Cochlear™

Nucleus® CP900 Series
Sound Processors

User Guide

Hear now. And always

Cochlear™

Symbols

	Note	Important information or advice. Can save inconvenience.
	Tip	Time saving hint or saves inconvenience.
	Caution (no harm)	Special care to be taken to ensure safety and effectiveness. Could cause damage to equipment.
	Warning (harmful)	Potential safety hazards and serious adverse reactions. Could cause harm to person.

Contents

About

The Cochlear Nucleus CP900 Series Sound Processors works with your Cochlear Implant to transfer sound to the ear. Your processor is made up of a processing unit, earhook, coil, coil cable and a battery module.

You can choose either the CP910 or the CP920 processing unit. The CP920 processing unit is smaller than the CP910 and has no accessory port.

You can power your processing unit with a range of battery modules. The range includes a tamper resistant battery module that uses disposable batteries, a standard rechargeable and compact rechargeable battery module, and a LiteWear cable that allows the battery to be worn on the body.

You can control your sound processor as a stand-alone device by pressing the buttons on the processor. All stand-alone functions are covered in this guide.

You can also choose a Cochlear Nucleus CR210 Remote Control or CR230 Remote Assistant to control your processor. The remotes let you control one or two bilateral processors at a time and can provide extra troubleshooting functions. All remote functions are covered in separate user guides.

People with certain types of hearing loss can wear the processor in Hybrid mode by adding an accessory called the acoustic component. The acoustic component sends extra acoustic sound into the ear canal. Hybrid mode must be set up by your clinician.

A number of tools and accessories are supplied with your sound processor. The most important of these are your drying pack, screwdriver, and microphone protector applicator with removal tool.

> ✋ **Warning**
>
> Do not allow children under three to play with the system. Removable parts of the system can be lost or may be a choking hazard.

Behind the Ear (BTE) parts (standard)

Labels: Coil, Coil magnet, Microphones and protectors, Indicator light, Upper button, Lower button, Serial number, Earhook, Coil cable, CP910 processing unit, Accessory port, Standard rechargeable battery module

BTE parts (mini)

Labels: Coil, Coil magnet, Microphones and protectors, Indicator light, Upper button, Lower button, Serial number, Earhook, Coil cable, CP920 processing unit, Compact rechargeable battery module

⏻ Turn On

Turn on

Turn on and off

Press and hold the lower button for two seconds to turn on or off.

Indicator light	What it means
● ● Green flashes	Turning on processor. The number of flashes indicates the number of the current program.
▬▬ Steady orange while pressing the lower button	Turning off processor.
● ● ● ● ● ● Quick green flashes	Microphones are receiving sound

📖 Note

Your clinician may set up your processor to turn off automatically when it has not been used or worn for more than two minutes. If this happens, simply turn your processor back on.

⏻ Turn On

Change programs

You can choose between programs to change the way your sound processor deals with sound e.g. in windy, noisy or quiet places. Usually two programs are all you need, but your clinician can give you up to four programs.

Quick-press and release the lower button to switch between programs.

Indicator light	What it means
🟢 🟢🟢 🟢🟢🟢 🟢🟢🟢🟢 Green flashes	Changing the program. The number of flashes indicates the number of the selected program.

Ask your clinician to write your programs below

P1 _____

P2 _____

P3 _____

P4 _____

Lock and unlock buttons

Quick-press and release both buttons at the same time to lock and unlock the processor.

Indicator lights	What it means
🟢🟠 Green flash followed by orange	Locking processor buttons.
🟠🟢 Orange flash followed by green	Unlocking processor buttons.
🟠 Orange flash when pressing buttons	Processor buttons are locked.

Wear

Attach to your head

① Place the BTE on your ear, letting the coil dangle.

② Move the coil sideways and onto your implant.

Indicator light	What it means
🟠🟠🟠🟠 Flash of orange every second	Coil is off, or processor is not connected to the correct implant.

💡 **Tip**

Twist the coil clockwise (right BTE) or counter clockwise (left BTE) once ONLY before placing it on the head. The twist will help the coil stay in place.

Talk on the phone

Listen to hearing loops and hear voices on the telephone more clearly with the telecoil (t-switch). Your processor can be set up with either manual or auto telecoil. Auto telecoil turns the telecoil on and off whenever you use a phone or move in and out of range of a hearing loop.

Whether you choose auto or manual telecoil, you can control the telecoil with your remote or just turn it on and off with your processor.

Quick-press the top button to turn telecoil on and off.

💡 **Tip**

Slowly move the phone's sound outlet over the microphones on your processor to find your best position for talking on the phone.

Phone being held over microphones

Indicator light	What it means
▬ Long flash of blue	Changing between microphones and the telecoil or audio accessory.
▬ Long flash of green	Changing between the telecoil or audio accessory and the microphones.
•••••• Constant quick blue flashes	Processor is receiving sound

📖 **Note**

Certain electronic devices or machinery may automatically turn on Auto Telecoil. If this happens, move away from the device or machinery and wait a few seconds for Auto Telecoil to turn itself off, or turn it off manually.

Water, sand and dirt

Your sound processor is resistant to water, sand and dust. However, it is still a precision electronic device so the following precautions should be taken.

Your processor is water resistant with rechargeable batteries attached. But do not wear it while bathing or swimming.

If your processor ever does get wet, dry it with a soft cloth, change the microphone protectors and place it in a drying kit for 12 hours.

Your processor is dust resistant with rechargeable batteries attached. But do not get sand or dirt into any part of your sound processor.

If sand or dirt ever do enter the system, shake the components carefully to remove it and change the microphone protectors.

Fully assembled as described

Your processor is protected against failure from dust and temporary immersion in water (IP57) when you wear it with:

- a rechargeable battery module
- a coil and coil cable
- a closed accessory port
- no acoustic component

Aqua Accessory TBA

Fully assembled as described

Your processor is protected against failure from splashing water or access of foreign objects 1.0 mm in diameter or larger (IP44) when you wear it with:
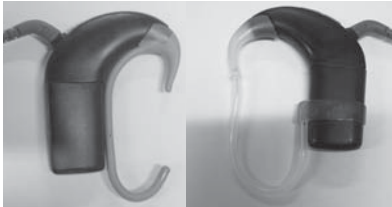
- a tamper resistant battery cover
- a coil and coil cable
- a closed accessory port
- an acoustic component worn in the ear.

Sport and exercise

Use Cochlear CP900 series accessories such as the Snugfit or Mic Lock to help hold your processor in place when you play sport or exercise.

After exercise, wipe your processor with a soft cloth to remove sweat or grime.
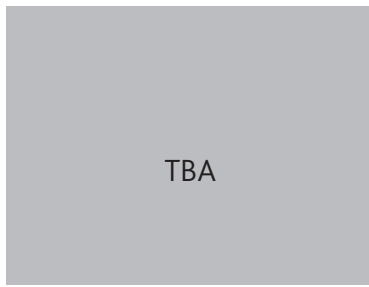

Then check your microphone protectors.

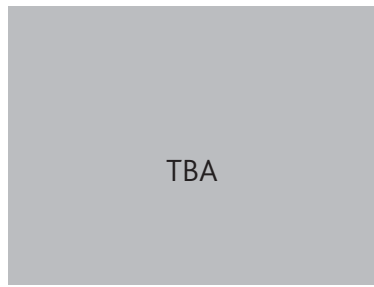Change them whenever you notice signs of sweat or grime, or any change in performance.

TBA

A thin sweatband or skullcap worn over the sound processor can make wearing a helmet easier.

TBA

Rechargeable batteries give you the maximum water and sweat resistance.

Aqua Accessory TBA

💡 **Childproofing Tip**

Accessories like the Snugfit or Mic Lock can help hold a processor on a child's ear. Children under three years of age should only use tamper resistant accessories such as the tamper resistant earhooks, tamper resistant battery cover and tamper resistant Snugfit. Always ensure these are properly locked together before use.
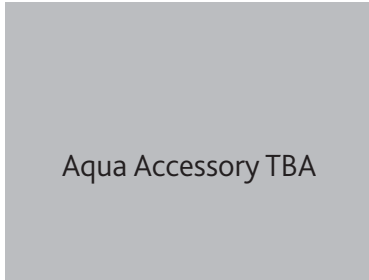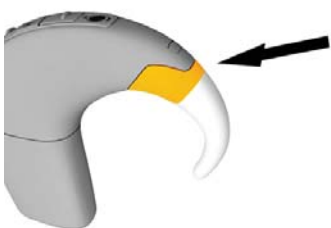
Wear a Snugfit

The Cochlear Nucleus CP900 Series Snugfit holds your sound processor more securely in place than an earhook alone. It gives parents and carers easy access to controls and accessories and is available in large, medium and tamper resistant (small).

To attach a Snugfit:

① Press firmly on the top of the earhook with your thumb to click it off the sound processor.
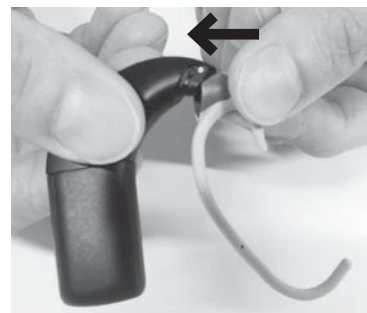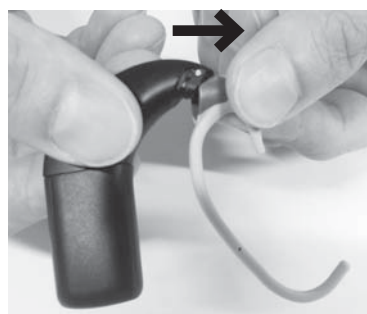
② Click your Snugfit into place.

③ Carefully bend the lower part into shape to suit your ear.

To remove a Snugfit:

① Remove your Snugfit by clicking it off the processor.

⊙ **Childproofing Tip**

To attach the Tamper Resistant Snugfit:

① The smallest Snugfit comes with a Snugfit band to fix it more securely to the processor.

② Thread the Snugfit band onto the Snugfit as shown.

③ Click the Snugfit into place on the processor and push the Snugfit band onto the battery module.

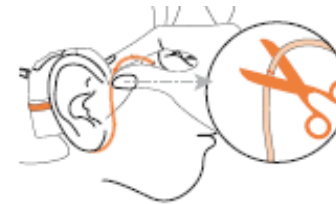④ Push the band securely onto the battery module.

Wear a Mic Lock

The Cochlear Nucleus Mic Lock helps hold the processor securely on the ear.

To attach the Mic Lock the first time:

① Push the Mic Lock band onto the processor with the tubing facing forward.

② Place the processor on your ear and bring the tubing up to the earhook.

③ Trim the tubing to a length that will hold the processor firmly in place without discomfort. Do not cut it too short.

④ Soften the end of the tubing in warm water and push it onto your earhook.

⑤ Let the tubing cool before wearing.

Wear LiteWear

The Cochlear Nucleus CP900 Series LiteWear Cable allows any standard (not compact) battery module to be worn on the body - so only the processing unit is worn on the ear. You can order LiteWear at <TBA> or talk to your clinician.

IMAGE SHOWING
LITEWEAR BEING WORN
BY A CHILD

> 📖 **Note**
>
> You can wear a Snugfit with LiteWear to hold the processing unit more securely on the ear.

LiteWear is made up of a LiteWear cable, case and a choice of fixing aids.

> 💡 **Childproofing Tip**
>
> Attach the LiteWear case between the shoulder blades of very young children to help prevent tampering.

Travel

You can travel with your sound processor with confidence because Cochlear is supported by clinics all over the world.

☐ Take a printout of your most recent program in case you need help with your processor.

☐ If you have a back-up sound processor, check that it is programmed correctly and take it with you.

☐ It's okay to move through metal detectors and full body scanners with your sound processor on. To avoid any possible buzzing sounds in your ear, turn off the telecoil.

☐ Ask your clinician for a Nucleus 6 ID card. In the unlikely event that your implant sets off a metal detector the ID card will help you explain that you have an implanted medical device.

☐ Do not place sound processors directly onto conveyor belts as you move through airports. Place them in a bag or plastic tray.

☐ Your sound processor will not interfere with a plane's navigation system so you won't need to turn it off during takeoff and landing.

> 📖 **Note**
>
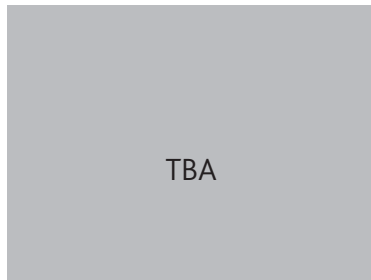> Visit www.cochlear.com/clinic-finder to find the nearest clinic in the places you are travelling
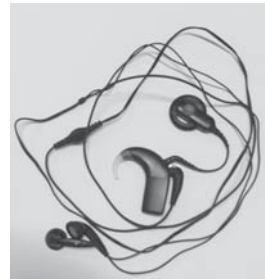
Audio accessories

The accessory port on the CP910 processing unit lets you connect a wide range of audio accessories.

For example, a Cochlear Nucleus personal audio cable let you listen to iphones, computers, TV sets etc. Bilateral recipients can listen in stereo.

TBA

The Cochlear Nucleus Lapel Microphone can make conversation easier in noisy environments.

Parents and carers can use the Cochlear Nucleus Monitor Earphones to check the processor and audio accessories are working.

You can order audio accessories at <TBA> or talk to your clinician.

> 📖 **Note**
>
> The CP910 processing unit is compatible with the CP800 range of audio accessories. You can order adaptors to make your CP910 processor compatible with Freedom and Euro accessories. Your CP910 processor is NOT compatible with the BAHA range of audio accessories.

Connect audio accessories

To connect an audio accessory to the processor:

1. Carefully lift open the accessory cover with the screwdriver. Do not twist the cover.

2. Hold the side grips on the accessory connector and carefully push it into the accessory port until it clicks into place.

3. When you connect an audio accessory, your processor automatically detects it.

4. If applicable, insert the other end of the audio accessory cable into the compatible device e.g. Ipod.

> ✋ **Warning**
>
> Always use the Mains Isolation Cable when connecting any Personal Audio Cable (including Bilateral) to:
>
> • a mains powered device e.g. TV.
>
> • a battery powered device that is connected to mains power (e.g. a laptop connected to an electric outlet for charging).
>
> Do not use excessive force, twist or pull on accessories when connecting them to the processor or at any time while they are connected.

Turn audio accessories on and off

Audio accessories turn on automatically when you plug them into your processor. You can turn them off and back on again as follows.

Quick-press the top button to switch between microphones and the audio accessory.

Indicator light	What it means
▬ Long flash of blue	Changing between microphones and the telecoil or audio accessory.
▬ Long flash of green	Changing between the telecoil or audio accessory and the microphones.
●●●●●● Constant quick blue flashes	Processor is receiving sound from audio accessory

Personalise your processor

You can order Cochlear Nucleus Sound Processor Covers and Coil Covers to personalise your processor and protect it from scratches.

Attaching and removing processor covers:

① To attach, slide the cover onto the processor.

② To remove, pull the cover away from the processor.

Attaching and removing coil covers:

① To attach, discard the clear plastic protector on the cover and click the cover into place on the coil.

② To remove, lift the cover off the coil.

Bilateral stickers

If you have two Cochlear implants, you must match the correct processor to the correct implant. Ask your clinician to give you bilateral stickers (red for right, blue for left) to make identifying left and right processors easier.

Wear an acoustic component

If your sound processor is set up for use in Hybrid mode, you can wear it with an acoustic component.

① Hold the coil in one hand and place the processor on your ear with the other.

② Place the coil on your head.

③ Place your dome or earmould in your ear as instructed by your clinician.

Remove your acoustic component

Wear your processor without the acoustic component by replacing it with a standard earhook:

① Remove the battery module from the processing unit by twisting the two parts as shown.

② Insert your Cochlear screwdriver into the opening under the earhook to unlatch the receiver cable.

③ Carefully push and twist the screwdriver until the receiver cable disconnects.
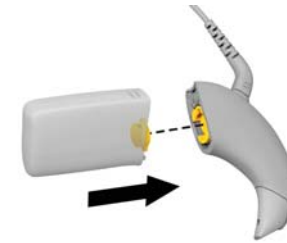
④ Re-attach the battery module.

⑤ Press firmly on top of the earhook with your thumb to click it off the sound processor.

⑥ Click the standard earhook into place.

> ⚠ **Caution**
>
> Use only the Hybrid screwdriver – not the CP800 screwdriver – to remove the acoustic component.
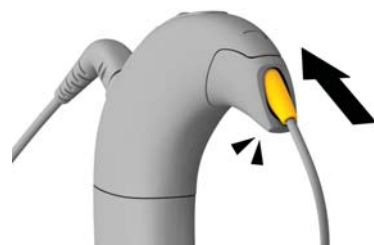
Attach your acoustic component

① Press firmly on the top of the standard earhook with your thumb to click it off the processor.

② Click the Hybrid earhook into place.

③ Carefully slide the receiver cable plug into the sound processor.

④ It should click securely into place. If necessary, carefully twist it until you feel the click.

Store

Store your processor at night in a UV protected dry aid kit or drying pack. You can store the processor fully assembled for short periods.

For long term storage, remove the batteries and store them separately from each other to prevent shorting. Storage cases are available from Cochlear.

Storage cases are available from Cochlear. Buy dry aid kits and drying packs from Cochlear or pharmacies and read the instructions for use.

> ✋ **Warning**
>
> All drying chemicals must be kept away from young children. Swallowing this material can cause serious internal injuries.

Charge

Batteries

You have a choice of three battery types with the CP900 series system:

The Cochlear Nucleus CP900 Series Standard Rechargeable Battery module.

The Cochlear Nucleus CP900 Series Compact Rechargeable Battery module.

The Cochlear Nucleus CP900 Series Standard Battery module, which uses disposable batteries and has a tamper resistant lock.

Battery life expectancy

Battery life varies according to the programs used each day, the thickness of skin covering your implant, and the type of battery. Use 675 zinc/air batteries in the standard battery module for longest battery life. To get the longest life from the rechargeable batteries, always recharge before use. Rechargeable batteries may take longer to fully recharge with age and should be replaced as needed.
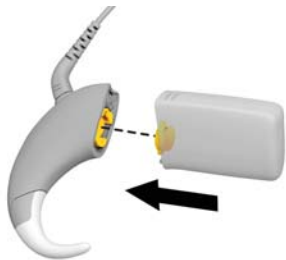
Replace the battery

To remove the battery:
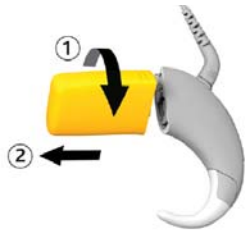
① Twist the battery module as shown to remove it from the processing unit.

To attach the battery:

① Touch the battery module and processing unit at an angle so their parts fit together.

② Twist the battery module as shown to attach the two parts.

Lock the battery to the processing unit

! Caution

Always check this lock is unlocked before attaching or removing the battery module.

Lock the CP910 Processing Unit:

① Carefully lift open the accessory port cover with your Cochlear screwdriver. Do not twist the cover.

② Push the lock to the far left to lock the battery module.

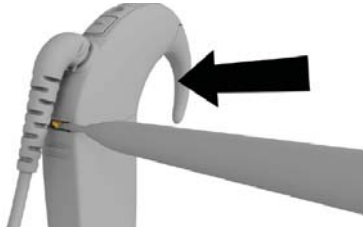③ Push the lock to the far right with your Cochlear screwdriver to unlock the battery module.

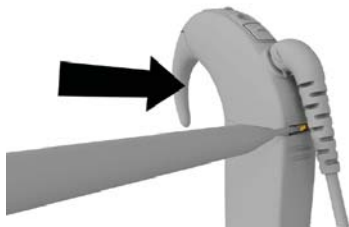④ Carefully close the cover by pushing in the top hinge first.

Lock the CP920 processing unit

① Push the lock to the far left with your Cochlear screwdriver to lock the battery module.

② Push the lock to the far right to unlock the battery module.

Lock and unlock the tamper resistant battery cover

The standard battery has a tamper resistant lock to help prevent children opening the battery cover.

① To lock, turn the locking screw clockwise with the CP800 screwdriver until it is in a horizontal position.

② To unlock, turn the locking screw anticlockwise until it is in a vertical position.

Charge rechargeable battery modules

① Angle and fit the rechargeable battery into a socket on the Cochlear Nucleus Battery Charger.

② Twist clockwise to connect.

This image will show lights.

③ Connect the battery charger to the power adaptor, plug it into mains power and switch on.

Battery wall power light	What it means
Steady green	Battery charger power is on
Does not light up	Power is not plugged in or turned on at the power socket, or there is no power.
Battery module light	**What it means**
Steady orange	Battery module is recharging.
Steady green	Battery module is fully recharged.
Flashing orange	There is a problem with the battery module.
Does not light up	Battery module is not properly placed, or there is no power.

Change disposable batteries

The Cochlear Nucleus CP900 Series Tamper Resistant Battery Cover uses two high power zinc/air disposable batteries. Cochlear recommends Power One p675 Implant plus zinc/air batteries. Do not use silver oxide or alkaline batteries.
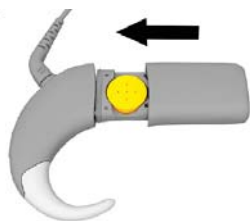
1. Pull the battery cover away from the battery holder.

2. Remove the batteries from the battery holder.

3. Remove the new batteries from the packet and let them stand for a few seconds.

4. Insert the batteries into the holder with the flat side (positive terminal) facing up.

5. Replace the battery cover by sliding it up towards the processing unit.

Care

Care for your sound processor

Every day

☐ Check all parts for dirt and moisture. Wipe the processor, coil cable, earhook, covers, Snugfits and Mic Lock cables with a soft dry cloth. (You can leave the earhooks, Snugfits, Mic Locks or coil cables on the processor while cleaning.)

☐ Keep your processor free from moisture by drying it every night in your drying pack.

☐ Remove the battery and make sure all the contacts are clean. Carefully tap or blow on them to remove any dirt.

☐ Make sure the accessory port and audio accessories are clean. Blow on the accessory port to remove any dust and clean accessories with a soft dry cloth.

☐ Check the microphone protectors for signs of dirt or grime and replace if needed.

Every month

☐ Replace the dry brick in your drying pack.

☐ Check if earhooks or Snugfits are becoming loose or showing signs of wear. Replace as needed.

## Every three months

☐ Replace the microphone protectors.

📖 **Note**

If your sound processor is subject to extreme conditions, you should clean and replace parts more often to keep it working at its best.

Replace microphone protectors

Replace your microphone protectors every three months, whenever they look dirty or whenever you notice any loss in sound quality. Always replace both protectors at the same time.

To remove microphone protectors:
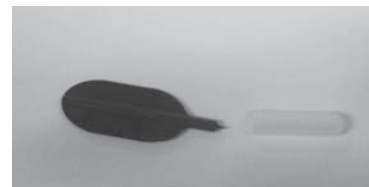
① Remove the protective cap from the Cochlear Nucleus Microphone Protector Removal Tool.

② Push the tip of the removal tool under the edge of the microphone protector. Do not push the tool into the middle of the protector as you might damage the microphone.

③ Carefully lift out the microphone protector and discard.

✋ **Warning**

The removal tool is a sharp object. It is not recommended for use by children under the age of 12 years.

✎ Care

To insert new microphone protectors:
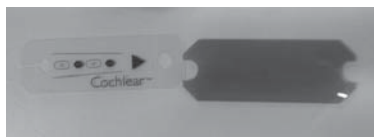
① Pull the Cochlear Nucleus Microphone Protector Applicator out of its sleeve.

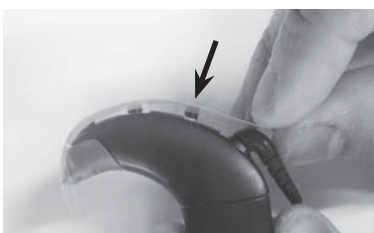② The top end of the applicator is marked with an arrow. Hook the top end onto the earhook.

③ Hook the bottom end onto the coil cable.

④ Align the microphone protectors with the microphones.

⑤ Press the microphone protectors into the microphone holes one at a time.

⑥ Remove the applicator by carefully peeling it upwards from the coil cable end.

Care for your battery charger

Every day:

☐ Check your battery charger is clean. If you notice any dust or dirt:

1. Unplug the power adaptor and remove any battery modules.

2. Hold the charger upside down and tap it to remove any dirt from the battery charger sockets. Carefully blowing on the battery charger sockets may also help remove dirt.

3. Wipe the battery charger sockets with a soft dry cloth.

☐ Cycle batteries in different sockets when recharging for a more even wear of the sockets.

If it gets wet:

☐ If the battery charger ever gets splashed with liquid, carefully shake out the liquid and dry the charger for 24 hours. Do not use the charger until it is dry.

Change earhooks

Cochlear Nucleus CP900 Series Standard Earhooks come in large, medium and small sizes. The smallest earhook can be made tamper resistant and is recommended for children under three. The acoustic component is worn with a Cochlear Hybrid Earhook. (To change the hybrid earhook, see "Wearing/Removing your acoustic component".)

To change a standard earhook:

① Press firmly on the top of the earhook with your thumb and click it off the sound processor.

② Click the standard earhook in place.

📖 **Note**

Remove your earhook only when necessary - it may become loose if it is removed too often.

💡 **Childproofing Tip**

About the tamper resistant earhook:

The tamper resistant earhook can be locked to the processor with a pin to reduce the risk of the earhook becoming a choking hazard for young children. Older children and adults can wear it without the pin.

The tamper resistant earhook comes with a locking tool and fitting pins.

✋ **Warning**

The locking tool and pin is not recommended for use by children under 12. Do not let children attach or remove the tamper resistant earhook without adult supervision.

Attach the tamper resistant earhook

① Click the tamper resistant earhook onto the processor. Make sure the hole on the earhook is aligned with the hole on the processing unit.

② Insert a fitting pin into the hole on the blunt end of the locking tool.

③ Partly insert the fitting pin into the hole on the earhook.

④ Flip the tool and use the pointed end to push the pin fully into the earhook. The pin should not protrude from either side of the earhook.

Remove the tamper resistant earhook

① Hold the processor as shown and insert the pointed end of the locking tool into the hole on the earhook.

② Push the tool into the hole to partly remove the fitting pin. Be gentle as too much force may damage the tool.

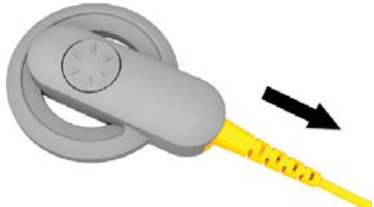③ Lift out the earhook fitting pin with tweezers.

④ Press firmly on the top of the earhook with your thumb and click it off the sound processor

Change the coil cable

The Cochlear Nucleus CP900 Series Coil Cable come in four lengths so you can choose the most comfortable fit. Only remove the coil cable when you are changing it.

① Hold the cable grip as shown and firmly pull it straight out of the processor. Do not tug on the flexible part of the cable.

② Use your fingernails to hold the cable grip as shown and pull the cable firmly off the coil. Do not tug on the flexible part of the cable.

③ Push the new coil cable into the processor until it clicks into place.

④ Push the new coil cable into the coil until it clicks into place.

Change the coil magnet

The strength of the Cochlear Nucleus CP900 Series Coil Magnet can be adjusted by changing the magnet depth or by replacing with a magnet of a different strength. If the magnet is too weak or strong the coil may fall off or cause discomfort.

To change the strength of the magnet:

① With finger grips facing up, turn the magnet clockwise to increase the magnet's strength.

② Turn the magnet anticlockwise to reduce its strength.

To change the coil magnet:

① With finger grips facing up, unscrew the magnet anticlockwise and remove.

② Insert the new magnet into the coil hole and turn it clockwise until it is at a comfortable depth.

Care for your acoustic component

The acoustic component accessory is used only by people who are set up to use their processor in Hybrid mode.

> **❗ Caution**
>
> Handle your sound processor and acoustic component with care above flat surfaces. Never drop them or twist the receiver cable.

If you use Power or Plus domes:

Every day:

☐ Check the wax filter in the receiver and change it whenever it is clogged with wax or the system does not sound normal.

☐ Domes have an additional inbuilt filter. Check the inbuilt filter and change the dome whenever it is clogged with wax, or whenever the dome is dirty, discoloured or losing shape.

### If you use Power or Micro moulds:

Every day:

☐ Clean the earmould and receiver cable with the supplied brush, a soft dry cloth or our recommended cleaning fluids, Hadeo™ and Cedis® ONLY. Wipe any traces of wax away from the opening of the vent.

☐ Check if the vent is clogged, and use the supplied vent cleaner to remove wax as needed. Do NOT use the vent cleaner to clean any other part of the system.

☐ Check the wax filter and change whenever it is clogged with wax or the system does not sound normal.

> **📖 Note**
>
> Micro moulds can use WaxStop filters ONLY. Power moulds can use either NoWax or WaxStop filters.

Replace Power domes
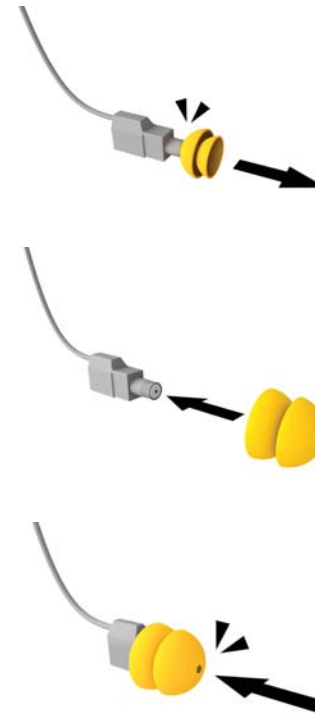
① Pull the dome off using your fingernails if necessary and discard.

② Push the new dome directly onto the receiver.

③ Click it securely into place.

Replace Plus domes

Follow the directions for replacing Power domes and add the following step:

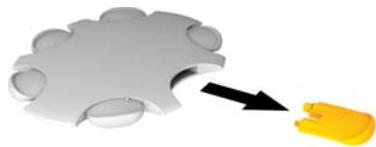④ When fitting a Plus dome, the outer sleeve should face down.

Change wax filters

⚠ Caution

Wax filters must ALWAYS be used with the acoustic component and replaced regularly.
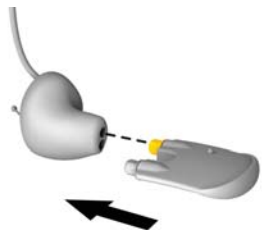
Replace a NoWax filter

Power moulds (only) can use a NoWax filter in the sound outlet. Change the filter whenever it is clogged with wax or whenever the system does not sound normal.

① Remove a new NoWax tool from its shell. One point on the tool has a removal tool and the other point has the new filter.
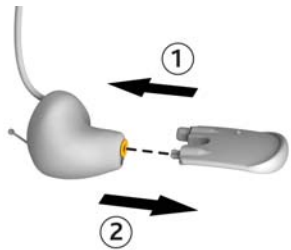
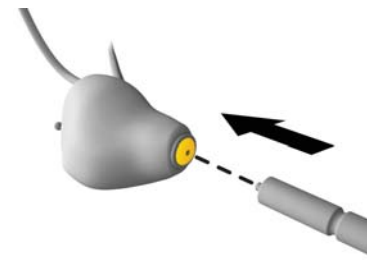② Insert the removal tool into the existing wax filter and work it out of the Power mould.

③ Push the new filter into the sound outlet on the mould and dispose of the tool and used filter.

Replace a WaxStop filter

Micro moulds use a WaxStop filter in the sound outlet. Power moulds use either a WaxStop filter or a NoWax filter. Power and Plus domes must be worn with a WaxStop filter in the receiver.
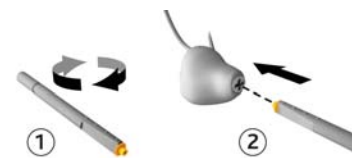
① Remove a WaxStop tool from its shell. One end of the tool has a new filter and the other has a removal tool.

② Insert the removal tool into the existing wax filter.
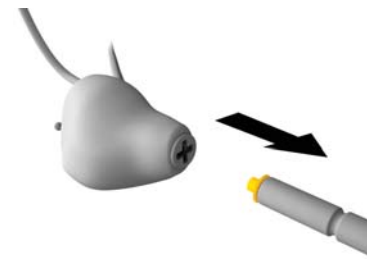
③ Pull the used filter out slowly, keeping the tool straight.

④ Flip the tool and push the new filter into the sound outlet. Carefully pull the tool free and dispose of the used tool and filter.

Lights, beeps and buttons

Lights

Your clinician can set up your processor to show some or all of the following light indications.

Light	What it means
●● Short green flashes	Turning on processor. The number of flashes indicates the number of the selected program.
▬ Steady orange while lower button is pressed	Turning off processor.
● ●● ●●● ●●●● Short green flashes	Changing the program. The number of flashes indicates the number of the selected program e.g. 2 flashes for program 2.
● Single green flash	Changing volume or sensitivity level.
●● Green followed by orange flash	Locking processor buttons.
●● Orange followed by green flash	Unlocking processor buttons.
● Orange flash when pressing buttons	Processor buttons are locked.
▬ Long flash of blue	Changing between microphones to the telecoil or audio accessory
▬ Long flash of green	Changing between the telecoil or audio accessory to the microphones.
●●●●●● Constant quick green flashes	Processor is receiving sound from the microphones
●●●●●● Constant quick blue flashes	Processor is receiving sound from telecoil or audio accessory

Lights, beeps and buttons

●●●● Flash of orange every second	Coil is off, or processor is not connected to the correct implant.
●●●●● Quick flashes of orange	Processor battery is empty.
▬▬ Steady orange	General fault: • Fault with processor • Corrupt program • Fault and coil off error at the same time • Fault with acoustic component while in Hybrid mode.

Beeps

Your clinician can set up your processor so you can hear the following beeps.

Beep	What it means
🔔🔔🔔 Short high beeps	Changing the program. The number of beeps indicates the number of the selected program.
🔔 High beep	Changing volume or sensitivity level.
🔔... Long high beep	Switching between using the microphones and the telecoil or audio accessory.
🔔...🔔...🔔 Long low beeps	General fault.
🔔 Short low beep when you press a button	Processor buttons are locked.
🔔🔔 Short low beeps	Processor battery is low.
🔔🔔🔔 Short low beeps	Battery is empty and processor is turning off.

Button controls in advanced mode

Sound processors can be set up in Advanced mode by your clinician to give you extra control over the volume and sensitivity of the sound you hear.

Turn processor on and off

Press and hold upper and lower buttons at the same time. Pressing and holding the lower button will only turn on the processor.

Change program

Press and hold the lower button.

Turn telecoil/audio accessory on and off.

Press and hold the upper button to switch between microphones and telecoil/audio accessory.

Lock/unlock processor buttons

Quick-press both the upper and lower buttons at the same time.

Change volume or sensitivity

In Advanced mode, you can choose to control volume and sensitivity with your remote and the buttons on your processor. See the user guides for the CR210 and CR230 remotes for more information.

Select "Volume" via your remote and use the buttons below to control the loudness of sound.

Select "Sensitivity" via your remote and use the buttons below to control the *range* of sounds picked up by the processor e.g. soft, background, close or far away.
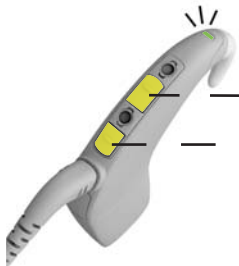
Press the upper button to increase volume or sensitivity.

Press the lower button to decrease volume or sensitivity.

General warnings and cautions

Processor and parts

• Do not push the master volume too high for comfort in case a loud noise occurs nearby.
• Do not place your processor or parts in nose or mouth or other body openings.
• Do not use your processor or parts in a way that will restrict your airways (e.g. when using LiteWear or 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.
• 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).
• Do not modify your processor. Warranty will be void if modified.
• Do not use a drying aid that has an Ultra Violet C (UVC) lamp (e.g. do not use the 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).

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 high power Cochlear supplied or recommended zinc air batteries only. We recommend Power One p675 Implant Plus zinc/air batteries. We do not recommend using silver oxide or alkaline batteries.
- Only use rechargeable batteries and battery chargers supplied or recommended by Cochlear. Use of other batteries or battery chargers may result in harm or injury.
- Do not allow children to replace batteries without adult supervision.
- Do not touch the battery charger contacts or allow children to use the battery charger 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.
- Please contact your clinician for battery service.

Acoustic Component

- Refit and replace hard earmoulds regularly. Hard earmoulds can cause deformation of the ear canal. Have them refitted every two years for adults and more regularly for children.

Other information

Product component dimensions (Typical values)

Component	Length	Width	Depth	External diameter
CP910 processing unit	51.3 mm	47.7 mm	9.0 mm	NA
CP920 processing unit	39.1 mm	47.7 mm	9.0 mm	NA
Standard battery module	28.0 mm	9.0 mm	19.0 mm	NA
Compact rechargeable battery module	19.0 mm	9.0 mm	19.0 mm	NA
Standard rechargeable battery module	28.0 mm	9.0 mm	19.0 mm	NA
Coil			8.0 mm	32.0 mm

Weight (Typical values. All weights are measured with medium earhook)

Component	Weight
CP910 processor (no battery)	5.7 g
CP920 processing unit (no battery)	5.0 g
CP910 processor with compact rechargeable battery	10.5 g
CP910 processor with standard rechargeable battery	13.0 g
CP910 processor with Zinc/Air batteries	12.8 g
CP920 processor with compact rechargeable battery	9.8 g
CP920 processor with standard rechargeable battery	12.4 g
CP920 processor with Zinc/Air batteries	12.1 g
Coil (without coil magnet)	5.0 g

Other information

Operating characteristics

Processing unit

Characteristic	Value/range
Sound input frequency range	100 Hz to 8 kHz
Operating voltage	2.00 V to 4.25 V
Power consumption	20 mW to 100 mW
Push-button functions	Turn processor on and off, turn telecoil/audio accessory on and off, change program, lock/unlock buttons, change sensitivity or volume level.

Battery module

Type	Capacity/voltage range
Standard battery module	Two PR44 (Zinc/Air) button cell batteries. 1.45 V (nominal) each. Cochlear recommends Power One p675 Implant Plus zinc/air batteries.
Compact rechargeable battery module	120 mAh / 3.0 V to 4.2 V
Standard rechargeable battery module	205 mAH / 3.0 V to 4.2 V

Coil

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

Environmental conditions

Processing unit, coil, coil cable and accessories

Condition	Minimum	Maximum
Storage temperature	-40 ºC	+50 ºC
Storage relative humidity	0% RH	90% RH
Operating pressure	700 hPa	1030 hPA
Operating temperature	+5 ºC	+50 ºC
Operating relative humidity	0% RH	90% RH

Standard battery module

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

The processing unit comprises:

- Two omni-directional microphones for receiving sound.
- An internal telecoil for receiving magnetic fields radiated by phones, neckloops and roomloops.
- Custom analogue and digital integrated circuits with digital signal processing (DSP) and bi-directional wireless communication capabilities.
- A tri-colour visual indication of processor function or problem.
- Two push-buttons to allow user control of key features.
- CP910 only – Custom 4-pin accessory connector for connection of audio accessories.
- Custom 4-pin coil connector for connection of the coil cable.
- A range of earhooks.

The batteries provide power to the processor.

The coil acts as a transformer coupling that transfers energy and data to the implant.

Materials

- Processing unit: copolyester
- Battery modules (all types) are made of copolyester
- Coil is made of polypropylene (PP), thermoplastic elastomer (TPE)
- Magnet casing is made of acrylonitrile butadiene styrene (ABS)
- Coil cable sheath is made of polyvinyl chloride (PVC)
- Coil cable plugs are made of PP & TPE
- LiteWear cable is of polyester, TPE & PVC (same construction as the coil cable) sheath is PVC; plugs/strain relief are PP and TPE
- LiteWear connection boots are made of copolyester
- LiteWear retention case is made of polyamide

Other information

- LiteWear Fixing Aids are made of polycarbonate

- Processor covers are made of polystyrene and polycarbonate

- Coil covers are made of polycarbonate

- Hybrid materials for outer sheathing of the housing adaptor and the outer cable sheathing is made of polyamide

- Custom moulds are made of Stereo Lithography Acrylic covered with a UV-cured lacquer

- Plus Domes are made of elastosil silicone polymer

- Power Domes are made of TPE

Certification and applied standards

The CP900 series sound processors fulfil the essential requirements listed in Annex 1 of the EC directive 90/385/EEC on Active Implantable Medical Devices as last amended by EC Directive 2007/47/EEC.

CE0197

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: Basic Safety and Essential Performance.

FCC (Federal Communications Commission) and Canadian IC 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 authorization 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.

- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: WTOP900

IC ID: 8039A-P900

Other information

Labelling symbols

The symbols below are found on your processor components and packaging:

Symbol	Meaning
	Consult instructions for use
REF	Catalogue number
LOT	Batch code
SN	Serial number
+50°C (+122°F) / -40°C (-40°F)	Temperature limitations
90 / 0 %	Relative humidity limitations
Rx Only	By prescription
A01-0800JP	Certification Japan
N2792	Certification Australia
Z1297	Certification New Zealand
	Type B applied part
	Recyclable material
	Segregate electronic waste
	Do not dispose in fire
CE0197	CE Registration Mark
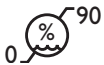
Legal statement

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.

Nucleus® Cochlear™ implant systems are covered by one or more international patents.

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Hear now. And always