TeamConnect Bar

Audio/Video Application Guide

Audio/Video Application Guide

TeamConnect Bar

Contents

SENNHEISER

v1.0 | 2/21

1.   Introduction

The TeamConnect Bar (TC Bar) is the most flexible all-in-one device for small and mid-sized meeting rooms and collaboration spaces. 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.

1.1.   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 can be added to the TC Bar.

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.

> **Note:**
> 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 with Sennheiser Microphones

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)
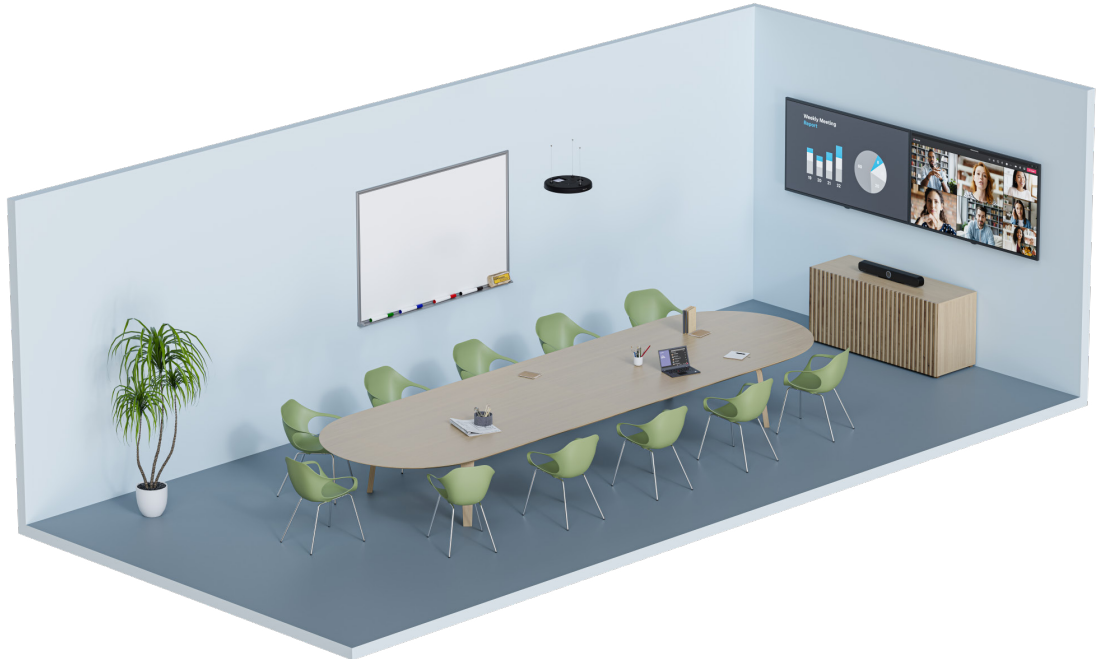
With TeamConnect Ceiling Medium, the range of audio capture can be extended to a room of up to 32 m² (344 ft²).

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

Note:
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 Sennheiser Control Cockpit software.

Here, different configurations for audio, device, zone and network settings can be manually adjusted and perfectly fine-tuned for a connected audio system.
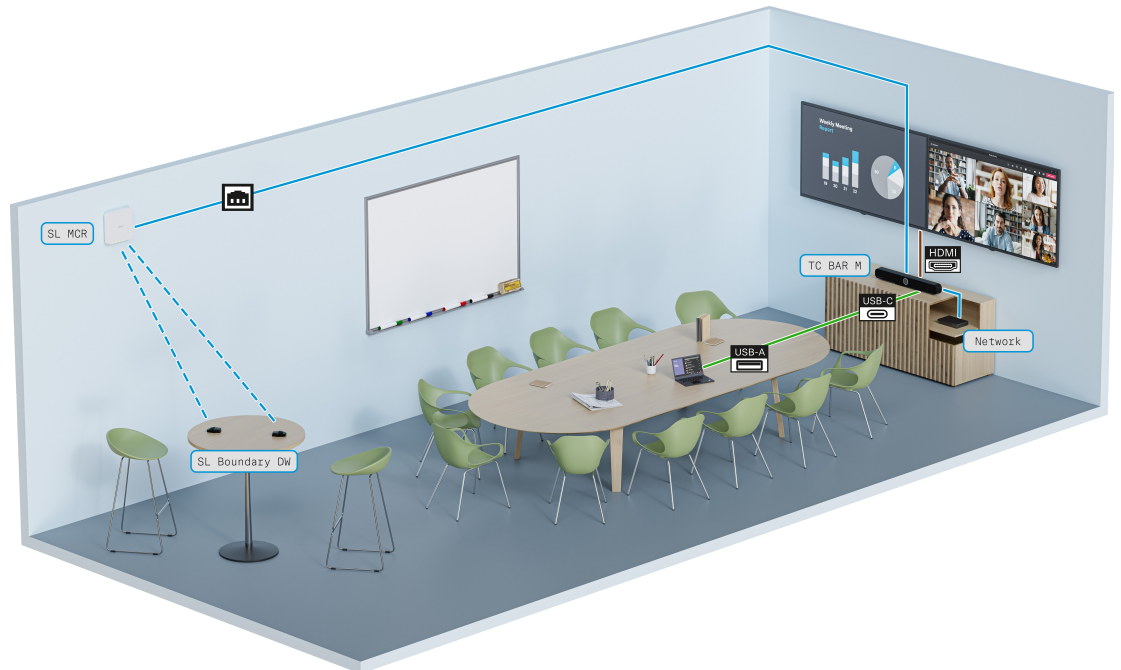
Further information on the TeamConnect Ceiling Medium product can be found here:
TeamConnect Ceiling Medium
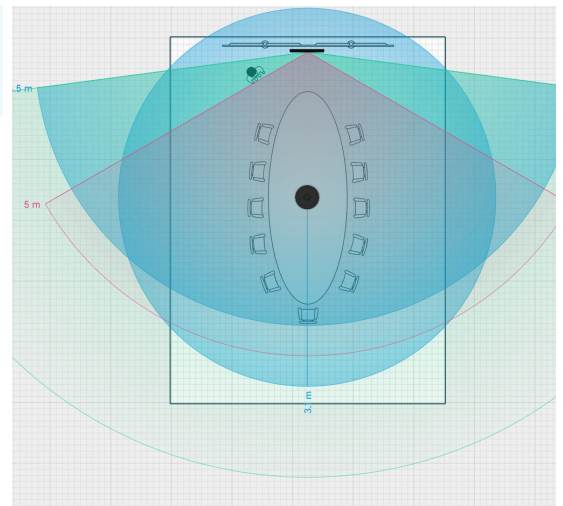
Extension using the SL Boundary microphones

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:
[SpeechLine Boundary](#)
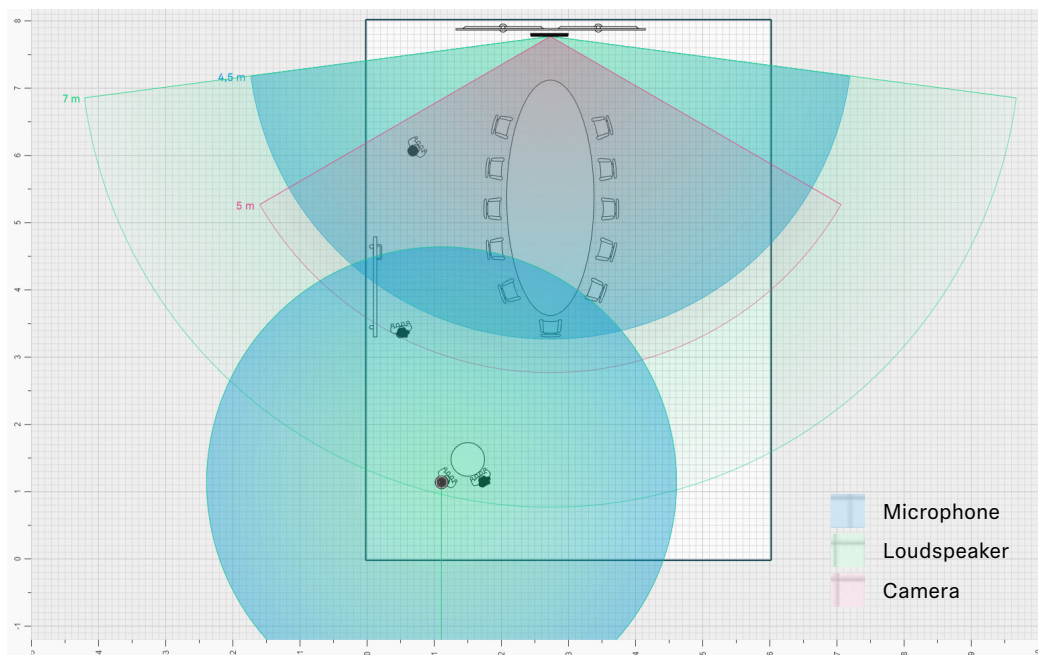
Extension using the SL Handheld DW microphone

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.

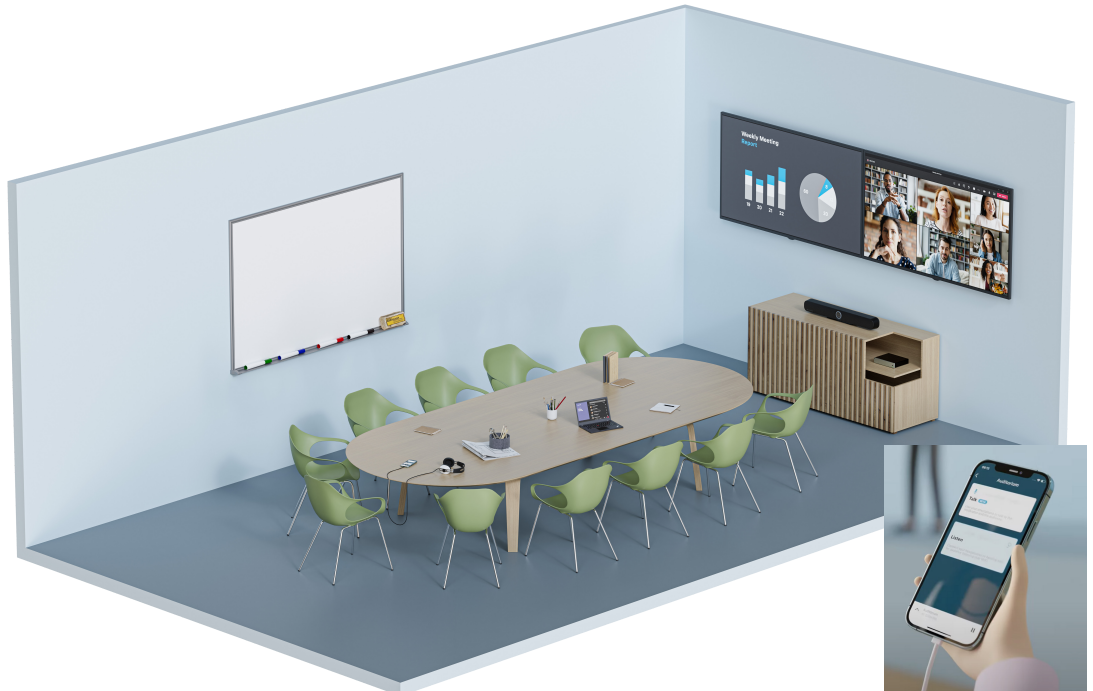Further information on the SL Handheld DW product can be found here:
SpeechLine Wireless

Microphone
Loudspeaker
Camera
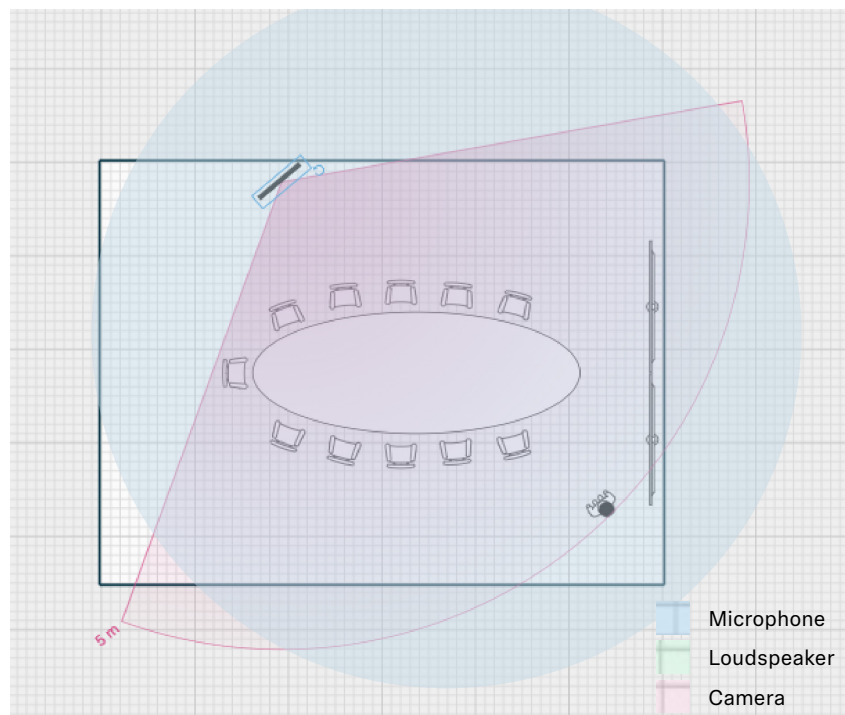
Extension using MobileConnect

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:
MobileConnect

Microphone

Loudspeaker
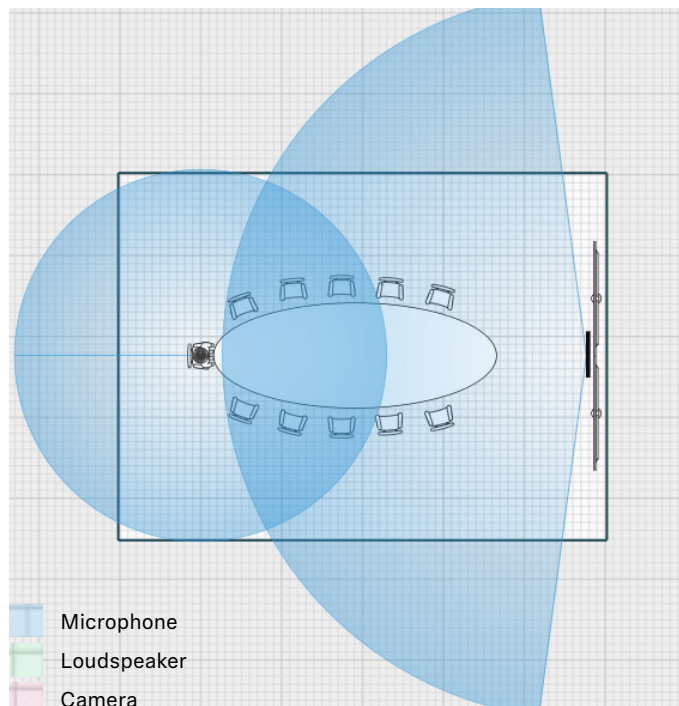
Camera

Network | Extended Video Coverage with USB Camera
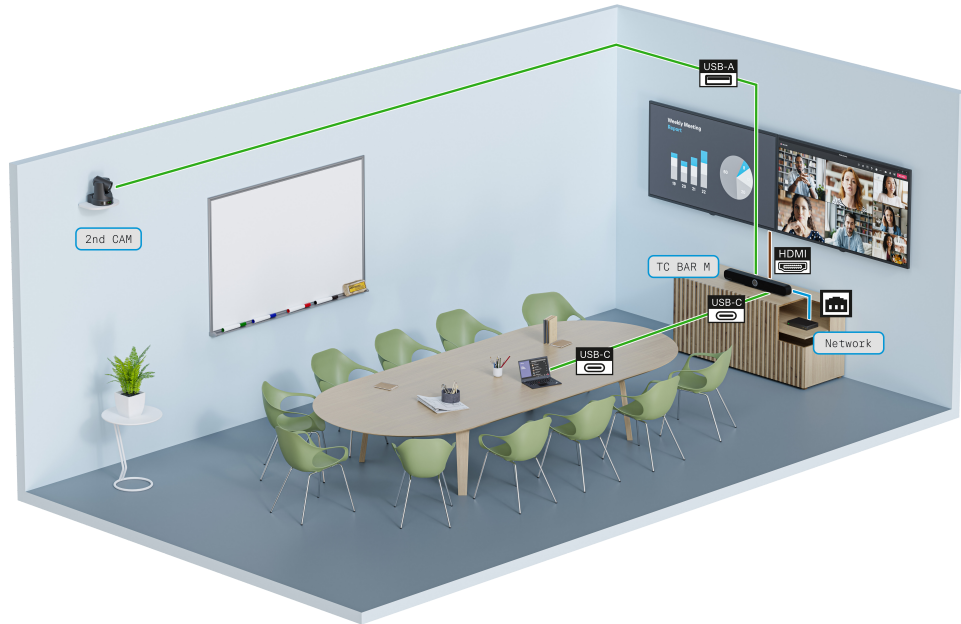
To view all conference participants from their different perspectives in a room, the camera view of the TC Bar can be extended using an additional USB camera.

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 Cockpit software you can easily monitor the status of the USB-Camera. The software is available for free and offers a range of functions for controlling and configuring the TC Bar (see Functions with the Control Cockpit).
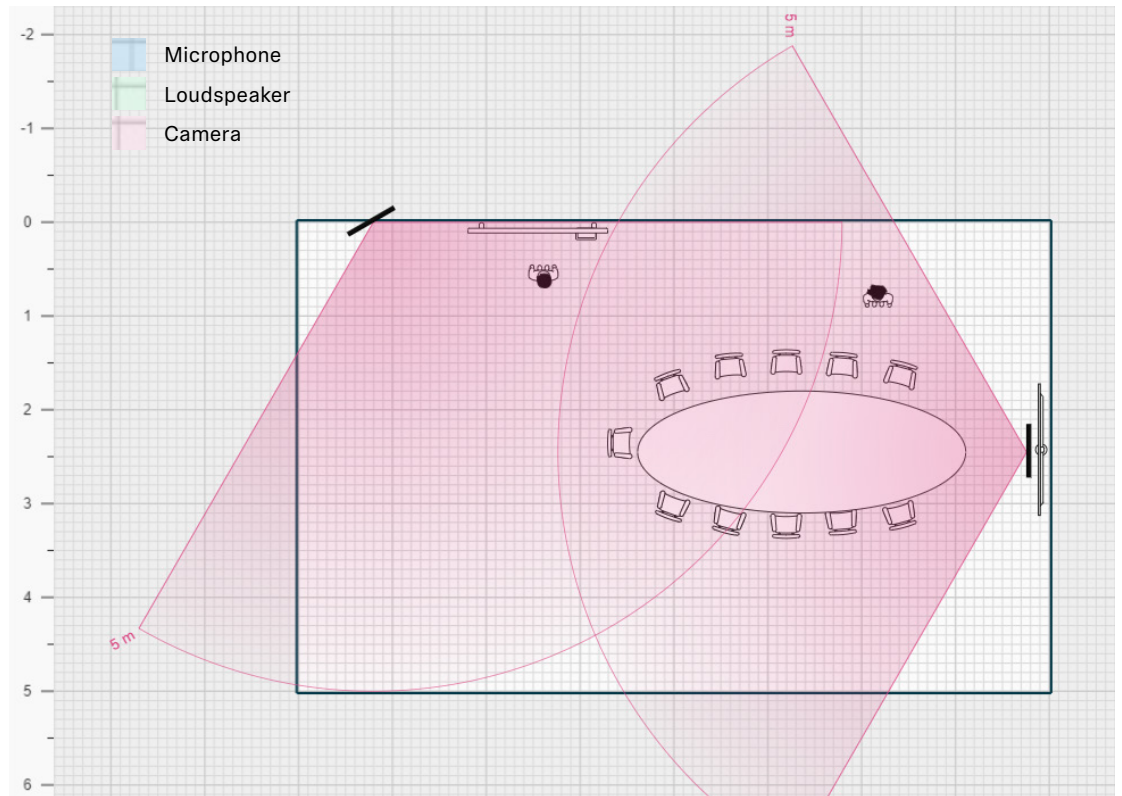
1.2.   Mounting Options

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

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:

| Description	Art. no.
Mounting Kit (included in delivery)	700117
VESA Mounting Kit	700118
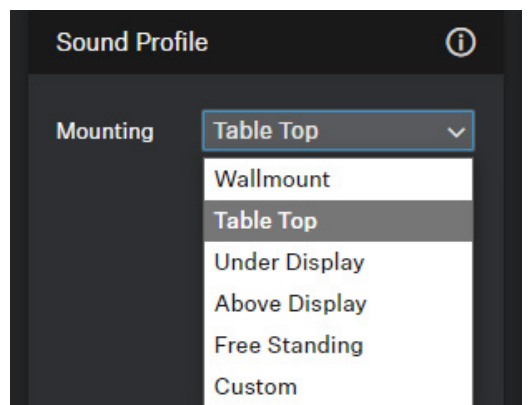
2. Best Practice

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.

2.1. 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.
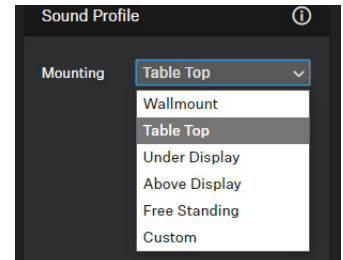
Selecting the Collaboration System

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.

Note:

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.
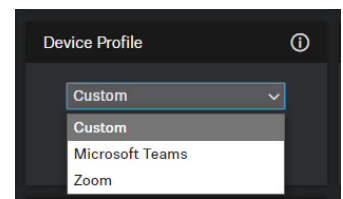
Custom (own device profile)

- 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.

Certified for

Microsoft Teams

zoom Certified

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.

> **Note:**
>
> 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.
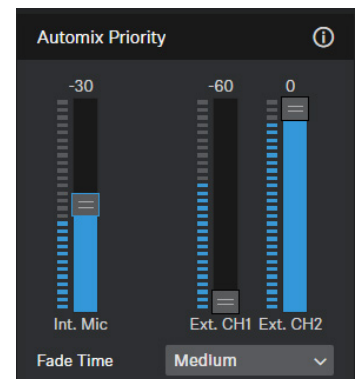
Reducing the level by the corresponding control fader will add an virtual level reduction to the channel that makes it less likely to be selected by the automixer.

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
• **Ext. CH 2** has the highest priority and is therefore mostly selected. • **Int. Mic.** is less prioritized and is therefore selected less often. • **Ext. CH 1** has the least priority.	-30 dB	-60 dB	0 dB
• **Ext. CH 1** has the highest priority and is therefore usually selected. • **Ext. CH 2** is less prioritized, and is therefore selected less often. • **Int. Mic.** has the least priority.	-60 dB	-10 dB	-30 dB
• **Int. Mic** has the highest priority and is therefore usually selected. • **Ext. CH 1** and **2** are less prioritized, and are therefore selected less often.	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.

• 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.

▷ 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.

Note:

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

- Once the active channel[1] is ready, have a person speak at a certain position.
  - ▷ Observe the signal metering of the active channel[1] 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 Cockpit 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 background noise is not amplified during pauses in speech. This is especially important when multiple microphones are used simultaneously.

During pauses in speech, the system usually boosts the gain, as it assumes there is not enough signal level. This causes the background noise to be amplified unnecessarily.

Noise Gate – Threshold

You can set a threshold level at which the system will mute the microphone.

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

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.
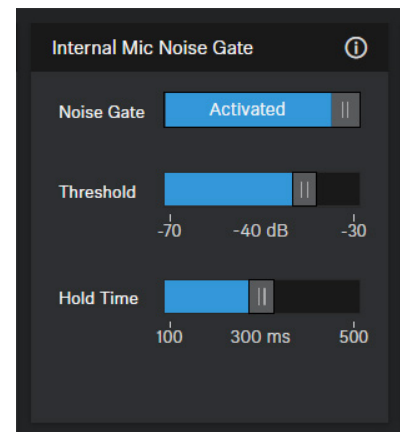
Noise Gate – Hold Time

This setting determines how quickly the microphone reduces the gain. 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.

Recommendation:

You can delay opening of the microphone channel depending on the type of speech and the ambient noise in the room. We recommend to start with a setting of 100 ms and gradually increase this value depending on the type of speech and the ambient noise in the room.

1 Upcoming feature

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 Sennheiser Control Cockpit
- 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

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 Cockpit.

▷ Click on the tab **Network** and activate the slider for **Dante Protocols**.
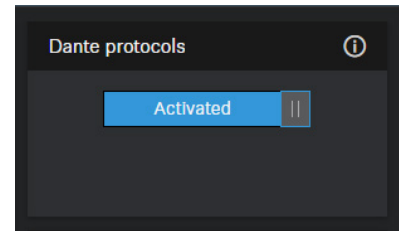
Routing TCC M signals to TC Bar

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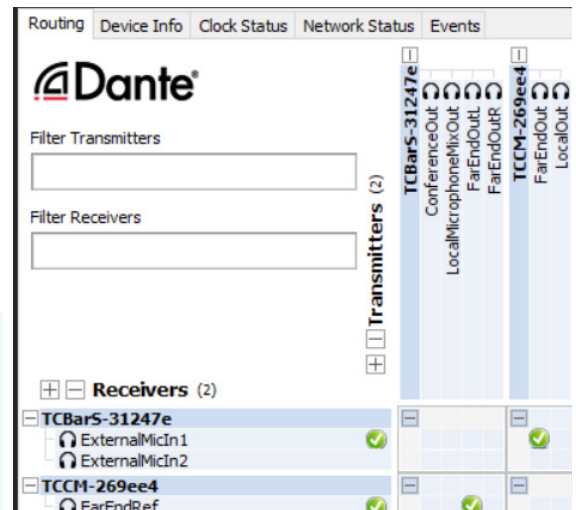
> **Recommendation:**
> We highly recommend using the beam freeze function of the TCC M microphone. Our tests have shown that the echo suppression in the TC Bar benefits by far using the beam freeze function.

Adapting the Far End Output (TCC M)

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.
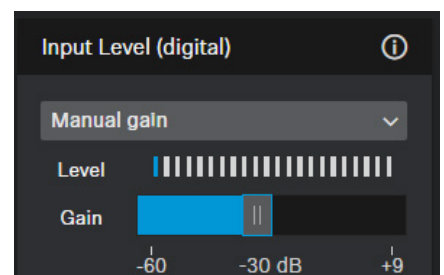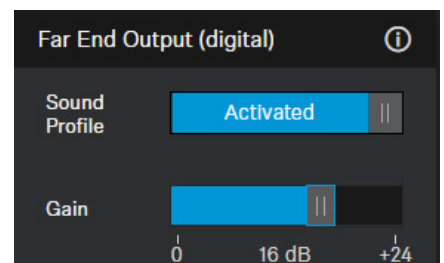
Defining Exclusion and Priority Zones

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 encompass 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.
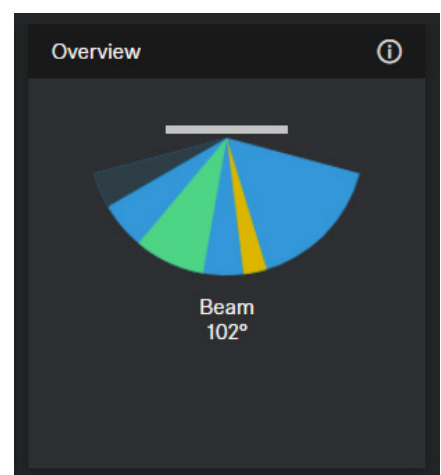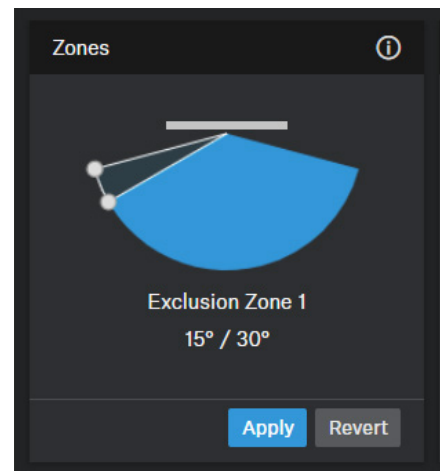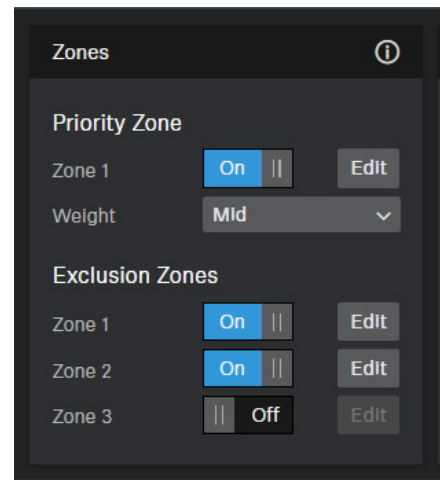
Priority Zone

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 Cockpit, 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 he or she is quieter.

- The **Mid** value causes a lower virtual amplification.

> **Note:**
>
> The gain will not be applied to the actual microphone input.
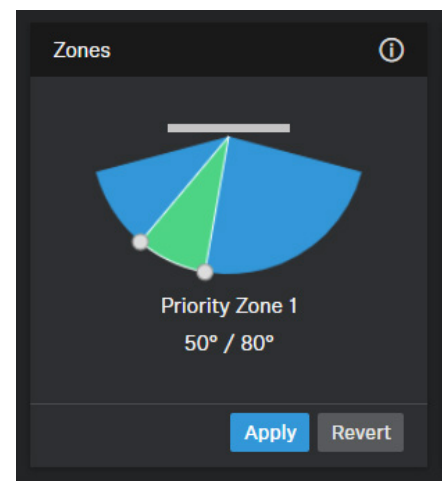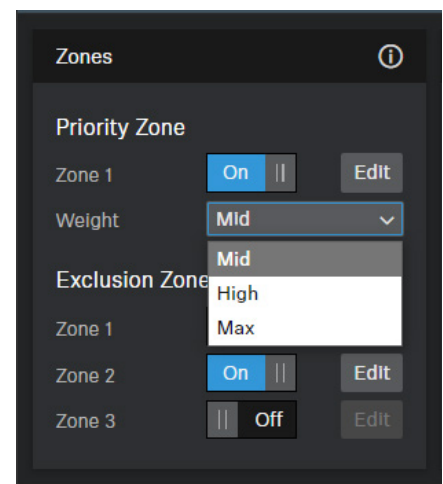
Muting Internal and External Audio Signals

The microphone mute function can be activated and deactivated either via the remote control or via the control panel of the Sennheiser Control Cockpit.

Microphone Mute

If you mute the microphone, all outgoing microphone signals are muted. Even if your connected TCC M does not display a red LED to indicate that the device is muted.

In addition, the TC Bar no longer transmits audio via the Dante® channels **NearEnd ConferenceOut** or **LocalMicrophoneMixOut**.
FarEnd ConferenceOut will still be transmitted.
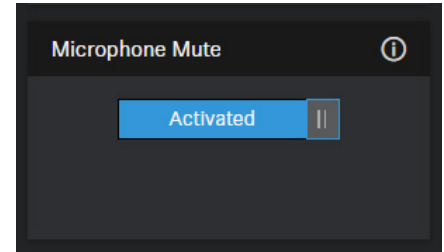
Location Based Mute

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.

> **Caution!**
> 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.
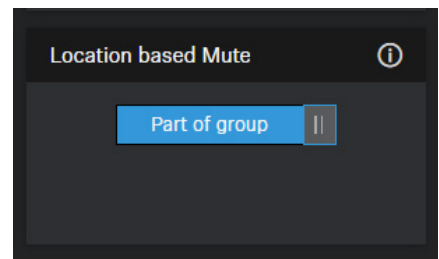
Controlling Auto Framing and Person Tiling

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 Cockpit.

To activate the function for the remote control:

▷ In the Control Cockpit, open the tab **Camera**.

▷ Activate the button for the desired function.
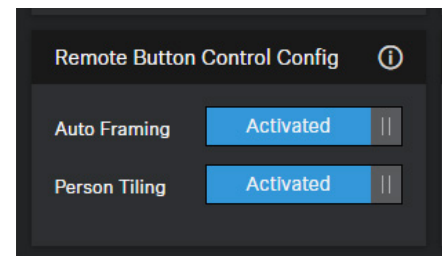
Auto Framing

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.
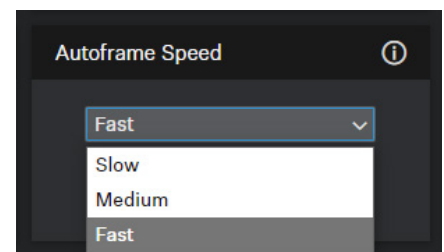
Person Tiling

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.

> **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:**

▷ In the Control Cockpit, navigate to **TC Bar** > **Audio** and move the slider **Reset Audio Settings** to the right.

▷ Confirm the setting with **OK**.

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.

▷ 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**.
  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 Sennheiser 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**.

4. FAQ

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

The main difference lies in the intended meeting room size for which the device was designed:

- **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-sized meeting rooms (4.5 m x 6 m (15 ft x 20 ft)) for up to 11 people

How do I set up the TC Bar for the first time?

The TC Bar can be operated either as a stand-alone solution in the meeting room or as a network solution in an existing network structure.

- **Stand-alone solution**
  As a stand-alone solution, the TC Bar is only connected and operated directly to an end device via a USB-C® connection. Only limited functions are available in this operating mode.
- **Network solution**
  As a unit in the network, the TC Bar is first assigned to a Control Cockpit instance and then controlled via the web interface of the Sennheiser Control Cockpit software with extensive functions.

Is it possible to save the camera position?

Yes, the camera position can be saved and recalled:

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

▷ Press the **Preset** button shortly to call up the saved position.

How does camera technology work?

Both Person Tiling and Auto Framing work using advanced video AI algorithms.

- **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.
- **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.

What ports and connections are available on the TC Bar?

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

Is there an analog audio output?

No. Please use the multiple Dante output options instead.

Is it possible to change the LED brightness?

Yes, the setting can be done via the Sennheiser Control Cockpit software.

What mounting options are available for the product?

Various mounting options are available for mounting and positioning the TC Bar in a room:

- **Wallmount** (bracket already included in the scope of delivery)
- **Table Top** (bracket already included in the scope of delivery)
- **VESA Mount** (optional accessory required, see accessories)
- **Free Standing** (bracket already included in the scope of delivery, without tripod)

What audio options are available for Bluetooth, USB and HDMI?

Generally, 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 playback and the A2DP codec for music applications.

- **USB**

  For USB applications, specific EQs are applied depending on whether the TC Bar is in a conference or is playing music.

- **HDMI**

  No audio is supported via HDMI® as the TC Bar itself is used as an audio device. The connection is only used to transmit the video signal to an external screen.

What network options are available for the TC Bar?

The default network setting for both bars is **Single Domain Mode**:

- **TC Bar S**

  The TC Bar S has only one network connection and can only provide a merged signal for Dante® and control. Therefore, in this configuration, a switch is required to connect all devices running the control software via a control network and to connect additional Sennheiser microphones via a Dante® network.

- **TC Bar M**

  The TC Bar M has two network connections. One port can be used to control the bar over the network via Dante Controller and via Control Cockpit directly via a switch. The other port is used to connect another Sennheiser microphone via the Dante® network (e.g. TCC M). Only one Ethernet cable is required for this. The TCC M can then be controlled via the same network using the Control Cockpit or Dante Controller.

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

Yes, as both TC Bars are different, please note the following:

- **TC Bar S**

  As the TC Bar S only has one network connection, the Dante® and control network must be virtually split via VLAN tagging. This is done by selecting the **Dual Domain Mode** in the Control Cockpit.

- **TC Bar M**

  As the TC Bar M has two network connections, the networks can be physically split by activating the network mode **Split Mode**. This mode is the same for Multi-Channel Receiver (MCR) and TeamConnect Ceiling Medium (TCC M).

Are some functions deactivated on delivery for security reasons?

Yes, Bluetooth, Wi-Fi and Dante® protocols must be activated in the Sennheiser Control Cockpit.

Which functions are supported via the Wi-Fi?

The TC Bar can be connected to a Wi-Fi network via an existing Wi-Fi connection using the Sennheiser Control Cockpit software and controlled remotely from this network.

In this case, the connection via an Ethernet cable (RJ45) would only be necessary for the initial setup and to activate the Wi-Fi function. No audio or video transmission is supported.

[1] upcoming feature

Can I plug in an additional camera?

Yes, it is possible to connect an external third-party PTZ camera directly 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.

Which USB cameras can I plug in?

As there is a USB hub in the TC Bar, the connection works like a direct connection to the laptop/PC. Therefore, any PTZ camera can be connected. Configuration and selection must be carried out from the end device.

Can I use my own DSP for ceiling microphones instead of a 3rd party DSP?

Yes, if a ceiling microphone is connected to a TC Bar, no additional DSP is required. The TC Bar has integrated auto-mixing and multi-AEC functionality (Acoustic Echo Cancellation).

Does the TC Bar include automatic echo cancellation (AEC)?

Yes, the TC Bar has multi-echo suppression thanks to external microphone connections.

Is there a remote control? And if so, are the functions included in media control systems such as Crestron, Extron etc.?

Yes, an IR (infrared) remote control is available and included in the scope of delivery. Not all remote control commands for media control systems are available yet. These will be made available 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 recognized, the beam that can best capture the speaker is selected. If another speaker is detected from a different direction, the algorithm automatically switches the beams.

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

When the TC Bar is powered and connected to a notebook via USB, it can be used directly as an audio and video conferencing device in BYOD (Bring-Your-Own-Device) mode. In standard mode, some functions such as Bluetooth, Wi-Fi and Power over Ethernet are deactivated. These can be activated in the Sennheiser Control Cockpit control software.

Does the TC Bar store personal data?

This product with integrated data storage can store sensitive, personal data that has been added as part of the Control Cockpit software or other 3rd party applications.

How can I delete my personal data?

You can permanently delete your personal data by resetting to factory settings (see „Resetting to Factory Settings").

What is DisplayLink technology?

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

Do I need a DisplayLink driver on my video conferencing device?

Yes, these are installed by default on Windows PCs. Check that the minimum version of the DisplayLink driver is present on all user PCs involved to be able to use the Plug & Play functionality for screen sharing.
Mac devices may not have a DisplayLink driver installed by default as Apple is a closed system. In this case, it is necessary to install the minimum DisplayLink driver version as indicated below.

Which DisplayLink driver version do I need?

- Windows: 10 or later
- Mac OS: 13 or later
- Android: 11.0 or later
- DisplayLink driver installed on the operating system you are using

Information on the latest driver for your operating system can be found at:
https://www.synaptics.com/products/displaylink-graphics/downloads.

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

The TC Bar is designed as a repairable product to meet the requirements of a sustainable service concept. We have several spare parts and special service tools to replace parts and restore the device to perfect condition.

The TC Bars are serviced in our service centers around the world. If necessary, the product must be sent to one of these service centers for maintenance.