



RS 120-W

Wireless TV headphone system

Model: RS 120-W, TR 120-W, HDR 120-W



Instruction manual

Use the search function, the navigation (left) or the following links:

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“Specifications”

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Important safety instructions



- ▷ 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 an obviously defective product.
- ▷ Only use the product in environments where **Bluetooth®** wireless transmission is permitted.

Preventing damage to health and accidents

- ▷ Protect your hearing from high volume levels. Permanent hearing damage may occur when headphones are used at high volume levels for long periods of time. Headphones of the Sennheiser brand sound exceptionally even good at low and medium volume levels. 
- ▷ Do not use the product in an environment that requires your special attention (e.g. when performing skilled jobs).
- ▷ Never charge standard batteries with the product. Only charge rechargeable batteries that meet the requirements listed in the Specifications.
- ▷ The product generates stronger permanent magnetic fields that could cause interference with cardiac pace-makers, 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. 
- ▷ Do not use the product near water. Do not expose the product to rain or moisture to reduce the risk of fire or electric shock.
- ▷ Keep the product, accessories and packaging parts out of reach of children and pets to prevent accidents. Swallowing and choking hazard.
- ▷ Only use the power supply units supplied by Sonova Consumer Hearing.
- ▷ If wall mounting the transmitter, make sure that the transmitter is not mounted higher than 2 m. Otherwise, there is a risk of injury in case the transmitter falls from greater heights.

Preventing damage to the product and malfunctions

- ▷ Always keep the product dry and do not expose it to extreme temperatures to avoid corrosion or deformation. The normal operating temperature is from 0 °C to 40 °C/32 °F to 104 °F.
- ▷ Use the product with care and store it in a clean, dust-free environment.
- ▷ Do not use the product if it is obviously damaged, if it has been dropped, or if liquids or objects have entered the product. In this case, contact a qualified specialist workshop or your Sonova Consumer Hearing partner to have the product checked.
- ▷ Switch off the product after use to conserve battery power. When not using the product for extended periods of time, remove the rechargeable batteries.

Important safety instructions

- ▷ Unplug the power supply unit from the wall socket
 - to completely disconnect the product from the power source,
 - during lightning storms,
 - when not using the product for long periods of time.
- ▷ Always ensure that the power supply unit is
 - in a safe operating condition and easily accessible,
 - properly plugged into the wall socket,
 - only operated within the permissible temperature range,
 - not exposed to direct sunlight for longer periods of time in order to prevent heat accumulation.
- ▷ Do not place your headphones on a glass dummy head, chair arm-rest or similar objects for long periods as this can widen the head-band and reduce the contact pressure of the headphones.
- ▷ Varnish or furniture polish may degrade the feet of the transmitter, which could stain your furniture. You should therefore place the transmitter on a non-slip pad to avoid potential staining of furniture.
- ▷ Do not operate the product near heat sources.
- ▷ Clean the product only with a soft, dry cloth.
- ▷ Use only attachments/accessories/spare parts supplied or recommended by Sonova Consumer Hearing.

Safety instructions for rechargeable batteries



WARNING

If abused or misused, rechargeable batteries may leak. In extreme cases, they may even present a risk of:

- explosion,
- heat and fire development
- smoke and/or gas development
- damage to health and/or the environment

	Keep away from children.
	Do not expose to moisture.
	Do not mutilate or dismantle.
	Observe correct polarity.
	Pack/store charged rechargeable batteries so that the terminals cannot contact each other – danger of shorting out/fire hazard.
	Switch rechargeable battery-powered products off after use.

Important safety instructions

	Charge rechargeable batteries at ambient temperatures between 10 °C and 40 °C/50 °F and 104 °F.
	Do not heat above 70 °C/158 °F, e.g. do not expose to sunlight or throw into a fire.
	When not using rechargeable batteries for extended periods of time, charge them regularly (about every 3 months).
	When not using the product for extended periods of time, remove the rechargeable batteries.
	Only use rechargeable batteries and chargers supplied and/or recommended by Sonova Consumer Hearing.
	Do not continue using defective rechargeable batteries and dispose of them immediately.
	Immediately remove rechargeable batteries from an obviously defective product.
	Dispose of defective products with built-in rechargeable batteries at special collection points or return them to your specialist dealer to facilitate recycling.
	Do not charge standard batteries.
	Do not mix standard and rechargeable batteries in the battery compartments.

Intended use/Liability

This wireless headphone system is suitable for use with TV sets, hi-fi systems, and home cinema systems, can be connected to analog audio sources and transmits audio to compatible headphones via Bluetooth LE Audio wireless technology.

This product is intended for private domestic use only. It is not suitable for commercial use. This product is also not intended to be used with portable audio devices. It is considered improper use when the product is used for any application not named in the corresponding product documentation.

Sonova Consumer Hearing GmbH does not accept liability for damage arising from misuse or improper use of the product and its attachments/accessories.

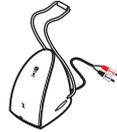
Sonova Consumer Hearing GmbH is not liable for damages resulting from the loss of connection due to flat or overaged rechargeable batteries or exceeding the Bluetooth transmission range.

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

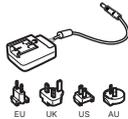
Package contents



Headphones
Model: HDR 120-W



Transmitter with stereo RCA audio cable
Model: TR 120-W



Power supply unit with multi-country adapters
(EU, UK, US, AUS)
Model: NT9-3AW



Two rechargeable batteries: 1,2 V (AAA), NiMH



Adapter for 3.5 mm audio connection



Quick guide



Safety guide

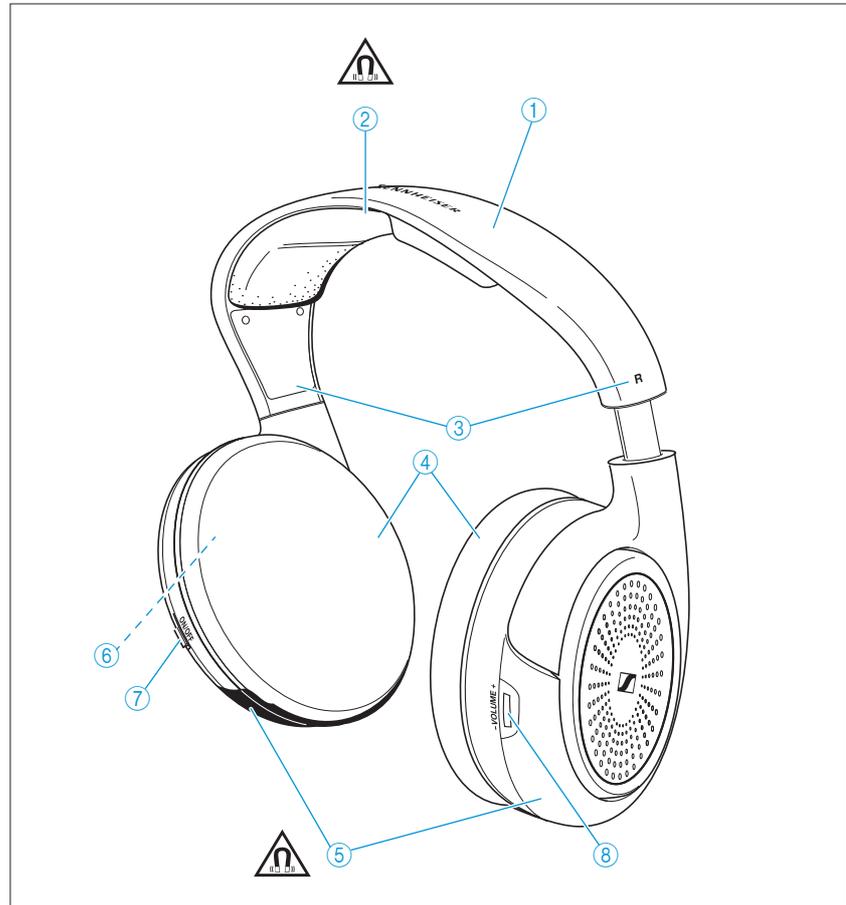
Online you can find:

- this detailed instruction manual and additional information (www.sennheiser-hearing.com/download)
- a list of accessories on the RS 120-W product page at www.sennheiser-hearing.com/rs-120-w (to purchase online or contact your local Sonova Consumer Hearing partner: www.sennheiser-hearing.com/service-support).

Product overview

Overview of the headphones

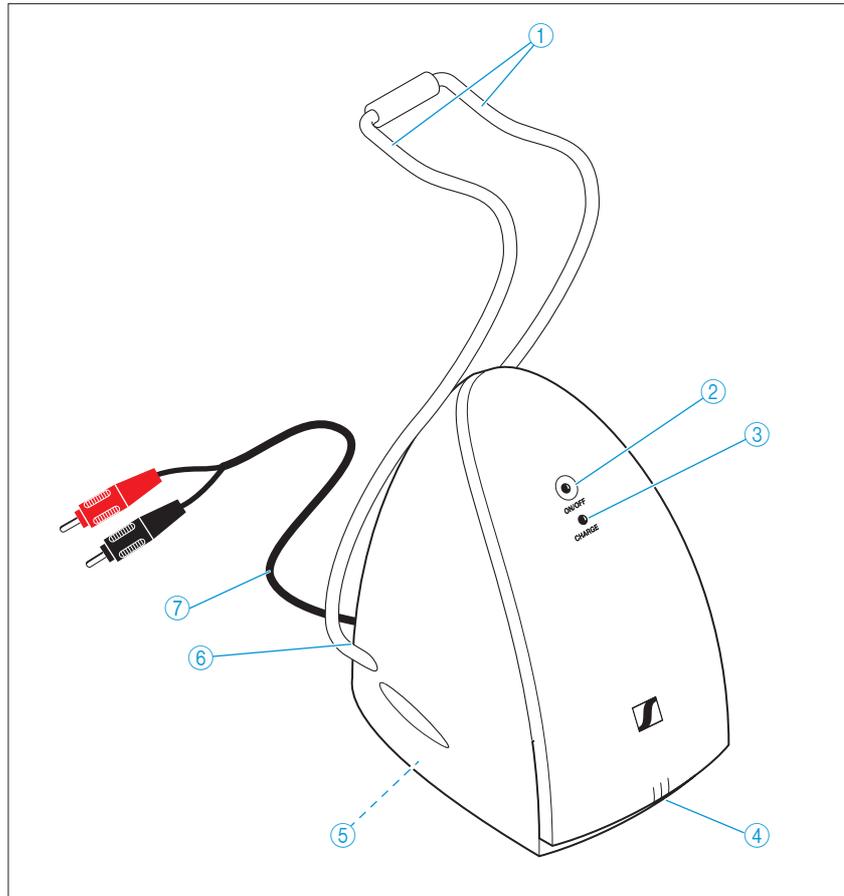
Model: HDR 120-W



- ① Headband with padding
- ② Charging contacts with holding magnets
- ③ Markings for R (right) and L (left)
- ④ Ear pads
- ⑤ Ear cups
- ⑥ Battery compartment
- ⑦ ON/OFF switch
- ⑧ VOLUME control

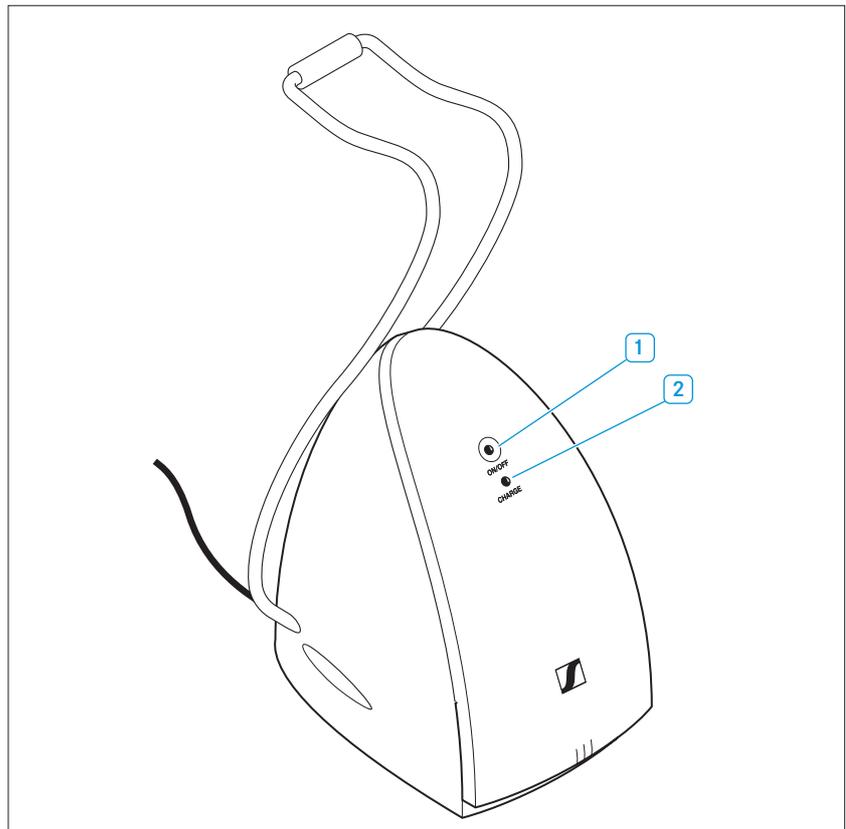
Overview of the transmitter

Model: TR 120-W



- ① Headphone holder with charging contacts
- ② ON/OFF LED
- ③ CHARGE LED
- ④ MODE switch for selecting the sound mode
- ⑤ Type plate
- ⑥ DC IN 9V 300mA socket for the power supply unit
- ⑦ AUDIO connection (stereo RCA audio cable)

Overview of the LED indicators



1

ON/OFF LED	Color	Meaning
○	-	The transmitter is in standby mode or is not connected to the power supply system.
●	green	The transmitter is switched on and an audio signal is present.

2

CHARGE LED	Color	Meaning
○	-	The headphones are fully charged or no headphones are placed on the charging contacts.
●	red	The headphones are charged via the transmitter.

Notes on sound signals

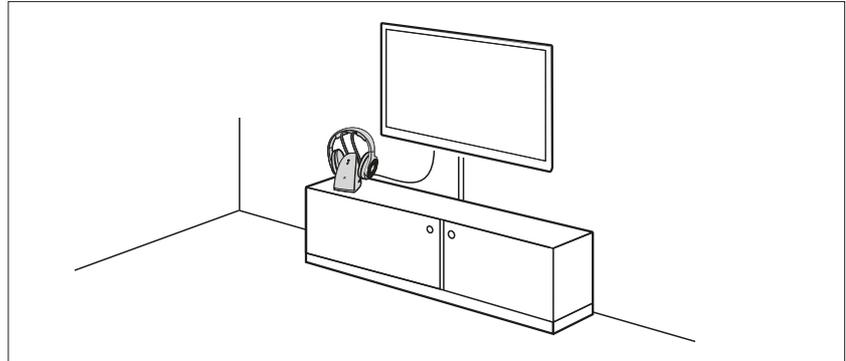
The headphones output sound signals for important events.

Product overview

Sound signal	Meaning
Sound	Headphones switched on/off
Melody	Headphones search for the audio signal of the paired transmitter
3 descending sound signals	The rechargeable batteries are almost empty, recharge the rechargeable batteries (> 14)

Getting started

Setting up the transmitter



- ▷ Set up the transmitter. When doing so, make sure that the following conditions are met:
 - The transmitter is close to the audio source to connect the cables.
 - The transmitter is at least 20"/50 cm away from other wireless devices in the room to avoid interference.
 - The transmitter is **not** located near metal shelves, reinforced concrete walls or other metal structures. This can affect the range of the transmitter.

Hanging the transmitter on a wall



CAUTION

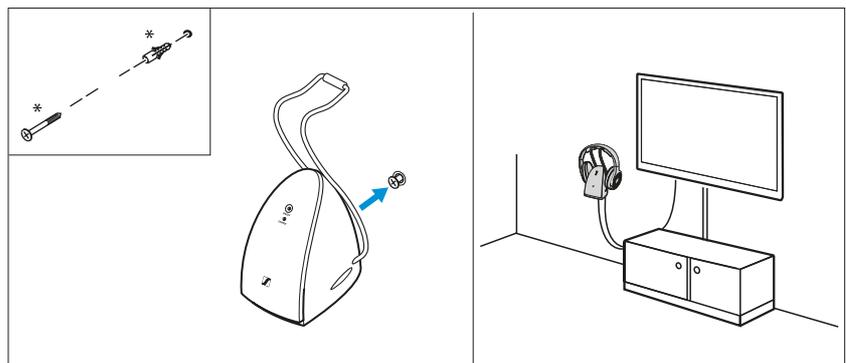
Injuries due to the transmitter falling down!

If the transmitter falls from great heights, this can cause injuries.

- ▷ Mount the transmitter at a **maximum height of 2 m**.

The transmitter can be hung on a wall. For this, you will need mounting material suitable for the wall (* screw and, if necessary, a dowel, to be ordered separately).

1. Fasten the screw to the wall.
2. Hook the screw head into the opening on the back of the transmitter.



Connecting the transmitter to an audio source

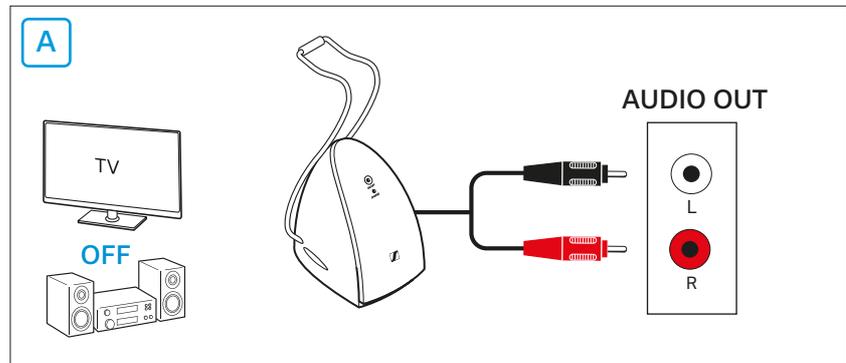
- ▷ Switch your audio source off before connecting the transmitter.
- ▷ Check the connection possibilities of your audio source (audio output, usually marked “OUT”).
- ▷ Depending on the connection possibility selected, go to the respective chapter and follow the instructions on how to connect the transmitter to an audio source.

Connection possibilities of the audio source		Connection cable	>
A	RCA sockets (analog)	Stereo RCA audio cable	11
B	3.5 mm jack socket (analog)	Stereo RCA audio cable with adapter for 3.5 mm audio connection	11
C	Optical (digital)	Stereo RCA audio cable with analog-to-digital converter (to be ordered separately)	12

i Accessories and adapters are available from your Sonova Consumer Hearing partner. You can find your local Sonova Consumer Hearing partner at www.sennheiser-hearing.com/service-support.

A Connection possibility A: RCA sockets (analog)

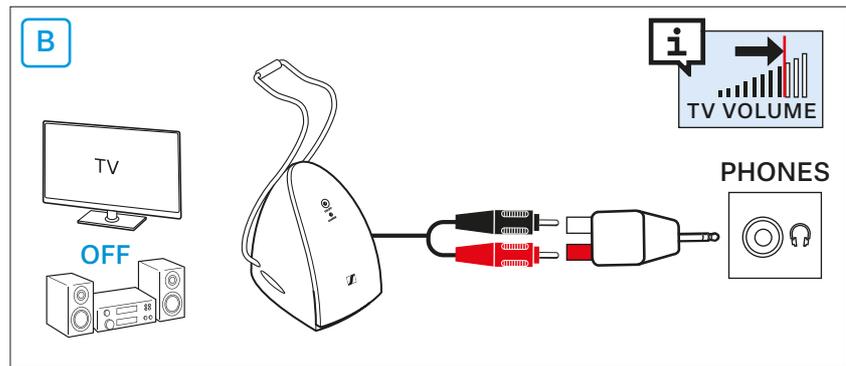
- ▷ Connect the RCA plugs to the RCA outputs of your audio source (usually marked “AUDIO OUT”). Connect the red plug to the red RCA socket and the black plug to the white or black RCA socket.



B Connection possibility B: 3.5 mm jack socket (analog)

1. Plug the adapter onto the stereo RCA audio cable.
2. Connect the adapter to the 3.5 mm headphone jack of your audio source.

i Adjust the volume of the headphone socket on your audio source to **at least a medium level**. This improves the quality of wireless audio transmission. For detailed information, please refer to the instruction manual of your audio source.

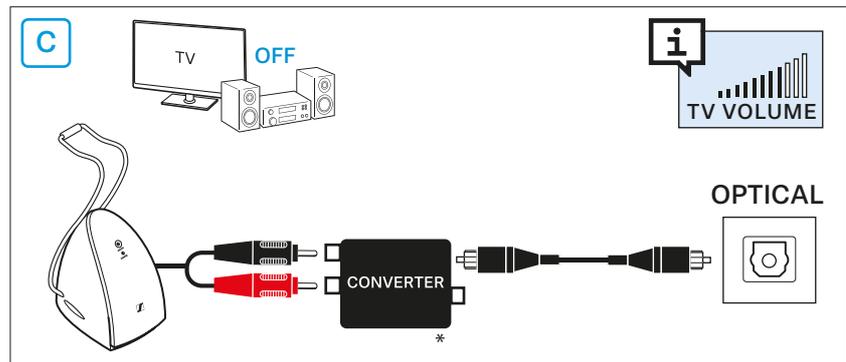


Some TV models mute the loudspeakers when you connect the transmitter to the 3.5 mm headphone socket. Other TV models have their own menu for adjusting the volume of the headphone socket. Check the menu of your TV for information on how to deactivate the muting function or adjust the volume. Alternatively, connect the TV and the transmitter using a different connection possibility (A or C).

C **Connection possibility C: Optical (digital)**

If your audio source has only a digital audio output, you can use an analog-to-digital converter (to be ordered separately) to connect the transmitter.

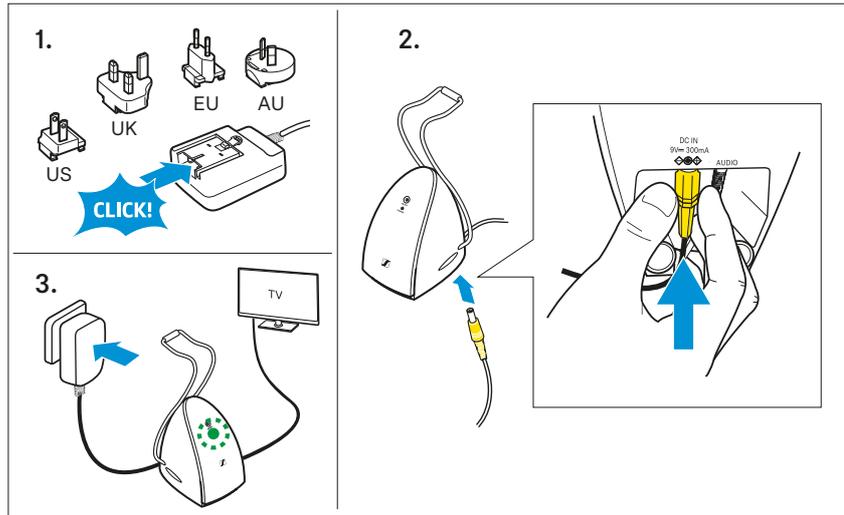
1. Plug the converter onto the stereo RCA audio cable.
2. Connect the converter to the digital audio output of your audio source.



Connecting the transmitter to the power supply system

1. Select a suitable country adapter and slide it onto the power supply unit until it clicks audibly into place.
2. Connect the connector of the power supply unit to the connection socket of the transmitter.
3. Plug the power supply unit into the wall socket.
The **ON/OFF** LED lights up green. The transmitter is switched on.

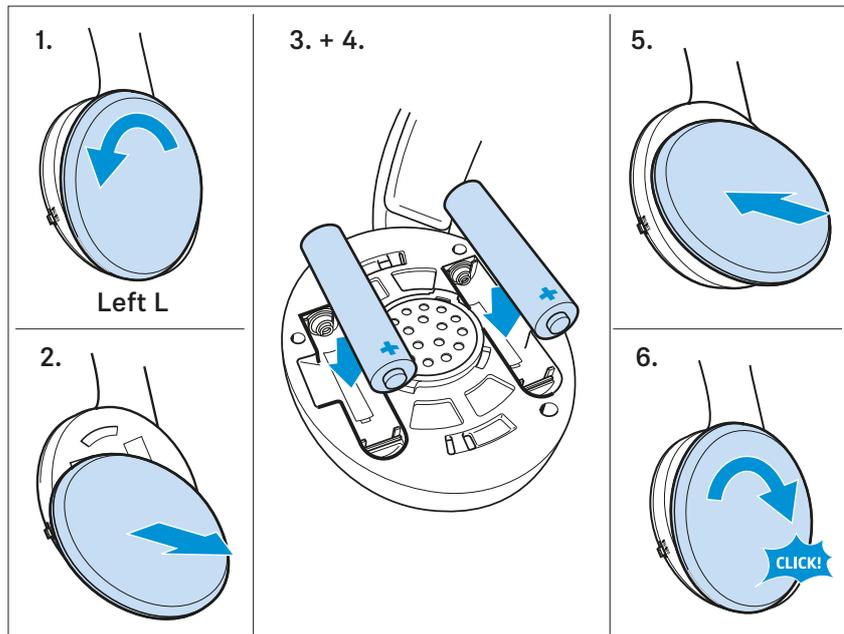
i The **ON/OFF** LED only lights up green when an audio signal is present. For this, the audio source must be connected to the transmitter and switched on.



Inserting or replacing the rechargeable batteries

1. Lightly twist the left ear pad counterclockwise until you overcome a slight resistance.
2. Lift the ear pad off the ear cup to reveal the battery compartments.
3. If necessary, remove the empty rechargeable batteries from the battery compartments.
4. Insert the new rechargeable batteries into the battery compartments. Observe correct polarity when inserting the rechargeable batteries.
5. Place the ear pad back onto the ear cup.
6. Twist the ear pad clockwise until you hear a click sound.

i Dispose of exhausted rechargeable batteries at special collection points or return them to your specialist dealer to facilitate recycling.



Charging the rechargeable batteries

NOTE

Damage to the headphones due to battery fluid!

If you insert non-rechargeable batteries into the battery compartments, the batteries may leak during charging and can damage your headphones.

- ▷ Never charge standard batteries.

A complete charging cycle takes up to **18 hours**. However, before using the headphones for the first time, charge the rechargeable batteries for at least 24 hours without interruption to optimize the performance of the batteries. When the rechargeable batteries are almost empty, you will hear 3 descending sound signals from the headphones. When the rechargeable batteries are empty, you hear a sound, audio playback stops, and the headphones switch off.

- ▷ Place the headphones on the transmitter's headphone holder. You may place the headphones on either side provided that the charging contacts of the headphones and the transmitter connect.

The headphones automatically switch off and the **CHARGE** LED on the transmitter lights up red. When the rechargeable batteries are fully charged, the **CHARGE** LED goes off.

- i** When not in use, place the headphones on the headphone holder to ensure that the rechargeable batteries are fully charged when needed.

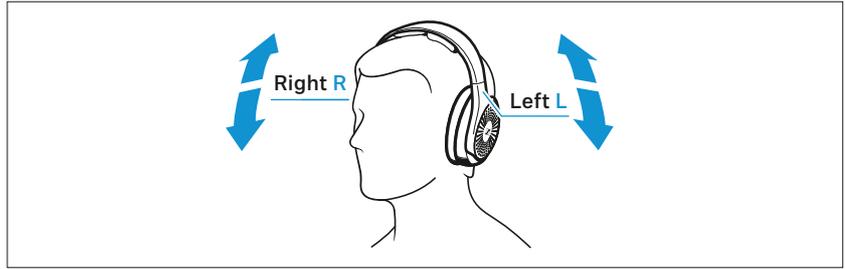


Adjusting the headband

For good sound quality and best possible wearing comfort, the headband has to be adjusted to properly fit your head. The headphones feature an adjustable headband with a snap-in locking mechanism for easy adjustment.

1. Wear the headphones so that the headband runs over the top of your head. Observe the **L** and **R** markings on the outer headband when putting the headphones on.
2. Adjust the length of the headband so that
 - your ears are comfortably covered by the ear pads,
 - you feel even, gentle pressure around your ears,
 - a snug fit of the headband on the head is ensured.

Getting started



Using the headphone system

Switching on

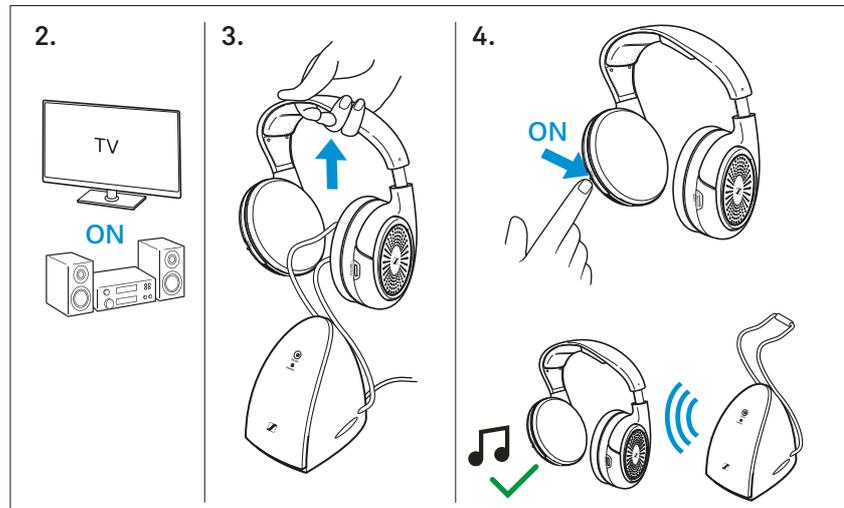


WARNING

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

- ▷ Before putting the headphones on, adjust the volume on the headphones to a low level (> 18).
- ▷ Do not continuously expose yourself to high volume levels.

1. Connect the transmitter to the power supply system (> 12) and to your audio source (> 11).
2. Switch your audio source on.
The **ON/OFF** LED lights up green. An audio signal is present and is being transmitted.
3. Remove the headphones from the transmitter's headphone holder.
4. Set the **ON/OFF** switch of the headphones to ON.
The headphones search for the paired transmitter and you hear a melody. If the connection is successful, audio playback starts.



Switching off

If the audio source is switched off for 5 minutes, the transmitter and the headphones switch to standby mode. To switch off the transmitter completely, disconnect the power supply unit from the wall socket.



If the headphones have gone into standby mode and you want to wake them up, switch the headphones off and on again.

You can switch off the headphones in two ways:

- ▷ Place the headphones on the transmitter's headphone holder. The headphones switch off automatically and the charging process starts (> 14).



- ▷ Set the ON/OFF switch of the headphones to OFF. The headphones switch off.



Information on the wireless connection

The TR 120-W transmitter uses Bluetooth LE Audio wireless technology for audio transmission. It is only compatible with the HDR 120-W headphones. A Bluetooth connection with e.g. your smartphone is not possible.

The transmitter transmits the audio signal and all headphones connected to it receive the signal. Audio Broadcast allows any number of headphones to be connected to the transmitter simultaneously. The only limitation is the wireless range of the transmitter.



Pairing the headphones

The headphones and the transmitter of the wireless headphone system are factory pre-paired. The following steps are only necessary if you want to pair additional HDR 120-W headphones with the transmitter.

1. Switch the transmitter on (> 16).
2. Switch the headphones on (> 16).
3. Hold or place the headphones near the transmitter. The distance between the headphones and the transmitter should not exceed 30 cm.
The headphones search for the transmitter and you hear a melody. If the connection is successful, audio playback starts.



Adjusting the volume



WARNING

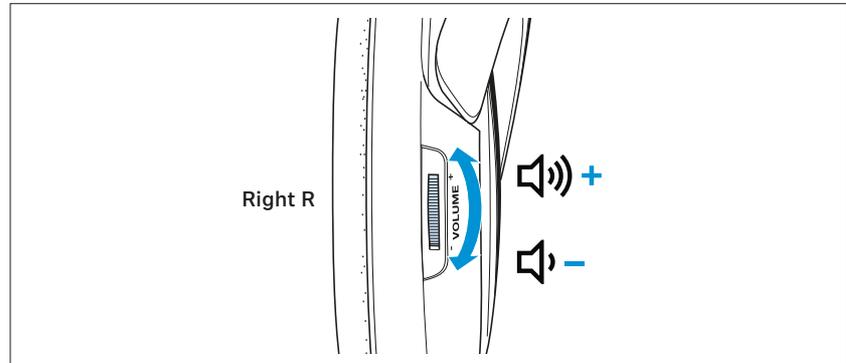
Danger of hearing damage due to high volume levels!

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

- ▷ Do not continuously expose yourself to high volume levels.

- ▷ Move the **VOLUME** control on the right ear cup up **+** or down **-** until the volume is comfortable for you.

i To protect your hearing, the volume is slightly reduced at the beginning of the audio transmission. It levels out in the first 1-2 minutes. This prevents a too loud signal at switch-on.



Selecting the sound mode

The transmitter has three sound modes. They change the sound of the audio signal to adapt it to different situations.

- ▷ Set the **MODE** switch on the transmitter to the desired sound mode (see table).

Sound mode	Description
 NEUTRAL mode	The sound is reproduced unchanged.
 MUSIC mode	The bass is boosted for a dynamic sound. Suitable for music playback.
 SPEECH mode	The frequency range for speech is boosted. Suitable for enhancing speech intelligibility (for example, dialogs of movies/TV series).

Care and maintenance

NOTE

Short circuit due to liquids!

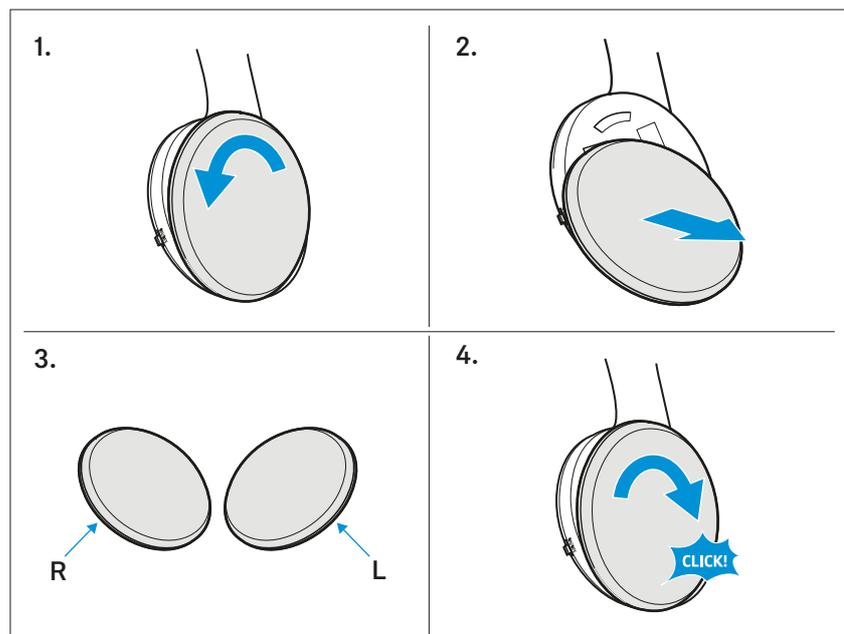
Liquids entering the housing of the product can cause a short-circuit and damage the electronics.

- ▷ Keep all liquids far away from the product.
 - ▷ Do not use any solvents or cleansing agents.
-
- ▷ Switch off your wireless headphone system and disconnect the transmitter from the wall socket before cleaning.
 - ▷ Clean the headphones and the transmitter only with a soft, dry cloth.
 - ▷ Clean the contacts on the headphones and the transmitter from time to time using e.g. a cotton swab.

Replacing the ear pads

For reasons of hygiene, you should replace the ear pads from time to time. Spare ear pads are available on the RS 120-W product page at www.sennheiser-hearing.com/rs-120-w.

1. Lightly twist the ear pads counterclockwise until you overcome a slight resistance.
2. Lift the ear pads off the ear cups and dispose of them properly.
3. Hook the new ear pads onto the ear cups. Observe the **L** (left) and **R** (right) markings on the rear of the ear pads.
4. Twist the ear pads clockwise until you hear a click sound.



FAQ/If a problem occurs ...

Current list of frequently asked questions (FAQ)

Visit the RS 120-W product page at

www.sennheiser-hearing.com/rs-120-w

There you will find a current list of frequently asked questions (FAQ) and suggested solutions.

Your question has not been answered or the problem persists?

If a problem occurs that is not listed in the FAQ section or if the problem cannot be solved with the proposed solutions, please contact your Sonova Consumer Hearing partner for assistance.

To find a Sennheiser partner in your country, search at

www.sennheiser-hearing.com/service-support

Leaving the wireless range of the transmitter

Wireless audio transmission is only possible in the wireless range of the transmitter. The transmission range of the transmitter largely depends on environmental conditions such as wall thickness, wall composition etc. With a free line of sight, the transmission range of the transmitter is up to 60 meters.

If you, and therefore the headphones, leave the transmission range of the transmitter, the sound quality deteriorates increasingly until the connection breaks down completely. If you re-enter the transmission range within 3 minutes, the connection is automatically re-established. Otherwise you have to switch the headphones off and on manually (> 16).

Specifications

System – model: RS 120-W

Transmission frequency	2.40 to 2.48 GHz
Wireless technology	Bluetooth LE Audio
Bluetooth version	Bluetooth 5.2 compliant, class 1
Modulation	GFSK
Signal-to-noise ratio	typ. 85 dB(A) at 1 V _{rms}
RF Output power	10 mW (max.)
Range	up to 60 m (free line of sight)
Number of headphones that can be simultaneously connected to the transmitter	no limitation
Temperature range	operation: 0 °C to +40 °C storage: -20 °C to +60 °C
Relative humidity	operation: 10 to 80 %, non condensing storage: 10 to 90 %

Headphones – model: HDR 120-W

Type	on-ear
Transducer principle	open, dynamic
Frequency response	22 Hz to 19.5 kHz
Max. SPL	max. 106 dB at 1 kHz, 1 V _{rms}
THD	< 0.7 % at 1 kHz, 100 dB SPL
Operating time	up to 18 hours
Charging time of rechargeable batteries	up to 8.5 hours
Power supply	2 NiMH rechargeable batteries, AAA size, 1.2 V, 600 mAh
Magnetic field strength	ear cups: 7 mT headband: > 90 mT
Weight (incl. batteries)	approx. 340 g
Dimensions (W x H x D)	approx. 197 mm x 212 mm x 80 mm

Transmitter – model: TR 120-W

Audio connections	stereo RCA plugs
Power supply	9 V --- , 300 mA
Power consumption	operation: typ. 4 W standby: \leq 0.3 W (without charging)
Dimensions (W x H x D)	approx. 85 mm x 221 mm x 134 mm

Specifications

Power supply unit – model: NT 9-3AW

Nominal input voltage/current	100–240 V~/100 mA
Power frequency	50–60 Hz
Nominal output voltage	9 V ===
Nominal output current	300 mA
Temperature range	operation: 0 °C to +40 °C storage: –40 °C to +85 °C
Relative humidity	operation: 0 to 90 %, non condensing storage: 0 to 90 %

Manufacturer declarations

Warranty

Sonova Consumer Hearing GmbH gives a warranty of 24 months on this product.

For the current warranty conditions, please visit our website at www.sennheiser-hearing.com/warranty or contact your Sonova Consumer Hearing partner.

In compliance with the following requirements

EU declaration of conformity



- ErP Directive (2009/125/EC)
- RoHS Directive (2011/65/EU)

Hereby, Sonova Consumer Hearing GmbH declares that the radio equipment type RS 120-W (TR 120-W, HDR 120-W) is in compliance with the Radio Equipment Directive (2014/53/EU).

The full text of the EU declaration of conformity is available at the following Internet address: www.sennheiser-hearing.com/download.

UK declaration of conformity



- The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations (2019)
- RoHS Regulations (2012)
- Radio Equipment Regulations (2017)

Notes on disposal



- EU: Battery Directive (2006/66/EC & 2013/56/EU)
- EU: WEEE Directive (2012/19/EU)
- UK: Battery Regulations (2015)
- UK: WEEE Regulations (2013)

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, observe the legal regulations on waste segregation applicable in your country. Improper disposal of packaging materials can harm your health and the environment.

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 on your health and the environment, e.g. caused by potentially hazardous substances contained in these products. Recycle electrical and electronic equipment and batteries/rechargeable batteries at the end of their operational lifetime in order to make contained recyclable materials usable and to avoid littering the environment.

Manufacturer declarations

If batteries/rechargeable batteries can be removed without damaging them, you are obliged to dispose of them separately (for the safe removal of batteries/rechargeable batteries, see the instruction manual of the product). Handle lithium-containing batteries/rechargeable batteries with special care, as they pose particular risks, such as the risk of fire and/or the risk of ingestion in the case of coin batteries. Reduce the generation of battery waste as much as possible by using longer-life batteries or rechargeable batteries.

Further information on the recycling of these products can be obtained from your municipal administration, from the municipal collection points, or from your Sonova Consumer Hearing partner. You can also return electrical or electronic equipment to distributors who have a take-back obligation. Herewith you make an important contribution to the protection of the environment and public health.

Trademarks

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