

 **SENNHEISER**

HMEC 26



Instruction manual

Safety instructions

- Please read these instructions carefully and completely before using the headset.
- Make these instructions easily accessible to all users at all times.
- Always include these instructions when passing the headset on to third parties.
- During flight operation, do not use the headset for telephone calls.
- With the NoiseGard™ active 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 headset is capable of producing sound pressure levels exceeding 85 dB(A). In many countries 85 dB(A) is the maximum legally permissible level for continuous noise exposure during the working day. Exposure to sounds of higher volume levels or for longer durations can permanently damage your hearing!
- Never repair or attempt to repair a defective headset yourself. Contact your Sennheiser agent or the Sennheiser Service Department.

- Only replace those parts of the headset whose replacement is described in this manual. All other parts of the headset must be replaced by your Sennheiser agent.
- Protect the headset from humidity. Use only a slightly damp cloth to clean the headset. For information on how to clean the headset, contact your Sennheiser agent.

Intended use of the headset

Intended use includes:

- having read this instruction manual especially the chapter "Safety instructions".
- using the headset in jet aircraft and within the operating conditions as described in this instruction manual.

Improper use

Improper use means using the headset other than as described in this instruction manual, or under operating conditions which differ from those described herein.

The HMEC 26 headset

The HMEC 26 headset with NoiseGard™ 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 earpads
- 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-T only)

- ETSO approval C57a/C58a

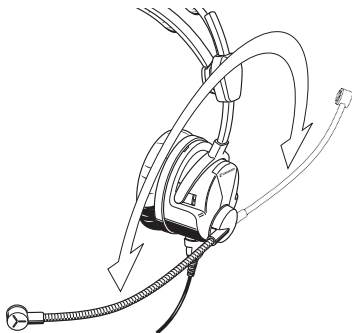
Delivery includes

- 1 HMEC 26 headset
- 1 cable clip
- 1 wind and pop screen
- 1 instruction manual
- 1 carry bag
- 1 EASA Form 1

Operation

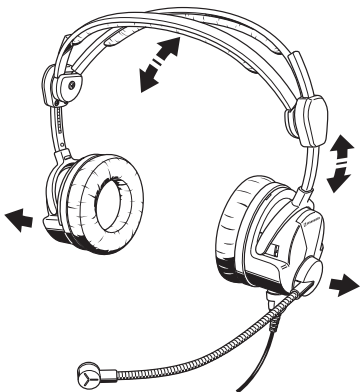
Turning the microphone boom

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.



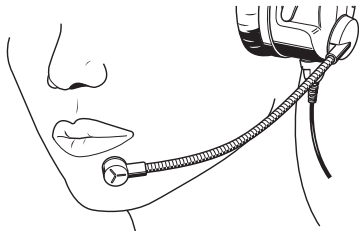
Putting on the headset

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



Positioning the microphone

Bend the flexible 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.



Flipping away one earcup

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



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.

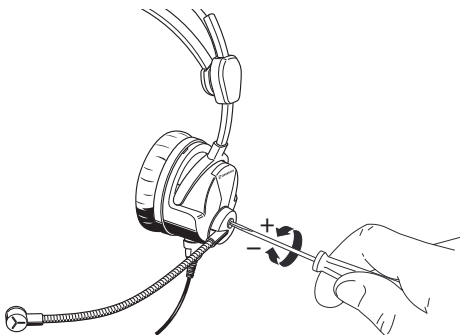
CAUTION! Hearing damage due to high volumes!

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.

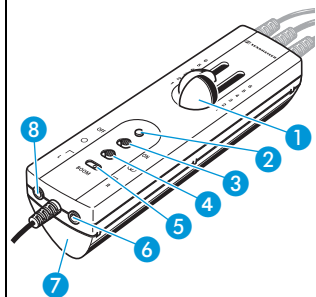
Adjusting the microphone sensitivity

The microphone sensitivity has been factory pre-set to 80 mV/Pa as per RTCA DO-214. You can change the microphone sensitivity by turning a small screwdriver in the direction of the arrow.



The operating controls of the HMEC 26

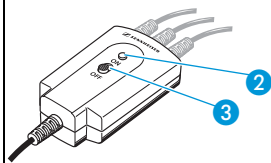
Operating control I



- 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 operating control I	Operating element							
	1	2	3	4	5	6	7	8
HMEC 26-BV-K	x	x	x	x	x	x	x	x
HMEC 26-BV-KP	x	x	x	x	x	x	x	x
HMEC 26-BV-CP	x	x	x		x		x	
HMEC 26-B-K		x	x				x	
HMEC 26-B-CP		x	x				x	
HMEC 26-V-KP	x	x	x	x	x			
HMEC 26-V-RP	x	x	x	x	x			
HMEC 26-V-CP	x	x	x		x			
HMEC 26-V-KX	x	x	x	x	x			

Operating control II



- 2 LED
- 3 NoiseGard™ ON/OFF switch

Headset with operating control II	Operating element							
	1	2	3	4	5	6	7	8
HMEC 26-CP		X	X					
HMEC 26-KP		X	X					
HMEC 26-NP		X	X					

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:

ON: NoiseGard™ is switched on. The LED ② lights up, indicating the battery charge status (see page 11) 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.

▶ Use the two volume controls ① to adjust the desired volume.

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.

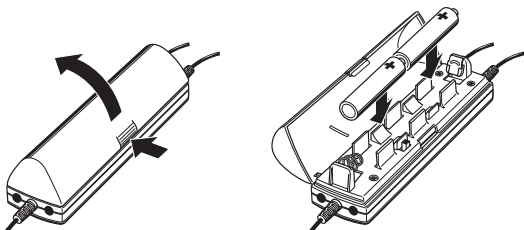
- ▶ Set the mono/stereo switch ④ to the desired position: mono (○) or stereo (∞).

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 NoiseGard™ 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 NoiseGard™ switched on (see page 10), the LED ② provides information on the remaining battery/rechargeable battery capacity.

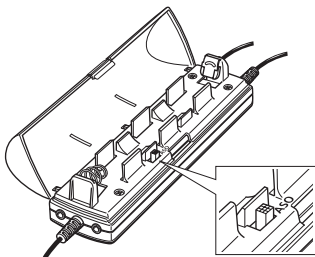
LED ② lights up yellow: The battery capacity is sufficient.

LED ② 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 NoiseGard™ 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.



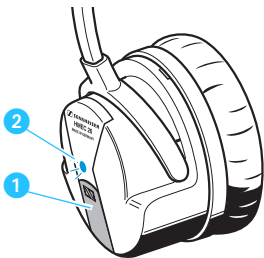
Switching the TalkThrough function on/off (HMEC 26-T only)

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-T features a TalkThrough function.

- ▶ Press the TalkThrough button **1** to switch the TalkThrough function on. The LED **2** lights up. Press the TalkThrough button again to switch TalkThrough off.

Note:

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



Connecting a mobile telephone

The 2.5 mm jack socket **8** allows you to connect a mobile telephone. For this purpose, the NoiseGuard™ 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 Sennheiser agent.

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 operating control **I** and to the corresponding jack socket on your mobile telephone.

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

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

The latest information on cell phone compatibility is available on the internet site at www.sennheiser.com.

- ▶ Search under "Products", "Aviation" and "more info ...".

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!

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 operating control **I** and to the corresponding jack socket on your audio player.

Care and maintenance

Cleaning the headset

Use a soft, slightly damp cloth to clean the headset from time to time. If the headset is very dirty, use a cloth dampened with mild, soapy water. Do not use any solvents or cleansing agents.

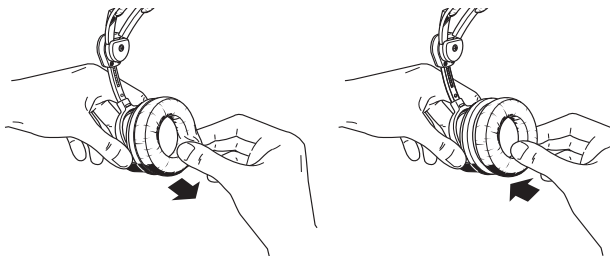
CAUTION! Danger of short-circuit due to the ingress of water!

Water entering the housing of the headset can cause a short-circuit and damage the electronics.

Replacing the earpads

For reasons of hygiene, the earpads should be replaced from time to time.

- ▶ Grasp the edge of the earpad and pull sharply.
- ▶ Attach the new earpad to the earcup by pressing firmly around the earpad until you hear all 12 latches lock into place.



Accessories and spare parts

By changing the cables, you can simply retrofit different operating controls (see page 8 and 9) or connectors (see page 19) to your headset.

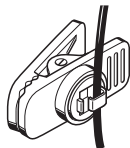
- Cable -CP Cat. No. 500852
- Cable -V-CP Cat. No. 500846
- Cable -B-CP Cat. No. 500837
- Cable -BV-CP Cat. No. 500838
- Cable -KP Cat. No. 500842
- Cable -V-KP Cat. No. 500848
- Cable -B-K Cat. No. 502183
- Cable -BV-K Cat. No. 500839
- Cable -BV-KP Cat. No. 504030
- Cable -NP Cat. No. 500855
- Cable -V-RP Cat. No. 500853
- Cable -V-KX Cat. No. 502437
- Audio cable, length 0.6 m,
with two 3.5 mm stereo jack plugs Cat. No. 520316
- Audio cable, length 0.6 m,
with two 2.5 mm jack plugs Cat. No. 520317
- Headband padding, 1 pair Cat. No. 515629
- Earpads, leatherette, 1 pair Cat. No. 529766
- Earpads, leatherette, 100 pairs Cat. No. 529767
- Hygiene pads HZH 26, 200 pairs Cat. No. 502595
- Wind and pop screen, 1 item Cat. No. 515297
- Wind and pop screen, any quantity Cat. No. 514127
- Carry bag Cat. No. 077408

- Cable clip MZQ 2002
- Cable clip HZC 08

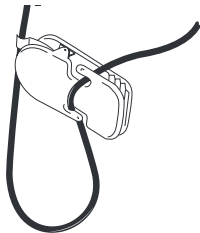
Cat. No. 044740

Cat. No. 525787

Cable clips



HZC 08
(for round cable only)



MZQ 2002
(for round or flat cable)

Product variants

Model	Cat. No. Part Number	1	2	3	4	5	6	7	8	9	10	11
HMEC 26*	502397 026-35											
HMEC 26-T*	502404 026-C5											
HMEC 26-CP	502402 026-35-999-3211	x	x						x			x
HMEC 26-V-CP	502405 026-35-999-3251	x	x						x		x	
HMEC 26-B-CP	502398 026-35-999-2291	x	x						x	x	x	
HMEC 26-BV-CP	502400 026-35-999-2281	x	x						x	x	x	
HMEC 26-KP	502403 026-35-999-3111	x		x	x				x			x
HMEC 26-V-KP	502406 026-35-999-3161	x		x	x				x		x	
HMEC 26-B-K	502399 026-35-999-1191	x		x	x					x	x	
HMEC 26-BV-K	502401 026-35-999-1171	x		x	x					x	x	
HMEC 26-NP	502397 + 500855 026-35-999-3811	x				x			x			x
HMEC 26-V-RP	502397 + 500853 026-35-999-3661	x					x		x		x	
HMEC 26-V-KX	502397 + 502437 026-35-999-4161	x		x	x			x	x		x	
HMEC 26-BV-KP	502397 + 504030 026-35-999-2171	x		x	x				x	x	x	

- ① Single-sided round cable, 1.85 m
- ② XLR-5 connector
- ③ 1/4" (6.3 mm) jack plug (headphones)
- ④ PJ-068 equivalent (microphone)
- ⑤ 8-pin Neutricon connector
- ⑥ 6-pin Redel connector
- ⑦ XLR-3 connector
- ⑧ Aircraft powered
- ⑨ Battery powered
- ⑩ Operating control I (page 8)
- ⑪ Operating control II (page 9)

* The headsets can be combined with all cables (see page 17).

Specifications

Headphones

Transducer principle	dynamic, closed
Ear coupling	supra-aural
Frequency response	20–14,000 Hz
Impedance	600 Ω mono/1.200 Ω stereo
Characteristic SPL	92 dB SPL at 1 kHz, 1 mW, mono 95 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

Microphone incl. preamplifier

Type	MKE 46
Transducer principle	pre-polarized condenser microphone, noise-compensating
Frequency response	100–6,000 Hz
Output voltage	adjustable from 17–100 mV/Pa, 80 mV/Pa -2 dB (factory pre-set) $\cong 800$ mV -2 dB at 114 dB SPL
Terminating impedance	150–2,200 Ω
Supply voltage	8–16 V DC

General data

Temperature range

operation: $-15\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$

storage: $-55\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$

Weight without cable

approx. 210 g

Power supply for
NoiseGard™

2x 1.5 V AA alkaline battery
(IEC LR 6) or

2x 1.2 V AA rechargeable
battery (IEC LR 6)

with approx. 60 hrs operating time
or

12–35 V DC via

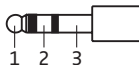
aircraft DC power supply system
(on suitably equipped aircraft),

max. 35 mA

Connector assignment

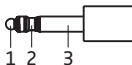
HMEC 26-V-KX

**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

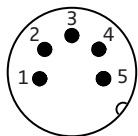
XLR-3 connector



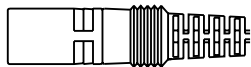
- 1 NoiseGard™ (DC+)
- 2 DC–
- 3 not assigned

HMEC 26-CP, -V-CP, -B-CP, -BV-CP

Solder side



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



HMEC 26-NP

Solder side

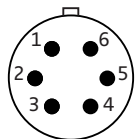


- 1 Audio Hi
- 2 Audio Lo
- 3 not assigned
- 4 Microphone Lo
- 5 Microphone Hi
- 6 not assigned
- 7 DC-
- 8 NoiseGard™ (DC+)



HMEC 26-V-RP

Solder side

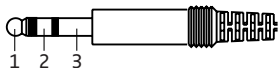


- 1 NoiseGard™ (DC+)
- 2 Audio Lo / DC-
- 3 Audio Hi left
- 4 Audio Hi right
- 5 Microphone Hi
- 6 Microphone Lo

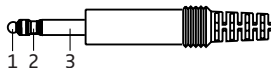


HMEC 26-KP, -V-KP, -BV-KP, -B-K, -BV-K

1/4" (6.3 mm) jack plug



PJ-068 equivalent



HMEC 26-KP

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

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

HMEC 26-V-KP / -BV-KP

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

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

HMEC 26-B-K

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

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

HMEC 26-BV-K

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

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

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 web site at www.sennheiser.com or contact your Sennheiser partner.

CE Declaration of Conformity

CE This equipment is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EU. The declaration is available on the internet site at www.sennheiser.com.

Before putting the device into operation, please observe the respective country-specific regulations!



Sennheiser electronic GmbH & Co. KG
Am Labor 1, 30900 Wedemark, Germany
www.sennheiser.com

Printed in Germany
Publ. 01/09
523983/A01