DATA SHEET
PARLÉ™ TCM-XA
AVB BEAMTRACKING™ CEILING MICROPHONE & POE+ AMPLIFIER

The Parlé™ TCM-XA is an AVB low-profile ceiling microphone and PoE+ (IEEE 802.3at Class 4, 30W) amplifier for use in Tesira® systems. Comprising a network box and a ceiling microphone, each microphone includes Beamtracking™ technology with four 90-degree zones, providing full 360-degree coverage of the meeting space. The TCM-XA microphone delivers Beamtracking performance in a sleek, unobtrusive design that mounts to the ceiling. The TCM-XA actively tracks and intelligently mixes conversations from around the table, allowing far-end participants to experience the conversation as they would a face-to-face meeting. The 2-channel PoE+ amplifier includes an internal limiter, selectable power, and is capable of operating in a burst mode to handle peak signals, providing up to 40 watts (4Ω load) or 30 watts (8Ω load) per channel. Each network box has its own digital signal processing module and comes with an additional RJ-45 connector to add an optional TCM-XEX. A maximum of two microphones are permitted per network box (one TCM-X or TCM-XA with TCM-XEX). The TCM-XA is well suited for a variety of room types and sizes with 10 foot (3 meter) ceilings or lower that require high-quality audio solutions and low profile or unobtrusive microphones.

FEATURES

- Low profile circular ceiling microphone that measures 5.90 inches (150 mm) in diameter
- Mounts directly to the ceiling to virtually disappear in room
- Beamtracking technology actively tracks and intelligently mixes conversations
- Four 90-degree zones for full 360-degree room coverage
- Network box includes DSP for Beamtracking and a PoE+ amplifier
  - Two channels
  - Burst mode to handle peak signals in accordance with ANSI/CTA-2006-B; supports up to 40 watts (4Ω load) or 30 watts (8Ω load) per channel
  - Software-selectable power vs. channel count
  - Includes internal limiter function

- Uses only one channel of AEC per microphone
- Single cable connection via category cable
- Beamtracking technology works out-of-box without any lobe aiming or room mapping
- LED mute status indicator
- Available in either black or white
- Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces
- Additional RJ-45 on network box for connection to a TCM-XEX microphone
- 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 Biamp® Tesira® systems. The Beamtracking ceiling microphone shall be comprised of a ceiling mount microphone and a network 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 mount microphone shall contain a sixteen-element digital microphone array, and shall provide four 90-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 shall be mountable directly to the ceiling. The network box of the Beamtracking ceiling microphone shall provide two output channels of 4 watts of continuous power per channel into a 4-ohm load and an 8-ohm load. The network box of the Beamtracking ceiling microphone shall also provide burst power output of 40 watts per channel into a 4-ohm load, and 30 watts per channel into an 8-ohm load in accordance with ANSI/CTA-2006-B. The Beamtracking ceiling microphone shall be powered by PoE+ (IEEE 802.3at Class 4, 30W). The Beamtracking ceiling microphone shall be suitable for use in air handling spaces in accordance with UL 2043, and shall provide an additional RJ-45 connector to allow connection of one expander TCM-XEX microphone. 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 Parlé™ TCM-XA.

PARLÉ TCM-XA SPECIFICATIONS

CEILING MOUNT MICROPHONE

Microphone Technology:	16-Element Digital Array
Frequency Response (150 Hz - 16 kHz):	± 3dB
Polar Pattern:	Active Beamformed
SNR (at 1kHz, 94dBSPL A-Weighted):	> 76dB
Maximum SPL (at < 1% THD):	109dB
Dynamic Range (THD+N < 1%):	92dB, A-Weighted
Indicators:	Mute Indicator (Green/Red LED)
Digital Interface:	Custom/Proprietary
Connector:	RJ-45 (cable length 6.6 feet [2 meters])

Overall Dimensions

Height (excluding ceiling mount):	0.6 inches (15 mm)
Diameter:	5.90 inches (150 mm)
Weight:	0.7 lbs (340 g)

NETWORK BOX

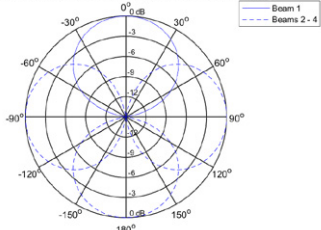|	
Connectors:	Three RJ-45: one between TCM-X network box and switch, one between the network box and microphone, the other between TCM-X network box and TCM-XEX
Power:	PoE+ (IEEE 802.3at Class 4, 30W)
Indicators:	Power Indicator (Green/Yellow/Red LED)
Digital Interface:	Custom/Proprietary
Max Distance Between Devices:	330 feet (100 meters) from switch to TCM-X network box; 33 feet (10 meters) between TCM-X network box and TCM-XEX

Overall Dimensions

Height:	1.2 inches (30 mm)
Width:	6.8 inches (172 mm)
Depth:	5.2 inches (132 mm)
Weight:	1.5 lbs (680 g)

Environmental

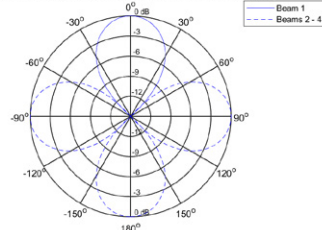|	
Ambient Operating Temperature Range:	32 - 104° F (0 - 40° C)
Humidity:	0-95% relative humidity (non-condensing)
Altitude:	0-10,000 ft (0-3000m) MSL
Compliance:	FCC Part 15B (USA) CE marked (Europe) UL and C-UL listed (USA and Canada) RoHS Directive (Europe) Evaluated to the requirements of UL 2043 and is suitable for use in air handling spaces

AMPLIFIER

Number of Channels:	2
Connectors:	RJ-45
Amplifier Topology:	Class D

Burst Power Output (per ANSI/CTA-2006-B @ 1kHz):

4Ω (per channel):	40W
8Ω (per channel):	30W

Continuous Power Output:

Single Channel Driven, (4Ω, 8Ω):	8W
Dual Channel Driven (4Ω, 8Ω):	4W
THD+N (20Hz-20kHz, at continuous power):	< 0.3%
Frequency Response (20Hz-20kHz):	± 1dB
Dynamic Range (20Hz-20kHz BW):	> 85dB
Minimum Operational Load:	4Ω
Intermodulation distortion (SMPTE):	< 0.3%
Cross Talk (channel to channel @ 1kHz):	< -90dB

TCM-X Polar Responses at Center of Tracking Zones
Patterns Shown at 1000Hz at an elevation of 30° from Ceiling

TCM-X Polar Responses at Center of Tracking Zones
Patterns Shown at 2000Hz at an elevation of 30° from Ceiling

OPTIONAL ACCESSORIES

BPAK
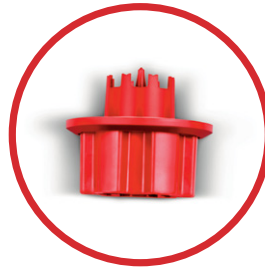Backpack adapter kit

CCA
Euroblock to category
cable adapter

Seismic Cable Adapter
Cable adapter for
TCM plenum boxes

TB-1
Tile bridge for
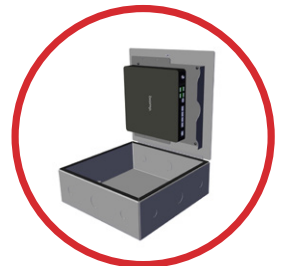TCM plenum boxes

TCM-X Installation Tool
Hole saw and driver

TCM-X-DK
Plenum attachment for
drywall ceilings

TCM-X-FM
Flush Mount Kit

Plenum Box 12x12
Chicago compliant plenum box

C5E-10-P, C5E-25-P
10ft and 25ft pre-terminated
plenum rated Cat 5e cables