

HMEC 26-2



Instruction manual

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.
- ▶ With the NoiseGard™ noise compensation switched on, typical aircraft sounds (for example, those from engines, propellers, warning alarms, etc.) may sound different to you. Before operating any aircraft, make sure that, with

NoiseGard™ switched on, you can hear and recognize these sounds. Set the volume to safe levels that do not interfere with your ability to hear informational sounds and warning alarms.

- ▶ 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 manual. All other parts of the product must be replaced by your Sennheiser partner.

Intended use

Intended use of the product includes

- having read and understood this instruction manual, especially the chapter “Important safety information” on page 1,
- 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 HMEC 26-2 headset

The HMEC 26-2 headset with NoiseGard™ professional active noise compensation features dynamic, closed headphones. The noise-compensating condenser microphone ensures excellent speech transmission even in noisy environments. Designed for use in aircraft cockpits.

Features

- NoiseGard™ active noise compensation reduces ambient noise by up to 18 dB – consequently the radio volume can be decreased
- Lightweight
- Extremely comfortable to wear due to the patented two-piece automatic headband and soft ear pads
- Peak level protection (cannot be switched off) safeguards you from volume peaks above 110 dB
- “Flip-away” headphone allows single-sided listening
- Flexible microphone boom, can be worn on either left or right-hand side
- Noise-compensating condenser microphone ensures excellent speech transmission
- Single-sided cable, easy to replace

- With NoiseGard™ switched off, the headset can be used as a conventional headset
- Power supply for NoiseGard™ from aircraft DC power supply system (on suitably equipped aircraft) or batteries/rechargeable batteries
- “Auto shut-off” extends battery life
- TalkThrough function (HMEC 26-2-T only)
- ETSO approval C139
- 5 year warranty

Package contents

- 1 HMEC 26-2 headset
- 1 cable clip
- 1 wind and pop screen
- 1 pair of hygiene pads
- 1 audio cable with 2.5 mm jack plugs*
- 1 audio cable with 3.5 mm jack plugs*
- 1 belt clip*
- 1 carry bag*
- 1 instruction manual
- 1 EASA Form 1

* not supplied with all product variants (see page 23)

Operation

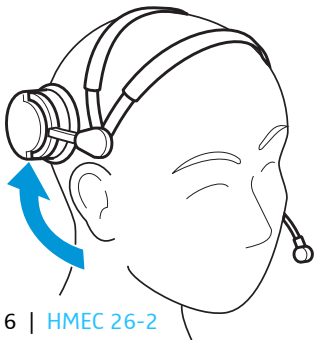
Putting on the headset

When putting on the headset, the patented two-piece headband adjusts automatically.



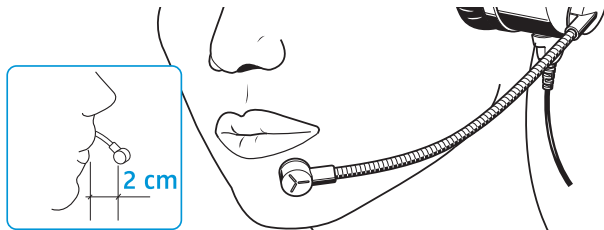
Flipping away one earcup

The headset features a “flip-away” earcup for single-sided listening.



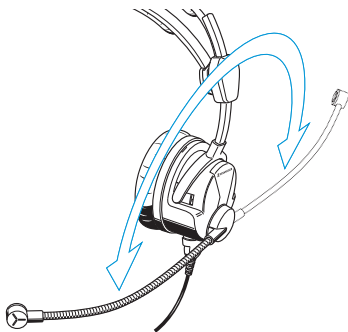
Positioning the microphone

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



Turning the microphone boom

The microphone boom can be rotated. This allows the headset to be worn with the microphone boom positioned on either the left or right-hand side of the head.



Adjusting the volume directly on the audio system

Connect the headset to the corresponding sockets of your audio system. Adjust the volume directly on the audio system.



CAUTION

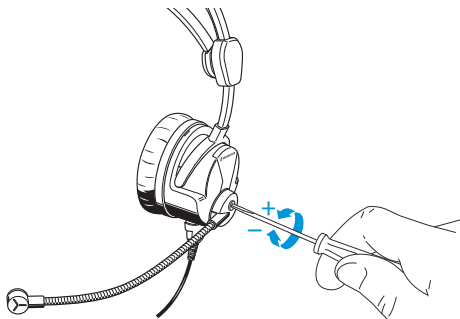
Hearing damage due to high volumes!

This headset is capable of producing high sound pressure levels. Higher volumes or longer durations can damage your hearing!

- ▶ Set the volume to a medium level. Make sure that you can hear critical sounds such as warning alarms.

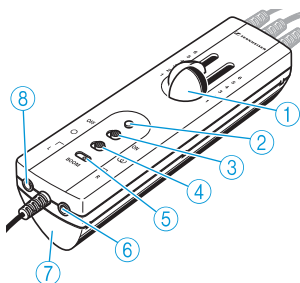
Adjusting the microphone sensitivity

Turn a small screwdriver in the direction of the arrow to change the microphone sensitivity.



The control units of the HMEC 26-2

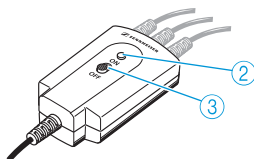
Control unit I



- ① Volume controls
- ② LED
- ③ NoiseGard™ ON/OFF switch
- ④ Mono/stereo switch ○/⊖
- ⑤ BOOM switch L/R
- ⑥ 3.5 mm jack socket
- ⑦ Battery compartment
- ⑧ 2.5 mm jack socket

Headset with control unit I	Operating element							
	①	②	③	④	⑤	⑥	⑦	⑧
Cable -BV-K-2	✓	✓	✓	✓	✓	✓	✓	✓
Cable -B-K-2		✓	✓				✓	
Cable -B-KP-2		✓	✓				✓	
Cable -B-CP-2		✓	✓				✓	
Cable -V-KX-2	✓	✓	✓	✓	✓			

Control unit II



② LED

③ NoiseGard™ ON/OFF switch

Headset with control unit II	Operating element							
	①	②	③	④	⑤	⑥	⑦	⑧
Cable -CP		✓	✓					
Cable -CP-2		✓	✓					
Cable -KP		✓	✓					
Cable -KP-2		✓	✓					
Cable -NP		✓	✓					
Cable -RP-2		✓	✓					
Cable -DP-2		✓	✓					

Using the headset

Switching NoiseGard™ on/off

The NoiseGard™ ON/OFF switch ③ allows you to switch the NoiseGard™ active noise compensation on or off. With NoiseGard™ switched off, the headset can be used as a conventional headset.

- ▶ Set the NoiseGard™ ON/OFF switch ③ to the desired position:

Position	Function
ON	NoiseGard™ is switched on. The LED ② lights up, indicating the battery charge status (see page 13) or power supply via the aircraft DC power supply system.
OFF	NoiseGard™ is switched off. The LED ② is off.

Adjusting the volume

The two slide volume controls ① allow you to adjust the volume for the left and right channel separately.



CAUTION

Hearing damage due to high volumes!

This headset is capable of producing high sound pressure levels. Higher volumes or longer durations can damage your hearing!

- ▶ Set the volume to a medium level. Make sure that you can hear critical sounds such as warning alarms.

Switching between mono and stereo mode

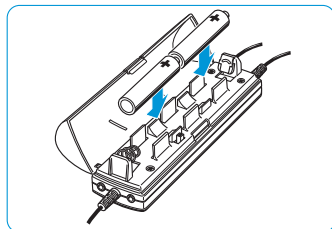
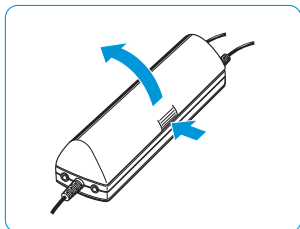
The mono/stereo switch ④ allows you to switch between mono (○) and stereo (⊖) mode, depending on the audio system.

Changing the left and right stereo channel

The position “R” or “L” of the **BOOM** switch ⑤ corresponds to the position of the microphone on the left or right side of the mouth. When the microphone boom is rotated to permit left or right side microphone orientation, the **BOOM** switch allows you to correctly assign the audio channels (L/R) to the appropriate headphone sides. This enables the correct orientation of the volume controls and any stereo audio signals. To move the **BOOM** switch, use a pointed tool.

Powering NoiseGuard™ via two (rechargeable) batteries

- ▶ Insert two 1.5 V AA alkaline batteries (IEC LR 6) or two 1.2 V AA rechargeable batteries (IEC LR 6). Observe correct polarity when inserting the batteries.



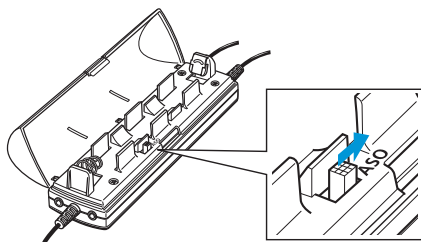
The operating time with batteries/rechargeable batteries is approx. 60 hours. With NoiseGuard™ switched on (see page 11), the LED ② provides information on the remaining battery/rechargeable battery capacity:

LED ②	Meaning
lights up yellow	The battery capacity is sufficient.
lights up red	The batteries are flat. Replace the batteries.

Activating the “auto shut-off” function

The battery-saving “auto shut-off” function automatically switches the NoiseGuard™ electronics off when the headset is disconnected from the audio system or when the aircraft avionics are switched off. The headset is delivered ex-works with the function deactivated. You can activate “auto shut-off” as follows:

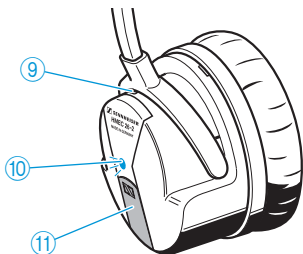
- ▶ Set the switch to the position **ASO**.




Switching the TalkThrough function on/off (HMEC 26-2-T only)


The headset provides excellent attenuation of ambient noise. In order to allow you to communicate undisturbed with your surroundings while wearing the headset, the HMEC 26-2-T features a TalkThrough function. With TalkThrough switched on, a separate microphone ⑨ picks up acoustic signals in the immediate vicinity. Unwanted background noise is filtered out, only allowing the voice of the other person to pass through the headset.

- ▶ Press the button ⑪ to switch the TalkThrough function on. The LED ⑩ lights up. Press the button again to switch TalkThrough off.



 TalkThrough can only be used when the NoiseGard™ active noise compensation is switched on.

Connecting a mobile telephone

The 2.5 mm jack socket  allows you to connect a mobile telephone. For this purpose, the NoiseGard™ active noise compensation must be switched on and the microphone connector must be connected to the aircraft radio/audio. A suitable adapter for your mobile telephone with 2.5 mm jack socket is available from your specialist retailer.



CAUTION

Danger of accident due to reduced attention!

Making telephone calls or operating the mobile telephone limits your attention and may cause accidents.

- ▶ During flight operation, do not use the headset for telephone calls!

- ▶ Connect the audio cable to the 2.5 mm jack socket ⑧ on the control unit I and to the corresponding jack socket on your mobile telephone.

You can adjust the volume of the mobile telephone via the headset's control unit. However, the functions of the mobile telephone cannot be controlled via the headset's control unit.

- ▶ Operate your mobile telephone as usual and observe the instructions of the manufacturer.

The latest list of compatible mobile telephones is available on our website at www.sennheiser.com.

Connecting an additional audio player

The 3.5 mm jack socket ⑥ allows you to connect and listen to an audio player (not supplied) through the headset. For this purpose, the NoiseGard™ active noise compensation must be switched on.



CAUTION

Danger of accident due to reduced attention!

Listening to music or operating an audio device limits your attention and may cause accidents.

- ▶ During flight operation, do not use the headset for listening to additional audio sources!
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CAUTION

Hearing damage due to high volumes!

This headset is capable of producing high sound pressure levels. Higher volumes or longer durations can damage your hearing!

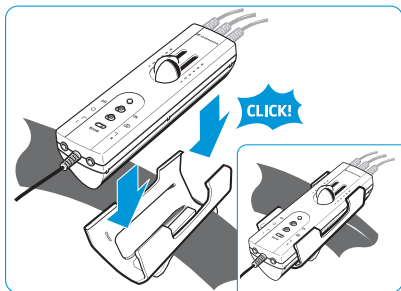
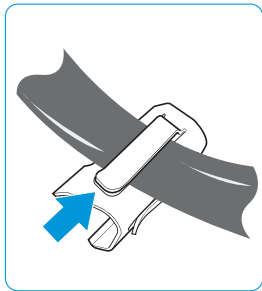
- ▶ Set the volume to a medium level. Make sure that you can hear critical sounds such as warning alarms.

- ▶ Connect the audio cable to the 3.5 mm jack socket ⑥ on the control unit **I** and to the corresponding jack socket on your audio player.

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.

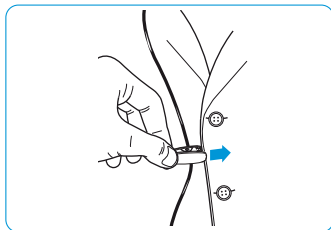
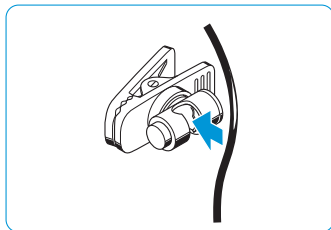
- ▶ Make sure not to squeeze any connection cable.



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.

- ▶ Loop the cable through the clip so that the headphone cable doesn't hinder you.



Care and maintenance

Cleaning and maintaining the headset

CAUTION

Liquids can damage the product!

Liquids entering the product can short-circuit the electronics or damage the mechanics. Solvents or cleansing agents can damage the surface of the product.

▶ Keep all liquids far away from the product.

▶ Before cleaning, pull out the plugs of the product from the connections in the aircraft.

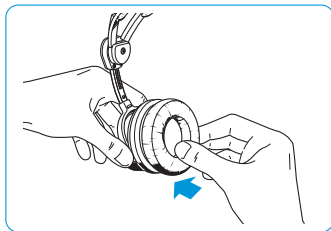
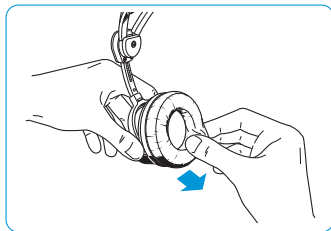
▶ Only use a soft, dry cloth to clean the product.

Replacing the ear pads

For reasons of hygiene, you should replace the ear pads annually.

▶ Grasp the edge of the ear pad and pull sharply.

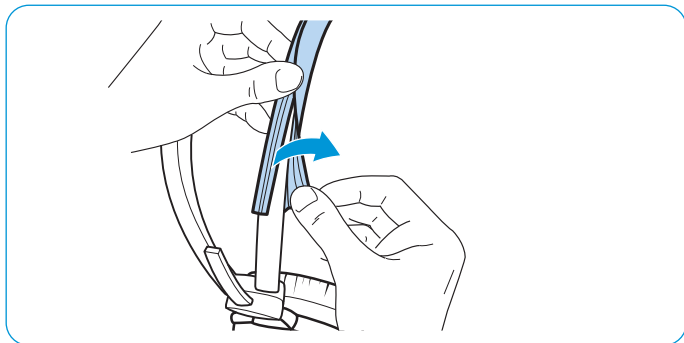
▶ Attach the new ear pad to the ear cup by pressing firmly around the ear pad until you hear all 12 latches lock into place.



Replacing the headband paddings

For reasons of hygiene, you should replace the headband paddings annually.

- ▶ Pull the Ziploc type fastening strips of the old headband paddings apart. If necessary, use a pointed tool.
- ▶ Put the new headband paddings around the headbands.
- ▶ Attach the new headband paddings by joining the fastenings strips.



Accessories and spare parts

By changing the cables, you can simply retrofit different control units (see page 9 and 10) or connectors (see page 23) to your headset.

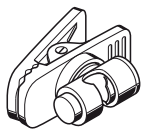
Accessories

• Cable -CP	Cat. No. 500852
• Cable -CP-2	Cat. No. 505684
• Cable -KP	Cat. No. 500842
• Cable -KP-2	Cat. No. 505686
• Cable -NP	Cat. No. 500855
• Cable -RP-2	Cat. No. 505687
• Cable -DP-2	Cat. No. 505685
• Cable -BV-K-2	Cat. No. 505683
• Cable -B-K-2	Cat. No. 505690
• Cable -B-KP-2	Cat. No. 505682
• Cable -B-CP-2	Cat. No. 505689
• Cable -V-KX-2	Cat. No. 505688
• Hygiene pads HZH 26, white, 200 pairs	Cat. No. 502595
• Hygiene pads HZH 26, black, 200 pairs	Cat. No. 504062

Spare parts

- Audio cable, length 0.6 m, 2 x 3.5 mm stereo jack plug
- Audio cable, length 0.6 m, 2 x 2.5 mm jack plug
- Ear pads, leatherette, 1 pair
- Ear pads, leatherette, 100 pairs
- Wind and pop screen, 1 item
- Wind and pop screen, any number of items
- Carry bag
- Headband paddings, 1 pair
- Belt clip
- Cable clip HZC 08

Cable clip



HZC 08 (for round cables)

Product and cable variants

The following cables, connectors, control units and features are available for the HMEC 26-2 variants (see table on the following pages):

- ① Headphones with +6 dB characteristic SPL
- ② Microphone with 60 mV output voltage
- ③ Single-sided round cable, 1.7 m
- ④ XLR-5 connector
- ⑤ ¼" (6.3 mm) jack plug (headphones)
- ⑥ PJ-068 equivalent (microphone)
- ⑦ 8-pin Neutricon connector
- ⑧ 6-pin Redel connector
- ⑨ XLR-6 connector
- ⑩ XLR-3 connector
- ⑪ Aircraft powered
- ⑫ Battery powered
- ⑬ Control unit **I** (see page 9)
- ⑭ Control unit **II** (see page 10)
- ⑮ Audio cable (1 cable with 2.5 mm jack plugs and 1 cable with 3.5 mm jack plugs)
- ⑯ Belt clip
- ⑰ Carry bag

Model	Cat. No.	Part Number
HMEC 26-2	505671	026-35-2
HMEC 26-2-1	505672	026-30-2
HMEC 26-2-T	505680	026-C0-2
HMEC 26-2-CP	505676	026-35-2-999-3211
HMEC 26-2-1-CP-2*	505677	026-30-2-999-32C1
HMEC 26-2-KP	505678	026-35-2-999-3111
HMEC 26-2-1-KP-2*	505679	026-30-2-999-31C1
HMEC 26-2-1-B-K-2*	505674	026-30-2-999-11G1
HMEC 26-2-1-BV-K-2*	505675	026-30-2-999-11E1
HMEC 26-2-B-CP-2	505671 + 505689	026-35-2-999-22G1
HMEC 26-2-1-B-CP-2*	505672 + 505689	026-30-2-999-22G1
HMEC 26-2-V-KX-2	505671 + 505688	026-35-2-999-41D1
HMEC 26-2-1-V-KX-2*	505672 + 505688	026-30-2-999-41D1
HMEC 26-2-DP-2	505671 + 505685	026-35-2-999-3BC1
HMEC 26-2-1-DP-2*	505672 + 505685	026-30-2-999-3BC1
HMEC 26-2-NP	505671 + 500855	026-35-2-999-3811
HMEC 26-2-1-NP*	505672 + 500855	026-30-2-999-3811
HMEC 26-2-B-KP-2	505671 + 505682	026-35-2-999-2192
HMEC 26-2-1-B-KP-2*	505672 + 505682	026-30-2-999-2192
HMEC 26-2-RP-2	505671 + 505687	026-35-2-999-36C1
HMEC 26-2-1-RP-2*	505672 + 505687	026-30-2-999-36C1

* Each -2-1 model is also available as a 2-T model (headphones with +6 dB characteristic SPL and microphone with 60 mV output voltage)

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
																	✓
		✓	These headsets can be combined with all cables (see page 21)														✓
		✓															✓
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Specifications

Headphones

Transducer principle	dynamic, closed
Ear coupling	supra-aural
Frequency response	20 - 14,000 Hz
Impedance	HMEC 26-2: 600 Ω mono/1,200 Ω stereo HMEC 26-2 with -2 cables: 350 Ω mono/600 Ω stereo
Characteristic SPL	HMEC 26-2: 92 dB SPL at 1 kHz, 1 mW, mono 95 dB SPL at 1 kHz, 1 V HMEC 26-2 with -2 cables: 95 dB SPL at 1 kHz, 1 mW, mono 100 dB SPL at 1 kHz, 1 V
Max. SPL	120 dB SPL at 1 kHz
Active noise compensation	≥ 18 dB (100 - 300 Hz)
THD	< 1 % at 1 kHz, 95 dB SPL
Contact pressure	approx. 3.6 N

Specifications

Microphone incl. preamplifier

Type	HMEC 26-2: BKE 46 HMEC 26-2-1/T: BKE 46-1
Transducer principle	pre-polarized condenser microphone, noise-compensating
Frequency response	100 - 6,000 Hz
Output voltage	adjustable from 17-100 mV/Pa HMEC 26-2: 80 mV/Pa -2 dB factory preset: $\cong 800$ mV -2 dB at 114 dB SPL HMEC 26-2-1/T: 60 mV/Pa ± 1 dB factory preset: $\cong 600$ mV ± 1 dB at 114 dB SPL
Terminating impedance	150 - 2,200 Ω
Supply voltage	8 - 16 V DC

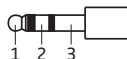
General data

Temperature range	operation: -15 °C to 55 °C storage: -55 °C to 70 °C
Weight without cable	approx. 210 g
Cable length	approx. 1.70 m
Power supply for NoiseGard™ professional	via AA size battery (IEC LR 6) with approx. 60 hrs operating time: 2 x 1.5 V alkaline battery 2 x 1.2 V rechargeable battery via aircraft DC power supply system : 12 - 35 V DC , max. 35 mA

Connector assignment

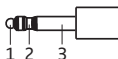
Cable -V-KX-2

1/4" (6.3 mm) jack plug



- 1 Audio Hi left
- 2 Audio Hi right
- 3 Audio Lo

PJ-068 equivalent



- 1 not assigned
- 2 Microphone Hi
- 3 Microphone Lo

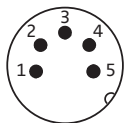
XLR-3 connector



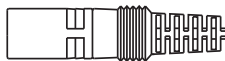
- 1 NoiseGard™ (DC+)
- 2 DC–
- 3 not assigned

Cable -CP, -CP-2, -B-CP-2

Solder side



- 1 Audio Hi
- 2 Audio Lo / DC–
- 3 Microphone Hi
- 4 Microphone Lo
- 5 NoiseGard™ (DC+)



Cable -NP

Solder side

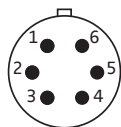


- 1 Audio Hi
- 2 Audio Lo
- 3 not assigned
- 4 Microphone Lo
- 5 Microphone Hi
- 6 not assigned
- 7 DC–
- 8 NoiseGard™ (DC+)



Cable -RP-2

Solder side

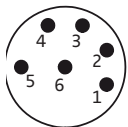


- 1 NoiseGard™ (DC+)
- 2 Audio Lo / DC-
- 3 Audio Hi left
- 4 Audio Hi right
- 5 Microphone Hi
- 6 Microphone Lo



Cable -DP-2

Solder side



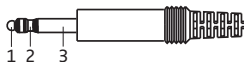
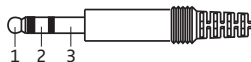
- 1 Audio Hi
- 2 Audio Lo
- 3 Microphone Hi
- 4 Microphone Lo
- 5 NoiseGard™ (DC+)
- 6 DC-



Cable -KP, -KP-2, -B-K-2, -B-KP-2, -BV-K-2

1/4" (6.3 mm) jack plug

PJ-068 equivalent



Cable -KP / -KP-2 / -B-KP-2

- 1 Audio Hi
- 2 not assigned
- 3 Audio Lo / DC-

- 1 NoiseGard™ (DC+)
- 2 Microphone Hi
- 3 Microphone Lo

Cable -B-K-2

- 1 Audio Hi
- 2 not assigned
- 3 Audio Lo

- 1 not assigned
- 2 Microphone Hi
- 3 Microphone Lo

Cable -BV-K-2

- 1 Audio Hi left
- 2 Audio Hi right
- 3 Audio Lo

- 1 not assigned
- 2 Microphone Hi
- 3 Microphone Lo

Manufacturer Declarations

Warranty

Sennheiser 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

- EMC Directive (2004/108/EC)

The declaration is available at www.sennheiser.com.

In compliance with:

Europe	 EMC EN 55103-1/-2
China	

Warenzeichen

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