

DATA SHEET

BIAMP BMA 360D

CEILING TILE MICROPHONE

The BMA 360D with Dante® audio is a ceiling tile microphone array designed to work with any Dante-enabled DSP mixer. It delivers exceptional audio performance with flexible integration for a wide range of conferencing applications.



FEATURES

- Pure beam audio over Dante — Unprocessed beam audio is delivered on individual Dante transmit channels, with one channel for each beam. A separate smart-switched output provides the best talker selection along with built-in echo cancellation, noise cancellation, and level control.
- Natural, consistent audio capture — Ultra-wideband, frequency-invariant beamforming with FiBeam™ and DsBeam™ technology delivers uniform gain response across all frequency bands for clear, full-fidelity speech across every beam.
- Flexible coverage for more room types — Preset beam patterns support common room layouts, while custom beam options and adaptive steering help optimize coverage for unique spaces.
- Supports advanced room functions — Precise beamforming and adaptive steering enable strong performance for voice lift and camera tracking when paired with a compatible DSP mixer.
- Built-in amplification for added flexibility — Individual Dante receive channels drive integrated power amplifiers configurable as 4 x 15 watts or 2 x 30 watts for loudspeaker support.
- Designed for easy installation — Supports standard 600 mm x 600mm and 24-inch x 24-inch ceiling grids, with VESA mounting for pole installation and optional hard-ceiling mount adapter kits available.

ARCHITECTS & ENGINEERS SPECIFICATIONS

The Beamforming Microphone Array Ceiling Tile shall provide up to twelve (12) simultaneous FiBeam™ and DsBeam™ frequency-invariant beams with selectable beam widths of 35°, 45°, or 55°, and configurable coverage patterns for various room geometries. The system shall support custom beam pointing with precise horizontal and vertical aiming and shall operate over a frequency range of 100 Hz to 20 kHz. Advanced audio processing shall include acoustic echo cancellation, noise cancellation up to 25 dB, automatic level control, preprocessing and post-AEC filtering, and beam silencing. The Beamforming Microphone Array shall include an integrated power amplifier providing four (4) channels at 15 watts each, bridgeable to two (2) channels at 30 watts each, with speaker connections via Phoenix-type Euroblock connectors. Audio networking, power, and control shall be provided via a single RJ-45 connection supporting Dante® audio, TCP control, and PoE+/PoE++ power. The unit shall be compatible with all Dante-enabled devices. The Beamforming Microphone Array shall fit standard 24-inch and 600-mm ceiling grids, support VESA® mounting, and offer optional adapters for hard-ceiling installation. Configuration shall be performed using manufacturer-provided software, and the system shall support text-based TCP control commands including beam activity reporting for camera tracking. Warranty shall be three (3) years. The Beamforming Microphone Array Ceiling Tile shall be the BMA 360D.

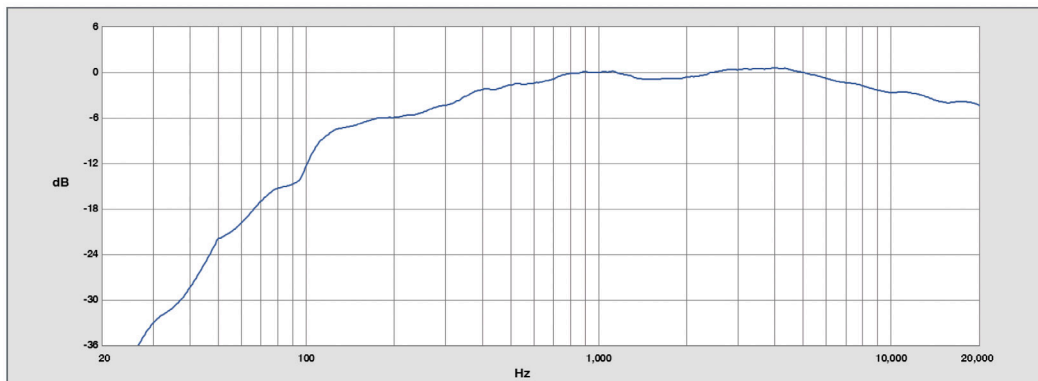
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BIAMP BMA 360D SPECIFICATIONS

<p>BEAMFORMING FEATURES</p> <p>True Frequency Invariant Beamformer: Gain response is unvarying across frequency</p> <p>Beamwidths: 35 °, 45 ° and 55 ° with Frequency Invariance</p> <p>Beamforming Range: 100 Hz to 20 kHz</p> <p>Deep Sidelobes: Down to 45 dB of depth</p> <p>Beam Pointing Accuracy: 0.2 dB</p> <p>Dynamic Range: 20 Hz to 20 kHz, > 70 dB</p> <p>Number of Beams: Up to 12</p> <p>Room Patterns: Full Circle/Square Rectangular Semi-Circle/Classroom Custom Beams</p> <p>Coverage Sizes: Up to 600 square feet/58 square meters</p> <p>Ceiling Height: Configurable with BMA Config from 7 ft to 20 ft</p> <p>AMPLIFIER OUTPUT</p> <p>Type: 5.08 mm Header, Phoenix-type Euroblock</p> <p>Audio: 4 channels</p> <p>Output Power: 4 x 15 W Max, 8 Ω load, or 2 x 30 W, 4 Ω load, Bridged</p> <p>Frequency Response: 20 Hz - 22 kHz, +/- 0.5 dB</p> <p>CONFIGURATION</p> <p>Acoustic Echo Cancellation (AEC) On/Off Noise Cancellation (NC) on/off. Range: 6 to 25 dB depth Automatic Level Control (ALC) On/Off Gain Adjust Mute On/Off</p> <p>SOFTWARE</p> <p>BMA Config</p>	<p>OVERALL DIMENSION</p> <p>Height: 23.7 inches</p> <p>Width: 23.7 inches</p> <p>Depth: 2.1 inches</p> <p>Weight: 11.1 lbs (5.0 kg)</p> <p>Shipping Weight: 14.2 lbs (6.4 kg)</p> <p>MOUNTING</p> <p>Ceiling Mount: 24 in drop-ceiling grid</p> <p>VESA® Mount ready: 100 mm hole pattern, M 4 x 10 mm</p> <p>POE++ PORT</p> <p>Port Type: RJ-45 PoE++ power Power on all pairs 56 V 90 W IEEE 802.3 bt compliant devices or equivalent, Mode A and B, Midspan Cable: Solid core, 23 AWG, factory terminated Cat 6</p> <p>POE REQUIREMENTS</p> <p>No speakers: 30 W PoE+</p> <p>Speakers: Requires 56 V 90 W IEEE 802.3 bt PoE++</p> <p>POWER AND THERMAL</p> <p>Power Source: PoE injector or equivalent</p> <p>Power Consumption: 100-240 VAC, 50/60 Hz 23 Watt typical without speaker amp 55 W at 1/3 power x 4 @ 1 kHz 270 BTU/hr at max power</p> <p>Thermal: 270 BTU/hr at max power</p> <p>Operating Temperature: 14 °F/-10 °C to 104 °F/40 °C ambient temperature</p> <p>ACCESSORIES</p> <p>Biamp BMA 360D-SM: BMA 360 Surface-Mount Kit 24 in</p> <p>Biamp BMA 360D-RM: BMA 360 Recessed-Mount Kit 24 in</p>
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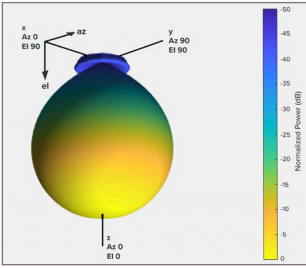
FREQUENCY RESPONSE (BROADSIDE)

Typical Frequency Response



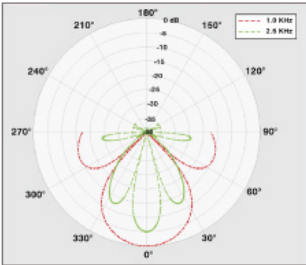
Frequency response measured directly on-axis from a distance of 2 meters.

FREQUENCY INVARIANT AND DEEP SIDELobe BEAMFORMING



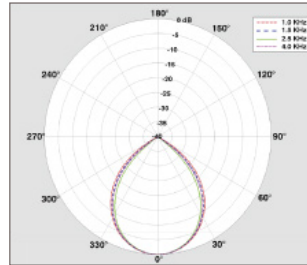
Deep Sidelobe Beamforming

Deep Sidelobe Beamforming, DsBeam™, provides unparalleled sidelobe depth, below -40 dB, resulting in superior rejection of reverb and noise, even in difficult spaces, for superb clarity and intelligibility.



Typical Beamforming

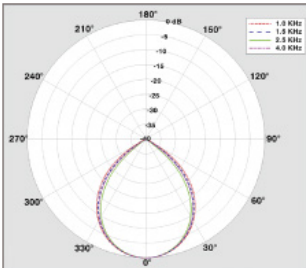
A set of polar plots illustrating a beamformer that varies with gain and coverage that vary with frequency, and that has unwanted large sidelobes.



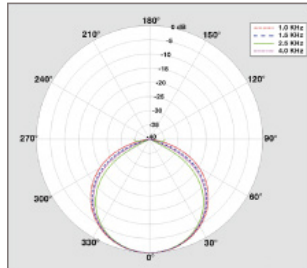
Biamp BMA 360D Beamforming with FiBeam™ and DsBeam™

A set of polar plots of the BMA 360D beam performance. These plots show that the pickup pattern is frequency invariant with ultra-low sidelobes below -40 dB.

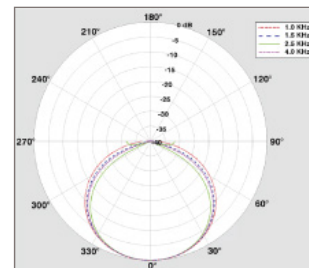
POLAR PLOTS (BROADSIDE)



Narrow Beam, HPBW = 35 Degrees



Medium Beam, HPBW = 45 Degrees



Wide Beam, HPBW = 55 Degrees

Typical Far Field Performance

Gain response is frequency invariant for all beamwidths

HPBW = Half Power Beamwidth