# DATA SHEET
# TESIRA® TCM-1EX
# EXPANSION AVB BEAMTRACKING™ CEILING MICROPHONE

The TCM-1EX is an expansion AVB ceiling microphone for use in Tesira systems. Comprising a pendant microphone and plenum box, each microphone includes Beamtracking™ technology with three 120-degree zones, providing full 360-degree coverage of the meeting space. The TCM-1EX microphone actively tracks and intelligently mixes conversations from around the table, allowing far-end conference participants to experience the conversation naturally. The Tesira TCM-1EX is intended to be used as a second and third microphone in conjunction with a TCM-1 or TCM-1A; it cannot operate as a standalone device. Each plenum box comes with an additional RJ-45 connector for daisy-chain connections. A maximum of three microphones are permitted per daisy chain (one TCM-1 or TCM-1A required, plus up to two TCM-1EX). The TCM-1EX is well suited for a variety of room types and sizes that require high-quality audio solutions, such as conference rooms or council chambers.

## FEATURES

- Must be used with a Tesira TCM-1 or TCM-1A microphone
- Beamtracking technology actively tracks and intelligently mixes conversations
- Three 120-degree zones for 360 degrees of coverage
- LED mute status indicator
- Pendant microphone available in either white or black
- User-adjustable mic height
- Easy single-cable installation process
- Optional tile bridge mounting accessory available
- Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces
- Additional RJ-45 for daisy-chain connection to another TCM-1EX microphone (maximum of three mics per daisy chain; one TCM-1 or TCM-1A and two TCM-1EX)
- CE marked, UL listed, and RoHS compliant
- Covered by Biamp Systems' five-year warranty

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biamp. A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA T: +1 503.641.7287 W: www.biamp.com

## ARCHITECTS & ENGINEERS SPECIFICATIONS

The expansion Beamtracking™ ceiling microphone shall be designed exclusively for use with Biamp® Tesira® systems. The expansion Beamtracking ceiling microphone shall be comprised of a pendant microphone and plenum box. The expansion Beamtracking ceiling microphone shall utilize a proprietary digital protocol via an RJ-45 connector for audio networking with a TCM-1 or TCM-1A Beamtracking ceiling microphone. The expansion Beamtracking ceiling microphone shall contain eight-element microphones, and shall provide three 120-degree zones for 360 degrees of coverage. The expansion Beamtracking ceiling microphone shall offer multidirectional beamforming and automatic signal tracking capabilities. The Beamtracking technology shall operate in conjunction with acoustic echo cancellation technology (AEC) in accordance with U.S. Patent 9659576. The signal processing of the expansion Beamtracking ceiling microphone shall be configurable via the Tesira design software, including but not limited to: signal routing and mixing, equalization, filtering, dynamics, and delay, as well as control, monitoring, and diagnostic tools. The expansion Beamtracking ceiling microphone shall offer simple installation and microphone height adjustment, and shall be mountable on a ceiling tile or in open-ceiling environments. The expansion Beamtracking ceiling microphone shall be suitable for use in air handling spaces in accordance with UL 2043, and shall provide a second RJ-45 connector to allow up to three microphones to be daisy-chained together. The expansion Beamtracking ceiling microphone shall be CE marked, UL listed, and compliant with the RoHS directive. Warranty shall be five years. The expansion Beamtracking ceiling microphone shall be Tesira TCM-1EX.

## TESIRA TCM-1EX SPECIFICATIONS

### PENDANT MICROPHONE

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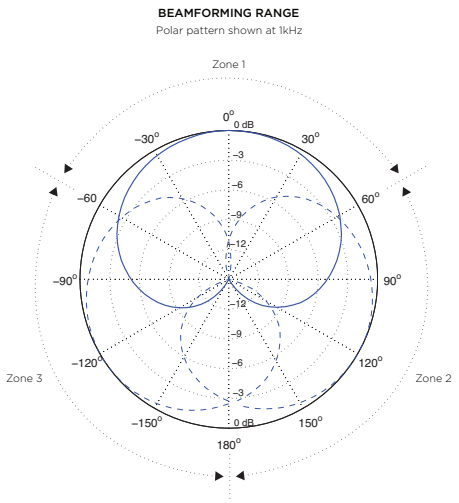
|---|---|
| **Microphone Technology:** | 8-Element Digital Array |
| **Frequency Response (150 Hz - 16 kHz):** | ± 3dB |
| **Polar Pattern:** | Beamformed |
| **Sensitivity (94dB SPL, 1kHz):** | > 70dB |
| **Maximum SPL (at 0.5% THD):** | 106dB |
| **Dynamic Range (THD+N < 10%):** | 92 dB, A-Weighted |
| **Indicators:** | Mute Indicator (Green/Red LED) |
| **Digital Interface:** | Custom/Proprietary |
| **Connector:** | Custom 2-pin (cable length 16 feet [5 meters]) |
| **Overall Dimensions:** | |
| **Height:** | 2 inches (51 mm) |
| **Width:** | 2.5 inches (63 mm) |
| **Depth:** | 2.5 inches (63 mm) |
| **Weight:** | 0.4 lbs (0.2 kg) |

### PLENUM BOX

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|---|---|
| **Connectors:** | Two RJ-45: one between TCM-1EX plenum box and TCM-1 or TCM-1A, the other between TCM-1EX plenum box and additional TCM-1EX plenum box; 2-pin 3.5 mm Phoenix connector to TCM-1EX microphone |
| **Power:** | Custom/Proprietary |
| **Indicators:** | Link Indicator (Green LED) |
| **Digital Interface:** | Custom/Proprietary |
| **Max Distance Between Devices:** | 33 feet (10 meters) between TCM plenum boxes |
| **Overall Dimensions:** | |
| **Height:** | 2 inches (51 mm) |
| **Width:** | 4 inches (102 mm) |
| **Depth:** | 5.25 inches (133 mm) |
| **Weight:** | 0.8 lbs (0.4 kg) |
| **Environmental:** | |
| **Ambient Operating Temperature Range:** | 32 - 104° F (0 - 40° C) |
| **Humidity:** | 0-95% relative humidity (non-condensing) |
| **Altitude:** | 0-10,000 ft (0-3000m) MSL |
| **Compliance:** | FCC Part 15B (USA)<br>CE marked (Europe)<br>UL and C-UL listed (USA and Canada)<br>RoHS Directive (Europe)<br>Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces |