

BOSE[®]



Bose[®] RoomMatch[®] System



BOSE PROFESSIONAL SYSTEMS DIVISION

DESIGN | PERFORMANCE | SUPPORT

ROOMMATCH[®] | POWERMATCH[®]

Bose® Professional Systems Division

What happens when Bose engineers take the best of what they do and apply it to create the products that integrators and professional sound consultants need most?

System designers have the right tools, products and support. So music sounds better, announcements are more intelligible and the systems are easier to use. As a result, people have better experiences at venues and establishments around the world.



System Applications

Houses of Worship,
Performing Arts Centers,
Theaters, Auditoriums,
Arenas and Stadiums.

World-class venues and establishments consistently choose Bose Professional Systems. From the Olympic games to the Sistine Chapel. From NASA space shuttles to the Japan National Theatre. Combining the strengths of our partners with our unique tools and innovative products, we – together – are able to provide audio solutions that enhance the customer experience.

The Bose Professional Systems Division delivers support to integrators and design consultants so they can deliver total sound solutions for their clients – from retail and restaurants to houses of worship and auditoriums to theme parks, arenas and stadiums, and to corporate buildings and hospitality establishments.

Pro audio is about delivering that “WOW” experience to customers...

Getting goose bumps at a concert...

Having the music in your favorite restaurant change the mood and enhance the experience...

Or being moved by a speech that is natural and intimate.

Working together, we can create that “WOW.” With advanced designs, performance and support available only from the most respected name in sound – Bose.

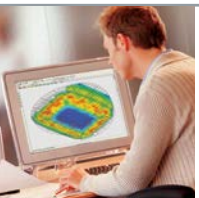
RoomMatch® array module loudspeakers

The latest developments from Bose include RoomMatch arrays and PowerMatch® amplifiers, which deliver concert-quality sound for fixed-installations in almost any room size.

**Now with 20 different
coverage patterns.**

Unique Bose design tools and system controls

Only Bose offers Modeler® sound system software, the Auditorer® playback system III and ControlSpace® Designer™ software. These next-generation innovations provide users with an unprecedented ability to predict, design and control sound systems.



Modeler Sound System Software

Modeler sound system software gives designers the ability to predict and design better sound systems. They can model any space, place the speakers and get critical acoustical data in real time – even as they make changes and adjustments. Modeler software also lets owners and developers see how the system will perform within the sight lines and visual design of the facility.



Auditioner System Technology

This innovation allows listeners to hear how a proposed system will sound – before it's installed or even before the facility is built. This technology is so advanced, a listener can hear the system from any seat or any location in the facility. And it's available only from Bose.



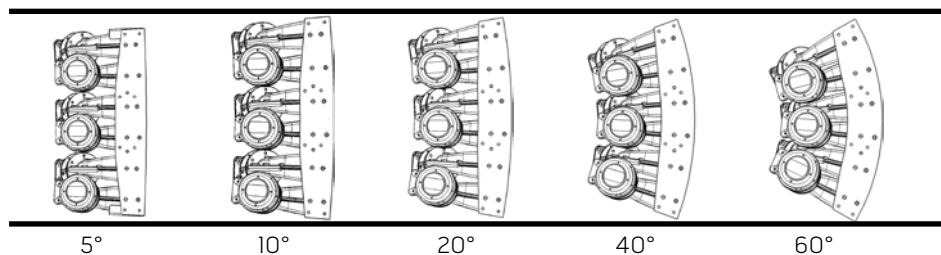
ControlSpace Designer Software

ControlSpace Designer software makes it easy to design, configure and operate systems that include Bose engineered sound processors, PowerMatch configurable professional amplifiers and Bose control centers.



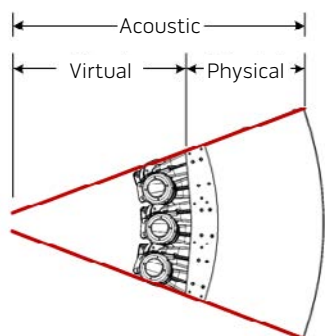
Continuous-Arc Diffraction-Slot

The Continuous-Arc Diffraction-Slot (CADS) manifold is an innovative technology that provides a truly seamless continuous source. This advancement merges the acoustic output of six separate EMB2 drivers into a single continuous source. This enables good vertical control while also giving you the ability to scale the SPL of multiple loudspeakers independent of coverage requirements and without creating phase cancellations between modules.



EMB2 extended mid-band compression driver

The EMB2 driver is designed specifically for RoomMatch loudspeakers with a usable response down to 300 Hz, allowing a 550 Hz acoustic crossover point. This technology enables the midrange performance normally associated with a three-way crossover system from a two-way crossover design, with more precise coverage control down to approximately 1 kHz.



RoomMatch waveguide technology

Each module uses RoomMatch waveguide technology to direct sound more precisely and reduce diffractions on the edges. Five vertical and four horizontal coverage pattern choices allow arrays to direct sound precisely to desired listening areas, improving audio quality by reducing unwanted acoustic reflections.

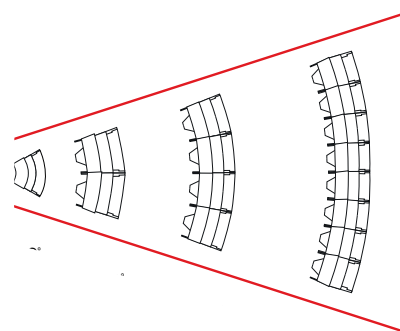
The positioning of the EMB2 drivers makes it possible to create a virtual waveguide (see diagram left), delivering the performance of a waveguide with double the length. This unique concept offers extremely precise directivity control.

Scalability and configurability

In a single RoomMatch module, the output of the six EMB2 drivers is combined in the Continuous-Arc Diffraction-Slot (CADS) without interference.

The innovative geometry of the CADS maintains continuous slot spacing, even in the largest array. This allows all array configurations to act as a single continuous acoustic source, free of phase-interference seams to improve consistency of sound quality throughout the listening area.

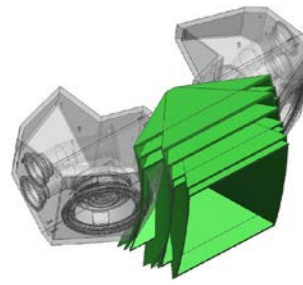
In the assembled arrays, the spacing between adjacent modules is small enough to allow all the diffraction slots of the entire array to act as a single, continuous sound source. This design virtually eliminates phase-interference seams in RoomMatch progressive directivity arrays.



Multiple directivity patterns

The side panels of the waveguide are custom-made and laser-cut for a very precise pattern control for medium and high frequencies.

This unique construction process currently enables the creation of 20 different directivity patterns. Five vertical and four horizontal coverage pattern choices allow arrays to direct sound precisely to the desired listening areas, improving audio quality by reducing unwanted acoustic reflections.



New Bose® LF10 Driver

The new Bose LF10 10-inch woofer features a 3-inch voice coil for high-power handling, while a new magnetic circuit improves linearity and lowers distortion. Distortion is further reduced through the use of a dual flared large area port and individual acoustic volume for each driver. The dual symmetrical woofer configuration for each RoomMatch® module provides a balanced polar response with the high-frequency waveguide.

Model	Directivity (HxV)
RM5505	55° x 05°
RM7005	70° x 05°
RM9005	90° x 05°
RM12005	120° x 05°
RM5510	55° x 10°
RM7010	70° x 10°
RM9010	90° x 10°
RM12010	120° x 10°
RM5520	55° x 20°
RM7020	70° x 20°
RM90120	90° x 20°
RM12020	120° x 20°
RM5540	55° x 40°
RM7040	70° x 40°
RM9040	90° x 40°
RM12040	120° x 40°
RM5560	55° x 60°
RM7060	70° x 60°
RM9060	90° x 60°
RM12060	120° x 60°

Comparison of five types of clusters with a vertical directivity of 80°

The RoomMatch system allows multiple module configurations for the same vertical array coverage, allowing you to customize the array based on SPL, low-frequency pattern control and system budget.

Array Configuration (total vertical angle)					
	80 Degrees	80 Degrees	80 Degrees	80 Degrees	80 Degrees
SPL@ 15m (50 ft)	105	107	109	111	115
Pattern Control Frequency	500 Hz	300 Hz	250 Hz	200 Hz	160 Hz
Performance					
Horizontal Coverage Quality	Good	Good	Excellent	Excellent	Excellent
Vertical Seam Quality	Good	Excellent	Excellent	Excellent	Excellent
Evenness of SPL	Good	Good	Excellent	Excellent	Excellent
Acoustic Efficiency	Good	Excellent	Excellent	Excellent	Good
Cost	x1	x1,5	x2	x2,5	x4

RoomMatch® RMS215 subwoofer module loudspeaker

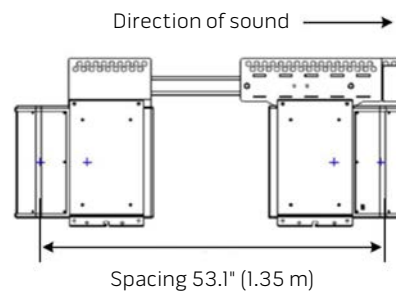
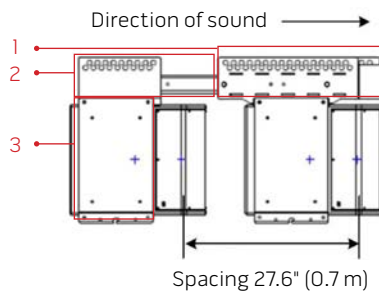


RoomMatch RMS215 subwoofer module loudspeaker

- The RoomMatch RMS215 subwoofer module is designed primarily to extend the low-frequency response of Bose RoomMatch arrays to 40 Hz. The RMS215 subwoofer module features dual Bose LF15 15-inch high-excursion woofers, with a proprietary port design that minimizes distortion and improves perceived transient impact. The durable Baltic birch enclosure with 2-part polyurethane coating allows reliable ground-stack applications.
- Frequency range (-10 dB) 40 – 280 Hz
- Extender bars to integrate bass into RoomMatch array
- Different bass array configurations enable directivity control for low frequencies

Two examples of bass array configurations

1. Array grid frame
2. Extender bars
3. Side plate rigging



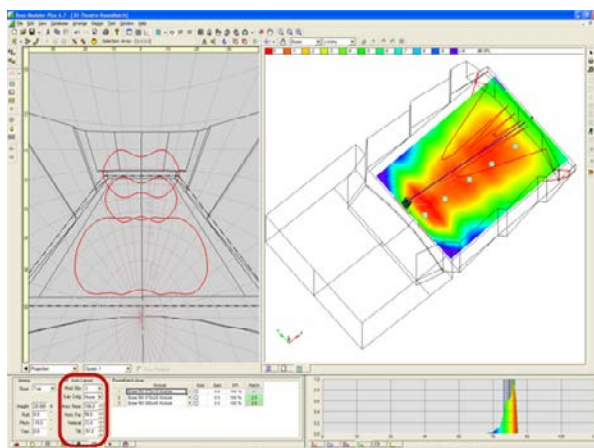
Bose® Modeler® sound system software

Bose Modeler sound system software is a sophisticated acoustic design and analysis program for sound system designers or acoustical consultants. Using a computer-based 3D model of the acoustic space and advanced acoustic ray tracing algorithms, Modeler software can predict a sound system's performance. The first sound system software to offer full STI prediction, Modeler software has been a leader in sound system performance prediction for more than 25 years.

Automated configuration

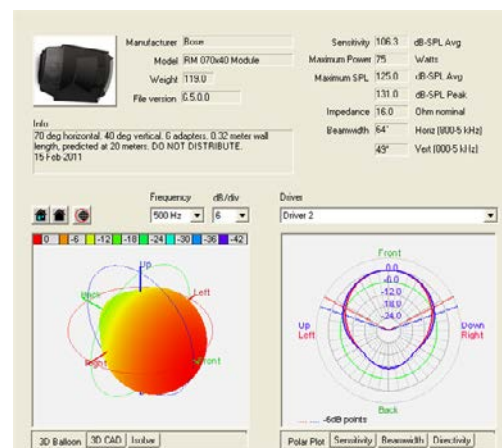
An automated tool enables easy configuration of a Progressive Directivity Array.

Simply specify a coverage area and module quantity, and the array is automatically generated at the desired location.



Processing of complex loudspeaker data

All RoomMatch data includes phase information. The new data format minimizes the impact on calculation time, while maintaining accuracy.



Concert-quality sound with a high level of scalability, configurability and proven reliability.



Configurations for use with RoomMatch systems

The PowerMatch 8500 amplifier has eight inputs and can be configured depending upon power and channel needs between two and eight separate outputs. Since power can be combined among output channels and drive a range of loudspeaker loads, it is possible to drive four full-range RoomMatch array modules, two RMS215 subwoofer modules, or a combination of both from one amplifier.

Configuration	Power/channel								Total power
Mono Mode	500W @ 4Ω	500W @ 4Ω	500W @ 4Ω	500W @ 4Ω	300W @ 8Ω	300W @ 8Ω	300W @ 8Ω	300W @ 8Ω	4000W
V-Bridge Mode	1000W @ 4Ω		1000W @ 4Ω		1000W @ 8Ω		1000W @ 8Ω		4000W
I-Share Mode	1000W @ 2Ω		1000W @ 2Ω		1000W @ 2Ω		1000W @ 2Ω		4000W
Quad Mode	2000W @ 4Ω				1600W-70V/2000W-100V				4000W
Mixed mode	1000W @ 4Ω	800W-70V/1000W-100V		300W @ 8Ω	300W @ 8Ω	500W @ 4Ω	500W @ 4Ω	4000W	

Advanced, proven design with superior sound

PowerMatch amplifiers safely and efficiently manage the current drawn from the AC mains by using a combination of the PeakBank™ power supply with fast-tracking Power Factor Correction (PFC) together with a sophisticated dual voltage and current feedback circuit. This system allows the amplifiers the capability to run continuously at full power when driving real world program material – all without fluctuation or reduction of available power.

The result? Premium Class-AB performance from a redesigned Class-D amplifier topology delivering a combination of wide dynamic range, flat frequency response, low distortion, outstanding transient response and bass reproduction, regardless of the amplifier configuration, loudspeaker load, or output level.

More than just a power amplifier

From project design to installation and implementation, Bose PowerMatch amplifiers are loaded with features to assist in the process, even well beyond the project finish date. System troubleshooting is built into PowerMatch amplifiers via a set of remote monitoring and fault reporting utilities. Issues logged by the amplifier, such as power line and loudspeaker wiring faults, are reported on the front panel. A convenient load sweep tool can measure and store the load impedance of each output for system diagnostic and documentation purposes. Password protection of all settings with front panel lockout allows the system to be secure from unauthorized tampering.

Concert-quality sound for a wide variety of venues

Discover our RoomMatch® array module loudspeaker and PowerMatch® amplifier. Together, they deliver concert-quality sound for fixed-installations in almost any room size, shape, acoustic requirement or budget.

RoomMatch array module loudspeakers

Through Bose® proprietary technologies, RoomMatch modules offer unprecedented scalability that allows them to be used singularly in applications with modest SPL and coverage-control requirements, or combined to form Progressive Directivity Arrays for the highest SPL and coverage-control requirements. Overcoming the acoustic limitations of both line array and point-source conventional designs, RoomMatch modules form a new class of curvilinear array that allow seamless audio quality, with consistent front-to-back and side-to-side tonal balance.

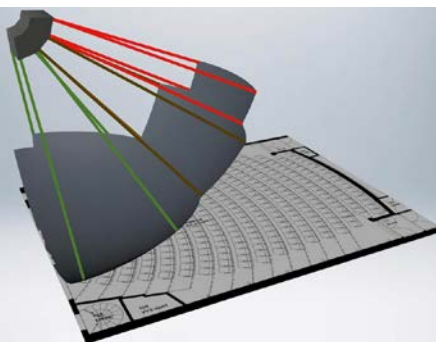


The PowerMatch PM8500 amplifier

Bose PowerMatch configurable professional power amplifiers deliver premium sound for a wide variety of fixed-installation sound reinforcement systems. Engineers at Bose used several proprietary technologies to develop PowerMatch amplifiers with the best possible tonal balance for the demanding needs of live performances. Applications can range from performing arts centers, to gymnasiums and churches. Optional digital cards help expand the input capability from CobraNet® and Bose ESPLink audio sources.



Main technical specification for a RoomMatch module	
Frequency response (+/- 3 dB)	60 Hz - 16k Hz
Directivity (H x V)	55° x 05° - 120° x 60° (20 different modules)
Recommended crossover	550 Hz crossover filter provided by DSP in either PowerMatch or ControlSpace® ESP-88
Loudspeakers	
Low frequency	2x Bose LF10 drivers with 3" ultra linear voice coil
Mid-high frequency	6x Bose EMB2 wide band compression drivers with 2" voice coil
Mechanical	
Connectors	2x Neutrik NL-4 parallel wired
Dimensions (H x W x D)	16.9" x 39.1" x 23.6" / 42.8 x 99.3 x 59.8 cm (55° x 5°)
Weight	123 lb / 55.8 kg (55°x 05°)



Easy installation

RoomMatch modules are designed for easy installation. Mounting a module is fast and easy with its integrated side plates. The curvature of the array is formed by the directivity and quantity of the modules (up to eight per array).



Wherever quality sound is important, Bose is there.

Additional product information, including technical data and detailed specifications, can be found at:

pro.bose.com

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