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Important safety information

Please read this instruction manual carefully and completely before using the product.

Always include this instruction manual when passing the product on to third parties.

This instruction manual is also available on the Internet at www.sennheiser-aviation.com or www.sennheiser.com.

Preventing health problems and accidents

- Always maintain a distance of at least 3.94” (10 cm) between the ear cups and the cardiac pacemaker or implanted defibrillator since the product generates permanent magnetic fields.
- Keep product, accessory and packaging parts out of reach of children who could swallow smaller pieces.
- Switch the product off after use to conserve battery power. Remove the rechargeable batteries if the product will not be used for extended periods of time.
- If during flight operation you, as the pilot, operate your connected device using the headset, this can limit your attention. During flight operation, do not use the headset for making phone calls or listening to music.
- The product is capable of producing sound pressure exceeding 85 dB(A). In many countries 85 dB(A) is the maximum legally permissible level for continuous noise exposure during the working day. Do not listen at high volume levels for long periods of time to prevent hearing damage.

Preventing damage to the product and dysfunctions

- Always keep the product dry and do not expose it to extreme temperatures (hairdryer, heater, extended exposure to sunlight, etc.) to avoid corrosion or deformation.
- Only clean the product with a soft, dry cloth.
- Never repair or attempt to repair a defective product yourself. Contact your Sennheiser partner or the Sennheiser Service Department.
- Only replace parts of the product whose replacement is described in this instruction manual. All other parts of the product must be replaced by your Sennheiser partner.
The S1 PASSIVE headset

Intended use
Intended use of the product includes
• having read and understood this instruction manual, especially the chapter “Important safety information”,
• using the product within the operating conditions and limitations described in this instruction manual.
“Improper use” means using the product other than as described in this instruction manual, or under operating conditions which differ from those described herein.

The S1 PASSIVE headset
The S1 PASSIVE aviation headset convinces with excellent passive noise attenuation. The headset has been designed for use in noisy single- and multi-engine propeller aircraft and helicopters.
The headset is characterized by its high-quality appearance and offers outstanding wearing comfort. With ear pads specially designed for spectacle wearers, a contact pressure that is individually adjustable and a two-piece headband, the headset is always comfortable to wear even on long flights. In addition, the headset has been designed with an emphasis on well-balanced weight distribution.
The control unit of the S1 PASSIVE features a 3.5 mm jack socket for connecting an audio device or mobile phone. An integrated switch allows you to mute the connected audio device or mobile phone during ATC communications.

Features
• Superb passive noise attenuation
• Extremely comfortable to wear due to adjustable contact pressure and ear pads specially designed for spectacle wearers
• Well-balanced low weight
• Foldable ear cups
• Excellent audio quality
• ActiveGard™ safeguards your ears from volume peaks above 110 dB
• Control unit with 3.5 mm jack socket for connecting audio devices and mobiles phones
• Muting of the connected audio device or mobile phone during ATC communications
• “Auto shut-off” extends battery life
• Made in Germany
Delivery includes

- S1 PASSIVE headset
- Transport case for headset and accessories
- 3.5 mm audio cable (OMTP compatible)
- 3.5 mm adapter cable (AT&T compatible)
- Cable clip
- Wind and pop screen
- Belt clip
- Safety guide and quick guide

A list of accessories can be found on the S1 PASSIVE product page at www.sennheiser-aviation.com or www.sennheiser.com.
For information on suppliers, contact your local Sennheiser partner:
- www.sennheiser-aviation.com > “Purchase Information”
- www.sennheiser.com > “Service & Support”
Overview of the headset

Before wearing the headset, remove the protective foil A from the Sennheiser logo.

1. Headband padding
2. Ear pads
3. Microphone sensitivity control
4. Microphone
5. Contact pressure slide switch
Overview of the control unit

- Mono/phono switch
- MUTING OFF/ON switch
- Power OFF/ON switch
- Power LED
- Volume control

- 5.25 mm jack plug (PJ-068 equivalent)
- ¼" (6.35 mm) jack plug (PJ-055 equivalent)
- 3.5 mm jack socket (mobile phone and audio input)
Putting the S1 PASSIVE into operation

Connecting the headset to the intercom

1. Remove the belt clip from the control unit and open the battery compartment cover.
2. Insert two AA size batteries/rechargeable batteries. Observe correct polarity.
3. Close the battery compartment cover.

When you switch the headset on (see page 13), the Power LED provides information on the remaining battery/rechargeable battery capacity.

LED lights up yellow: The battery/rechargeable battery capacity is sufficient.
LED lights up red: The batteries/rechargeable batteries are flat.

Inserting and changing the batteries/rechargeable batteries
If you are using the headset together with an audio device or mobile phone, the control unit requires batteries or rechargeable batteries.

1. Remove the belt clip from the control unit and open the battery compartment cover.
2. Insert two AA size batteries/rechargeable batteries. Observe correct polarity.
3. Close the battery compartment cover.

<table>
<thead>
<tr>
<th>Jack plug of the control unit</th>
<th>Jack socket of the intercom</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.25 mm jack plug</td>
<td>Microphone input</td>
</tr>
<tr>
<td>¼” (6.35 mm) jack plug</td>
<td>Headphone output</td>
</tr>
</tbody>
</table>

Connect the jack plugs of the control unit to the corresponding jack sockets of your intercom.
Putting the S1 PASSIVE into operation

If the battery capacity is low, the headset automatically switches off to protect the batteries/rechargeable batteries from total discharge and leakage.

- Replace the batteries or recharge the rechargeable batteries.

Connecting an audio device or mobile phone to the control unit

The control unit’s 3.5 mm jack socket allows you to connect an audio device or mobile telephone. For this purpose, the Power OFF/ON switch must be set to the position ON.

- Use the volume control to adjust the volume of the connected device (see page 13). However, other functions cannot be controlled via the control unit.
- Operate your connected device as usual and observe the manufacturers instructions.

Connecting OMTP compatible mobile phones and audio devices

- Use the supplied audio cable when connecting mobile phones from LG®, Nokia®, Samsung® and Sony Ericsson® and audio devices.

<table>
<thead>
<tr>
<th>Type of use</th>
<th>Type</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muting</td>
<td>Alkaline batteries/rechargeable batteries</td>
<td>approx. 200 hrs</td>
</tr>
<tr>
<td></td>
<td>Lithium batteries</td>
<td>approx. 220 hrs</td>
</tr>
</tbody>
</table>
Connecting AT&T compatible mobile phones

Use the supplied audio cable together with the adapter cable when connecting mobile phones from Apple® iPhone®, Motorola® and BlackBerry®.

If the supplied connection cables are not compatible with your mobile phone, contact your mobile phone manufacturer for information on suitable connection possibilities.

Attaching the belt clip, the cable clip and the design caps

Attaching the belt clip

The belt clip allows you to attach the control unit to the seat belt so that the control unit doesn’t hinder you.

1. Slide the belt clip onto the seat belt.
2. Snap the control unit into the belt clip. Make sure not to squeeze any connection cable.
Putting the S1 PASSIVE into operation

**Attaching the cable clip**
The cable clip allows you to attach the headphone cable to your clothing so that the cable doesn't hinder or distract you.

1. Guide the headphone cable through the cable clip.
2. Attach the cable clip to your clothing.
3. Loop the cable through the clip so that the headphone cable doesn't hinder you.

**Replacing the design caps**
Design caps in different finishes and with individual imprints are available from your Sennheiser partner.
Using the S1 PASSIVE

Individually adjusting the headset and wearing it

Adjusting the headband

For good noise attenuation and best possible comfort, the headset has to be adjusted to properly fit your head. To do so, you can adjust the headband.

1. Wear the headset so that the headband runs over the top of your head.
2. Adjust the length of the headband so that
   - your ears are completely inside the ear pads,
   - you feel even, gentle pressure around your ears,
   - a snug fit of the headband on the head is ensured.
Using the S1 PASSIVE

Adjusting the contact pressure
The S1 PASSIVE allows you to choose your preferred contact pressure setting, which offers a good balance between best possible noise attenuation and still comfortable contact pressure.

In order to achieve greater noise attenuation, a higher contact pressure is required.

1 Tilt the ear cups by approx. 45° to release the mechanics of the slide switches.
2 Use the 3-step slide switches to change the contact pressure for each ear cup.

Positioning the microphone towards the corner of the mouth
The microphone boom is flexible, so you can position it individually.

► Bend the microphone boom so that the microphone is placed at the corner of the mouth. Maintain a distance of approx. 2 cm between microphone and mouth.
► Always use the supplied wind and pop screen.
Using the S1 PASSIVE

Switching the control unit on/off

If you are using the headset together with an audio device or mobile phone, the control unit must be switched on.

► Set the Power OFF/ON switch to the position ON.

<table>
<thead>
<tr>
<th>ON</th>
<th>The control unit is switched on. The Power LED lights up, indicating the charge status of the batteries/rechargeable batteries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>The control unit is switched off. The Power LED goes off.</td>
</tr>
</tbody>
</table>

Adjusting the headset to the listening situation

Adjusting the volume

**WARNING**

Danger of hearing damage!

Listening at high volume levels for long periods can lead to permanent hearing defects.

► Before putting the headset on, set the volume to a low level.
► Do not continuously expose yourself to high volumes.

The control unit features a volume control which allows you to adjust the volume for the left and right channel separately. Using the volume control, you can also adjust the volume for both ATC communications and your connected device.

► Use the volume control to adjust the volume to a comfortable level.
Muting connected devices
If the MUTING OFF/ON switch is set to the position ON, any audio and phone transmission is muted once ATC communications have been established. When the ATC conversation is over, the muting is automatically canceled.

1. Set the Power OFF/ON switch to the position ON.
2. Set the MUTING OFF/ON switch to the desired position to mute your connected devices or to cancel the muting:
   - OFF = muting is canceled
   - ON = muting is activated

Switching between mono and stereo mode
The control unit features a mono ○/stereo ◯ switch which allows you to switch between mono and stereo mode, depending on the intercom.

- Set the mono ○/stereo ◯ switch to the desired position.
Using the S1 PASSIVE

Activating the “auto shut-off” function
The “auto shut-off” function automatically switches the headset off when it is disconnected from the intercom or when the aircraft avionics are switched off. With the “auto shut-off” function activated, the operating time is increased. The headset is delivered ex-works with the function deactivated.
1 Remove the belt clip from the control unit and open the battery compartment cover.
2 Set the Auto Shut-Off switch to the position ON.
3 Close the battery compartment cover.

Adjusting the microphone sensitivity
The microphone sensitivity has been factory preset to 35 mV/Pa.
- Use a slotted screwdriver to adjust the microphone sensitivity.
Transporting the S1 PASSIVE

The headset comes with a transport case. To ensure optimum protection of the headset when not in use or during transport, you should store the headset in the supplied transport case.

Folding up the headset
For space-saving stowage, e.g. in your pilot’s case, you can fold the headset compactly.

► Fold the right ear cup inwards.
Cleaning and maintaining the S1 PASSIVE

Cleaning and maintaining the S1 PASSIVE

CAUTION

Liquids can damage the electronics of the product!
Liquids entering the housing of the product can cause a short-circuit and damage the electronics.
- Keep all liquids far away from the product.
- Do not use any solvents or cleansing agents.
- Before cleaning, pull out the plugs of the product from the connections in the aircraft.
- Only use a soft, dry cloth to clean the product.

Replacing the headband padding, ear pads and wind screen

For reasons of hygiene, you should replace the headband padding, the ear pads and the wind screen from time to time. Spare parts are available from your Sennheiser partner.

Replacing the headband padding

1 Slightly lift the headband padding and carefully remove it from the holder.
2 Slide the new headband padding into the holder.

![Images showing steps 1 and 2 of replacing the headband padding]
If a problem occurs ...

Replacing the ear pads
1 Grasp the edge of the ear pad and peel it up and away from the ear cup.
2 Slide the new ear pad onto the ear cup.

Replacing the wind screen
1 Pull the wind screen from the microphone.
2 Carefully slide the new wind screen over the microphone.

If a problem occurs ...

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible cause</th>
<th>Solution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power LED ⑨ does not light up on switch-on</td>
<td>The batteries/rechargeable batteries are flat.</td>
<td>Charge the rechargeable batteries or replace the batteries.</td>
<td>7</td>
</tr>
<tr>
<td>Audio signal in one ear only</td>
<td>You are receiving a mono source but the headset is set to stereo operation.</td>
<td>Set the headset to mono operation.</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>The volume control ⑩ is misadjusted.</td>
<td>Check the volume control ⑩.</td>
<td>13</td>
</tr>
</tbody>
</table>
If a problem occurs that is not listed in the above table or if the problem cannot be solved with the proposed solutions, please contact your local Sennheiser partner for assistance.

To find a Sennheiser partner in your country, search at www.sennheiser-aviation.com > “Purchase Information” or www.sennheiser.com > “Service & Support”.

### Accessories and spare parts

#### Accessories

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>502887</td>
<td>HZH 350 hygiene pads</td>
</tr>
</tbody>
</table>

#### Spare parts

- Leatherette ear pads, 1 pair
- GEL ear pads, 1 pair
- Wind and pop screen
- Headband padding, 1 pair
- Headband padding (large), 1 pair
- Cover for inner ear cup, 1 pair
- Belt clip
- HZC 08 cable clip
- Transport case
## Specifications

### Headset

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transducer principle</td>
<td>dynamic, closed</td>
</tr>
<tr>
<td>Ear coupling</td>
<td>circumaural</td>
</tr>
<tr>
<td>Frequency response</td>
<td>100 – 18,000 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>mono: 140 Ω, stereo: 280 Ω</td>
</tr>
<tr>
<td>Characteristic SPL</td>
<td>95 dB SPL bei 1 kHz, 1 mW, 100 dB SPL bei 1 kHz, 1 V</td>
</tr>
<tr>
<td>Max. SPL</td>
<td>110 dB SPL at 1 kHz</td>
</tr>
<tr>
<td>THD</td>
<td>&lt; 1% at 1 kHz, 95 dB SPL</td>
</tr>
<tr>
<td>Contact pressure, adjustable</td>
<td>approx. 6 – 9 N</td>
</tr>
<tr>
<td>Acoustic attenuation-NRR</td>
<td>22 dB</td>
</tr>
</tbody>
</table>

### Microphone incl. preamplifier

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>BKE S1 A</td>
</tr>
<tr>
<td>Transducer principle</td>
<td>pre-polarized condenser microphone, noise-compensating</td>
</tr>
<tr>
<td>Frequency response</td>
<td>150 Hz – 8,000 Hz</td>
</tr>
<tr>
<td>Output voltage</td>
<td>20 – 80 mV/Pa, adjustable 35 mV/Pa ± 1 dB (factory preset), corresponds to 350 mV ± 1 dB at 114 dB SPL</td>
</tr>
<tr>
<td>Terminating impedance</td>
<td>150 – 2,200 Ω</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>8 – 16 V&lt;sub&gt;DC&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

### General data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>operation: –15°C to +55°C, storage: –55°C to +70°C</td>
</tr>
<tr>
<td>Weight without cable</td>
<td>approx. 390g</td>
</tr>
<tr>
<td>Cable length</td>
<td>approx. 2.10 m</td>
</tr>
<tr>
<td>Power supply for use with audio device or mobile phone</td>
<td>2 x 1.5 V AA alkaline battery (IEC LR 6) or 2 x 1.2 V AA rechargeable battery (IEC LR 6)</td>
</tr>
<tr>
<td>Operating time with audio device or mobile phone</td>
<td>Alkaline batteries/rechargeable batteries: approx. 200 hrs, Lithium batteries: approx. 220 hrs</td>
</tr>
</tbody>
</table>
Specifications

Connector assignment

5.25 mm jack plug (PJ-068 equivalent)

1 Not assigned
2 Microphone High
3 Microphone Low

¼” (6.35 mm) jack plug

1 Audio High left
2 Audio High right
3 Audio Low
Manufacturer declarations

Warranty
Sennheiser electronic GmbH & Co. KG gives a warranty of 5 years on this product. For the current warranty conditions, please visit our website at www.sennheiser-aviation.com or www.sennheiser.com or contact your Sennheiser partner.

In compliance with the following requirements
- RoHS Directive (2002/95/EC)

CE Declaration of Conformity
The declaration is available at www.sennheiser.com.

WEEE Declaration
Your Sennheiser product was developed and manufactured with high-quality materials and components which can be recycled and/or reused. This symbol indicates that electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime.

Please dispose of this product by taking it to your local collection point or recycling centre for such equipment. This will help to protect the environment in which we all live.

In compliance with:

<table>
<thead>
<tr>
<th>Country</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>47 CFR part 15B</td>
</tr>
<tr>
<td>Canada</td>
<td>ICES 003</td>
</tr>
<tr>
<td>Europe</td>
<td>CE</td>
</tr>
</tbody>
</table>

Trademarks
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Other product and company names mentioned in this instruction manual may be the trademarks or registered trademarks of their respective owners.