

HME 100/105/110/120 HMD 120

Instructions for use





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The HME 100, HME 105, HME 110, HME 120 and HMD 120 are pilot headsets with closed ear protector headphones for use in helicopters, propeller and turboprop aircraft.

Safety requirements

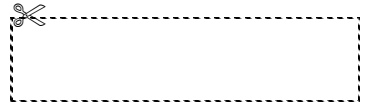
- When using a headset, typical aircraft sounds (for example, those from engines, propellers, warning alarms, etc.) may sound different to you. Before operating any aircraft, make sure that, while wearing a headset, you can hear and recognize these sounds. Set the volume to safe levels that do not interfere with your ability to hear informational sounds and warning alarms.
- Do not attempt to repair the headset yourself. If problems occur, contact your Sennheiser agent for assistance.
- Only replace parts of the headset whose replacement is described in this manual. All other parts of the headset must be replaced by your Sennheiser agent.
- Do not immerse the headset in water! For information on how to clean the headset, contact your Sennheiser agent.

Headset features

HME 100 headset

- New passive headset with excellent noise attenuation
- Excellent comfort due to very low weight, soft ear cushions STANDARD and padded headband as well as best possible freedom of movement due to unilateral connecting cable
- Foldable headband for easy and space-saving storage
- Clear communications due to MKE 45-1 electret microphone with adjustable sensitivity (sensitivity adjustment must be carried out by authorized personnel)
- Microphone can be easily positioned and worn on either left or right side due to flexible microphone boom with quick-fixing device
- Optimum radio reception due to headphone systems with wide frequency response
- Integrated volume control
- Adaption to the aircraft intercom system via Mono/Stereo switch
- JTSO approval
- Made in Germany, five-year warranty
- Personalization of the headset

Name:



Product variants

HME 105 headset

The HME 105 differs from the HME 100 in the following features:

- No Mono/Stereo switch
- Connection of headphones and microphone via XLR-5 plug

Headset HME 110

The HME 110 differs from the HME 100 in the following features:

- black caps
- soft earpads LUXURY
- headband with soft headcushion

HME 120 headset

The HME 120 differs from the HME 100 in the following features:

- No Mono/Stereo switch
- Coiled cable
- Connection of headphones and microphone via U-174/U jack plug to a high impedance interface in the helicopter

HMD 120 headset

The HMD 120 differs from the HME 100 in the following features:

- No Mono/Stereo switch
- Coiled cable
- M-87/AIC dynamic microphone and low impedance headphones
- Connection of headphones and microphone via U-174/U jack plug to a low impedance interface in the helicopter

Delivery includes

HME 100, HME 105, HME 110 and HME 120 headsets

- Headset
- Padded carry and storage bag for headset and accessories
- Wind screen for microphone
- Cable clip

HMD 120 headset

- Headset
- Padded carry and storage bag for headset and accessories
- Cable clip

Recommended Accessories

- Replaceable gel ear cushions GOP

Preparing the headsets for use

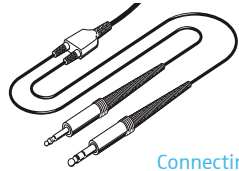
Connecting the headsets

HME 100, HME 110 headset

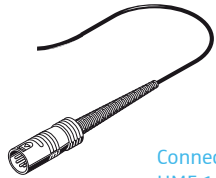
1 1/4" (6.35 mm) stereo jack plug for connecting the headphones

1 PJ-068 jack plug for connecting the microphone

- ▶ Connect the 1/4" (6.35 mm) stereo jack plug for the headphones and the PJ-068 jack plug for the microphone to the corresponding jack sockets of your intercom.



Connecting cable for
HME 100, HME 110

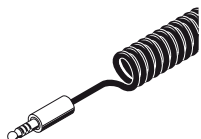


Connecting cable for
HME 105

HME 105 headset

1 XLR-5 plug for connecting the headphones and the microphone

- ▶ Connect the XLR-5 plug for the headphones and the microphone to the XLR-5 socket of your intercom.



Connecting cable for
HME 120 and HMD 120

HME 120 and HMD 120 headsets

1 U-174/U jack plug for connecting the headphones and the microphone

- ▶ Connect the U-174/U jack plug for the headphones and the microphone to the U-174/U socket of your intercom.

Adjusting the headband

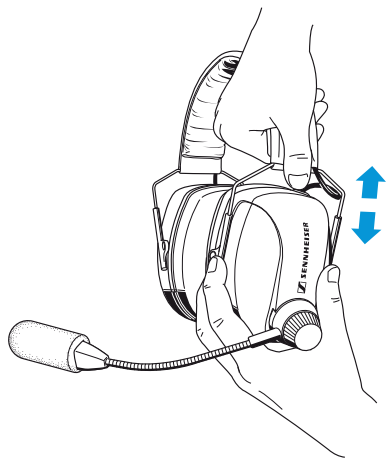
For good noise attenuation and best possible comfort, the headband has to be adjusted to properly fit your head:

- ▶ Wear the headset so that the headband runs over the top of your head.
- ▶ Adjust the length of the headband so that
 - your ears are completely inside the ear cushions,
 - you feel even, gentle pressure around your ears,
 - a snug fit is ensured.

Note:

Make sure not to squeeze any connecting cable when adjusting the headband. Squeezing can damage the connecting cables.

- ▶ Final adjustment is best made in a noisy environment.

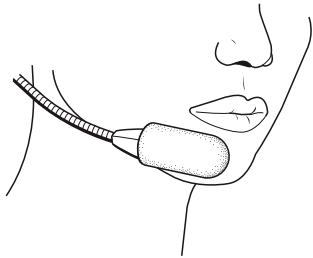
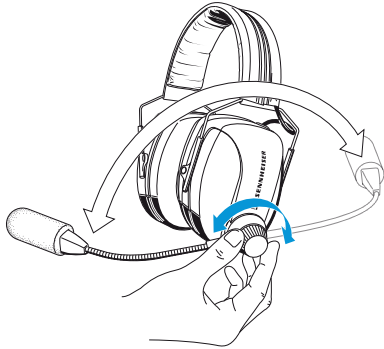


Positioning the microphone

Relocating the microphone boom

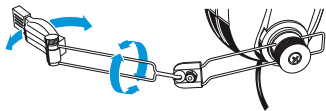
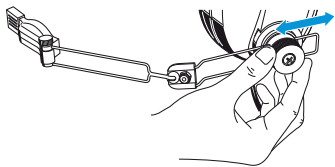
The microphone boom can be worn on either side of the mouth.

- ▶ Loosen the quick-fixing device.
- ▶ Rotate the microphone boom by 180°.
- ▶ Tighten the quick-fixing device.



Positioning the microphone towards the corner of the mouth

The HME 100, HME 105, HME 110 and HME 120 headsets feature a flexible microphone boom. 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.



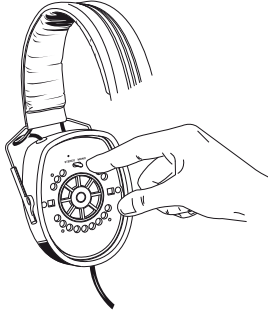
For positioning the microphone of the HMD 120 headset, proceed as follows:

- ▶ Adjust the length of the microphone boom so that the microphone is placed at the corner of the mouth. To do so, loosen the quick-fixing device and adjust the microphone boom in length.
- ▶ Pull the middle part of the microphone boom towards the mouth so that the distance between microphone and mouth is approx. 2 cm.
- ▶ Tilt the microphone for final positioning.

Using the headsets

Mono/Stereo selection (HME 100, HME 110)

In general, you'll receive a mono sound source so that the Mono/Stereo switch can remain set to 'Mono'. When using a stereo intercom system, set the headset to stereo operation. Remove the ear cushion (see „Replacing the ear cushions“ on page 15) from the earcup with the microphone boom attached and set the Mono/Stereo switch to 'Stereo'.



Adjusting the volume

Exposure to loud sounds can cause hearing damage!

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

Adjusting the microphone gain (not HMD 120)

According to JTSO approval C58a, the microphone output voltage is factory-preset to 400 mV/114 dB. If the microphone output voltage is too high or too low for your intercom system, it can be readjusted on the microphone. To do so, use a small slotted screwdriver and turn the 'Mic Gain Adjustment' screw (see illustration on the left) until you have reached the desired setting.

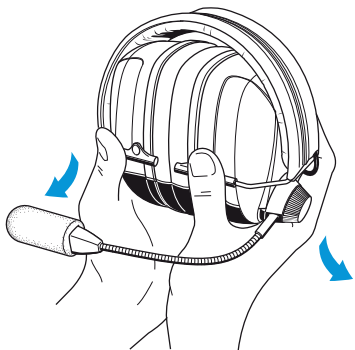
MicGain Adjustment



Folding up the headphones

For easy and space-saving transportation, the earcups can be folded up and tucked between the headband.

- ▶ Unfold the headphones by grasping both earcups and pulling them down and away from the headband.



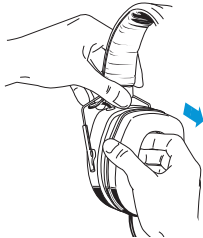
Spare parts

The following spare parts are available from your Sennheiser agent:

- Wind screen MKE 45-1 electret microphone (Cat. No. 075823 bulk or 092804 packaged, 1 pcs.)
- Cable clip MZQ 2002-01 (Cat. No. 044740)
- Cable clip HZC 08 (Cat. No. 525787)
- Carry and storage bag (Cat. No. 078366)
- Ear cushions STANDARD (Cat. No. 077960)
- Ear cushions GOP (Cat. No. 092807)
- Ear cushions LUXURY (Cat. No. 528127)

Replacing the wind screen

If the wind screen for the electret microphone shows signs of wear such as tears or holes, replace the wind screen. Pull the wind screen from the microphone. Gently slide-on the new wind screen and ensure that it fits securely over the microphone.

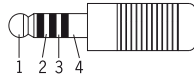


Replacing the ear cushions

To replace a damaged earpad, proceed as follows:

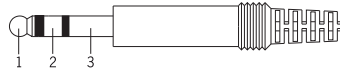
- ▶ Hold the headset on the outside of the earcup and on the headband.
- ▶ Grasp inside the earpad and behind the plastic base to which the earpad is glued.
- ▶ Pull the plastic base together with the earpad up and away from the earcup.
- ▶ Press the new earpad onto the earcup until it clicks audibly into place. Repeat for the other earcup.

Connector assignment



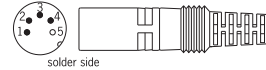
U174/U jack plug

- 1 Microphone Lo
- 2 Audio Hi
- 3 Microphone Hi
- 4 Audio Lo



1/4" (6.35 mm) stereo jack plug

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



XLR-5 connector

- 1 Audio Hi
- 2 Audio Lo
- 3 Microphone Hi
- 4 Microphone Lo
- 5 —



PJ-068 jack plug

- 1 Not assigned!
- 2 Microphone Hi
- 3 Microphone Lo

In case of difficulty

If problems occur that are not listed in the below table, please contact your Sennheiser agent.

Problem	Possible cause and what to do
Communications in one ear only (HME 100, HME 110)	<p>You are using a stereo intercom system but the headset is set to mono operation.</p> <ul style="list-style-type: none">▶ Set the Mono/Stereo switch to 'Stereo'. <p>You are receiving a mono source but the headset is set to stereo operation.</p> <ul style="list-style-type: none">▶ Set the Mono/Stereo switch to 'Mono'.
Very low volume communication	<p>The volume control is set too low.</p> <ul style="list-style-type: none">▶ Check the volume setting of the headset. <p>The headphone connection has been pulled out.</p> <ul style="list-style-type: none">▶ Check to see if the headphone jack plug is correctly connected.
Reduced intelligibility	<p>The microphone connection has been pulled out.</p> <ul style="list-style-type: none">▶ Check to see if the microphone jack plug is correctly connected.
Microphone output voltage too high or too low	<p>Re-adjust the output voltage on the microphone.</p> <ul style="list-style-type: none">▶ To do so, use a small slotted screwdriver and turn the 'Mic Gain Adjustment' screw (see illustration on page 14) until you have reached the desired setting.

Technical data

Headphones

	HME 100, HME 110	HME 105, HME 120	HMD 120
Transducer principle	dynamic	dynamic	dynamic
Ear coupling	circumaural, closed	circumaural, closed	circumaural, closed
Frequency response	45 – 15,000 Hz	45 – 15,000 Hz	45 – 15,000 Hz
Nominal impedance	150 Ω , mono, 300 Ω , stereo	150 Ω , mono	16 Ω , mono
Attenuation	> 10 – 40 dB	> 10 – 40 dB	> 10 – 40 dB
Contact pressure	approx. 10 N	approx. 10 N	approx. 10 N

Microphone incl. preamplifier (not HMD 120)

	HME 100, HME 110	HME 105	HME 120	HMD 120
Transducer principle	electret mic capsule, noise-compensated MKE 45-1	electret mic capsule, noise-compensated MKE 45-1	electret mic capsule, noise-compensated MKE 45-1	dynamic, M-87/AIC
Frequency response	300 – 5,000 Hz	300 – 5,000 Hz	300 – 5,000 Hz	500 – 4,000 Hz
Sensitivity	-	-	-	1,8 – 4 μ V/74 dB at 5 Ω
Max. sound pressure level	120 dB	120 dB	120 dB	-
Min. terminating impedance	150 Ω	150 Ω	150 Ω	-

	HME 100, HME 110	HME 105	HME 120	HMD 120
Output voltage	400 mV ± 3dB at 114 dB (nach RTCA/DO 214)	400 mV ± 3dB at 114 dB (nach RTCA/DO 214)	400 mV ± 3dB at 114 dB (nach RTCA/DO 214)	1.8 µV – 4 µV at 74 dB at 5 Ω
Supply voltage	typ. 16 V DC (8–16 V DC, approx. 8–25 mA as per RTCA/DO 214)	typ. 16 V DC (8–16 V DC, approx. 8–25 mA as per RTCA/DO 214)	typ. 16 V DC (8–16 V DC, approx. 8–25 mA as per RTCA/DO 214)	-

General Data

	HME 100, HME 110	HME 105	HME 120	HMD 120
Connecting cable	1.5 m, unilateral	1.5 m, unilateral	coiled cable, unilateral	coiled cable, unilateral
Weight without cable	350 g	350 g	350 g	350 g
Connectors	6.35 mm stereo jack plug for headphones, PJ-068 jack plug for microphone	XLR-5 for headphones and microphone	U-174/U jack plug for headphones and microphone	U-174/U jack plug for headphones and microphone
Controls	Mono/Stereo switch	-	-	-
Temperature range	Operation Storage	-15°C ... + 55°C -55°C ... + 55°C	-15°C ... + 55°C -55°C ... + 55°C	-15°C ... + 55°C -55°C ... + 55°C

Manufacturer declarations

Warranty

5 years

Approval



Sennheiser electronic GmbH & Co. KG declare that this device is in compliance with the applicable CE standards and regulations.

Batteries or rechargeable batteries



Please dispose of batteries or rechargeable batteries as special waste or return them to your specialist dealer.

For up-to-date information on Sennheiser products, you can also visit the Sennheiser Web site at "<http://www.sennheiser.com>".