



# TeamConnect Bar

## Audio/Video Application Guide

PDF export of the original HTML manual



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# 1. Introduction

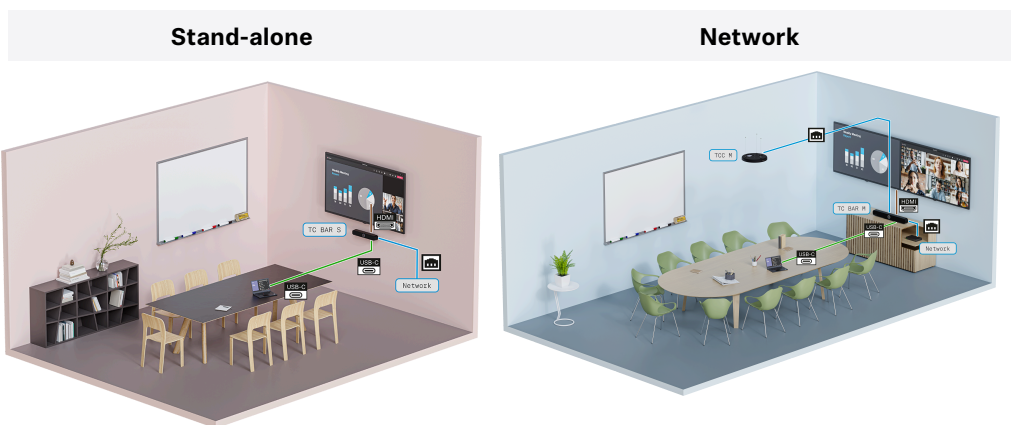
This guide provides technical guidance for planning, configuring, and operating TeamConnect Bar systems in audio/video conferencing environments.

The TC Bar features 4 (TC Bar S) or 6 (TC Bar M) microphones and 2 (TC Bar S) or 4 (TC Bar M) loudspeakers to deliver trusted Sennheiser audio quality to every meeting. The TC Bar is a true problem solver with benefits like easy setup, brand agnostic integration, easy management & control, high video quality, security and sustainability.

## Use cases

The TC Bar can be operated either as a stand-alone conference system at the workplace or as a networked conference system in a meeting room.

Using the integrated Dante® interface, extended microphones or external loud speakers can be added to the TC Bar.



- Connection via USB-C®
- Restricted functions are available only via the remote control
- Configurable via local webUI

- Integrated into the corporate network
- All functions are available
- Configurable via [Control software](#)

### Stand-alone solution

- As a stand-alone solution, the TC Bar is directly connected with a device and operated using only a USB-C® connection. Only restricted functions are available in this operating mode.
- You can use the embedded local WebUI (firmware version ≥ 2.0.0) to quickly and easily configure and control your device.



### Network solution

- As a unit in the network, the TC Bar can be initially assigned to a control instance and managed via the respective application for seamless integration into your corporate network.

### Stand-alone | direct connection via USB-C®

With a quick connection of the TC Bar via USB-C®, you can prepare your upcoming audio and video conference in just one step. You don't need to worry about network configurations or other settings.

All you need to do is to connect the TC Bar is the USB-C® cable supplied. Depending on the existing IT landscape, the TC Bar can be connected directly to a notebook or via another conference-capable device.



To transmit the incoming video signal from the remote station, the TC Bar can be connected directly to a display via the HDMI® cable supplied.

**i** In order to transmit the video signal to the TC Bar via USB-C®, an up-to-date DisplayLink driver is required on the device.

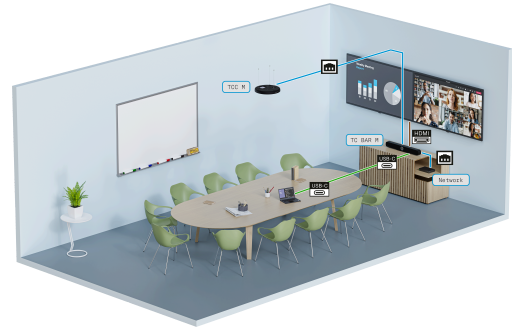
Thanks to the „bring-your-own-device“ philosophy, the TC Bar can be used flexibly as it adapts to the user's IT equipment and the existing conference rooms.



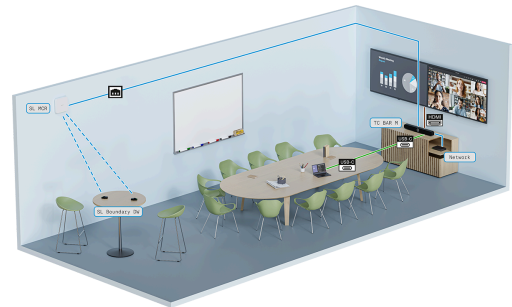
## Network | extended audio coverage

If there is insufficient audio coverage of participants in a room, the microphonization can be extended by additional Sennheiser devices connected to the TC Bar. This creates an individual audio network structure that is adapted to the given environment.

Extension using the TeamConnect Ceiling Medium (TCC M)



Extension using the SL Boundary microphones



Extension using the SL Handheld DW microphone



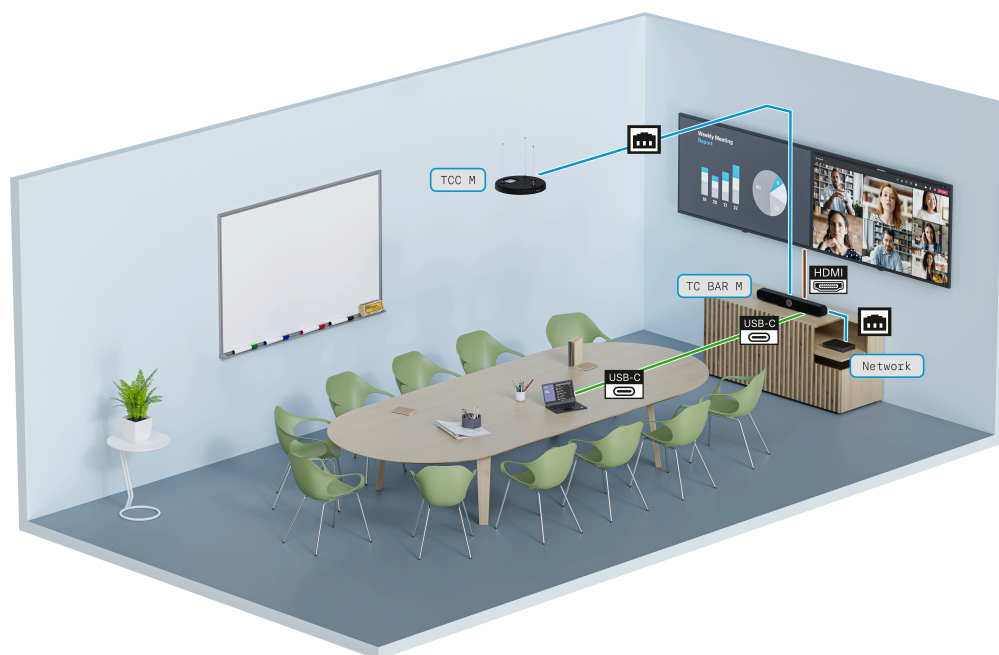
Extension using MobileConnect





## Extension using the TeamConnect Ceiling Medium (TCC M)

With TeamConnect Ceiling Medium, the range of audio capture can be extended to a room of up to 32 m<sup>2</sup> (344 ft<sup>2</sup>).



In addition, TCC M offers the following advantages as an extension:

- Improved microphone quality in medium-sized conference rooms:
  - Increased microphone coverage area
  - Improved signal-to-noise ratio
  - Improved direct speech orientation
- Enhanced freedom of movement in the meeting room
- Seamless setup for different room scenarios via Dante Controller

**i** We recommend connecting an additional PTZ camera via a USB port to enable increased video coverage in the room.

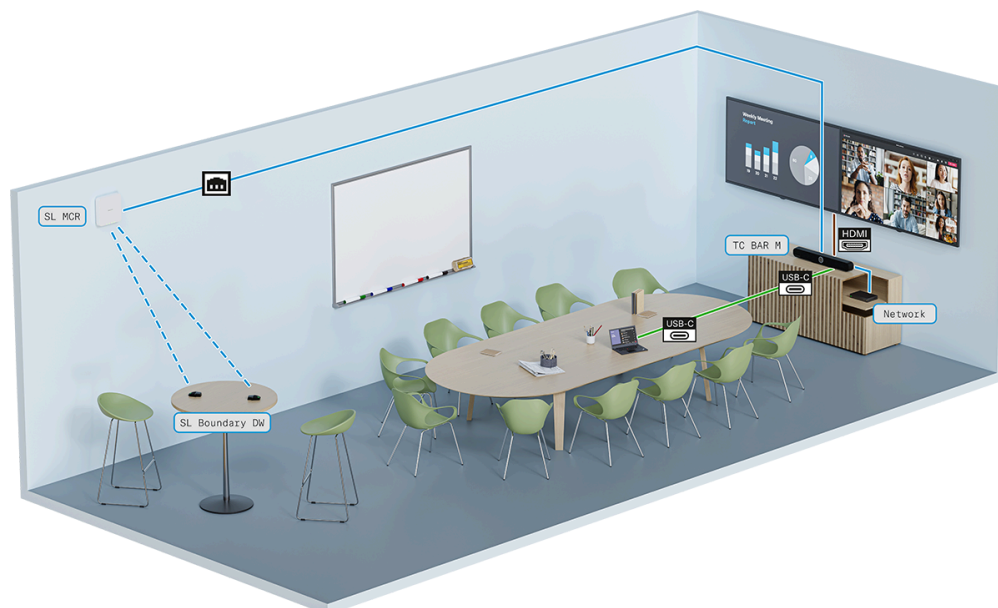
The connected devices are configured centrally via the [Control software](#). Here, different configurations for audio, device, zone and network settings can be manually adjusted and perfectly fine-tuned for a connected audio system.

Further information on the TeamConnect Ceiling Medium product can be found here: [sennheiser.com/tc-ceiling-medium](https://sennheiser.com/tc-ceiling-medium).



## Extension using the SL Boundary microphones

In conference rooms with mobile interiors, audio coverage can be easily achieved with SL Boundary 114-S DW microphones.



The participants, who are distributed in random locations of the room, enjoy their flexibility with full microphone coverage. The SL Boundary 114-S DW microphone can be used with an SL Rack Receiver DW or a SpeechLine Multi-Channel Receiver.

The microphone is optimized for speech transmission in conference rooms and offers highly flexible application possibilities due to the complete absence of cables.

Further information on the SL Boundary 114-S DW product can be found here:

[sennheiser.com/speechline-wireless](https://sennheiser.com/speechline-wireless)



## Extension using the SL Handheld DW microphone

In conferences with a presenter, the transmission is best established with an SL Handheld DW microphone.



This keeps the focus on the presenter at any time, who can freely move around the room. The sleek but robust SL Handheld DW is optimized for speech in presentations where every word matters.

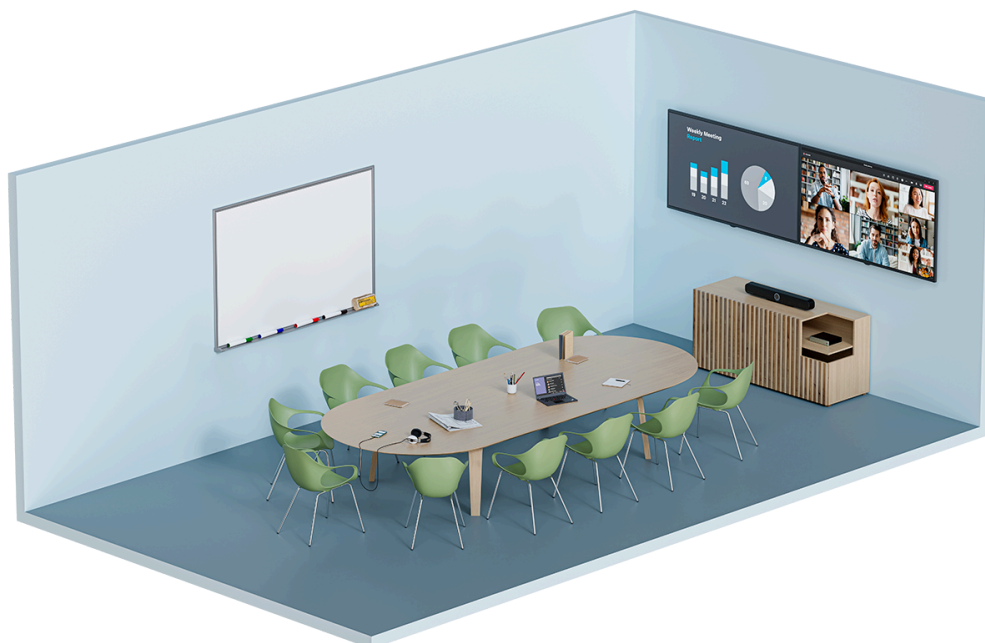
The presenter's speech is transmitted via SL Handheld DW to an SL DW Rack Receiver or an SL DW Multi-Channel Receiver, which is connected to the TC Bar.

Further information on the SL Handheld DW product can be found here: [sennheiser.com/speechline-wireless](https://sennheiser.com/speechline-wireless).



## Extension using MobileConnect

With MobileConnect, every user can join an audio stream via an access code and participate in a meeting with their own device.



Regardless of where the participants are in the room, they enjoy high-quality audio support via unicast audio stream and can take part in the conversation through bidirectional communication with their built-in microphone on the mobile device they are using.

The transmission takes place via a MobileConnect Station, which is connected to the TC Bar. The MobileConnect Station provides an audio streaming service with its own access for mobile devices and transmits the signals to the connected TC Bar during a conference.

Further information on the MobileConnect product can be found here: [sennheiser.com/mobileconnect](https://sennheiser.com/mobileconnect).



## Network | extended video coverage with USB camera



To view all conference participants from their different perspectives in a room, the camera view of the TC Bar can be extended using an additional USB camera.

The external third-party PTZ (Pan-Tilt-Zoom) camera can be directly connected to the TC Bar via the USB-A port. In this case, the user can choose either the internal camera of the TC Bar or the external PTZ camera for an additional whiteboard or presenter view. There is no intelligent camera switching.

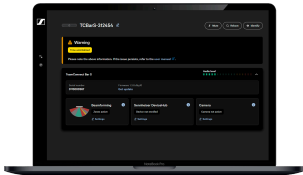
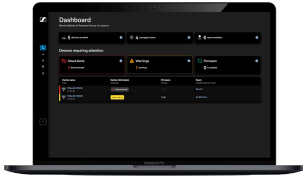

In the [Control software](#) you can easily monitor the status of the USB-Camera. The software offers a range of functions for controlling and configuring the TC Bar.



## Control software

The TC Bar can be operated and managed through multiple Sennheiser control applications.

The TC Bar can be configured via various software tools, namely:

Application	Description
<b>Local Web UI (LUI)</b> 	LUI is a browser-based interface for easy and quick device configuration in the local network and is accessible over the device IP address or host name. LUI is available as of firmware version 2.0.0. <ul style="list-style-type: none"><li>• Online manual: <a href="#">Local Web UI</a></li></ul>
<b>DeviceHub</b> 	Cloud-based platform for managing and monitoring Sennheiser AV devices across locations. DeviceHub compatibility is available as of firmware version 2.0.0. <ul style="list-style-type: none"><li>• Online manual: <a href="#">DeviceHub</a></li><li>• Product info: <a href="https://sennheiser.com/devicehub">sennheiser.com/devicehub</a></li><li>• Software: <a href="https://devicehub.sennheiser.com">https://devicehub.sennheiser.com</a></li></ul>
<b>Control Cockpit</b> 	On-premise centralized management software that allows you to configure your TC Bar. <ul style="list-style-type: none"><li>• Online manual: <a href="#">Control Cockpit</a></li><li>• Product info: <a href="https://sennheiser.com/control-cockpit">sennheiser.com/control-cockpit</a></li></ul>

Details on the control solutions can be found in chapter **Monitoring & Controlling**



## Mounting options

There are various mounting options available for installing and positioning the TC Bar in a room.

Table 1. Mounting options overview



### Wallmount

The TC Bar can be mounted on the wall above or below the display using the mounting kit supplied.

The bracket required for this installation is already included in the scope of delivery. The screws and dowels required for mounting are not included in the scope of delivery.



### Table Top

The TC Bar can be mounted on a table or sideboard using the mounting kit supplied.

The bracket required for this installation is already included in the scope of delivery. No additional screws etc. are required.

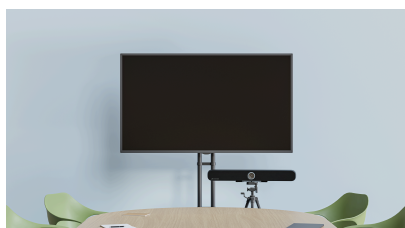


### Mounting on a VESA Mount

With the supplied mounting kit, the TC Bar can be mounted on a VESA mount above or below the screen.

The tilt of the camera can be adjusted individually.

The VESA mount is not included in the scope of delivery and can be purchased as an option (see accessories).



### Free Standing

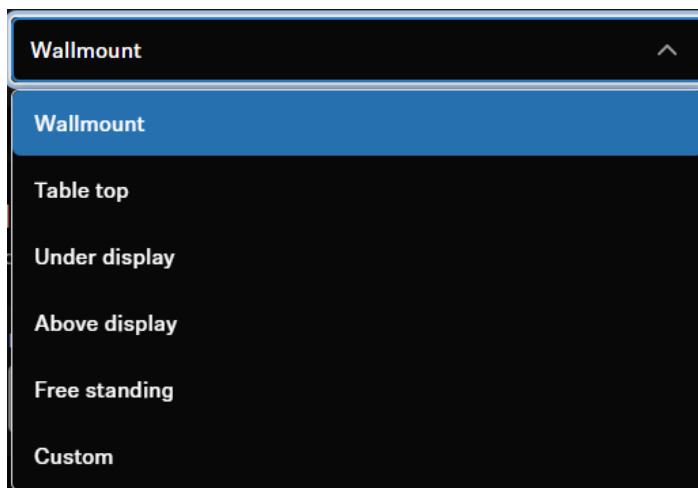
The TC Bar can be mounted on a tripod using the supplied mounting kit.

The supplied bracket can be screwed onto the tripod.

The tripod and the required fixing screw are not included in the scope of delivery.



### Selecting the Sound Profile



You can then select the type of mount installed in the Control Cockpit Software to perfectly match the sound quality to your mounting option (see [Selecting the sound profile](#)).

With **Custom** you can adjust your own settings via the EQ.

### Accessories

The following accessories and spare parts can be purchased for mounting options:

- Mounting Kit (included in delivery) | Art. no. 700117
- VESA Mounting Kit | Art. no. 700118



## 2. Best practice

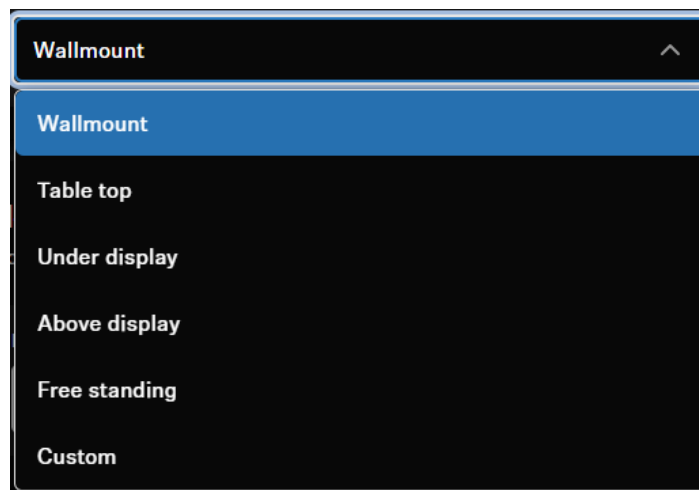
This section presents established methods and procedures for the step-by-step configuration of your TC Bar to ensure smooth system setup right from the start. Additional settings will allow you to customize the TC Bar according to the requirements of your existing infrastructure.

### Configuring the TC Bar

#### Selecting the sound profile

Sound profiles are presets optimized for intended mounting options. You can either choose a profile (recommended) or adjust the equalizer setting manually.

- ▶ Select your installed mounting type from the drop-down list (recommended).



- ▶ Optional: Select **Custom** to apply your own settings.

✓ Sound profile has been selected.



## Selecting the collaboration system

You can select the desired **Device Profile**, which is either taken from your own configured settings or from the predefined settings of the selected conference and collaboration platform.

**i** When the device profile is changed, the camera settings are reset and the device is restarted.

- ▶ Select the collaboration system used to achieve the best possible results for this platform (recommended).



- ▶ Optional: Select **Custom** to apply your own settings and/or to activate the HDMI® output.

### **Custom (own device profile)**

- Enables all settings in the tab **Camera** as well as the HDMI® output in the tab **Device**.

### **Microsoft Teams (predefined by Microsoft Teams)**

- Enables the default settings for Microsoft Teams.
- Resets and disables all settings in the **Camera** tab.
- Disables the HDMI® output in the **Device** tab.
- Reboots the device.
- Using this profile, the camera zoom of the TC Bar is reduced to comply with Microsoft Teams specification.

### **Zoom (predefined by Zoom)**

- Enables the default settings for Zoom.
- Resets and disables all settings in the **Camera** tab.
- Reboots the device.
- Using this profile, the camera zoom of the TC Bar might be changed to comply with Zoom specification.

✓ Your device profile has been selected.



## Handling the Automix Priority

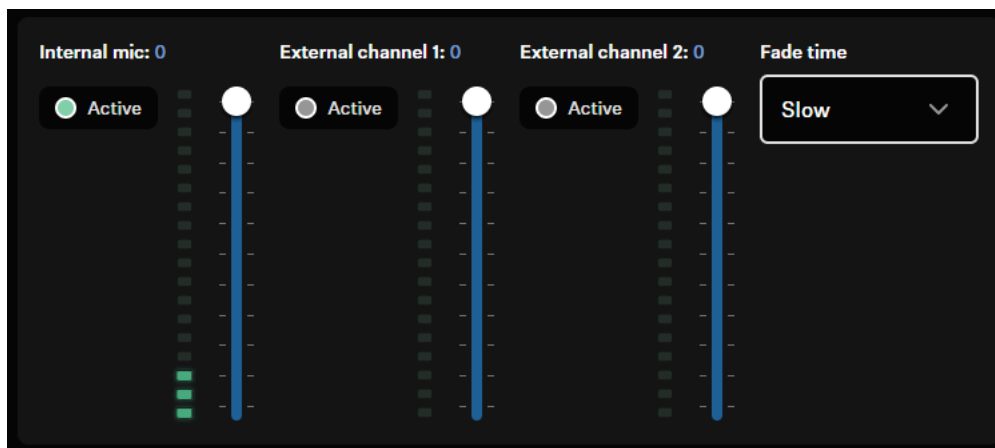
The TC Bar has up to two Dante® inputs for external microphone channels (**Ext. CH 1** and **Ext. CH 2**).

The channels allow external devices (e.g. TeamConnect Ceiling Medium) to be connected to the TC Bar via a Dante® network.

The Dante® inputs are managed via an integrated automixer, whereby the priority of the channels, including the internal microphone array, can be set via individual faders.

**i** The settings via the Automix Priority only manage the priority of the selected channel. It has no influence on the actual gain level of the connected microphones.

Reducing the level by the corresponding control fader will add a virtual level reduction to the channel that makes it less likely to be selected by the automixer.



The level meters show the signal level of the inputs and the internal microphone array PRE fader and also PRE virtual level reduction. Moving the faders therefore does not change the displayed levels.

If you want to prioritize a single channel from the selection, you will have to reduce the virtual gain reduction of the other two channels.

### Examples:

The following table shows examples of which microphone is given priority over other connected microphones depending on the setting.



Comments	Int. Mic	Ext. CH 1	Ext. CH 2
<ul style="list-style-type: none"><li>• <b>Ext. CH 2</b> has the highest priority and is therefore mostly selected.</li><li>• <b>Int. Mic.</b> is less prioritized and is therefore selected less often.</li><li>• <b>Ext. CH 1</b> has the least priority.</li></ul>	-30 dB	-60 dB	0 dB
<ul style="list-style-type: none"><li>• <b>Ext. CH 1</b> has the highest priority and is therefore usually selected.</li><li>• <b>Ext. CH 2</b> is less prioritized, and is therefore selected less often.</li><li>• <b>Int. Mic.</b> has the least priority.</li></ul>	-60 dB	-10 dB	-30 dB
<ul style="list-style-type: none"><li>• <b>Int. Mic.</b> has the highest priority and is therefore usually selected.</li><li>• <b>Ext. CH 1</b> and <b>2</b> are less prioritized, and are therefore selected less often.</li></ul>	0 dB	-30 dB	-30 dB

#### Best Practice for Handling the Microphone Gain

- Use **Ext. CH 1** and **Ext. CH 2** for external microphone channels connected via Dante®.
- Don't change the settings, if no Dante® channels are connected.
- Reduce **Int. Mic** to **-60 dB**, if an external device is connected to **Ext. CH 1** (for example a TCC M) and you prefer to use the microphone pickup from that device most of the time. You can also disabled the Int. Mic so that Dante® microphone is used all the time.
- When the **Int. Mic** and **CH 2** gain is reduced to **-60 dB**, it is likely that the TC Bar chooses **Ext. CH 1** for the microphone input. It **does not mean** that the **actual microphone gain** is reduced to **-60 dB**.
- If you want to use the TC Bar's microphone pickup for people speaking close to the TC Bar but use the external microphone pickup of the external device (e.g. TCC M), simply adjust the priority of the selected microphone within the **Automix Priority**.
- With **Fade Time** you can adjust the switching speed between the audio sources connected to the auto mixer.

In order to ensure reliable and consistent audio levels, use these best practices to handle the microphone gain.

- ▶ Start reducing the Int **Mic** by **-30 dB**.
- ▶ Talk in different positions and listen on the other side of a conference call if the audio meets your expectations.



- ▶ Select different values of the **Fade Time** and listen how if effects transitioning from one microphone to the other.

**i** The signal levels are pre-conditioned automatically by an internal gain control.

- Once the active channel is ready, have a person speak at a certain position.
- ▶ Observe the signal metering of the active channel above each channel gain.
- ▶ Determine which channel is selected.
- ▶ Change the gains if you want to select a different channel instead.

**Example:**

A presenter is sitting in front of a Sennheiser gooseneck microphone (**Ext. CH 2**) and is speaking. You can see in the [Control software](#) that the active LED for Int. Mic is flashing. However, you want the sound of the **Ext. CH 2** microphone to be selected.

- ▶ Reduce the gain for **Int. Mic** until **Ext. CH 2** is selected. Start with 10 dB steps, speak for a few seconds, observe the LED of the active channel and adjust the gain further if necessary.



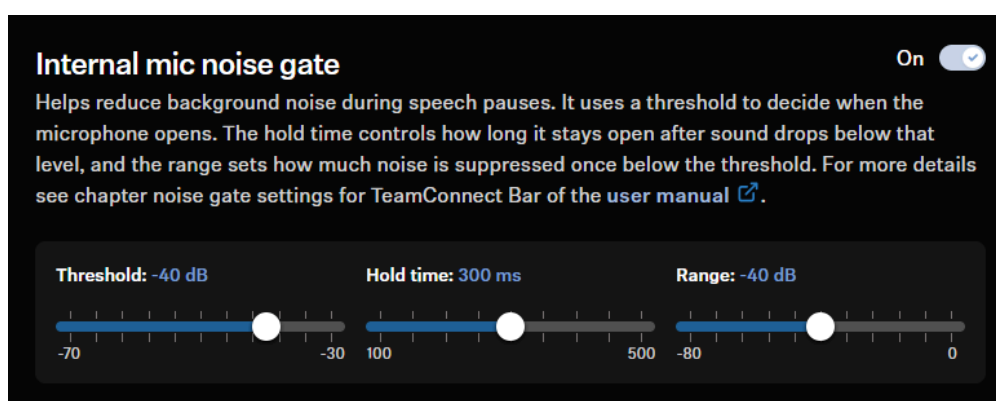
## Handling the Internal Mic Noise Gate

Usually, the internal noise suppression should be able to effectively reduce the noise from the room, but there may be cases where an additional noise gate is helpful.

The Noise Gate ensures that a remaining background noise is muted during pauses in speech.

### Noise Gate – Threshold

You can set a threshold level at which the system will mute the microphone if the signal level falls below.



- The noise gate will open the microphone audio output only when the microphone in use exceeds the defined threshold value.
- You can use the slider to adjust the threshold level from **-70 dB** to **-30 dB** in steps of **1 dB**.

#### **i** Recommendation:

To achieve the highest possible speech intelligibility, the background noise level in the room should not exceed 45 dBA. This is a good initial value for testing and, if necessary, adjusting the **Threshold** while the meeting is taking place.

### Noise Gate – Hold Time

This setting determines how quickly the microphone reduces the gain after the level drops below the threshold. A delay of up to 500 ms can be set.

- You can adjust the Hold Time between **100 ms** and **500 ms** in steps of 50 ms.



**i Recommendation:**

The optimum settings are depending on the actual room conditions and the ambient noise in the room. We recommend starting with a setting of 100 ms and gradually increase this value depending on the type of speech and the ambient noise in the room.

### Noise Gate – Range

The noise gate range parameter defines how much the noise gate suppresses the microphone signal when it is active.

- You can adjust the Range between – **80 dB** to **0 dB** in steps of 1 dB
- **80 dB** effectively means muting the signal when active
- **0 dB** means that the noise gate will not have an effect (bypassed)

**i Recommendation:**

A good starting point is – 40 dB to determine if the noise gate suppresses enough signal below the noise gate threshold. Depending on the type of signals in the room, you can set this parameter to either let more signal below the noise gate threshold through or suppress it more.



## Maximum Output Volume Limiter

The configurable Maximum Output Volume Limiter allows integrators to define a fixed upper limit for the device's loudspeaker output.

This limit cannot be exceeded by end users, ensuring controlled and safe sound pressure levels in environments with strict audio requirements (e.g., universities, training labs, supervised classrooms).

### **i** Installer notes:

- Select the appropriate maximum output limit based on room size, acoustic design, and institutional requirements.
- Test the limit with real content to ensure compliance with local SPL guidelines.
- Document the chosen limit in the room's AV configuration notes.

## Purpose

Educational institutions and high-safety environments require predictable, capped audio output levels. This feature ensures:

- A fixed maximum volume level (e.g., 50% or 75%)
- Prevention of accidental or deliberate over-volume situations
- Full control by the AV integrator, not the end user
- Safe audio operation in "super lab" or multi-student environments

## Functional Behavior

The integrator sets a maximum output volume threshold in Sennheiser Control Software (e.g., 50%, 75%).

The TC Bar's volume cannot exceed this limit, regardless of:

- Device hardware buttons
- UC platform volume (Teams, Zoom, etc.)
- Remote control
- API commands

The limiter applies to the internal loudspeakers and, if active, the External Dante Speaker Output feature.

Volume below the limit remains fully adjustable.



### **How to Use in Sennheiser Control Software**

With the Maximum Output Volume Limit control in Sennheiser Control Software, you can define a fixed upper volume threshold for the TC Bar.

- The value you select becomes the enforced maximum output level and cannot be exceeded by end users.
- If external Dante speakers are active, the limiter affects the TC Bar's output gain, not the internal level of the Dante loudspeaker.

### **Behavior With Other Features**

- Works in combination with all existing volume control paths.
- Works with ExternalSpeakerOut and ensures that volume is controlled on the TC Bar side.
- Does not modify AEC reference behavior.
- Does not replace other safety measures such as DSP-level limiters (external).



## Noise Suppression

The noise suppression of the TC Bar is default on and set to medium which equals a reduction of 18 dB static noise.

- You can set the noise suppression to low (12 dB noise reduction), medium or high (26 dB noise reduction).

**Noise suppression**  
Noise Suppression reduces constant background noise (e.g., HVAC, projector fans, keyboard typing). Higher levels may slightly affect naturalness of speech.

Noise suppression level

Medium

**i Recommendation:**

Depending on the speech and noise in the room, set the noise suppression so that as much noise is suppressed as needed without impacting speech intelligibility. In situations with strong low frequency HVAC noise in the room, it is advisable to set the noise suppression to low. This sounds counterintuitive, but low frequency noise can disturb the noise suppression and cause artifacts. In such cases the overall performance will be better, allowing a slightly higher noise rate and using the noise-gate (see above) instead.



## Routing of AV signals via Dante Controller to TC Bar

To route additional Sennheiser audio devices to the TC Bar, the following steps must be performed:

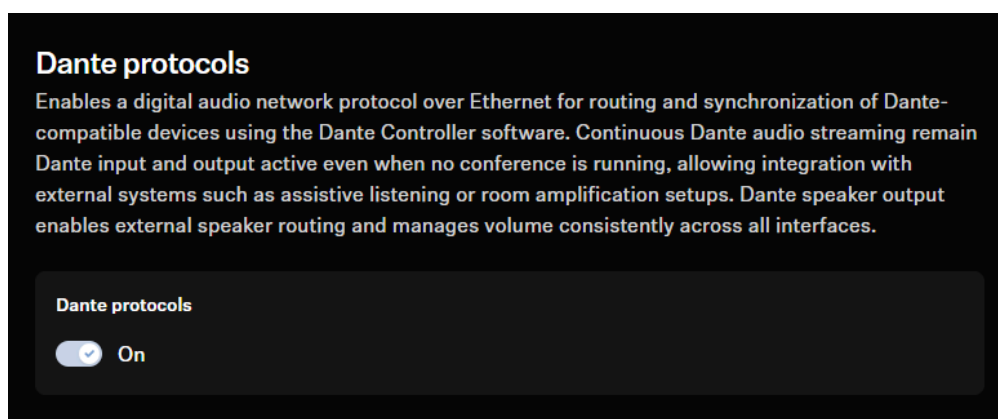
- Activation of the **Dante® protocols** in the [Control software](#)
- Routing of audio signals in the Dante Controller

Dante Controller is the application used to route AV signals between all Dante®-enabled audio on your network. The application replaces all connections with a computer network, effortlessly sending video or audio over Ethernet cables with perfect digital fidelity.

### Activating Dante® Protocol for TC Bar

**i** Before routing an external device to the TC bar via Dante®, the required Dante® protocol must be activated in the Control Cockpit.

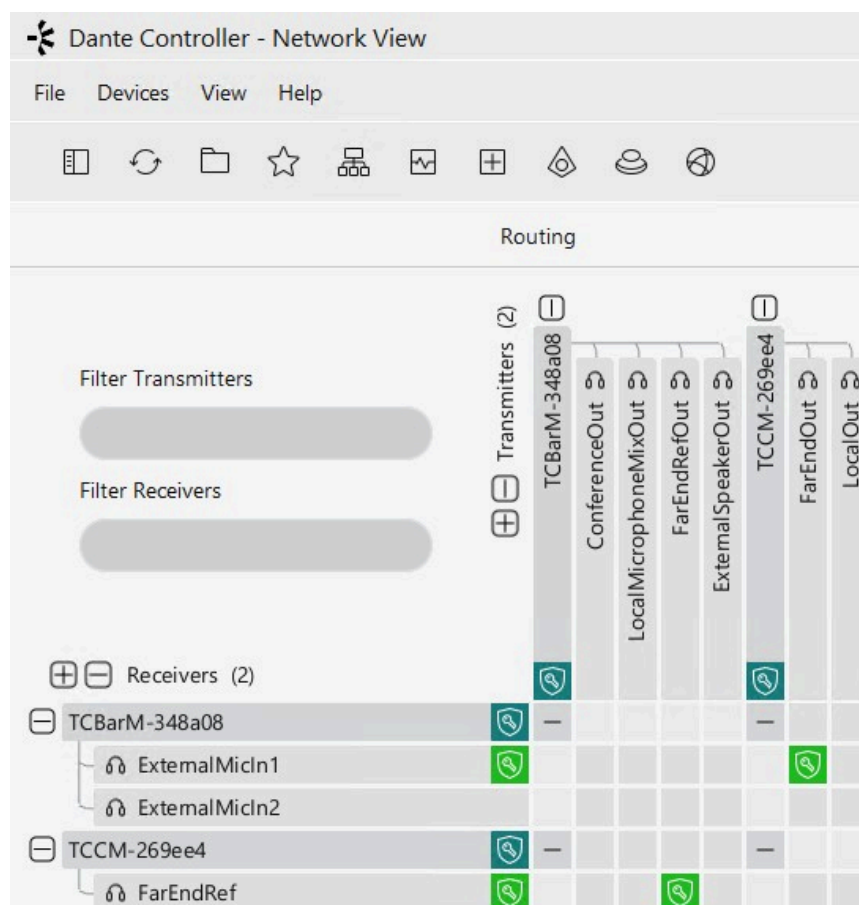
- ▶ Open the Sennheiser control software
- ▶ Click on the tab **Network** and activate the slider for **Dante® Protocols**.



### Routing TCC M signals to TC Bar

**i** The following settings must be adjusted in the Dante Controller to route signals to the TC Bar:

- ▶ Route the **FarEndOut** from TCC M to **ExternalMicIn1** of the TC Bar (or **ExternalMicIn2**).
- ▶ Route the **FarEndRefOut** of the TC Bar to the **FarEndRef** of the TCC M.



**Recommendation:** We highly recommend using the beam freeze function of the TCC M microphone. Our tests have shown that the echo suppression in the TC Bar benefits by far using the beam freeze function.

#### Adapting the Far End Output (TCC M)

- i** The default settings in TCC M are tailored to common use cases. In certain scenarios, you can use the following settings in the **Audio** tab of Control Cockpit to fine-tune the performance.
  - ▶ Adjust the gain in the field **Far End Output (digital)**:
    - ▶ Increase the gain if the TCC M is very far away from the audience.
    - ▶ Reduce the gain if the TCC M is very close to the audience.
  - ▶ Adjust the sensitivity of the beam freeze in the field **Input Level (Digital)**:
    - ▶ Increase the input level under **Manual gain** to activate the beam freeze earlier for better echo suppression.
    - ▶ Reduce the input level under **Manual gain** for better near-end speaker pick up and double talk.
    - ▶ Choose Automatic if, e.g. the seating in the room changes frequently. This allows the TCC M microphone to adjust itself to the best input level.



## External Dante Speaker Output

TC Bar offers an optional feature to route near-end audio to external Dante-enabled loudspeakers.

This improves sound coverage in the meeting room while maintaining proper audio processing, echo cancellation, and centralized volume control via the TC Bar.

### Functional behavior

- Activates a dedicated Dante output channel called ExternalSpeakerOut.
- Sends the far-end audio (remote participants) to the connected Dante loudspeaker.
- Automatically mutes the internal TC Bar speakers when the feature is enabled.
- Allows you to control the external speaker volume directly on the TC Bar.
- Keeps the FarEndRefOut signal fixed at 100% to ensure correct AEC behavior.
- Operates only when Dante protocols are enabled on the TC Bar.

### When to use this function

Use this feature when:

- You want to improve audio distribution in larger rooms.
- You want room speakers positioned independently from the TC Bar.
- You require better coverage for in-room participants without affecting echo cancellation.



## Setup guide for AV integrators

This guide describes how to configure the TC Bar to use external Dante-enabled speakers via the ExternalSpeakerOut Dante channel.

Follow these steps to route FarEnd audio from the TC Bar to external Dante-enabled speakers using the ExternalSpeakerOut channel.

### Prerequisites

- ▶ Verify the prerequisites before enabling the External Dante Speaker Output feature:
  - Dante is enabled on the TC Bar.
  - A Dante-enabled loudspeaker is present on the network.
  - Dante Controller or Dante Domain Manager is available for routing.
  - Network infrastructure supports Dante (Gigabit recommended, no blocking of mDNS or Dante multicast).
  - Firmware versions of the TC Bar, Sennheiser Control Software, and Dante interface are up to date.

### Dante channel overview

- ▶ Review the Dante channels exposed by the TC Bar.

The following Dante channels of the TC Bar are relevant for external speaker routing in Conference Mode:

Channel name	Content (Conference Mode)	Notes
ConferenceOut	NearEnd + FarEnd mix	Unchanged behavior
LocalMicrophoneMixOut	NearEnd only	Used for external DSP or recording
FarEndRefOut	FarEnd reference (100% fixed level)	For connected TeamConnect Ceiling 2 or TeamConnect Ceiling Medium
ExternalSpeakerOut	FarEnd (mono)	Used for Dante loudspeakers



When the ExternalSpeakerOut feature is enabled, the internal TC Bar speakers are muted automatically to prevent multiple acoustic echo paths and to maintain AEC performance.



### Configure Dante routing

- ▶ Identify the TC Bar and Dante loudspeaker in Dante Controller:
  - ▶ Open Dante Controller.
  - ▶ Locate the TC Bar device.
  - ▶ Locate the target Dante loudspeaker.
- ▶ Assign the ExternalSpeakerOut routing in Dante Controller:
  - ▶ Connect the TC Bar ExternalSpeakerOut channel to the receive input of the Dante loudspeaker.
  - ▶ Verify that the subscription status turns green, indicating valid routing and clock synchronization.
- ▶ Verify Dante clocking stability:
  - ▶ Ensure that the network has a stable Dante clock master; this is usually assigned automatically.
  - ▶ TC Bars are not designed to become clock leaders.
  - ▶ Avoid WLAN bridges or non-Dante switches in the critical audio path.



Configure the Dante routing before enabling the External Dante Speaker Output feature, as the TC Bar will mute its internal speakers and the room may otherwise fall silent.

### Enable External Dante Speaker Output in Sennheiser Control Software

- ▶ Open the TC Bar device page in Sennheiser Control Software.
- ▶ Verify that Dante is enabled:
  - ▶ Navigate to the Dante section.
  - ▶ Confirm that Dante is switched **ON**.



If Dante is **OFF**, the External Dante Speaker Output cannot be activated.

- ▶ Enable the External Dante Speaker Output:
  - ▶ Locate the toggle switch **External Dante Speaker Output**.
  - ▶ Toggle the switch to **ON**.
    - The TC Bar internal speakers mute.
    - FarEnd audio is sent to the ExternalSpeakerOut channel.
    - Volume is controlled via the TC Bar (hardware volume keys or Sennheiser Control Software).



### Verify volume control behavior

- ▶ Check the volume and reference signal behavior.
  - The TC Bar acts as the master volume for the external Dante speaker.
  - The Dante transmission level itself is not controlled; the TC Bar adjusts output gain instead.
  - The FarEndRefOut signal remains at a fixed 100% level for correct AEC operation.
  - No independent internal and external speaker volume control is available; they are mutually exclusive.

### Consider AEC and acoustic aspects

- ▶ Optimize the acoustic setup when using external Dante speakers:
  - Place the Dante speakers so that they avoid strong acoustic coupling into the TC Bar microphones.
  - The internal AEC of the TC Bar automatically adapts to the changed playback location.
- ▶ Avoid the following conditions:
  - Large delay loops in the audio path.
  - External DSP processing that introduces additional latency.
  - Room speakers placed very far away from the TC Bar.

**i** If you use Dante speakers with built-in DSP, disable additional echo cancellation or room correction algorithms that change the signal path delay.

### Automatic deactivation when Dante is disabled

- ▶ Understand how the ExternalSpeakerOut behavior changes when Dante is disabled.
  - If Dante is turned **OFF** on the TC Bar (via Sennheiser Control Software or a remote interface), ExternalSpeakerOut is automatically deactivated.
  - The internal speakers are re-enabled.
  - No additional user action is required.

### Notes on Microsoft Teams certification and disclaimer

- ▶ Review certification implications and the deployment disclaimer.

The External Dante Speaker Output is not part of the official Microsoft Teams certification, as this configuration is proprietary and has not been tested within the



certification scope. When you use this feature, the meeting room setup no longer complies with the Teams certification, which applies only to a standalone TC Bar.



Because installations and device combinations vary, Sennheiser cannot guarantee the same audio performance as in a standalone TC Bar configuration. Use this feature at your own risk and only in setups designed and verified by experienced AV integrators.



## Defining Exclusion and Priority Zones

### Exclusion Zone

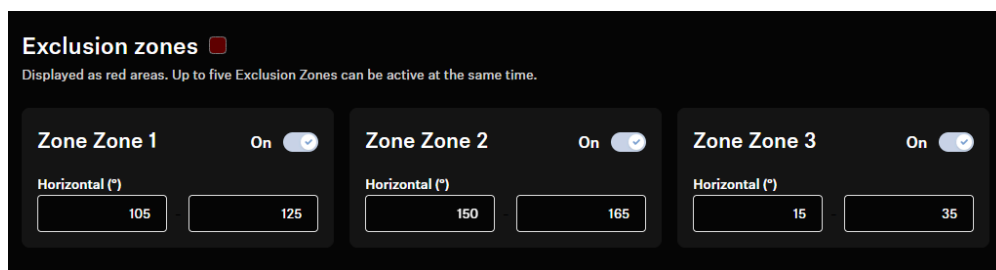
Meetings often suffer from unwanted background noise, for example from air conditioning systems, side doors, loud coffee machines and adjacent rooms. Loudspeakers with audio from far-end participants can also be a source of interference for the microphone.

To exclude this unwanted background noise, you can define Exclusion Zones in which the beam tracking will ignore audio signals. By specifying the horizontal positions of Exclusion Zones, you can easily suppress sources of noise.

### Maximum Flexibility with 3 Exclusion Zones

With the TeamConnect Bar, you can configure up to three Exclusion Zones based on their position relative to the microphone. You can select and edit the horizontal positions of these Exclusion Zones, which can be activated simultaneously.

Once the unit is initialized, the TC Bar uses a real-time algorithm to detect the noise source, which is then visualized as a 2D model directly in the Control Cockpit. This enables you to quickly and easily define a precise Exclusion Zone.



### Flexible Coverage Area

The horizontal angle can be adjusted from 15° to 165°. This coverage range encompasses a complete radius originating from the TC Bar microphones. You can set the individual zones in the Control Cockpit software with just a few clicks.

You can use the Exclusion Zones for different voice lift scenarios, depending on the situation:

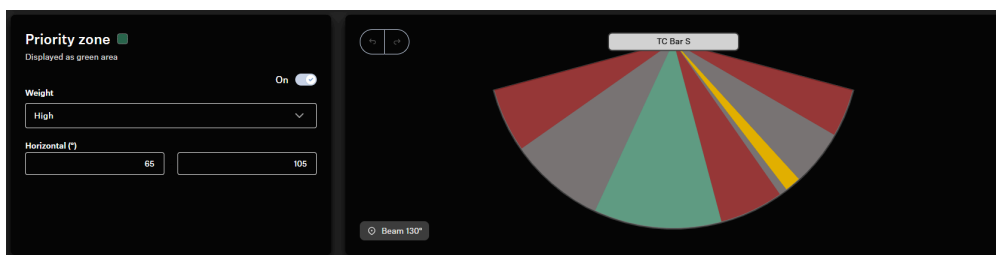
- If there is no noise in the room, the zones can remain switched off.
- If permanently installed devices (e.g. air conditioners, loudspeakers) are to be excluded, you should define an Exclusion Zone with the appropriate angle.
- If there are multiple sources of noise, you can configure and apply multiple Exclusion Zones simultaneously.

### Priority Zone

During lively discussions in meeting, the moderator needs to be able to maintain control of the conversation. You can set up a Priority Zone so that voices are not given precedence



based on volume alone. The moderator will always be prioritized in the incoming signal, even if their voice is quieter. This ensures that the person in charge also has vocal control of the situation.



### Highlighting a Priority Area

The Priority Zone is used to keep the focus on the moderator's voice. You can easily configure a Priority Zone in the Control Cockpit, taking into account the moderator's range of movement.

The horizontal angle can be adjusted from 15° to 165°.

### Weighting of the Priority Zone

You can also set the weighting of the Priority Zone. The weighting determines how intensively the beam focuses on this area. You have the following options:

- **Mid:** Increases the weighting of Priority Zone audio to about 1.5 times the normal audio output (e. g. in rooms with normal ambient noise).  
In this way, the source outside the Priority Zone must be 2 dB louder than a source inside the Priority Zone to direct the beam to the source outside the zone.
- **High:** Increases the weighting of Priority Zone audio to about 2.5 times the normal audio output (e. g. in rooms with high ambient noise).  
In this way, the source outside the Priority Zone must be 4 dB louder than a source inside the Priority Zone to direct the beam to the source outside the zone.
- **Max:** Increases the weighting of Priority Zone audio to about 4 times the normal audio output (e. g. in rooms with high ambient noise and a quiet presenter).  
In this way, the source outside the Priority Zone must be 6 dB louder than a source inside the Priority Zone to direct the beam to the source outside the zone.

### Best Practice for Setting up the Priority Zone

- ▶ In the control software, open the tab **Zones**.
- ▶ Position yourself in front of the bar and start talking.
- ▶ Monitor how the microphone beam follows you.
- ▶ You can define a Priority Zone according the detected beam.
- ▶ If the volume of talkers is similar, speakers in a Priority Zone will always be favored over other talkers who are not in the Priority Zone.



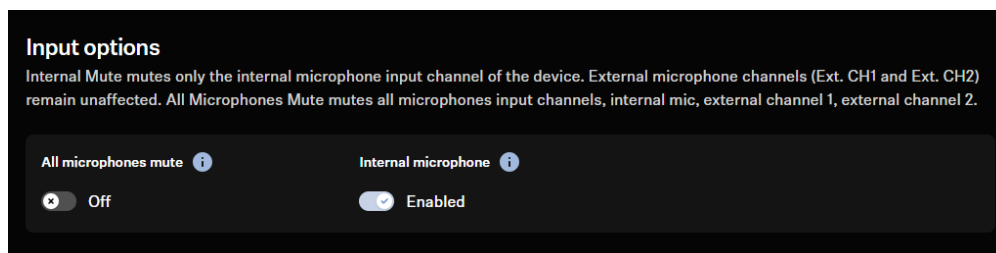
- ▶ If the talker who is not in the Priority Zone is much louder than the talker in the Priority Zone, the microphone beam will eventually select the louder talker. You can influence this behavior by choosing a weight:
  - The **Max** value adds virtual amplification to the speech from the Priority Zone so that the speaker in the Priority Zone will be picked even though they are quieter.
  - The **Mid** value causes a lower virtual amplification.

**i** The gain will not be applied to the actual microphone input.



## Muting internal and external audio signals

The microphone mute function can be activated and deactivated either via the remote control or via the [Control software](#).



### All microphones mute

Mutes all microphone input channels:

- Internal Mic.
- Ext. CH1
- Ext. CH2

### Internal microphone mute

Mutes only the internal microphone input channel of the device. External microphone channels (Ext. CH1 and Ext. CH2) remain unaffected.

### Location Based Mute (available for Control Cockpit only)

You can mute several devices in a room at the same time by using the mute switch on any transmitter. To do this, you need to add the device to the mute group for the location.

**i** On a **routed TCC M**, unwanted echoes can occur when using the **Location Based Mute** function during a conference since the microphone input stream is paused. Therefore the AEC cannot estimate the impulse response. In addition, we recommend setting the **LED Brightness of the TCC M** to 0 when using the regular mute function via the TC Bar, as the mute function is only displayed on the TC Bar and not on the TCCM.

### Deactivated

- The TC Bar is not part of a mute group.
- Muting or unmuting does not affect other transmitters.



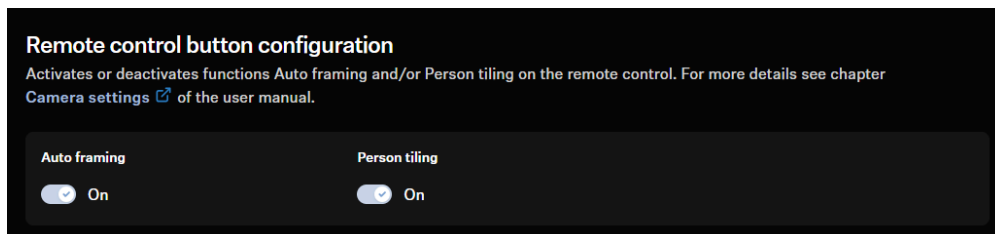
**Part of group**

- Activate this function to add the TC Bar to a mute group.
- If then one of the transmitters in this mute group is muted or unmuted, all other transmitters in the same mute group of the same location will also be muted and unmuted simultaneously.
- This allows you to create a separate mute group for each location.



## Controlling Auto Framing and Person Tiling

The Auto Framing and Person Tiling functions can only be activated or deactivated using the remote control. To do this, the initial function must be activated for remote control via the [Control software](#).



To activate the function for the remote control:

- ▶ In the control software, open the tab **Camera**.
- ▶ Activate the button for the desired function.

### Auto Framing

Auto Framing ensures that all participants remain in the field of vision even if they move around the room - whether they move their chair slightly or stand up to move around the room.

Using the **AutoFrame Speed** function, you can control the speed of automatic zooming.

### Person Tiling

With Person Tiling, each member of a meeting is brought to the front and center and receives their own tile in the meeting. As soon as the camera recognizes a participant, they receive their own tile. This also brings people from the back row into the foreground and makes them appear very close to the connected participants.

#### **i** Grouping:

If several people are sitting closely to each other in the room, they are shown together as a group in a tile. Please note that the simultaneous detection of people in the room is limited to a maximum of ten.



## 3. Recovery

### Resetting Audio to default settings

You can reset all changed audio settings to their default settings.

#### To reset the audio settings via Control Cockpit:

- ▶ In the Control Cockpit, navigate to **TC Bar > Audio** and move the slider **Reset Audio Settings** to the right.
- ▶ Confirm the setting with **OK**.

#### To reset the audio settings via LUI or DeviceHub:

- ▶ In LUI or DeviceHub, navigate to **Maintenance** and click on **Reset audio settings**.
- ▶ Confirm the reset by clicking on **Reset audio**.



## Resetting the camera settings

You can reset all changed camera settings to their defaults.

The settings are automatically reset to the default settings after selecting a **Device Profile** and the device is restarted.

### To reset the camera settings via Control Cockpit:

- ▶ In the Control Cockpit, navigate to **TC Bar > Camera** and select a **Camera Reset**.
- ▶ Click on the slider to move the slider on **Enabled**.
- ▶ Confirm the setting with **OK**.

### To reset the camera settings via LUI or DeviceHub:

- ▶ In LUI or DeviceHub, navigate to **Maintenance** and click on **Reset camera settings**.
- ▶ Confirm the reset by clicking on **Reset camera**.

✓ The camera settings will be reset and the device will be restarted.



## Resetting to factory settings

You can reset the device to factory settings either manually by pressing a button on the back of the device or remotely via the [Control software](#).

### To reset the TC Bar via Control Cockpit:

- ▶ Reset the TC Bar to factory settings by either:
  - pressing the reset button on the back of the device for at least 7 seconds, or
  - navigating to **Devices > TC Bar > Device** in the Control Cockpit and moving the slider to the right under **Factory Reset**.
- ▶ Confirm the setting with **OK**.

### To reset the TC Bar via LUI or DeviceHub:

- ▶ In LUI or DeviceHub, navigate to **Maintenance** and click on **Reset to factory settings**.
- ▶ Confirm the reset by clicking on **Reset to factory settings**.

✓ The TC Bar will be reset and the device will be restarted.



## 4. FAQ

The most frequent questions and answers summarized in a chapter.

### What is the difference between TC Bar S and TC Bar M?

The biggest difference between them is their intended meeting room sizes. These devices were conceived for the following:

- TC Bar S: Small meeting rooms (3 m x 4.5 m (10 ft x 15 ft)) for up to 7 people
- TC Bar M: Small to medium meeting rooms (4.5 m x 6 m (15 ft x 20 ft)) for up to 12 people

### How does the initial configuration of the TC Bar work?

#### Stand-alone solution

- As a stand-alone solution, the TC Bar is directly connected with a device and operated using only a USB-C® connection. Only restricted functions are available in this operating mode (see [Operation as a stand-alone solution](#)).
- You can use the embedded local WebUI (firmware version  $\geq 2.0.0$ ) to quickly and easily configure and control your device.

#### Network solution

- As a unit in the network, the TC Bar can be initially assigned to a control instance and managed via the respective application for seamless integration into your corporate network (see [Control software](#) and [Operation as a networked conference system](#)).

### Is it possible to save the camera position?

Yes, the camera position can be saved and called up again:

Press the **Preset** button on the remote control for at least 3 seconds.



Briefly press the **Preset** button to move the camera to the saved position.

You can find more information in the chapter **Setting the camera position**.

### **How does the beamforming technology work?**

Both person tiling and auto framing work using advanced video AI algorithms.

With person tiling, each member of a meeting is placed in the center and in the foreground and receives their own tile in the meeting. As soon as the camera detects a participant, they receive their own tile. As a result, even people in the back row are placed in the foreground and appear very close to the participants who are connected.

Auto framing ensures that all participants remain in the field of view, even if they move around in the room – whether they shift their chairs slightly or get up to move around the room.

You can find more information in the chapter **Camera settings**.

### **What connectivity does the TC Bar have?**

- USB-C® (main connection for the conference system)
- USB-A (connection for an external PTZ camera)
- RJ45 (Ethernet/control/Dante®)
- HDMI® (connection for screen output)
- DC IN (connection for the power supply)
- Bluetooth®

You can find more information in the chapter **Connectivity**.

### **Is there an analog audio output?**

No.



### **Is it possible to change the LED brightness?**

Yes, the setting can be configured in the Sennheiser control software.

### **What mounting options are there for this product?**

There are various mounting options for attaching and positioning the TC Bar in a room:

- **Mounting on the wall** (bracket included in the scope of delivery)
- **Mounting on the table** (bracket included in the scope of delivery)
- **Mounting on a VESA mount** (optional accessories required, see [Accessories](#))
- **Mounting on a tripod** (bracket included in the scope of delivery, but not the tripod)

You can find more information in the chapter [Mounting options](#).

### **Which audio options are available for Bluetooth®, USB, and HDMI®?**

Essentially, bidirectional audio is available (special audio profile for playing music).

- **Bluetooth®:**
  - With Bluetooth®, mobile devices (e.g., smartphones) use two different codecs: the HFP and the A2DP codec. The HFP codec is optimized for voice and conference sound and the A2DP codec for music applications.
- **USB:**
  - In USB applications, a specific EQ of the TC Bar distinguishes between conference and music playback..
- **HDMI®:**
  - HDMI® does not support any audio, since the TC Bar itself is used as an audio device. The connection serves only to transmit the video signal to an external screen.

### **What network options are available for the TC Bar?**

**The TC Bars are in the following network modes in the factory settings:**

- TC Bar S: Single domain mode
- TC Bar M: Split mode
- The TC Bar S has only one network connection and can provide only a combined signal for Dante® and control. That is why a switch is required in this configuration to connect all devices on which the control software is running via a control network and to connect additional Sennheiser microphones via a Dante® network.
- The TC Bar M has two network connections. One connection can be used to control the bar through the network using the Dante controller and through control software directly using a switch. The other port is used to connect an additional Sennheiser microphone via the Dante® network (e.g., TCC M). Only an Ethernet cable is required for this purpose. The TCC M can then be controlled using the same network via the control software or the Dante controller.



Additional configuration options are explained in the chapter **Network configuration**.

### **Is it possible to separate the Dante® and Control networks? ?**

Yes. Since both TC Bars are different, the following must be observed:

- TC Bar M:
  - Since the TC Bar M has two network connections, you can separate the networks physically by activating the network mode **Split mode**. This mode is the same for MCR and TCC M.
- TC Bar S:
  - Since the TC Bar S has only one network connection, the Dante® network and control network must be separated virtually via VLAN tagging. This can be done by selecting the mode “Dual domain mode” in the control software.

Additional configuration options are explained in the chapters **Network configuration** and **Activating tagged VLAN (Dante® network)**.

### **Are some functions deactivated in the factory settings for security reasons?**

Yes, Bluetooth® and Wi-Fi (not yet available) have to be activated in the control software (see **Activating Bluetooth®**).

### **Can I connect an additional camera?**

Yes, it is possible to connect an external PTZ camera from a third-party provider directly to the TC Bar using the USB-A connection. In this case, the user can select either the TC Bar’s internal camera or the external PTZ camera for an additional whiteboard or presenter view. There is no smart camera switching.

### **Which USB cameras can I connect?**

Since there is a USB hub in the TC Bar, the connection functions like a direct connection to the laptop/PC. Therefore, any PTZ camera can be connected. The configuration and selection must take place from the device.

### **Can I use my own DSP instead of a third-party DSP for ceiling microphones?**

Yes, if a ceiling microphone is connected to a TC Bar, no additional DSP is required. The TC Bar has an integrated auto mixing and multi-AEC function (acoustic echo compensation).

### **Does the TC Bar have an automatic echo suppression function (AEC)?**

Yes. Thanks to external microphone connections, the TC Bar has a multi-echo-suppression function.



### **Is there a remote control? And if so, are the functions contained in media control systems like Creston, Extron, etc.?**

Yes, an IR (infrared) remote control is available and included in the scope of delivery. Not all commands for the remote control are available for media control systems yet. However, they will be provided in a future update.

### **Does the TC Bar support the beamforming feature?**

Yes. The bars have a linear microphone array with 23 static beams. Depending on the direction from which a speaker is detected, the beam that can record the speaker best is selected. If an additional speaker is detected from another direction, the algorithm automatically switches the beams.

### **How does the TC Bar work if it is only connected via USB and power supply?**

If the TC Bar is supplied with power and connected to a laptop via a USB, it can be used directly as an audio and video conference device in BYOD (bring your own device) mode. In the default mode, some functions such as Bluetooth® and Wi-Fi are deactivated. They can be activated in the Sennheiser control software.

### **Does the TC Bar save personal data?**

This product has an integrated memory and can store sensitive personal data that was added in the context of the Control Cockpit software or other third-party applications.

### **How can I delete my personal data?**

You can permanently delete your personal data by resetting the device to the factory settings (see the chapter **Resetting the TC Bar to factory settings**).

### **What is the DisplayLink® technology?**

With DisplayLink®, you can quickly and easily connect several monitors to your PC using a simple USB connection. The DisplayLink® technology is integrated in the TC Bar and does not require an additional HDMI® cable from your PC to your TV screen.

### **Do I need a DisplayLink® driver on my video conference device?**

Yes. It is installed by default on Windows® PCs. Check whether the minimum required version of the DisplayLink® driver is installed on all users PCs involved in order to be able to use the plug & play function for joint usage of the screen.

It is possible that no DisplayLink® driver is installed by default on Mac devices, since Apple is a closed system. In this case, the minimum required DisplayLink® driver version must be installed as indicated below.



### **Which DisplayLink® driver version do I need?**

- Windows®: 10 or newer
- macOS: 13 or newer
- Android: 11.0 or newer
- Installed DisplayLink® driver on the operating system used

You can find information about the latest driver for the operating system you use at: [DisplayLink®](#).

### **What does the repair process look like? Are there service parts?**

The TC Bar is designed as a repairable product in order to fulfill the requirements of a sustainable service concept. We have several replacement parts and special service tools that can be used to replace parts and return the device to a flawless condition.

The TC Bars are maintained in our service centers, which are located around the world. It may be necessary to send the product to one of these service centers for maintenance.

