

TECHNICAL DATA

ShowMatch™ SM20 DeltaQ™ array loudspeaker



BOSE

PROFESSIONAL

Product Overview

Bose Professional ShowMatch™ DeltaQ™ SM20 full-range array modules provide 20° nominal vertical coverage with included field-changeable waveguides offering choice of 70° or 100° horizontal coverage and optional accessory 120° waveguides. Replace single waveguide panel to form horizontal asymmetrical patterns. The 2-way module requires external power amplifiers (2- channels) and DSP to provide full-range response from 59 - 18,000 Hz with peak array output up to 145 dB.

Key Features

- **DeltaQ™ technology** - defines the next-generation in loudspeaker array design with selectable coverage patterns that more precisely direct sound to audience areas for improved sound quality and vocal clarity with fewer boxes versus line arrays.
- **Replaceable waveguides** - ships with 100° waveguides installed with 70° panels included to allow coverage change. Largest-in-class size provides better coverage and vocal clarity. Change single panel for asymmetrical patterns. Optional 120° waveguides for SM20.
- **Compact, portable enclosure** - Versatile design allows both fixed install and portable applications, from small clubs and houses of worship to the largest performing arts centers and AV productions.
- **Tour-sound output level** - 4x Bose EMB2S compression drivers, improved with more HF output, and 2x 8-inch neodymium high-power woofers allow peak array output up to 145 dB SPL.
- **3-point “quick pin” rigging** - Fast, easy setup with up to 24 full-range modules and 10:1 design factor.
- **Removable side guards** - provide rigging guard and hand holds for portable applications. Easily removed for permanent installs to reduce width and improve sight lines.

Technical Specifications

SINGLE MODULE PERFORMANCE				
Frequency Response (+ / -3 dB) (1)	69 - 16,000 Hz			
Frequency Range (-10 dB)	59 - 18,000 Hz			
Recommended High-Pass Protection Filter	70 Hz with minimum 12-dB / octave filter			
Nominal Coverage Pattern	100° H x 20° V (includes waveguides for 70° H x 20° V)			
Recommended Crossover	750 Hz (acoustic; requires active, 2-way crossover in DSP)			
	Bose extended-lifecycle test ⁽⁴⁾		AES transducer test ⁽⁵⁾	
	Low Frequency	High Frequency	Low Frequency	High Frequency
Power Handling, long-term continuous	450 W	100 W	600 W	125 W
Power Handling, peak	1800 W	400 W	2400 W	500 W
Sensitivity (SPL/ 1W @ 1 m) (2)	94 dB	105 dB	94 dB	105 dB
Calculated Maximum SPL @ 1 m (3)	121 dB	125 dB	122 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	131 dB	128 dB	132 dB

TRANSDUCERS	
Low Frequency	2 x Bose SM8 neodymium 8-inch woofers (3-inch voice coil)
High Frequency	4 x Bose EMB2S extended-HF neodymium compression driver (2-inch voice coil)
Nominal Impedance	8 ohms + 6 ohms (LF/HF)

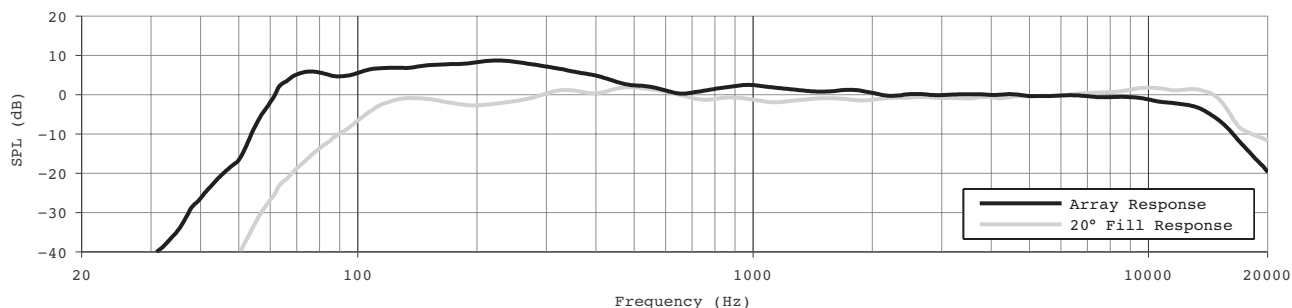
PHYSICAL	
Enclosure Material	Baltic birch plywood
Finish	Two-part spray polyurethane coating, black
Grill	16-gauge (1.5 mm) perforated steel, powder-coated finish, black
Environmental	IPx4
Connectors	2 x Neutrik® NL4 wired parallel
Suspension / Mounting	integrated 3-point quick-pin rigging
Dimensions (H x W x D)	11.9" x 31.2" x 18.1" (303 x 793 x 461 mm) / W: 29.8" (757 mm) side guards removed
Net Weight	64.0 lbs (29.0 kg)
Shipping Weight	75 lbs (34.0 kg)
Accessories	rigging frames, pullback bar, waveguides, ground stack bracket, short quick pins

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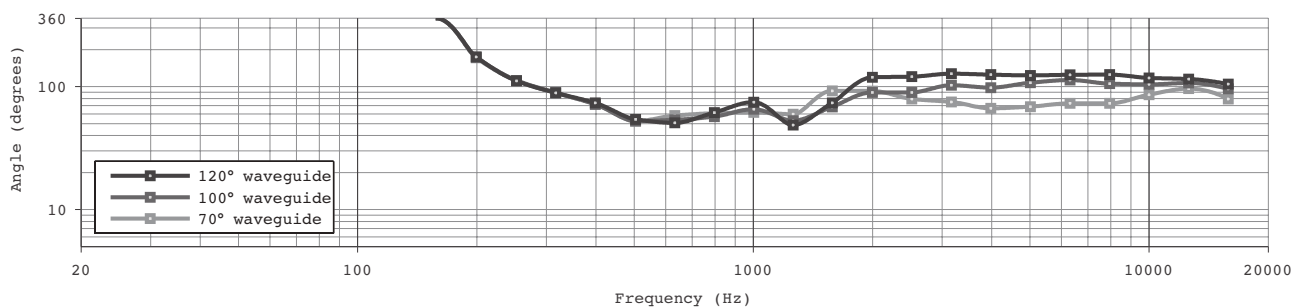
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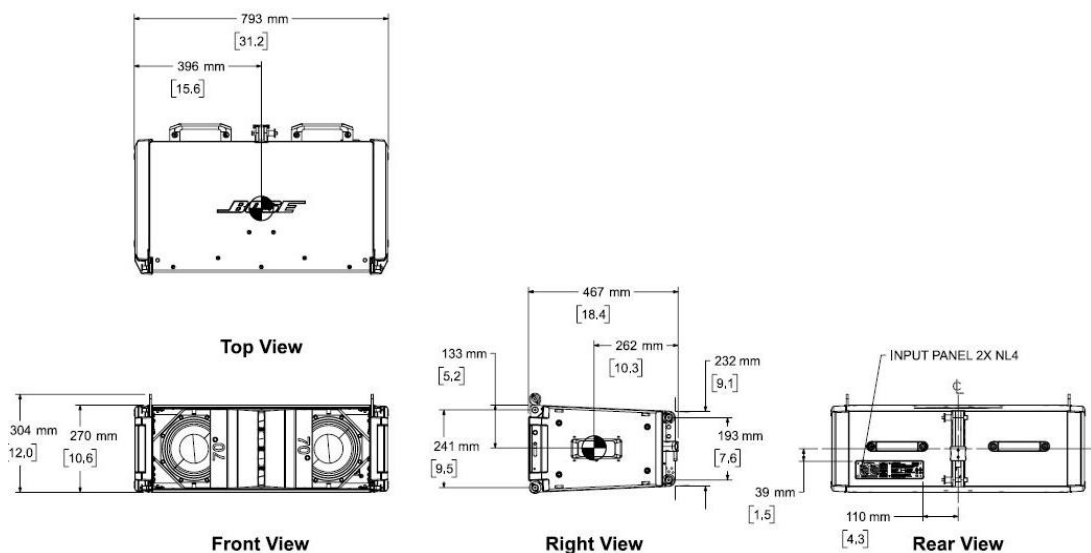
Frequency Response



Beamwidth (Horizontal -6 dB)



Dimensions



Footnotes
 (1) Frequency response and range measured on-axis in an anechoic environment, with recommended bandpass and EQ.
 (2) Sensitivity measured with indicated boundary conditions, recommended bandpass and EQ, referenced to 1W/m.
 (3) Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.
 (4) Bose extended-lifecycle test using pink noise filtered to IEC268-5, 6-dB crest factor, 500-hour, full-power duration.
 (5) AES standard component power handling test: pink noise 60-18000 Hz bandpass, 6-dB crest factor, 2-hour duration.