

# DATA SHEET

## TESIRA® TCM-1

### AVB BEAMTRACKING™ CEILING MICROPHONE

The TCM-1 is an 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-1 microphone actively tracks and intelligently mixes conversations from around the table, allowing far-end conference participants to experience the conversation naturally. The Tesira TCM-1 comes with its own digital signal processing module for beamtracking, and 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-1 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

- Beamtracking technology actively tracks and intelligently mixes conversations
- Three 120-degree zones for 360 degrees of coverage
- Plenum box includes DSP for beamtracking
- LED mute status indicator
- User-adjustable mic height
- Easy single-cable installation process
- Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces
- Additional RJ-45 for daisy-chain connection to a 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

#### ARCHITECTS & ENGINEERS SPECIFICATIONS

The beamtracking™ ceiling microphone shall be designed exclusively for use with Tesira® systems. The beamtracking ceiling microphone shall be comprised of a pendant microphone and plenum box. The beamtracking ceiling microphone shall utilize an AVB/TSN network via an RJ-45 connector for audio networking as well as software configuration and control. The beamtracking ceiling microphone shall contain eight-element microphones, and shall provide three 120-degree zones for 360 degrees of coverage. The 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 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 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 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 two additional expander TCM-1EX microphones to be daisy-chained together. The beamtracking ceiling microphone shall be CE marked, UL listed, and compliant with the RoHS directive. Warranty shall be five years. The beamtracking ceiling microphone shall be Tesira TCM-1.

## TESIRA TCM-1 SPECIFICATIONS

<b>PENDANT MICROPHONE</b>		<b>PLENUM BOX</b>	
<b>Microphone Technology:</b>	8-Element Digital Array	<b>Network Connection:</b>	RJ-45 with Ethernet cable (Cat 5e and above)
<b>Frequency Response (TBD):</b>	± 3dB	<b>Power:</b>	IEEE 802.3at Class 4
<b>Polar Pattern:</b>	Beamformed	<b>Indicators:</b>	Power Indicator (Green/Red LED)
<b>Sensitivity (94dB SPL, 1kHz):</b>	> 70dB	<b>Digital Interface:</b>	Custom/Proprietary
<b>Maximum SPL (at 0.5% THD):</b>	106dB	<b>Connectors:</b>	Two RJ-45: one between TCM-1 plenum box and switch, the other between TCM-1 plenum box and additional TCM-1EX plenum box; 2-pin 3.5 mm Phoenix connector to TCM-1 microphone
<b>Dynamic Range (THD+N &lt; 10%):</b>	92 dB, A-Weighted	<b>Max Distance Between Devices:</b>	330 feet (100 meters) from switch to TCM-1 plenum box; 33 feet (10 meters) for daisy-chained connections between TCM plenum boxes
<b>Indicators:</b>	Mute Indicator (Green/Red LED)	<b>Overall Dimensions:</b>	
<b>Digital Interface:</b>	Custom/Proprietary	<b>Height:</b>	2 inches (51 mm)
<b>Connector:</b>	Custom 2-pin (cable length 4.9 feet [1.5 meters])	<b>Width:</b>	7 inches (178 mm)
<b>Overall Dimensions:</b>		<b>Depth:</b>	7.125 inches (181 mm)
<b>Height:</b>	2 inches (51 mm)	<b>Weight:</b>	0.86 lbs (0.39 kg)
<b>Width:</b>	2.5 inches (63 mm)	<b>Environmental:</b>	
<b>Depth:</b>	2.5 inches (63 mm)	<b>Ambient Operating Temperature Range:</b>	32 - 104° F (0 - 40° C)
<b>Weight:</b>	0.38 lbs (0.17 kg)	<b>Humidity:</b>	0-95% relative humidity (non-condensing)
		<b>Altitude:</b>	0-10,000 ft (0-3000m) MSL
		<b>Compliance:</b>	FCC Part 15B (USA) CE marked (Europe) UL and C-UL listed (USA and Canada) RoHS Directive (Europe) Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces

