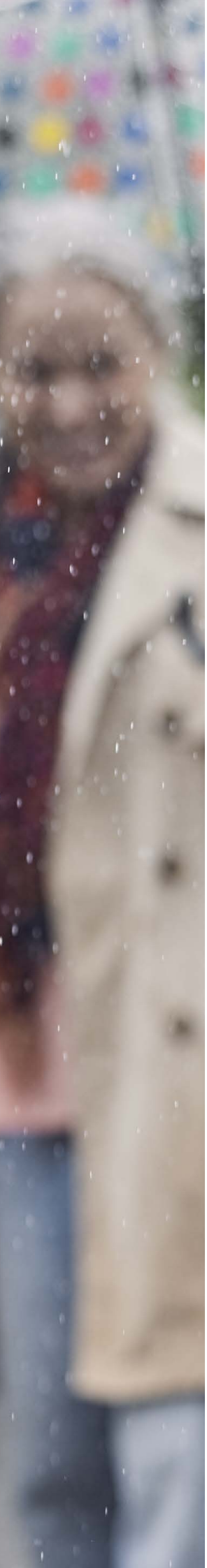
FOR PROFESSIONALS

Cochlear®
Hear now. And always

Cochlear™ Nucleus® 8 Nexa™ Sound Processor

The future of hearing. Delivered today.

Getting started with the Nucleus® 8 Nexa™ Sound Processor



The Nucleus® Nexa™ System

Experience the world's first and only smart cochlear implant system* – the Nucleus® Nexa™ System.

For the first time, your patients will be ready to access new or improved features and future innovations through upgradeable firmware in their smart implant. They will also benefit from sound processor upgrades as they become available. Each patient's MAPs are now securely stored in their smart implant memory, and can be quickly and easily copied to a new or replacement sound processor in the future.

The Nucleus Nexa System intuitively responds to your patients' changing needs across the day, while enabling the world's smallest and lightest sound processors with all day battery life.[1, #,+], And it's all seamlessly connected to an ecosystem that delivers personalised care[^] and a world of streaming options.[¥]

This guide contains information about the Nucleus 8 Nexa Sound Processor, and considerations for fitting and counselling, so that you and your patients feel confident Cochlear is your trusted partner on the journey to better hearing.

Contents


Volume
Program
Cafe
Distance
Car
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Audio Sources
Cafe
Cafe

Meet the Nucleus® 8 Nexa™ Sound Processor

Note: The Cochlear™ Nucleus® 8 Nexa™ Slimline™ Coil is required for use with Nucleus Nexa implants and is easily identified by a yellow RF connector plug.

Behind-the-ear
Nucleus 8 Nexa Sound Processor with compact battery module

Nucleus implant compatibility

The Nucleus® 8 Nexa™ Sound Processor is compatible with the new Nucleus Nexa Implants (CI1000 series).

Cochlear Nucleus Nexa Implant

Smart sound processing technology

The Nucleus 8 Nexa Sound Processor offers our most advanced sound processing technology – SmartSound iQ 2 with SCAN 2 automation. It accurately senses changes in your patient's listening environment and automatically adjusts their hearing settings to deliver clearer sound.[2-5] Additionally, you and your patients now have the option to choose how to better focus on the conversations in front of them with the option to automate ForwardFocus.[†]

SCAN 2 technology

SCAN 2 automatically and seamlessly applies pre-processing and microphone directionality changes for a given environment to deliver proven hearing performance.[3-5]

Sound processing and directionality technology

- **Dual microphones**: dual omni-directional microphones work together to filter out background noise.
  - **Zoom** (fixed directionality): Dual microphones work together to reduce sound from behind and to the sides to enhance speech recognition even in noisy environments.[6]
  - **Beam®** (adaptive directionality): Reduces competing noise from several different sources in the environment and follows the prominent noise source, helping to optimise hearing in background noise.[6]
- **SNR-NR** (speech in noise): Helps provide your patients with extra support in noisy listening environments and improve speech understanding and listening comfort in steady-state noise.[5]
- **ForwardFocus[†]**: A noise reduction algorithm that works on the dual microphone input. It's designed to more powerfully[>] reduce unwanted background noise and focus on speech in front compared to previous generation sound processors.[7] With the option to automate or manually control ForwardFocus, you and your patients can choose how best to reduce background noise to help them focus on face-to-face conversations.[7]

Sound class	SCAN 2	User-controlled ForwardFocus ForwardFocus +Beam, adaptive directionality.	Automated ForwardFocus ForwardFocus + Beam (adaptive directionality SCAN 2 FF)
Quiet, Speech, Music	 ✓ Standard	 ✓ Adaptive (Beam) maximum ForwardFocus noise reduction	 ✓ Standard + minimum ForwardFocus noise reduction
Noise	 ✓ Fixed (zoom)		 ✓ Fixed (zoom) + maximum ForwardFocus noise reduction
Speech in noise	 ✓ Adaptive (Beam)		 ✓ Adaptive (Beam) + maximum ForwardFocus noise reduction

In a clinical study, the improved FowardFocus technology with adaptive directionality provided an average 5dB SRT improvement in speech understanding in noise. [7,>,~]

Smart Sync

With the world's first and only smart implant with internal memory, the Nucleus Nexa Implant securely stores your patients' MAPs. You can get your patients back on air quickly with a new or replacement Nucleus Nexa sound processor which can be sent directly to them without a visit to the clinic. With Smart Sync, your patients' MAPs are copied directly from the smart implant to the replacement sound processor, so you can feel confident that your programming remains unchanged.

Programming Guidance

Note: For more information on Smart Nav and Custom Sound® Pro, please refer to Connected Care section.

How to replace the microphone cover:

1. Ensure Nexa Slimline coil is used with CP1110 (Nucleus 8) Sound Processor and connect to the programming pod being used.
2. Open the software and enter in the patient and implant information.

   Note: There is no need to enter an implant serial number for CI1000 cochlear implant series.
3. Create a new MAP.
4. Once you have created a comfortable MAP for the recipient, go to the Finalise screen.
5. In the Finalise screen, click on the program icon to open the '**Programs**' window and configure the SCAN settings. The default settings are: Program 1 SCAN 2 '**ON**' Program 2 SCAN 2 '**OFF**' (Figure 1).
6. For automated ForwardFocus, a separate SCAN 2 FF program can be created by selecting the '**SCAN 2 FF**' option.
7. User-controlled ForwardFocus is disabled in the Nucleus Smart App whenever the SCAN 2 FF program is in use. In Processor Settings (Figure 2), ensure '**Allow ForwardFocus**' is selected. This ensures ForwardFocus can be turned on or off within the Nucleus Smart App.
8. You can also perform any bimodal linking with a compatible hearing aid from this screen.
9. Configure any of the other processor settings as needed and click on '**Save**'.

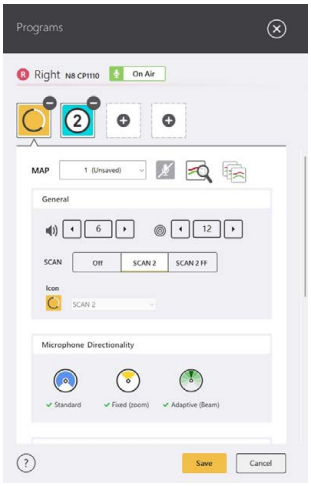


Figure 1: Nucleus 8 - Default Settings

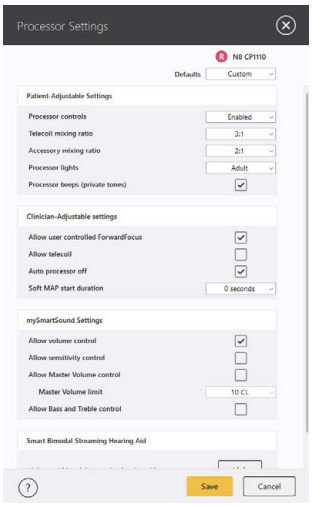


Figure 2: Nucleus 8 Processor Settings - Allow ForwardFocus

Batteries and charging

The Nucleus 8 Nexa Sound Processor offers a tamper-resistant battery lock and three different battery options.

The Nucleus 8 Nexa Sound Processor offers a typical battery life of 21 hours with the Power Extend Battery Module, 16 hours with the Power Compact Battery Module, 10 hours with the Compact Battery Module and 37 hours using zinc air disposable batteries.[#,‡]

Note: Battery life is dependent on variables such as MAP parameters, implant type, program usage, skin flap thickness, sound environment and time streaming. Results may vary and it is important to set realistic expectations up front based on these variables. Custom Sound Pro fitting software includes a battery estimation feature to indicate which battery types may be best suited for use.

Compact / Power Compact / Power Extended Battery

The Nucleus 8 Nexa Sound Processor has two battery charging options:

- **USB charger**: Designed for travel and a charge-on-the-go experience. It can be plugged into any standard USB 2.0 or higher power source such as a computer or car charger.
- **Y-charger**: Connects to the battery in the same way as the sound processor, making it easier for those with decreased dexterity. It can charge two rechargeable batteries simultaneously, whether from the wall or a USB port. Available in a new white colour to help differentiate it from previous generation chargers.

USB charger and Y-charger

Microphones and microphone cover

The Nucleus 8 Nexa microphone cover has been designed to protect the performance of the microphones. It is important to remind your patients to replace their microphone cover regularly to keep their sound processor working properly. We recommend replacing the microphone cover every three months, or sooner if your patients live in a high humidity environment, perspire frequently, if it looks visibly dirty or they notice loss in sound quality.

Nucleus 8 Nexa microphone cover

How to replace the microphone cover:

1. Hold the coil cable grip and firmly pull it straight out of the sound processor. Remember not to tug on the flexible part or twist the coil cable.
2. Lift the microphone cover from the bottom edge, then lift it up to remove.
3. Fit the replacement microphone cover onto the processor and press down firmly with a finger on each end and the middle of the cover until you feel a click.
4. Push the coil cable into the processor until it clicks, remembering not to twist it.

Connectivity

Smartphone compatibility

Prior to pairing, confirm that your patient's smartphone is compatible with the Nucleus 8 Nexa Sound Processor by visiting Cochlear's compatibility page at www.cochlear.com/compatibility. Before your patient can begin direct streaming and using the Nucleus Smart App¤ control features, they will need to pair their sound processor(s) with their compatible smartphone.^^

How to pair to a compatible Apple device:

1. On the compatible smartphone, ensure Bluetooth is turned on to enable pairing.
2. Open 'Settings', select 'Accessibility' and then select 'Hearing Devices'. Select the name of the sound processor(s) to be paired.
3. Turn the sound processor off by disconnecting the battery or pressing and holding the button for 5 seconds. Then turn the sound processor on by connecting the battery or short-press the button. If your patient has two devices, do the same for the second device.
4. Tap your name when it displays on the screen, then tap 'Pair'. If your patient has two processors, they will see the 'Pair' message twice.

Note: In order to benefit from bilateral streaming, both compatible processors need to be paired in the same pairing window.

How to pair to a compatible Android™ device:

1. On the compatible smartphone, ensure Bluetooth® is turned on to enable pairing.
2. Open the Nucleus Smart App and follow the prompts on the screen.

Note: To watch a video demonstration of the pairing process, please visit the device support page on www.cochlear.com. Further pairing information can be found within the Nucleus Smart App User Guide.

True Wireless™ Device compatibility***

The Nucleus 8 Nexa Sound Processor is compatible with True Wireless Devices. The TV streamer, Phone clip and Mini Microphone 2+ stream high quality audio directly to your patient's sound processor.***

True Wireless™ Devices

Similar to previous generation sound processors, the Nucleus 8 Nexa Sound Processor offers FM access through either the Cochlear Mini Microphone 2+ or a Phonak Roger 20 receiver. For use with a Mini Microphone 2+, a Europin DAI or FM receiver needs to be inserted into the FM connector of the Mini Microphone 2+.^^^

How to pair to a Nucleus 8 Nexa Sound Processor:

1. Turn on the True Wireless Device and place it in 'pairing mode' by gently using a pen to press the pairing button of the device. The pairing mode will be active for 20 seconds.

   Note: Pressing once will pair to the first accessory channel. Pairing to the second and third channels requires two and three presses of the pairing button, respectively.

2. While the True Wireless Device is in pairing mode, turn the sound processor on to allow the sound processor to be discoverable by the True Wireless Device.

3. The sound processor will flash blue for four seconds if it has been successfully paired to the True Wireless Device.

   For more information, see the User Guide of the True Wireless Device to be paired or visit the device support page on www.cochlear.com.

A more connected world

Leveraging previous generation sound processor technology, your patients can experience the proven benefits of streaming sound directly to their sound processor.[8-10] The Nucleus 8 Nexa Sound Processor continues to offer direct streaming to compatible Apple and Android devices - Made for iPhone (MFi) and Audio Streaming for Hearing Aids (ASHA).^^ This means the convenience of streaming phone calls, video, music, entertainment, online rehabilitation and educational apps directly to the sound processor without needing extra accessories and cables.

Building on our history of connectivity, the Nucleus 8 Nexa Sound Processor will be ready for next generation Bluetooth® LE Audio technology in the future, making it easier for your patients to bring sound closer in more places and from more devices than ever before.[11-13,¥] In the future, with Bluetooth Auracast™ broadcast audio your patients will be able to connect directly to what's being broadcast at public venues such as airports, conference centres and theatres.[¥] And Bluetooth LE Audio delivers better sound quality than previous generation[¥] Bluetooth Classic.[11-13]

Note: Once this technology is available, a firmware update to your patient's sound processor will allow them to connect to Bluetooth LE Audio compatible devices.[¥]

Cochlear Connected Care

Our Connected Care solutions are designed to help you optimise hearing outcomes and monitor patient performance either in the clinic or remotely.

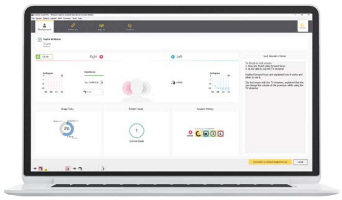
Surgical Care

Smart Nav: Wireless connectivity, digital implant registration and intuitive design deliver a seamless workflow in the operating room.[14] Data can then be directly imported into Custom Sound® Pro fitting software to support MAP creation.[15]

In-clinic Care

Custom Sound Pro fitting software: Programming a Nucleus 8 Nexa Sound Processor requires Custom Sound Pro 7.1 fitting software (or higher) with a Nucleus 7 Programming Cable and (wired) Programming Pod or the Nucleus 7 Wireless Programming Pod and a Nucleus 7 or Nucleus 8 Nexa rechargeable battery.

When you connect a Nucleus 8 Nexa Sound Processor, reset to CI000 firmware in CSPro.



Custom Sound Pro

Data logs provide greater insight into the environment experienced by your patients, enabling you to customise goals and help your patients achieve optimal hearing outcomes.[15]

Data logs are a valuable clinical asset for general troubleshooting, device fitting optimisation, and counselling of Cochlear implant users. They can provide insight into time on air, everyday listening environments, program usage and more. This information can be especially useful when counselling parents and carers on how to maximise their child's hearing performance.[16]

Nucleus Smart App

Self-managed Care

Empower your patients to self-manage their hearing settings in the **Nucleus® Smart App** so they can hear their best in everyday moments. With the app, patients can also keep an eye on the status of their battery and microphones, minimising time 'off air'. Your patients can use the app to set daily listening goals, adjust mySmartSound settings, and even find a misplaced sound processor.¤

- **mySmartSound** allows your patients to adjust their volume, sensitivity, or Master Volume, Bass, Treble (MVBT) to suit their listening environment.
- **Hearing Tracker** provides your patients with important information such as time when the coil is off, and the amount of time speech is detected.
- **Bimodal Control** allows patients to adjust the volume or change programs of their compatible ReSound hearing aid and Cochlear Sound Processor in the one app.¤
- **Find My Processor** indicates on a map where the sound processor and compatible smartphone were last paired together, to help find a misplaced sound processor.

Hearing Tracker screen

Remote Sound Processor Firmware Updates: Patients with a Nucleus 8 Nexa Sound Processor can receive Remote Firmware Updates via the Nucleus Smart App.[¤] Timely firmware updates can help your patients keep their sound processor running smoothly.

For optimal app performance, we recommend patients enable automatic app updates on their compatible smartphone[**] to ensure they receive Nucleus Smart App updates. An internet connection is required to perform firmware updates.

The Nucleus Smart App can be downloaded by visiting the Google Play or Apple App store. For Nucleus 8 Nexa Sound Processors, version 7.0 or later of the Nucleus Smart App is required.

Remote Care[^,<]

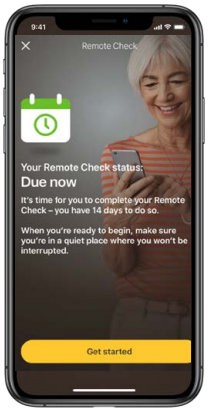
With Cochlear Remote Care, you can offer your patients the convenience of quality hearing care without the need to visit the clinic.[17]

Cochlear Remote Check is a virtual assessment tool available through the Nucleus Smart App which helps you to monitor patient progress remotely.

Cochlear Remote Assist enables a video call appointment with a patient through the Custom Sound Pro fitting software and the Nucleus Smart App. You can assess how your patient is progressing, discuss any issues they are experiencing and make minor MAP or sound processor adjustments.

To offer Remote Care solutions, you will need access to myCochlear Professional, our online patient and data management portal.

For more information, please refer to the Remote Care Professional Getting Started Guide.



Cochlear Remote Check

Retention and water-safe accessories

The Nucleus 8 Nexa Sound Processor is splash-proof, dust-proof and has the highest available water-resistance rating in a sound processor (IP68).[18,##] If your patients are seeking extra reassurance, they can choose from a range of optional wearing accessories.

Behind-the-ear retention

For retention, the Cochlear Snugfit and Cochlear HugFit™ offer stability for the processor, with a range of sizes for larger and smaller ears. Soft, flexible earhooks and a tamper-resistant earhook option suitable for paediatric patients are also available.

Alternative wearing styles

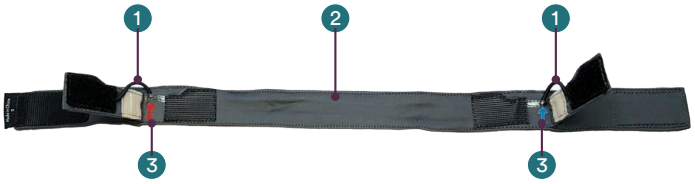
The Koala clip designed for the Nucleus 8 Nexa Sound Processor offers your patients the option to clip their sound processor to their clothing until they are able to wear it on their ear. With this wearing option, a coil with a longer cable will be needed.

Alternatively, the headband is designed for extra retention. It features quick-dry material, a slim design, a silicon strip for a firm hold and is available in various sizes and colour options.

Headband components

Size	Head circumference
XS	40–48 cm
S	45–53 cm

1. Elastic loop
2. Anti-slip section
3. Arrow



Water-resistant accessories

For the beach, pool or prolonged water-based activities, Cochlear recommends use of Aqua+ for the Nucleus 8 Nexa Sound Processor.[##]

- Aqua+ can be used in fresh, salt or chlorinated water.
- Designed for use with a rechargeable battery only. Due to it being air-tight, zinc air batteries will not function.
- Tested for use at depths of up to 3 metres for up to 2 hours and being used up to 50 times.[##]
- Aqua+ and the Nucleus 8 Nexa Sound Processor are not designed to float. Cochlear recommends use of the Nucleus Safety Line when using the Aqua+ with the Nucleus 8 Nexa Sound Processor.

Aqua+ for the Nucleus 8 Nexa Sound Processor

Hear now. And always

Cochlear is dedicated to helping people with moderate to profound hearing loss experience a world full of hearing. As the global leader in implantable hearing solutions, we have provided more than 750,000 devices and helped people of all ages to hear and connect with life's opportunities.

We aim to give people the best lifelong hearing experience and access to next generation technologies. We collaborate with leading clinical, research and support networks to advance hearing science and improve care.

That's why more people choose Cochlear than any other hearing implant company.

* The first and only cochlear implant having internal memory with upgradeable firmware.
# The described feature and benefit are available for recipients with a Nucleus Nexa Implant only. Battery life varies for every user, according to the age of the battery, the programs used each day, your implant type, the thickness of skin covering your implant, and the size and type of battery used. Streaming from compatible devices, True Wireless devices or FM may decrease sound processor battery life depending on how often and for how long streaming is engaged. For Nucleus 8 Nexa sound processors, a full day of battery life is defined as 16 hours.
+ The Nucleus Kanso 3 Nexa Sound Processor is the world's smallest and lightest rechargeable offthe-ear sound processor.
^Remote Care is not available in all countries. For information regarding the devices that are compatible with Cochlear's Remote Care services, visit www.cochlear.com/compatibility
¥ As Bluetooth LE Audio compatible devices become available, a firmware update will be required for your patients to use certain features. Auracast™ broadcast audio capability is subject to third party adoption of the Auracast protocol.
† ForwardFocus and Scan 2 FF are clinician-enabled within the Custom Sound Pro fitting software and can be user controlled with the Nucleus Smart App or as an or automated program.
> Compared to Nucleus 7 Sound Processor with ForwardFocus on.
~ Speech perception testing in noise S0NCI with Nucleus 8 with ForwardFocus ON compared to Nucleus 7 with ForwardFocus ON.
^^ The Cochlear Nucleus 8 Nexa Sound Processor is compatible with Apple and Android devices. For compatibility information www.cochlear.com/compatibility
^^^ Europin FM receiver required for FM use.
*** For information regarding the compatibility of Cochlear's sound processors with True Wireless devices, visit www.cochlear.com/compatibility
‡ Typical expected battery life is calculated using default map settings used with a CI600 Series or CI500 Series implant.
< For information regarding the sound processors, implants, operating systems and devices that are compatible with Cochlear's Remote Care services, visit www.cochlear.com/compatibility
¤ Cochlear's range of Smart Apps and support apps are available on App Store and/or Google Play. For information regarding the sound processors, operating systems and devices that are compatible with the Smart Apps and support apps, visit www.cochlear.com/compatibility
The Nucleus 8 Nexa Sound Processor is dust and water resistant to level of IP68 of the International Standard IEC60529. The Nucleus 8 Nexa Sound Processor with Aqua+ can be continuously submerged under water to a depth of up to 3 metres for up to 2 hours.

References

1. Cochlear Limited D1190805, Processor Size Comparison.
2. Cochlear Limited D1864200 SCAN 2 Design Description.
3. Mauger SJ, Warren C, Knight M, Goorevich M, Nel E. Clinical evaluation of the Nucleus 6 cochlear implant system: performance improvements with SmartSound iQ. International Journey Of Audiology. 2014, Aug; 53(8): 564-576. [Sponsored by Cochlear]
4. Mauger S, Jones M, Nel E, Del Dot J. Clinical outcomes with the Kanso™ off- the-ear cochlear implant sound processor. International Journal Of Audiology. 2017, Jan 9; 1-10. [Sponsored by Cochlear]
5. Wolfe J, Neumann S, Marsh M, Schafer E, Lianos L, Gilden J, O'Neill L, Arkis P, Menapace C, Nel E, Jones M. Benefits of Adaptive Signal Processing in a Commercially Available Cochlear Implant Sound Processor. Otol Neurotol. 2015 Aug;36(7):1181-90. [Sponsored by Cochlear]
6. Sivonen V et al. The efficacy of microphone directionality in improving speech recognition in noise for three commercial cochlear-implant systems, Cochlear Implants International, 2020; 21:3, 153-159.
7. Cochlear Limited D1964109 CLTD5804 Clinical Investigation Report – Feb 2022.
8. Warren C, Nel E, Boyd P. Controlled comparative clinical trial of hearing benefit outcomes for users of the Cochlear™ Nucleus 7 Sound Processor with mobile connectivity. Cochlear Implants Int. 2019 May; 20(3):116–126.
9. Wolfe J, et al. Evaluation of a wireless audio streaming accessory to improve mobile telephone performance of cochlear implant users. International Journal of Audiology. 2016;55(2):75-82.
10. Wolfe J, et al. Improving hearing performance for cochlear implant recipients with use of a digital, wireless, remote-microphone, audio-streaming accessory. J Am Acad Audiol. 2015 Jun;26(6):532-9.
11. Introducing Bluetooth® LE Audio, Nick Hunn. January 2022 https://www.bluetooth.com/learn-about-bluetooth/recent-enhancements/le-audio/
12. Cochlear Limited. D1631375 Nucleus 8 Sound Processor Product Definition.
13. https://www.bluetooth.com/blog/a-technical-overview-of-lc3/ Accessed 28 February 2022.
14. Cochlear Limited. D1946550 Cochlear Nucleus® SmartNav App user guide.
15. Cochlear Limited. D1840640 Custom Sound Pro User guide.
16. Cristofari E, et al. A Multicenter Clinical Evaluation of Data Logging in Cochlear Implant Recipients Using Automated Scene Classification Technologies. Audiol Neurootol. 2017;22(4-5):226-235. doi: 10.1159/000484078. Epub 2017 Dec 13.
17. Cullington H, Kitterick P, Weal M, et al. 2018. Feasibility of personalised remote long-term follow-up of people with cochlear implants: a randomised controlled trial. BMJ Open, 8(4): e019640; DOI: 10.1136/bmjopen-2017-019640.
18. Cochlear Limited. D1980144 CP1110 IEC60529 IP68 Certificate & Test Report.

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