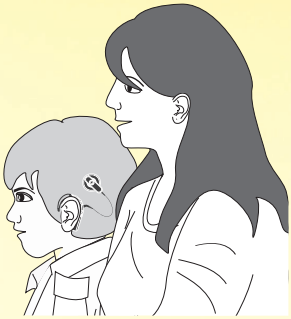
Cochlear™

Nucleus® CP802 Sound Processor

User Guide



Hear now. And always

Cochlear®

About

This user guide is intended for recipients, parents and carers using the Cochlear™ Nucleus® CP802 Sound Processor. The guide provides step-by-step instructions for wearing and using the processor. It also provides guidance on how to take care of the processor.

It is important that you read and understand the warnings and precautions information provided in this guide. The Important Information Booklet included in the document pack you received with your processor also contains important safety information about the processor.

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Getting started

Cochlear Nucleus CP802 Sound Processor

The Cochlear™ Nucleus® CP802 Sound Processor is worn behind the ear and is intended to be used by Cochlear Nucleus cochlear implant recipients. The CP802 Sound Processor controls the cochlear implant over a transcutaneous link and delivers both power and digital sound signals. The cochlear implant electrically stimulates the auditory nerve bypassing the non-functional inner ear of children and adults with moderate to profound hearing loss.

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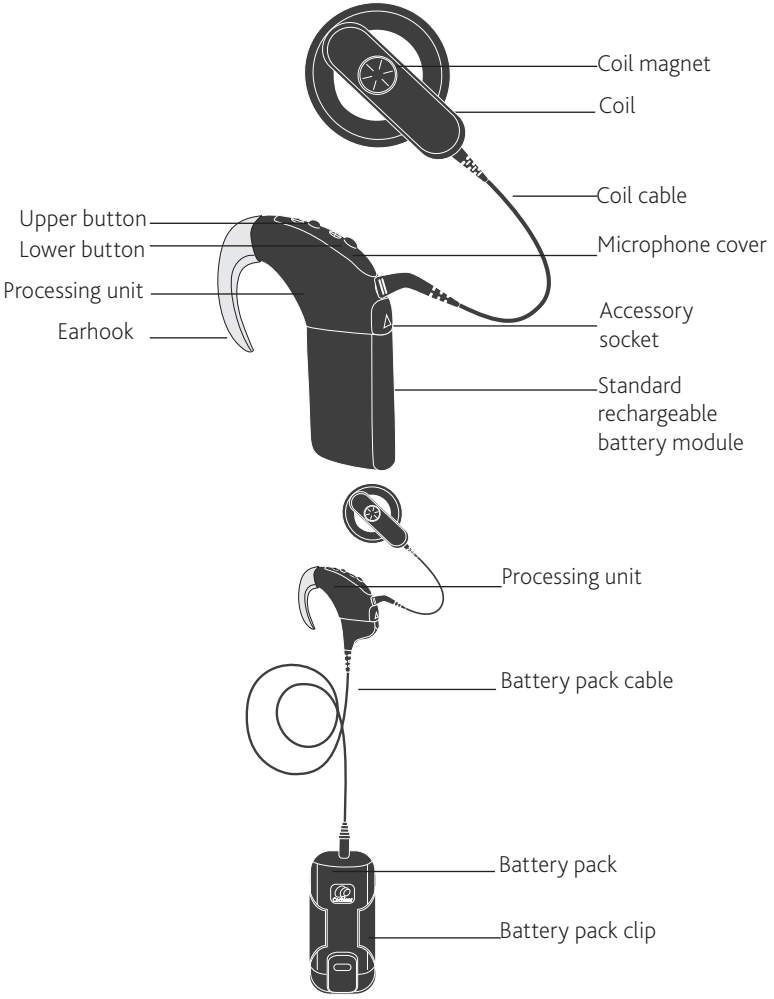
Cochlear Nucleus CP802 Sound Processor components

The processor consists of a processing unit, earhook, coil, coil cable and a CP802 Standard or Standard Rechargeable Battery Module, or a CP802 Battery Pack and Battery Pack Cable.



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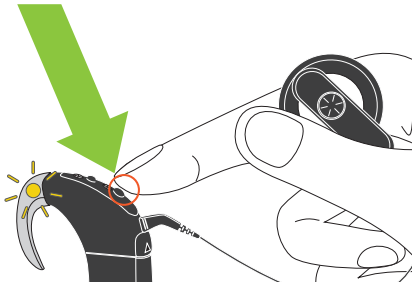
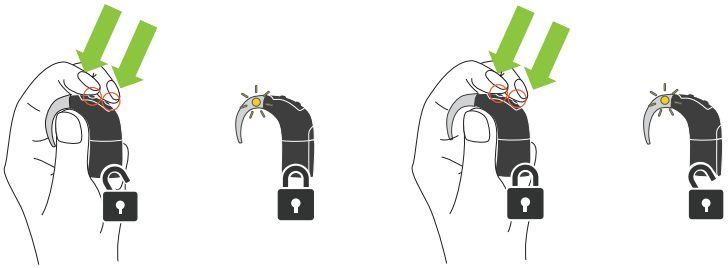
Using the processor

Turn the processor on or off



To turn the processor on or off, press the lower button for two seconds.

Lock or unlock the processor buttons



To lock or unlock the processor buttons, quick press both buttons together.

Tip: Lock the processor buttons to prevent children from changing the processor settings, or to avoid accidental button presses changing the settings.

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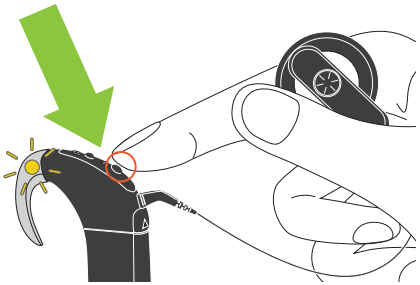
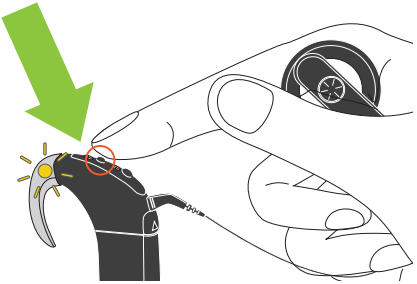
Change the program



To increase loudness, you can change the program by pressing the lower button.

Your clinician needs to enable this feature.

Turn the telecoil/audio accessory on or off



To turn the telecoil/audio accessory on or off, press the upper button.

Your clinician needs to enable this feature.

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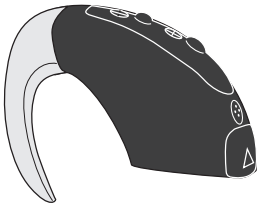
Wearing the processor

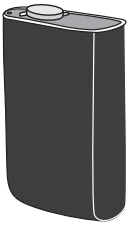
Wear the processor on the ear

To perform the tasks described in this section, you need the following:

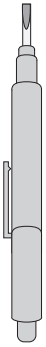
Processing unit



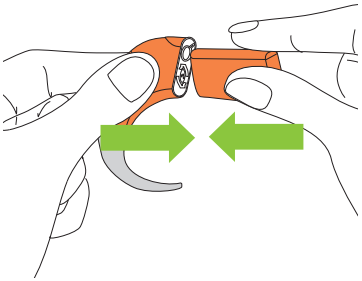
Standard or standard rechargeable battery module



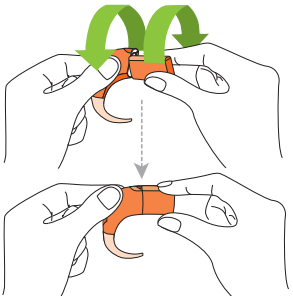
Battery cover locking tool



Attach the processing unit and battery module



1. Hold the battery module and processing unit at an angle so they touch.



2. Twist the battery module and processing unit together as shown to attach the two parts.

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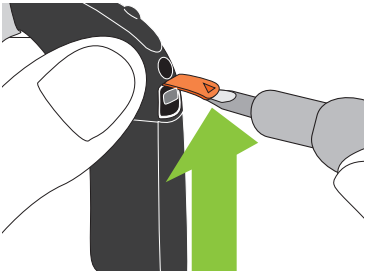
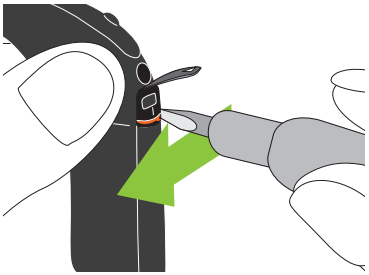
Lock the battery module onto the processing unit



1. Lift the accessory socket cover of the processing unit.

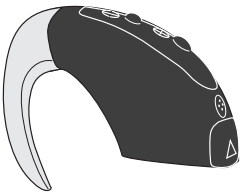


2. Push the lock to the far left position, using the Cochlear™ Nucleus® Battery Cover Locking Tool.

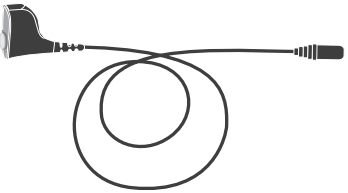
Wear the processor on the body

To perform the tasks described in this section, you need the following:

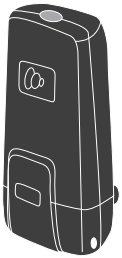
Processing unit



Battery pack cable



Battery pack



Battery pack clip

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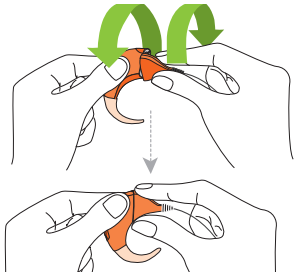
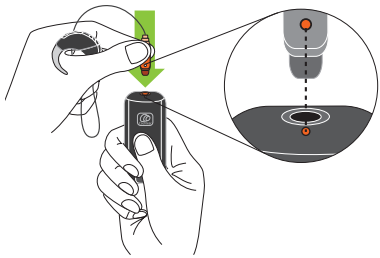
Attach the processing unit and battery pack



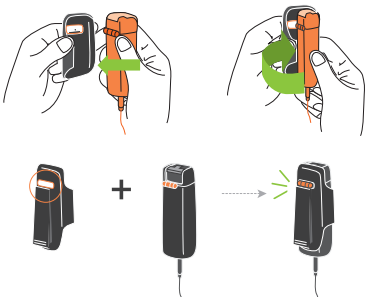


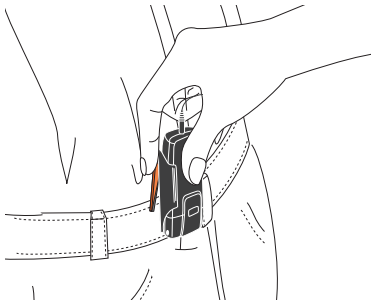
1. Hold the processing unit and the upper end of the Cochlear™ Nucleus® CP802 Battery Pack Cable at an angle and twist together as shown.

2. Line up the Cochlear logo and dot marks on the lower end of the battery pack cable and on the battery pack.

3. Connect the plug on the battery pack cable to the socket on the battery pack.

Tip: You can lock the battery pack cable by pushing the lock below the accessory socket to the far left position. To unlock, push the lock to the far right position.





4. Insert the battery pack into the Cochlear™ Nucleus® CP802 Battery Pack Clip, at an angle.

5. Line up the hinge on the battery pack with the slot on the clip and twist gently until the clip clicks into place.

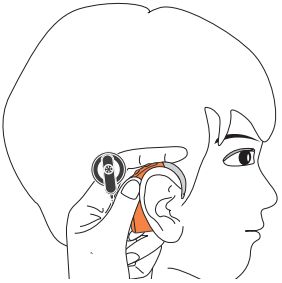
6. Clip the battery pack to your clothes.

To remove the battery pack cable:

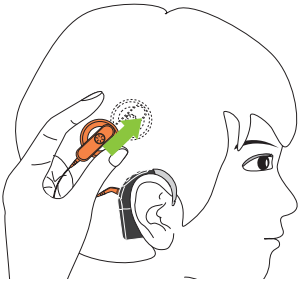
1. Twist the processing unit and the upper end of the battery pack cable together to separate the two parts.
2. Pull the lower end of the battery pack cable away from the battery pack.

To remove the battery pack from the battery pack clip, twist and pull the battery pack away from the battery pack clip.

Place the processor on the ear



1. Place the processor on the ear as shown.



2. Place the coil on the head over the implant. The coil magnet will hold the coil in place over the implant.

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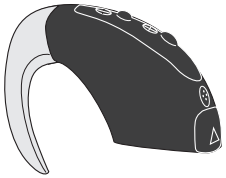
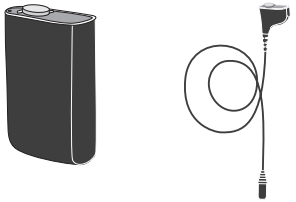
Wear the Mic Lock with the processor

To perform the tasks described in this section, you need the following:

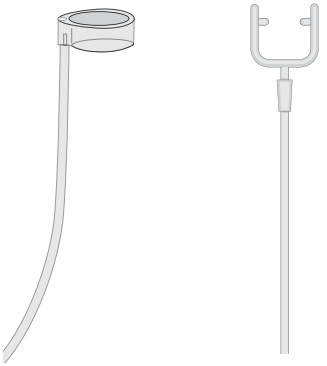
Processing unit



Battery module **or** Battery pack cable



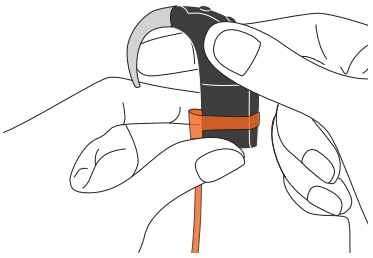
Mic Lock **or** Mic Lock - Stirrup



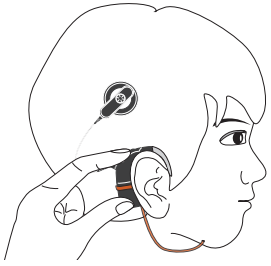
The Cochlear™ Nucleus® Mic Lock™ or the Cochlear Nucleus Mic Lock - Stirrup helps hold the processing unit in place behind the ear.

You can use the Mic Lock with the battery module.

To wear the Mic Lock:



1. Insert the processor through the Mic Lock band.



2. Place the processor on the ear.
3. Bring the tubing around to the front and up to the earhook.

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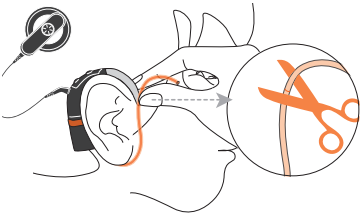
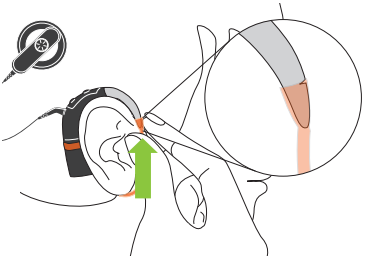


4. Cut the tubing up to the notch on the earhook, making sure you do not cut it too short.

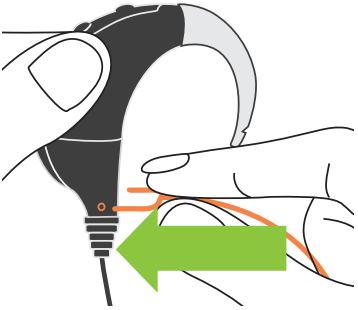


5. Attach the tubing to the earhook by pushing the tubing up to the notch on the earhook.

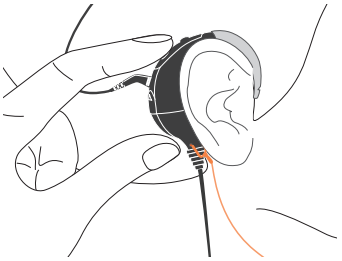
To remove the Mic Lock, ease the tubing off the earhook and slide the Mic Lock band away from the processor.

You can use the Mic Lock - Stirrup with the battery pack.

To wear the Mic Lock - Stirrup:



1. Clip the Mic Lock - Stirrup into the two holes at the upper end of the battery pack cable.



2. Place the processor on your ear.
3. Bring the tubing around to the front and up to the earhook.

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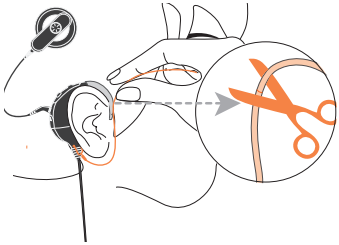
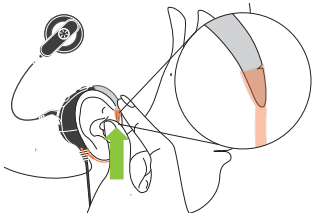


4. Cut the tubing up to the notch on the earhook, making sure you do not cut it too short.



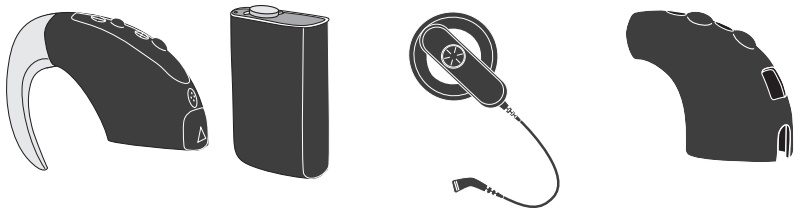
5. Attach the Mic Lock - Stirrup to the earhook by pushing the tubing up to the notch on the earhook.

To remove the Mic Lock - Stirrup, pull it out of the holes on the battery pack cable and ease the tubing off the earhook.

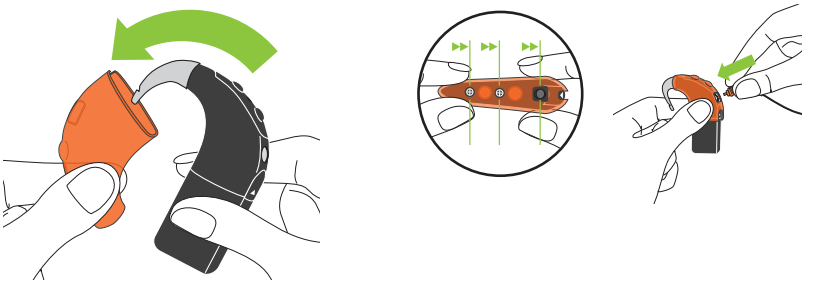
Use the Microphone Cover Sleeve

To perform the tasks described in this section, you need the following:

Processing unit | Battery module | Coil and coil cable | Microphone cover sleeve



The Cochlear™ Nucleus® Microphone Cover Sleeve helps prevent children from removing the microphone cover from the processing unit.
To attach the microphone cover sleeve to the processing unit:



1. Attach the battery module to the processing unit.
2. Lock the battery module onto the processing unit.
3. Insert the processing unit into the microphone cover sleeve as shown.
4. Make sure the openings on the sleeve are aligned over the microphone ports.
5. Attach the coil and coil cable to the processing unit.

Note:

The microphone cover sleeve is recommended for use by children under the age of 3 years.

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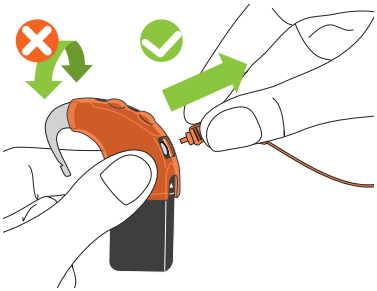
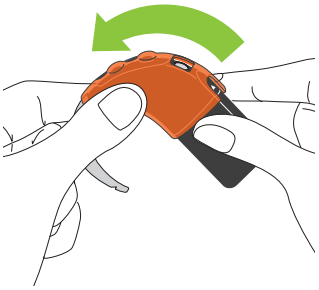
Leave the microphone cover sleeve on your processor when storing it overnight in the Dry & Store unit.

To remove the microphone cover sleeve:



1. Remove the coil cable from the processing unit. Hold the coil cable by the grips and firmly pull it straight out of the socket on the processing unit. Do not twist



2. Slide the microphone cover sleeve off the processing unit.

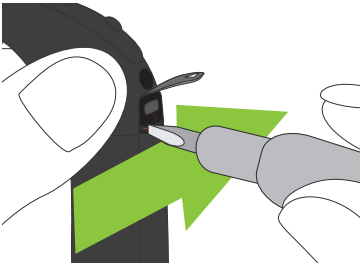
Make sure that you remove the microphone cover sleeve before using the monitor earphones to check the sound.

Care for the microphone cover sleeve:

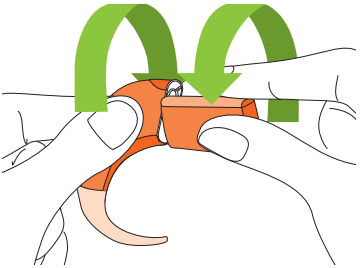
- Regularly check the state of the microphone cover sleeve.
- Change the microphone cover sleeve if it does not fit properly, or if you notice any tearing.

Charging the processor

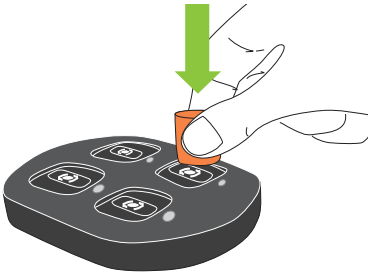
Recharge the Standard Rechargeable Battery Module



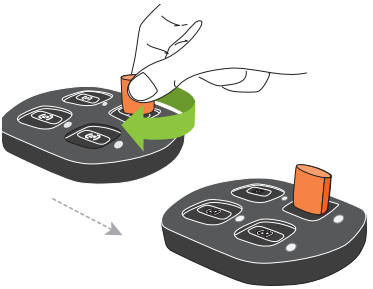
1. To unlock the battery module, push the lock to the far right position using the battery cover locking tool.



2. To remove the battery module from the processing unit, twist the two parts as shown.



3. Place the battery module on the Cochlear™ Nucleus® Battery Charger at an angle.



4. Twist clockwise to connect the battery to the battery charger.

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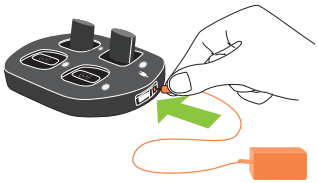
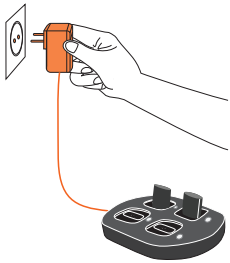
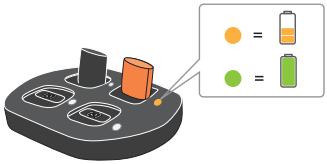


5. Connect the battery charger to the Cochlear™ Nucleus® Global Power Adaptor.



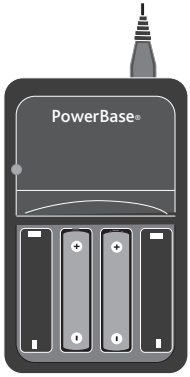
6. Plug the power adaptor into mains power and turn it on.



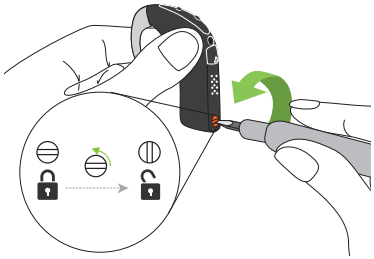
When the battery charger light goes green, the battery module is fully charged.

Recharge rechargeable Battery Pack batteries

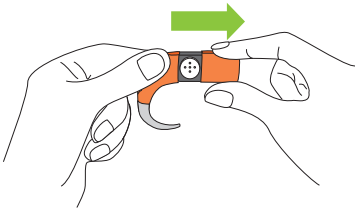
Use the AAA battery charger (e.g. PowerBase® Battery Charger) supplied to charge AAA batteries. For information on how to use the charger, see the instructions supplied with it.



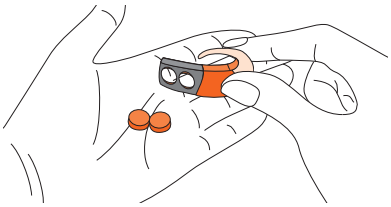
Change Standard Battery Module batteries



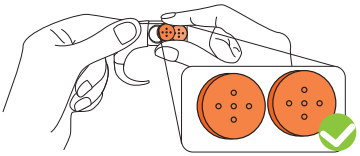
1. To unlock the Cochlear™ Nucleus® CP802 Standard Tamper Resistant Battery Cover, turn the lock counter-clockwise using the battery cover locking tool.



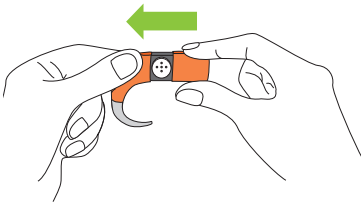
2. Remove the battery cover.



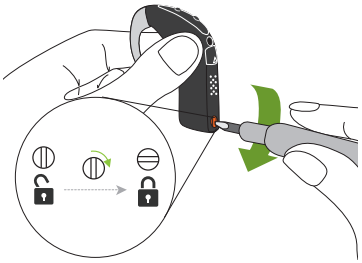
3. Remove the batteries from the battery holder.



4. Insert the new batteries with the flat side facing up.



5. Replace the battery cover.



6. Lock the battery cover by turning the lock clockwise. Do not overturn the lock as it could damage the lock.

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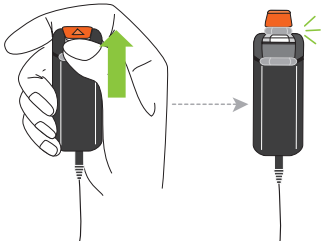
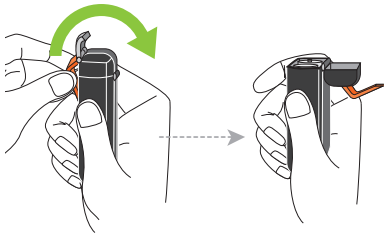
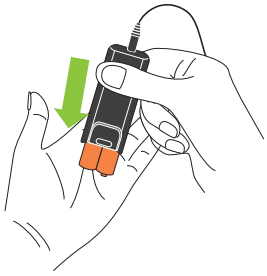
Change Battery Pack batteries



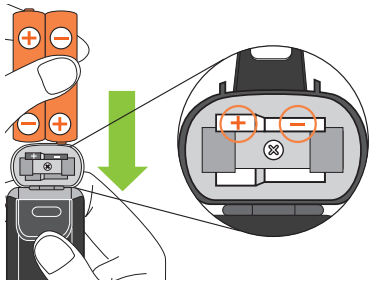
1. Lift the lever on the battery pack upwards.



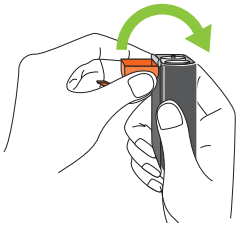
2. Open the battery compartment by pulling the cover upwards.



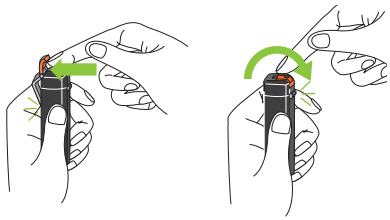
3. Remove the batteries from the battery compartment.



4. Line up the '+' and '-' marks on the batteries with the '+' and '-' marks on the battery pack.
5. Insert the batteries into the battery pack.



6. Push the cover down to close the battery compartment.



7. Push the lever back until it clicks into place.

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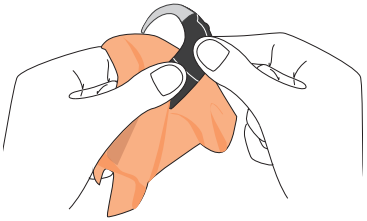
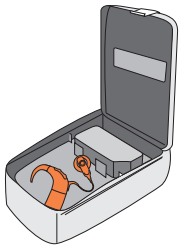
Caring for the processor



Clean the processor parts with a soft dry cloth.

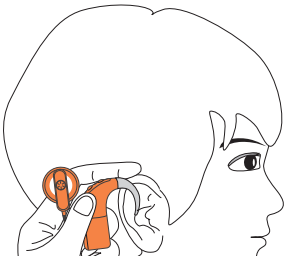
If you notice any dirt in the standard battery module battery holder, remove the batteries and clean the contacts with a cotton bud.

Do not wear the processor while bathing, swimming or showering.



If the processor gets wet, wipe it with a soft dry cloth and place it in the Dry & Store® unit supplied by Cochlear for at least 12 hours. If the processor gets exposed to salt water or chemicals, wipe it with a damp cloth before placing it in the unit.

Store the processor overnight or when you are not using it, in the Dry & Store unit. The battery module and coil cable can remain attached.



Take the processor off before applying hair products, skin care or cosmetics.

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Make sure that the microphone cover is in place at all times.

Make sure that the coil cable plug seal is not damaged and that the coil cable plug is properly inserted into the processor coil cable socket.

Keep the coil cable plugged into the processor to prevent moisture getting into the coil cable socket. It is also important to keep the coil cable plugged into the coil.

In very cold weather, wear a hat or headband over the processor.

When you are not wearing the processor, do not leave it in very hot areas (e.g. in direct sunlight).

Make sure that the accessory socket cover is properly closed when not using an audio accessory.

Use the Cochlear™ Nucleus® Storage Case for carrying the processor when travelling, or for storage.

To clean the Cochlear battery charger:

1. Unplug the battery charger from the power adaptor.
2. Clean the battery charger sockets with a soft dry cloth.

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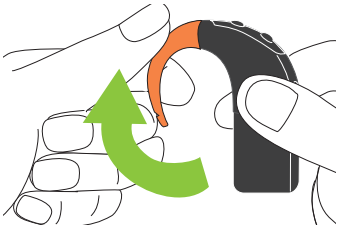
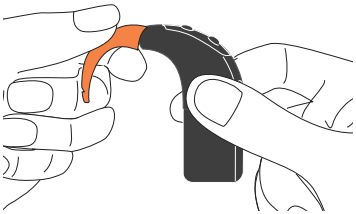
Changing processor parts

Change the earhook

If the earhook becomes loose, you should replace it with a new one.



1. Remove the earhook by pulling it upwards.

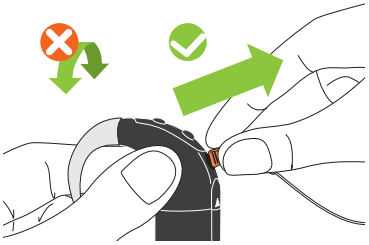


2. Attach the new earhook by pushing it back into place.

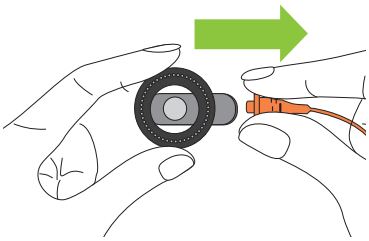
Tip: The Cochlear™ Nucleus® CP802 Tamper Resistant Earhook requires significant effort to remove. This earhook can be used to reduce the risk of children removing it from the processor.

Change the coil cable

If the coil cable is too short or too long for comfort, or if it is damaged, change the coil cable.



1. Hold the coil cable by the grips and firmly pull it straight out of the socket on the processing unit. Do not twist.



2. Hold the base of the plug and firmly pull the coil cable straight out of the coil.

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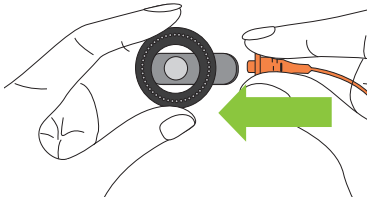
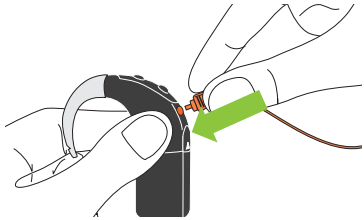


3. To attach the new coil cable, push the coil cable plug into the coil until it clicks into place.

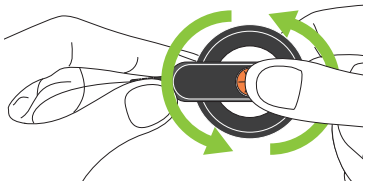


4. Push the coil cable into the coil cable socket on the processing unit until it clicks into place.

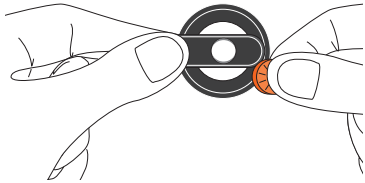
Remove the coil cable only if you are changing it to a different one or fitting a microphone protector sleeve. Always leave the coil cable connected when storing your processor overnight in the Dry & Store unit. To avoid breaking the coil cable, do not pull on the coil cable and do not twist the coil cable plug.

Change the coil magnet

Coil magnet strength should always be determined by the clinician. If the magnet needs to be changed:



1. Remove the magnet from the coil by turning the magnet counter-clockwise.



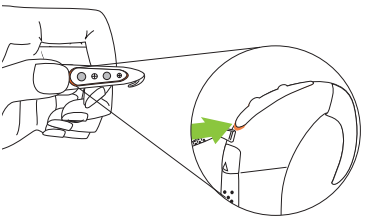
2. Insert the new magnet into the coil hole from the top of the coil. The side with the grips should face upwards.
3. Turn the magnet clockwise until it is in position.

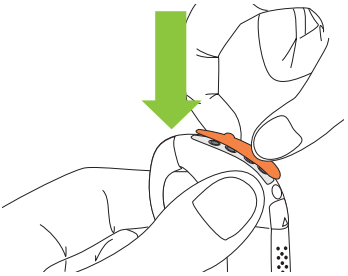
Notes:- If your clinician gives you a Cochlear™ Nucleus® CP800 Series Coil Magnet Reverse Polarity, use it as described for a normal magnet.

- If your clinician uses the strongest magnet (a Cochlear™ Nucleus® CP800 Series Coil (6M)), it is part of the coil, and cannot be changed as described here.

Change the microphone cover

The microphone cover is designed to protect the microphones from dirt and moisture. Change the microphone cover if it looks dirty, or if you notice a gradual loss of sound quality.





1. Place your fingernail in the space between the microphone cover and the coil cable socket.
2. Lift the cover off.
3. Clip the new microphone cover back into place, making sure the narrow end of the cover is facing the earhook.

It is generally a good idea to change the microphone cover every two to three months.

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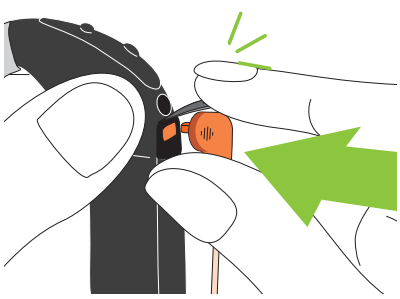
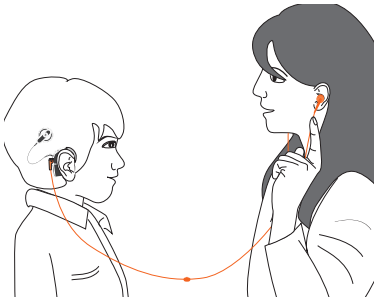
Checking and troubleshooting the processor

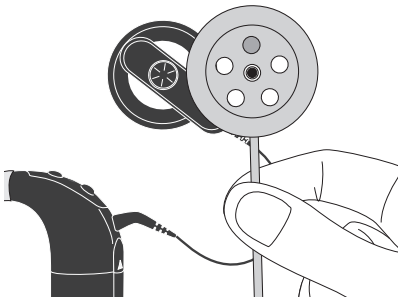
Use monitor earphones to check the sound

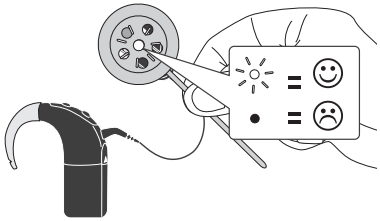




1. Make sure the processor is turned on.
2. Lift the accessory socket cover and plug the Cochlear™ Nucleus® CP800 Series Monitor Earphones into the accessory socket.
3. Parent or carer can use the monitor earphones to check that the microphone is picking up sound.

Use the coil wand to check the coil





1. Hold the coil wand (signal checker) against the coil.
2. The light on the wand illuminates if the coil is working. No light means the coil is not working. Contact your clinician.

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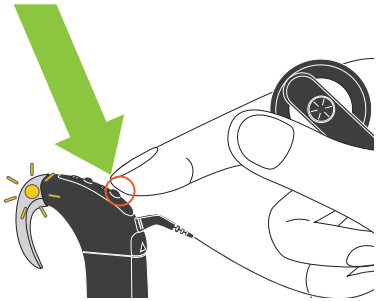
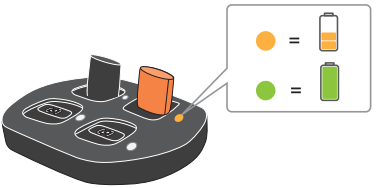
Troubleshoot

Symptom: Processor will not turn on

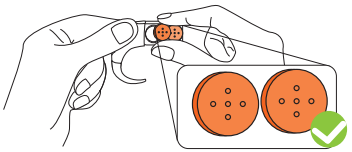
Actions to try:



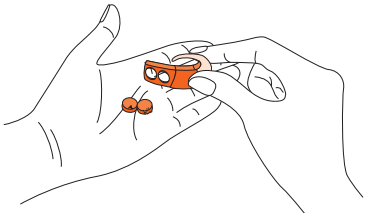
Try turning on the processor again.



Try a spare fully recharged battery module.



Replace the batteries.



Check the battery contacts are free of dirt and dust.

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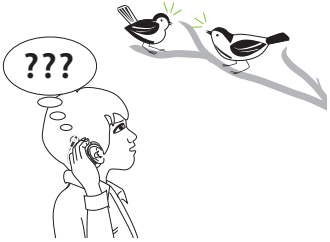
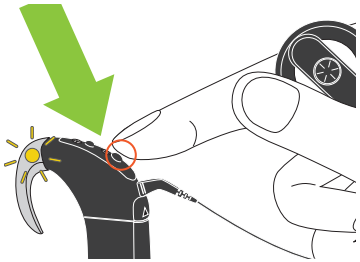
Symptom: You do not hear sound or sound is intermittent

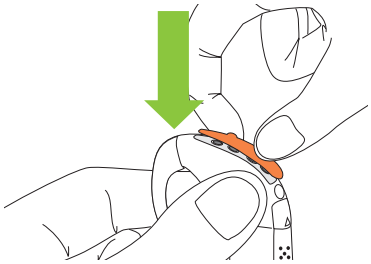
Actions to try:



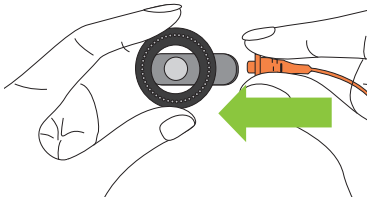
Make sure you are in an environment that is loud enough to hear.



Try a different program (if enabled by your clinician).



Try changing the microphone cover.



Make sure the coil cable is fully inserted into the socket on the coil.

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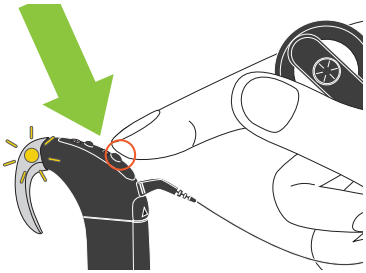
Symptom: Sound is too loud or too quiet

Actions to try:



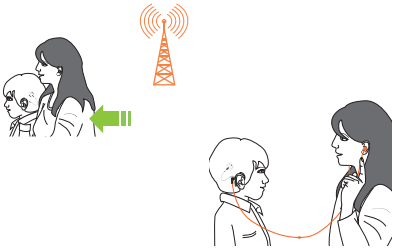
Try a different program (if enabled by your clinician).

Symptom: You hear interference such as buzzing or distorted speech

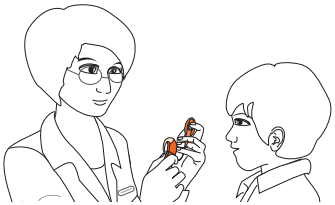
Actions to try:

Check for sources of interference such as:

- Radio and TV transmission towers.
- Shopping centres.
- Airport security systems.
- Digital mobile phones.



- Try moving away from any electronic device that may be causing interference.
- Ask carer to use the monitor earphones to check the sound.



If these steps did not solve your problem, contact your clinician.

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Indicator lights

Indicator light	What it means
● ● Short flashes of green.	Turning on processor. The number of flashes indicates the number of the selected program.
Short flashes of green.	Changing the program. The number of flashes indicates the number of the selected program.
▬ Steady orange while the lower button is pressed.	Turning off processor.
● ● Flash of green followed by a flash of orange.	Locking processor buttons.
● ● Flash of orange followed by a flash of green.	Unlocking processor buttons.
●●●●●● Quick flashes of green.	Microphones are receiving sound.
▬ Long flash of green.	You are changing from using: • The microphones to using telecoil, or • The microphones to using an audio accessory.
● ● ● ● Flash of orange every second.	Coil is off, or processor is not connected to the correct implant.
▬ Long flash of orange.	You are changing from using: • Telecoil to using the microphones, or • An audio accessory to using the microphones.
▬ Steady orange. If a general fault and coil off error occur at the same time, you only see the general fault indicator light.	General fault: • Fault with processor, or • Corrupt program in processor.
● Flash of orange when you press a button.	Processor buttons are locked.

Indicator light	What it means
●●●●●● Continuous quick flashes of orange. If a battery empty warning and general fault occur at the same time, you only see the battery empty indicator light.	Battery is empty and processor is turning off.

Private tones

Tone	What it means
Short high pitch tones.	Changing the program. The number of beeps indicates the number of the selected program.
Single long high pitch tone.	You are changing from using: • The microphones to using telecoil, • Telecoil to using the microphones, • The microphones to using an audio accessory, or • An audio accessory to using the microphones.
Long low pitch tones.	• Fault with processor, or • Corrupt program in processor.
Short low pitch tone when you press a button.	Processor buttons are locked.
Two short low pitch tones.	Processor battery is low.
Short low pitch tones.	Processor battery is empty.

Private tones can be heard only by the user.

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Cochlear battery charger lights

Battery charger socket light	What it means
Steady orange	Battery is recharging.
Steady green	Battery is fully charged.
Flashing orange	Indicates a problem with the battery.
Does not light up	• Battery is not properly placed on the battery charger, or • There is no power.

When recharging the battery, the battery charger mains power indicator light is green.

Using the telecoil

The telecoil is used to receive sound signals from a telephone, roomloop, neckloop, etc. It can also receive sound signals from an amplifier, TV or Hi-Fi through an induction loop. The telecoil is a feature that needs to be enabled by your clinician.

The telecoil is always turned off by default when you turn on your processor. To turn on the telecoil, press the upper button. A single long flash of green confirms that the telecoil is turned on.

To turn off the telecoil while using the processor, press the upper button again. A single long flash of orange confirms that the telecoil is turned off.

When an audio accessory is connected to your processor, you will not receive any sound from the telecoil. To move back to using the telecoil, remove the audio accessory from the processor. Turn off the telecoil when not in use, as it reduces the microphone volume.

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Using Auto Telecoil

Auto Telecoil is a feature that can be offered by your clinician. When you enable Auto Telecoil, the telecoil automatically turns on when you use the telephone, or when you are in a roomloop environment. The telecoil automatically turns off when:

- You move the telephone away from your processor (e.g. when the telephone call ends).
- You exit the roomloop environment.

CAUTION
Certain electronic devices or machinery may automatically turn on the telecoil. If this occurs, either wait for about 10 or 20 seconds for the telecoil to turn itself off, or manually turn it off using the processor buttons.

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Using audio accessories with the processor

Cochlear supplies a range of audio accessories to help optimise hearing in different listening environments (sold separately). You can connect the following audio accessories to your processor:

- Cochlear™ Nucleus® CP800 Series Lapel Microphone, to improve communication in noisy environments (e.g. meetings).

  To use the Lapel Microphone, connect the processor end of the Lapel Microphone cable to your processor audio accessory socket and place the other end near the sound source.

Sound source end (1) and processor end (2) of the Lapel Microphone

- Cochlear™ Nucleus® CP800 Series Personal Audio Cable for connecting a battery-powered sound source (e.g. portable CD player) to your processor. The Personal Audio Cable produces monophonic sound.

  To use the Personal Audio Cable, connect the processor end of the cable to your processor and the other end to the battery-powered sound source.

WARNING
Do not use the Personal Audio Cable to directly connect to a mains powered sound source (e.g. TV).

Sound source end (1) and processor end (2) of the Personal Audio Cable

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- Cochlear™ Nucleus® CP800 Series Bilateral Personal Audio Cable for connecting a battery powered sound source to two processors (bilateral use). Use the shorter side of the cable for the left ear and the longer side for the right ear. The cables are marked "L" (left) and "R" (right) to avoid mixing them up. The Bilateral Personal Audio Cable produces both monophonic and stereophonic sound, depending on the sound system.

  To use the Bilateral Personal Audio Cable, connect the processor end of the cable to your processors and the other end to the battery-powered sound source.

WARNING
Do not use the Bilateral Personal Audio Cable to directly connect to a mains powered sound source.

Sound source end (1) and processor end (2) of the Bilateral Personal Audio Cable

- Cochlear™ Nucleus® CP800 Series Portable Phone Cable for connecting a phone or a battery powered sound source with a 2.5 mm socket.

  To use the Portable Phone Cable, connect the processor end of the cable to your processor and the other end to the phone or the battery powered sound source.

Phone or battery powered sound source end (1) and processor end (2) of the Portable Phone Cable

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- Cochlear™ Nucleus® CP800 Series Mains Isolation Cable for connecting the Personal Audio Cable or Bilateral Personal Audio Cable to a mains powered sound source (e.g. TV). The Mains Isolation Cable provides electrical protection from mains power.

Mains Isolation Cable

- FM Cables, to send sound signals from a commercially available FM listening system to your processor. FM systems are wireless communication systems that help enhance hearing performance and speech understanding in certain environments (e.g. noisy environments, at school, etc.). For information on available FM cables, contact your clinician. You can also refer to the FM cable packaging for a list of available FM cables.

FM listening system end (1) and
Freedom Accessory Adaptor end (2) of the FM Cable

- Cochlear™ Nucleus® CP800 Series Freedom™ Accessory Adaptor for connecting some audio accessories (FM Cables and Freedom Monitor Earphones) to your processor.

Freedom Accessory Adaptor

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- Cochlear™ Nucleus® CP800 Series Euro Accessory Adaptor for connecting a Euro FM receiver to your processor.

Euro Accessory Adaptor

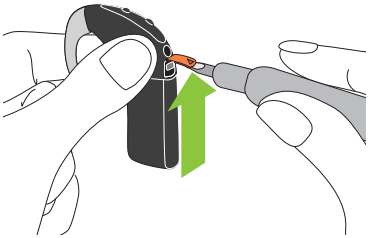
Only use audio accessories supplied by Cochlear. Certain accessories may not be available in all countries. Please contact your clinician or local Cochlear office for confirmation.

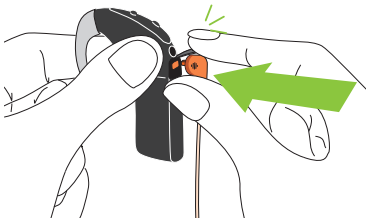
You may also want to try commercially available assisted listening devices (e.g. FM systems). For more information, contact your clinician.

Connecting and disconnecting audio accessories

All CP800 series audio accessories connect directly to your processor. Some Freedom accessories can be connected to the Freedom Accessory Adaptor.

To connect an audio accessory to your processor:





1. Carefully lift the accessory socket cover of your processor with a screw driver.
2. Place your fingers over the finger grips on the audio accessory cable.
3. Plug the audio accessory connector into the accessory socket - push until you hear a click.

To connect a Freedom accessory using the Freedom Accessory Adaptor:

1. Connect the audio accessory to the Freedom Accessory Adaptor. Ensure that you connect the audio accessory to the Freedom Accessory Adaptor before connecting it to your processor.
2. Connect the other end of the Freedom Accessory Adaptor to the processor accessory socket.

To connect a Euro FM receiver using the Euro Accessory Adaptor:

1. Insert the Euro FM receiver into the three pin socket on the Euro Accessory Adaptor.
2. Turn on the Euro FM receiver by pushing the latch to the 'on' position.
3. Connect the Euro Accessory Adaptor to the processor accessory socket.

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To use an FM cable:

1. Connect the FM cable to the Freedom Accessory Adaptor.
2. Connect the Freedom Accessory Adaptor to the processor accessory socket.
3. Connect the FM listening system end of the FM cable to the FM listening system as per manufacturer's instructions.

To use the Mains Isolation Cable:

1. Connect the Personal Audio Cable or the Bilateral Personal Audio Cable to your processor.
2. Connect the Mains Isolation Cable to the Personal Audio Cable or the Bilateral Personal Audio Cable.
3. Plug the other end of the Mains Isolation Cable into the mains powered sound source, e.g. TV.

Mains powered sound source end (1) and Personal/Bilateral Personal Audio Cable end (2) of the Mains Isolation Cable

When you connect an audio accessory, your processor automatically detects it. When you are not using the audio accessory, you can disconnect it from the processing unit.

Changing from an audio accessory to microphones

You can change from using an audio accessory to using the microphones only, while leaving the audio accessory attached.

To change from using an audio accessory to using the microphones, press the upper button. A single long flash of orange confirms that the microphones are enabled.

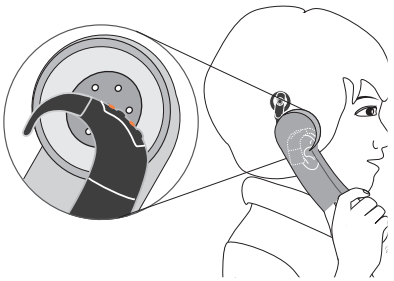
Changing from microphones to audio accessory

To change back from using the microphones to using the audio accessory, press the upper button again. A single long flash of green confirms that the audio accessory is enabled.

Using the telephone with the processor

You may use your telephone and your processor with the:

- Microphones
- Telecoil
- Telecoil and microphones on at the same time.



When using the telephone, position the telephone so that its earpiece is aligned with the processor microphones.

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Using advanced mode

Advanced mode allows you to perform the following tasks:

Task	Button press
Turn processor on or off	Press and hold both the upper and lower buttons together for two seconds.
Change the program	Press and hold the lower button.
Turn telecoil/audio accessory on or off	Press and hold the upper button.
Lock or unlock processor buttons	Briefly press both the upper and lower buttons together.
Adjust volume or sensitivity	Press the upper button to increase volume or sensitivity. Press the lower button to decrease volume or sensitivity.

Advanced mode needs to be enabled by the clinician.

General warnings and cautions

Processor and parts

- Do not place your processor or parts inside any part of your body (e.g. mouth).
- Parents and carers are advised that unsupervised use of long cables (e.g. coil or accessory cables) may present a risk of strangulation.
- Do not use your processor or parts in a way that will restrict your airways (e.g. when using the long coil cable).
- Do not let your processor or parts entangle with any jewellery (e.g. earhook and earrings) or machinery.
- Do not apply continued pressure to the coil when in contact with the skin (e.g. sleeping while lying on coil, or using tight-fitting headwear).
- Remove the processor and coil immediately if there is any discomfort or pain (e.g. if device becomes hot, or sound is uncomfortably loud) and inform clinician or clinic.
- Do not wear your processor and coil while sleeping.
- Do not attach or wear a body-worn battery configuration beneath layers of clothing in direct contact with the skin (e.g. in pocket or under child's vest).
- Make sure all cables used by a child are securely attached to their clothing.
- Do not place processor or parts in any household devices (e.g. microwave oven, dryer, etc.).
- No modification of this equipment is allowed.
- Do not use a drying aid that has an Ultra Violet C (UVC) lamp (e.g. Freedom Dry and Store).
- Store spare magnets safely and away from cards that may have a magnetic strip (e.g. credit cards, bus tickets, etc).

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Batteries

- Dispose of used batteries promptly and carefully, in accordance with local regulations. Keep away from children.
- Wash hands after handling disposable batteries.
- Do not recharge disposable batteries.
- Do not disassemble, deform, immerse in water or dispose of batteries in fire.
- Do not mix old and new batteries or batteries of different types or brands.
- Replace disposable batteries with Cochlear supplied or recommended batteries only. For the Standard Battery Module, do not use silver oxide or alkaline batteries.
- Zinc air batteries are small parts and may cause harm or injury if swallowed by children.
- Do not allow children to replace batteries without adult supervision.
- Do not short-circuit batteries, (e.g. Do not let terminals of batteries contact each other, do not place batteries loose in pockets, etc.).
- Store unused batteries in original packaging, in a cool dry place. When processor is not in use, remove the disposable or rechargeable batteries and store separately in a cool dry place.
- Do not expose batteries to heat (e.g. Never leave batteries in sunlight, behind a window or in a car).

- Do not use damaged or deformed batteries. If skin or eyes come into contact with battery fluid or liquid, wash out with water and seek medical attention immediately.
- Never put batteries in mouth. If swallowed, contact your physician or local Poison Information Centre.
- Only use rechargeable batteries and medical grade battery chargers supplied or recommended by Cochlear. Use of other batteries or battery chargers may result in harm or injury.
- Do not touch the battery charger contacts or allow children to use the battery charger without adult supervision.

Audio accessories

- Always use the Mains Isolation Cable when connecting the Personal Audio Cable or the Bilateral Personal Audio Cable to:
    - A mains powered sound source (e.g. TV).
    - A battery powered sound source connected to mains power (e.g. while connected to a PC for charging).
- The Freedom Accessory Adaptor and the Euro Accessory Adaptor are small parts and can be a choking hazard if swallowed. Cochlear does not recommend the use of these parts by children aged three years or younger.
- When using audio accessories, your processor will not be protected from water or dust penetration. For information on how to protect your processor from water and dust penetration, see *Caring for your processor*.
- Do not use excessive force when connecting or disconnecting audio accessories.
- Do not twist the accessory socket cover or pull or bend it too hard.

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Other information

Technical specifications

Physical configuration

The CP802 Sound Processor is a modular device, made of four parts: the processing unit, battery module or battery pack, coil and coil cable. The complete device sits behind the ear (when using the battery module) during normal operation, with the coil placed over the implant.

The processing unit comprises:

- Two omni-directional microphones for receiving sound.
- Custom analogue and digital integrated circuits with digital signal processing (DSP) and bi-directional wireless communication capabilities.
- A dual-colour light emitting diode (indicator light) for visual indication of processor function or processor problem.
- Two push-buttons to allow user control of key features.
- Custom 4-pin accessory connector for connection of accessories (e.g. monitor earphones).
- Custom 4-pin coil connector for connection of the coil cable.
- A range of earhooks.

The batteries provide power to the processor. The following options are available for powering the processor:

- Disposable batteries.
- Rechargeable batteries.

The coil transfers energy and data to the implant. It is connected to the processing unit by the coil cable. The coil cable can be detached from both the coil and the processing unit. It is connected to both the coil and the processing unit by custom 4-pin connectors. The connection forms a seal to prevent moisture access.

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Materials

- Processing unit is made of copolyester and elastomer.
- Battery modules (all types) are made of copolyester.
- Battery pack is made of copolyester, nylon and elastomer.
- Coil is made of polypropylene and elastomer. The coil cable is made of polypropylene, elastomer and PVC.

Battery life

Batteries should be replaced as needed just as you would with any other electronic device. Battery life varies according to the programs used each day, the thickness of skin covering your implant, and the size and type of battery.

The rechargeable battery's lifespan is at least 365 charge cycles. A completely empty rechargeable battery will take approximately four hours to recharge.

Rechargeable batteries may take longer to fully recharge with age. To get the longest life from the rechargeable batteries, always recharge before use.

Battery life, charge cycles and lifespan

- Battery life means the time a device will run before the disposable batteries must be replaced, or the rechargeable batteries recharged.
- Battery charge cycle means a cycle of one full charge and discharge of the rechargeable battery.
- Battery lifespan means the total number of charge cycles a rechargeable battery will last before the battery life degrades to 80% of its original fully charged capacity.

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Product component dimensions

Component	Length	Width	Depth
Processing unit	28.9 mm	44.3 mm	10 mm
Standard battery module	30.9 mm	20.4 mm	10 mm
Standard rechargeable battery module	30.9 mm	20.4 mm	10 mm
Battery pack	70 mm	27.6 mm	23 mm
Coil	40.2 mm	30.9 mm	8.5 mm

Weight

Component	Weight
Processing unit (including earhook)	5.6 g
Standard battery module with batteries	7.4 g
Standard rechargeable battery module	7.8 g
Battery pack (with batteries)	42 g
Coil (without coil magnet)	4.5 g

Operating characteristics

Processing unit

Characteristic	Value / range
Sound input frequency range	100 Hz to 8 kHz
Operating voltage	2.00 V to 4.50 V
Power consumption	20 mW to 100 mW
Button functions	Turn processor on/off, turn telecoil/ audio accessory on/off, change program, lock/unlock buttons, change sensitivity or volume level.

Coil

Characteristic	Value / range
Operating voltage	2.0 V to 2.6 V
Operating frequency	5 MHz

Battery module

Type	Characteristics
Standard battery module	• Two PR44 (Zinc Air) button cell batteries. Cochlear recommends power one IMPLANT plus p 675 batteries. • Voltage: 1.45 V.
Standard rechargeable battery module	205 mAh / 3.0 V to 4.2 V
Battery pack	• Two AAA (R03) batteries. Cochlear recommends Sanyo Eneloop AAA batteries. • You may use LR03 (alkaline), FR03 (Li/FeS2) or HR03 (NiMH) batteries. • Voltage range: 1.25 V to 1.5 V.

Environmental conditions

Sound processor, coil, coil cable and accessories

Condition	Minimum	Maximum
Storage & transport temperature	-10 °C (14°F)	+55 °C (131°F)
Storage & transport humidity	0% RH	90% RH
Operating temperature	+5 °C (41°F)	+40 °C (104°F)
Operating relative humidity	0% RH	90% RH
Operating pressure	700 hPa	1060 hPa

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Disposable batteries

Check the battery manufacturer's recommended operating conditions for disposable batteries used in your processor.

IP rating of processor

Protection rating	What the protection rating means	When do you have this protection
IP57	Protects against: • Access of solid foreign objects 1.0 mm diameter (or larger) in size • Failure from dust • Failure from temporary immersion in water	When using processor with: • Standard rechargeable battery module • Battery pack • Coil and coil cable attached • Accessory socket closed (no accessory attached)
IP44	Protects against: • Access of solid foreign objects 1.0 mm diameter (or larger) in size • Failure from splashing water	When using processor with: • Standard battery module • Coil and coil cable attached • Accessory socket closed (no accessory attached)

Equipment classification

Your processor is internally powered equipment Type B as described in the international standard IEC 60601-1:2005 - Medical Electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance.

FCC (Federal Communications Commission) compliance

This device complies with part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this equipment not expressly approved by Cochlear Limited may void the FCC authorisation to operate this equipment.

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.

FCC ID: WTOP802

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Labelling symbols

The following symbols may appear on your processor or remote components and/or packaging:

	Refer to instruction manual
	Specific warnings or precautions associated with the device, which are not otherwise found on the label
	Manufacturer
	Authorised representative in the European Community
	Catalogue number
	Serial number
	Batch code
	Date of manufacture
	Temperature limits
	Humidity Limitation
	CE registration mark with notified body number
	Do not re-use
Rx Only	By prescription
	Type B applied part

Recyclable material

Dispose of electrical components in accordance with your local regulations

Dispose of lithium-ion batteries in accordance with your local regulations

IP44

Ingress Protection Rating

- Protected against access of solid foreign objects greater than or equal to 1.0mm diameter.
- Protected against failure from splashing water.

IP57

Ingress Protection Rating

- Protected against access of solid foreign objects greater than or equal to 1.0mm diameter.
- Protected against failure from dust penetration.
- Protected against failure from temporary immersion in water.

Legal statement

The statements made in this guide are believed to be true and correct as of the date of publication. However, specifications are subject to change without notice.

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Hear now. And always

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