved.



## AUDIOROUTERS (AR2000-P, AR2000-Z, AR2000-M)



## SPECIFICATIONS

Net Weight:			Width:		
AR2000-M	16.5 lbs.	7.5 kg	AR2000-M	19.0"	482.6 mm
AR2000-P	3.9 lbs.	1.77 kg	AR2000-P	19.0"	482.6 mm
AR2000-Z	3.9 lbs.	1.77 kg	AR2000-Z	19.0"	482.6 mm
Shipping Weight:			Depth:		
AR2000-M	18.5 lbs.	8.39 kg	AR2000-M	14.25"	362.0 mm
AR2000-P	4.9 lbs.	2.22 kg	AR2000-P	10.13"	257.3 mm
AR2000-Z	4.9 lbs.	2.22 kg	AR2000-Z	10.13"	257.3 mm
Height:					
AR2000-M	3.5"	88.9 mm			
AR2000-P	1.75"	44.5 mm			
AR2000-Z	1.75"	44.5 mm			

## HOW TO ORDER

- Specify model number and voltage
- Please refer to Model Number Index  
AR2000-P, Z, M beginning on page 376



## PUBLIC ADDRESS FOR LARGE AREAS

- Transformer coupled
- 80 watt, expandable to 130 watt
- 25, 70 or 100 Vrms
- Wall, pole or I-beam mount

# AudioMaster® Wide Area Dispersion Speaker

## Model WDS80

Federal Signal Wide Area Dispersion Speakers are audible notification appliances specifically designed for extensive area coverage with minimal installation effort. These products are configured with full range transducers mounted in a vertical line or line array. This configuration affords the following improvements over typical horn loaded speakers; extremely wide horizontal coverage, improved sound level consistency over an increased coverage area, and drastically improved intelligibility. Wide-Area Dispersion Speakers are ideal for voice messaging, tone generation and live public address. Sealed with powder-coat paint, these units are suitable for use indoors and out.

When mounted properly, the Model WDS80 generates a full power sound level of 80dB at 400 feet and provides the same coverage as four typical industrial speakers. An extension speaker, the Model WDS50, can be added to increase the full power distance to 700 feet.

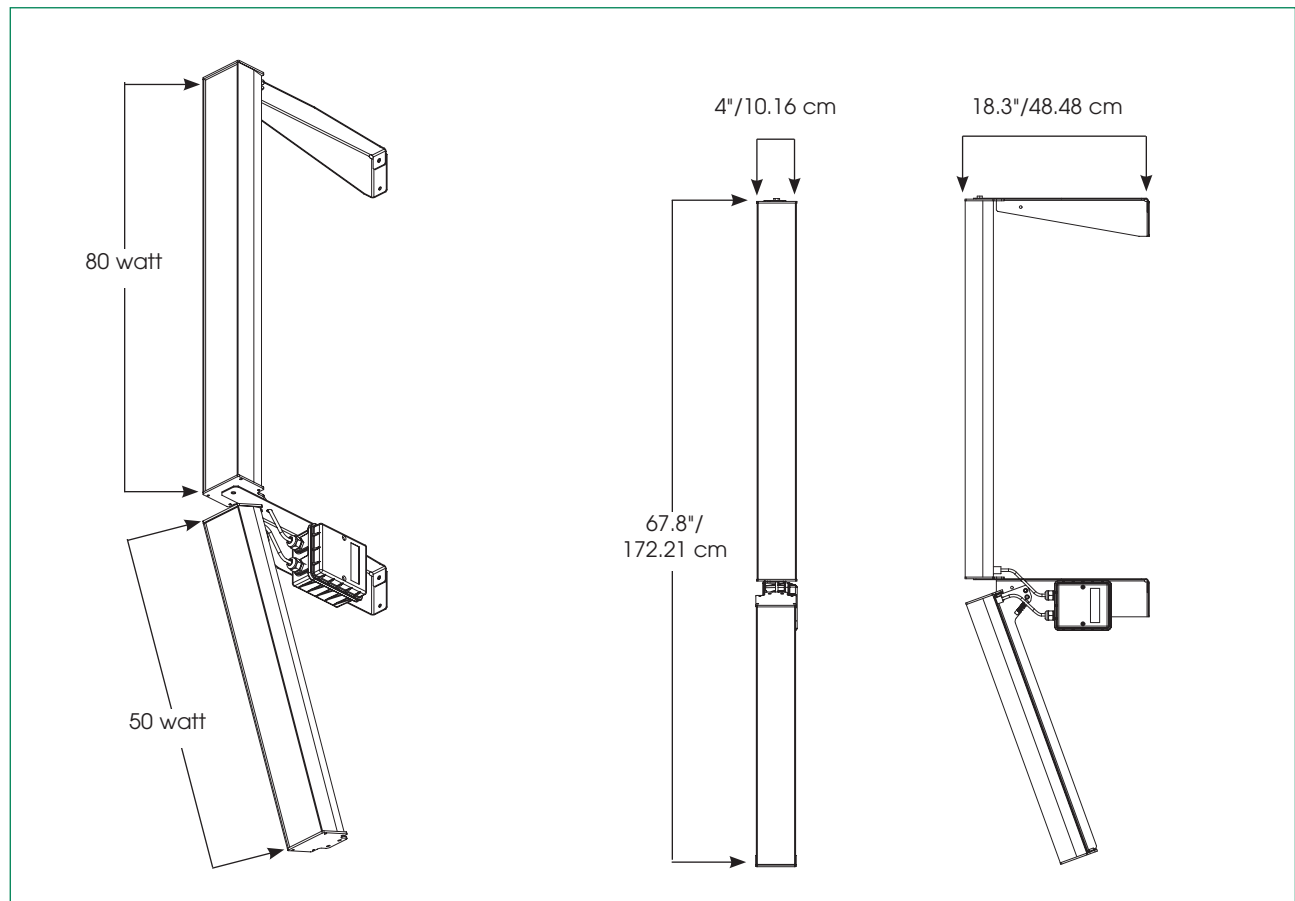
Power handling for the Model WDS80 is 80 watt with transformer taps at 80, 50, 25 and 12.5 watt. When the extension speaker, Model WDS50, is added, the combined power handling is 130 watt with transformer taps at 130, 80, 40 and 20 watt. These products are adjustable for use in 100, 70 or 25 volt systems.

These products are shipped with all necessary hardware for wall mounting. Kits for pole mounting and I-Beam mounting are sold separately. Also included is the hardware to mount an optional LP3P or Fireball® strobe visual signal.

Model	Power Handling	Frequency Response	Transformer	Horizontal Beam Spread	Power Taps	Decibels @ 10'	1m
WDS80	80 watt	200 - 11,000Hz	25/70/100 Vrms	140°	80,50,25,12.5	103	113
WDS80/WDS50	130 watt	200 - 11,000Hz	25/70/100 Vrms	140°	130,80,40,20	106	116



## WIDE AREA DISPERSION SPEAKER (WDS80)



### SPECIFICATIONS

Operating Temperature: -31°F to 161°F -35°C to 72°C

#### WDS80

Net Weight:	25.0 lbs.	11.4 kg
Shipping Weight:	30.0 lbs.	13.6 kg
Height:	67.8"	172.21 cm
Width:	4.0"	10.16 cm
Depth:	18.3"	48.48 cm

#### WDS50

Net Weight:	15.0 lbs.	6.8 kg
Shipping Weight:	19.0 lbs.	8.6 kg
Height:	38.2"	97.03 cm
Width:	4.0"	10.16 cm
Depth:	18.3"	48.48 cm

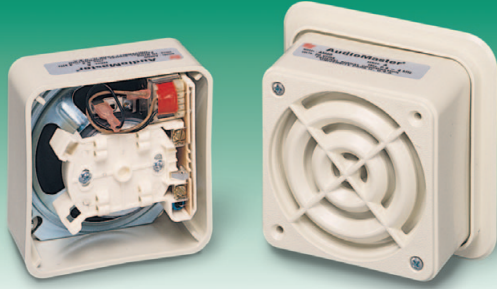
### OPTIONS

<u>Description</u>	<u>Part Number</u>
50 Watt Extension Speaker	WDS50
Pole Mount Bracket	K8594061A
I-Beam Mount Bracket	K8594062A

### HOW TO ORDER

- Specify model
- Optional Accessories  
(order two optional brackets per WDS80 and one per WDS50)
- Please refer to Model Number Index WDS80 beginning on page 376





## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer coupled
- 25 or 70 Vrms
- 2 watt
- Several mounting options
- Re-entrant horn design
- Pre-assembled
- Type 3R with WB Box
- AM50 is UL Fire Listed
- UL 1480 and CSFM Approved

# AudioMaster® Public Address 2 Watt Re-Entrant Speaker

## Model AM50

The Federal Signal Model AM50 is a compact, two watt, transformer coupled speaker for use in public address or paging applications. The unique design of this four-inch square speaker centers around the short, folded, re-entrant horn that is interposed between the diaphragm and the surrounding space. The beige, thermoplastic, flame-retardant housing provides greater efficiency and frequency response while blending easily into commercial and industrial spaces.

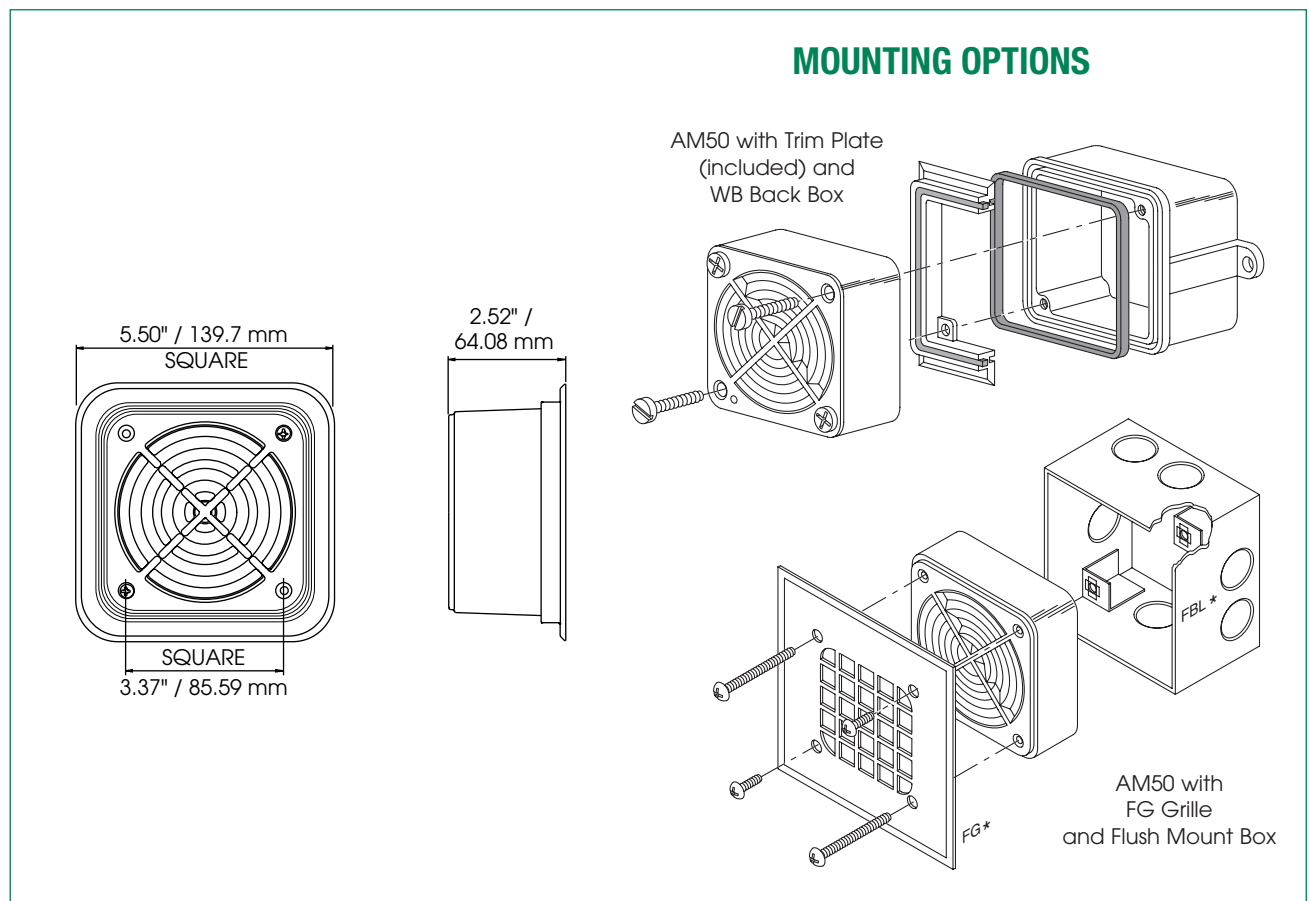
Power handling for the AM50 is two watt with transformer taps of 2, 1, 1/2, and 1/4. A moveable contact is used to select the power output. The AM50 comes factory preset in the 1/4 watt position. Two models of the speaker are available for use in 25 Vrms and 70 Vrms distributed systems. This speaker is supplied with wiring terminals and strain relief for inbound and outbound speaker wiring.

The AM50 is designed primarily for wall mounting and includes a trim ring for adapting to any standard four-inch square or weatherproof back box. This speaker is Underwriters Laboratories Listed for "Fire Protective Signaling Use" and California State Fire Marshall approved.

Model	Power Handling	Frequency Response	Transformer	Power Taps	Beam Width	Decibels @	
						10'	1m
AM50	2 watt	140Hz - 10KHz	25/70 Vrms	2, 1, 1/2, 1/4	170°	87	97



## PUBLIC ADDRESS SPEAKER (AM50)



### SPECIFICATIONS

Operating Temperature:	-40°F to 151°F	-40°C to 66°C
Net Weight::	1.4 lbs.	0.64 kg
Shipping Weight::	1.75 lbs.	1.3 kg
Height::	5.5"	137.9 mm
Width:	5.5"	137.9 mm
Depth:	2.5"	63.5 mm

### HOW TO ORDER

- Specify model number
- Optional Accessories:
  - Weatherproof Back Box (WB)
  - Grille (FG)
  - Flush Mount Back Box (FBL)
- Please refer to Model Number Index AM50 beginning on page 376





## HIGH QUALITY PUBLIC ADDRESS AND MUSIC

- Transformer coupled for 25, 70 or 100 Vrms systems
- 8 watt
- Flexible mounting
- Back box and tile bridge included

# AudioMaster® 8 Watt Ceiling Speaker

## Model AMR6

The Federal Signal Model AMR6 is a high-quality ceiling speaker for public address and music in industrial, municipal and commercial office environments.

Power handling for the AMR6 is eight watt with transformer taps at 8, 4, 2 and 1 watts. The AMR6-2570K operates in 25 or 70 Vrms systems and the AMR6-100K operates in 100 Vrms systems.

The speaker is designed to mount flush in a ceiling or wall cavity. Adjustable "L" shaped clamps offer the flexibility of mounting to any surface thickness from 1/4" to 1 1/2". The AMR6 is suitable for use in air handling spaces.

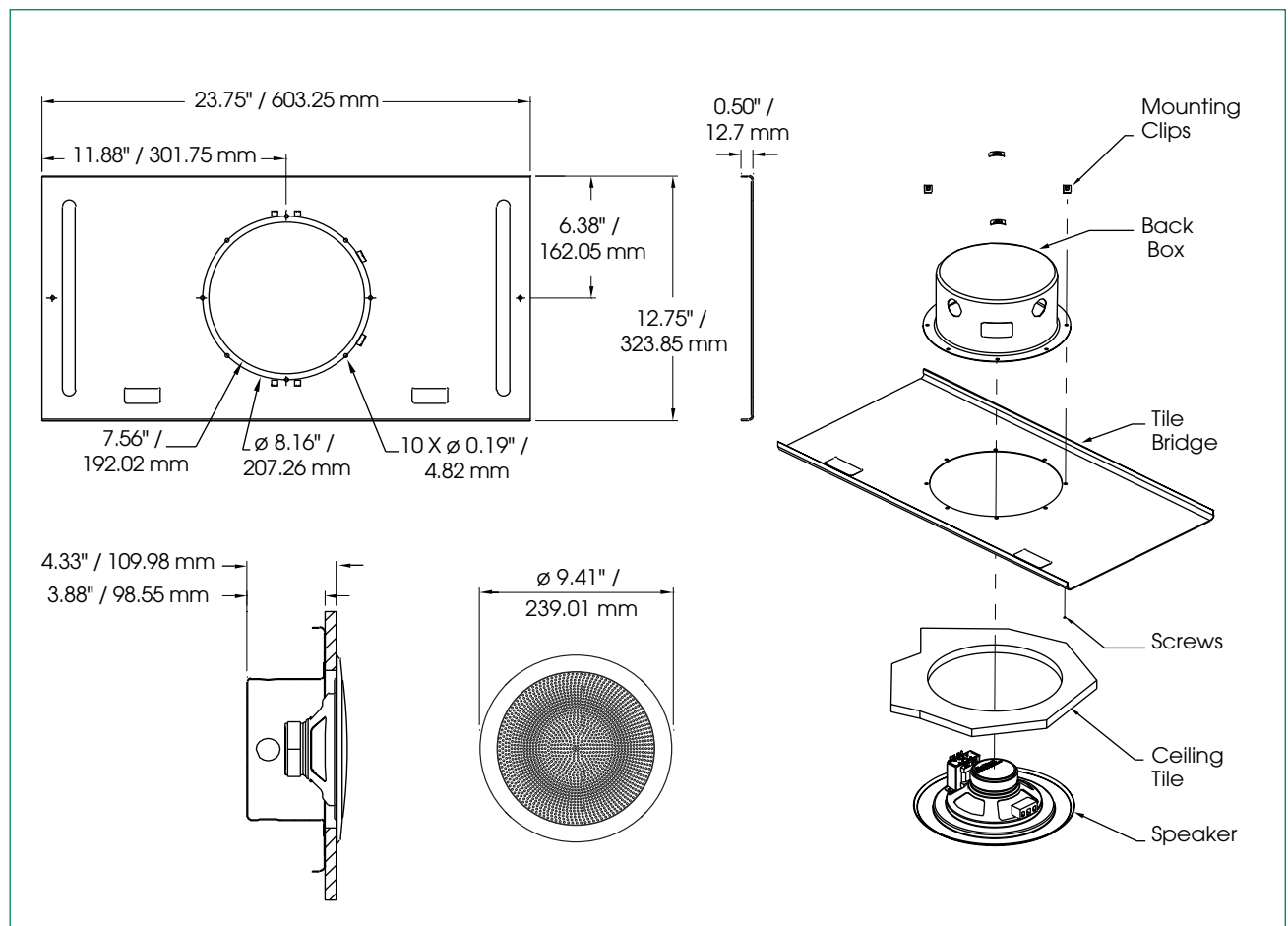
Construction materials were selected to provide years of service in demanding conditions. The speaker frame is flame-retardant ABS that meets Underwriter's Laboratories requirements for Flame Class V-0, 5VA. The speaker cone is constructed of polypropylene and the surround material is a phenolic impregnated cloth, rather than the traditional paper structures.

The AMR6 offers a wide frequency response of 110Hz to 20,000Hz that reproduces a full range of voice, music and electronically generated tones. To achieve these impressive results both a woofer and a neodymium tweeter are utilized. Neodymium is a rare earth metal known for high energy in compact sizes.

Model	Power Handling	Frequency Response	Transformer	Power Taps	Decibels @ 10'	1m
AMR6-2570K	8 watt	110-20,000Hz	25 Vrms	8, 4, 2, 1.1	81	91
	8 watt	110-20,000Hz	70 Vrms	8, 4, 2, 1.1	85	95
AMR6-100K	8 watt	110-20,000Hz	100 Vrms	8, 4, 2, 1.1	85	95



## PUBLIC ADDRESS SPEAKER (AMR6)



### SPECIFICATIONS

Operating Temperature:	32°F to 120°F	0°C to 49°C
Net Weight:	3.06 lbs.	1.39 kg
Shipping Weight:	4.75 lbs.	2.15 kg
Diameter:	9.0"	228.6 mm
Depth:	4.9"	124.4 mm

### HOW TO ORDER

- Specify model number and Vrms of system (25/70 Vrms or 100 Vrms)
- Please refer to Model Number Index AMR6 beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Eight ohm
- 15 watt
- Re-entrant horn design
- Wall mount
- 1/2-inch conduit openings
- Type 3R enclosure
- UL 1480 Approved and cUL Listed

# AudioMaster® Public Address 15 Watt Speaker

## Model AM15

The Federal Signal Model AM15 is a rugged, re-entrant speaker for use in public address or paging applications. This 15 watt speaker features a rugged speaker cone and projector constructed of spun aluminum. The speaker wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum compartment. All external surfaces are sealed with gray powder coat paint.

Two screws inserted through the back of the wiring compartment provide for simple wall mount installation. The bottom of the AM15 contains two 1/2-inch conduit openings to accommodate inbound and outbound audio wiring. The unique shape of the AM15 projector provides a 60° sound dispersion. The projector is held in position with a Teflon coated lock ring that can be rotated 180° in order to obtain the desired sound distribution.

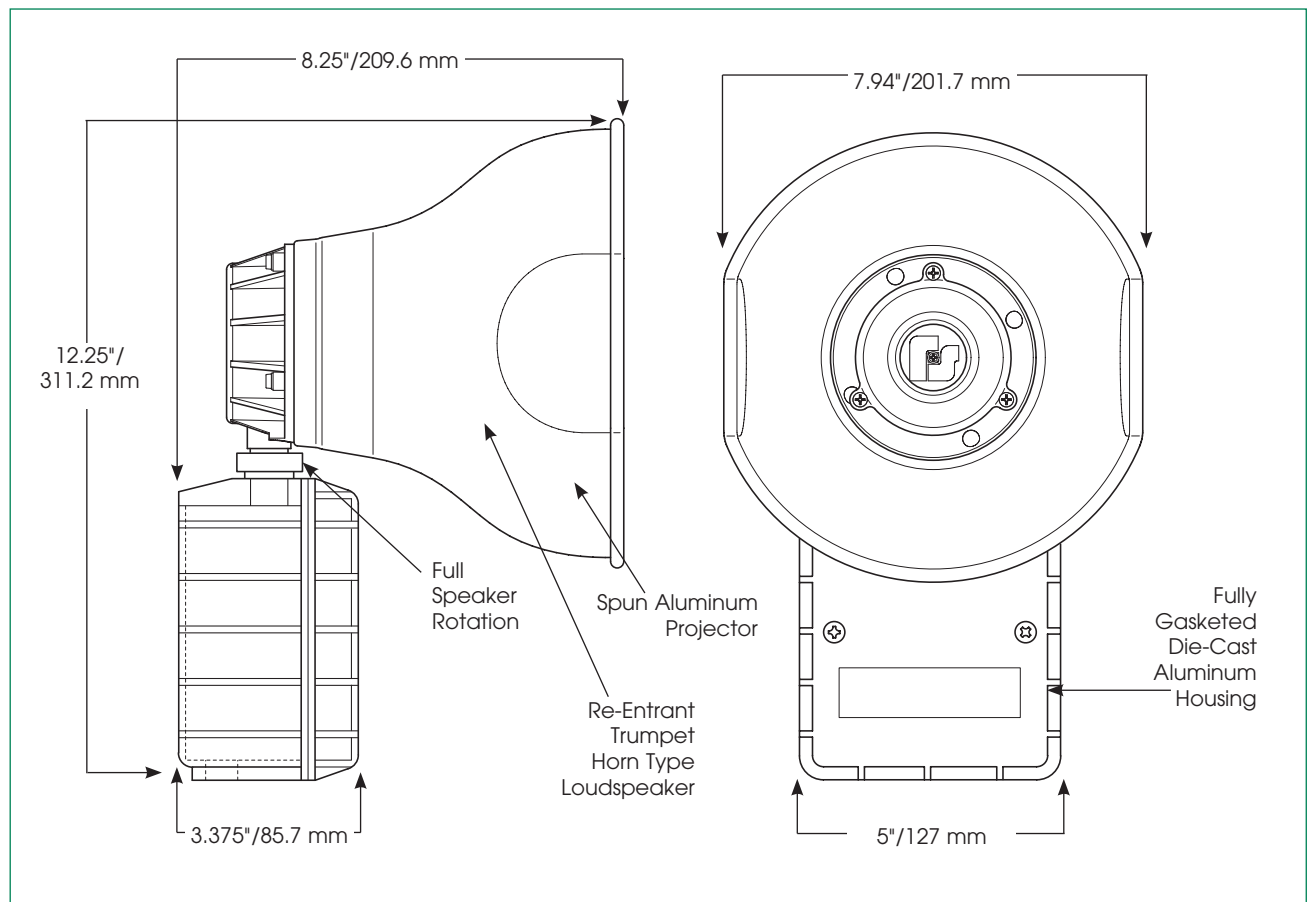
The AM15 is rated for indoor and outdoor use. This speaker is UL Listed.

The AM15 can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Impedance	Beam Spread	Decibels @	
					10'	1m
AM15	15 watt	400-4000Hz	8 ohm	60°	110	120



## PUBLIC ADDRESS SPEAKER (AM15)



### SPECIFICATIONS

Operating Temperature:	-40°F to 151°F	-40°C to 66°C
Net Weight:	4.85 lbs.	2.2 kg
Shipping Weight:	6.0 lbs.	2.72 kg
Height:	12.25"	311.2 mm
Width:	7.94"	201.7 mm
Depth:	8.25"	209.6 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM15 beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Eight ohm
- 15 watt
- Re-entrant horn design
- Wall mount
- 1/2-inch conduit openings
- Class 1, Division 2 rated
- Type 4X enclosure
- UL 1480 Approved and cUL Listed

# AudioMaster® Public Address Hazardous Location Speaker

## Model AM15XD2

The Federal Signal Model AM15XD2 is an 8 ohm, re-entrant, Type 4X speaker for use in public address or paging applications. The AM15XD2 features a rugged cone and projector constructed of spun aluminum. The speaker wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum housing. All external surfaces are sealed with a gray powder coat paint.

The AM15XD2 is rated for 15 watt and is UL Listed for Class 1, Division 2, Groups A,B,C, and D; Class II, Division 2, Groups F & G; and Class III environments. The design and seal of the speaker assembly and housing have been tested and approved by UL for Type 4X requirements.

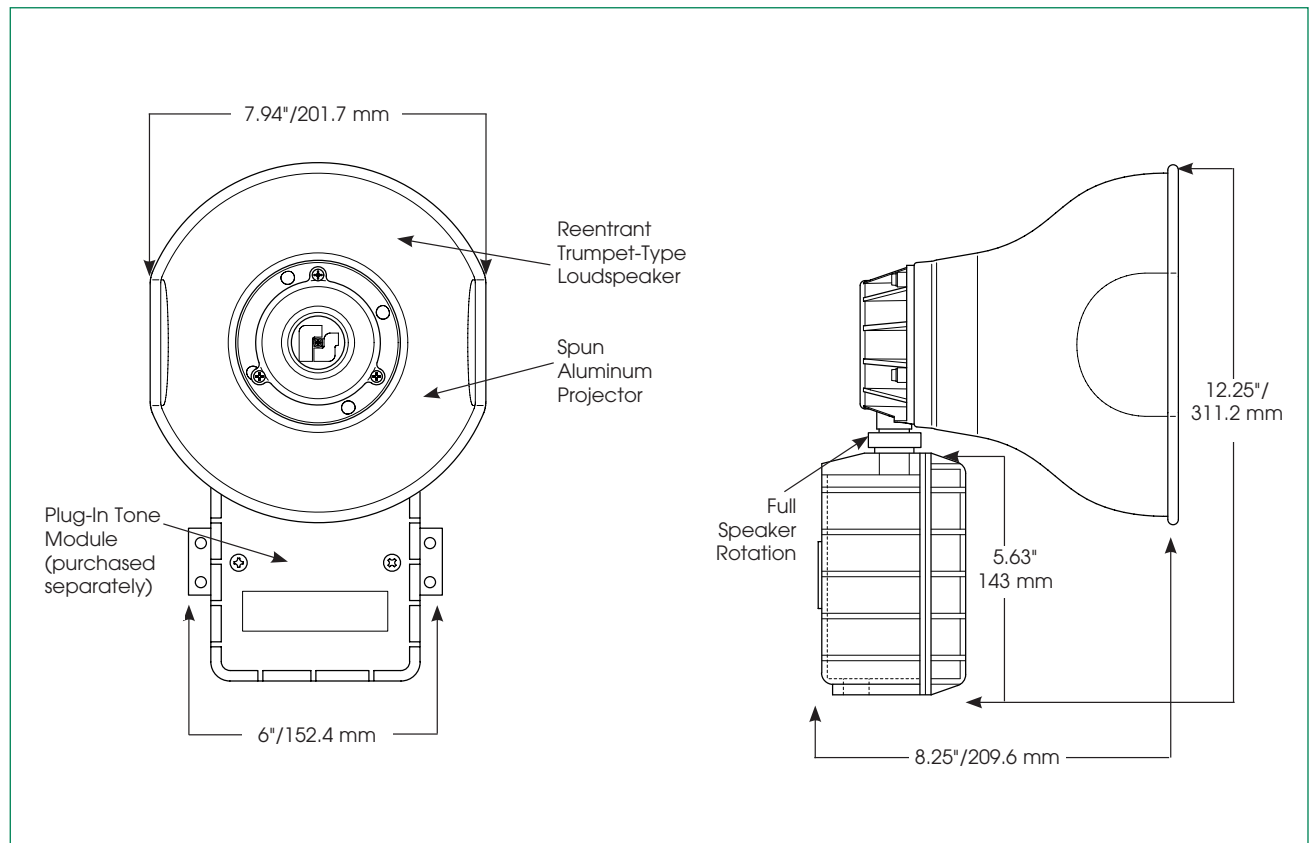
Four screws inserted through the metal tabs located at the sides of the housing provide a quick wall mount installation. Two 1/2-inch conduit openings in the base of the housing simplify wiring and accommodate inbound and outbound audio wiring. The unique shape of the speaker projector provides a 60° sound dispersion. The projector is held in position with a Teflon coated lock ring that can be rotated 180° in order to obtain the desired sound distribution.

The AM15XD2 can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial-grade public address system.

Model	Power Handling	Frequency Response	Impedance	Beam Width	Decibels @	
					10'	1m
AM15XD2	15 watt	400-4000Hz	8 ohm	60°	110	120



## PUBLIC ADDRESS SPEAKER (AM15XD2)



### SPECIFICATIONS

Operating Temperature:	-40°F to 151°F	-40°C to 66°C
Net Weight:	4.85 lbs.	2.2 kg
Shipping Weight:	6.0 lbs.	2.72 kg
Height:	12.25"	311.2 mm
Width:	7.94"	201.7 mm
Depth:	8.25"	209.6 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM15XD2 beginning on page 376





# AudioMaster® Public Address 15 Watt Speaker

Model AM300

## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer coupled
- 25 or 70 Vrms
- 15 watt
- Re-entrant horn design
- Wall mount
- Type 3R enclosure
- UL 1480 and CSFM Approved

The AM300 is a rugged, transformer coupled, re-entrant speaker for use in public address or paging applications. This 15 watt speaker features a durable speaker cone and projector constructed of spun aluminum. The speaker wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum compartment. All external surfaces are sealed with a gray powder coat paint.

Two screws inserted through the back of the wiring compartment provide for simple wall mount installation. The bottom of the AM300 contains two 1/2-inch conduit openings to accommodate inbound and outbound audio wiring. The unique shape of the AM300 projector provides a 60° sound dispersion. The projector is held in position with a Teflon coated lock ring that can be rotated 180° in order to obtain the desired sound distribution.

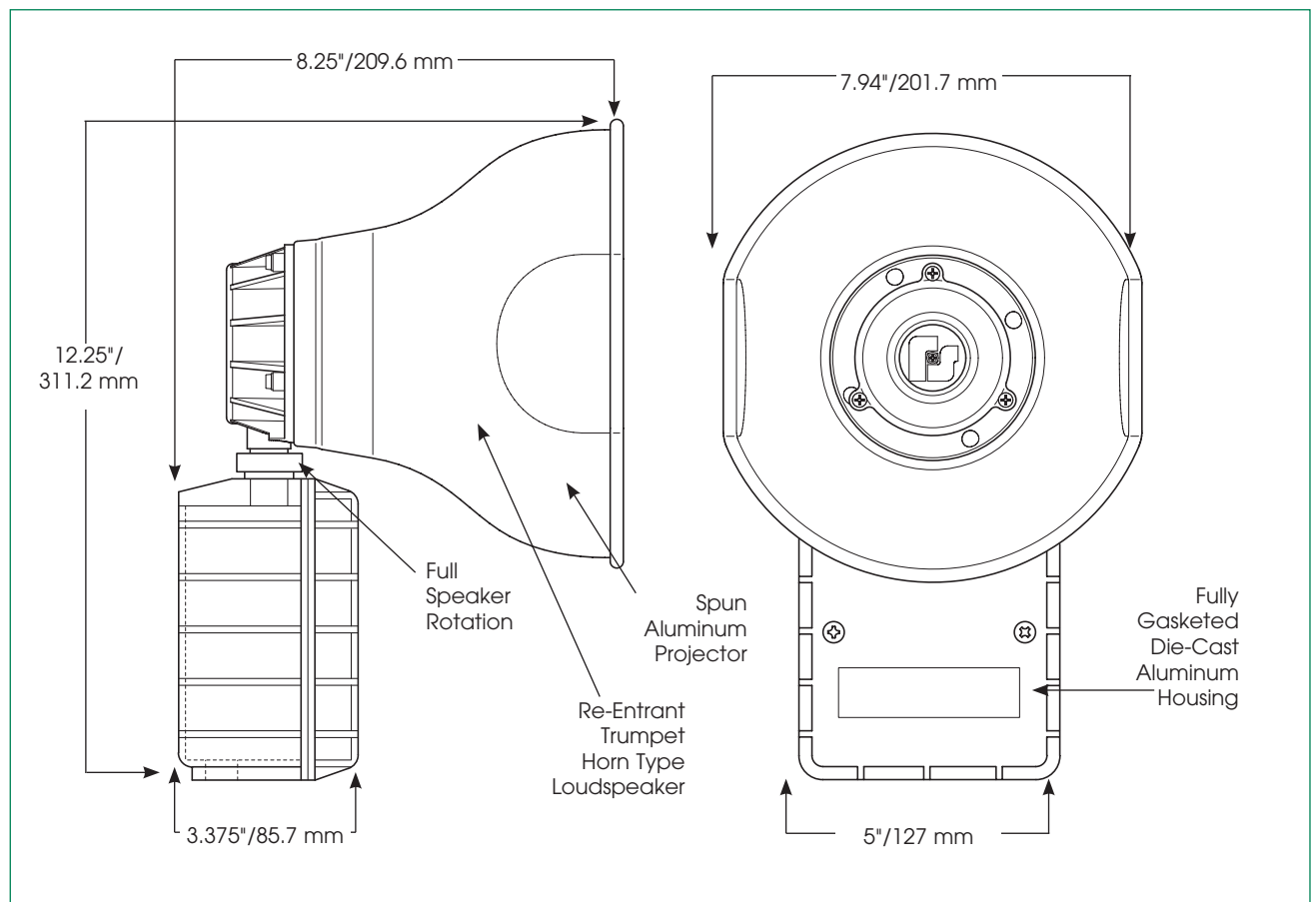
Power handling for the AM300 is 15 watt with transformer taps of 15, 9, 3 and 1.5 watt. This unit is designed for use in 25 and 70 Vrms distributed systems.

The AM300 is rated for indoor and outdoor use. This speaker is Underwriters Laboratories Listed for "Fire Protective Signaling Use". An in-line capacitor (included) provides the isolation necessary for use in supervised systems. The AM300 can be used with the AudioMaster® CTS series amplifiers and the Audio Router to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Transformer	Power Taps	Beam Width	Decibels @	
						10'	1m
AM300	15 watt	400-4000Hz	25/70 Vrms	15, 9, 3, 1.5	60°	110	120



## PUBLIC ADDRESS SPEAKER (AM300)



### SPECIFICATIONS

Net Weight:	4.85 lbs.	2.2 kg
Shipping Weight:	6.15 lbs.	2.79 kg
Height:	12.25"	311.2 mm
Width:	7.94"	201.7 mm
Depth:	8.25"	209.6 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM300 beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer coupled
- 15 watt (AM300GCX)
- 30 watt (AM302GCX)
- 25 or 70 Vrms
- Re-entrant horn design
- Wall mount
- 1/2-inch conduit openings
- Type 4X enclosure
- AM300GCX is UL Fire Listed
- UL 1480 and CSFM Approved, CUL Listed

# AudioMaster® Public Address Hazardous Location Speaker

Models AM300GCX and AM302GCX

Federal Signal Models AM300GCX and AM302GCX are rugged, transformer coupled, re-entrant speakers for use in public address or paging applications. These speakers feature rugged cones and projectors constructed of spun aluminum. The wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum compartment. All external surfaces are finished with a gray powder coat paint.

Power handling for the AM300GCX is 15 watt and the AM302GCX is rated for 30 watt. There are transformer taps at 15, 9, 3 and 1.5 watt in the AM300GCX and 30, 15 and 9 watt in the AM302GCX. Both speakers are designed for use in 25 or 70 Vrms distributed systems. Both models are UL and CUL Listed for Class 1, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F & G; and Class III environments. The design and seal of the speaker assembly and housing have been tested and approved by UL for Type 4X requirements.

Four screws inserted through the metal tabs located at the side of the housing make for a simple wall mount. The bottom of these speakers contains two 1/2-inch conduit openings in the base of the housing to accommodate inbound and outbound audio wiring. The unique shape of the speaker projectors provides an impressive 60° sound dispersion pattern. The projectors are held in position with a Teflon coated lock ring that can be rotated 180° in order to obtain the desired sound distribution.

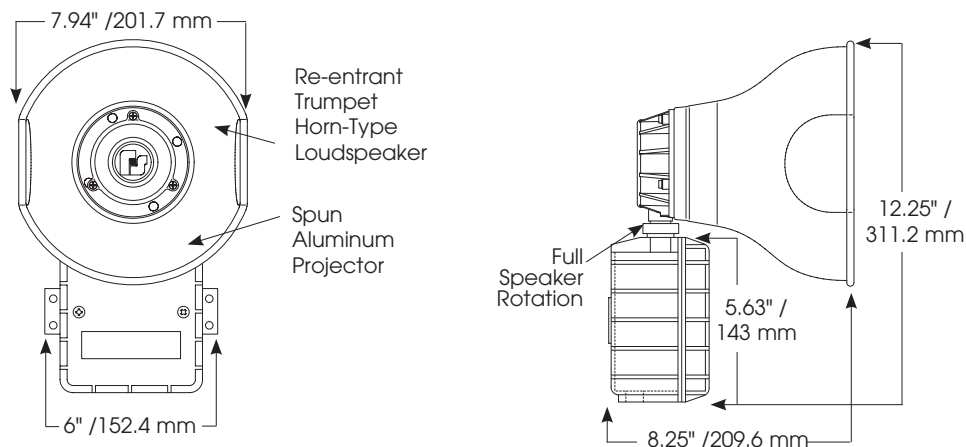
The AM300GCX and the AM302GCX can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Transformer	Power Taps	Beam Width	Decibels @	
						10'	1m
AM300GCX	15 watt	600-5000Hz	25/70 Vrms	15, 9, 3, 1.5	60°	110	120
AM302GCX	30 watt	400-4000Hz	25/70 Vrms	30, 15, 9	60°	114	124

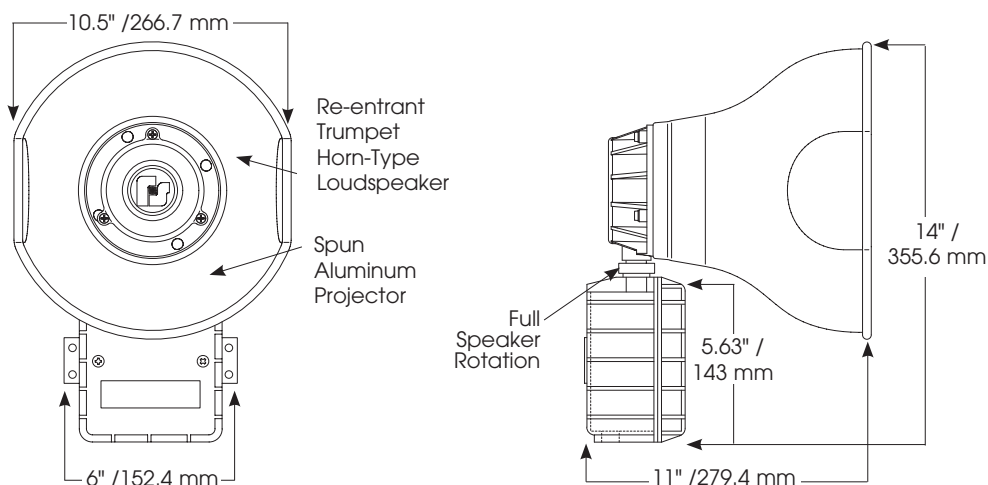


## PUBLIC ADDRESS SPEAKER (AM300GCX/AM302GCX)

### AM300GCX



### AM302GCX



## SPECIFICATIONS

### Net Weight:

AM300GCX	4.85 lbs.	2.2 kg
AM302GCX	7.2 lbs.	3.3 kg

### Shipping Weight:

AM300GCX	6.0 lbs.	2.72 kg
AM302GCX	8.1 lbs.	3.67 kg

### Height:

AM300GCX	12.25"	311.2 mm
AM302GCX	14.0"	355.6 mm

### Width:

AM300GCX	7.94"	201.7 mm
AM302GCX	10.5"	266.7 mm

### Depth:

AM300GCX	8.25"	209.6 mm
AM302GCX	11.0"	279.4 mm

## HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM300GCX/AM302GCX beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Eight ohm
- 25 watt
- Surface and flush mount
- Type 4X, IP66 enclosure
- UL Listed

# AudioMaster® Public Address Flush and Swivel Mount 25 Watt Speakers

Models AMSS-25 and AMSF-25

The Federal Signal Models AMSF-25 and AMSS-25 are heavy-duty, 8-ohm speakers for use in public address or paging systems. These speakers are designed to reproduce full-range voice communication. Both speakers are constructed of spun aluminum. The speaker wiring connections are enclosed in a dust-tight and moisture-proof, gasketed rear cover. All external surfaces are sealed with a metallic gray powder coat paint.

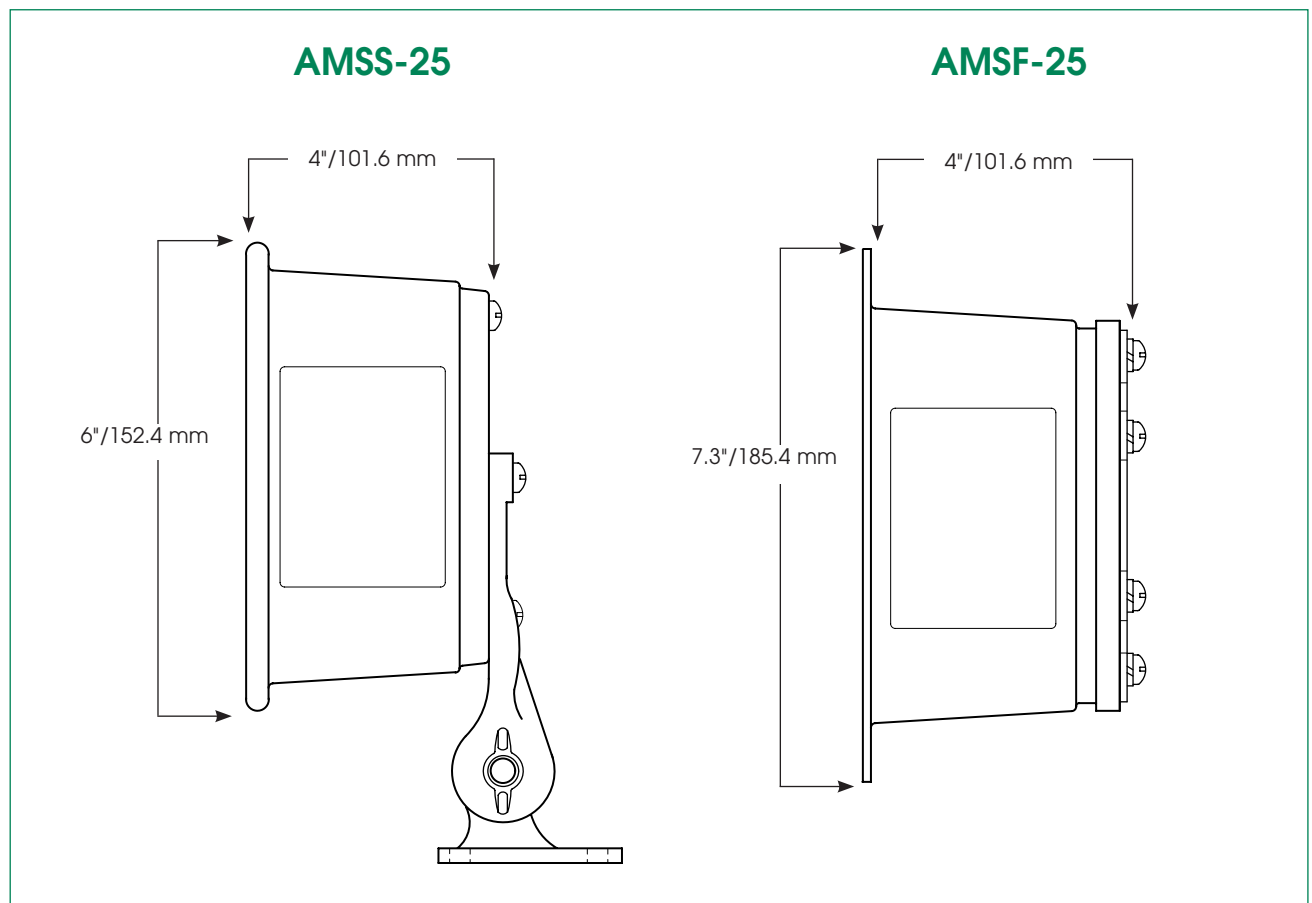
The AMSF-25 is a flush mount unit that is ideal for use in walls and cabinets. The AMSS-25 has an adjustable mounting bracket that pivots in a 90° arc for attaching to walls, cabinets or vehicle roofs. These speakers are appropriate for marine applications.

The AMSF-25 and the AMSS-25 can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Impedance	Beam Width	Decibels @	
					10'	1m
AMSF-25	25 watt	800-5000Hz	8 ohm	90°	107	117
AMSS-25	25 watt	800-5000Hz	8 ohm	90°	107	117



## PUBLIC ADDRESS SPEAKER (AMSS-25/AMSF-25)



### SPECIFICATIONS

Operating Temperature:	-50°F to 150°F	-46°C to 66°C
Net Weight:		
AMSF-25	4.6 lbs.	2.1 kg
AMSS-25	5.0 lbs.	2.27 kg
Shipping Weight:		
AMSF-25	5.1 lbs.	2.3 kg
AMSS-25	6.0 lbs.	2.72 kg
Depth:		
AMSF-25	4.0"	101.6 mm
AMSS-25	4.0"	101.6 mm
Diameter:		
AMSF-25	7.3"	185.4 mm
AMSS-25	6.0"	152.4 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AMSS-25/AMSF-25 beginning on page 376





## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Eight ohm
- 30 watt
- Constant directivity horn design
- Omni-directional swivel mount
- Type 3R enclosure

# AudioMaster® Public Address 30 Watt Speaker

## Models AM30

The Federal Signal AM30 is an 8 ohm constant directivity, re-entrant speaker that is ideal for most public address or paging applications. The constant directivity horn design provides excellent sound coverage throughout the typical frequency range of speech. The AM30 is molded from impact-resistant, beige acrylic-styrene-acrylonitrile (ASA). The unique omni-directional swivel mount of this speaker allows the unit to be pointed anywhere within a 360° half-sphere of area.

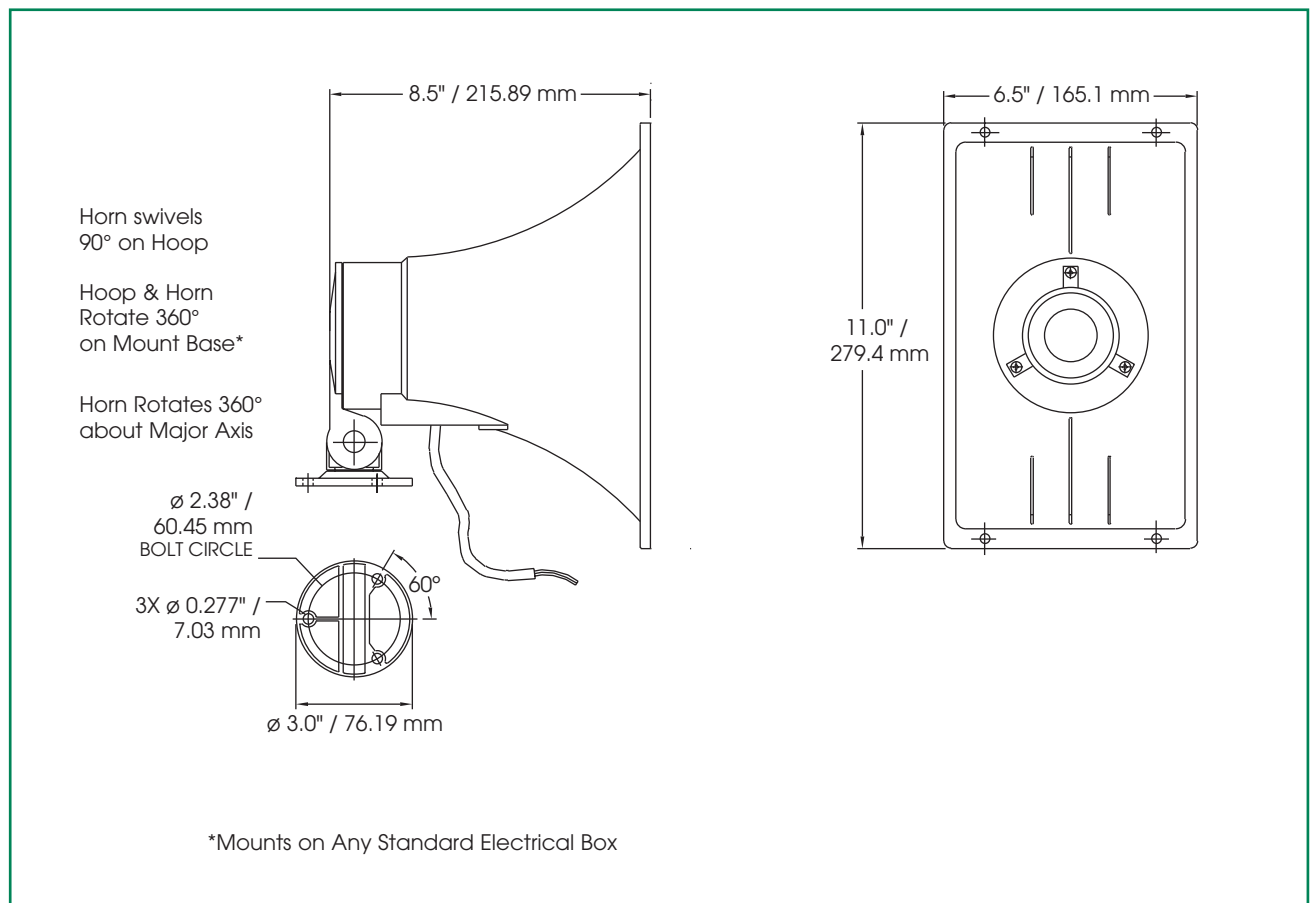
The driver of the AM30 employs a rugged phenolic diaphragm, a 1.5-inch diameter voice coil, and "rim centered" ferrite magnet structure for long life and durability under extreme operating conditions. A 12-inch connecting cable, phased and color coded, is provided for connecting the AM30.

The AM30 can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Impedance	Beam Width	Decibels @	
					10'	1m
AM30	30 watt	400-6500Hz	8 ohm	80° x 50°	112	122



## PUBLIC ADDRESS SPEAKER (AM30)

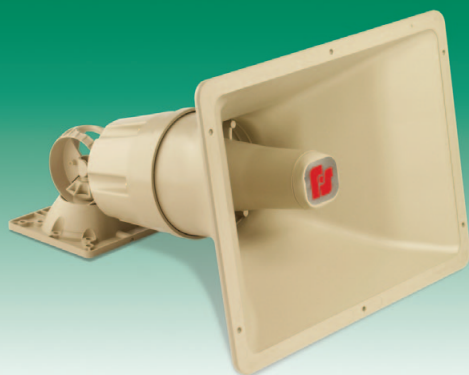


### SPECIFICATIONS

Net Weight:	4.1 lbs.	1.8 kg
Shipping Weight:	4.6 lbs.	2.1 kg
Height:	8.9"	22.6 cm
Width:	12.1"	30.7 cm
Depth:	12.2"	31.0 cm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM30 beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer Coupled
- 25, 70, or 100 Vrms
- 30 watt
- Omni-directional swivel mount
- Constant directivity horn design
- Type 3R enclosure

# AudioMaster® Public Address 30 Watt Speaker

Model AM30T

The Federal Signal AM30T is a transformer-coupled, constant directivity, re-entrant speaker ideal for most public address or paging applications. The constant directivity design provides excellent sound coverage throughout the frequency range of speech. The AM30T is molded from impact resistant, beige acrylic-styrene-acrylonitrile (ASA). The omni-directional swivel mount of this speaker allows the unit to be pointed anywhere within a 360° half-sphere of area.

Power handling for the AM30T is 30 watt with transformer taps of 30, 15, 7.5, 3.7, and 1.8. A screwdriver operated power switch is used to select the desired tap. This unit is designed for use in 25, 70, and 100 Vrms distributed systems.

The driver of the AM30T employs a rugged phenolic diaphragm, a 1.5-inch diameter voice coil, and "rim centered" ferrite magnet structure for long life and durability under extreme operating conditions. A 12-inch connecting cable, phased and color coded, is provided for connecting the AM30T.

The AM30T can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

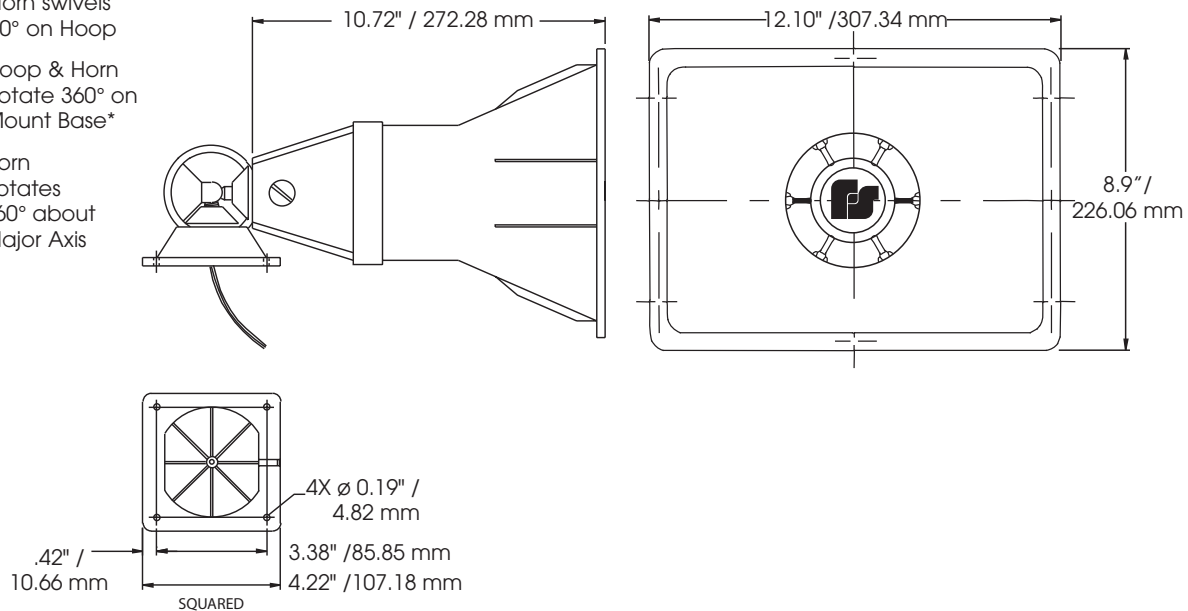
Model	Power Handling	Frequency Response	Transformer	Power Taps	Beam Width	Decibels @	
AM30T	30 watt	400-6500Hz	25 Vrms	15, 7.5, 3.7, 1.8	80° x 50°	112	122
			70 Vrms	30, 15, 7.5, 3.7, 1.8			
			100 Vrms	30, 15, 7.5, 3.7			



## PUBLIC ADDRESS SPEAKER (AM30T)

Horn swivels  
90° on Hoop  
Hoop & Horn  
Rotate 360° on  
Mount Base\*

Horn  
Rotates  
360° about  
Major Axis



\* Mounts on Any Standard Electrical Box

### SPECIFICATIONS

Net Weight:	5.3 lbs.	2.4 kg
Shipping Weight:	5.8 lbs.	2.6 kg
Height:	8.9"	22.6 cm
Width:	12.1"	30.7 cm
Depth:	12.2"	31.0 cm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM30T beginning on page 376



# AudioMaster® Public Address 30 Watt Speaker

Model AM302

## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer coupled
- 25 or 70 Vrms
- 30 watt
- Re-entrant horn design
- Wall mount
- Type 3R enclosure
- UL 1480 Approved

The AM302 is a rugged, transformer coupled, re-entrant speaker for use in a public address or paging application. This 30 watt speaker features a durable speaker cone and projector constructed of spun aluminum. The speaker wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum compartment. All external surfaces are sealed with a gray powder coat paint.

Two screws inserted through the back of the wiring compartment provide for a simple wall mount. The bottom of the AM302 contains two 1/2-inch conduit openings to accommodate inbound and outbound audio wiring. The unique shape of the AM302 projector provides a 60° sound dispersion. The projector is held in position with a Teflon coated lock ring that can be rotated 180° in order to obtain the desired sound distribution.

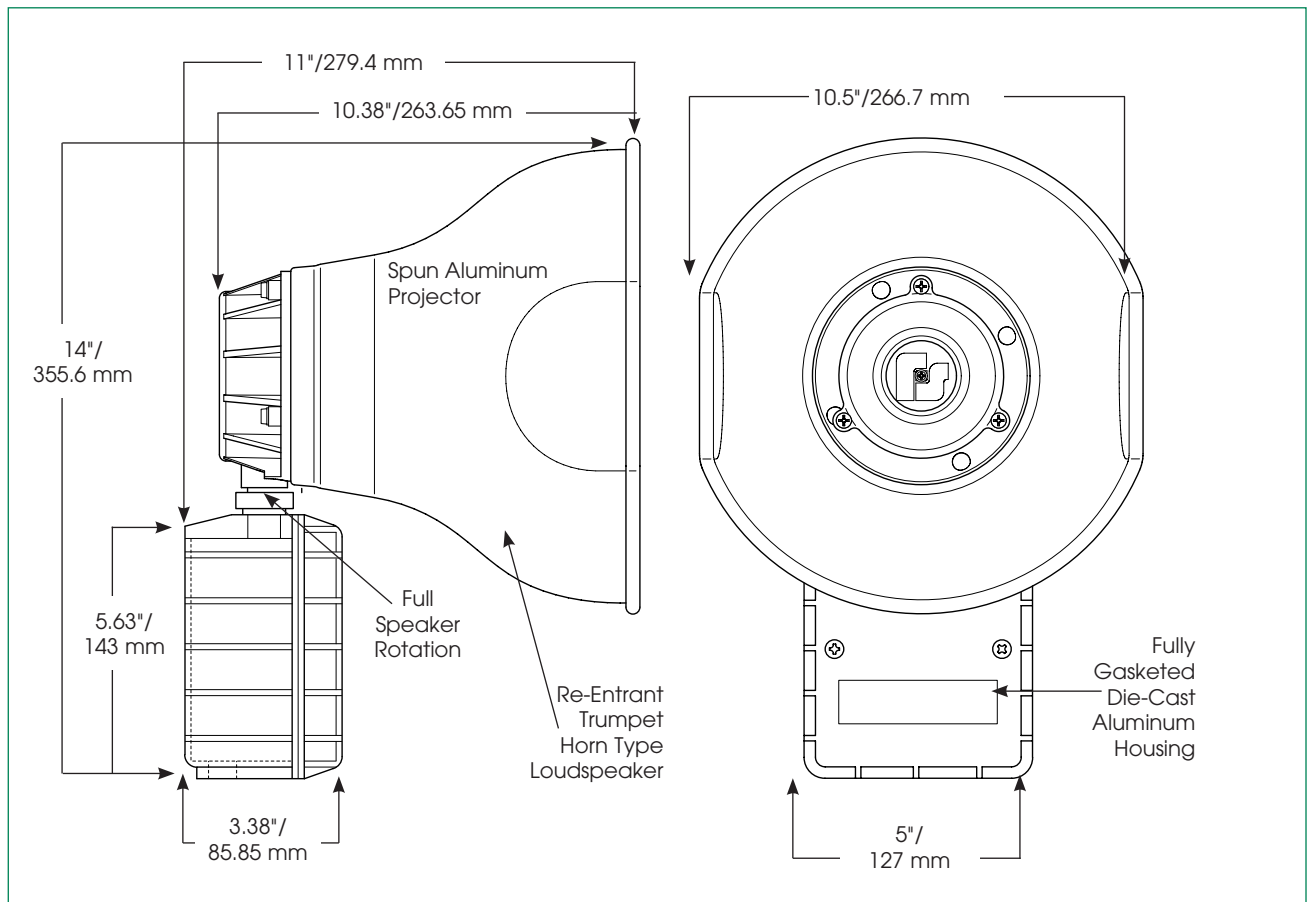
Power handling for the AM302 is 30 watt with transformer taps of 30, 15 and 7 watt. This unit is designed for use in 25 and 70 Vrms distributed systems.

The AM302 is rated for indoor and outdoor use. The AM302 can be used with the AudioMaster® CTS series amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Transformer	Power Taps	Beam Width	Decibels @	
						10'	1m
AM302	30 watt	400-4000Hz	25/70 Vrms	30, 15, 7	60°	114	124



## PUBLIC ADDRESS SPEAKER (AM302)



### SPECIFICATIONS

Net Weight:	7.2 lbs.	3.3 kg
Shipping Weight:	8.1 lbs.	3.67 kg
Height:	14.0"	355.6 mm
Width:	10.5"	266.7 mm
Depth:	11.0"	279.4 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM302 beginning on page 376





# AudioMaster® Public Address Explosion-Proof 15 and 30 Watt Speakers

Models AM300X and AM302X

## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Transformer coupled
- 15 watt (AM300X)
- 30 watt (AM302X)
- 25 or 70 Vrms
- Re-entrant horn design
- Swivel mount
- IP65, NEMA 4X Approved
- AM300X is UL Fire Listed and CSFM Approved
- UL 1480 Approved, CUL Listed

The Federal Signal Model AM300X and the AM302X are transformer coupled, re-entrant speakers for use in public address or paging applications. These speakers feature rugged cones and projectors constructed of spun aluminum. The speaker wiring connections are enclosed in a dust- and moisture-proof, die-cast aluminum compartment. All external surfaces are sealed with a gray powder coat paint.

Power handling for the AM300X is 15 watt and the AM302X is rated for 30 watt. There are transformer taps at 15, 7, 2 and 1 watt for the AM300X and 30, 15 and 8 watt for the AM302X. Both speakers are designed for use in 25 or 70 Vrms distributed systems. These speakers are UL and CUL Listed for Class 1, Division 1, Groups B, C, and D environments.

A heavy-duty U-bracket provides simple wall mounting. The unique shape of the speaker projectors provides a 60° sound dispersion. The entire speaker and can be swiveled 180° in order to direct sound effectively.

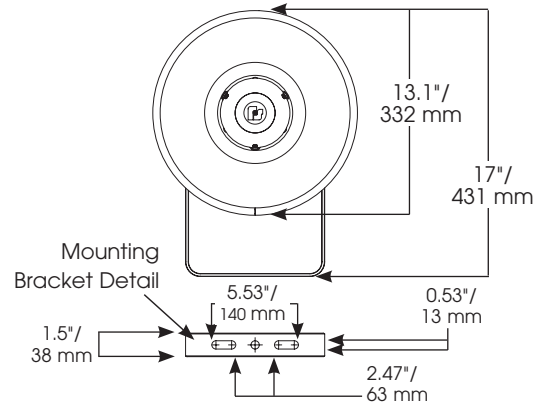
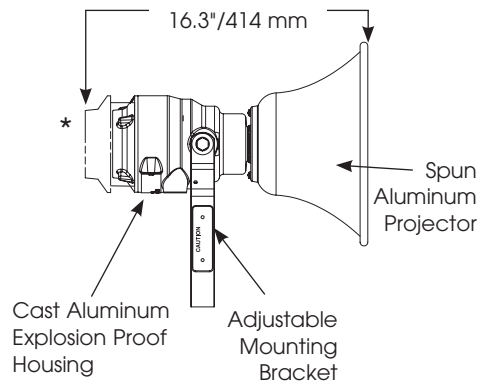
The AM300X and the AM302X can be used with the AudioMaster® amplifiers and the AudioRouter™ to complete an industrial grade public address system.

Model	Power Handling	Frequency Response	Transformer	Power Taps	dB per UL1480		Decibels on Axis	
					10'	1m	10'	1m
AM300X	15 watt	400-4000Hz	25/70 Vrms	15, 7, 2, 1	99	109	106	116
AM302X	30 watt	400-4000Hz	25/70 Vrms	30, 15, 8	103	114	112	124

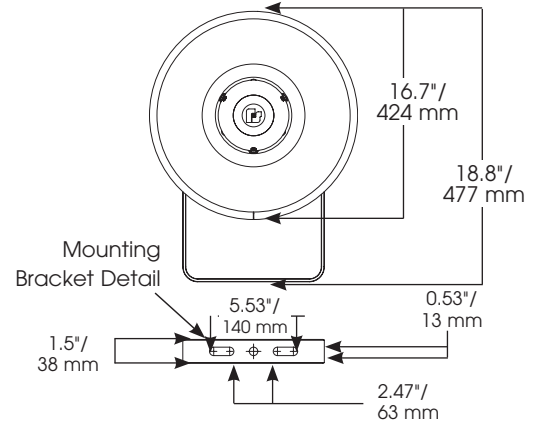
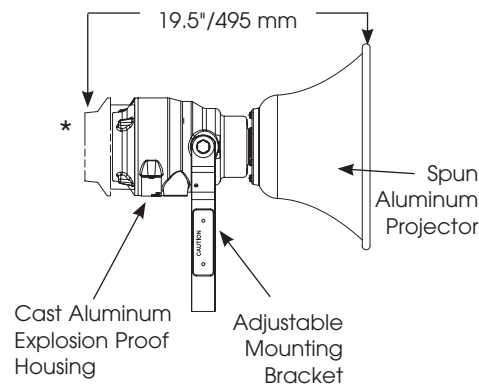


## EXPLOSION-PROOF PUBLIC ADDRESS SPEAKERS (AM300X/AM302X)

### AM300X



### AM302X



## SPECIFICATIONS

### Net Weight:

AM300X	15.7 lbs.	7.1 kg
AM302X	17.1 lbs.	7.8 kg

### Shipping Weight:

AM300X	23.1 lbs.	10.5 kg
AM302X	33.1 lbs.	15.0 kg

### Height:

AM300X	17.0"	431.80 mm
AM302X	18.8"	477.52 mm

### Width:

AM300X	13.1"	332.74 mm
AM302X	16.7"	424.17 mm

### Depth:

AM300X	16.3"	414.02 mm
AM302X	19.5"	495.30 mm

Ingress Protection: IP65 and NEMA 4X Approved

\*Additional 1.8" (44mm) required to remove rear cover

## HOW TO ORDER

- Specify model number
- Please refer to Model Number Index AM300X/AM302X beginning on page 376



## PUBLIC ADDRESS FOR INDUSTRIAL ENVIRONMENTS

- Eight ohm & transformer coupled versions
- 100 watt
- Re-entrant horn design
- Swivel mount
- Superb voice and tone reproduction
- Suitable for indoor or outdoor use
- AM100T meets IP67 design

# AudioMaster® 100 Watt High-Powered Driver/Horn

Models AM100H-SB, AM100D, AM100T

Federal Signal's Model AM100H-SB speaker and AM100 drivers provide high-powered tone and voice output. The directivity of the AM100H-SB combined with the power handling capability of the AM100 allows sound coverage to be concentrated into very specific areas as required. The impedance of the AM100 drivers also allows this speaker/driver combination to be used with existing central amplifiers or siren controls.

### AM100H-SB

The weather- and corrosion-resistant construction of the AM100H-SB makes it suitable for use in harsh industrial environments. Despite its rugged construction, the AM100H is light enough to allow for easy installation in hard to reach locations. The AM100H provides excellent sound dispersion and superb frequency response.

### AM100D

With a flat frequency response from 300-3000Hz, the AM100D provides excellent voice and alert tone reproduction. The compression driver provides long term continuous square wave power handling capacity of 100 watt, making this driver loud and reliable. The rugged die-cast housing features a weatherproof finish.

### AM100T

The AM100T is a 70 Vrms tappable 100 watt compression driver with a wide frequency response range. This gives it superior sound quality and the capability to be tuned for greater or lesser volume at each installation. This model has four preset tap settings— 12.5, 25, 50 and 100 watt. The AM100T incorporates a sealed design and has an IP67 rating making it ideal for heavy dust and wash down applications. Connections are provided via internal screw terminals and can be fitted with the appropriate cable gland connector to seal the product from the environment.

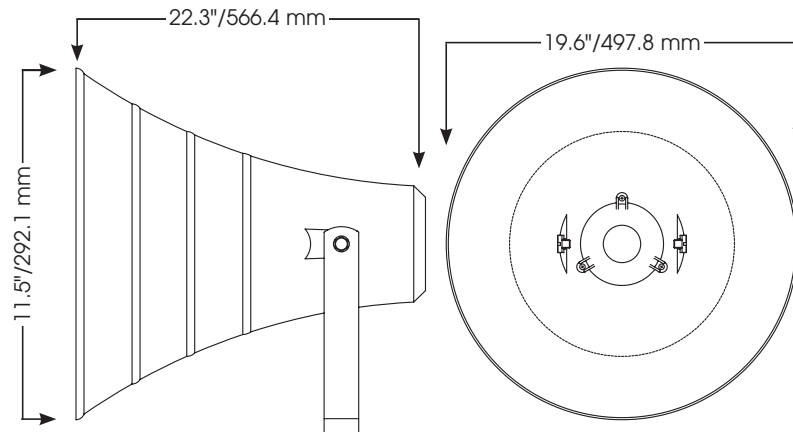
Model	Power Handling	Frequency Response	Impedance	Beam Width	Temperature	Decibels @	
						10'	1m
AM100H-SB with AM100D	100 watt	300-3000Hz	8 ohm	30°	-30°C to 50°C	120	130
AM100H-SB with AM100T	100 watt	200-5000Hz	Tappable*	50°	-50°C to 200°C	121	132

\* Preset tap settings 12.5, 25, 50 and 100 watt.

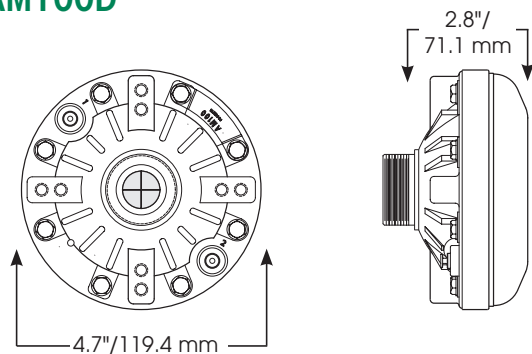


## HIGH POWERED HORN & DRIVER (AM100H-SB/AM100D/AM100T)

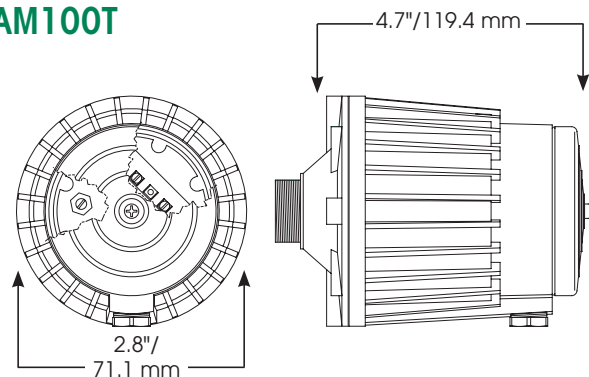
### AM100H-SB



### AM100D



### AM100T



## SPECIFICATIONS

### AM100H-SB

Net Weight:	4.6 lbs.	2.09 kg
Shipping Weight:	6.0 lbs.	2.72 kg
Width:	19.6"	497.8 mm
Height:	11.5"	292.1 mm
Depth:	22.3"	566.4 mm

### AM100D

Net Weight:	4.3 lbs.	1.95 kg
Shipping Weight:	5.0 lbs.	2.27 kg
Depth:	2.8"	71.1 mm
Diameter:	4.7"	119.4 mm

### AM100T

Net Weight:	5.5 lbs.	2.5 kg
Shipping Weight:	6.5 lbs.	2.96 kg
Depth:	4.7"	119.4 mm
Diameter:	2.8"	71.1 mm

## HOW TO ORDER

- Specify model numbers (driver and horn)
- Please refer to Model Number Index AM100H-SB/ AM100D/AM100T beginning on page 377



## POWERFUL, LIGHTWEIGHT ELECTRONIC MEGAPHONE

- Excellent sound quality
- Trouble-free solid-state design
- Battery operated

# Voice Gun® Portable Loudspeaker

Model A12SA

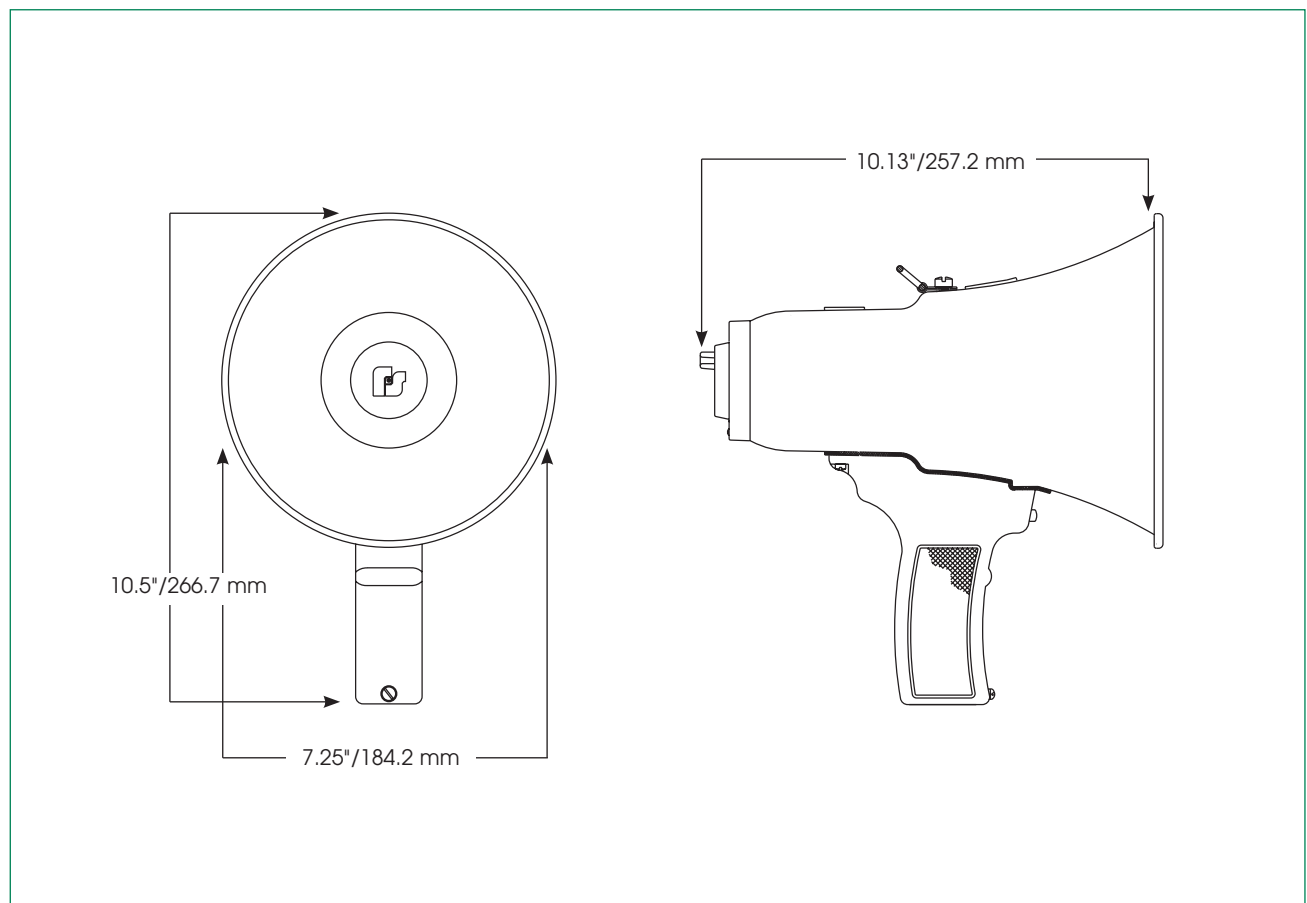
Take control of the situation with Federal Signal Voice Guns® — the most powerful lightweight electronic megaphones available. Specialized noise canceling microphones improve voice reproduction even at long distances. Rugged high-impact Cyclac™ parts are virtually indestructible for long service life. Ideal for industrial, fire, marine, athletics, law enforcement and many other applications.

Model A12SA is made of Lexan™ high-impact, self-extinguishing plastic. This benefit makes it appropriate for hazardous environments such as oil refineries and other industries where fire hazard is always present. The A12SA operates on eight “AA” batteries.

Model	Batteries Required	Power Output	Range
A12SA	(8) “AA”	16 watt	1/4 mile



## PORTABLE LOUDSPEAKER (A12SA)



### SPECIFICATIONS

Net Weight:	3.0 lbs.	1.36 kg
Length:	10.13"	257.2 mm
Height:	10.5"	266.7 mm
Diameter:	7.25"	184.2 mm

### HOW TO ORDER

- Specify model number
- Please refer to Model Number Index A12SA beginning on page 377





## EXPLOSION-PROOF SERIES

- 8 watt, 110dBa output
- 15 watt, 116dBa output
- 25 watt, 123dBa output
- Approved for Zone 1 IIB and IIC
- CE Compliant
- ATEX certified
- Integrated Speaker Monitoring & remote Tapping (I.S.M.T.)
- IEC Certified (25 watt versions)

## MARINE/INDUSTRIAL SERIES

- 8 watt, 114dBa output
- 15 watt, 118dBa output
- 25 watt, 125dBa output
- CE-Compliant
- Integrated Speaker Monitoring & remote Tapping (I.S.M.T.)

# Marine/Industrial and Hazardous Area Loudspeakers

## Models 110-120 Loudspeakers

Federal Signal's model 110-120 Series Loudspeakers are designed for use in industrial public address and general alarm applications, where ATEX certification is required. The 110-120 Series Loudspeakers are available in either an ATEX Zone 1 explosion-proof version or a CE compliant, Marine-grade Industrial version.

Model 110-120 Series Loudspeakers are available in three different configurations, from 8 watt to 25 watt, to provide an appropriate amount of sound for the ambient environment. Each speaker is transformer coupled to fine tune the sound output for each application, and balance the audio load. Available audio inputs are 100 Vrms, 70 Vrms and 8-Ohm.

Mounting is provided by a stainless-steel ratcheted mounting bracket that locks the sounder in position at a specific angle without slipping. The bottom surface of the mounting bracket also contains three mounting holes, to adapt to a variety of surfaces.

The 110-120 Series Loudspeakers are rated for IP66/67 through the use of a neoprene "O" ring seal. All exterior cast aluminum surfaces are finished in powder coat paint and external hardware is manufactured from stainless steel to resist corrosion.

### FREQUENCY RANGE

<b>110 SERIES (8W)<sup>1</sup></b> 600-4000 Hz	<b>110 SERIES (15W)<sup>1</sup></b> 390-4500 Hz	<b>120 SERIES (25W)<sup>1</sup></b> 350-4000 Hz
<b>110 SERIES (8W)<sup>2</sup></b> 500-8000 Hz	<b>110 SERIES (15W)<sup>2</sup></b> 390-8500 Hz	<b>120 SERIES (25W)<sup>2</sup></b> 300-3700 Hz

<sup>1</sup> Explosion Proof    <sup>2</sup> Marine

### AMBIENT TEMPERATURE RANGE

<b>T4<sup>1</sup></b> -20°C to +70°C -20°C to +70°C <sup>2</sup>	<b>T5<sup>1</sup></b> -20°C to +55°C	<b>T6<sup>1</sup></b> -20°C to +40°C
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<sup>1</sup> Explosion Proof    <sup>2</sup> Marine

### EXPLOSION PROOF RATED

SPL@1kHz (Full power @ 1 meter)

<b>8W-IIB</b> 110dBa	<b>8W-IIC</b> 106dBa	<b>15W-IIB</b> 116dBa	<b>15W-IIC</b> 112dBa	<b>25W-IIB</b> 123dBa
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SPL@1kHz (1 watt @ 1 meter)

<b>8W-IIB</b> 110dBa	<b>8W-IIC</b> 106dBa	<b>15W-IIB</b> 116dBa	<b>15W-IIC</b> 112dBa	<b>25W-IIB</b> 123dBa
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### MARINE RATED POWER

SPL@1kHz @ (Full power @ 1 meter)

<b>8W</b> 114dBa	<b>15W</b> 118dBa	<b>25W</b> 125dBa
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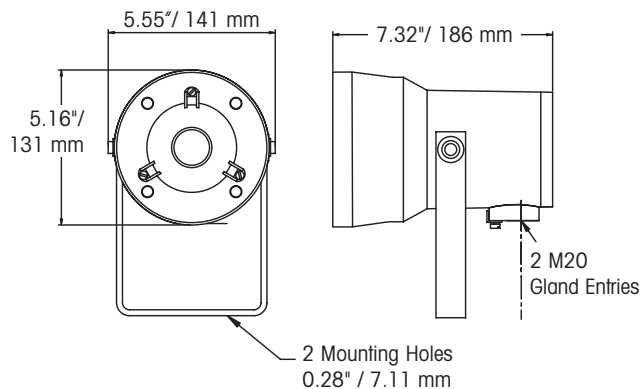
SPL@1kHz @ (1 watt @ 1 meter)

<b>8W</b> 104dBa	<b>15W</b> 106dBa	<b>25W</b> 107dBa
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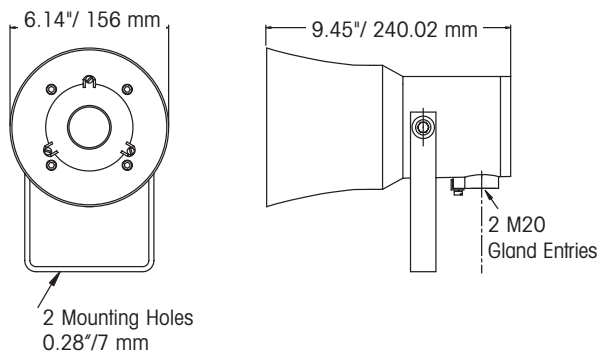


## LOUDSPEAKER SERIES (110-120)

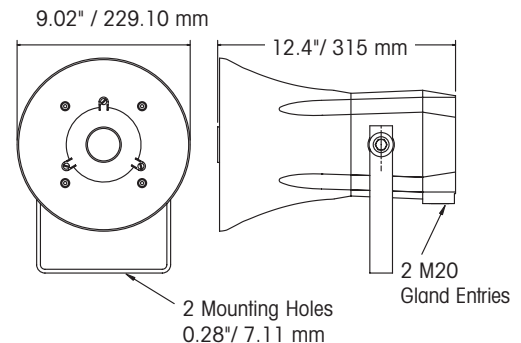
### 8W



### 15W



### 25W



## CERTIFICATION AND APPROVAL

### 110 SERIES-8 AND 15 WATT

Baseefa 03ATEX0688X IICG EExdIIBT4 (T6)

Baseefa 03ATEX0689X IICG EExdIICT4 (T6)

### 120 SERIES-25 WATT

Nemko 05ATEX1036 IICG EExd IIBT4 (T6)

IEC IEC ExNMO4.0002

### MARINE

Electromagnetic compatibility to EN 61000-6-1,2,3,4: 2001

## STANDARDS

EN50014:1997 + A1:1999 + A2 :1999

EN50018:2000 + A1, EN50019:2000

### CE

EMC to EN 61000-6-1,2,3,4:2001

LVD to EN 60065

## INGRESS PROTECTION EXPLOSION-PROOF

8 Watt/15 Watt IP66 & IP67-EN60529

25 Watt IP66 & IP67-EN60529

### MARINE

IP66 & IP67-EN60529

## SPECIFICATIONS

### Net Weight:

8 Watt Short horn Series	6.6 lbs.	3.0 kg
15 Watt Series	7.1 lbs.	3.2 kg
25 Watt Series	14.1 lbs.	6.4 kg

### Shipping Dimensions:

29 x 29 x 30 cm (8 Watt/15 Watt)	32 x 30 x 38 cm (25 Watt)
----------------------------------	---------------------------

### Dispersion Angle:

Short Horn Series, 8 Watt	180°
Standard Horn Series, 15 Watt	120°
120 Horn Series, 25 Watt	120°

### Type:

8/15/25 Watt dual entry

### Gland Entries:

2 x M20 x 1.5 mm

### Cable Terminations:

6A, 1.5 mm conductors

### Mounting:

Stainless steel bracket (not painted)

### Material:

Body & Horn-Marine Grade Aluminum Alloy

### Audio Input:

100Volt, 70 Volt and 8 ohms

## HOW TO ORDER

- Contact Factory for Specification Assistance



*Shown with swivel mounting bracket*

# Corrosion Resistant Zone 1 Loudspeaker

Model P-LS2B and P-LS2C

## FOR USE IN MARINE AND HAZARDOUS APPLICATIONS

- Corrosion-resistant Anti-Static GRP (Glass-Reinforced Polyester) Design
- Universal Mounting Bracket
- Stainless-Steel Hardware
- CE Compliant
- ATEX/IEC Zone 1 Gas Groups IIB and IIC
- Ingress rated IP66

Federal Signal's corrosion resistant loudspeakers, model P-LS2B and P-LS2C, are designed for use in industrial public address and general alarm applications, where corrosion resistance and ATEX/IEC Certification are required. P-LS2B and P-LS2C loudspeakers are available in an ATEX/IEC Zone 1 explosion-proof version certified IP66 for ingress of dust and combustible gas to either Group IIB or Group IIC.

P-LS2B and P-LS2C loudspeakers, designed to accept an audio input of 100 Vrms, are manufactured from corrosion-resistant, anti-static glass-reinforced polyester (GRP). Each speaker is transformer coupled with a maximum power output of 25 watts and is supplied with 10 preset taps (25, 20, 15, 10, 5, 2, 1.5, 1, 0.5 and 0.2 watts) to adjust sound output.

Mounting is provided by a "common template" stainless-steel ratcheted mounting bracket that locks the sounder in position at a specific angle without slipping. The bottom surface of the mounting bracket also contains four slotted mounting holes to further adjust speaker position and adapt to a variety of different surfaces.

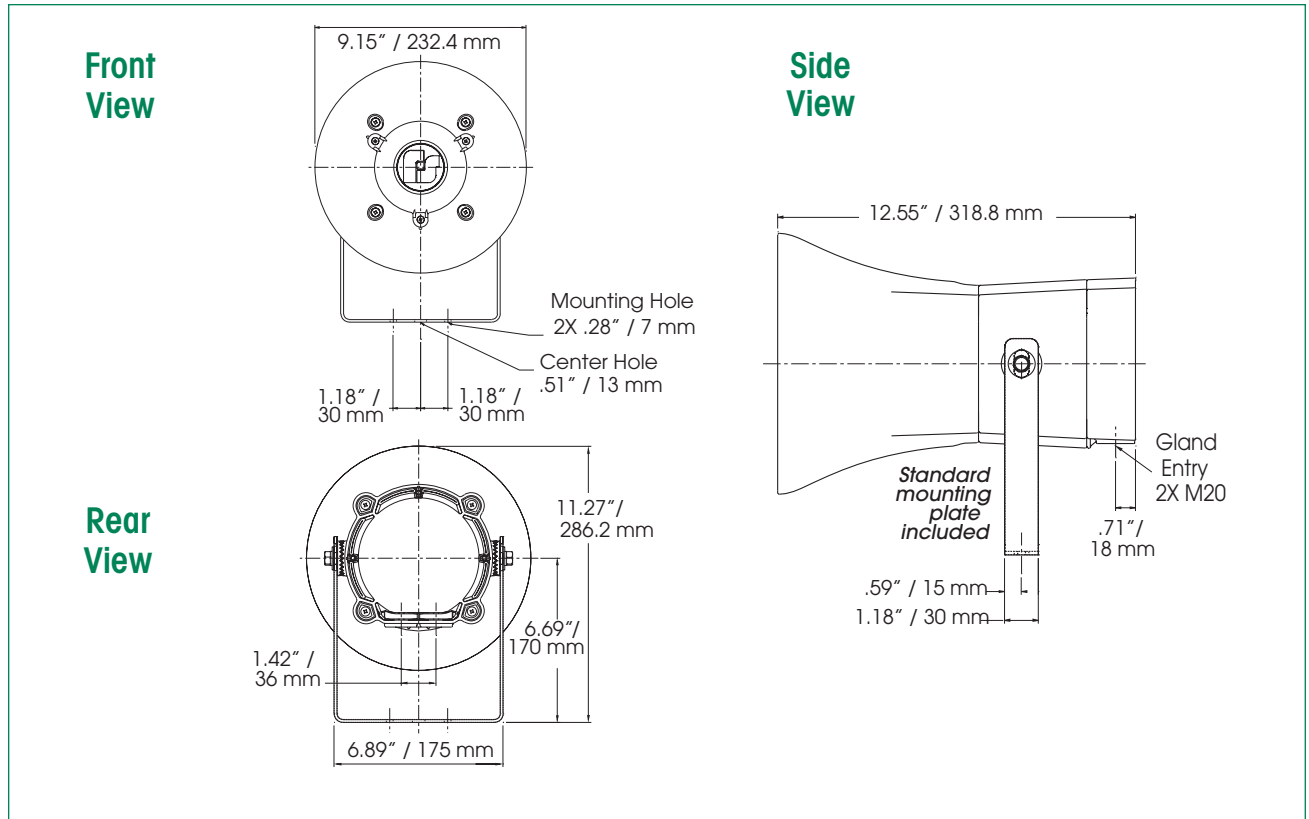
Connection for field wiring is provided by two M20 X 1.5 mm threaded openings in the bottom of the rear cover and terminated via internal terminal blocks. All external hardware is manufactured from stainless steel to resist corrosion and provide serviceability for years to come.

**ATEX IEC CE**

Model	Power Handling	Frequency Response	Power Transformer	Taps	Decibels @	
					10'	1m
P-LS2B	25 watt	350 - 14kHz	100 Vrms	20, 15, 10, 5, 2 1.5, 1, 0.5, 0.2	114	124
P-LS2C	25watt	350 - 14kHz	100 Vrms	20, 15, 10, 5, 2 1.5, 1, 0.5, 0.2	113	123



## CORROSION RESISTANT ZONE 1 LOUDSPEAKER (P-LS2B AND P-LS2C)



### SPECIFICATIONS

Certificate Number:

ATEX

Baseefa10ATEX0096X

IECEX

IECEX BAS 10.0052X

P-LS2B

CE 0539 II 2G

Ex d e mb IIB + H2 T5 Gb (-50°C ≤ Ta +70°C)

T5 Gb (-50°C ≤ Ta +55°C)

P-LS2C

CE 0539 II 2GD

Ex d e mb IIC T5 Gb Ex tb IIIC IP66 T100°C Db (-50°C ≤ Ta +70°C)

T6 Gb Ex tb IIIC IP66 T85°C Db (-50°C ≤ Ta +55°C)

Gland Entries:

2 X M20 X 1.5 mm

Cable Terminations:

0.5 – 4 mm2 (12-22 AWG) Conductors

Size (P-LS2B & P-LS2C):

232.4 mm (9.15") Diameter

286.2 mm (11.27") Height

318.8 mm (12.55") Length

Material:

Glass-Reinforced Polyester (GRP)

Color:

Black

Audio Input:

100 Vrms

Audio Output (Peak):

(max.) 124dB @ 25 watts (1 meter)

Frequency Response:

350 – 14kHz

Net Weight: (P-LS2B & P-LS2C):

5.9 kg 13.0 lbs

Shipping Weight: (P-LS2B & P-LS2C):

6.9 kg 15.3 lbs

### HOW TO ORDER

- Specify model and voltage  
Corrosion Resistant Loudspeaker,  
ATEX Zone 1 Rated Gas Group 2B (P-LS2B)  
Corrosion Resistant Loudspeaker,  
ATEX Zone 1 Rated Gas Group 2C (P-LS2C)
- Optional Accessories  
Swivel Mounting Bracket (K8595172A)

### REPLACEMENT PARTS

Description	Part Number
Standard Mounting Bracket	K8595171
Swivel Mounting Bracket	K8595172A
Ratchet Fixing Kit	K8595194
Bracket Mounting Screws	K7002086-16
Outer Horn	K8595150
Rear Cover	K8595153
Rear Cover Gasket Kit	K8595195
Fuse Module	K8595177



## **PUBLIC ADDRESS & GENERAL ALARM SYSTEMS FOR SAFETY CRITICAL APPLICATIONS.**

- Stand-alone, Hot Standby, or Duplicated systems with Network Options
- Field configurable zones, I/O, and access panels
- Impedance monitoring of speaker circuits with optional Individual Intelligent Speaker Monitoring and remote Tapping system (ISMT)
- GUI, MIMIC and system diagnostics
- Modular Construction with Hot Swappable Amplifiers & Power Supplies
- Greater than 84% efficiency Class D (Digital) PWM amps
- UKOOA, PFEER, NORSOK, IMO, ABS, SOLAS, DNV
- PBX Interface & Feedback Eliminator (options)
- Full compliment of safe and hazardous area access panels and microphone stations
- Fiber Optic Ready
- IP-Networkable
- Custom tones and voice messages
- UL and cUL Listed; CSA-pending

# **Digital Public Address and General Alarm Systems with Networked Options**

## **Model PAGASYS**

Specifically developed for the stringent requirements of the offshore oil and gas markets, PAGASYS is ideally suited for offshore platforms, land based petro-chemical plants, military, and applications requiring the highest degree of reliability and functionality. Stand-alone or fully duplicated failsafe systems can be customized to meet the specific requirements of the application.

Pulse-width modulated, Class 'D' amplifiers operate with greater than 84% efficiency; minimizing heat generation; and preventing power surges upon start up. Also, these compact PA/GA systems require less space, a smaller UPS, and less cooling than conventional systems.

On-board digital signal processors (DSP) provide tone generation and pre-recorded voice messages. Analog audio inputs permit seamless integration of external tone generators and intercom systems. An expandable I/O card approach allows you to integrate third party alarm systems and auxiliary signals, such as fire & gas detection controls and beacons, for a completely integrated facility emergency notification system.

Each PAGASYS rack can be equipped with hot standby amplifiers that assume the load in the event of an individual amplifier failure. Failed amplifiers and power supplies can be replaced quickly without having to power down the system or disconnect wiring. User controls and fault reporting are easily accessed on the optional touch screen PC or remotely via a computer.

## **HOW TO ORDER**

*Contact our Federal Signal Sales Engineers to design a system that meets your specific requirements.*

Considerations for system configuration:

- Specify model (PAGASYS)







## DIGITAL PUBLIC ADDRESS AND GENERAL ALARM SYSTEMS (PAGASYS)

The PAGASYS system employs modular construction to offer a host of benefits. Key advantages include:

- Commonality of parts reduces system development costs, and minimizes spare part requirements.
- System standardization shortens design and manufacturing times.
- Reduced cabling promotes faster on-site installation.
- System configuration via user-friendly software enables users to bring systems on-line faster.
- Flexible network concept speeds and simplifies future system expansions and upgrades.
- Ethernet/Cobra-Net™ solutions are available for large-scale networked applications.

### System Functionality and Capacity

The PAGASYS system provides indoor and outdoor Public Address/General Alarm capabilities for virtually any application calling for safe, high integrity, critical communications. This includes oil and gas exploration and production facilities, petrochemical and industrial plants, and military installations.

At the PAGASYS system's core is the control frame containing the network processor, digital signal processing (DSP), amplifier control/monitoring, and input/output cards. The base configured control frame will accept up to 48 audio inputs, store up to 12 re-recordable tones or digital messages, 40 seconds each and is expandable using Federal Signal's digital storage processor. By connecting to a PC mimic, it is possible to configure the DSP's to:

- Configure external audio input signal monitoring by using 20 KHz, 30 Hz or wide band pilot tone monitoring.
- Select the preferred pre-announcement chime.
- Establish the input/output volume control.
- Set the 30Hz amplifier monitoring tone level.
- Download messages from a PC.

Each rack includes a control frame, amplifiers, power supplies, speaker loop monitoring units and input/output terminations, used to communicate with external systems such as fire and gas and then activate tones, messages or beacons. Test/access panels are also available. Modules are mounted into card-frames housed in one or more, 42U 19" rack. Up to 1,000 watts of amplification power can be fitted into 3U card-frame with a maximum 9,000 watts per control frame. A maximum 36 zones are available in a 9,000-watt rack expandable to 72 zones with an additional rack. Extra racks can be added for future site-wide expansion.

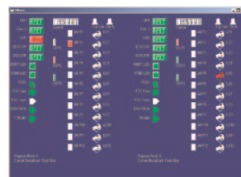
### Network and Redundancy

A PAGASYS system can be supplied as a single stand-alone rack, a fully duplicated dual redundant system, or a redundant network system. In the event of a system component failure (such as a DSP card or audio input for an access panel) in a dual redundant or network redundant system, audio is automatically re-routed to assure failsafe operation. Even if the control frame fails completely direct audio analog input will still be available at that rack. PAGASYS is compatible with a variety of network technologies and system topologies based on copper or fiber-optic transmission to meet the level of redundancy required for the application.

### System Fault Monitoring

To ensure integrity the PAGASYS system automatically incorporates extensive internal self-monitoring, covering:

- Audio input faults (30Hz, 20 KHz or wide band).
- Internal audio path faults.
- Internal communication path faults (i.e., control system to DSPs and control system to I/O cards).
- Network, amplifier speaker or speaker loop faults.
- Monitored alarm input faults for open and short circuit.
- Program and configuration checksum failures.
- Alarm message generators.



When a fault is detected a PC-connected system logs the fault. The system can also automatically e-mail a user or selected support group the instant a fault occurs. This group could include Federal Signal's Integrated Systems service department, which is able to provide remote support via the internet.

### Loudspeaker Loop Monitoring and Optimal Individual Loudspeaker Remote Monitoring and Tapping

A standard system feature is impedance monitoring of the speaker circuits to confirm that speaker circuit loadings remain within a calibrated tolerance band. The system detects loudspeaker shorts or open circuits and earth faults. Optionally, in the event of an amplifier failure, the system will automatically re-route the signal through a standby amplifier. The system employs a 45 Hz infrasonic monitoring signal, which (unlike 20Hz) is generally not affected by signal attenuation caused by cable capacitance, and is virtually immune to spurious readings caused by weather/temperature effects.

Each loudspeaker monitoring card monitors two amplifier loops. An optional individual 'Intelligent Speaker Monitoring and Tapping' (ISMT) module simplifies installation, and increases whole-life system integrity. The ISMT module checks each loudspeaker, for faults. The ISMT module allows for remote volume adjustment of each individual loudspeaker by reconfiguring internal transformer power tapping. Each ISMT module can handle up to 256 speakers per speaker circuit with up to 36 speaker circuits per rack.

### PAGASYS 'Power':

The PAGASYS system is powered by state-of-the-art "D" class amplifiers that provide significant performance improvements over traditional class "A" and "B" units. By comparison a typical A/B amplifier consumption at full power is 480VA, PAGASYS D amplifier only 300VA. Also, a typical lightweight class A/B amplifier weighs 10kg, the PAGASYS D amplifier only 3kg.

Federal Signal's 250/500 watt class D amplifiers also feature better than 84% efficiency, while eliminating power surges at start up. This level of efficiency combined with the smaller footprint dramatically reduce rack space requirements, often eliminate the need for auxiliary cooling fans, allowing for continuous operation for extended periods of time without fans and reduces the size of the UPS needed. The unique "super sleep" reduces the current draw to only 60mA when operating on battery backup. These amplifiers include self-monitoring making them suitable for conventional configurations and parallel bank arrangements. An integrated hot standby configuration is also available for backup should an amplifier fail.

### Interacting and Interfacing with PAGASYS:

Also available are a wide variety of Engineer's Test Panels. These panels provide direct interaction with the system, local fault indication, and an analog PTT microphone access which can be available in the event of a control frame failure. Standard configurations include a rack mounted field programmable panels, touch screen panels, intrinsically safe panels, safe area panels as well as microphone stations. Access panels can be located at the central rack or a variety of remote locations. PAGASYS offers several connection options to LAN or WAN systems as well as PABX interfaces to enable paging locally/live or via "store-and-forward" in order to avoid feedback.

The PAGASYS system interfaces with all Federal Signal products/systems, including ECHO digital intercom system, party paging systems and outdoor siren products.

Contact the factory for additional information on PAGASYS.

