

## TECHNICAL DATA

# Panaray® MSA12X

## modular steerable array loudspeaker

**BOSE**

PROFESSIONAL

### Product Overview

The Bose Professional Panaray® MSA12X is a self-powered digital beam-steering loudspeaker that enables improved room aesthetics, with outstanding vocal intelligibility and tonal consistency. The proprietary Articulated Array® transducer configuration allows wide, 160° horizontal coverage throughout the room, and MSA12X's modular design allows building of vertical arrays using 1-3 units. Dante® digital audio network interface comes standard for connection with other Dante-enabled products over Ethernet-based networks.

### Key Features

- **Digital beam-steering line array column loudspeaker** with onboard DSP and 600 watts (12 x 50 W) of amplification
- **Family sound profile** with the Panaray MA12EX Loudspeaker
- **Twelve (12) x 2.25-inch full-range transducers** with 58 Hz - 18 kHz frequency range
- **Dante® digital audio network interface and line-level analog input**
- **Articulated Array® configuration** allows wide, 160° horizontal coverage
- **Modular design** allows building vertical arrays using 1-3 units
- **Multiple algorithms for beam steering control** - designers can optimize consistency of coverage, tonal balance, and maximum SPL per job
- **Supports independent level and EQ control** of 2 separate beams per array
- **Integrated mounting bracket** allows up 90° of horizontal yaw adjustment
- **Advanced steering and acoustic coverage prediction** using Bose Modeler® software
- **System setup, control and monitoring** with Bose ControlSpace® Designer™ software
- **Available in black or white finish**



Dante™

### Technical Specifications

SINGLE MODULE PERFORMANCE			
Frequency Response (-3 dB) <sup>(1)</sup>	75 Hz - 17 kHz		
Frequency Range (-10 dB) <sup>(1)</sup>	58 Hz - 18 kHz		
Horizontal Dispersion <sup>(2)</sup>	160°		
Vertical Opening Angles	Software Adjustable: 1 module: up to 30°, 2-3 modules: up to 40° Vertical		
Vertical Beam Steering Angles	+ / - 20°		
Max SPL @ 1 m <sup>(3)</sup>	112 dB		
Multiple Module Performance	<b>1-Module</b>	<b>2-Modules</b>	<b>3-Modules</b>
Typical Usable Throw Distance <sup>(4)</sup>	10 m (33 ft)	25 m (82 ft)	35 m (115 ft)
Distance	10 m (33 ft)	20 m (66 ft)	30 m (98 ft)
Max SPL <sup>(5)</sup> at Distance	97 dB (103 dB Peak)	96 dB (102 dB Peak)	95 dB (101 dB Peak)
Low-frequency Beam Control Limit	500 Hz	250 Hz	160 Hz
Driver Complement, Full-range Cones	12 x 2.25" (57 mm)	24 x 2.25" (57 mm)	36 x 2.25" (57 mm)
Amplifier Channels / Rated Power	12 x 50 W	24 x 50 W	36 x 50 W
Physical Array Height	39" (1 m)	78" (2 m)	117" (3 m)
ELECTRICAL PERFORMANCE (SINGLE MODULE)			
AC Mains Voltage	Universal 85-264VAC/50/60 Hz		
AC Mains Connector	IEC60320-C14		
AC Power Consumption	120VAC /240VAC: 25 W idle, 275 W max		
AUDIO INPUTS			
Analog Audio Input Connector	3-pin Phoenix connector <sup>(5)</sup>		
Analog Audio Maximum Input Level	0dBu /+10dBu/ +24 dBu (pad engaged)		
Input Sensitivity	15dBu		
Input Impedance	20k ohms		
Digital Audio Inputs	Input: 2 channels of Dante® digital audio network (RJ45), Expansion: LVDS (RJ50)		
Digital Output	Expansion: LVDS (RJ50)		
INTEGRATED DSP			
DSP platform/network support	Bose ControlSpace®		
A/D and D/A converters	24-bit, 48 kHz		
Number of beams supported <sup>(5)</sup>	2		
FIR filter support (local MSA12X)	1024 tap @ 48 kHz		

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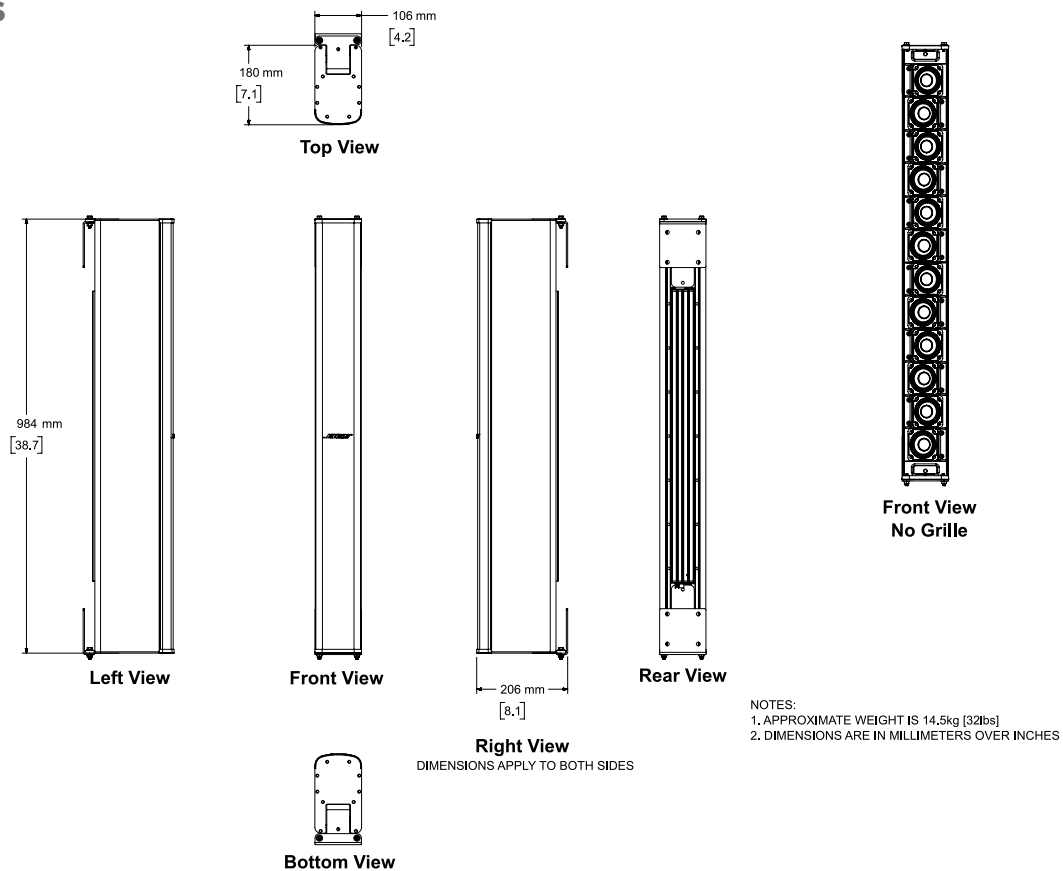
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Number user presets (local MSA12X)	10
Audio latency	5.7ms
<b>PHYSICAL</b>	
Enclosure	Extruded aluminum sidewalls; steel end caps, all powder coated
Grille	Powder-coated aluminum
Indicators and controls	Power, limit, fault
Operating temperature range (ambient)	32°F to 104°F / 0°C to 40°C
Cooling system	Cooling is passive only, airflow bottom to top
Environmental	Indoor only
Suspension / Mounting	Integrated wall brackets; allows horizontal yaw up to 90° in either direction
Dimensions (HxWxD)	984 x 106 x 206mm (38.74" x 4.16" x 8.12")
Net Weight	14.5 kg (32 lbs)
Shipping Weight	19.21 kg (42.35 lbs)
Accessories, included	(1) Power Cord, (1) Power interconnect cable, (1) RJ50 Expansion Cable, (1) Phoenix connector, (2) Wall/Speaker-mount Bracket sets, (1) Interconnect Bracket, (12) Zip Ties, (1) Bose logo, extra (4) m6 flange nuts, (8) m6 Hex Head bolts, (1) yaw bracket

<b>PRODUCT CODES</b>		
Black (RAL 9005)	[787856] - 1110,2110,3110,4110,5110	US, EU, JP, UK, AU
White (RAL 9010)	[787856] - 1210,2210,3210,4210,5210	US, EU, JP, UK, AU

### Dimensions



**Footnotes**

- (1) Frequency response and range measured at 1m, on-axis with recommended active EQ in anechoic environment
- (2) 1-4k average, -6dB
- (3) Max SPL calculated based on free-field (no boundary loading gain) sensitivity, exclusive of power compression, and without beam steering, spreading or smoothing functions applied
- (4) Typical Maximum Usable Throw Distance includes considerations for reverberation and speech intelligibility
- (5) Analog audio input is limited to 1 beam, 2 beam support requires Dante input