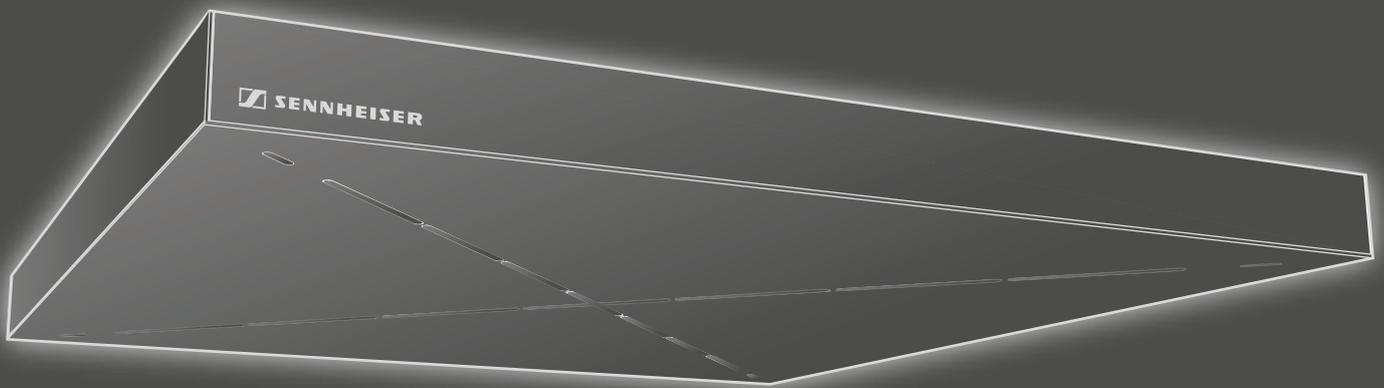


SL Ceiling Mic



Mounting instructions

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 You will find a PDF version of this instruction manual in the download area of the **TeamConnect Ceiling** product page at www.sennheiser.com.

Important safety instructions

1. Read these instructions.
2. Keep these instructions. Always include these instructions when passing the apparatus on to third parties.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Use the mains plug to disconnect the apparatus from the mains.
15. Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
17. The mains plug of the power supply cord shall remain readily operable.
18. Ensure that the power supply is
 - properly plugged into the wall socket,
 - only operated within the permissible temperature range (see specifications),
 - not covered or exposed to direct sunlight for longer periods of time in order to prevent heat accumulation.
19. The power supply must be readily accessible so that the equipment can be easily disconnected from the AC power.
20. Do not attempt to service the power supply yourself, as opening or removing covers may expose you to dangerous voltage, and will void the limited warranty.

Risk of fire due to overloading

Do not overload wall outlets and extension cables as this may result in fire and electric shock.

Intended use

The product is designed for indoor use in meeting rooms, conference rooms and auditoriums.

The product can be used for commercial purposes.

It is considered improper use when this product is used for any application not named in the corresponding instruction manual.

Sennheiser does not accept any liability for damage arising from abuse or misuse of the product and its attachments/accessories

Safety instructions for installation

During installation, observe the following safety instructions.

- ▶ Have the product mounted and the electrical installations performed by a specialist.
- ▶ Due to his/her technical training, know-how and experience as well as knowledge of relevant provisions, regulations and standards, the specialist must be able to assess assigned tasks, recognize potential hazards and ensure appropriate safety measures.
- ▶ Observe and follow the local, national and international regulations and standards.

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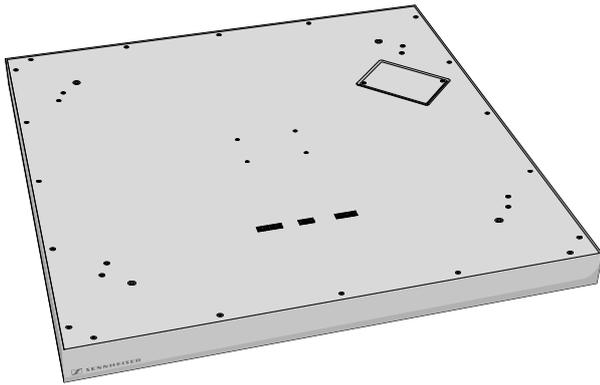
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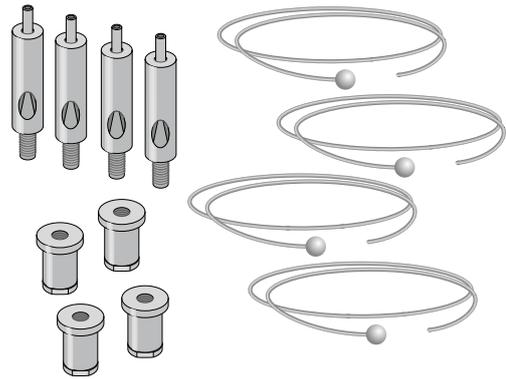
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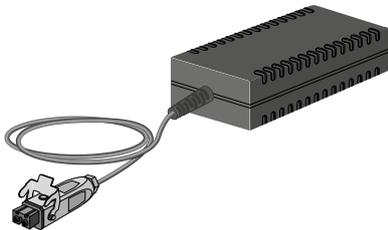
Package contents



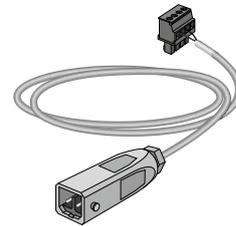
SL Ceiling Mic ceiling microphone



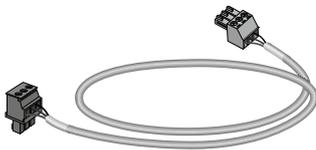
Ceiling suspension kit consisting of 4 ceiling brackets, 4 product brackets, and 4 steel cables



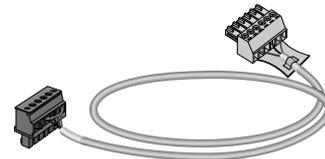
Power supply unit with STAK2 connector
(EU, UK and US mains cables included: IEC-60320-C7)



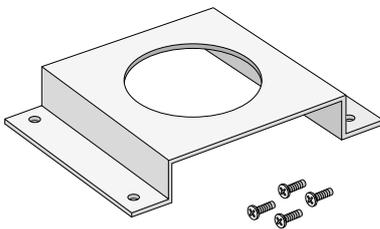
Power cable 10 m with 1x 4-pin terminal connector and 1x STAS2 connector



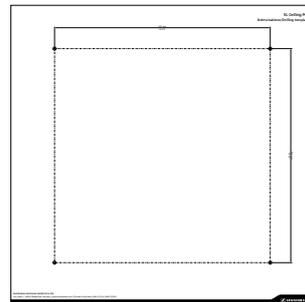
Audio cable 10 m with 2x 3-pin terminal connectors



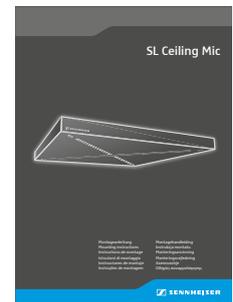
Control cable 10 m with 2x 6-pin terminal connectors



Cable route including 4 screws M3



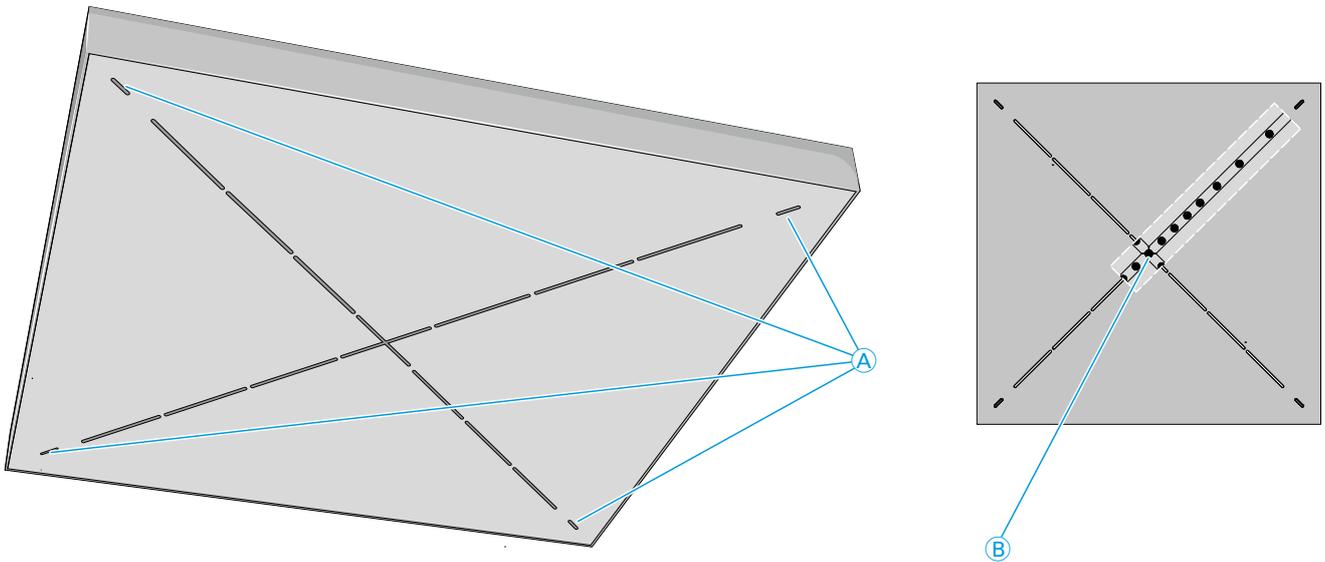
Drilling template



Mounting instructions

Product overview

Bottom side

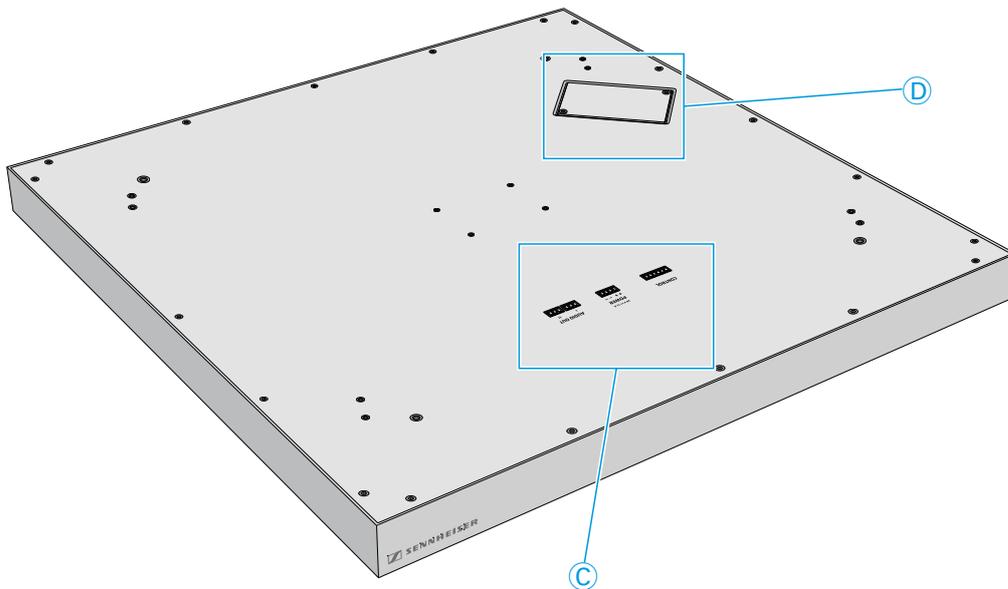


Ⓐ Status LEDs

Ⓑ Microphone capsules

red	microphone is muted
blue	microphone is active
green	analog telephone call is active
29x KE 10-237	

Top side



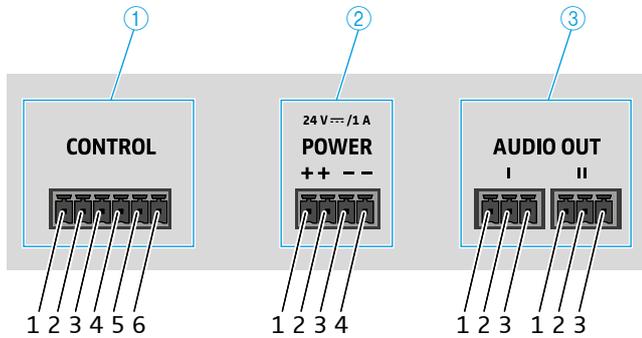
Ⓒ Connecting terminals

Ⓓ Service hatch

for details see next page

for details see next page

© Connecting terminals



① CONTROL terminal

Logic port for connecting the SL TeamConnect CB1 or a media control system.

Pin allocation:

- 1 +24 V
- 2 COM
- 3 On status
- 4 Hook status
- 5 Mute status
- 6 Ground

Controls the LED status indication (On/Hook/Status)

② POWER terminal

Power supply 24 V DC

Pin allocation:

- 1 +24 V
- 2 +24 V
- 3 Ground
- 4 Ground

③ AUDIO I and AUDIO II terminals

Parallel audio outputs of the microphone signal

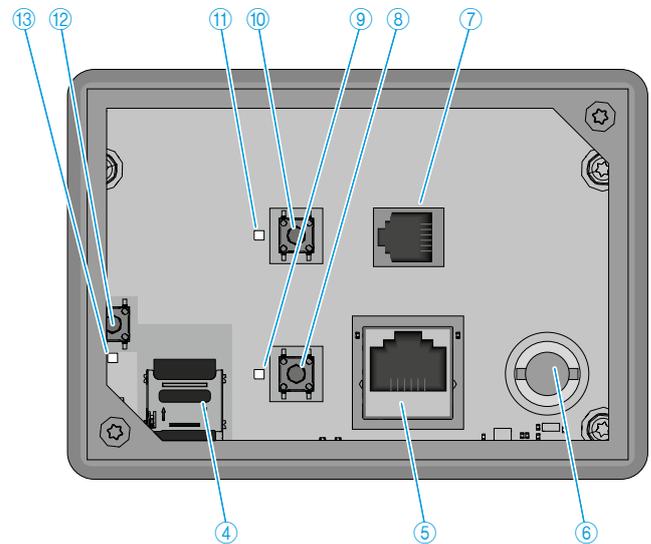
Pin allocation:

- 1 Audio +
- 2 Audio -
- 3 Ground

© Service hatch

Remove the service hatch by removing the two screws with a Torx screwdriver.

The service hatch must remain closed during operation.



④ SD card slot



Only for authorized Sennheiser service partner.

⑤ RJ-45 network socket

For connecting a computer for configuring the SL Ceiling Mic.

⑥ BNC socket



Only for authorized Sennheiser service partner.

⑦ Service socket



Only for authorized Sennheiser service partner.

⑧ SET button



Only for authorized Sennheiser service partner.

⑨ SET LED

Flashes when the SL Ceiling Mic is ready for operation.

⑩ IP button

Switches between static IP (192.168.1.10) and integrated DHCP server. The SL Ceiling Mic starts with the static IP.

⑪ IP LED

Lights up for static IP and flashes for DHCP.

⑫ Reset button

Performs a restart of the SL Ceiling Mic.

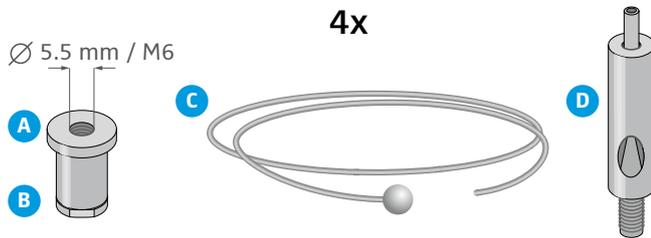
⑬ Reset LED

Lights up when mains voltage is present.

Installing the SL Ceiling Mic

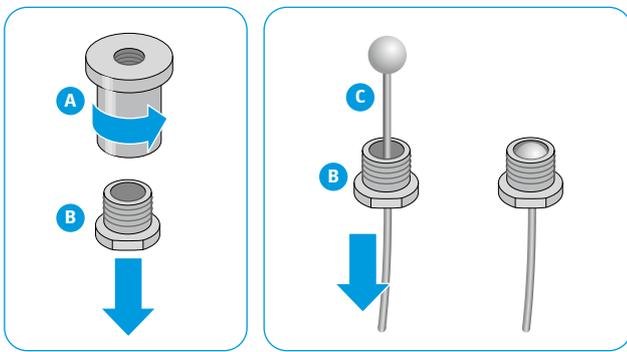
Installing the SL Ceiling Mic with the supplied ceiling suspension kit

Scope of delivery of the ceiling suspension kit



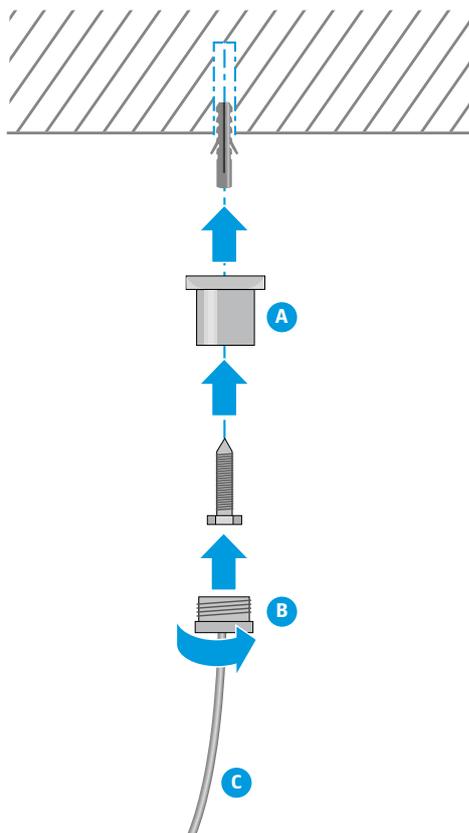
Screws and anchors for attaching the ceiling suspension kit to the ceiling are not included. Make sure to use adequate screws and anchors for the installation, depending on the material characteristics of the ceiling.

Preparing the ceiling bracket

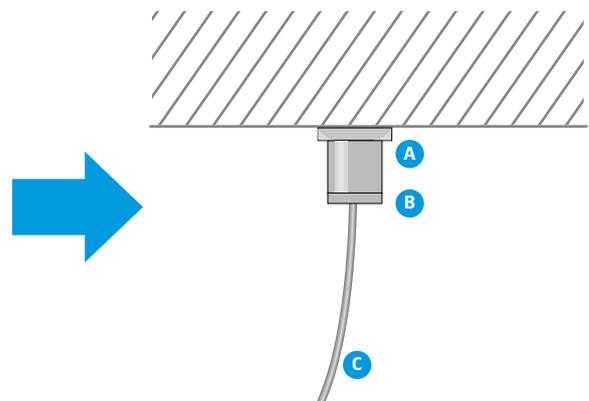


- ▶ Unscrew parts **A** and **B** of the ceiling bracket.
- ▶ Thread the steel cable **C** into part **B** so that the ball will fit in part **A**.
- ▶ Repeat these steps for the remaining three brackets.

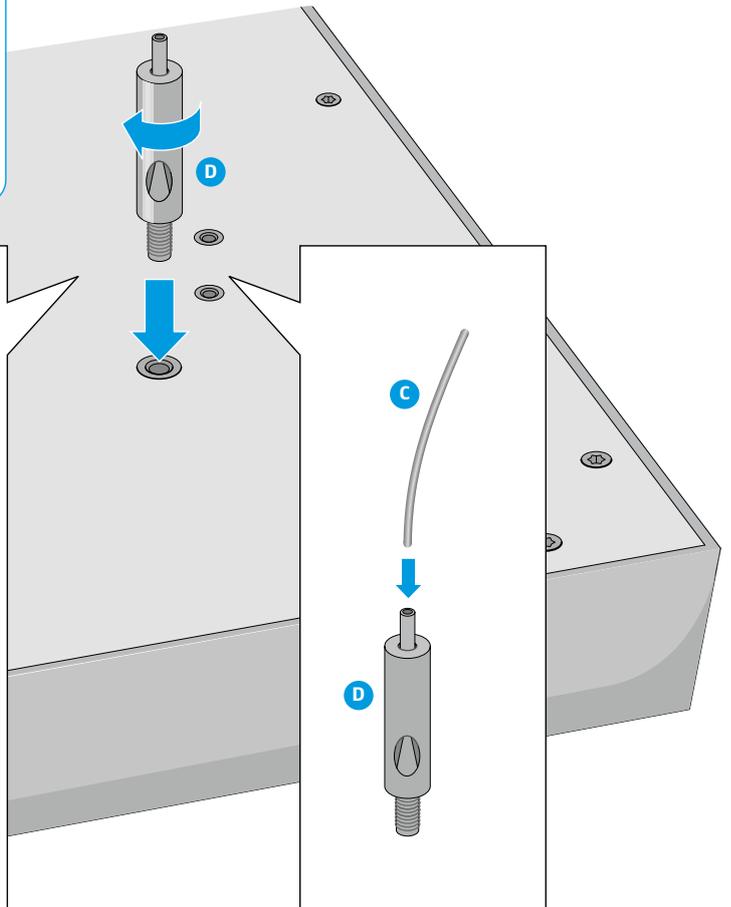
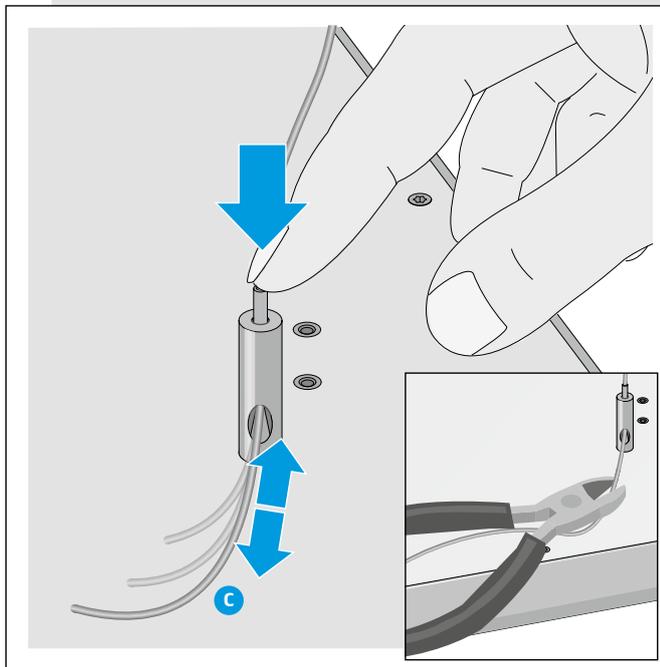
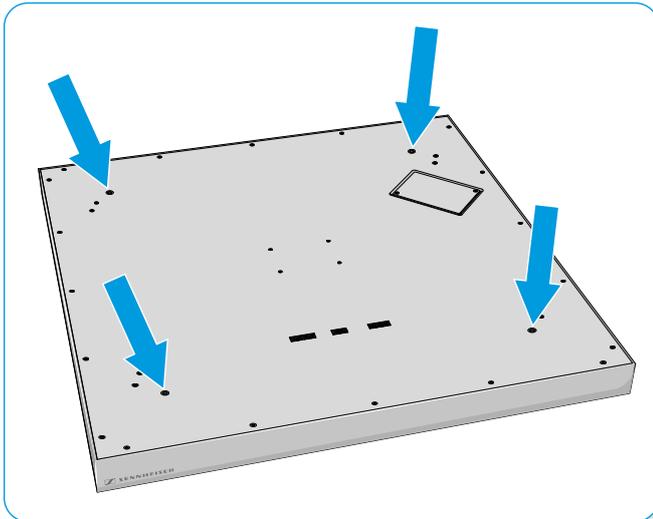
Installing the ceiling bracket



- ▶ Attach part **A** of the ceiling bracket with an adequate screw and anchor to the ceiling.
- ▶ Use the supplied drilling template for determining the positions of the drill holes.
- ▶ Then screw part **B** of the ceiling bracket into part **A** of the ceiling bracket.
- ▶ Repeat these steps for the remaining three brackets.



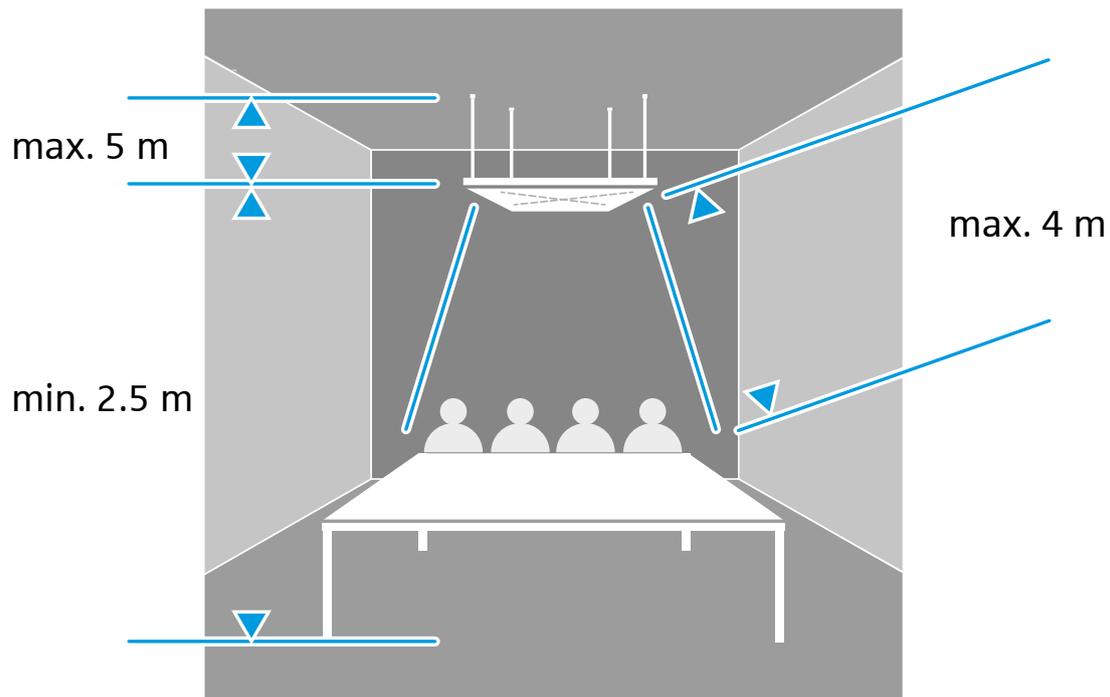
Installing the product bracket



- ▶ Screw the product bracket **D** into the dedicated threads on the top side of the SL Ceiling Mic as shown in the picture.
- ▶ Adjust the desired length of the steel cable **C** by pushing the cable reeving system with your finger into the product bracket **D** and moving the steel cable as required.
- ▶ Cut off the excess steel cable with an appropriate pair of pliers.
- ▶ Repeat these steps for the remaining three brackets.

Adjusting the installation height

Observe the recommended height requirements during installation of the SL Ceiling Mic.



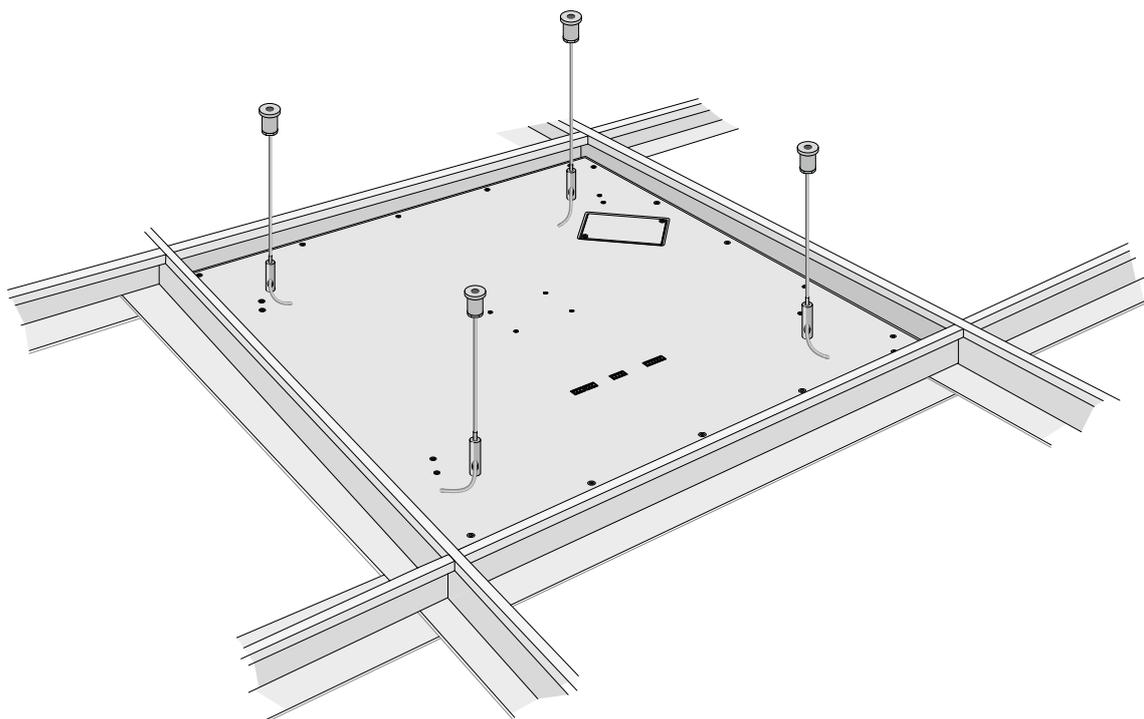
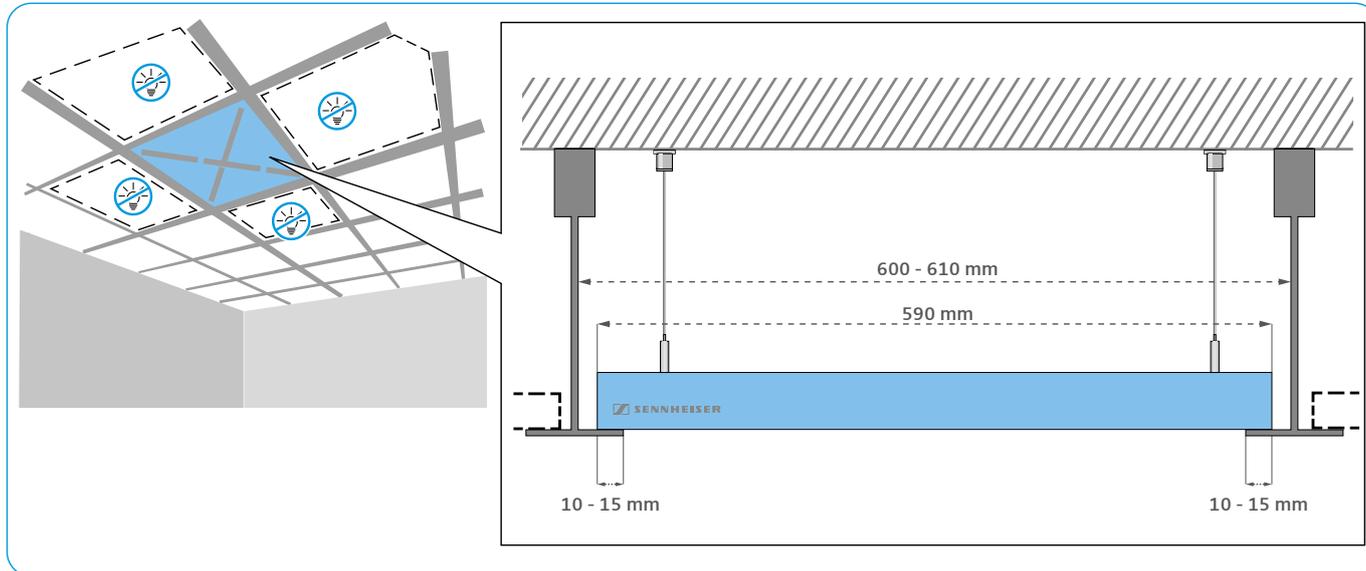
The recommended distance between the person speaking and the SL Ceiling Mic should not exceed 4 m. The distance can be adjusted using the steel cables (max. 5 m from the ceiling).

The minimum distance of the SL Ceiling Mic to the floor must be 2.50 m.

Installing the SL Ceiling Mic into an acoustic ceiling/panel ceiling

The SL Ceiling Mic can easily be integrated into suspended acoustic ceilings or panel ceilings with standardized square ceiling panels (600 x 600 mm).

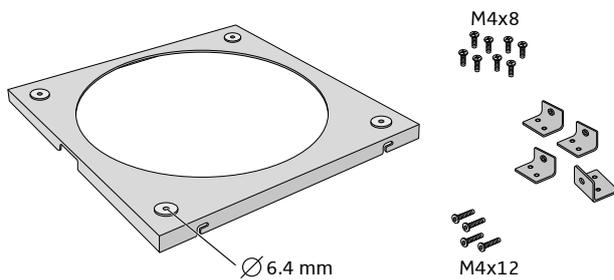
Thereby you should make sure that the SL Ceiling Mic is not installed directly beside lamps or other electrical devices in the ceiling.



- ▶ Remove one ceiling panel from the ceiling.
- ▶ Lay the SL Ceiling Mic into the frame of the panel ceiling.
Pay attention to the distances indicated in the picture above.
- ▶ Secure the SL Ceiling Mic additionally against falling by installing the ceiling suspension kit on the ceiling of the room (see page 7).

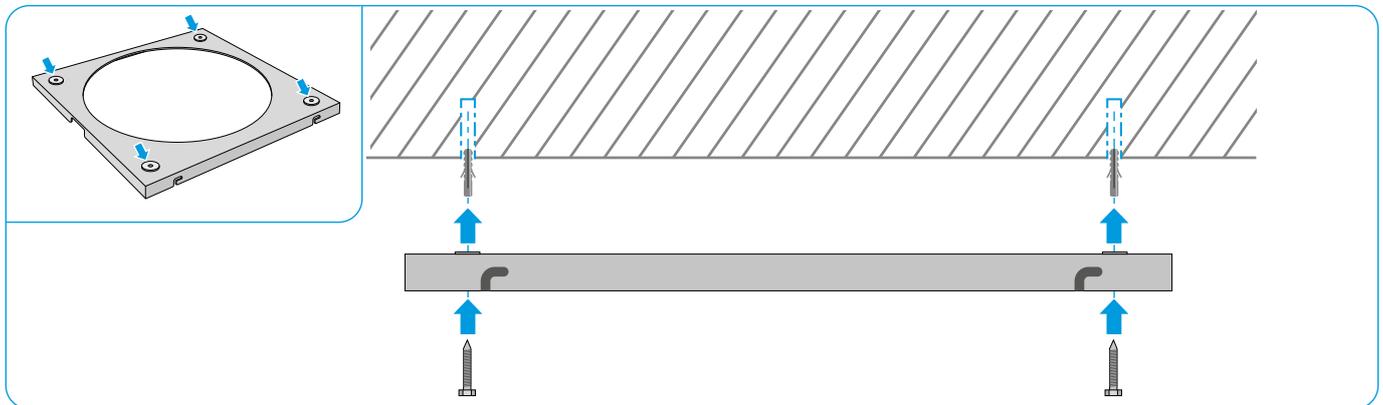
Installing the SL Ceiling Mic with the optional ceiling fixation bracket

Scope of delivery of optional ceiling fixation bracket (Sennheiser article number 506846)



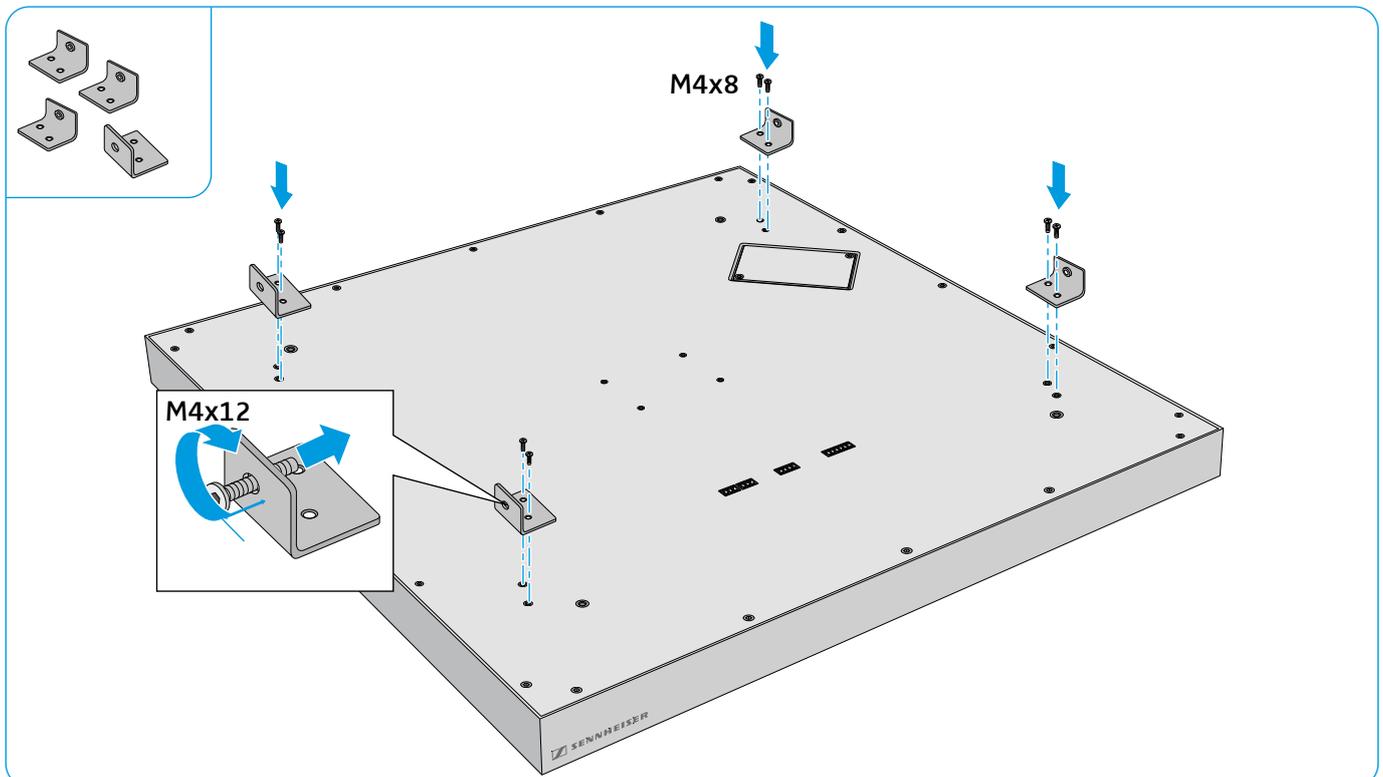
Screws and anchors for attaching the ceiling fixation bracket to the ceiling are not included. Make sure to use adequate screws and anchors for the installation, depending on the material characteristics of the ceiling.

Installing the ceiling fixation bracket



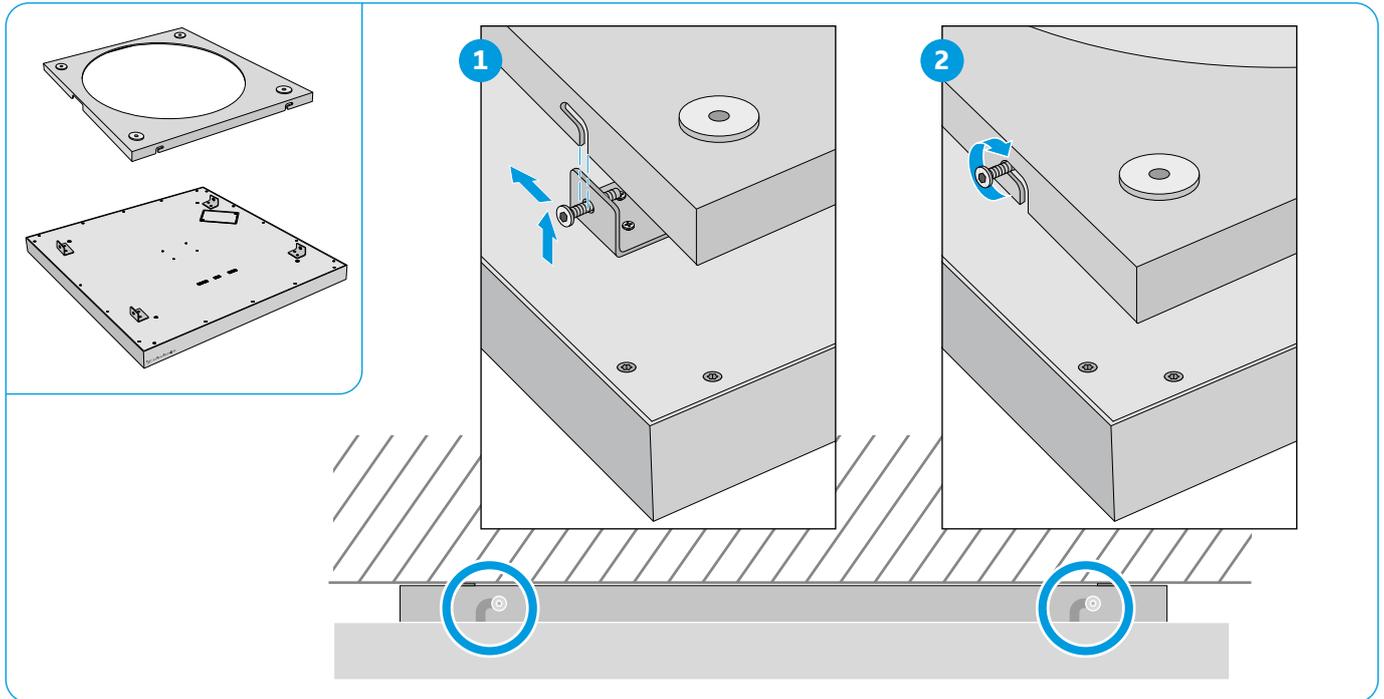
- ▶ Attach the ceiling fixation bracket to the ceiling using adequate screws and anchors.

Attaching the mounting angles to the SL Ceiling Mic



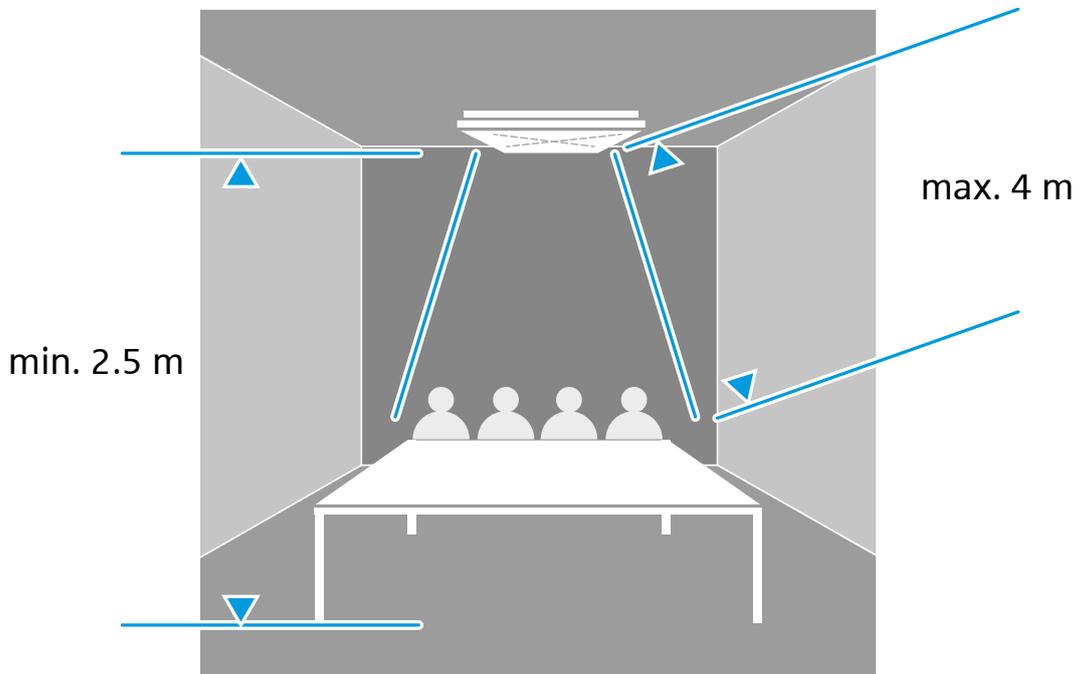
- ▶ Screw the four mounting angles onto the SL Ceiling Mic as shown in the picture using the supplied M4x8 screws.
- ▶ Screw one M4x12 screw one at a time from the side into the four mounting angles. Make sure that the bolts have not been fully screwed home (see picture).

Attaching the SL Ceiling Mic to the ceiling fixation bracket



- ▶ Slide the SL Ceiling Mic with the four M4x12 screws of the mounting angles into the slots of the ceiling fixation bracket as shown in the picture above.
- ▶ Tighten the four M4x12 screws, so that the SL Ceiling Mic is firmly seated into the ceiling fixation bracket.

Adjusting the installation height

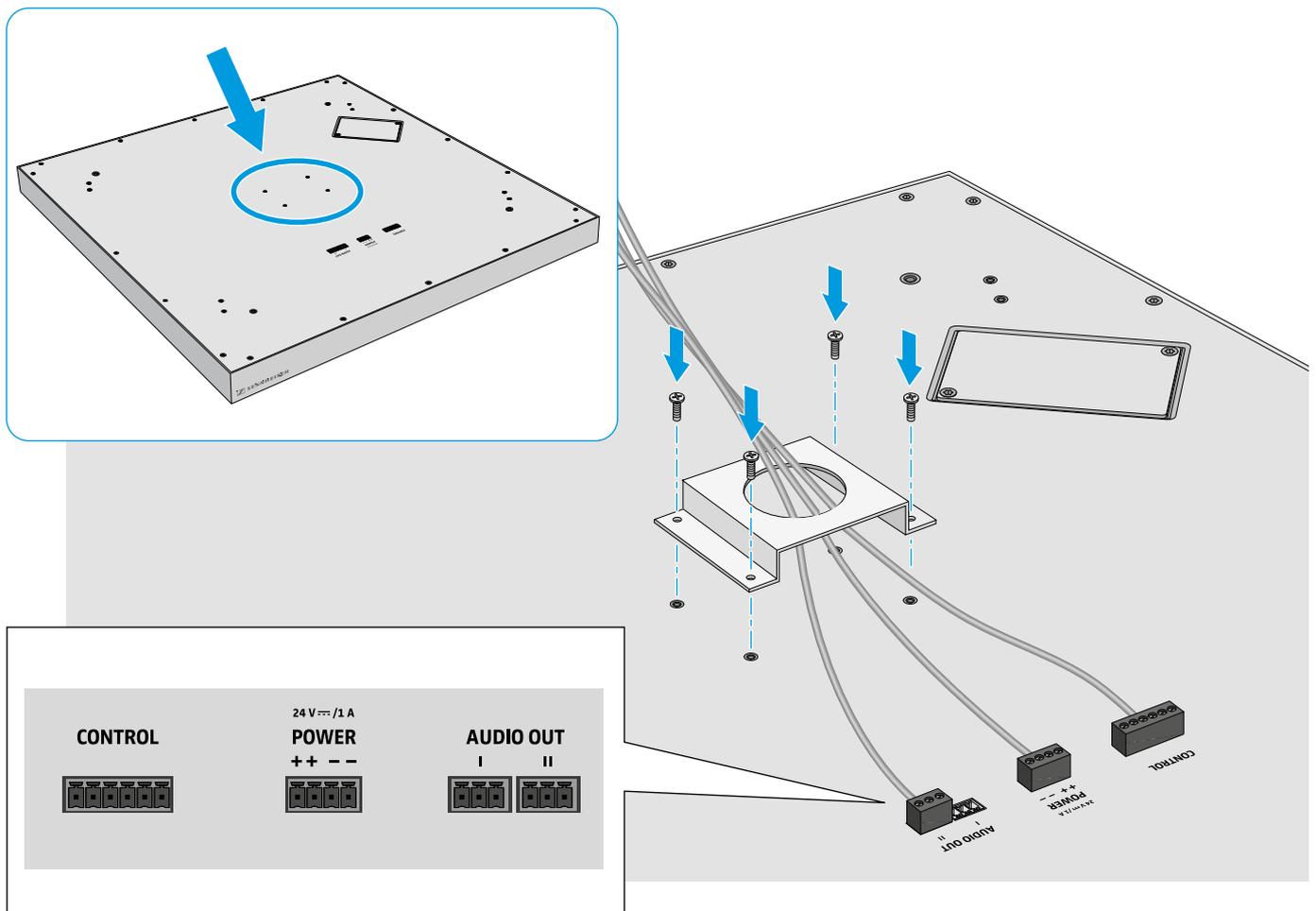


The recommended distance between the person speaking and the SL Ceiling Mic should not exceed 4 m.

The minimum distance of the SL Ceiling Mic to the floor must be 2.50 m.

We recommend to use the ceiling suspension kit for installation if a larger distance caused by the room height would be achieved (see page 7).

Connecting the cables



To connect the supplied audio cable:

- ▶ Connect the angled 3-pin connector of the audio cable to the **AUDIO I** or the **AUDIO II** terminal.

To connect the supplied power cable and power supply unit:

- ▶ Connect the angled 4-pin connector of the power cable to the **POWER** terminal.
- ▶ Connect the STAS2 connector of the power cable to the STAK2 connector of the power supply unit and lock the connectors.

To connect the supplied control cable:

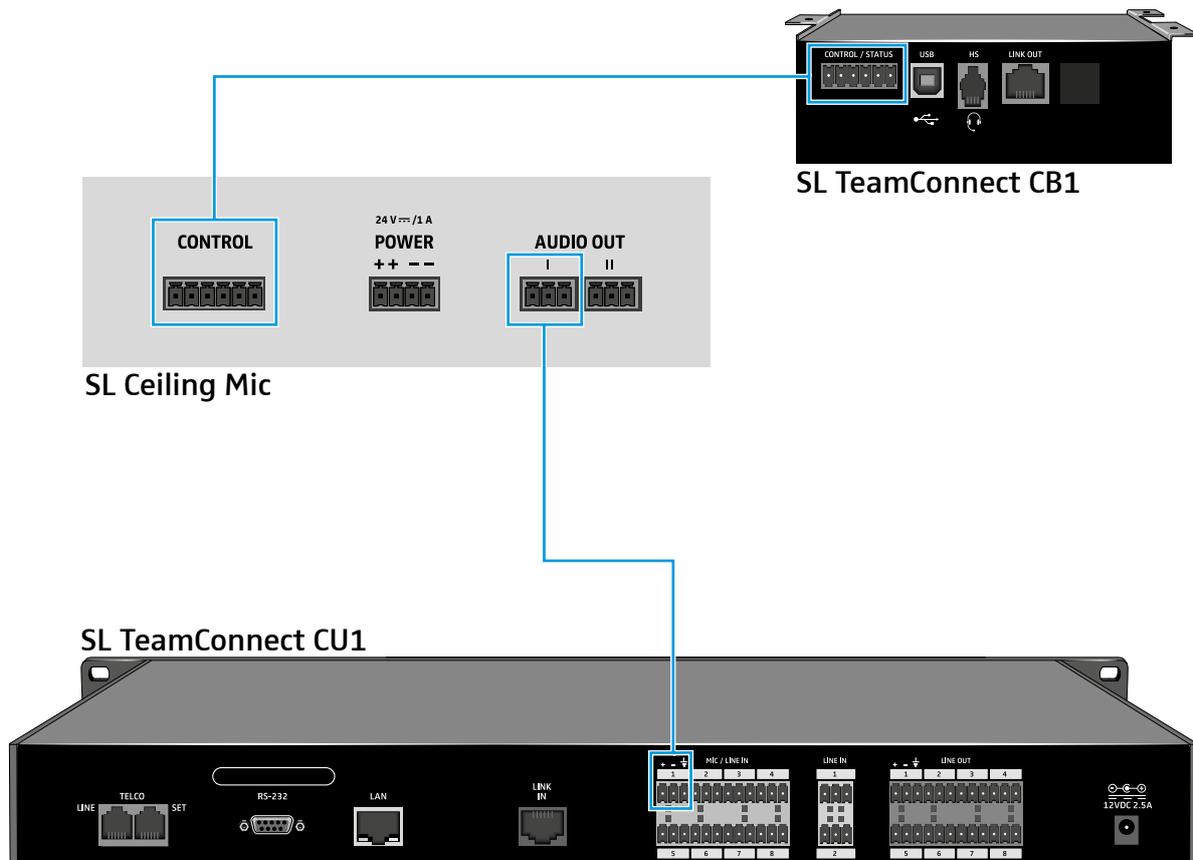
- ▶ Connect the angled 6-pin connector of the control cable to the **CONTROL** terminal.

To install the cable route:

- ▶ Pull the three cables through the hole in the middle of the cable route as shown in the picture above.
- ▶ Screw the cable route to the middle of the SL Ceiling Mic using the four supplied screws as shown in the picture above.

Connecting the SL Ceiling Mic to the TeamConnect system

To connect the SL Ceiling Mic to the TeamConnect system:



Audio signal:

- ▶ Connect the angled 3-pin connector of the audio cable to the **AUDIO I** or the **AUDIO II** terminal of the SL Ceiling Mic.
- ▶ Connect the second 3-pin connector of the audio cable to one of the eight microphone inputs **MIC / LINE IN** of the SL TeamConnect CU1.

Control signal:

- ▶ Connect the angled 6-pin connector of the control cable to the **CONTROL** terminal of the SL Ceiling Mic.
- ▶ Connect the second 6-pin connector of the control cable to the **CONTROL / STATUS** socket of the SL TeamConnect CB1.



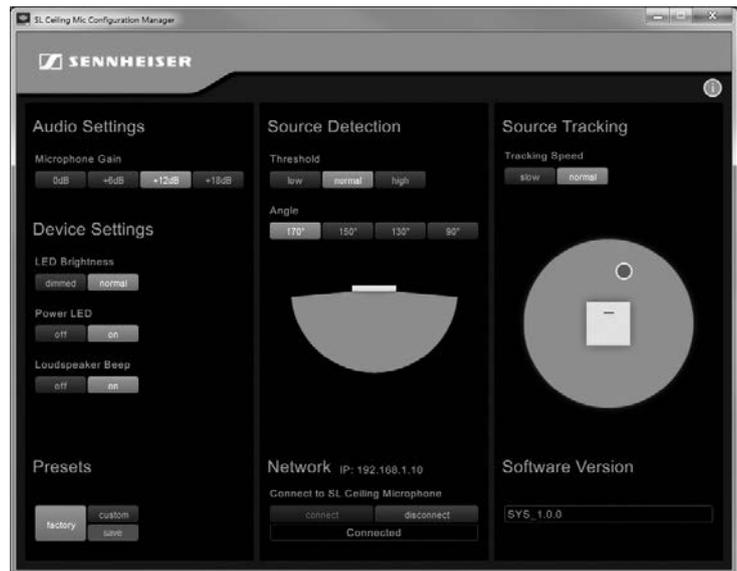
For detailed information on connecting the SL Ceiling Mic to a different media control system or DSP, please refer to the **Connection Guide** in the download area of the **TeamConnect Ceiling** product page at www.sennheiser.com.

Configuring the SL Ceiling Mic via software

You can download the **SL Ceiling Mic Configuration Manager** software in the download area of the **TeamConnect Ceiling** product page at www.sennheiser.com.

The software can be started on a Windows PC (Windows 7 or higher) without installation and without administrator rights.

For configuration, connect your computer to the RJ-45 network socket of the SL Ceiling Mic.



Function		Description
Audio Settings	Microphone Gain	Adjusts the gain/sensitivity of the microphones in four steps.
Device Settings	LED Brightness	Adjusts the brightness of the status LEDs in two steps.
	Power LED	Switches the status LEDs in the <i>microphone active</i> mode on/off.
	Loudspeaker Beep	Switches the internal loudspeaker on or off. When switched on, the internal speaker will reproduce an acoustic signal of two tones after the boot sequence of the SL Ceiling Mic is finished.
Presets	factory	Saves the current settings as a Preset custom by clicking save . To reset the default settings click on factory and then on save . The previously saved Preset will be overwritten.
	custom	
Source Detection	Threshold	Adjusts the threshold for locating a person speaking. The louder the surrounding noise, the higher the threshold must be set.
	Angle	Adjusts the opening angle of the SL Ceiling Mic. This defines the area where a person speaking can be located reliably.
Network	connect / disconnect	Connects or disconnects the computer to the SL Ceiling Mic.
	Connected / Disconnected	Shows if the computer is connected to the SL Ceiling Mic via a network connection.
Source Tracking		Visualizes the current position of the located person speaking.
	Tracking Speed	Adjusts the speed with which the beam pattern will follow a located person speaking.
Software Version		Shows the firmware version of the SL Ceiling Mic.

Specifications

SL Ceiling Mic

Dimensions (L x W x H)	590 x 590 x 43 mm (23.2" x 23.2" x 1.7")
Weight	6 kg (13.2 lbs)
AUDIO I and AUDIO II sockets	2 x 3-pin terminals (fits Phoenix Contact MCVW 1.5-3-ST-3.81)
POWER socket	4-pin terminal (fits Phoenix Contact MCVW 1.5-4-ST-3.81)
CONTROL socket	6-pin terminal (fits Phoenix Contact MCVW 1.5-6-ST-3.81)
Supply voltage	20 – 28 V DC
Power consumption	20 W

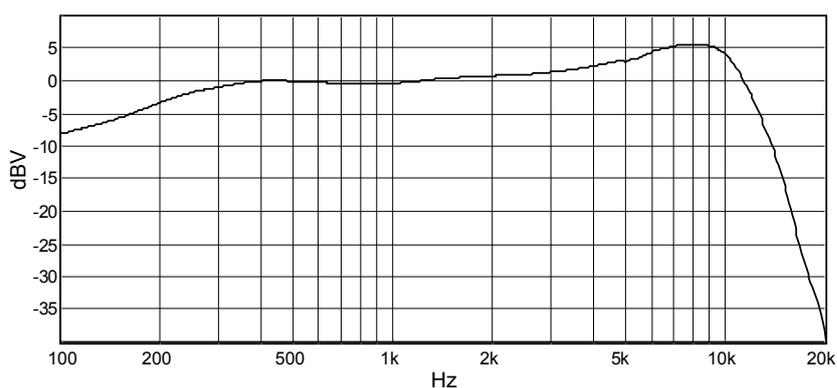
Environmental conditions

Temperature	Operation: 0 – 40 °C (32 – 104 °F) Storage: -10 – 60 °C (14 – 140 °F)
Relative humidity	20 – 95 % non-condensing

Acoustics

Microphone type	pre-polarized condenser microphone
Sensitivity	-1 dBV/Pa (930 mV/Pa)
Equivalent noise level	20 dB(A)
Number of KE 10-237 microphone capsules	29
Pick-up pattern	Beam pattern
Max. sound pressure level	119 dB SPL
Dynamic range	99 dB(A)

Free field frequency response



Power supply unit

Output voltage	+24 V DC
Output current	max. 2.2 A
Input voltage	100 – 240 V AC
Input frequency	50/60 Hz
Temperature	Operation: 0 – 40 °C (32 – 104 °F) Storage: -10 – 60 °C (14 – 140 °F)
Relative humidity	20 – 95 % non-condensing

Manufacturer declarations

Warranty

Sennheiser electronic GmbH & Co. KG gives a warranty of 24 months on this product.

For the current warranty conditions, please visit our website at www.sennheiser.com or contact your Sennheiser partner.

In compliance with the following requirements

EU		EN 55022 EN 55024
USA		EMC: FCC Part 15b Safety: UL 60065 UL 2043 Plenum Rated
Canada		CAN ICES-3 (B)/NMB-3(B)

CE Declaration of Conformity

SL Ceiling Mic

- EMC directive (2014/30/EU)
- RoHS directive (2011/65/EU)

Power Supply FW7405M/24

- EMV directive (2014/30/EU)
- RoHS directive (2011/65/EU)
- Low voltage directive (2014/35/EU)
- ErP directive (2009/125/EC)

The declarations are available on the product page at www.sennheiser.com.

Statements regarding FCC and Industry Canada

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAN ICES-3 (B)/NMB-3(B):

This Class B digital apparatus complies with the Canadian ICES-003.

Changes or modifications not expressly approved by Sennheiser electronic Corp. could void the user's authority to operate the equipment.

Trademarks

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