

# HD 46 HME 46

Instructions for use





## 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.
- 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 wetness. 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 these instructions especially the chapter "Safety instructions".
- use of the headset in jet aircraft and within the operating conditions as described in these instructions.

## Improper use

Improper use means use of the headset other than as described in these instructions or use under operating conditions different from those described in these instructions.

## HD 46 / HME 46

The HD 46 headphones and the HME 46 headset feature dynamic, open headphones. The noise-compensating condenser microphone ensures excellent speech transmission even in noisy environments. Designed for use in aircraft cockpits.

### Features

- Extremely lightweight
- Extremely comfortable to wear due to the patented two-piece automatic headband and soft ear pads
- Peak level protection 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 (headsets only)
- Noise-compensating condenser microphone ensures excellent speech transmission (headsets only)
- Single-sided cable, easy to exchange
- Volume control integrated in the cable (HME 46-V-K only)
- ETSO approval C57a/C58a
- TSO approval C139

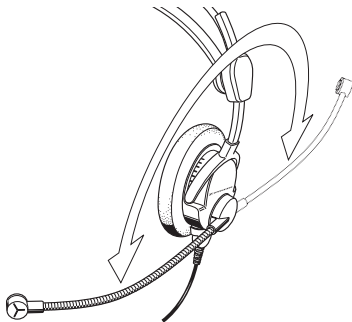
## Delivery includes

- HD 46 headphones / HME 46 headset
- Cable clip
- Wind and pop screen (except HD 46-K1)
- Instructions for use
- Carry bag
- EASA Form 1

## Operation

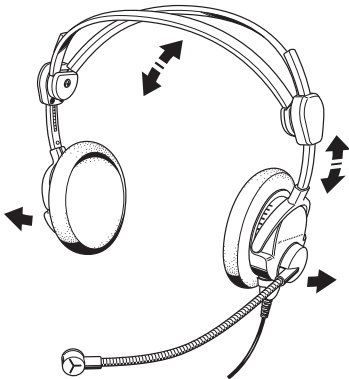
### Turning the microphone boom (except HD 46)

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.



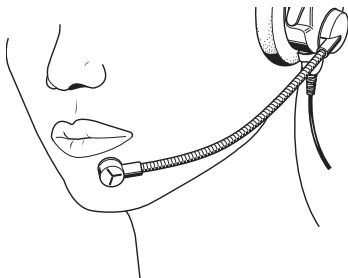
## Putting on the headset

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



## Positioning the microphone (except HD 46)

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.



## 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.

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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!

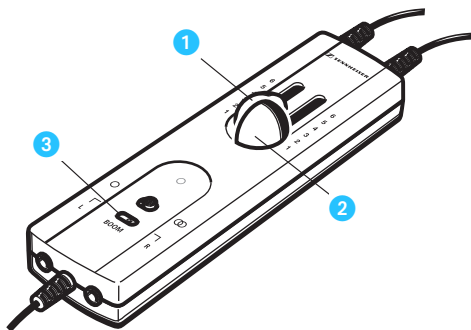
Set the volume to a medium level. Make sure that you can hear critical sounds such as warning alarms.

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## Adjusting the volume via the slide volume controls (HME 46-V-K only)

The two slide volume controls **1** and **2** allow you to adjust the volume for the left and right channel separately.

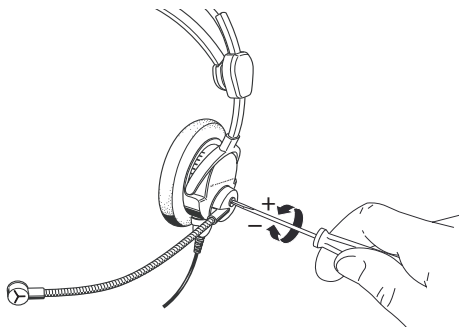


## Changing the left and right audio channel (HME 46-V-K only)

The position "R" or "L" of the BOOM switch **3** 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 audio signals. To move the BOOM switch, use a pointed tool.

## 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.



# 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.

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



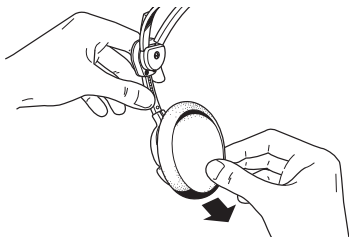
Water entering the housing of the headset can cause a short-circuit and damage the electronics.

Use only a slightly damp cloth to clean the headset. Do not use any solvents or cleansing agents.

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## Replacing the earpads

For reasons of hygiene, the black earpads should be replaced from time to time. Grasp the edge of the foam earpad behind the earcup as shown and peel it up and away from the earcup. Slide the new earpad onto the earcup. Repeat for the other earcup.



## Accessories and spare parts

By changing the cable, you can simply retrofit your headset (see "Product variants" on page 11).

- Cable -C Cat. No. 500840
- Cable -K Cat. No. 500841
- Cable -K1 (HD 46 only) Cat. No. 500970
- Cable -N Cat. No. 500843
- Cable -V-K Cat. No. 500847
- MZQ 2002 cable clip Cat. No. 044740
- HZC 08 cable clip Cat. No. 525787
- Earpads (1 pair) Cat. No. 515295
- Earpads (100 pairs) Cat. No. 515296
- HZH 46 hygiene pads (200 pairs) Cat. No. 502194
- Wind and pop screen (1 item) Cat. No. 515297
- Wind and pop screen  
(any number of items) Cat. No. 514127
- Headband padding (1 pair) Cat. No. 515629

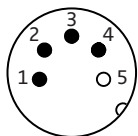
## Product variants

Variant (Cat. No.) (Part Number)	Description	Single-sided round cable
HD 46 (500899) (046-69)	Dynamic headphones	–
HD 46-K1 (500462) (046-69-999-0931)	Dynamic headphones	with ¼" (6,3 mm) jack plug, length 1.85 m
HME 46 (500850) (046-55)	Headset with condenser microphone	–
HME 46-C (500464) (046-55-999-0231)	Headset with condenser microphone	with XLR-5 connector, length 1.85 m
HME 46-K (500470) (046-55-999-0131)	Headset with condenser microphone	with ¼" (6.3 mm) jack plug (headphones) and PJ-068 equivalent (microphone), length 1.85 m
HME 46-N (500463) (046-55-999-0831)	Headset with condenser microphone	with 8-pin Neutricon connector, length 1.85 m
HME 46-V-K (500465) (046-55-999-0141)	Headset with condenser microphone	As HME-46-K, with volume control

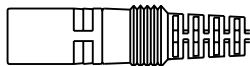
# Connector assignment

## HME 46-C

Solder side

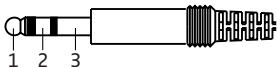


- 1 Audio Hi
- 2 Audio Lo
- 3 Microphone Hi
- 4 Microphone Lo
- 5 not assigned



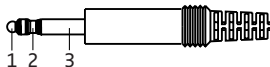
## HD 46-K1 and HME 46-K

1/4" (6.3 mm) jack plug



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

PJ-068 equivalent



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

## HME 46-N

Solder side

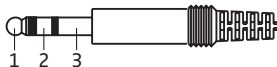


- 1 Audio Hi
- 2 Audio Lo
- 3 not assigned
- 4 Microphone Lo
- 5 Microphone Hi
- 6 not assigned
- 7 not assigned
- 8 not assigned



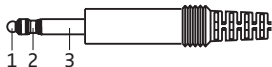
## HME 46-V-K

### 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

## Specifications

### Headphones

Transducer principle

Ear coupling

Frequency response

Impedance

Characteristic SPL

THD

Contact pressure

### General data

Temperature range

Weight without cable

## HD 46 headphones

dynamic, open

supra-aural

20–14,000 Hz

600  $\Omega$

93 dB SPL at 1 kHz, 1 mW

95 dB SPL at 1 kHz, 1 V

< 1 % at 110 dB SPL  
(350–3,000 Hz)

approx. 3 N

Operation: –15 °C to 55 °C

Storage: –55 °C to 70 °C

140 g

## Specifications

## HME 46 headsets

### Headphones

Transducer principle	dynamic, open
Ear coupling	supra-aural
Frequency response	20–14,000 Hz
Impedance mono/stereo	600 $\Omega$ /1,200 $\Omega$
Characteristic SPL	93 dB SPL at 1 kHz, 1 mW, mono 95 dB SPL at 1 kHz, 1 V
THD	< 1 % at 110 dB SPL (350–3,000 Hz)
Contact pressure	approx. 3 N

### Microphone

Type	MKE 46
Transducer principle	pre-polarized condenser microphone, noise-compensating
Frequency response	350–6,000 Hz
Output voltage	adjustable from 17–100 mV/Pa, 80 mV/Pa (factory pre-set) $\cong$ 400 mV at 114 dB SPL
Terminating impedance	150–2,200 $\Omega$
Supply voltage	8–16 V DC

### General data

Temperature range	Operation: $-15^{\circ}\text{C}$ to $55^{\circ}\text{C}$ Storage: $-55^{\circ}\text{C}$ to $70^{\circ}\text{C}$
Weight without cable	150 g



# Manufacturer Declarations

## Warranty regulations

The guarantee period for this Sennheiser product is 60 months from the date of purchase. Excluded are accessory items, rechargeable or disposable batteries that are delivered with the product; due to their characteristics these products have a shorter service life that is principally dependent on the individual frequency of use.

The guarantee period starts from the date of original purchase. For this reason, we recommend that the sales receipt be retained as proof of purchase. Without this proof (which is checked by the responsible Sennheiser service partner) you will not be reimbursed for any repairs that are carried out.

Depending on our choice, guarantee service comprises, free of charge, the removal of material and manufacturing defects through repair or replacement of either individual parts or the entire device. Inappropriate usage (e.g. operating faults, mechanical damages, incorrect operating voltage), wear and tear, force majeure and defects which were known at the time of purchase are excluded from guarantee claims. The guarantee is void if the product is manipulated by non-authorised persons or repair stations.

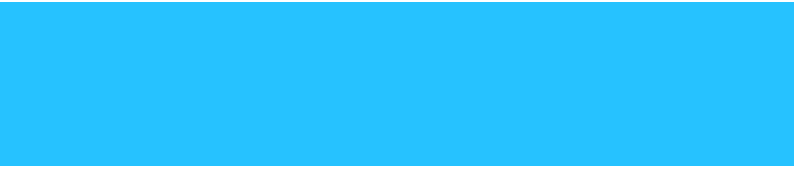
In the case of a claim under the terms of this guarantee, send the device, including accessories and sales receipt, to the responsible service partner. To minimise the risk of transport damage, we recommend that the original packaging is used. Your legal rights against the seller, resulting from the contract of sale, are not affected by this guarantee. The guarantee can be claimed in all countries outside the U.S. provided that no national law limits our terms of guarantee.

## CE Declaration of Conformity

**CE** This equipment is in compliance with the essential requirements and other relevant provisions of Directive 89/336/EU. The declaration is available on the internet site at [www.sennheiser.com](http://www.sennheiser.com).

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





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