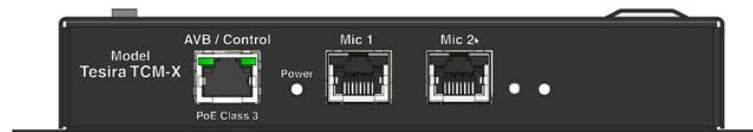


Parlé TCM-X Beamtracking Microphone

Installation & Operation Guide



Parlé TCM-X Microphone



Parlé TCM-X



Parlé TCM-XA

Parlé TCM-X

Beamtracking Ceiling Microphone

The Parlé TCM-X is an IEEE 802.3at Type 1 Class 3 PoE device requiring 15.4W of PoE power for use in Tersira systems. Comprising a plenum box and a ceiling microphone, each microphone includes Beamtracking™ technology with four 90-degree zones, providing full 360-degree coverage of the meeting space. Each ceiling plenum box has its own digital signal processing module and comes with an additional RJ-45 connector to add an optional TCM-XEX to the ceiling plenum box. A maximum of two microphones are permitted per ceiling plenum box (one TCM-X or TCM-XA with TCM-XEX).

Parlé TCM-XA

Beamtracking Ceiling Microphone & POE + Amplifier

The Parlé TCM-XA is an IEEE 802.3at Type 2 Class 4 device requiring 30W of PoE power for use in Tersira systems. Comprising a plenum box with amplifier and a ceiling microphone, each microphone includes Beamtracking technology with four 90-degree zones, providing full 360-degree coverage of the meeting space.

The 2-channel PoE+ amplifier includes an internal limiter, selectable power and is capable of operative burst mode to handle peak signals, providing up to 40 watts (4Ω load) or 30 watts (8Ω load) per channel. Each plenum 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 plenum box (one TCM-X or TCM-XA with TCM-XEX).

Parlé TCM-XEX

Expansion Ceiling Beamtracking Microphone

The Parlé TCM-XEX is an AVB low-profile ceiling microphone for use in Tersira systems. Each microphone includes Beamtracking technology with four 90-degree zones, providing full 360-degree coverage of the meeting space. The TCM-XEX cannot operate as a standalone device and is intended to be used as a second microphone in conjunction with the TCM-X or TCM-XA.



Plenum Box Front Panels

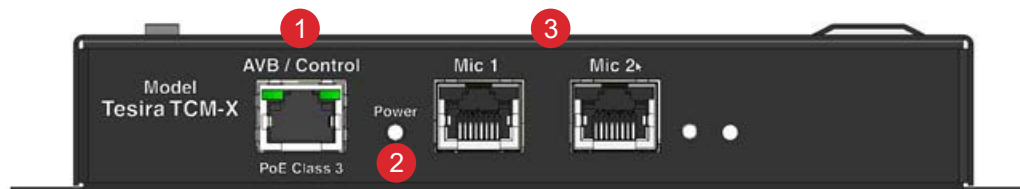


Figure 1. Parl  TCM-X



Figure 2. Parl  TCM-XA

Setup and Use

The Tesira software provides an intuitive interface for setup and programming of the Parl  TCM-X, TCM-XA and TCM-XEX. The information provided by this manual relates to physical connections and device setup. For more details on software setup, consult the [Tesira Help File](#). For device specifications and microphone polar pattern see the datasheet.

Connections

The TCM-X and TCM-XA plenum box is a folded metal enclosure designed for permanent installation above a ceiling or ceiling tile. The devices are passively cooled and do not have ventilation ports.

Two yellow RJ-45 jacks located on the front panel connect the plenum box to the ceiling microphone(s). The microphone is designed to be flush-mounted directly to the ceiling or ceiling tile.

1. AVB/Control

Facilitates connection to the Tesira AVB network for audio transmission and control. This RJ-45 port may either be connected directly to the Tesira AVB port (via a PoE+ injector) for a single device system, or via a PoE+ network switch in a multi-device AVB system. The TCM-X is an IEEE 802.3 Type 1 Class 3 PoE device requiring 15.4W of PoE power. The TCM-XA is an IEEE 802.3 Type 2 Class 4 device.

2. Power LED

A multi-color LED provides information about the status of the device.

3. Mic In 1 - 2

Allows for one additional TCM-XEX expander microphone. Use of this RJ-45 port is optional and will depend on the number of additional microphones required to cover the acoustic space.

4. Locate (TCM-XA only)

Pressing the locate button will play an audible signal that cycles through each connected output. Device status LEDs will flash green when locate is initiated. The Locate mode will time out after 1 hour.

5. Amp LED (TCM-XA only)

A multi-color LED provides information about the status of the amplifier.

6. Amp Out 1 - 2 (TCM-XA only)

2 x 4W RMS or 1 x 8W RMS output at low impedance 4 Ω / 8 Ω .

Table 1 - Power/Systems Status

A multi-color LED provides information about the status of the device

| Status | LED Indicator |
|--|---------------------|
| No power | Off |
| Bootng/Self-Test | Red Solid |
| Ready to receive configuration or updating firmware | Yellow Solid |
| Configured and ready to participate in the system | Green Solid |
| Unit is in Locate mode (triggered from the software) | Green Flashing |
| Unit has Major Alarm condition | Red Flashing |
| Unit has Major Minor condition | Yellow Flashing |
| Unit has both a Major and Minor Alarm condition | Red/Yellow Flashing |

Table 2 - Amp LED Indicators

A multi-color LED provides information about the status of the amplifier (*TCM-1A/TCM-XA only*)

| Status | LED Indicator |
|---|-----------------------|
| No power | Off |
| Clip detected | Red Solid |
| Powered | Green Solid |
| Amplifier limiter engaged | Yellow Solid |
| Amplifier is in Locate mode (triggered from the software) | Green Flashing |
| Amplifier has Major Alarm condition | Red Flashing |
| PoE+ power is not available or insufficient to power the amplifier – it has been turned off | Red & Yellow Flashing |

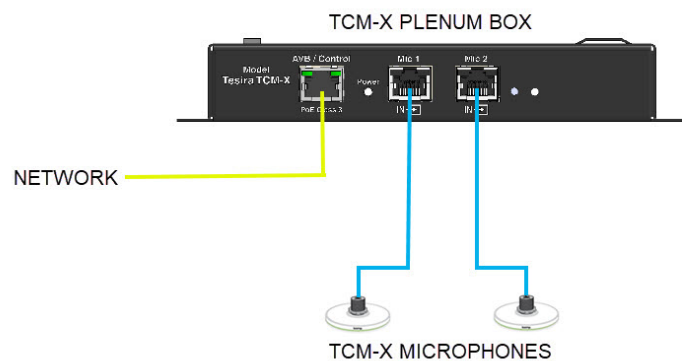
Table 3 - Microphone LED Indicators

3x multi-color LEDs provide information about the status of the microphone. Default LED indication is shown in the table below. Default LED behavior may be changed through configuration of the system.

| Status | LED Indicator |
|--|----------------|
| No power | Off |
| Configured and operating normally | Green Solid |
| Unit is in Locate mode (triggered from software) | Green Flashing |
| Microphone is Muted | Red Solid |
| Unit has Major Alarm condition | Red Flashing |

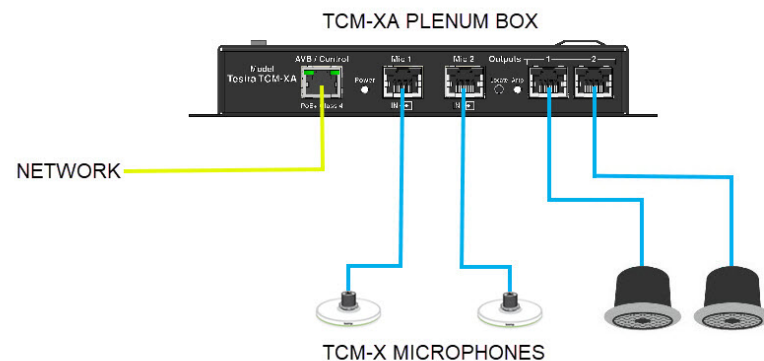
Parlé TCM-X Topology

The following diagram shows a Tesira system with the maximum-allowed 2 microphones including a TCM-X microphone and TCM-XEX microphone:



Parlé TCM-XA Topology

The following diagram shows a Tesira system with the maximum-allowed 2 microphones including a TCM-XA microphone and TCM-XEX microphone and speakers:



| Pin Number | Function |
|------------|-----------|
| 1 | Speaker + |
| 2 | Speaker + |
| 3 | Speaker + |
| 4 | Speaker - |
| 5 | Speaker - |
| 6 | Speaker + |
| 7 | Speaker - |
| 8 | Speaker - |

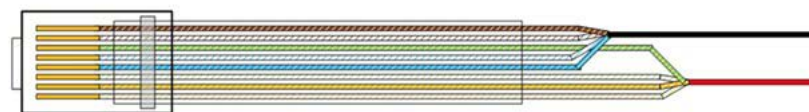
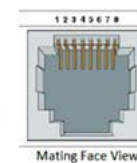


Figure 3. TCM-XA Speaker Outputs

MOUNTING & INSTALLATION

Installation

Install the unit away from heat sources, such as vents and radiators, and in rooms with adequate ventilation. Make sure that air can circulate freely around the unit. Do not exceed the maximum ambient operating temperature of 32°-104°F (0-40°C) for the microphones and 32°-113°F (0°-45°C) for the plenum boxes.

General Mounting and Installation Notes

- The maximum distance between an Ethernet switch and a TCM-X or TCM-XA plenum box is 330 feet (100 meters).
- The maximum distance between the microphone and plenum box is 33 feet (10 meters).
- The height range from floor to ceiling for the TCM-X and TCM-XA is 7 feet (2 meters) to 18 feet (5.5 meters).
- The TCM-X and TCM-XA plenum boxes are mounted above the ceiling tile, while the microphone attaches flush to the ceiling. The devices comply with UL-2043 Plenum rating.
- An optional “Tile Bridge” kit (TB-1) may be ordered to facilitate various mounting configurations and accommodate local safety and code requirements.
- The plenum box and microphone-mount washer are both equipped with a mounting hole for an optional seismic cable.

Installation Option - Above Ceiling Tile Mounting

1. Remove ceiling tiles as required to access the area where the microphone is to be mounted
2. See Figure 4. Cut a 1 $\frac{5}{16}$ inch (33 mm) hole through the ceiling tile where the ceiling microphone is to be located. Install the microphone mount through the hole in the tile.
3. Secure the microphone mount with the retaining hardware (nut and washer) through the ceiling tile.
4. Attach the microphone connector to the socket on the face of the plenum box.

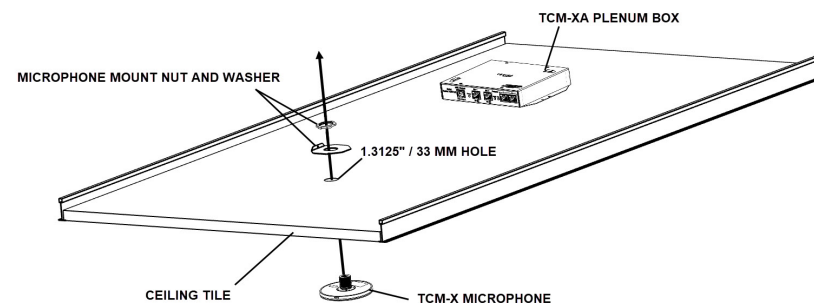


Figure 4. Above-Ceiling Tile Installation Option



Figure 5. TCM-X Seismic Cable Mounting

Installation Option - Tile Bridge Install

The Tile Bridge (TB-1), ordered separately, may be used in several configurations to mount the plenum box and ceiling microphone above the ceiling tiles—the most common of which are detailed as follows:

The Tile Bridge kit includes a tile bridge and two clips that are used to mount any of the Parlé plenum boxes and ceiling microphones. When installing the TCM-XA with the tile bridge, the microphone mounting washer may be discarded.

NOTE: Make sure the slot in the tile bridge lines up with the mounting location. The tile bridge may be used as a template to ensure proper location.

Installation Option - TCM-X/TCM-XA Tile Bridge Install

This option installs the TCM-X/TCM-XA directly into the tile bridge. The plenum box may be mounted in either of the above configurations.

1. Install the microphone mount through the holes in the ceiling and the tile bridge.
2. Secure the microphone mount with the retaining hardware (nut) from above the ceiling tile.

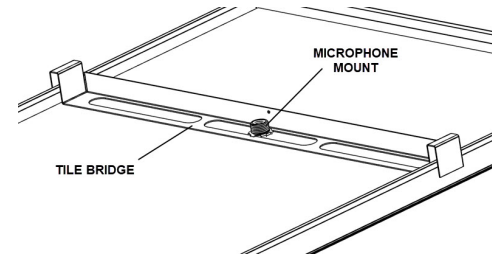


Figure 6. Above-Ceiling Tile Bridge Installation Option

Installation Option - TCM-X/TCM-XA Corner/Tile Bridge Install

This option installs the TCM-X/TCM-XA on a corner where the tile bridge and the tile mounting “T-bar” meets.

1. Fit the tile bridge over the ceiling tile so that the ends of the tile bridge fit over the ceiling T-bars to secure it in place.
2. Install the clips on the notched fittings of the TCM-X/TCM-XA plenum top cover.
3. Fit the clips over the T-bar and the TB-1 above the ceiling tile with the plenum box oriented as required.
4. Install the microphone mount through the hole in the ceiling.
5. Secure the microphone mount with the retaining hardware (washer and nut) from above the ceiling tile.

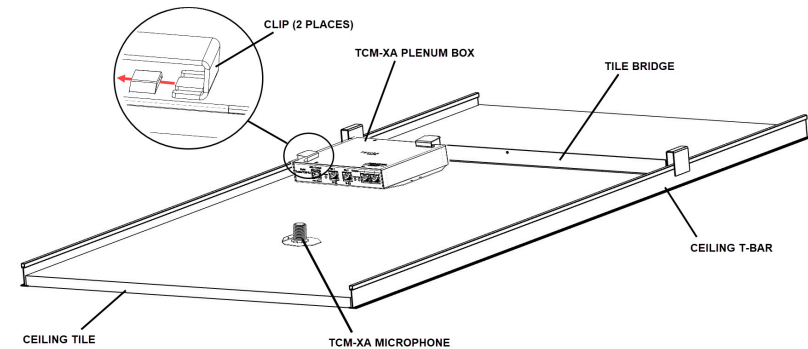


Figure 7. Above-Ceiling Corner Tile Bridge Installation Option

Installation Option - TCM-X/TCM-XA “Corner” Install

This option installs the TCM-X/TCM-XA on a corner where two “T-bars” meet.

1. Install the clips on the notched fittings of the TCM plenum box cover as shown.
2. Fit the clips over two perpendicular T-bars (in the corner) above the ceiling tile with the plenum box oriented as required.
3. Install the microphone mount through the hole in the ceiling.
4. Secure the microphone mount with the retaining hardware (washer and nut) from above the ceiling tile.

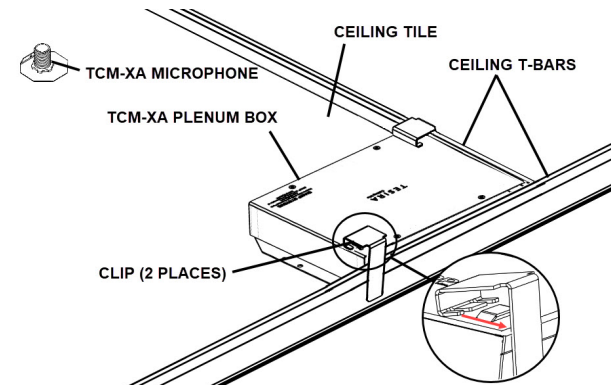
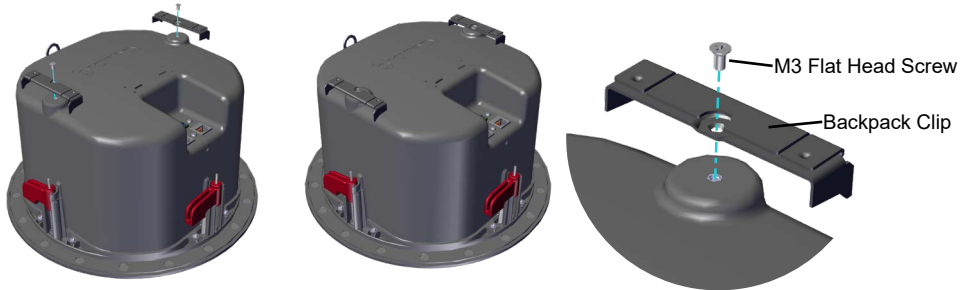


Figure 8. Above-Ceiling Tile Corner Installation Option

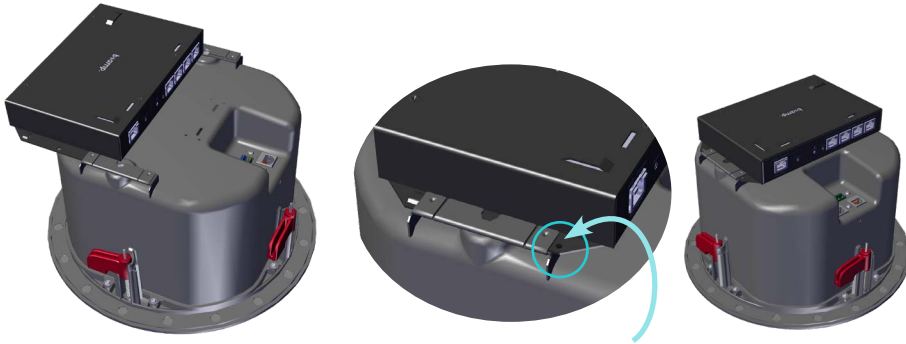
Installation Option - BPAK (Backpack Clip Kit)

The BPAK Backpack Clip Kit allows a Parlé TCM-X or TCM-XA to be attached to the top of a Desono C-IC6 or C-IC6LP back can.

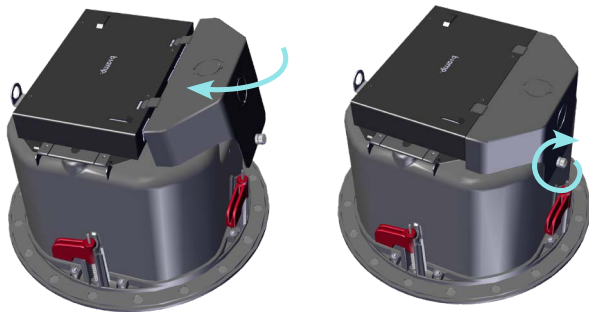
1. Attach clips.



2. Fully slide unit into clips. Use the hole for seismic wire attachment or to further prevent movement on the back can.



3. A cover is provided for conduit usage. Punch out and feed wiring through the opening, and connect per the device instructions. Insert tabs into the slots on the Tesira unit and tighten the thumb screw to secure the cover to the C-IC6 enclosure.





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