



# SYSTEM DESIGN GUIDE

## BEAMTRACKING™ MICS IN DIVISIBLE SPACES

Tesira®

A divisible or multi-purpose room is a large space that can be sectioned off with folding walls or sliding doors to accommodate events and meetings of different sizes. Present in many corporate facilities, universities, and hospitality settings, they are an excellent option for maximizing available space.

Typically, a more flexible physical space leads to increased complexity in the AV system in order to accommodate all of the possible scenarios. While system integrators can offset many challenges a divisible space presents, microphone placement/aiming can be quite difficult. What's good for one room size may include dead spots when the space is reconfigured. Beamforming microphone arrays can alleviate some of those challenges, but can quickly become cost prohibitive if each possible room configuration has to include one. Plus, mixing the outputs of multiple beamforming arrays when the room is combined presents another set of hurdles.

Now there's a better way: Tesira TCM Beamtracking™ microphones.

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Our TCM microphones provide exceptional audio quality to the far end while simultaneously achieving consistent room coverage. They let people act naturally — stand up, sit down, face the whiteboard, or walk around the table — without negatively impacting the far-end audio quality. Unlike traditional microphones, Beamtracking microphones track people as they move, and don't force them to stay where the lobes are aimed.

Specific to divisible spaces, another key differentiator of our Beamtracking microphones is the ability to independently route microphone traffic via Tesira software to anywhere it's needed. Even daisy-chained TCM microphones can be routed independently. For example, a small space with a TCM-1 on one side of a divider and a TCM-1EX on the other side can be configured in our matrix mixer to treat each microphone as a separate audio source, or to combine them when the room is combined. Another option is to use our room combiner block, a powerful, easy-to-use tool that manages the signal routing and control of combinable/divisible spaces. It can support a maximum of 32 rooms in numerous configurations, with combinable levels, mutes, and source tracking.

If you're unsure of how many Beamtracking microphones are needed to provide adequate coverage — or where they should be mounted — we offer [a TCM coverage calculator](#) on Cornerstone, our support website.

Tesira is an ideal platform for divisible spaces, because it's particularly adept at supporting situations that require rapid reconfiguration. Through the use of presets or room combiner block, the entire AV system, including microphone routing, can be easily reset according to how the rooms are divided or combined for the next meeting.

### TESIRA TCM FEATURES

- Provides extraordinary audio quality to the far end
- Beamtracking technology actively tracks and intelligently mixes conversations
- TCM-1A model includes a 2-channel PoE+ amplifier
- Requires very little setup, with no mic tuning or lobe aiming involved

### TESIRA EX-UBT FEATURES

- Supports up to 8 channels of configurable USB audio
- Excellent for scenarios requiring multiple USB audio inputs
- Supports Bluetooth wireless technology

### TESIRA AMP-450P FEATURES

- PoE+ powered; Burst mode to handle peak signals
- Software-selectable power versus channel count
- Includes internal limiter function
- Suitable for use in air handling spaces

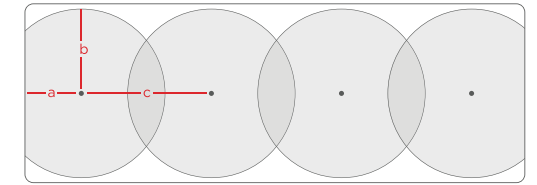


Figure 1: TCM calculator coverage map for a room 18' x 48' (5.5m x 4.6m) having "good" acoustics, with the microphone 9' (2.7m) above the floor.

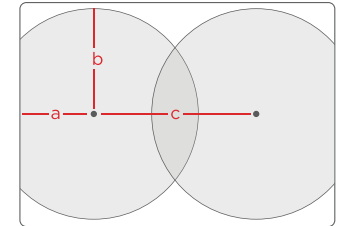
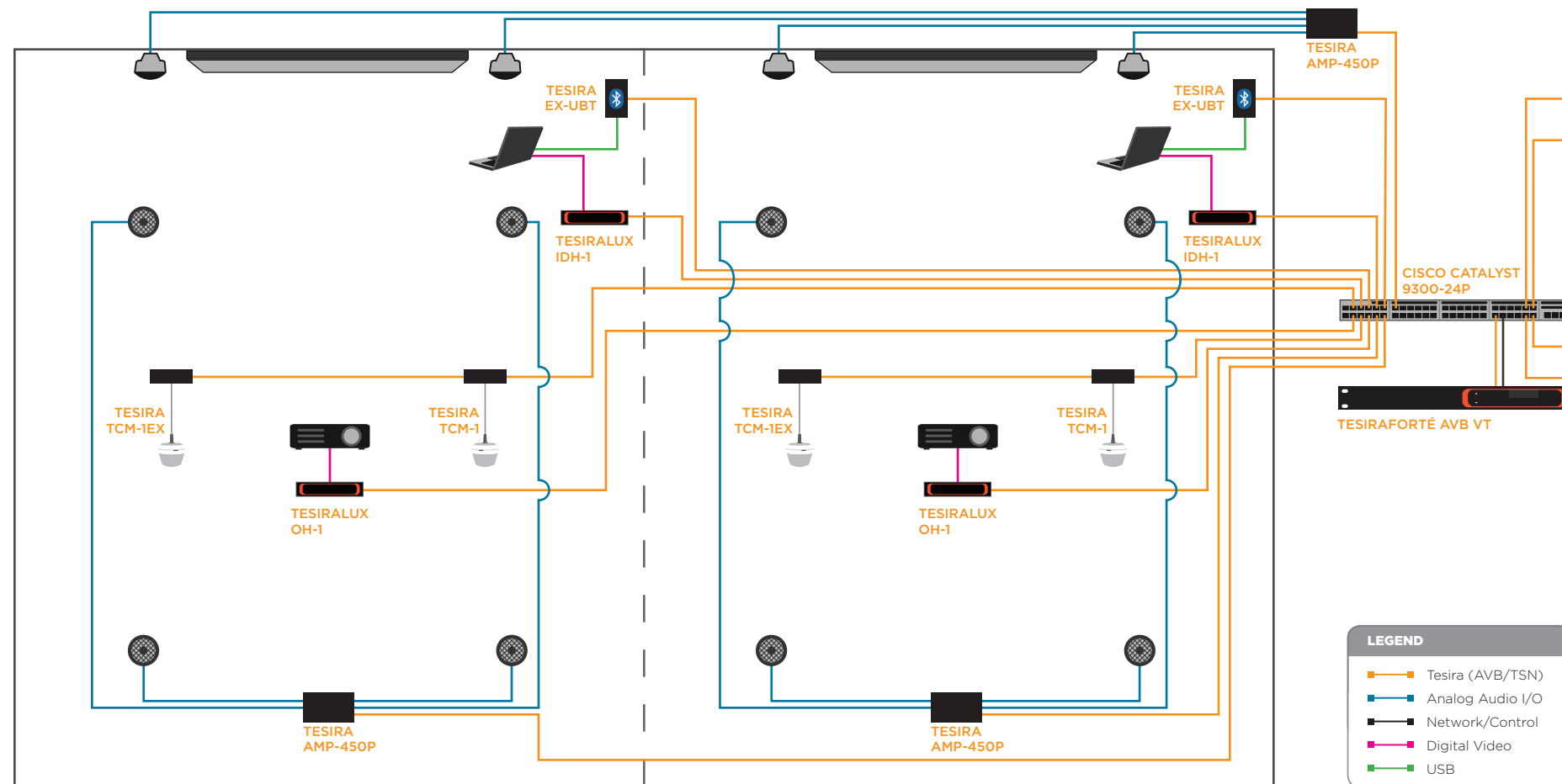


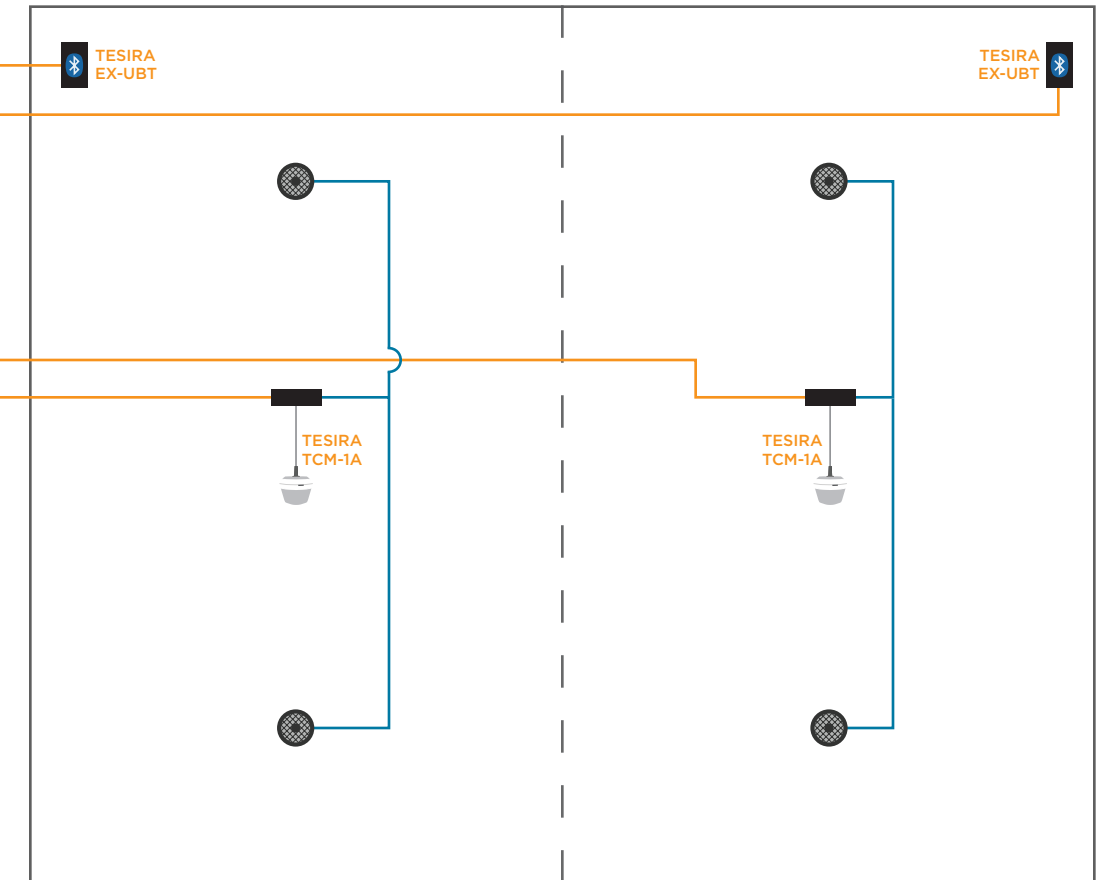
Figure 2: TCM calculator map for a room 18' x 24' (5.5m x 7.3m) having "good" acoustics, with the microphone 9' (2.7m) above the floor.

### LARGE DIVISIBLE SPACE



### SMALL DIVISIBLE SPACE

Alternatively, the small divisible space could be equipped with a TCM-1 and daisy-chained TCM-1EX if sound reinforcement is not required.



## LARGE DIVISIBLE SPACE

Product	Function
TesiraFORTÉ AVB VT	Handles digital signal processing and routing for the divisible space.
Tesira AMP-450P	4-channel PoE+ amplifier provides amplification throughout the divisible space.
Tesira EX-UBT	AVB/USB adapter provides remote USB audio capabilities.
Tesira TCM-1	AVB Beamtracking microphone provides extraordinary audio quality to the far end; allows people to move around freely by dynamically tracking them.
Tesira TCM-1EX	Expansion AVB Beamtracking microphone intended to be daisy-chained as a second and third microphone in conjunction with a TCM-1 or TCM-1A.
TesiraLUX IDH-1	Acts as an AVB talker. Processes video signals from cameras, laptops, and media players.
TesiraLUX OH-1	Acts as an AVB listener. Outputs networked video to displays.

## SMALL DIVISIBLE SPACE

Product	Function
TesiraFORTÉ AVB VT	Handles digital signal processing and routing for the divisible space.
Tesira EX-UBT	AVB/USB adapter provides remote USB audio capabilities, while Bluetooth® technology allows users to transition a phone call from a mobile device to the room's AV system.
Tesira TCM-1A	AVB Beamtracking microphone that provides extraordinary audio quality to the far end and also provides amplification for ceiling loudspeakers.

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