

# LT 6403

## full-range loudspeaker



### Key Features

- **60° x 40°** coverage for medium-throw applications in auditoriums, worship facilities, performing arts centers, and arenas
- **Full-range** loudspeaker with single 15" (381 mm) woofer provides 50 Hz bass to reduce need for additional low-frequency speakers in smaller venues
- **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 6403 loudspeaker utilizes a single Bose V2 midrange manifold
- **Bose large-format waveguide** provides effective 60° x 40° pattern control to approximately 800 Hz (horizontal) and 1.5 kHz (vertical). Minimizes loudspeaker overlap in arrays to reduce comb-filter interference and improve intelligibility



TECHNICAL DATA SHEET

### Product Overview

The Bose® LT 6403 is a full-range 3-way loudspeaker designed as the primary reinforcement source for smaller venues, or for use with other LT loudspeakers to form Coherent Zone arrays in medium to large venues. The large-format waveguide and 60° x 40° pattern deliver precise coverage and high intelligibility, providing a cost-effective alternative to multiple-cabinet line arrays for many applications.

### Technical Specifications

System Performance			
Frequency Response (+/-3 dB) <sup>1</sup>	50 Hz - 16 kHz		
Frequency Range (-10 dB) <sup>1</sup>	42 Hz - 18 kHz		
Nominal Dispersion	60° H x 40° V		
Sensitivity (SPL / 1 W @ 1 m) <sup>2</sup>	96 dB SPL		
Maximum SPL @ 1 m <sup>3</sup>	123 dB SPL (129 dB SPL peak)		
Crossover Type	Passive, Bi-Amp, Switchable		
Crossover Frequency	300 Hz and 1.8 kHz passive, 300 Hz bi-amp		
Recommended High-Pass Filter	40 Hz with 4th order filter (24 dB / octave)		
Loudspeaker EQ	Recommended		
	Passive	Bi-Amp	
		Mid	High
Long-Term Power Handling <sup>4</sup>	500 W (2000 W peak)	300 W (1200 W peak)	100 W (400 W peak)
Nominal Impedance	8 Ω	8 Ω	8 Ω
Transducers			
Driver Complement	HF: 1.75" (44 mm) voice coil compression driver MF: Bose V2 midrange manifold with 2 x 4.5" (114 mm) cone drivers LF: 15" (381 mm) woofer with 4" (102 mm) voice coil		
Physical			
Enclosure	Baltic birch plywood, 13-ply, 18 mm		
Finish	Polyurethane-based textured paint, black or white		
Grille	16-gauge perforated steel grille with powder-coated finish		
Environmental	Indoor use only		
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), steel		
Dimensions	34.4" H x 24.1" W x 22.6" D (873 mm x 612 mm x 575 mm)		
Net Weight	148 lb (67.1 kg)		
Shipping Weight	171 lb (76.5 kg)		
Product Code			
Black	040180		
White	040181 (Special Order Only)		

**Footnotes:**

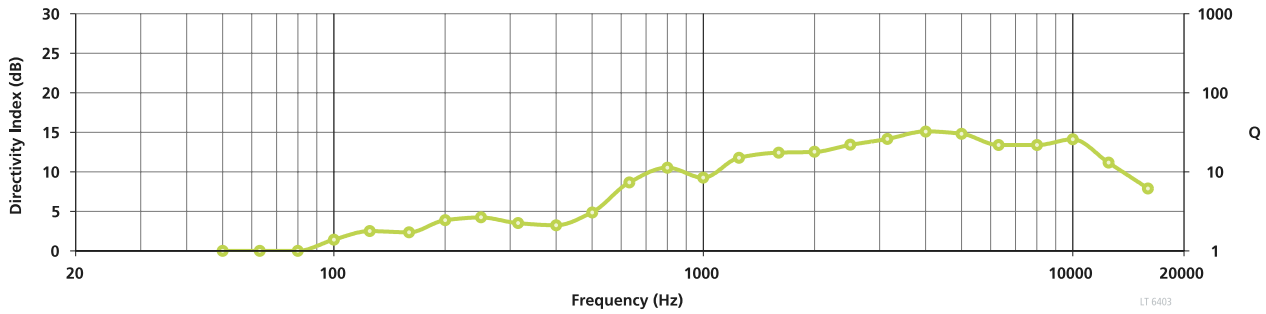
- <sup>1</sup> Frequency response and range measured on-axis with recommended active EQ in an anechoic environment.
- <sup>2</sup> Sensitivity measured in free field (no boundary-loading gain) with recommended active EQ, referenced to 1W/1m.
- <sup>3</sup> Maximum SPL calculated from sensitivity and 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.

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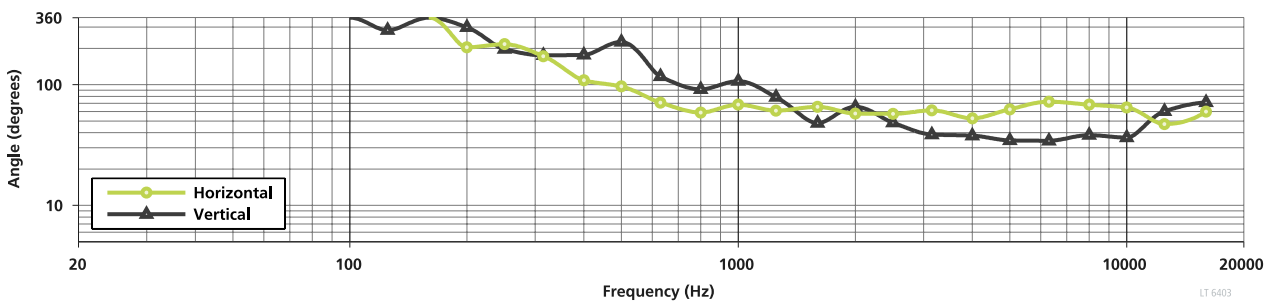
full-range loudspeaker



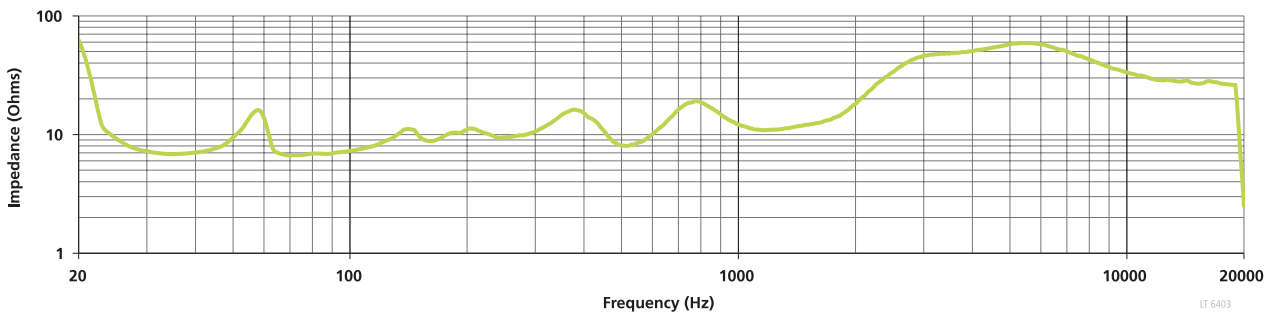
## Directivity Index and Q



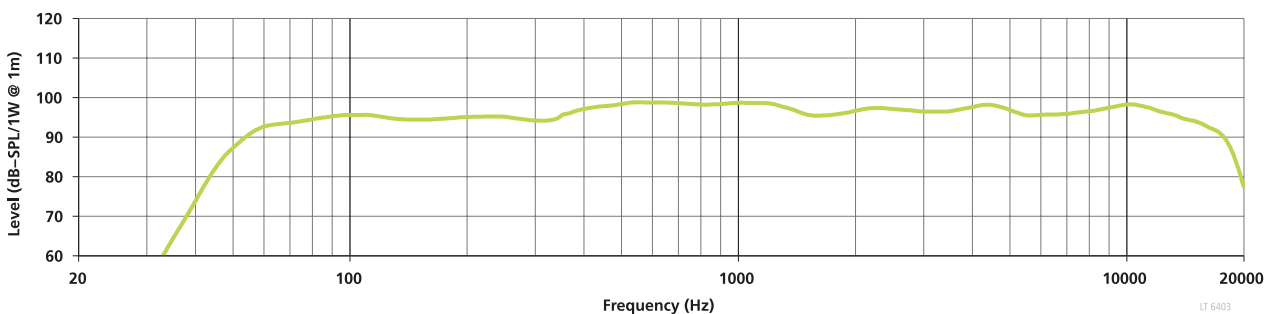
## Beamwidth



## Impedance



## On-Axis Response

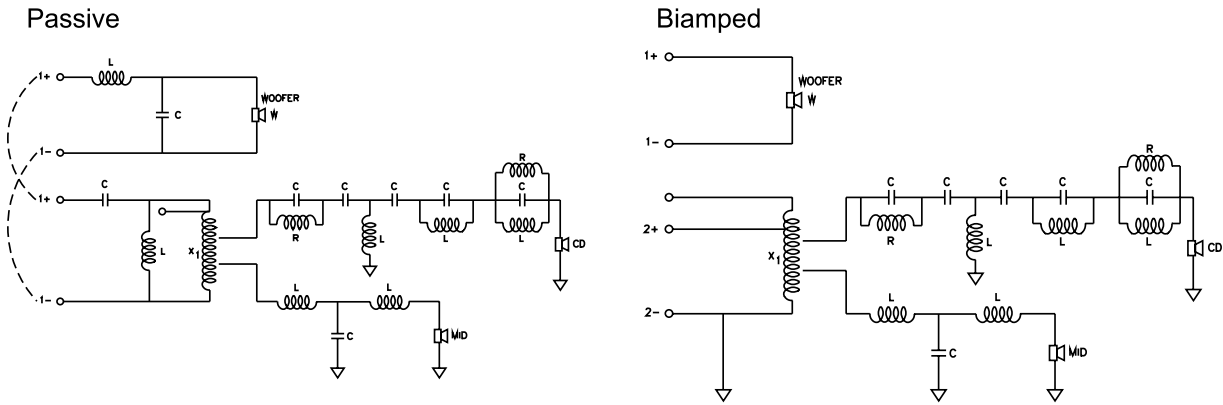


# LT 6403

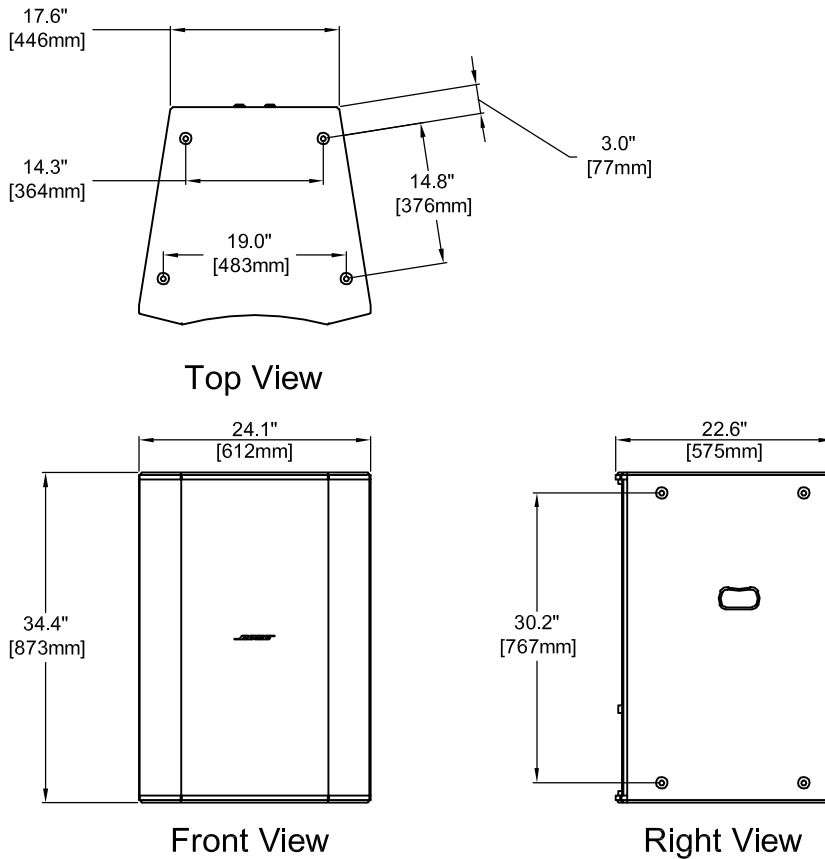
## full-range loudspeaker



### Wiring Diagram



### Mechanical Diagrams

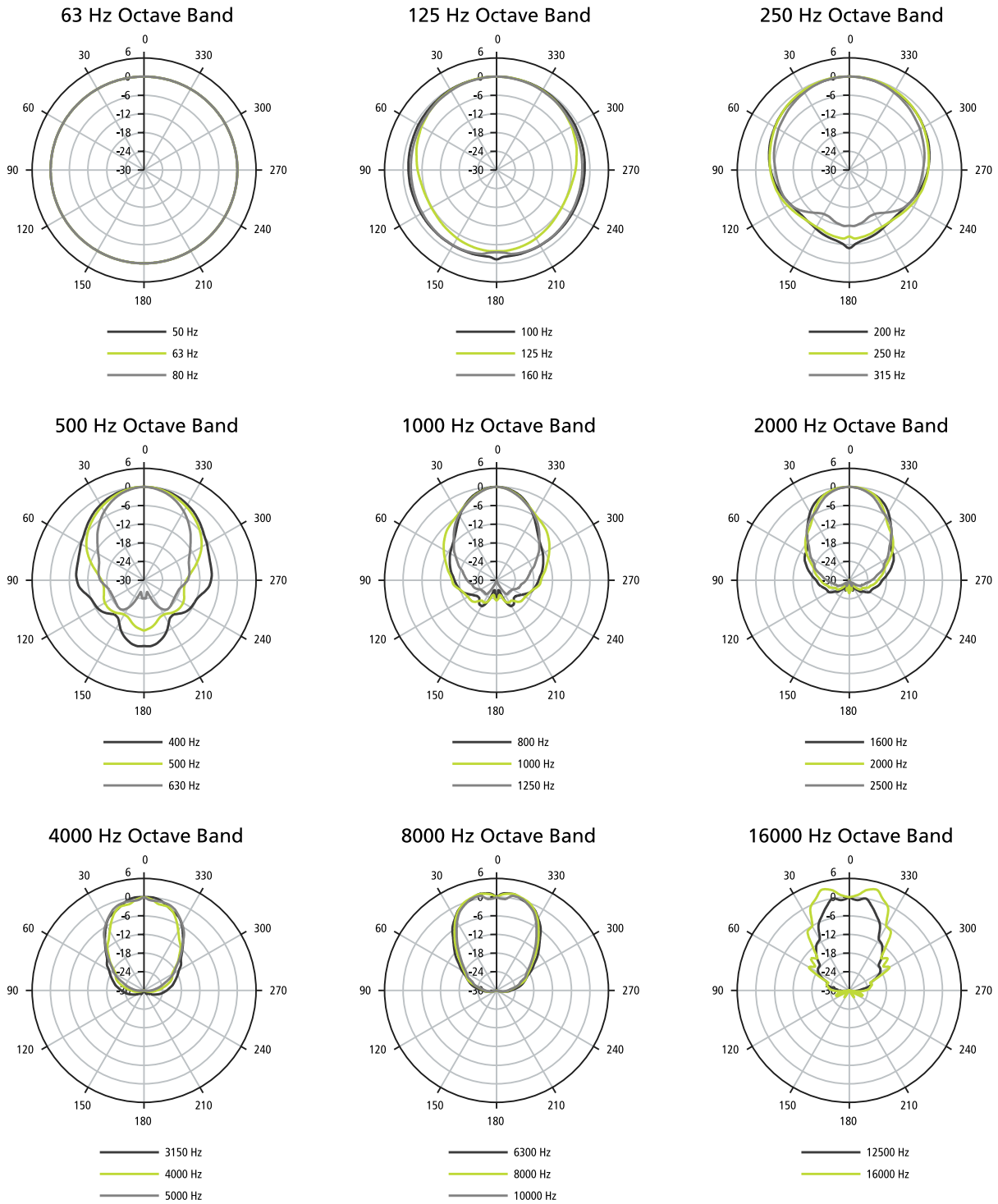


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## full-range loudspeaker



### Horizontal Plots



LT 6403

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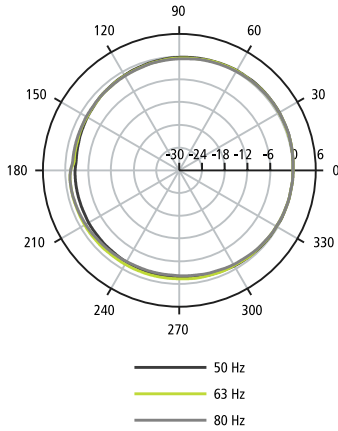
## full-range loudspeaker



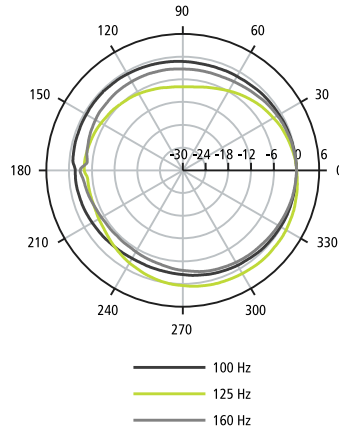
### Vertical Plots

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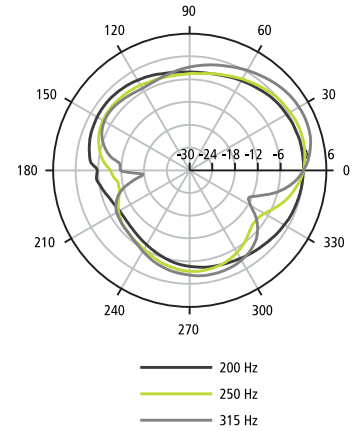
63 Hz Octave Band



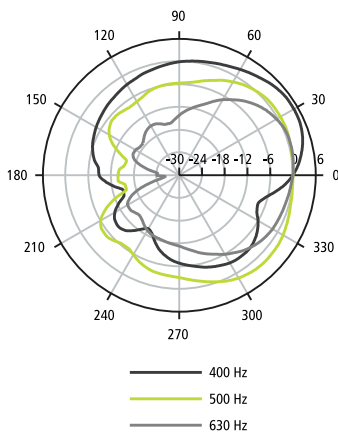
125 Hz Octave Band



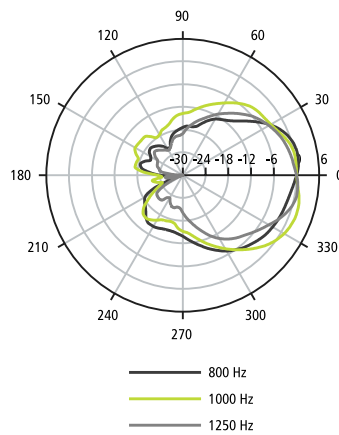
250 Hz Octave Band



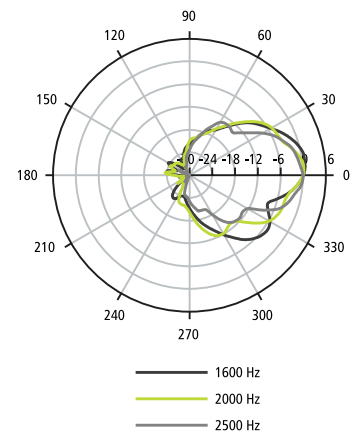
500 Hz Octave Band



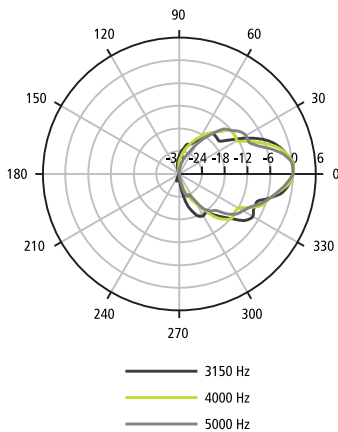
1000 Hz Octave Band



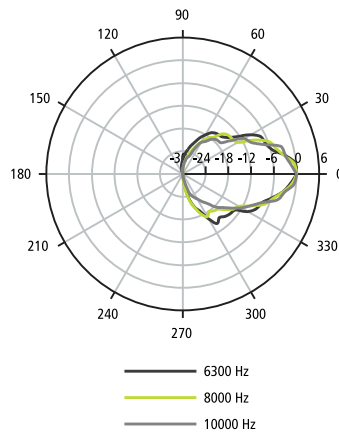
2000 Hz Octave Band



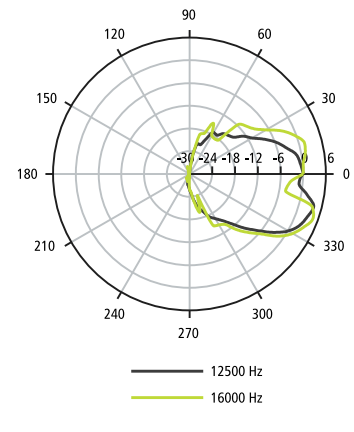
4000 Hz Octave Band



8000 Hz Octave Band



16000 Hz Octave Band



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### Architects' and Engineers' Specifications

The 3-way, full-range loudspeaker shall contain a 1.75" (44 mm) diaphragm compression driver, a midrange manifold, which utilizes two (2) 4.5" (114 mm) cone drivers in a heat-sink/acoustic summation assembly, and a single 15" (381 mm) woofer. The MF and HF transducers will exit into a large-format waveguide with 60° x 40° nominal beamwidth and effective pattern control to approximately 800 Hz (horizontal) and 1.5 kHz (vertical). The 15" (381 mm) woofer shall be loaded in a tapered transmission-line enclosure to reduce resonant peaks and port-turbulence noise. An internal filter network with crossover frequencies of 300 Hz and 1800 Hz shall allow passive or bi-amp operation.

On-axis system frequency response shall be 50 Hz to 16 kHz (+/- 3 dB) with recommended crossover and active equalization. The system sensitivity shall be 96 dB SPL with 1 watt input and be capable of producing peak output of 129 dB SPL on axis at 1 meter. In passive mode, the system shall handle 500 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 low-frequency section shall handle 300 watts of amplifier power and have a nominal input impedance of 8 ohms, while the mid/high-frequency section shall handle 100 watts of amplifier power and have a nominal input impedance of 8 ohms.

The trapezoidal enclosure shall be constructed of void-free, Baltic birch plywood with extensive internal bracing. The enclosure exterior shall be treated with a polyurethane-based paint that resists scuffing. The enclosure shall be covered by a 16-gauge perforated steel grille with powder-coated finish. The loudspeaker shall be rated for indoor use only. The enclosure shall have sixteen (16) steel threaded inserts (4 each: top, bottom, sides) that accept standard SAE 3/8"-16 rigging hardware. Inputs shall be two (2) NL4 Neutrik® Speakon® connectors. Loudspeaker dimensions shall be 34.4" x 24.1" x 22.6" (873 mm x 612 mm x 575 mm). Net weight shall be 148 lb (67.1 kg).

The 3-way, full-range loudspeaker shall be the Bose® LT 6403 loudspeaker.