

ST2400NANO

Ultra-Compact 10-Watt, 4" Ceiling Loudspeaker Assembly



Features

- Ceiling-mount “blind fit” loudspeaker assembly designed for high-quality foreground music and AV playback
- Exceptional sound quality with wide frequency bandwidth and uniform dispersion
- 20-Watt, 4" low-frequency driver mounted in a ported reflex enclosure provides exceptional bass response
- Coaxially-mounted 0.5" high-frequency transducer with waveguide delivers ultra-wide 150° nominal dispersion
- User switchable high-pass filter enables deployment with subwoofers
- Professional 4-pole Euroblock connector
- Ultra-compact 4" depth zinc-coated steel back-can with seismic restraint tab
- Loudspeakers packed in pairs with Split “C” ring and steel tile bridge support channels
- Detachable white powder-coated steel grille compliments any decor, optional black grill also available
- UL1480 and UL2043 rated and compliant with all applicable safety codes
- High-quality components and exceptionally rugged construction ensure long life

Product Overview

The ST2400NANO loudspeaker is a premium, full-range in-ceiling loudspeaker ideally suited for applications where superior quality is required. ST2400NANO's high-performance design makes it the obvious choice for conference rooms and restaurants, as well as the high-capacity rooms typically found in houses of worship, hotels, casinos, etc. Its robust design and feature set provide high power-handling and wide dispersion in a versatile, ceiling-mount package.

ST2400NANO's Voltage/Ohm selector switch facilitates the use of either low- or high-impedance amplifiers, and a built-in high-pass filter allows the ST2400NANO to be deployed in subwoofer-equipped systems without external crossovers.

The high-power 4" LF transducer is mounted in a ported reflex enclosure for exceptional bass response all the way down to 80 Hz in full-range mode. A coaxial, waveguide-mounted 0.5" HF transducer delivers clear, balanced treble response with 150° dispersion, preventing “dead” spots between speaker locations, often reducing the number of speakers required for large projects.

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Technical Specifications

• Frequency range (-10 dB)	80 Hz - 21 kHz
• Frequency response (-3 dB)	105 Hz - 20 kHz
• Power handling (pink noise)	10 W
• Max. power handling	20 W
• Sensitivity	86 dB, 1 W @ 1 m, 1/2 space
• Nominal dispersion	150°
• Directivity factor (Q)	3.8 averaged 500 Hz to 4 kHz
• Directivity factor (DI)	5.4 averaged 500 Hz to 4 kHz
• Crossover frequency	4 kHz
• Nominal impedance	8 Ω
• Maximum SPL (low impedance)	99 dB @ 1 m
• Transformer taps @ 70 V	10, 5, 2.5, 1.25 W
• Transformer taps @ 100 V	10, 5, 2.5W, n/a

Transducers

• Low frequency driver	4"
• High frequency driver	½"

Physical

• Baffle	Plastic
• Back can	Steel
• Termination	4-pole Euroblock
• Outside diameter	7.9" / 201 mm
• Inside depth	5.2" / 130 mm
• Cutout size	6.9" / 175 mm
• Net weight	4.51 lbs / 2.05 kg
• Shipping/gross weight (by pair)	18.26 lbs / 8.3 kg
• Included accessories	Mounting C-ring and tile rail
• Optional accessories	Plaster ring (ST2400 PR) Black grille (ST2400-BG)

Safety Agency Rating Information

Rated for use in air handling spaces per UL1480, UL2043, NFPA70 and NFPA90.
All ST2000 series ceiling speakers are in compliance with applicable fire codes.

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Architect's and Engineer's Specifications

Summary Description: The loudspeaker shall be of the in-ceiling type, with a 4" (102 mm) low-frequency transducer, a waveguide-mounted 0.5" (13 mm) high-frequency transducer and an internal crossover installed in a ported enclosure.

Performance specifications shall be as follows: Measured sensitivity at least 86 dB-SPL at 1 m (3.3 feet) with 2.83 V input, averaged from 100 Hz to 10 kHz). Usable frequency response shall extend from 80 Hz - 21 kHz (10 dB below rated sensitivity in half-space) with no external equalization. Rated power shall be at least 10 watts continuous pink noise power, defined as conforming to international standard IEC268-5 (shaped pink noise with peak-to-average ratio of 6 dB) for a period of 100 continuous hours. The high-frequency transducer shall be waveguide-loaded to cover a minimum 150° polar conical coverage area.

Enclosure: The back can shall be made of formed steel with a waveguide/baffle of UL94V-0 fire rated medium impact polystyrene and enclosed terminal box shall be included with strain relief for use with either plenum-rated wire, 0.5" (13 mm) inside diameter conduit, or flexible conduit up to 0.75" (19 mm) outside diameter. External wiring shall be accomplished via a removable lockable wiring connector with screw-down terminals to provide both secure wire termination and prewiring capability. Secondary cabling to building structure support shall be provided via an attachment loop on the back panel.

Mounting: The system shall include a backing plate to reinforce the ceiling material plus tile support rails for 2 x 4 foot (600 x 1200 mm) suspended ceiling tiles, all to be installable from beneath the ceiling tile. Overall front face diameter shall not exceed 7.9" (201 mm), overall depth from the bottom of the ceiling shall not exceed 5.81" (148 mm), and shall weigh no more than 4.84 lbs / 2.20 kg.

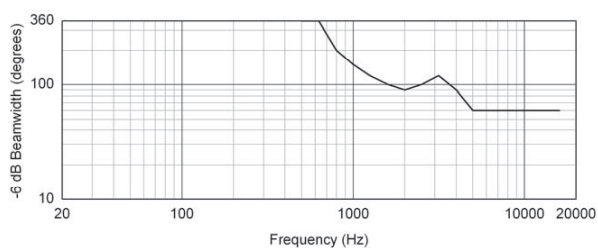
Electrical: Nominal impedance shall be 8 Ω . The loudspeaker shall be equipped with transformer for use in either 70 or 100 V distributed-line speaker systems, with taps selectable by rotary switch accessed by removing the speaker grille. Taps shall be 10 W @ 70 V, 5 W @ 70 V (10 W @ 100 V), 2.5 W @ 70 V (5 W @ 100 V), and 1.25 W @ 70 V (2.5 W @ 100 V).

Model: The loudspeaker shall be the BEHRINGER EUROCOM ST2400NANO.

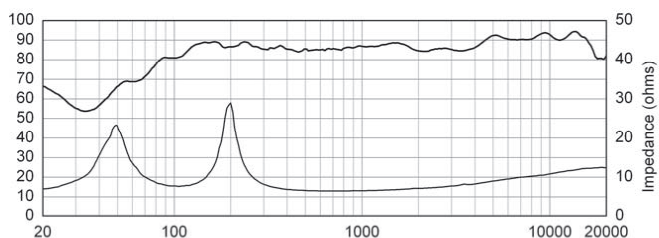
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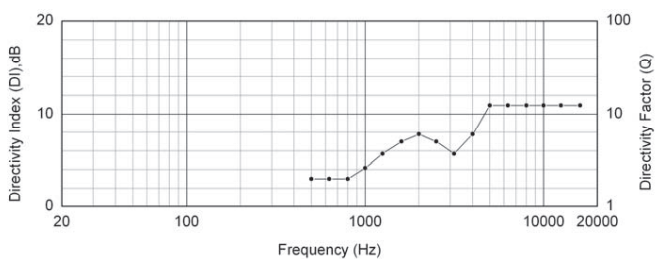
Beamwidth VS. Frequency



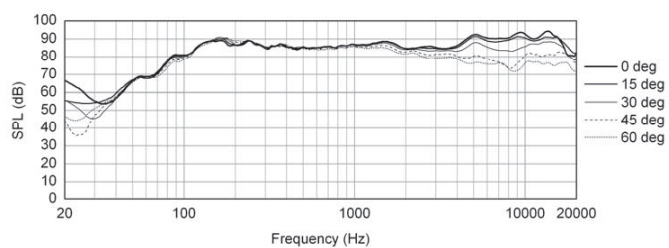
Half-Space Frequency Response (1 Watt / 1 meter) and Impedance



Directivity Index, Q



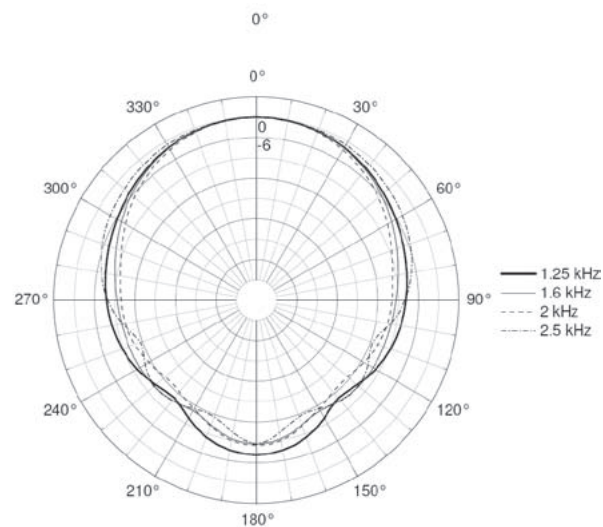
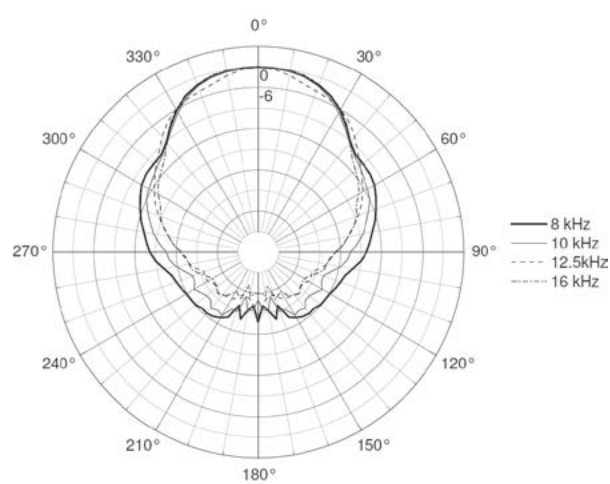
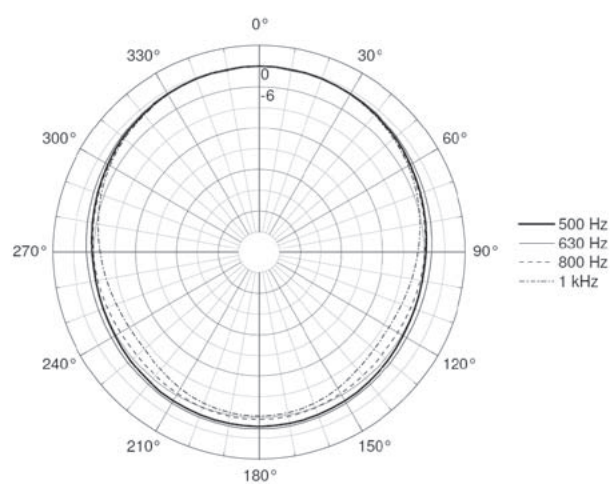
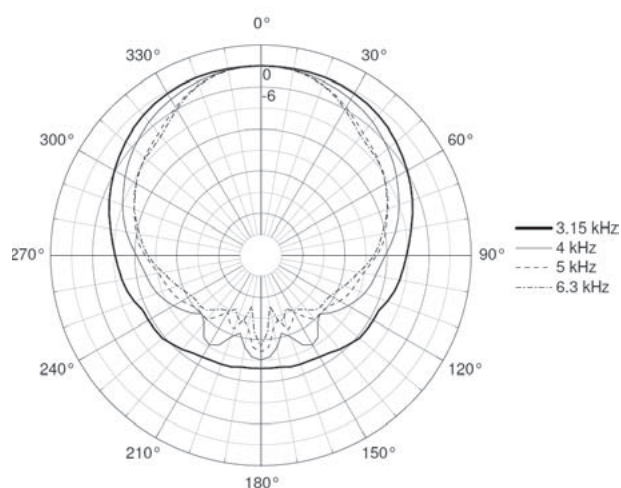
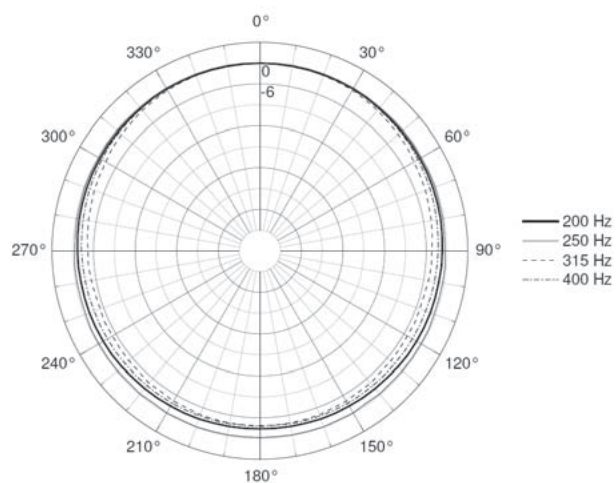
Off-Axis Frequency Response(1/3 Octave Average)



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1/3 Octave Polar Patterns



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Dimensional Drawings

