

Multi-Mic+

User guide

Table of Contents

Introduction	3
Symbols	5
Getting to know your device	7
Using the device for the first time	13
Daily use	19
Resetting the device	24
Warnings	25
Maintenance	27
Technical specifications	28
Regulatory information	29
Statement	31
Acknowledgements	34

Introduction

NOTE: Read this booklet carefully before using the device. Ask your hearing care professional if you have any questions.

Intended purpose

The Multi-Mic+ is intended to be a wireless remote microphone for wireless hearing aids.

The remote microphone is placed close to a person or a sound source and sends the voice or sound directly to the hearing aid.

When used as a remote microphone, the Multi-Mic+ is placed close to a person or a sound source and sends the voice or sound directly to the hearing aid.

When used as a connection to an audio device, the Multi-Mic+ is connected to the audio device through cable, Telecoil or an FM adapter and the sound is sent directly to the hearing aid.

The Multi-Mic+ may also be used together with Approved Partner Products from Cochlear Ltd or Cochlear Bone Anchored Solutions AB.

Approved Partner Product refers to specific products released and marketed by Cochlear Ltd or Cochlear Bone Anchored Solutions AB partners.

Target group

The Multi-Mic+ is intended to be used by lay persons.

Therapeutic indications

The accessory has no therapeutic indications in itself.

Contra-indications

No known contra-indications.

Intended clinical benefits

The intended clinical benefit is improved audibility of speech or sounds.

Symbols



WARNING: Points out a situation that could lead to serious injuries.



CAUTION: Indicates a situation that could lead to minor and moderate injuries.

NOTE: Advice and tips.



Follow instructions for use.
(Logo in blue)



Equipment includes an RF transmitter.



Product is a Type B applied part.



Regulatory compliance mark for Korea.



Regulatory compliance mark for EU.



Legal manufacturer.



Date of manufacture.



Unique Device Identification.



Regulatory compliance mark for Australia and New Zealand.



Regulatory compliance mark for Japan.



Regulatory compliance mark for Malaysia.



Regulatory compliance mark for Taiwan.



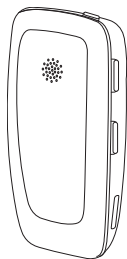
Do not dispose of your devices and batteries with ordinary household waste. Your devices and batteries should be disposed of at sites intended for electronic waste or returned to your hearing care professional for safe disposal.

Please note there may be specific regulations in your country.

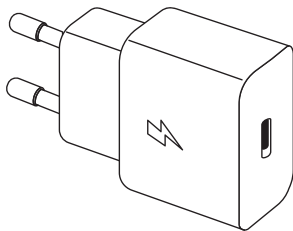
Getting to know your device

The device provides streamed audio from a sound source directly to your hearing aids.

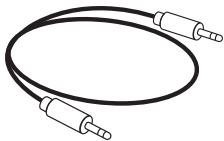
Unpacking — box contents



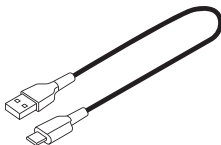
Multi-Mic+



Power plug (varies according to market)

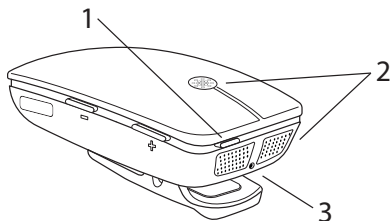


Mini jack cable

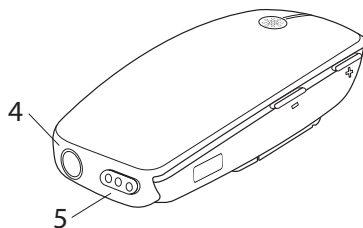


USB-A to USB-C cable (used to supply power to the device)

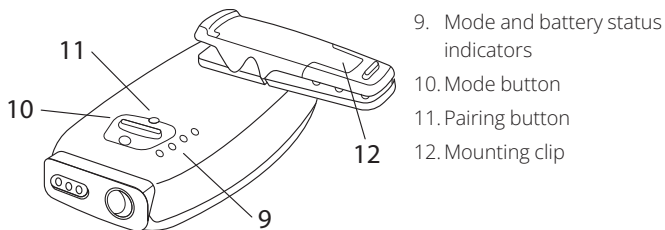
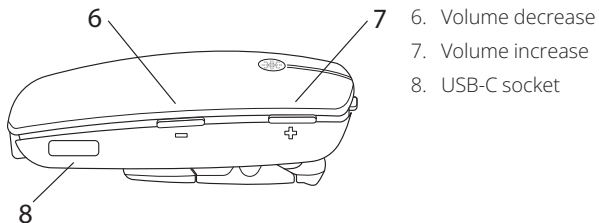
Description



- 1. Power button
- 2. Microphone inlet
- 3. Status indicator light




















- 4. Mini jack (in-line) socket
- 5. FM connector



LED information

Streaming and pairing green LED light patterns.

LED patterns	Process	Description
	Powered OFF	No LED
	Powered ON	Short green LED flash every 2 seconds
	Powered ON (Volume control disabled and MIC or FM mode selected)	Short green, white LED flashes every 2 seconds
	Powered ON – low battery charge	Short 3 green LED flashes every 2 seconds
	Powered ON – low battery charge (Volume control disabled and MIC or FM mode selected)	Short green, white, green LED flashes every 2 seconds
	Volume control locked or unlocked	Long green, blue, green LED flash
	Turning power ON	Green LED for 3 seconds
	Turning power OFF	Short 3 white LED flashes

LED patterns	Process	Description
	Test mode	Constant white LED
	Pairing mode	Short blue LED flash every second
	Pairing successful	Blue LED for 3 seconds
	Volume changes	Short white LED flash
	Boot error (service needed)	Short blue, white, green flashes every 2 seconds
	Connection lost	Short 3 white LED flashes every 2 seconds
	Mode selected (TC, FM, Line-in, Mic)	Green LED for 2 seconds
	Volume limit reached	White LED for 2 seconds
	Firmware update ongoing	Short blue, white, green LED flashes
	Firmware update successful	Green LED flash for 1 second

LED patterns



Process

Factory reset

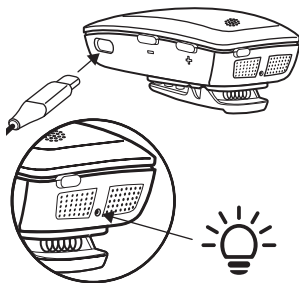
Description

Short 2 green LED flashes

Using the device for the first time

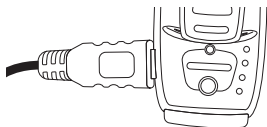
It is recommended to fully charge the device before using.

To charge the device, use the supplied USB-A to USB-C cable and power plug. The USB-A plug can alternatively be inserted into any suitable power source.



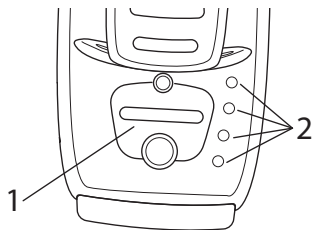
When the device is powered ON, the charging status can be seen on the back of the device, with each solid or flashing LED representing 25% charge.

Charging may take 3 hours, depending on initial state of battery.



When the device is powered ON, the current battery status press and hold the Mode button (1) for at least 3 seconds until one or more of the Mode LEDs (2) starts to blink.

- 4 LED's: 75-100 % remaining battery capacity
- 3 LED's: 50-75 % remaining battery capacity
- 2 LED's: 25-50 % remaining battery capacity
- 1 LED: <25 % remaining battery capacity.



Turning the device ON and OFF

To turn the device ON, press and hold the Power button for approximately 1.5 seconds, until the status LED turns green. After releasing the Power button, the status LED will blink green every 2 seconds.

To turn the device OFF, press and hold the Power button for approximately 1.5 seconds, until the status LED turns off.

Pairing the device to your hearing aids

To transmit sound from the device to your hearing aids you need to pair the devices.

NOTE: To avoid accidental pairing, turn off all other nearby hearing aids. If it is not possible to turn off the hearing aids not to be paired, place them at least 1 metre (3 feet) from the device.

To pair the devices:

1. The device and the hearing aids must be turned ON and be within 5 cm (2") of each other.
2. Pairing mode will be activated by pressing the pairing button on back of the device. Press the button until the LED starts flashing green in short intervals.

The hearing aids will be paired one at the time. The LED will stop flashing for 3 seconds after the first hearing aid is paired and then automatically continue to pair the second hearing aid.

After the device has been paired with your hearing aids, when powered ON, the device will start streaming sound to your



hearing aids.

Automatic streaming can be disabled via the hearing aid app or by your Hearing Care Professional in their Fitting Software.

Adjusting the volume

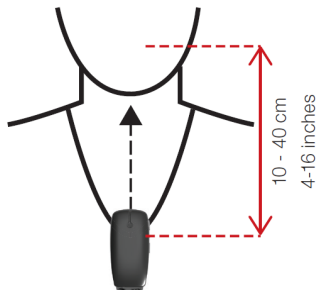
The sound level is set to provide a comfortable listening level from the moment it is activated. However, for your convenience, you may adjust the sound level at any time.

To change the volume: press the '+' button to raise the volume or '-' button to lower the volume.



Placement of the device

The device can be worn by a single speaker via the clipping the device to an item of clothing close to the speakers head or fixed to a lanyard worn around the speaker neck. For best results, the microphones should be pointed towards the speaker. The device can also be used as a table microphone in a group situation.



Daily use

Adjusting the volume

The device is designed to provide a comfortable listening level from the moment it is activated. However, for some devices or listening environments you may want to adjust the volume. This can be done by:

- Use the '+' and '-' buttons on the device (volume adjustments apply to the streamed signal only). Every volume change on the device will be indicated by a short blink of the Power LED.
- Using your hearing aid sound volume buttons.
- Using the App paired to your hearing aids.
- Using a remote control paired to your hearing aids.

NOTE: The device will revert to its default level for all modes when restarted.

Other audio sources

You can use the device with other devices that have compatible outputs such as a personal computer or other audio systems.

The device has sockets to receive cables from analogue (mini jack) and FM. When a cable is connected to a socket, the device will automatically select the correct mode.

Connecting the device and hearing aid App

The device can be controlled via the same app that supports your hearing aids.

This will allow you to start and end the streaming and to adjust volume from the app.

The app provides access to a number of settings options such as Auracast™ broadcast audio and Sound delay.

If necessary, the app will provide notifications of firmware updates and product enhancements.

Download the app or ask your hearing care professional for more information.

NOTE: Partner supplied devices may not have the same app functionality.

Phone calls

When using the device, you can still receive phone calls if your hearing aids are connected to your mobile device.

You will hear an alert in your hearing aids to signal an incoming call and your hearing aids will automatically stop the audio signal from the device if you choose to answer the incoming call – refer to your hearing aid or partner device user guide for more information on how to accept phone calls. The hearing aids automatically switch back to the device audio signal after the phone call ends.

Range

The streaming range from device to hearing aids is about 25 metres (82 feet). You do not have to have the device in your view, you can be in another room. However, environmental interference like walls or furniture may reduce the operating range.

If the hearing aids are out of range of the device the audio transmission will stop. Once the hearing aids are back into the range of device, the audio signal will automatically resume streaming.

There is a time limit of 5 minutes for automatic reconnection. If you are out of range for more than 5 minutes you will have to restart the streaming manually via your hearings aids or the app.

Mode/battery charge button

The Mode button is used to view current mode, switch between different input modes, and check the battery status.

Current mode: To view the current mode of operation, press the Mode button once. The corresponding mode LED on the back of the device will light up for 3 seconds.

To change the mode:

1. Pressing the Mode button once will cause the corresponding LED to be lit.
2. Within 3 seconds, press the Mode button again to change mode.
3. Repeat step 2 until the desired mode is obtained.

Special features

Drop detection

If the device falls from a height of more than 75 cm (30 inches), a built-in sensor will mute the output streamed to the hearing aids for up to 2 seconds. This is done to protect the hearing aid user from very loud impact noises.

Volume control lock

The volume of the device can be locked to a specific level.

The volume level can be locked for Microphone and FM modes. When the volume control is locked, it will be fixed to the level it had when the device was powered OFF. Volume

levels for Telecoil and Line-in modes can still be changed even if the volume is locked for Mic and FM modes.

How to lock the volume control:

- Make sure the device is turned OFF.
- Press and hold the volume '-' button and the Power ON button for 1.5 seconds - until the status LED turns green and then release the Power button.
- Keep pressing the volume '-' button until a green-blue-green LED sequence flashes once.

How to unlock the volume control:

- Make sure the device is turned OFF.
- Press and hold the volume '+' button and the Power ON button for 1.5 seconds until the status LED turns green and then release the Power button.
- Keep pressing the volume '+' button until a green-blue-green LED sequence flashes once.

Table mode

The device becomes a multi-directional microphone when placed clip down on a table or other level surface.

Test mode

The Test mode is primarily intended to be used for pediatric transparency measurements. The transparency measurement evaluates if the hearing aid and wireless (remote) microphones provide equal outputs when presented with the same 65 dB SPL input stimulus.

When in Test mode the microphone is set to omnidirectional mode with 0 dB gain when placed horizontally in the test chamber. Please refer to relevant guidelines for performing transparency measurements.

How to enter Test mode:

- Make sure the device is turned OFF.
- Press and hold the volume '-' and '+' buttons and the Power ON button for 1.5 seconds until the status LED turns green and then release the Power button.
- Keep pressing the volume '-' and '+' buttons until the status LED shows constant white after 10 seconds.
- When in Test mode the Status LED will be white.
- When entering Test mode the default volume is applied. If needed, volume can be adjusted on the device until transparency has been verified.
- To exit Test mode and save settings, turn off the device.

NOTE: Adjustments to reach transparency can be made on the Multi Mic.

Resetting the device

The device can be reset to factory default settings.

To do a reset to factory settings, press and hold the pairing button for 10 seconds.

Warnings

- Only connect the device to connections for which it is intended.
- External devices connected to the electrical input must be safe according to the requirements of IEC 60601-1:2005+A1:2012+A2:2020-1, IEC 60065, or IEC 60950-1, IEC 62368-1 as appropriate.
- No modification of this device is allowed.
- High-powered electronic equipment, large electronic installations, and metallic structures may significantly reduce the operating range.
- Keep the device and any cords and cables away from operating machinery.
- If the device overheats, if the device has been dropped or damaged, if the device has a damaged cord or plug, or if the device has been dropped in a liquid, discontinue use and contact your hearing care professional.
- Do not use in areas where there are explosive hazards or where there is a danger of ignition of flammable gasses.
- Avoid exposing your device to rain, moisture or other liquids to protect against damage to the device or injury to you.
- Keep your device away from pets, children and people with cognitive, intellectual or mental health challenges.
- If small parts are swallowed, seek immediate medical attention.
- Only use the cables supplied by the manufacturer.
- If the device has been dropped or damaged, do not use and consult with your hearing care professional.



Cyber security

- If your device plays the pairing sound at an unexpected time, this could indicate someone has gained access to your device.
- Always use the latest available software update for your .
- When using wireless functions, your device uses low-powered digitally coded transmissions to communicate with other wireless devices. It is possible, but not likely, that other electronic devices will be affected. If this happens, move the device away from the affected electronic device.

Maintenance

Cleaning

Clean the device using a damp cloth. Never use house-hold cleaning products (washing powder, soap, etc.) or alcohol to clean the device.

Servicing

This device cannot be serviced nor repaired in the home. Please contact your local hearing care professional for assistance if the device fails to function as expected.

Technical specifications

Dimensions

Length x width x height	63.5 x 29.9 x 23.8 mm (2.2 x 1.18 x 0.94")
-------------------------	--

Operational Conditions

Operating range	Up to 25 metres (82 feet)
Power supply	Built-in rechargeable battery. Recharged via USB-C port
Bluetooth wireless transmission frequency	2.4 GHz
Operating temperature range	+5 °C – +40 °C (+41 °F – 104 °F)

Operational environmental conditions

Relative humidity range	15 % – 90 %, non-condensing, but not requiring a water vapour partial pressure greater than 50 hPa
Atmospheric pressure range	700 hPa – 1060 hPa

Storage temperatures

Temperature range	(-13 °F – 158 °F)-20 °C to +60 °C
The Multi-Mic+ shall remain operational after transport or storage in the following environmental range	-25 °C – +5 °C (-13 °F – 41 °F), and +5 °C – +35 °C (41 °F – 95 °F) at a relative humidity up to 90%, non-condensing. +35 °C – +70 °C (95 °F – 158 °F) at a water vapour pressure up to 50 hPa.

Regulatory information

Warranties and repairs

The device is covered by a limited warranty issued by the manufacturer for a period of 12 months from the day of the original purchase. Please notice that extended warranties may apply in your country. Please contact your local hearing care professional for more information.

What is covered by this warranty

Any electrical component, that because of workmanship, manufacturing or design defects fails to function properly under normal use during life of this warranty will be replaced or repaired at no charge for parts or labour when returned to the point of purchase.

If it is determined that repair is not feasible, the entire unit may be replaced with an equivalent unit upon mutual agreement of the hearing care professional and the customer.

What is not covered by this warranty

Problems arising from improper handling or care, excessive use, accidents, repairs made by an unauthorized party, exposure to corrosive conditions or damage due to foreign objects entering the device are NOT covered by the limited warranty and may void it. The above warranty does not affect any legal rights that you might have under applicable national legislation governing sale of consumer products. Your hearing care professional may have issued a warranty that goes beyond the clauses of this limited warranty. Please consult your hearing care professional for further information.

Expected service life time

The expected service life time for the device is a minimum of 5 years.

Statement

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications can void the user's authority to operate the equipment.

This product is in compliance with the following regulatory standards:

In EU: The device conforms to the General Safety and Performance Requirements according to Annex I of the EU Medical Device Regulation 2017/745 (MDR).

Hereby GN Hearing A/S declares that the radio equipment type SM-3P is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

www.declarations.resound.com/en

In US: FCC CFR 47 Part 15, subpart C.

Other identified applicable international regulatory requirements in countries outside EU and US. Please refer to local country requirements for these areas.

Model: SM-3P; FCC ID: X26SM-3P; IC: 6941C-SM-3P.

This Class B digital apparatus complies with Canadian ISSED rules.

Cet appareil numérique de la classe B est conforme à la norme ISSED du Canada.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

In Japan: This device has been granted a designation number by Ministry of Internal Affairs and Communications under "Ordinance concerning Technical Regulations

Conformity Certification etc. of Specified Radio Equipment (特定無線設備の技術基準適合証明等に関する規則)” Article 2-1-19 “This device should not be modified (otherwise the granted designation number will be invalid)”.

Acknowledgements

Portions of this software are written by Kenneth MacKay (micro-ecc) and licensed under the following terms and conditions:

Copyright © 2014, Kenneth MacKay. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Notes

Manufacturer according to EU
Medical Device Regulation
2017/745:



GN Hearing A/S
Lautrupbjerg 7
DK-2750 Ballerup
Denmark

CE
0297

Any serious incident that has occurred in relation to the device should be reported to the Legal manufacturer GN Hearing A/S and the competent authority of the EU Member State in which the user and/or patient is established.