

Kanso[®] 2 Sound Processor

User Guide



CP1150

Hear now. And always





About

Your Cochlear™ Kanso® 2 Sound Processor (model number: CP1150) works with your Cochlear implant to transfer sound to your ear.

You can control your processor by:

- using the Nucleus® Smart App
- tapping on the front – see page 6
- using a Cochlear CR310 Remote Control (optional).

Information on using the app or remote is available in their user guides.



Kanso® 2 Sound Processor

Front



- 1 Microphone ports
- 2 Indicator light
- 3 Cochlear logo
- 4 Cover

Back



- 1 Magnet
- 2 Socket cover

Charge your processor

To recharge your processor you can:

- place it in the **Home Charger** for charging overnight or
- attach it to the **Portable Charger** (optional accessory) for charging while you're on the go.

More information and warnings are available in the *Chargers User Guide*.



Tapping

CONTROL	NUMBER OF TAPS
Turn ON	Double-tap – 2 taps
Turn OFF	Triple-tap – 3 taps
Change program or audio source	Double-tap – 2 taps

- Tap on the **Cochlear logo**.
- Use **quick, firm taps** – don't press.



TIP You can tap your processor while it is on or off your implant.





Turn on and off

On: Double-tap (2 taps).

Light **flashes green** as the processor turns on.

Off: Triple-tap (3 taps).

Light changes to **steady orange** as the processor turns off.



NOTE

Sound processor automatically turns on when placed on your implant and turns off when removed from your implant for two minutes (if enabled by clinician).





Change program

Double-tap (2 taps) to change program.

Light **flashes green** as the program changes.

Number of **green** flashes or beeps indicates the selected program.



NOTE

If double-tap to control audio sources is enabled you will be unable to double-tap to change program. The Nucleus Smart App User Guide has information on where to change this setting.



Stream audio

Double-tap (2 taps) to switch between audio sources.

Light **flashes blue** as the audio source changes.

Number of **blue** flashes or beeps indicates the selected program.



NOTE

If double-tap to control programs is enabled you will be unable to double-tap to change audio source. The Nucleus Smart App User Guide has information on where to change this setting.

Each time you double-tap the processor, available audio sources are presented in order.

DOUBLE-TAP	AUDIO SOURCE
1st	Processor microphone audio
2nd	Wireless accessory 1
3rd	Wireless accessory 2
4th...	Processor microphone audio...



Attach your processor

Place the processor on your implant with the:

- Cochlear logo, light and microphone ports facing up
- straight edge facing down.



CAUTIONS

- Make sure you position your processor correctly to get the best performance, and so it does not fall off the implant.
- If you have two implants, you must use the correct sound processor for each implant.



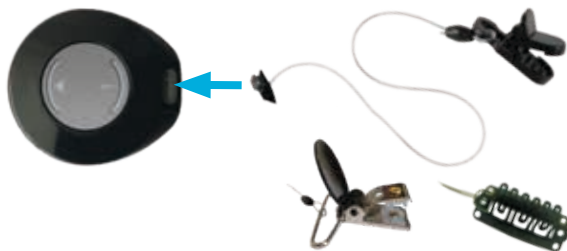
Attach a SoftWear pad

If you experience discomfort, attach an adhesive Cochlear SoftWear™ pad to back of processor.



Secure your processor

You can attach a Kanso 2 Safety Line to reduce the risk of losing your processor.



Press the safety line connector into the processor socket.
Attach the clip to your clothing (or hairclip to your hair).

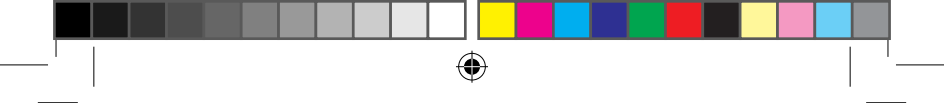
Lights

Everyday use

LIGHT	WHAT IT MEANS
	Processor flashes while receiving sound from microphones (Child mode only).
	Turning on and changing programs. Number of flashes indicates the number of the current program.
	Processor flashes while receiving sound from audio source (Child mode only).
	Turning off processor.

Alerts

LIGHT	WHAT IT MEANS
	Processor is off your head (or connected to the wrong implant).
	Processor battery is low. Recharge processor.
	Fault. Contact your clinician. Stays on until the issue is resolved.



Specifications

The KANSO 2 sound processor 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.
- Tri-colour visual indication of processor function or problem.
- Tap interface allowing user control of key features.

The internal battery provides power to the processor, which transfers energy and data to the implant.

MATERIALS			
Processing unit	Polyamide		
Magnet casing	Acrylonitrile butadiene styrene (ABS)		
DIMENSIONS	LENGTH	WIDTH	DEPTH
Processing unit (typical values)	38 mm	34 mm	11.6 mm
WEIGHT		WEIGHT	
Processing unit and magnet		13.9 g	

COIL CHARACTERISTICS		VALUE
Operating voltage		2.33 V
Operating frequency		5 MHz
OPERATING CHARACTERISTICS		VALUE/RANGE
Sound input frequency range		100 Hz to 8 kHz
Wireless technology		Proprietary low power bi-directional wireless link Published commercial wireless protocol (Bluetooth Low Energy)
RF frequency		2.4 GHz
Input operating voltage		4.75 V to 5.35 V
Power consumption		20 mW to 100 mW
Charge cycles		≥ 80% capacity after 2000 charge/discharge cycles at room temperature
Battery type		Lithium ion
Battery capacity		650 mWh
Tap functions		Turn processor on and off, turn audio sources on and off, change program
Remote communication range		• At least 2 m (remote control) • At least 3 m (Phone Clip) • At least 7 m (Mini Microphone, TV Streamer) • At least 2 m (Made for iPhone control) • At least 7 m (Made for iPhone streaming) • At least 7 m (Android streaming*) * available only on compatible Android devices

Wireless communication link

The wireless communication link operates in the 2.4 GHz ISM band using GFSK (Gaussian frequency-shift keying), and a proprietary bidirectional communication protocol. It continuously switches between channels to avoid interference on any specific channel.

- The remote control operates over 4 channels, over a distance of at least 2 metres from the processor. It indicates via its display when the processor is out of operating distance (or switched off) or when the link is interrupted due to broad spectrum interference (see remote's user guide for more information).
- The True Wireless accessories operate over 16 channels, over a distance of at least 3 metres for the Phone Clip, and 7 metres for the Mini Microphone and TV Streamer.

Bluetooth® Smart also operates in the 2.4 GHz ISM band, using frequency hopping over 37 channels to combat interference. Operating range is at least 7 metres, and the app indicates when the processor is out of operating distance (or switched off) or when the link is interrupted due to broad spectrum interference.

ENVIRONMENTAL CONDITIONS	MINIMUM	MAXIMUM
Storage and transport temperature	-10° C (14° F)	+55° C (131° F)
Storage and 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



Headband specifications

HEADBAND MATERIALS

Fabric	83% polyester, 17% elastane
Thread	100% polyester
Silicone strip, non-slip	Silicone rubber
Silicone strip backing tape	90% polyester, 10% spandex
Hook and loop fastener	40% nylon, 60% polyester





Other information

Electromagnetic compatibility (EMC)

WARNING

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 in.) to any part of your Kanso 2 Sound Processor, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Interference may occur in the vicinity of equipment marked with this symbol:



Environmental protection

Your sound processor contains electronic components subject to the Directive 2002/96/EC on waste electrical and electronic equipment.

Help protect the environment by not disposing of your sound processor or batteries with your unsorted household waste. Please recycle your sound processor according to your local regulations.

Equipment classification

Your sound processor is internally powered equipment Type B applied part as described in the international standard IEC 60601-1:2005/A1:2012, Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance.

Certification and applied standards

The Kanso 2 Sound Processor fulfils the essential requirements listed in Annex 1 of the EC directive 90/385/EEC on Active Implantable Medical Devices as per the conformity assessment procedure in Annex 2.



The year in which authorisation to affix the CE mark was granted was 2020.

It also fulfils the essential requirements of Directive 2014/53/EU on Radio Equipment as per the conformity assessment procedure in Annex II. The declaration of conformity may be consulted at www.cochlear.com/wps/wcm/connect/intl/about/company-information/declaration-of-conformity



FCC (Federal Communications Commission) compliance

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

RF exposure safety

This device complies with the FCC RF exposure limits and has been evaluated in compliance with portable exposure condition.

There is no limitation as to which distance can be used from the human body.



Class B device notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: WTO-CP1150

OTHER INFORMATION



ISED compliance

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with ISED license-exempt RSS(s).

Operation is subject to the following two conditions:

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

RF exposure safety

This device complies with the ISED RF exposure limits and has been evaluated in compliance with **portable** exposure condition.

There is no limitation as to which distance can be used from the human body.

CAN ICES-003 (B)

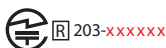
This Class B digital apparatus complies with Canadian ICES-003.

IC: 8039A-CP1150

Radio compliance for Japan

This device is granted pursuant to the Japanese Radio Law (電波法) and its relevant law.

This device should not be modified (otherwise the granted designation number will become invalid).



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

M/N

Model number



Authorised representative in the European Community



Catalogue number



Serial number



Batch code



Date of manufacture



Use by date



Temperature limits



CE registration mark with notified body number



Radio compliance certification for Australia and New Zealand



203-xxxxxx Radio compliance certification for Japan



Radio compliance certification for Korea

Rx Only

By prescription



Recyclable material



Dispose of electrical components in accordance with your local regulations



Type B applied part

IP68

Ingress Protection Rating

- Protected against dust penetration
- Protected against failure from immersion in water



Medical device

Privacy and the collection of personal information

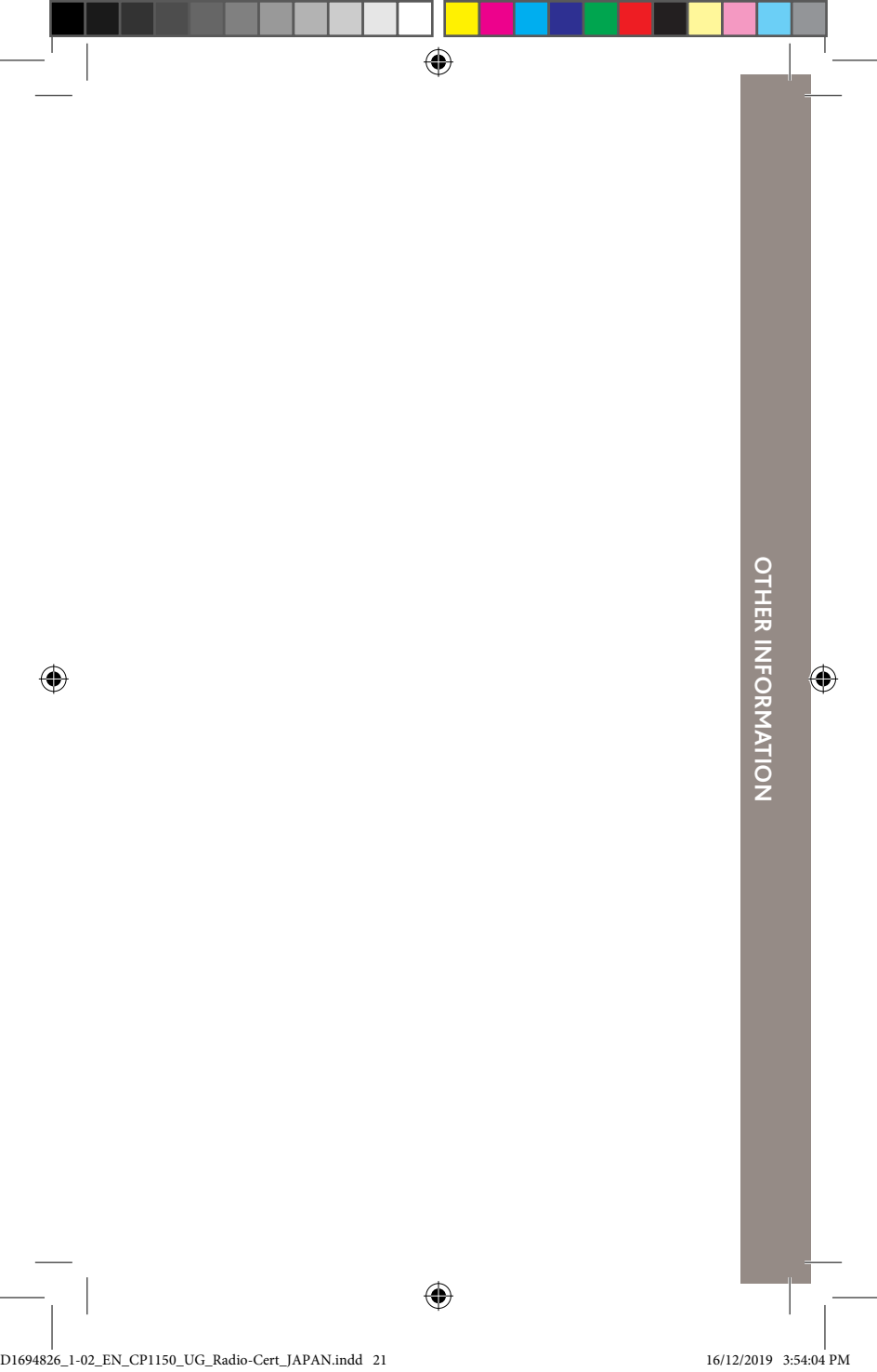
During the process of receiving a Cochlear device, personal information about the user/recipient or their parent, guardian, carer and hearing health professional will be collected for use by Cochlear and others involved in care with regard to the device.

For more information please read Cochlear's Privacy Policy on www.cochlear.com or request a copy from Cochlear at the address nearest you.

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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OTHER INFORMATION

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