

# Panaray® MSA12X

## modular steerable array loudspeaker

### 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**



### 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	1-Module	2-Modules	3-Modules
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>(3)</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 Compliment, 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		

TECHNICAL DATA

# Panaray® MSA12X

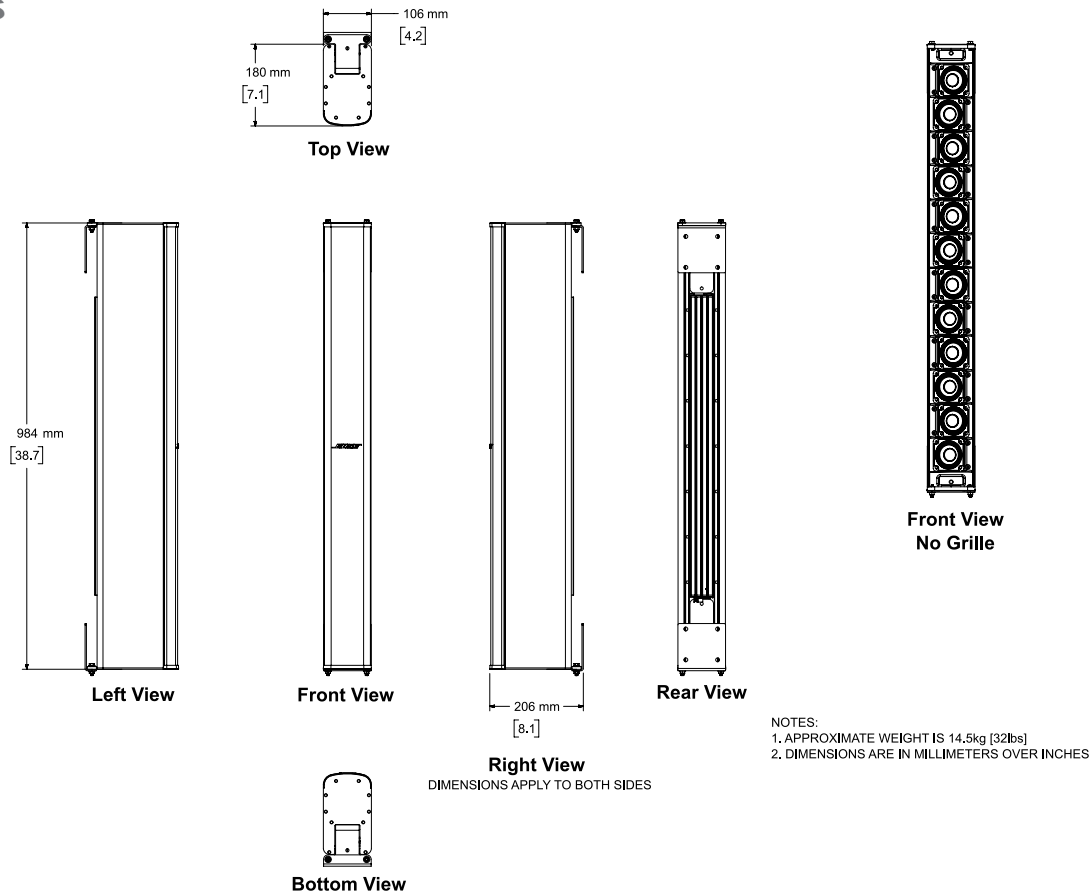
modular steerable array loudspeaker



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