Cochlear Wireless Mini Microphone 2+ High-Quality Portable Speech and Audio Streamer Instruction Manual
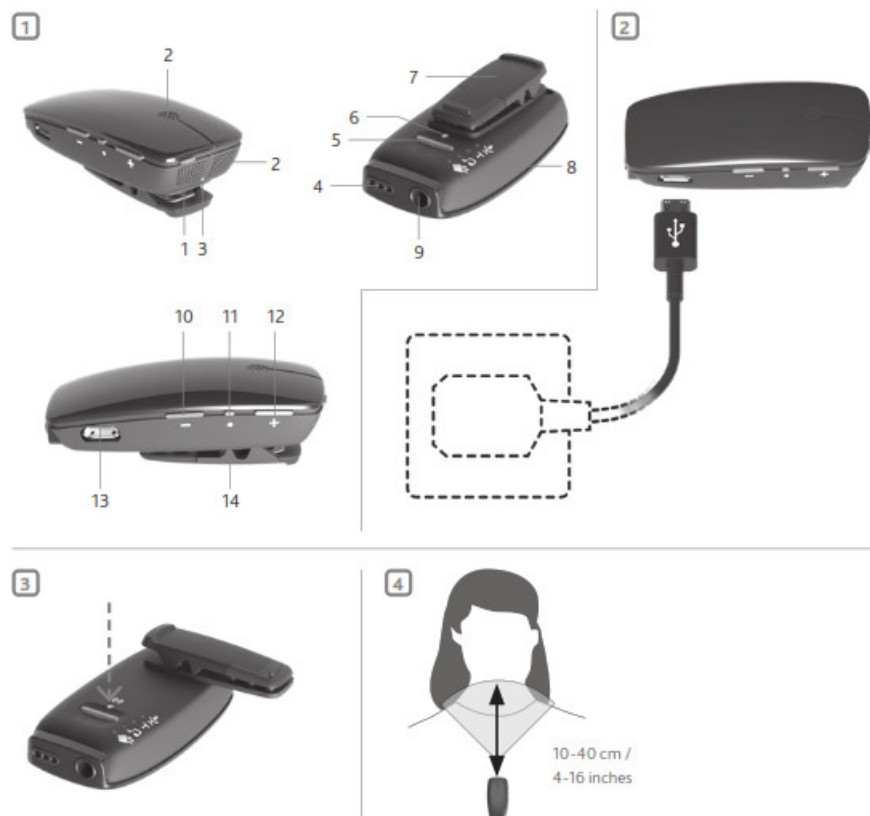
Welcome

Congratulations on your purchase of a Cochlear ™ Wireless Mini Microphone 2+,a high-quality portable speech and audio streamer.

Contents

Intended use

The Cochlear Wireless Mini Microphone 2+ is intended to be a wireless remote microphone or connection to an audio device for a compatible Cochlear sound processor.

Indications:
This accessory has no therapeutic indications in itself. It will support the therapeutic indications of the Cochlear wireless sound processor used with this accessory.

Clinical Benefit:
The Cochlear Wireless Mini Microphone 2+ is intended to further improve the audibility of speech and or other sounds.

Key to device See figure 1

1. ON/OFF button	8. Mode and battery indicator lights (LED)
2. Microphones	9. Line-in connector
3. Status indicator light (LED)	10. Volume down
4. FM connector	11. Mute button
5. Mode selector button	12. Volume up
6. Pairing button	13. Micro USB for charging
7. Mounting clip	14. Mute indicator light (LED)

Introduction

The microphone supports one-to-one communication and can be used as a table microphone to pick up speech from multiple speakers. Additionally, the microphone supports connection with induction loop systems, FM systems (European FM receiver required) and Line-in signals. Please read this manual carefully to fully benefit from the Microphone. Ask your hearing care professional if you have any questions.
For more information and a full list of compatible sound, processors visit **www.cochlear.com/compatibility**
For your safety, carefully read the chapter "Important Information".

Warranty

The warranty does not cover defects or damage arising from associated with or related to the use of this product with any non-Cochlear processing unit and/or any non-Cochlear implant. See "Cochlear Global Limited Warranty card" for more details.
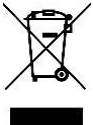
Contacting customer service

We strive to provide the best possible products and services to our clients. Your views and experiences with our products and services are important to us. If you have any comments you would like to share, please contact us.

Key to symbols

The following symbols will be used throughout these documents.

⚠	Caution
CE	CE-mark
SN	Serial Number
MD	Medical device
UDI	Unique device identifier
🏭	Date of manufacture
📖 i	"Consult instructions for use" or "Operating instructions"
📶	This device includes an RF transmitter that operates in the range of 2.4 GHz – 2.48 GHz
(((•)))	Interference risk

	ACMA (Australian Communications and Media Authority) compliant
	Please ask your hearing care professional concerning the disposal of this device.
	Temperature limitation
	Manufacturer
R_Xonly	By prescription
REF	Catalog number
	Radio compliance certification for Korea
	Radio compliance certification for Japan
	Radio compliance certification for Taiwan

Charge the battery See figure2

- Charge the battery for at least 3 hours before using your microphone for the first time, even if the battery indicators indicate it is fully charged.
- During the charging process, the status LED will glow red. When fully charged and still connected to the charger, the status LED will glow green with intermittent red flashes every 2 seconds.
- Charging a flat battery takes around 3 hours. The charger can be connected overnight; the battery cannot be overcharged.
- For safety reasons, recharge the battery only with chargers supplied by Cochlear.

 Caution: Do not charge the microphone while it is being worn.

Turn on and off See figure 1

1. To turn on your microphone press and hold the ON/OFF button until the status LED turns green. After releasing the ON/OFF button, the status LED will flash green. The microphone will always start up in Microphone Mode.
2. To turn off your microphone press and hold the ON/OFF button until the status LED turns red.

Note: To protect the microphone when not in use, please place it in the carrying pouch delivered with the product.

Pair with the sound processor

You can pair up to three Cochlear streaming devices with your Cochlear sound processor. Select a separate channel for each device paired with the sound processor.

1. Turn off your Cochlear sound processor.
2. Turn on your microphone.
3. See figure 3

   Press the pairing button once (twice for channel 2, three times for channel 3) using the tip of a pen or similar object. The status LED will flash yellow and the device will be in pairing mode for 20 seconds. The number of flashes from the LED in each sequence will correspond to the channel the microphone is being paired to (two flashes – channel two, three flashes – channel three).
4. While pairing mode is active, turn on your sound processor. The successful pairing will be indicated by either an audible melody played in the sound processor, or by a flashing light on the sound processor (depending on the type of sound processor).

Start streaming

1. Turn on the microphone and your sound processor.
2. Press and hold the wireless streaming/program button on your sound processor for about three seconds.
3. If your sound processor is paired with more than one streaming device simply press and hold the wireless streaming/program button a 2nd or 3rd time to access the 2nd or 3rd Cochlear streaming device.

When streaming is activated, an audible melody or a flashing light (depending on the type of sound processor) will be followed by streamed audio via the microphone.

Note: You can also start and stop streaming, adjust volume levels and mute the microphone from a Cochlear Baha® Remote Control 2 (optional accessory) or a Cochlear App offering control functionality. You can also start and stop streaming using a CR230 or CR210 Remote. Ask your hearing care professional for more information.

Stop streaming

1. Press the wireless streaming/program button on your sound processor. This will return the sound processor to the last program used.

Note: If you move out of your microphone's range but return within the range before 5 minutes have passed, your sound processor will automatically reconnect and continue streaming.

Microphone Mode

Attach the microphone See figure4
Clip your microphone on the speaker's jacket, other clothing or hang it around the neck using the included neckstrap. Place the microphone within a range of 10 – 40 cm (4 – 16 inches) from the speaker's mouth. When using the clip, make sure that the microphone is mounted vertically with the status LED pointing towards the mouth. When worn vertically, the microphone automatically switches into the directional mode, minimizing background noise.

Use the microphone as a table microphone
Place the microphone horizontally on a level surface (e.g. a table) in close proximity to the speakers. When you place the microphone horizontally on a table it automatically switches into an optimized omnidirectional mode, picking up the voices of multiple speakers.

Other modes of operation

The microphone also offers extended audio source connectivity options.

Telecoil (TC)
From the built-in Telecoil, receiving audio from an induction loop system (available at some theatres, schools, churches, etc.)

FM
From an external FM receiver attached via the FM connector.
To use this mode, insert a European DAI or FM receiver into the FM connector.

Line-in
From an external audio source (smartphone, tablet, laptop, TV, etc.) attached via the Line-in connector.
To use this mode, insert the included jack cable into the Linen connector and plug the other end of the jack cable into the AUDIO OUT on the external audio device.

Change mode
To view the current mode of operation press the mode button once. The corresponding mode LED on the backside of the microphone will light up.
To change the mode of operation press the mode button again and repeat until the desired mode is obtained.
Note:

- Line-in and FM Modes can only be selected if a cable or FM receivers are inserted into the microphone.

- The microphone will automatically switch into Line-in Mode when inserting a mini-jack plug.

- The microphone will automatically switch into FM Mode when inserting an FM or DAI receiver.

Battery status
To view the current battery status press and hold the mode button for at least 3 seconds until one or more of the Mode LEDs start to flash.
75 – 100 % – All mode LEDs flash 50 – 75 % – Three mode LEDs flash (FM + Line-in + TC)
25 – 50 % – Two-mode LEDs flash (FM +Line-in) <25 % – One mode LED flashes (FM)
Note: When less than 30 minutes of operating time has left the status LED will flash yellow.

Volume control
Use the volume "+" and "-" buttons to adjust the volume to a comfortable level.
A short yellow flash of the mute LED indicates every volume change. A longer yellow flash indicates that the maximum or minimum volume level has been reached.
Note: The microphone will revert to its defined default level when restarted.
The volume can in some cases be further adjusted at the signal source, e.g. by turning the TV volume up or down. In many cases, this will adjust the volume of both streamed audio (transmitted wirelessly to your sound processor) and non-streamed audio (sounds reaching the sound processor microphones in the normal fashion). Of course, this will also affect listening volume for others in the room.

Mute

1. To mute the signal press the mute button. The mute LED will flash yellow while muted.

2. To unmute the signal press the mute button again.

Note: Restarting the microphone while muted will unmute the signal.

Volume Control Lock

For special purposes, the volume of the microphone can be locked to a specific level. When the volume control is locked, it will be fixed to the level it had when the microphone was powered OFF and it is still possible to use the mute functionality.

1. Determine the right volume level to lock in place.
2. To lock the volume control switch off the microphone.
3. Press and hold the volume '-' button and at the same time, press the ON/OFF button until the status LED turns green.
4. Continue holding the volume '-' button until a green yellow-red sequence is shown on the status LED.
5. To unlock the volume control follow the same 3 steps described above but hold the volume "+" button instead of the volume "-" button.

The volume can be adjusted independently for Microphone and FM Mode. When locked, the volume levels for both Microphone Mode and FM Mode will be locked at the volume levels last used or set for each of these modes. The volume levels for TC Mode and Line-in Mode can still be changed as described in the Volume Control section even if the volume is locked for Microphone Mode and FM Mode.

Drop detection

In the event that the microphone falls from a height of more than 75 cm, a built-in sensor will mute the output stream to the sound processor for up to 2 seconds. This is done to protect you from very loud and unpleasant impact noise should the unit be dropped during use.

Test Mode

(Test Mode information is intended for hearing care professionals.)

The Test Mode is primarily intended to be used for pediatric transparency measurements. The transparency measurement evaluates if the local (sound processor) and wireless (microphone) microphones provide equal outputs from the sound processor 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.

1. To enter Test Mode switch off the microphone.
2. Press and hold the mute button and at the same time, press and hold the ON/OFF button until the status LED turns green
3. Continue holding the mute button until a green-yellow-red sequence is shown on the status LED.
4. When in Test Mode the status LED will be solid yellow.
5. When entering Test Mode the default volume is applied. If needed, volume can be adjusted on the microphone until transparency has been verified.
6. To exit Test Mode and save settings turn off the microphone and lock the volume control (see the "Volume Control Lock" section).

Note: Adjustments to reach transparency can be made on the microphone. For Baha users, the mixing ratio can be adjusted in the Baha Fitting Software.

Status indicator lights (LED)

LED Pattern	Status
▬	Power on: long green flash
● ● ● ● ●	Normal operation: continuous green flashes
●● ●● ●● ●● ●●	Volume locked: continuous green flashes
▬	Power off: long red flash
● ● ● ● ●	Low battery: continuous yellow flashes
●● ●● ●● ●● ●●	Low battery + volume locked: continuous yellow flashes
▬▬▬▬	Test mode: solid yellow
▬▬▬▬	Charging: solid red
▬ ▬ ▬ ▬ ▬	Fully charged, still connected to charger: short green and long red flashes
●▬ ●▬ ●▬	Charging and turned on: quick green and long red flashes
▬ ▬ ▬ ▬ ▬	Fully charged and turned on: short red and long green flashes
●●▬ ●●▬ ●●	Charging and turned on + volume locked: quick green and long red flashes
●●●▬ ●●●▬ ●●●	Fully charged and turned on + volume locked: quick red, green, red and long green flashes

Important Information

Maintenance and Care

- Clean the microphone using a damp cloth. Never use household cleaning products (washing powder, soap, etc.)or alcohol to clean the device.
- When the microphone is not in use, turn it off and store it safely.
- Protect the microphone from excessive moisture (bathing, swimming) and heat (radiator, car dashboard).
- Protect it from excessive shock and vibration
- Protect the microphone and charger sockets from debris and dirt.

General warnings

- Keep this device out of reach of children.

- The microphone uses low-powered digitally coded transmissions in order to communicate with other wireless devices. Although unlikely, nearby electronic devices may be affected. In such cases, move the microphone away from the affected electronic device.

- When using the microphone and it is affected by electromagnetic interference, move away from the source of the interference.

- Avoid exposing your product to rain, moisture or other liquids to protect against damage to the product or personal injury.

- Keep the product and any cords and cables away from operating machinery.

- If the product overheats, has been dropped or damaged,has a damaged cord or plug, or has been dropped in a liquid, discontinue use and contact your hearing care professional.

- Dispose of the product according to local standards and regulations.

- Do not use in areas where there is a risk of explosion.

⚠ Contains small parts that may present a choking hazard

Ignition of flammable substances
Do not use the product in areas where it could ignite flammable gases.

General precautions

- Do not use this device in locations where the use of electronic devices are prohibited.

- X-ray radiation (e.g., CT/MRI scans) may adversely affect the functioning of this device. Switch it off before undergoing the procedure and keep it outside the room.

- High-powered electronic equipment, larger electronic installations and metallic structures may impair and significantly reduce the operating range.

- If the sound processor does not respond to the device because of an unusual type of interference, move away from the source of this interference.

- Your sound processors and this device were given unique communication codes during fitting. This ensures that the device will not affect sound processors worn by others.

- Do not alter or modify this device.

- Opening the microphone might damage it. If problems occur that cannot be resolved, consult your hearing care professional.

- The microphone may only be repaired by an authorized service center.

- Do not use the microphone in areas where RF transmission is prohibited, e.g., in planes, etc.

- Only connect the microphone to connections for which it is explicitly intended.

Serious incidents
Serious incidents are rare, any serious incident in relation to your device should be reported to your Cochlear representative and to the medical device authority in your country, if available.

Built-in battery care
Please observe the following:

- Your product is powered by a rechargeable battery. A new battery performs optimally after two or three complete charge and discharge cycles.

- The battery can be charged and discharged hundreds of times, but will eventually wear out.
- Unplug the charger from the main socket and the product when not in use.
- If left unused, a fully charged battery will lose its charge over time.
- Leaving the product in hot places will reduce the battery's capacity and service life.
- A product with a cold battery may not work temporarily, even if fully charged. Battery performance is particularly limited in temperatures well below freezing.

Battery warning

⚠ **Caution:** The battery used in this product may present a risk of fire or chemical burn if misused.

- The battery in your product cannot be removed or replaced by the user. Do not attempt to open the product. Any attempt to do so may result in damage. Using other batteries may present a risk of fire or explosion and void the warranty.
- Only recharge the microphone with the charger that was supplied with the product.
- Dispose of batteries according to local regulations. Please recycle when possible.
- Do not dispose of the battery as household waste or in a fire as it may explode.
- Batteries may also explode if damaged.

Charger care
Please observe the following if the product is supplied with a charger:

- Do not attempt to charge your product with anything other than the AC adapter provided. The use of other chargers may damage or destroy the product and could be dangerous. Use of other chargers may invalidate any approval or void the warranty.
- For the availability of approved accessories, please check with your hearing care professional.
- Charge the product according to the instructions provided.

Charger warning

- When you disconnect the power cord, grasp and pull the plug, not the cord.
- Never use a power supply that is damaged.
- Do not attempt to disassemble the power supply as it may expose you to dangerous electric shock.
- Avoid charging your product in extremely high or low temperatures and do not use the charger outdoors or in damp areas.
- Do does not charge the microphone while it is being worn.

Technical specifications

Operating range	Up to 25 meters (clear line of sight)
Power supply	External wall adapter
Wireless	2.4 GHz
Operating temperature	0 to 45 °C
Storage temperature	-20 to 45 °C

Temperature test, transport, and storage information
The product is subject to various tests in temperature and damps heating cycling between -25 °C and +70 °C according to internal and industry standards.
Wireless Accessory type designations for models included in this User
Manual are:
Model: SM 2P
FCC ID: QZ3SM-2P
IC: 8039C-SM2P

MSIP-CMI-1CK-SM2P

203-JN0531

CCAH16LP0990T5
CMIIT ID: 2016DJ3026

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 that to which 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.

List of countries:
The products are in compliance with the following regulatory requirements:

- In EU: the device conforms to the General Safety and Performance Requirements according to Annex I of Medical Device Regulation 2017/745 (MDR) and essential requirements and other relevant provisions of Directive
- 2014/53/EU (RED). The declaration of conformity may be consulted at **www.cochlear.com**
- Products with wireless functionality are intended for sale in countries within the European Economic Area as

well as Switzerland. Specification of restrictions: You are not allowed to operate the equipment within 20 km of the center of Ny Ålesund, Norway.

- In US: FCC CFR 47 Part 15, subpart C, section 15.249.
- Other identified applicable international regulatory requirements in countries outside the EU and US. Please refer to local country requirements for these areas.
- Products are in compliance with EN 300 328.
- In Canada, the Mini Microphone is certified under the following certification number: IC: 8039C-SM2P.
- This device complies with Industry Canada license-exempt RSS standard(s).
- This Class B digital apparatus complies with Canadian ICES-003.
- 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.
- Equipment includes RF transmitter.

Documents / Resources

	Cochlear Wireless Mini Microphone 2+ High-Quality Portable Speech and Audio Streamer [pdf] Instruction Manual Wireless Mini Microphone 2, High-Quality Portable Speech and Audio Streamer, Wireless Mini Microphone 2 High-Quality Portable Speech and Audio Streamer