SENNHEISER

AudioBeam

Instructions for use
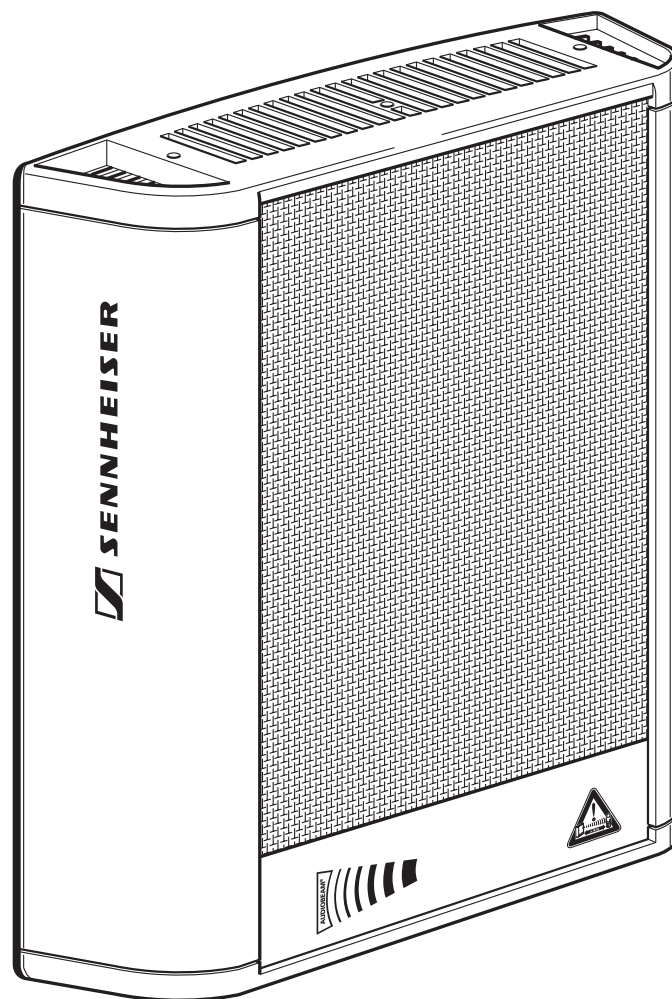
Instructions for use

Contents

Thank you for choosing Sennheiser!

We have designed this product to give you reliable operation over many years. Over half a century of accumulated expertise in the design and manufacture of high-quality electro-acoustic equipment have made Sennheiser a world-leading company in this field.

Please take a few moments to read these instructions carefully, as we want you to enjoy your new Sennheiser product quickly and to the fullest.

How AudioBeam works

AudioBeam is an acoustic spotlight. This means:

- AudioBeam is able to focus sound – either directly or via reflections on a surface. This allows e.g. information in museums and at exhibitions to be radiated directly from the exhibits – only visitors standing directly in front of an exhibit are addressed.
- AudioBeam limits sound reproduction to precisely defined areas – adjacent areas are kept sound-free. This allows e.g. the soundtrack from a video to be projected in different languages, without the need for headphones. The visitors simply have to enter the desired "language area".

AudioBeam uses state-of-the-art ultrasonic sound transmission technology:

The desired audible sound is created at a distance of four to up to ten meters directly in front of AudioBeam and at an angle of approx. 30°. As soon as someone comes closer than four meters to AudioBeam, a built-in distance sensor automatically turns off the unit.
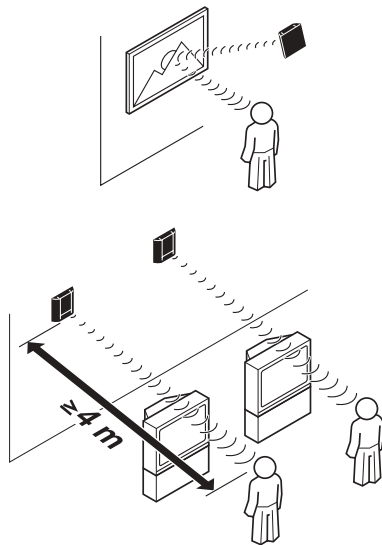
Safety instructions

Possible danger for persons with cardiac pacemakers!
Possible danger of hearing defects!

At a distance of less than four meters in front of AudioBeam, ultrasonic frequencies may disturb the function of cardiac pacemakers and may cause damage to the hearing!
Make sure that no-one can come closer than four meters to AudioBeam – especially when mounting the unit movably or rotatably.

Warning of life-threatening electrical shock!

If AudioBeam is connected to the mains, opening AudioBeam may result in a life-threatening electric shock!
If AudioBeam should be defective, repair must be carried out by your Sennheiser service partner. If the unit is opened in breach of this instruction, the warranty becomes null and void.

Risk of fire!

AudioBeam generates heat! Make sure that the air vents of the unit are not covered or blocked!
Keep AudioBeam away from heat sources and never expose AudioBeam to direct sunlight! Maintain a minimum distance of 1 meter between AudioBeam and combustible materials.

Attention!

If liquids or small parts which conduct electricity find their way into the interior or to the connecting sockets of AudioBeam, this can cause a short circuit!
Use AudioBeam in dry rooms only and keep liquids and small parts which conduct electricity away from the unit and its connecting sockets. For cleaning AudioBeam, only use a dry or slightly damp cloth. Never use any solvents or cleansing agents.

Connections and operating controls

Delivery includes:
- AudioBeam
- 3 mains cables with plugs
- Interchangeable thread $\frac{5}{8}$" to $\frac{3}{8}$"
- Instruction manual
- Document of warranty
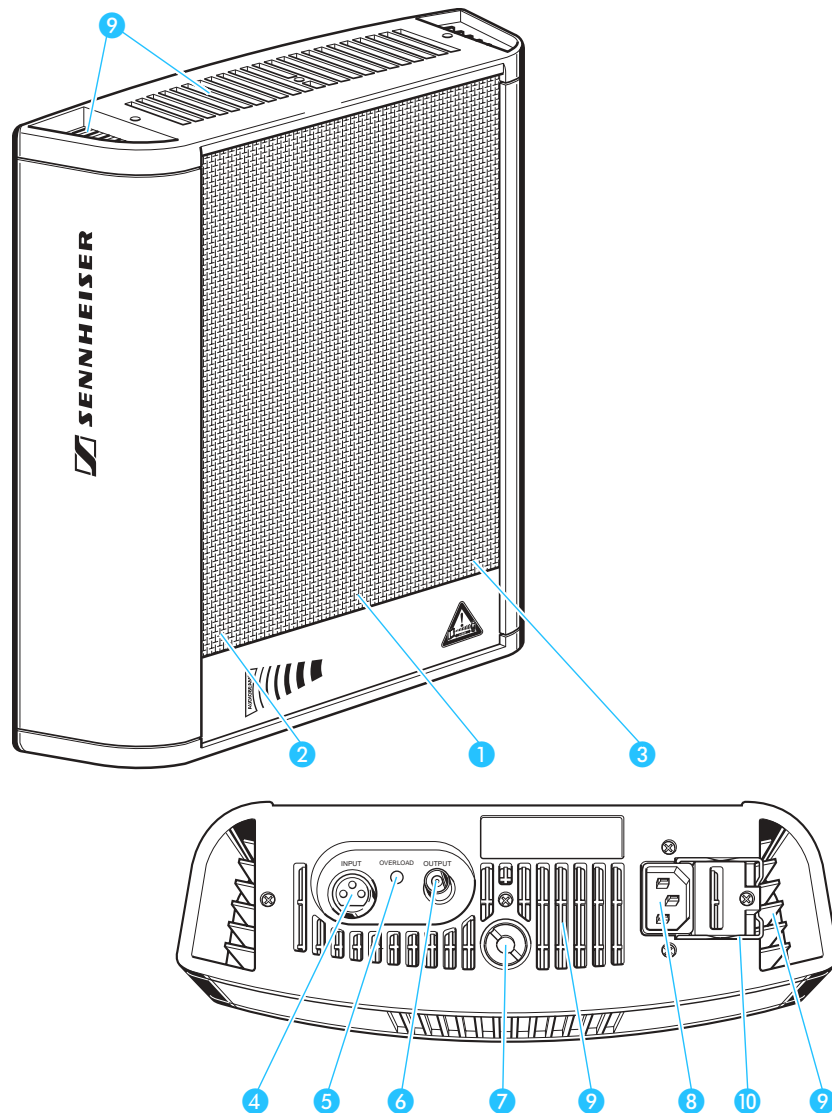
❶ LED operation indicator: green: AudioBeam is operational (standby)
                            red: AudioBeam is not operational

❷ Sensitivity selector switch (+6 dBm, −14 dBm)

❸ On/off switch for distance sensor
  (it is vital to observe the warning on page 15!)

❹ XLR-3 socket for audio input INPUT

❺ OVERLOAD LED

❻ BNC socket for modulator signal output OUTPUT

❼ $\frac{5}{8}$" thread with adapter to $\frac{3}{8}$" thread

❽ IEC mains socket

❾ Air vents

❿ Steel clamp for securing the mains cable

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Mounting AudioBeam

Correct mounting location

Warning!

Failure to comply with the following location conditions may result in danger to persons and damage to AudioBeam!

When mounting AudioBeam, make sure that:

- the ultrasonic sound wave can travel undisturbed for at least 1 m before it strikes the first surface.
- the sound (including the reflections) can travel for at least 4 m before it strikes a human being
- a minimum distance of 10 cm is maintained between AudioBeam and adjacent objects so that any heat generated can dissipate. Make sure that the air vents at the top and rear of the unit are not covered or blocked!
- a minimum distance of 1 meter is maintained between AudioBeam and combustible materials
- AudioBeam is kept away from heat sources such as central heating radiators, spot lights and lamps. Never expose AudioBeam to direct sunlight.
- AudioBeam never gets damp or wet

Mounting AudioBeam in a fixed position
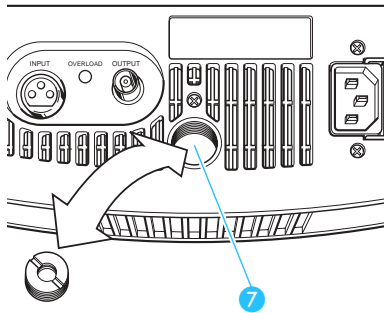
To ensure that AudioBeam is always orientated towards the correct area of interest, you should mount AudioBeam fixedly. Use a mounting plate for wall or ceiling mounting. For free installation, use a table or floor stand (see: „Accessories" on page 16).

▶ Screw the mounting plate or the table or floor stand to the $^5/_8$" thread ❼. If necessary, use the interchangeable thread to do this.

▶ By using a gooseneck or swivel joint (see: „Accessories" on page 16), directly orientate AudioBeam towards the correct area of interest or the reflection area.

Mounting AudioBeam movably or rotatably
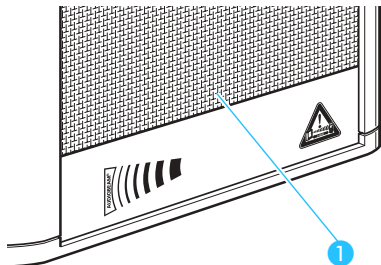
▶ Screw AudioBeam onto a drive mechanism or a rotating mechanism using the $^5/_8$" thread ❼. Use the interchangeable thread if necessary.

▶ Start up AudioBeam as described on page 15 and ensure that the distance sensor does not trigger in rotating mode (LED operation indicator ❶ is constantly lit green).

If the distance sensor triggers (LED operation indicator ❶ lights up red):

▶ Remove all objects from the rotating range scanned by AudioBeam up to a distance of 4m.

If the distance sensor still triggers (LED operation indicator lights ❶ up red again), you must turn off the built-in distance sensor as follows:

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If you turn off the built-in distance sensor, persons who come closer than 4 m to AudioBeam may be in danger from ultrasound.
Always ensure that nobody can come closer than 4 m to AudioBeam across the entire rotating range!

- To do this, mount AudioBeam at a height of more than 7 m.
- If necessary, take the appropriate structural measures (barriers) to keep people away.
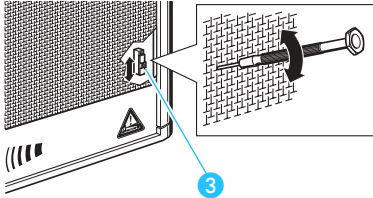
▶ Disconnect AudioBeam from the mains.

▶ Set the On/Off switch for the distance sensor ❸ to the lower position (OFF).

▶ Reconnect AudioBeam to the mains.

Putting AudioBeam into operation
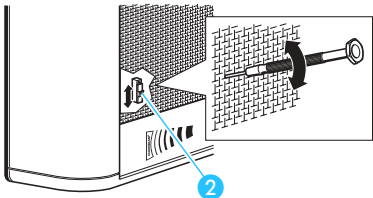
▶ Ensure that AudioBeam is not connected to the mains!

▶ Use the sensitivity selector switch ❷ to adapt AudioBeam's input sensitivity to the audio source:
- Sources with a high output power (e.g. mixing console, CD or DVD player): upper position (+6 dBm)
- Sources with a low output power (e.g. portable mini disk player): lower position (−14 dBm)
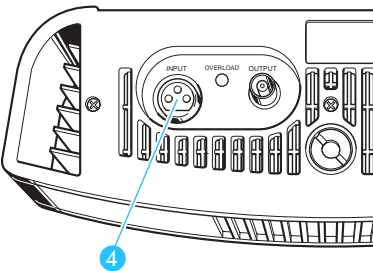
▶ Use an XLR-3 cable to connect the audio source (e.g. CD or DVD player, mixing console, receiver of a wireless microphone) to the audio input INPUT ❹.
AudioBeam automatically emits ultrasound as soon as an audio signal (see "Specifications" on page 17) is present at the audio input INPUT ❹.
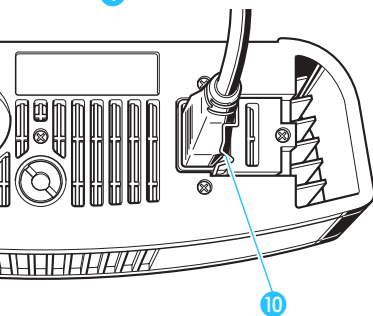
▶ Use the mains cable to connect AudioBeam to the mains. Secure the mains cable with the steel clamp ❿.
The LED ❶ lights up green, indicating that AudioBeam is ready for operation (standby).

Note:

If you do not use the unit, pull the mains connector out of the wall socket. This helps to increase the service life of AudioBeam and save energy.
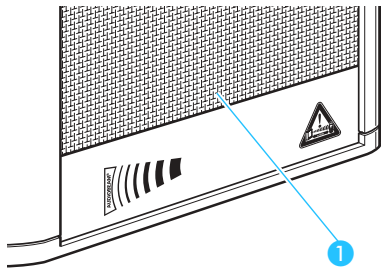
Troubleshooting

If the LED operation indicator ❶ lights up red, one of the following problems may have occured:

The distance sensor has triggered

1. Someone has entered the security area of 4 meters in front of or around AudioBeam and the distance sensor has triggered. After the person has left this area, AudioBeam automatically turns on again after 30 seconds.

2. You are operating the device in rotating mode and the distance sensor has triggered because objects or persons are located within the sensor range of the built-in distance sensor.
   o solve the problem, see: „Mounting AudioBeam movably or rotatably'' on page 14.

AudiBeam is defective

Please contact your Sennheiser distributor or the Sennheiser Customer Service (for address, see last page).
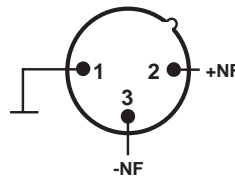
Accessories

The following accessories are available from your Sennheiser distributor:

GZP 10	Mounting plate for wall and ceiling mounting
GZG 1029	Swivel joint for attachment to stands or the GZP 10 mounting plate, includes $^1/_4$" interchangeable thread
MZT 14	Mounting bolt for mounting goosenecks and swivel joints with $^3/_8$" thread to table tops
MZT 100	Stable, metal table stand with $^3/_8$" thread
MZT 1019	Mounting bar for two units with $^3/_8$" internal thread
SEMS 3134	Floor stand with $^3/_8$" thread

Specifications

AudioBeam Master:

Modulation:	wideband AM
Carrier frequency:	40 kHz
Peak limiter:	limiter amplifier
Audio channels:	1
Audio input:	XLR-3F socket, balanced, DC-isolated
Input level for max. peak SPL:	+6 dBm (1.55 V) = upper switch position −14 dBm (150 mV) = lower switch position
Switching threshold:	−46 dBm (4 mV) = upper switch position −66 dBm (0.4 mV) = lower switch position
Impedance:	600 Ω
Sound pressure level:	75 dB ± 5 dB (at a distance of 4 m)
Output:	1 x BNC, 50 Ω shortcircuit-proof
Amplifier power:	approx. 90 W
Power supply:	switchable power supply 110 - 240 V, 50 - 60 Hz max. 100 W
Dimensions:	264 x 82 x 320 mm
Weight:	approx. 4 kg
XLR-3 pin assignment:	