

# LT 9702® WR

## high-output mid/high loudspeaker



### Key Features

- **90° x 70° coverage** for short-throw applications in auditoriums, worship facilities, performing arts centers, stadiums and arenas
- **Mid/high-frequency** loudspeaker designed for use in arrays with separate LF augmentation (Bose® MB12 or MB24 bass arrays) or voice-only applications
- **Bose V2 midrange manifold** sums output of 2 x 4.5" (114 mm) extended-range cone drivers for lower breakup distortion and improved transient response. Provides a smoother, more natural vocal range compared to single 8" to 12" woofers. The LT 9702 WR loudspeaker utilizes two Bose V2 midrange manifolds
- **Bose large-format waveguide** provides effective 90° x 70° pattern control to approximately 250 Hz (horizontal) and 500 Hz (vertical). Minimizes loudspeaker overlap in arrays to reduce comb-filter interference and improve intelligibility



TECHNICAL DATA SHEET

### Product Overview

The Bose® LT 9702® WR is a high-output, mid/high-frequency loudspeaker designed for use with other LT loudspeakers to form Coherent Zone arrays in medium to large permanent installations requiring precise coverage and high intelligibility. The large-format waveguide and 90° x 70° pattern provide a cost-effective alternative to multiple-cabinet line arrays for many applications.

### Technical Specifications

System Performance			
Frequency Response (+/-3 dB) <sup>1</sup>	220 Hz - 16 kHz		
Frequency Range (-10 dB) <sup>1</sup>	170 Hz - 18 kHz		
Nominal Dispersion	90° H x 70° V		
Sensitivity (SPL / 1 W @ 1 m) <sup>2</sup>	105 dB SPL		
Maximum SPL @ 1 m <sup>3</sup>	126 dB SPL (132 dB SPL peak)		
Crossover Type	Passive, Bi-Amp, Switchable		
Crossover Frequency	1.6 kHz		
Recommended High-Pass Filter	170 Hz with 4th order filter (24 dB / octave)		
Loudspeaker EQ	Required		
	Passive	Bi-Amp	
		Mid	High
Long-Term Power Handling <sup>4</sup>	140 W (560 W peak)	140 W (560 W peak)	75 W (300 W peak)
Nominal Impedance	8 Ω	8 Ω	8 Ω
Transducers			
Driver Complement	HF: 3" (76 mm) voice coil compression driver MF: Two (2) Bose V2 midrange manifolds, each with 2 x 4.5" (114 mm) cone drivers		
Physical			
Enclosure	Exterior-grade Baltic birch plywood, 11-ply, 15 mm		
Finish	Two part spray polyurethane coating, black		
Grille	16-gauge perforated stainless steel grille with powder-coated finish and backed with an open-cell foam		
Environmental	Outdoor per IEC 529 IPX5 <sup>5</sup>		
Connectors	Two (2) parallel-wired NL4 Neutrik® Speakon® connectors		
Suspension / Mounting	Sixteen (16) points SAE 3/8" - 16 threaded inserts (4 each: top, bottom, sides), stainless steel		
Dimensions	34.6" H x 22.5" W x 17.8" D (879 mm x 572 mm x 451 mm)		
Net Weight	93 lb (42.3 kg)		
Shipping Weight	116 lb (52.6 kg)		
Product Code			
Black	323112-0110		

**Footnotes:**

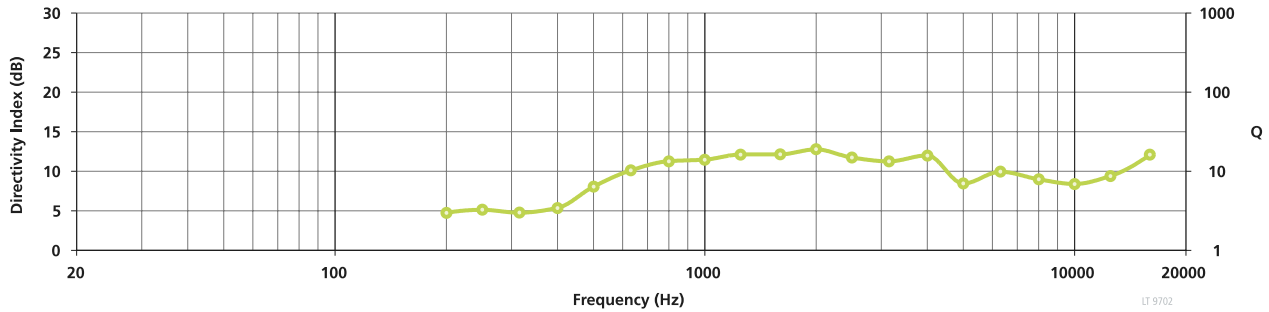
- <sup>1</sup> Frequency response and range measured on-axis with recommended active EQ in an anechoic environment.
- <sup>2</sup> Sensitivity measured in free field (no boundary-loading gain) with recommended active EQ, referenced to 1W/1m.
- <sup>3</sup> Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.
- <sup>4</sup> Power handling tested using pink noise filtered to meet IEC 268-5, 6 dB crest factor, 100 hours, with recommended EQ.
- <sup>5</sup> LT WR Loudspeaker must be mounted vertically for outdoor installations. Horizontal position (rotated 90 degrees) for indoor installations only.

# LT 9702<sup>®</sup> WR

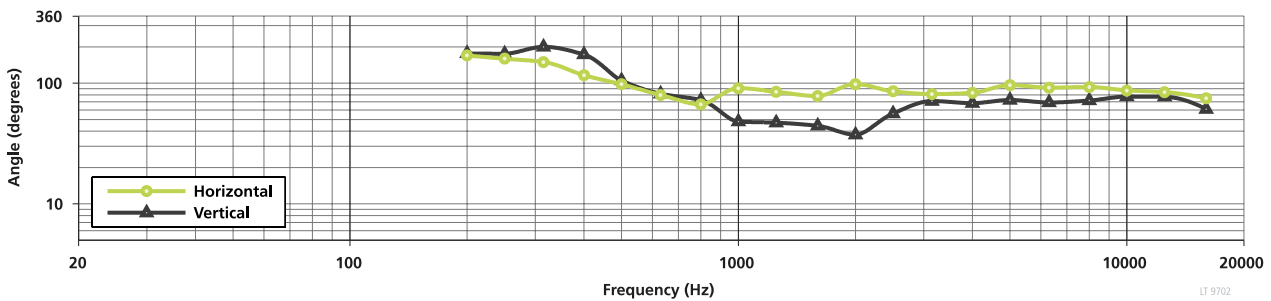
## high-output mid/high loudspeaker



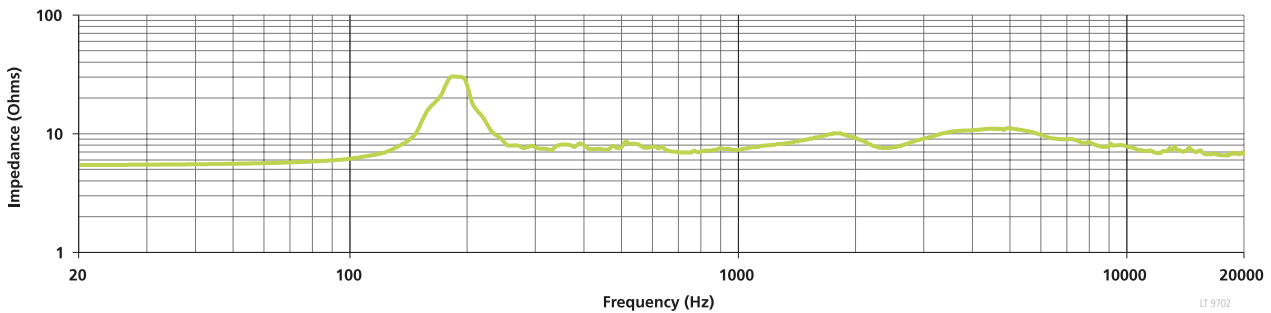
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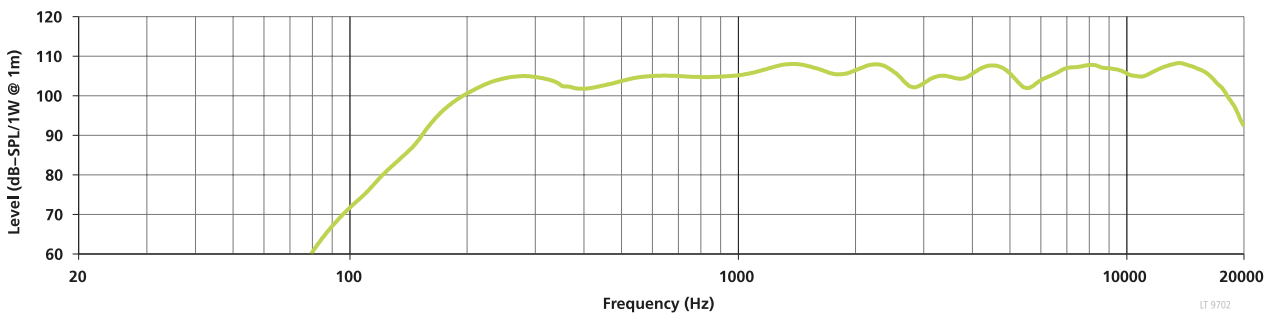
### Beamwidth



### Impedance



### On-Axis Response



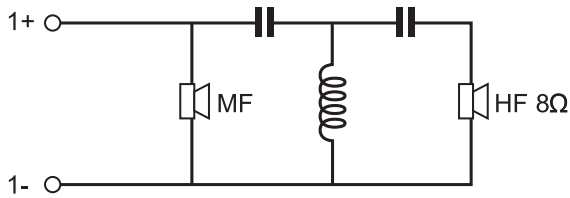
# LT 9702<sup>®</sup> WR

high-output mid/high loudspeaker

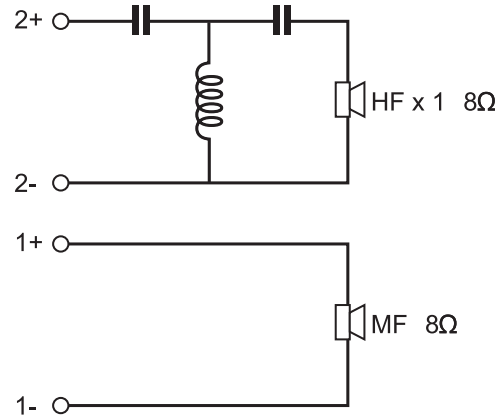


## Wiring Diagram

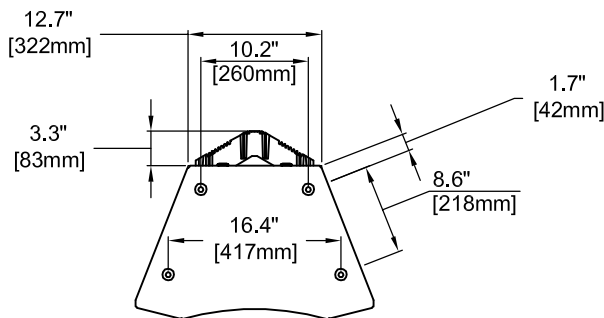
Passive



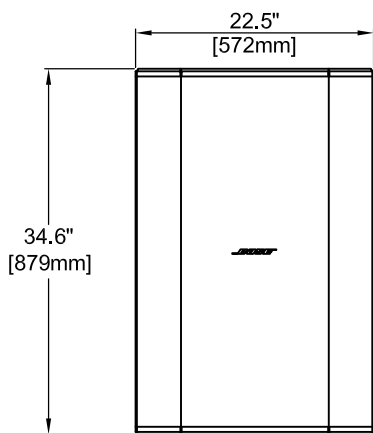
Biamped



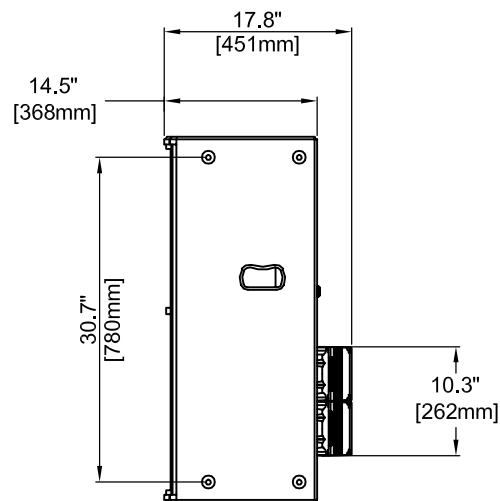
## Mechanical Diagrams



Top View



Front View



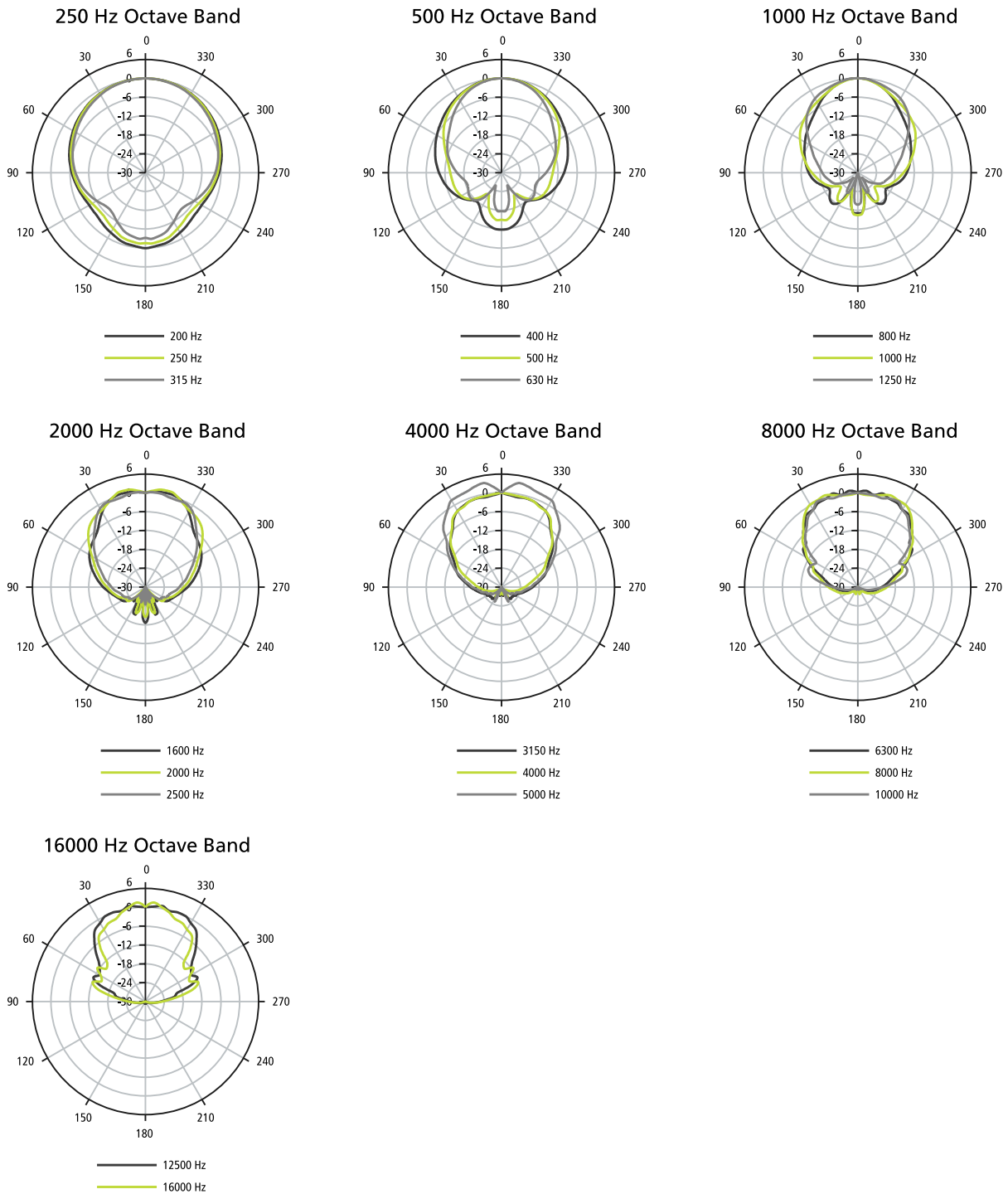
Right View

# LT 9702<sup>®</sup> WR

## high-output mid/high loudspeaker



### Horizontal Plots



LT 9702

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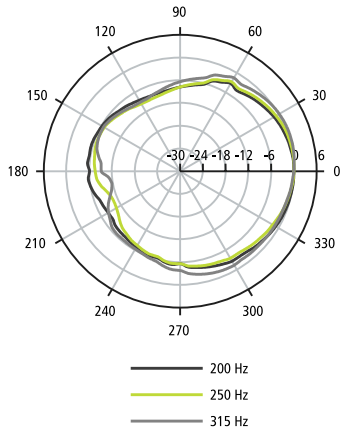
## high-output mid/high loudspeaker



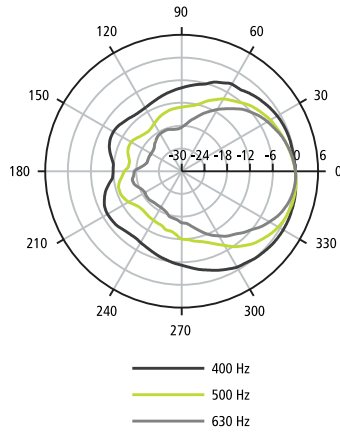
### Vertical Plots

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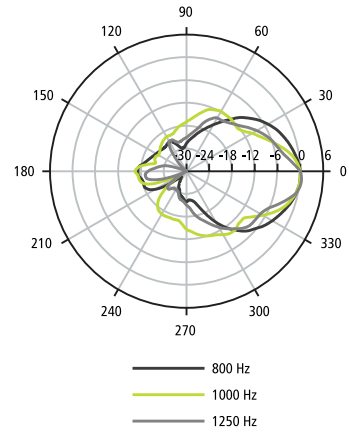
250 Hz Octave Band



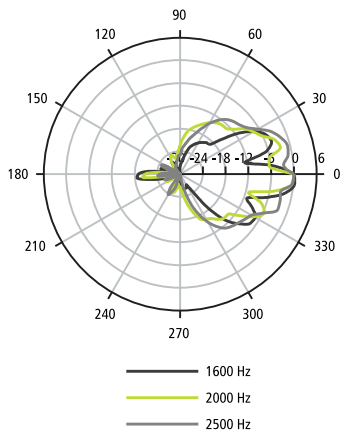
500 Hz Octave Band



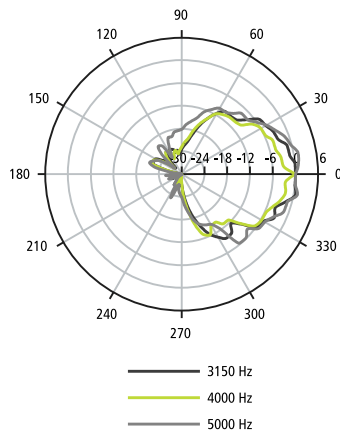
1000 Hz Octave Band



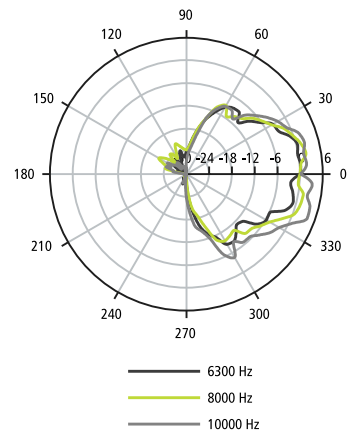
2000 Hz Octave Band



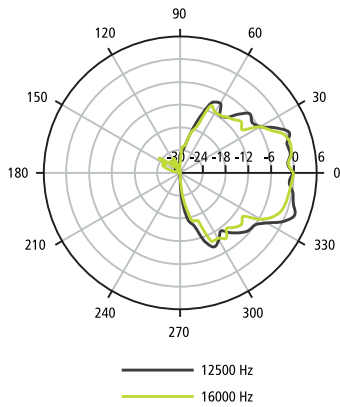
4000 Hz Octave Band



8000 Hz Octave Band



16000 Hz Octave Band



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### Architects' and Engineers' Specifications

The 2-way, mid/high-frequency loudspeaker shall contain a 3" (76 mm) diaphragm compression driver and two (2) midrange manifolds, each summing two (2) 4.5" (114 mm) cone drivers in a heat-sink/acoustic summation assembly. The transducers will exit into a large-format waveguide with 90° x 70° nominal beamwidth and effective pattern control to approximately 250 Hz (horizontal) and 500 Hz (vertical). An internal filter network with crossover of 1.6 kHz shall allow passive or bi-amp operation.

On-axis system frequency response shall be 220 Hz to 16 kHz (+/- 3 dB) with recommended crossover and active equalization. The system sensitivity shall be 105 dB SPL with 1 watt input and be capable of producing peak output of 132 dB SPL on axis at 1 meter. In passive mode, the system shall handle 140 watts of amplifier power (IEC 268-5 pink noise, 6 dB crest factor, for 100 hours) and have a nominal input impedance of 8 ohms. In bi-amp mode, the mid-frequency section shall handle 140 watts of amplifier power and have a nominal input impedance of 8 ohms, while the high-frequency section shall handle 75 watts of amplifier power and have a nominal input impedance of 8 ohms.

The trapezoidal enclosure shall be constructed of void-free, exterior-grade Baltic birch plywood with extensive internal bracing. The enclosure interior shall be treated with wood sealer and the exterior finished with a two-part spray polyurethane coating (Chemthane 7030 or equivalent) to resist weather elements and scuffing. The enclosure shall be covered by a 16-gauge perforated stainless steel grille with powder-coated finish and backed with an open-cell foam. The loudspeaker shall survive water incursion consistent with the IEC 529 IPX5 rating. The enclosure shall have sixteen (16) stainless steel threaded inserts (4 each: top, bottom, sides) that accept standard SAE 3/8"-16 rigging hardware. Inputs shall be two (2) NL4 Neutrik<sup>®</sup> Speakon<sup>®</sup> connectors. Loudspeaker dimensions shall be 34.6" x 22.5" x 17.8" (879 mm x 572 mm x 451 mm). Net weight shall be 93 lb (42.3 kg).

The 2-way, mid/high-frequency loudspeaker shall be the Bose<sup>®</sup> LT 9702<sup>®</sup> WR loudspeaker.