BMA 360D

Architectural and Engineering Specification

Beamforming Audio Performance

The Beamforming Microphone Array Ceiling Tile (BMA) shall provide up to 12 simultaneous beams. The BMA shall provide selectable coverage patterns accounting for different room shapes and sizes including rectangular, square, circular, and semi-circular designs. The BMA shall provide custom pointing to allow the beams to be configured to point at unique angles and elevations.

The BMA shall have the following beamforming performance parameters:

- Selectable beam widths of 35°, 45°, and 55° with frequency invariance.
- True Frequency Invariance (FiBeam™) in the beam pickup pattern across the voice range.
- Deep Sidelobes (DsBeam™) with a depth to 45 dB.
- Beamforming Range of 100 Hz to 20 kHz with a dynamic range that is greater than 70dB.
- Beam Pointing Accuracy of 0.2 dB.

Advanced Audio Processing and Control

The BMA shall include the following SmartMix advanced audio processing functions:

- 6th Generation ClearOne Acoustic Echo Cancellation (AEC) processing.
- Noise Cancellation (NC) of up to 25 dB depth.
- Automatic Level Control (ALC) advanced speech normalization companding algorithm.
- Preprocessing audio optimization filtering features.
- Post-AEC filtering features.
- Beam silencing algorithm.

Power Amplifier

The integrated power amplifier shall provide 4 channels of 15 Watts each and be bridgeable to 2 channels of 30 Watts each. The frequency response of the power amplifier shall be 20 Hz to 22 kHz. The speaker wires shall be terminated using four 5.08 mm header, Phoenix-type Euroblock connectors.

Power and Connectivity

The BMA shall provide an RJ-45 jack for Dante®, PoE+/PoE++ power, and TCP control.

The Dante interface shall provide 13x5 audio channels that provide twelve beam outputs, one smart mix output, four amplifier inputs, and one echo cancellation reference input. The BMA shall be compatible with all Dante-enabled audio devices such as DSP mixers, conferencing systems, and computers.

The BMA shall receive power from the RJ-45 jack from a 90 Watt PoE++ injector when speakers are being used or a 36 Watt Poe+ injector when speakers are not being used.

Dimensions and Mounting

The BMA shall fit 24 IN and 600 mm drop-ceiling grid sizes.

The BMA shall be VESA® mount ready with 100 mm hole pattern for use with M4x10 mm screws.

The BMA shall have optional adapter kits to mount the BMA to hard ceilings.

Configuration and Control

The BMA shall be configured through the RJ-45 jack using CONSOLE® AI Lite software. The BMA shall be controlled by external controllers through the RJ-45 jack using text commands through TCP connection.

The BMA shall provide a BEAMREPORT text command to give reporting of beam activity for camera tracking systems.

Warranty

The BMA warranty period shall be 3 years from the date the product is sold to the end customer.

Conclusion

The Beamforming Microphone Array Ceiling Tile shall be the BMA 360D.