

BOSE

PROFESSIONAL



MSA12X
POWERED BEAM-STEERING
ARRAY LOUDSPEAKER

 **Dante**



PRECISE SOUND. HIDDEN IN PLAIN SIGHT.

Whether you're in an auditorium, a place of worship, a lecture hall, or a museum, the role of sound in shaping the experience cannot be overstated. A great audio solution has the power to elevate an experience in ways nothing else can.

But traditional loudspeakers might visually stand out when they shouldn't, and their mounting options might limit where and how they're installed.

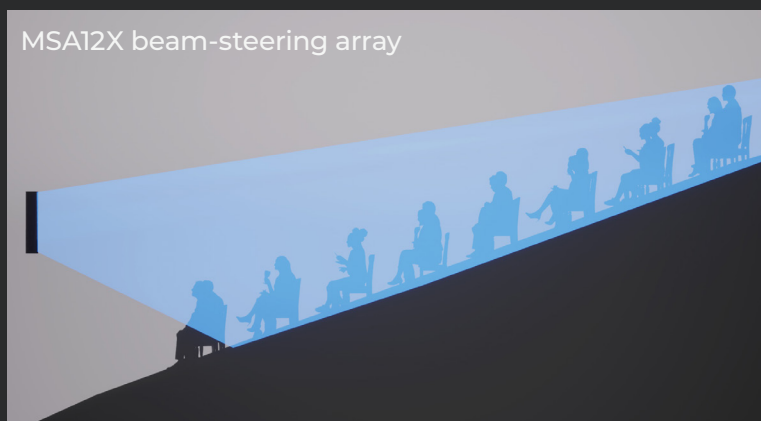
Introducing the MSA12X — the solution to these challenges. Its sleek design harmonizes effortlessly with any setting while delivering full-range sound, impeccable vocal clarity, and adaptable coverage control to overcome acoustical challenges in any space.

ENGINEERED TO EXCEL IN VOCAL INTELLIGIBILITY AND MUSICALITY.

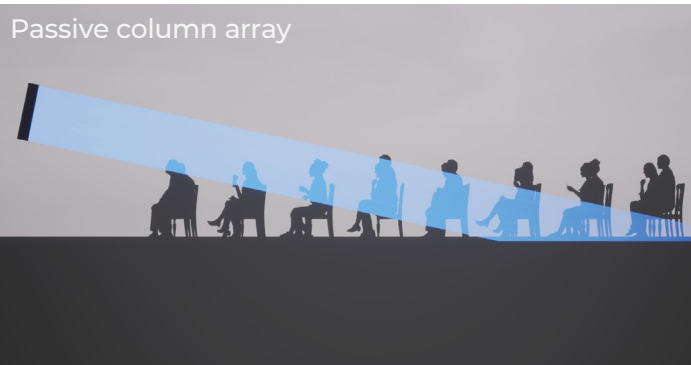


The Bose Professional MSA12X powered beam-steering array loudspeaker incorporates twelve processed and amplified transducers to create a precise vertical sound beam that covers the entire audience area, while reducing disruptive echoes that may compromise clarity.

The result—a consistent front-to-back sound level without the need for mechanical aiming or angling brackets.



COVER MORE SEATS WITH BEAM STEERING



Passive column arrays naturally confine vertical coverage for improved intelligibility and clarity.

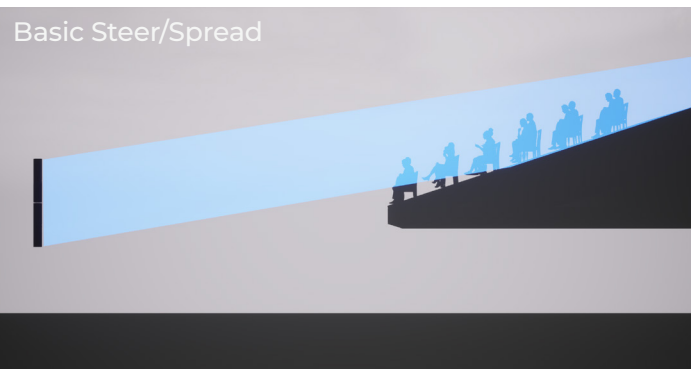
However, they must be aimed precisely toward listeners. Since the sound spread is limited, it takes more effort, and cost, to mount and aim additional loudspeakers.

MSA12X eliminates these restrictions.

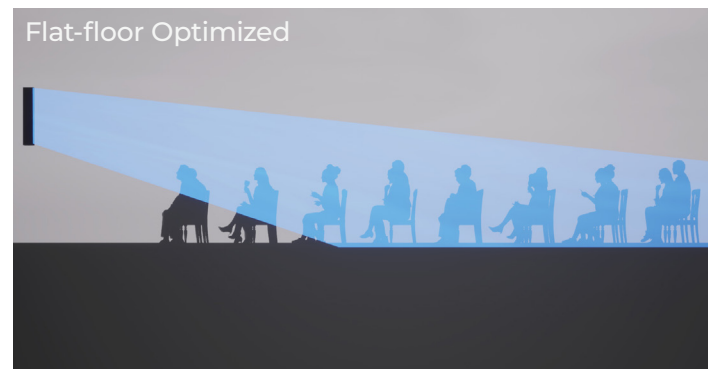
MULTIPLE BEAM OPTIONS FOR VARIOUS USE CASES

MSA12X uses digital steering technologies and algorithms to direct sound where it's needed — with fewer modules. Now, system designers can break free from traditional constraints by using a loudspeaker that's flexible and adaptable but still delivers clear, consistent sound.

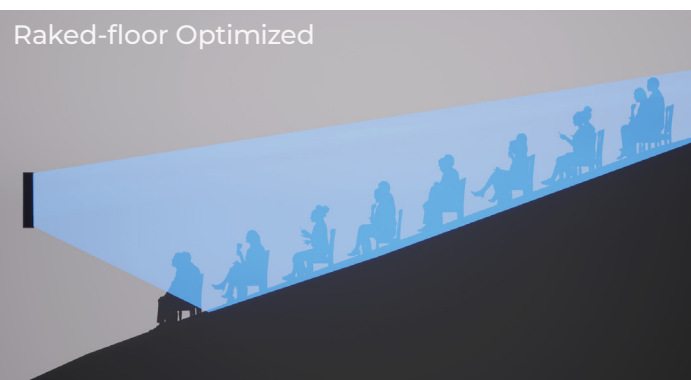
Choose from three beam pattern options based on the array's mounting location and the contours of the coverage area. You can also implement dual-beam mode to project independent beam patterns across the entire array (up to three MSA12X modules).



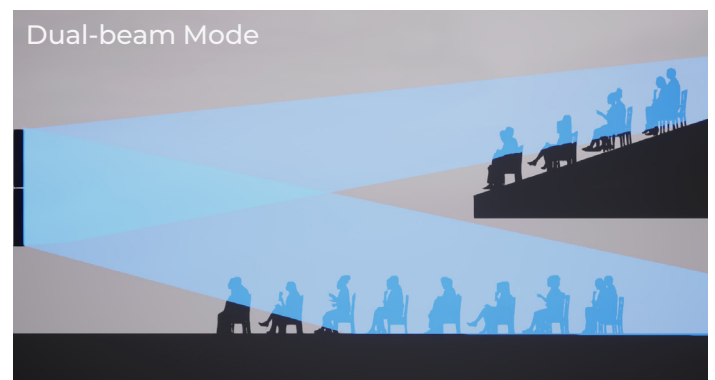
Basic steer/spread is the most basic beam pattern. It allows steering the axis of the beam vertically, then spreading the beam from that axis.



Flat-floor optimized is ideal for flat floor seating with the array bottom slightly above ear height of audience. It provides consistent coverage from the front to the back row.



Raked-floor optimized is good for covering a raked floor or flat floor from a relatively high array position. Radiates using a vertically asymmetrical beam.



By utilizing all the drivers of the array for both beams simultaneously, dual-beam mode allows you to use any two beam patterns independently.

The **Vocal Range Smoothing** option — available on both Basic Steer/Spread and Flat-floor Optimized patterns — helps to maintain vocal-range tonal consistency throughout the target listening area. It also suppresses beam side-lobes with minimal reduction of headroom.

HARDWARE FEATURES

12 x 2.25-inch independently controlled and amplified transducers create a vertical sound beam that is electronically steered for precision aiming to cover the entire audience.

Extended frequency response from 75 Hz to 17 kHz provides the ability to use for speech and music reinforcement.

Integrated DSP and 600 watts (12 x 50 W) of amplification make the MSA12X a self-powered and self-processed loudspeaker solution without the requirement of a standalone amplifier or loudspeaker processor.

The **articulated transducer configuration** provides 160° horizontal coverage, delivering consistent tonality across the entire audience, ensuring each listener enjoys the same sound experience.

All brackets and interconnect cabling included—no extra parts to order.

Digital audio network interface needs just one network cable connection for audio source and system control. Send digital audio to the MSA12X and use the same connection for ControlSpace network integration, enabling control, monitoring, and beam preset recall from ControlSpace-compatible processors, end-user controls, and third-party control systems.

A **line-level input** also enables local analog source connection.

Beam presets in a ControlSpace network can be switched to instantly adapt sound coverage for half-rooms, full rooms, partitioned meeting rooms, or balconies. Designers can simply assign beam presets to user interfaces—such as wall controls or the ControlSpace Remote app—or assign presets to scheduled timer events and third-party control systems.

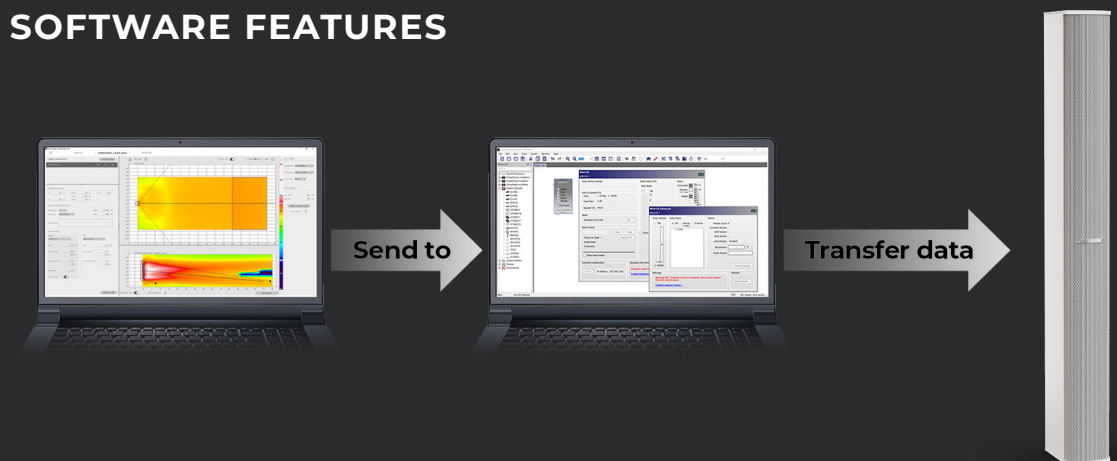
SOFTWARE FEATURES

Bose Professional Array Tool is the first step in designing the MSA12X into the room. It is a simulation and analysis software that allows audio system designers to define venue parameters, position the MSA12X, and accurately predict its performance.

Bose Professional ControlSpace Designer is the next step to seamlessly integrate the prediction calculations generated by Bose Professional Array Tool into the MSA12X. This software application also configures and designs our ControlSpace-enabled processors, smart amplifiers, and loudspeakers using one user interface.

Specific to MSA12X, it provides the ability to program settings, recall beam presets, and monitor operations in real time.

Both software applications are available for free download at BoseProfessional.com



MODULAR ADVANTAGE

Flexible, modular design allows the simple creation of larger vertical arrays by stacking up to three modules without custom parts, ordering, or oversized shipping boxes.

The larger array extends coverage, enhances lower-frequency control, and improves dual-beam functionality.

Select a white or black finish, and paint them if needed.



	Single 1 m (39 in)	Double 2 m (78 in)	Triple 3 m (117 in)
Typical Usable Throw Distance ⁽⁴⁾	10 m (33 ft)	25 m (82 ft)	35 m (115 ft)
Max Continuous/Peak SPL ⁽³⁾	97 / 103 dB at 10 m (33 ft)	96 / 102 dB at 20 m (66 ft)	95 / 101 dB at 30 m (98 ft)
Beam Control LF Limit	500 Hz	250 Hz	160 Hz

DESIGNED FOR MUSIC REINFORCEMENT

While the majority of column line arrays are primarily intended for vocal applications, the MSA12X sets itself apart by excelling in both speech intelligibility and musicality with frequency response down to 75 Hz.

Its design allows it to not only deliver clear vocals but also perform well for music reinforcement when paired with a subwoofer.

For extended bass response, the Bose Professional MB210-WR subwoofer with dual 10" high-excursion drivers and a PowerShareX smart amplifier perfectly complement

the MSA12X to deliver a complete audio solution for speech, music, and live sound applications.



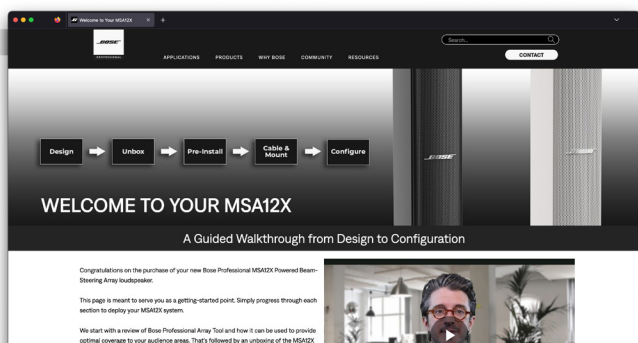
SMOOTHER DESIGN AND INSTALLATION

Bose Professional has taken note of installers' frustrations with various passive and steerable column line arrays in the market.

The core problem lies in the time-consuming design and installation processes, often plagued by excessive

guesswork. Manufacturers' insufficient instructions necessitate on-site troubleshooting and loss of time.

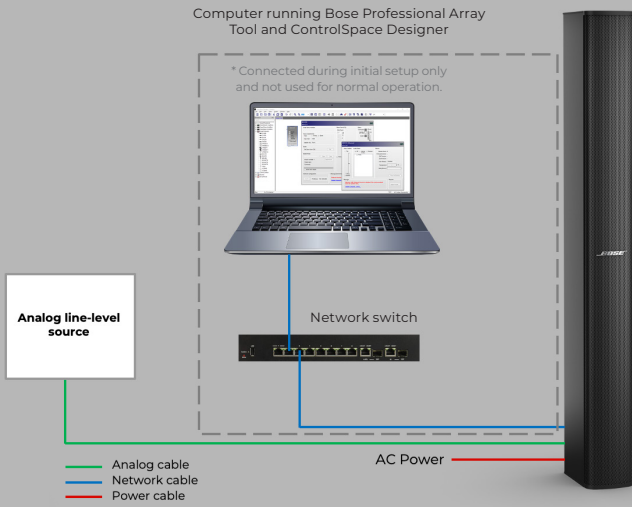
We heard you and developed a new solution to make the design and installation of MSA12X straightforward.



Introducing our installer-friendly MSA12X welcome webpage, offering a seamless, step-by-step workflow for designing, configuring, and installing both the MSA12X and its accompanying software applications. Everything you need to know from design to installation to commissioning. Check it out at BoseProfessional.com

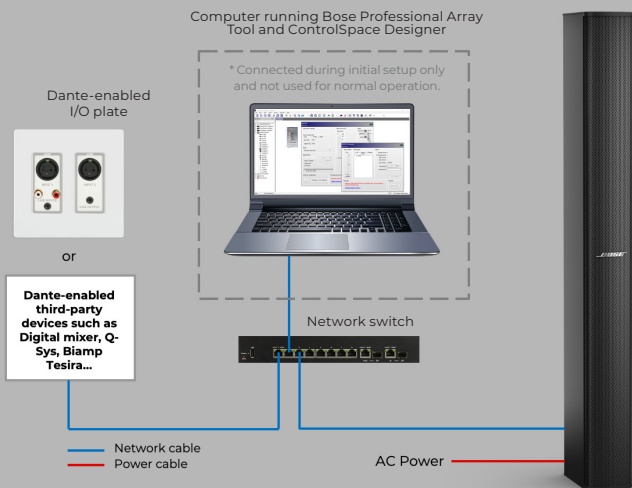
WORKS IN A VARIETY OF APPLICATIONS

Explore the various applications of the MSA12X, starting with its role in a straightforward and budget-friendly sound system setup.



In this configuration, the MSA12X offers a convenient “set it and forget it” approach by receiving an analog line-level source. Once the beam is aimed and programmed, the computer and network switch play a role in the initial setup and can subsequently be disconnected, resulting in a cost-effective analog solution.

An important note: A Bose Professional processor is not required. However, dynamically recalling beam presets or enabling real-time monitoring is only provided with the processor.

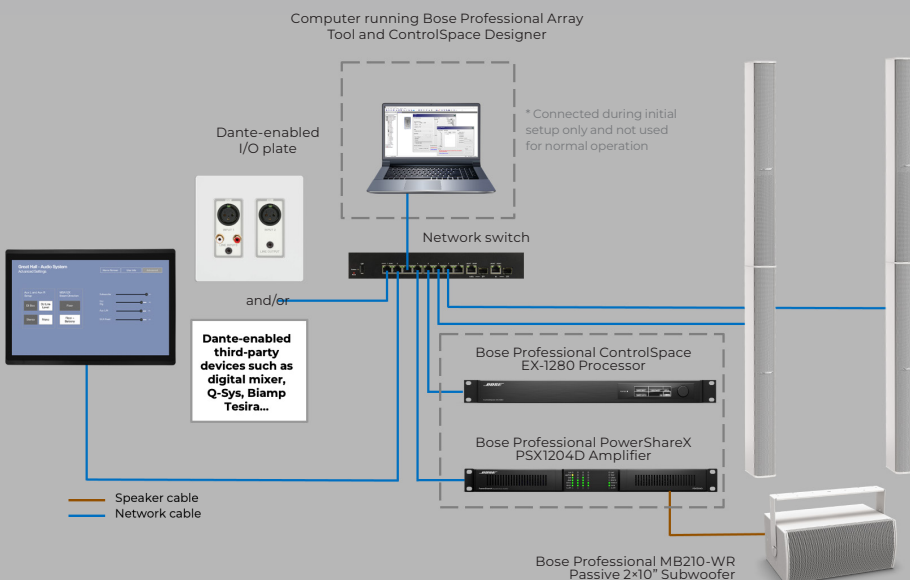


MSA12X can also be used in a more expansive networked distributed system.

In this networked arrangement, the MSA12X seamlessly acquires digital audio through Dante transport. This digital audio can originate from Dante-enabled I/O panels like RDL, a digital mixer, or as a component within a broader networked audio system from a third-party provider.

Similar to the previous configuration, once the beam is aligned and programmed, the computer can be disconnected, allowing it to operate in a “set it and forget it” mode. However, in this mode, it won’t have the ability to dynamically adjust the beam or provide real-time monitoring.

The full extent of MSA12X’s capabilities is truly realized when it is integrated into a comprehensive Bose Professional ControlSpace system.



The MSA12X introduces the capability of beam preset recalls, accessible through the ControlSpace Remote app running on a tablet. With a simple press, these buttons can activate presets that dynamically adjust the MSA12X’s beam.

This functionality proves invaluable across a diverse array of environments, from adaptable meeting spaces with room partitions to performance halls featuring second-floor balconies that can be deactivated during periods of non-use.

You can also utilize the tablet with ControlSpace Remote app to activate the MB210-WR subwoofer when used for music reinforcement.

TECHNICAL SPECIFICATIONS

SINGLE MODULE PERFORMANCE			
Frequency Response (-3 dB) ⁽¹⁾	75 Hz - 17 kHz		
Frequency Range (-10 dB) ⁽¹⁾	58 Hz - 18 kHz		
Horizontal Dispersion ⁽²⁾	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 ⁽³⁾	112 dB		
MULTIPLE MODULE PERFORMANCE	1-Module	2-Modules	3-Modules
Typical Usable Throw Distance ⁽⁴⁾	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 ⁽³⁾ 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	57 mm (12 × 2.25 in)	57 mm (24 × 2.25 in)	57 mm (36 × 2.25 in)
Amplifier Channels / Rated Power	12 × 50 W	24 × 50 W	36 × 50 W
Physical Array Height	1 m (39 in)	2 m (78 in)	3 m (117 in)
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 Euroblock connector ⁽⁵⁾		
Analog Audio Maximum Input Level	0 dBu/+10 dBu/+24 dBu (pad engaged)		
Input Sensitivity	15 dBu		
Input Impedance	20 kΩ		
Digital Audio Inputs	Input: 2 channels of Dante digital audio network (RJ-45), Expansion: LVDS (RJ-50)		
Digital Output	Expansion: LVDS (RJ-50)		
INTEGRATED DSP			
Software, Design and Array Parameter Creation	Bose Professional Array Tool (rapid, direct field prediction), Bose Professional Modeler (advanced, direct and reverberant prediction)		
Software, Programming/Control/Monitoring	Bose Professional ControlSpace Designer		
A/D and D/A Converters	24-bit, 48 kHz		
Number of Beams Supported ⁽⁵⁾	2		
FIR Filter Support (local MSA12X)	1024 tap @ 48 kHz		
Number User Presets (local MSA12X)	10		
Audio Latency	5.7 ms		
PHYSICAL			
Enclosure	Extruded aluminum sidewalls; steel end caps, all powder-coated, paintable		
Grille	Powder-coated aluminum, paintable		
Indicators and Controls	Power, limit, fault		
Operating Temperature Range (Ambient)	0° to 40° C / 32° to 104° F		
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 (H × W × D)	984 × 106 × 206 mm (38.74 × 4.16 × 8.12 in)		
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) RJ-50 expansion cable, (1) Euroblock connector, (2) wall/loudspeaker-mount bracket sets, (1) interconnect bracket, (12) cable ties, (1) logo, (4) extra M6 flange nuts, (8) M6 hex head bolts, (1) yaw bracket		
PRODUCT CODES			
Black (RAL 9005)	787856-1110 (US), -2110 (EU), -3110 (JP), -4110 (UK), -5110 (AU)		
White (RAL 9010)	787856-1210 (US), -2210 (EU), -3210 (JP), -4210 (UK), -5210 (AU)		

Footnotes

- (1) Frequency response and range measured at 1 m, on-axis with recommended active EQ in anechoic environment
- (2) 1-4 kHz average, -6 dB
- (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



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For additional specifications and application information, please visit [BoseProfessional.com](https://www.boseprofessional.com). Specifications subject to change without notice. 09/2023