



**SENNHEISER**



# HDA 300

Audiometric headphones

EN Instruction manual



CE

# Contents

<b>Introduction .....</b>	<b>2</b>
About this instruction manual .....	2
Manufacturer .....	2
<b>Important safety information .....</b>	<b>3</b>
Intended use/Liability .....	4
User qualification .....	4
Patient/test person groups .....	4
Environmental conditions for use .....	5
<b>Package contents .....</b>	<b>5</b>
<b>Product overview .....</b>	<b>6</b>
<b>Connecting the HDA 300 to an audiometer and calibrating the HDA 300 ....</b>	<b>7</b>
Calibration specifications and intervals .....	7
Connecting the HDA 300 to an audiometer .....	7
Preparing the HDA 300 for calibration .....	7
<b>Using the HDA 300 .....</b>	<b>8</b>
<b>Storing the HDA 300 .....</b>	<b>9</b>
<b>Cleaning and maintaining the HDA 300 .....</b>	<b>10</b>
Replacing the ear pads .....	11
Replacing the headband paddings .....	11
Replacing the diaphragm covers .....	12
<b>Specifications .....</b>	<b>13</b>
<b>Manufacturer declarations .....</b>	<b>14</b>

# Introduction

## About this instruction manual

This instruction manual describes the HDA 300 audiometry headphones. The HDA 300 audiometry headphones are designed as an accessory for 2-channel audiometers to diagnose hearing loss. For correct use, also observe the instruction manual/product documentation of the audiometer used.

This manual is also available online in other languages at [www.sennheiser.com/download](http://www.sennheiser.com/download).

## Manufacturer



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Contact your local Sennheiser partner: [www.sennheiser.com](http://www.sennheiser.com) > “Service & Support”.

# Important safety information



- ▷ Read this instruction manual carefully and completely before using the product.
- ▷ Always include this instruction manual when passing the product on to third parties.
- ▷ Do not use the product if it has been obviously damaged or dropped, or subjected to other severe shocks, as this may falsify the measurements.
- ▷ To ensure correct measurements on the patient, use the product only in calibrated state and perform a functional check and a visual inspection for obvious defects before each measurement.

## Preventing damage to health and accidents

- ▷ For reasons of hygiene, only use the headphones on intact skin.
- ▷ Before using the headphones, adjust the volume to a low level. Avoid listening at high volume levels for long periods of time to prevent hearing damage. 
- ▷ The product generates stronger permanent magnetic fields that could cause interference with cardiac pacemakers, implanted defibrillators (ICDs) and other implants. Always maintain a distance of at least 3.94"/10 cm between the product component containing the magnet and the cardiac pacemaker, implanted defibrillator, or other implant. 
- ▷ Keep the product, accessories and packaging parts out of reach of children and pets to prevent accidents. Swallowing and choking hazard.

## Preventing damage to the product and malfunctions

- ▷ 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.
- ▷ Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as cable is damaged, liquid has been spilled or objects have fallen into the product, when the product has been exposed to rain or moisture, does not operate normally, or has been dropped.
- ▷ Use only attachments/accessories/spare parts supplied or recommended by Sennheiser.

- ▷ Clean the product only with a soft, dry cloth. Skin-contacting parts of the headphones such as the headband paddings and the ear pads can be cleaned with disinfectants recommended by Sennheiser (see page 10).

## Intended use/Liability

The HDA 300 is a pair of closed, dynamic headphones –designed for use with 2-channel audiometers as a sound generator in aerotympanal conduction measurement. The headphones are also suitable for high frequency audiometry.

When using the HDA 300, please observe the user qualification and the defined groups of patients/test persons given in the following chapters.

The product is suitable for commercial use in confined spaces and, under normal use and care (apart from usual wear and tear), is not subject to any restriction in daily use or in its durability.

It is considered improper use when this product is used for any application not named in this instruction manual.

Sennheiser does not accept liability for damage arising from abuse or misuse of this product and its attachments/accessories.

## User qualification

The product is designed for use by the following persons: ENT specialists, paediatricians, hearing aid acousticians and speech therapists, as well as experienced personnel for audiometric analysis and measurement employed in the respective facilities.

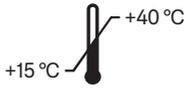
## Patient/test person groups

The product is designed for use with the following patient/test person groups: children, adolescents and adults of different sexes from 3 years. There must be no anomalies, open wounds or jewelry worn around the head and ears that could interfere with the proper fit of the headphones. With children, the use is limited by the head width in the area of the ears, as it determines the contact pressure of the ear pads.

## Environmental conditions for use

Observe the following environmental conditions, which are necessary for the safe use of the product.

For exact measurements, the audiometry headphones and the audiometer used must be calibrated:



Operating  
temperature



Operating  
humidity



Use and store dry  
only



Follow the  
instruction manual

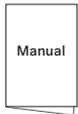
## Package contents



HDA 300 audiometry headphones



1 pair of HZH 350 hygiene pads



Instruction manual



Online you can find this detailed instruction manual and additional information ([www.sennheiser.com/download](http://www.sennheiser.com/download))

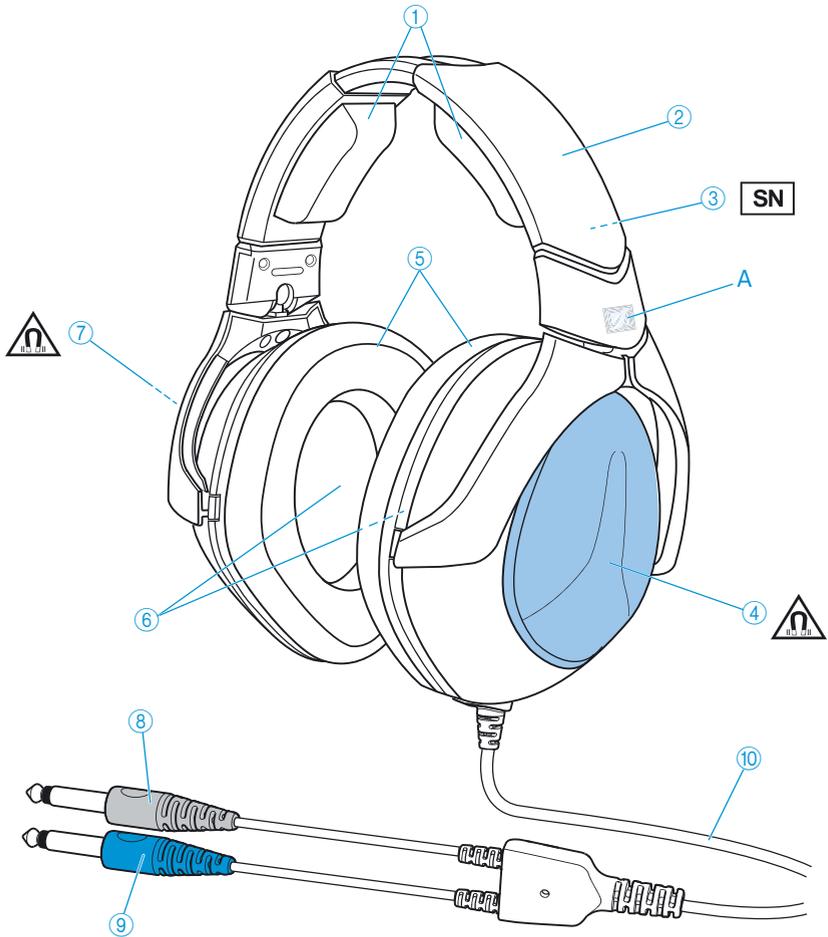


A list of accessories can be found on the HDA 300 product page at [www.sennheiser.com](http://www.sennheiser.com). For information on suppliers, contact your local Sennheiser partner: [www.sennheiser.com](http://www.sennheiser.com) > “Service & Support”.

Some of the available accessories:

- HZH 350 hygiene pads
- Ear pads
- Diaphragm cover
- Open-ended connection cable
- XL headband paddings for small head sizes
- Adapter ring for easy alignment during calibration

# Product overview



- ① Headband padding
- ② Headband
- ③ Serial number (inside of headband)
- ④ Left ear cup (L), blue
- ⑤ Ear pads
- ⑥ Diaphragm cover
- ⑦ Right ear cup (R), red
- ⑧ Right plug, red
- ⑨ Left plug, blue
- ⑩ Connection cable

▷ Before wearing the headphones, remove the protective foil **A** from the Sennheiser logo.

# Connecting the HDA 300 to an audiometer and calibrating the HDA 300

## Calibration specifications and intervals

For exact measurements, the audiometry headphones and the audiometer used must be calibrated by an authorized specialist during putting into operation and regularly during operation, at least once a year.

If you replace the audiometry headphones and/or the audiometer (even with the same type), the components must be recalibrated. This also applies to extreme climatic changes.

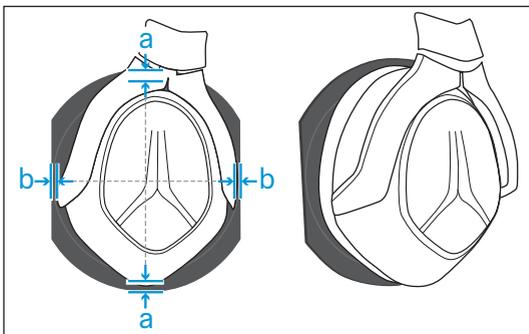
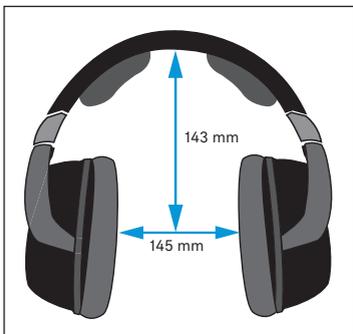
## Connecting the HDA 300 to an audiometer

- ▷ Connect the red plug of the headphones to the right channel and the blue plug to the left channel of the audiometer.

## Preparing the HDA 300 for calibration

The reference threshold sound pressure levels can be found on the fold-out front cover page or on the HDA 300 product page at [www.sennheiser.com](http://www.sennheiser.com).

1. Adjust the HDA 300 as shown in the diagram.
2. Place the ear cup on the center of the coupler so that the distance to the top and bottom as well as to the left and right is identical.



**i** For easy alignment of the ear cup on the coupler plate of the ear simulator, you can use the optional adapter ring. Information can be found on the HDA 300 product page at [www.sennheiser.com](http://www.sennheiser.com).

# Using the HDA 300



## WARNING

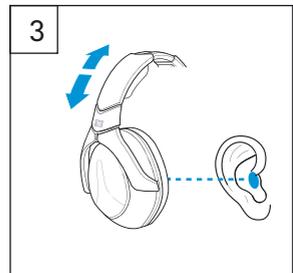
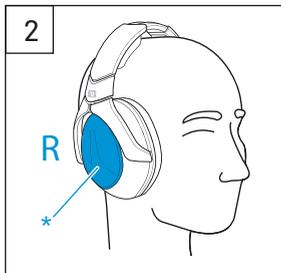
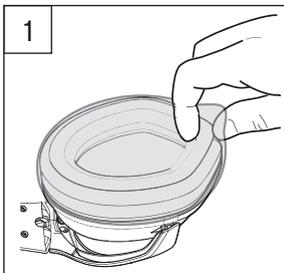
### Danger of hearing damage due to high volumes!

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

High volume levels can lead to cross-hearing (high sound pressures are transmitted unintentionally from one ear to the other ear) and falsify the measurement results.

- ▷ Before putting the headphones on and before toggling between audio sources, adjust the volume to a low level.
- ▷ Do not continuously expose yourself or the test person to high volume levels.
- ▷ Use narrow-band masking noise to avoid cross-hearing.

1. Pull new HZH 350 hygienic pads over the right and the left ear pad to ensure hygiene when using the HDA 300 on the test person.
2. Take off glasses, earrings and similar objects which could interfere with the proper fit of the headphones. Put the headphones on the test person so that the red ear cup **R** covers the right ear and the blue ear cup **L** covers the left ear.
3. Adjust the ear cups and the headband of the headphones so that
  - the ears are completely covered by the ear pads,
  - the test person feels even, gentle pressure around the ears,
  - a snug fit of the headband on the head is ensured.



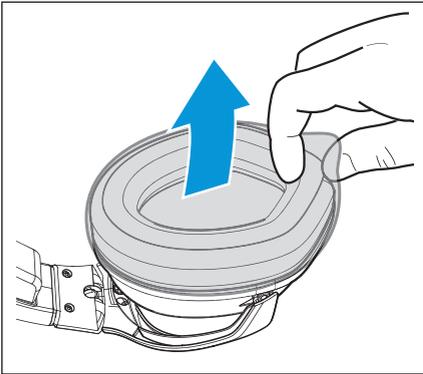
\* Right ear cup R, red



If the headband cannot be adjusted smaller to fit the head (see page 11), use the XL headband paddings for small head sizes (available as accessories).

To ensure hygiene for each test person after use:

- ▷ Remove the hygiene pads (disposable) and dispose of them.



- ▷ Disinfect the skin-contacting parts of the headphones (see page 10).

## Storing the HDA 300

- ▷ Do not store the headphones stretched out for long periods as this can widen the headband and reduce the contact pressure of the headphones.
- ▷ Make sure that the headphone cable does not cross any passageway to avoid anyone tripping over the cable.
- ▷ Handle the headphones and the cable with care. Do not twist, damage or kink the cable.

# Cleaning and maintaining the HDA 300

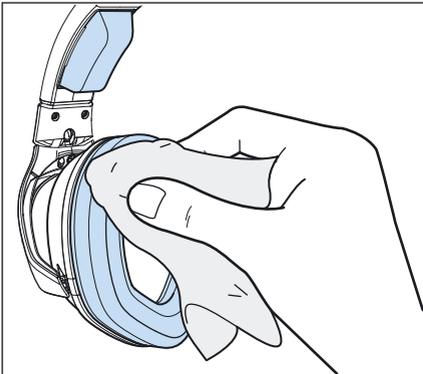
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## CAUTION

### Liquids can damage the product!

Liquids entering the product can cause corrosion.

- ▷ Keep all liquids far away from the product.
  - ▷ Only clean the headband paddings and the ear pads with cleansing agents recommended by Sennheiser.
  - ▷ Do not spray disinfectants directly on the product. Spray the disinfectant on to a suitable cloth.
- 
- ▷ Clean the plastic parts and the cable only with a soft, dry cloth.
  - ▷ Use a cloth to clean the skin-contacting ear pads and headband paddings according to the instructions of the cleansing agent manufacturer.



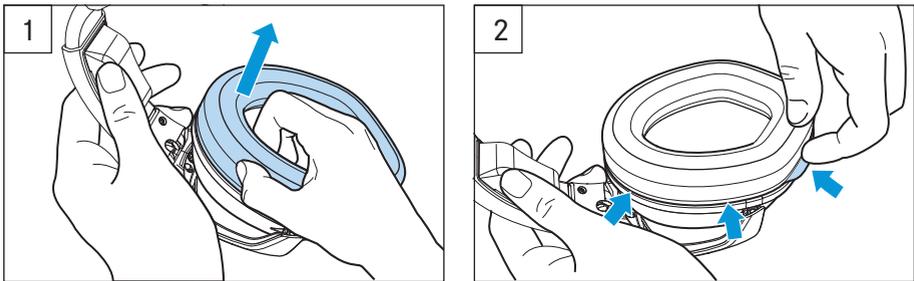
Recommended cleansing agents and disinfectants for the headband paddings and the ear pads:

Manufacturer	Suitable product
Bode	Bacillol AF, Bacillol Tissues
Dreve	OtoVita Cleaning Spray, OtoVita Cleaning Wipes
Egger	Cedis, Cedis med WB, Cedis N-Pro Cleansing Spray/Tissues
Reckitt Benckiser	Sagrotan hygiene spray, Sagrotan hygiene cleaner

- ▷ Observe the manufacturer's instructions. Let the product dry before using it.
- ▷ Regularly replace the headband paddings, ear pads and diaphragm covers (see the following chapters, spare parts are available from your Sennheiser partner):
  - e.g. once a year, depending on the frequency of use or
  - if they show clear signs of wear.

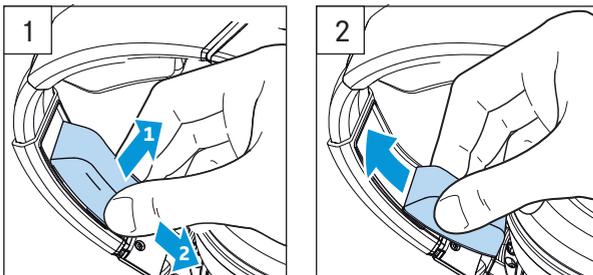
## Replacing the ear pads

1. Peel the ear pad up and away from the ear cup.
2. Slide the new ear pad onto the ear cup. Make sure that the edge of the ear pad disappears completely in the provided groove.



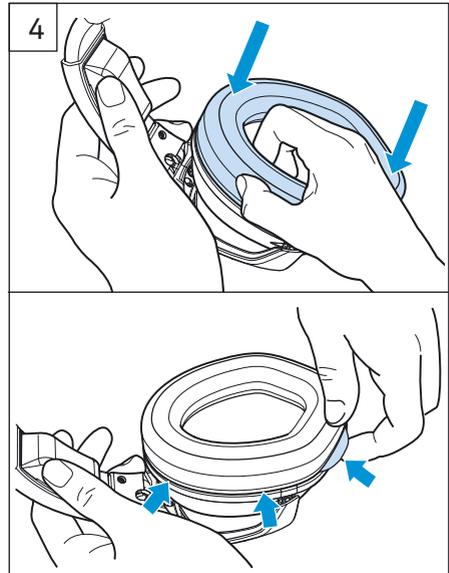
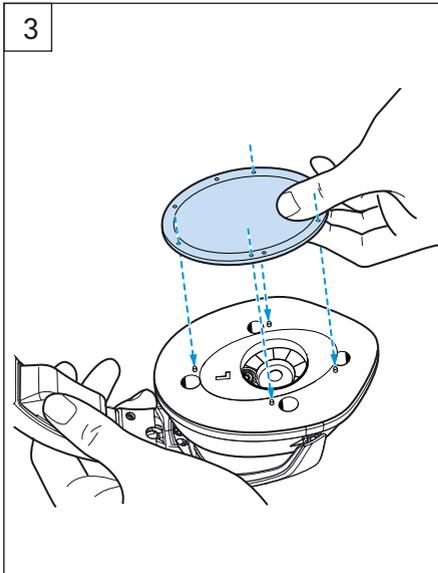
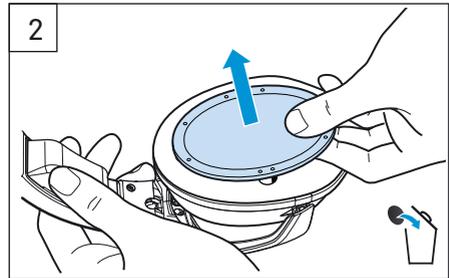
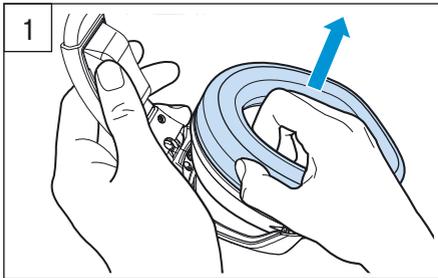
## Replacing the headband paddings

1. Slightly lift the headband padding at one end and remove it from the holder by carefully sliding it in the direction of the ear cup.
2. Slide the new or other headband padding (e.g. XL headband padding) into the holder. Repeat for the second headband padding.



## Replacing the diaphragm covers

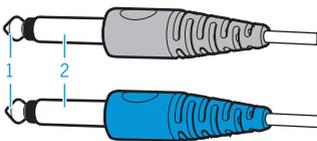
1. Peel the ear pad up and away from the ear cup.
2. Remove the diaphragm cover from the ear cup and dispose of it.
3. Place the new diaphragm cover so that four of the holes of the diaphragm cover are seated on the four position pins of the ear cup. Turn the diaphragm cover by 180 ° if the holes do not fit on the position pins.
4. Slide the ear pad onto the ear cup. Make sure that the edge of the ear pad disappears completely in the provided groove.



# Specifications

Frequency response	20 – 20,000 Hz
Transducer principle	dynamic, closed-back
Nominal impedance	23 $\Omega$
Characteristic SPL	117 dB at 1 kHz, 0.5 V
Max. long-term input power	500 mW (as per EN 6060268-7)
Max. input voltage	3.5 V, < 10 min
Ear coupling	circum-aural
Contact pressure	8.8 N $\pm$ 0.5 N
Weight (without cable)	approx. 490 g
Connection cable	approx. 2.2 m, single-sided
Temperature range	reference value: +22°C operation: +15 to +40°C storage: -25 to +70°C
Relative humidity (non condensing)	reference value: 50 % operation: 10 to 80 % storage: 10 to 90%
Ambient air pressure	reference value: 100 kPa
Magnetic field strength	2.0 mT

## Pin assignment of the ¼ inch (6.35 mm) jack plugs (mono)



red plug = right ear cup

1 Audio High (red wire)

2 Audio Low (blue wire)

blue plug = left ear cup

1 Audio High (yellow wire)

2 Audio Low (green wire)

# Manufacturer declarations

## Warranty

Sennheiser electronic GmbH & Co. KG gives a warranty of 24 months on this product.

For the current warranty conditions, please visit our website at [www.sennheiser.com](http://www.sennheiser.com) or contact your Sennheiser partner.

### FOR AUSTRALIA ONLY

Sennheiser goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

This warranty is in addition to other rights or remedies under law. Nothing in this warranty excludes, limits or modifies any liability of Sennheiser which is imposed by law, or limits or modifies any remedy available to the consumer which is granted by law.

To make a claim under this warranty, contact: Sennheiser Technical Services and Spare Parts Sales, c/o Linfox, Gate 3, 1 Fox Lane, Erskine Park, 2759, NSW Australia, phone: +61 2 9910 6700 email: [au-service@sennheiser.com](mailto:au-service@sennheiser.com)

All expenses of claiming the warranty will be borne by the person making the claim.

The Sennheiser International Warranty is provided by Sennheiser Australia Pty Ltd (ABN 68 165 388 312), The Zenith, Tower A, L14, 821 Pacific Highway Chatswood NSW 2067, Australia.

## EU declaration of conformity

- Medical Devices Directive (93/42/EEC)
- RoHS Directive (2011/65/EU)



The full text of the EU declaration of conformity is available at the following internet address: [www.sennheiser.com/download](http://www.sennheiser.com/download).

Before putting the product into operation, please observe the respective country-specific regulations.

## Notes on disposal

The symbol of the crossed-out wheeled bin on the product, the battery/rechargeable battery (if applicable) and/or the packaging indicates that these products must not be disposed of with normal household waste, but must be disposed of separately at the end of their operational lifetime. For packaging disposal, please observe the legal regulations on waste segregation applicable in your country.



Further information on the recycling of these products can be obtained from your municipal administration, from the municipal collection points, or from your Sennheiser partner.

The separate collection of waste electrical and electronic equipment, batteries/rechargeable batteries (if applicable) and packagings is used to promote the reuse and recycling and to prevent negative effects caused by e.g. potentially hazardous substances contained in these products. Herewith you make an important contribution to the protection of the environment and public health.

# China RoHS

部件名称 (Parts)	有害物质						产品环保年限 (EFUP)
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
电缆及电缆组件 (Cables & Cable Assemblies)	x	o	o	o	o	o	15

本表格依据 SJ/T 11364 的规定编制。

o : 表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。

x : 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。



Instruction manuals and product support  
Bedienungsanleitungen und Produktbetreuung  
Manuels d'utilisation et assistance produit  
Instrucciones de uso y soporte del producto  
Manuali d'istruzioni e supporto prodotto  
Bedieningsinstructies en productondersteuning  
Manuais de instruções e assistência ao produto  
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Manual petunjuk, dan dukungan produk

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