Cochlear™

Nucleus® CR210 Remote Control
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.

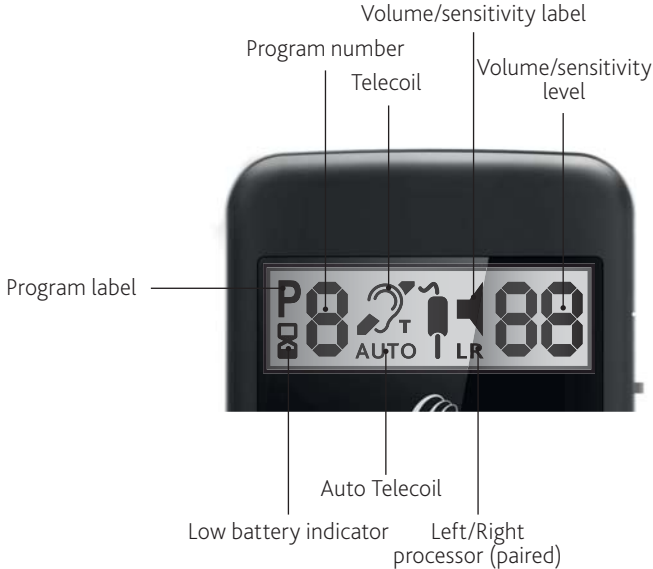# Contents

About

Cochlear Nucleus CR210 Remote Control

The Cochlear Nucleus CR210 Remote Control is a simple hand-held controller for your Cochlear Nucleus CP900 Series Sound Processors. The remote allows you to:

1. change programs

2. turn volume or sensitivity up and down

3. turn the telecoil on and off

4. turn auto telecoil on and off

5. turn audio accessories on and off

If you are a bilateral recipient, your remote control can communicate with both your processors at once. For more information on your sound processor, refer to the Cochlear Nucleus CP900 Series Sound Processor User Guide.

📖 Note

"Volume" describes the level of the sounds you hear. "Sensitivity" describes the *range* of sounds you hear e.g. soft, background, close or far away. Usually, your clinician will set up your remote control to control volume. But your clinician can set it up to control sensitivity instead.

Program number

Volume/sensitivity label

Telecoil

Volume/sensitivity level

Program label

Low battery indicator

Auto Telecoil

Left/Right processor (paired)

On/Off

Telecoil On/ Auto/Off

Volume or sensitivity up

Next program

Volume or sensitivity up

Previous program

Volume or sensitivity down

Cochlear CR210 Basic Remote Control

Turn on

Turn on and off

Slide the switch up to turn on.

When the switch is in the up position, the display will "go to sleep" when not in use. Press any button on the keypad to "wake" it again.

Slide the switch down to turn off.

💡 Tip

Turn off your remote to stop it "waking" and draining the battery when not in use e.g. when carried in your pocket.

Pair

Your clinician may have already paired your remote with your sound processor. If not, you will need to pair it the first time you use it.

If your remote is not paired to any processor, the screen appears as above and the display "blinks" when you press keys.

To pair your processor and remote:

① Turn on your processor and remote control. They must both be "awake" and on at all times when pairing.

② Place the coil on the back of your remote control.

Image of coil over battery will be briefed into next version.

⏻ Turn On

③ The screen will show pairing in progress.

④ The screen then shows successful pairing of left (L) or right (R) processor.

⑤ Bilateral users only - repeat step 2 for your second sound processor.

Out of range

The screen above displays when the processor is out of range or experiencing interference.

Use

Change programs

Your clinician may program your sound processor with up to four programs to control with your remote.

Press to move to the next program

Press to move to the previous program

Ask your clinician to write your programs below

P1 _____

P2 _____

P3 _____

P4 _____

Change volume or sensitivity

Usually, your clinician will set up your remote control to control the volume of the sound you hear. But your clinician can instead set it up to control sensitivity. "Sensitivity" describes the range of sounds you hear e.g. soft, background, close or far away.

Press to turn up the volume or change sensitivity.

Press to turn down the volume or change sensitivity.

Talk on the phone

Your sound processor's telecoil (t-switch) lets you listen to hearing loops and hear voices on the telephone more clearly. You can control it with the telecoil button on your sound processor. Your clinician will set up your remote with ONE of the following functions:

1. **No telecoil function** - you can not control the telecoil with your remote. The telecoil button on your remote will not do anything.

2. **Telecoil only function** - you can turn the telecoil on manually with the remote when you want to listen with the telecoil, and turn it off when you are finished. You will not be able to turn on Auto Telecoil.

To use the telecoil only function:

To turn on the telecoil: Press the button to display the telecoil icon.

To turn off the telecoil: Press again to turn the telecoil off.

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3. **Telecoil AND auto telecoil function** - you will be able to to turn both the telecoil and the auto telecoil feature on and off with the remote as needed. When auto telecoil is left on, the telecoil in your sound processor turns on automatically whenever a hearing loop or phone is in range, and turns off a few seconds after you move the processor away from the source.

To control the Telecoil and Auto Telecoil feature:

To turn on the telecoil: Press the button to display the telecoil icon.

To turn on auto telecoil: Press again to display the auto telecoil icon.

To turn off the telecoil: Press again to turn the telecoil off.

🔋 **Battery**

Battery

Change the batteries whenever you can see the low battery indicator or the screen stays blank when you push the side switch upwards into the unlock position.

Display showing low battery

To change the battery:

① Unlock the battery cover by turning the screw anticlockwise with a Phillips head screwdriver.

② Slide off the battery cover and remove the battery.

Final render to reinforce plus side up

③ Insert the new battery. Make sure the plus sign "+" is facing up.

④ Replace the battery cover bottom edge first and turn the screw clockwise to lock the cover in place.

⚠ **Caution**

Use disposable CR2032/5004LC 3V standard lithium coin cell batteries ONLY in your remote control. Cochlear does not recommend any other battery type. Do not use rechargeable batteries.
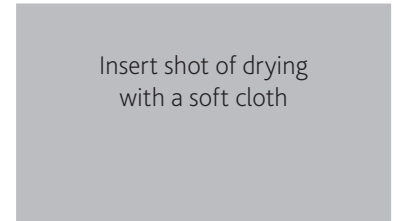
Care

Every day

☐ To keep your remote control clean, wipe its display and buttons with a soft dry cloth.

Keep your remote dry. If it ever gets wet:

Remove the battery immediately.

Insert shot of drying with a soft cloth

Dry it with a soft dry cloth.

Insert shot of drying on a shelf next to a window with no battery
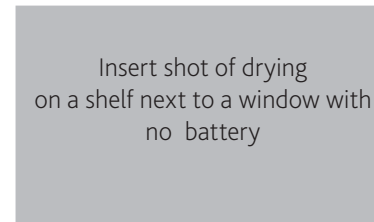
Leave it in a well ventilated place to dry for 12 hours. Do not use a drying kit.

Put a fresh battery in place.

General warnings and cautions

- Use a soft dry cloth ONLY to clean the surface of your remote control.

- Do not use alcohol, household cleaners or abrasive materials to clean your remote control.

- Do not use the Zephyr dry aid kit or any household appliance to dry your remote control.

- Do not bend or compress the display on your remote control.

- Do not disassemble, modify, deform or immerse your remote control in water. If your remote control is not working, return it to your clinician. Warranty will be void if opened.

- Dispose of electrical components in accordance with your local regulations.

- Do not allow metal objects e.g. keys near the display screen.

- The coin battery could pose a choking hazard to small children. Keep the battery cover locked at all times. Keep the remote out of reach of very young children.

Other information

The remote control wireless communication link operates in the 2.4 GHz ISM band using GFSK (Gaussian Frequency Shift Keying) on 10 channels. The link uses a proprietary bi-directional communication protocol and operates over a distance of up to 2m from the CP900 series processor. When interference is present, the wireless communication link switches between the 10 channels to find a channel where the interference least affects the operation of the link. The remote control indicates via its display when the processor is not within operating distance, and when the link has been interrupted due to interference.

Specifications

Physical configuration

The remote control comprises:

- Custom analogue and digital integrated circuits based on a micro-processor design, with bi-directional wireless communication capabilities.

- Push-buttons and a slider for control of processor features and its own system features.

- A display for indicating system status and activity.

- In-built coil sensor.

- Lanyard pin.

Materials

The remote control housing and buttons are made of Polycarbonate and Acrylonitrile Butadiene Styrene (ABS). The display is made of ABS.

Other information

Dimensions

Length	Width	Height
66 mm	36 mm	10.5 mm

Weight

The remote control with battery in place weighs approximately 35 g.

Operating characteristics

Characteristic	Range
Wireless technology	Proprietary Low Power Bidirectional Wireless Link
RF frequency	2.4 GHz
Operating battery voltage	2.0 V - 3.0 V
Battery capacity	230 mAh
Push-key functions	Remote control lock and unlock, telecoil/auto telecoil on and off, program change, volume or sensitivity settings change
Wireless transmission range	Up to 2 m
Display	Custom, icon based monochrome LCD

Environmental conditions

Condition	Minimum	Maximum
Storage temperature	-30 ºC (-40 ºF)	+50 ºC (+122 ºF)
Storage relative humidity	0% RH	90% RH
Operating temperature	+5 ºC (+41 ºF)	+50 ºC (+122 ºF)
Operating relative humidity	0% RH	90% RH

Certification and applied standards

The CR210 Remote Control fulfils 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 remote control 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.

• 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: WTOR200BA

IC ID: 8039A-R200BA

Labelling symbols

Consult instructions for use

Storage temperature limits

Relative humidity limits

Disposal - do not dispose in fire

Disposal – dispose of electrical components in accordance with your local regulations

Certification - Japan

N2792   Certification - Australia

Z1297   Certification - New Zealand

SN   Serial number

Date of manufacture

Type B applied part

Rx Only   This device restricted to sale by or on the order of a physician.

Recycle

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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