Kanso® 2 Sound Processor

User Guide

CP1150

Hear now. And always

Cochlear®

About this guide

This guide is intended for cochlear implant recipients and their carers who use the Kanso® 2 Sound Processor (model number: CP1150).

The sound processor works with your implant to transfer sound to your ear. The Kanso 2 contains a processing unit, microphones, coil, magnet and internal battery.

You can control your sound processor by using the Nucleus® Smart App or a Cochlear™ Remote Control (Model: CR310). For more information on using the Nucleus Smart App or Remote Control please refer to their user guides.

Note

- Refer to the Cautions and Warnings sections for safety advice relating to the use of the Kanso 2 Sound Processor, accessories and components.
- Refer to your *Important Information* document for essential advice that applies to Cochlear implant systems.

Symbols used in this guide

Note
Important information or advice.

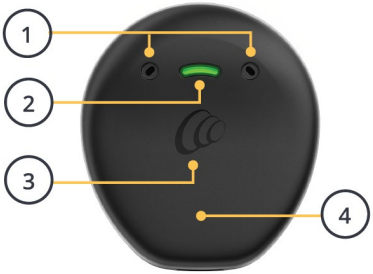
Tip
Time-saving hint.

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.

Kanso 2 Sound Processor

Front



1 Microphone ports
2 Indicator light
3 Tap interface with Cochlear logo
4 Cover

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1 Magnet
2 Socket cover

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Charge your sound processor

Your sound processor has an internal battery that needs regular charging.

Please charge your sound processor as soon as you receive it.

To recharge your sound processor's internal battery you can:

- place it in the **Cochlear™ Home Charger** or
- attach it to the **Cochlear™ Portable Charger**.

Refer to the *Cochlear Chargers User Guide* for details.

Warning

To charge your sound processor:

- Use Cochlear equipment only.
- Do not use non-Cochlear equipment.

Cochlear™ Home Charger

Cochlear™ Portable Charger

Pair with remote devices

Before using your sound processor with a compatible Apple® or Android™ device, or the Cochlear Remote Control, you need to pair your sound processor with the remote device.

Please refer to the Nucleus Smart App or Remote Control user guides for details.

Warning

Consider security when connecting your sound processor to devices such as smartphones or tablets. Only connect to devices that are protected, for example, password or PIN access control. Do not connect to devices that have had their operating system altered.

Made for iPhone

Your Kanso 2 Sound Processor is a Made for iPhone® / iPod® / iPad® hearing device. This allows you to use the control and audio streaming functions of compatible Apple devices.

Note

If you wear a sound processor on both ears, to reliably control your sound processors, use the Nucleus Smart App instead of the Made for iPhone Accessibility Shortcut menu on your compatible Apple device.

If you wear a sound processor on one ear and a compatible hearing aid on the other, you can control them both and stream audio to both using a compatible Apple device. Your clinician can check compatibility and set this up for you.

Android

Your Kanso 2 Sound Processor is compatible with the ASHA (Audio Streaming for Hearing Aid) protocol. This allows you to use the audio streaming functions of compatible Android devices.

Nucleus Smart App

With a compatible Apple or Android device, you can use the Nucleus Smart App to control and monitor your sound processor. Please refer to your Nucleus Smart App user guide for details.

Note

Pairing your sound processor with your device does not enable the functionality of the Nucleus Smart App. If you want to use the Nucleus Smart App, you need to download it from Google Play® or the App Store®.

Control options

The table below compares the three ways you can control your sound processor.

Note
Some functions are only available if enabled by your clinician.

FUNCTION	TAP SOUND PROCESSOR	REMOTE CONTROL	NUCLEUS SMART APP
Turn ON/OFF	X		
Program		X	X
Volume		X	X
Sensitivity		X	X
Audio Source		X	X
Master Volume Limit			X
Bass / Treble			X
ForwardFocus			X

Note
Volume and Sensitivity can only be changed using the Remote Control or Nucleus Smart App.

Tapping

You can tap on your sound processor to turn the sound processor **on** and **off**.

How to tap

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

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

CONTROL	NUMBER OF TAPS
Turn ON	Double-tap – 2 taps
Turn OFF	Triple-tap – 3 taps
Flight mode	Refer to *Use flight mode* on page 48

Turn on and off

Turn on

To turn your sound processor **on**:

- **Auto-on** – place sound processor on your head

  or

- **Double-tap** (2 taps – quick and firm).

As the sound processor turns on, the light flashes green.

Turn off

To turn your sound processor **off**:

- **Auto-off** – remove it from your head and wait two minutes (if enabled by your clinician)

  or

- **Triple-tap** (3 taps – quick and firm).

As the sound processor turns off, the light changes to steady orange.

INDICATOR LIGHTS	WHAT IT MEANS
 Green flashes	Turning on sound processor. The number of flashes indicates the number of the current program.
 Quick green flashes	Sound processor flashes while receiving sound from microphones (Child mode only).
 Orange flashes	Sound processor is off the implant.
 Long flash of orange	Sound processor is turning off.

Change program

You can select different programs to change how your sound processor deals with sound, for example in noisy or quiet places.

To switch between **programs**, use your Nucleus Smart App or Remote Control.

Please refer to your Nucleus Smart App or Remote Control user guide for details.

Note
You need to pair your sound processor with your Nucleus Smart App or Remote Control first. Refer to their user guides for details.

As the program changes, the light flashes green.

INDICATOR LIGHT	WHAT IT MEANS
 Green flashes	Changing the program. The number of flashes indicates the number of the selected program.

Note
- Your clinician will set up 1, 2, 3 or 4 programs.
- If your clinician has enabled SCAN, your sound processor can automatically respond to the sound environment without you needing to change program.

Change volume and sensitivity

If set up by your clinician, you can control volume or sensitivity levels (if available) using your Nucleus Smart App or Remote Control.

Please refer to your Nucleus Smart App or Remote Control user guide for details.

Note
You need to pair your sound processor with your Nucleus Smart App or Remote Control first. Refer to their user guides for details.

Stream audio

Your sound processor can stream sound from external audio sources.

Wireless devices

Cochlear True Wireless™ Devices can wirelessly stream sound to your sound processor:

- The **Mini Microphone** or **TV Streamer** are controlled from your Nucleus Smart App.
- You use the **Phone Clip** controls for phone calls.

The **Mini Microphone 2+** has extra connectivity options including a built-in **Telecoil** to provide audio from an induction loop system.

Note

- You first need to pair your wireless devices with your sound processor. Please refer to devices' user guides for details.
- Use your Nucleus Smart App or Remote Control to select the Mini Microphone and TV Streamer. Please refer to the Nucleus Smart App and Remote Control user guides for details.

To switch between audio sources, use your Nucleus Smart App or Remote Control.

Please refer to your Nucleus Smart App or Remote Control user guide for details:

Note

You need to pair your sound processor with your Nucleus Smart App or Remote Control first. Refer to their user guides for details.

As the audio source changes, the light **flashes blue**.

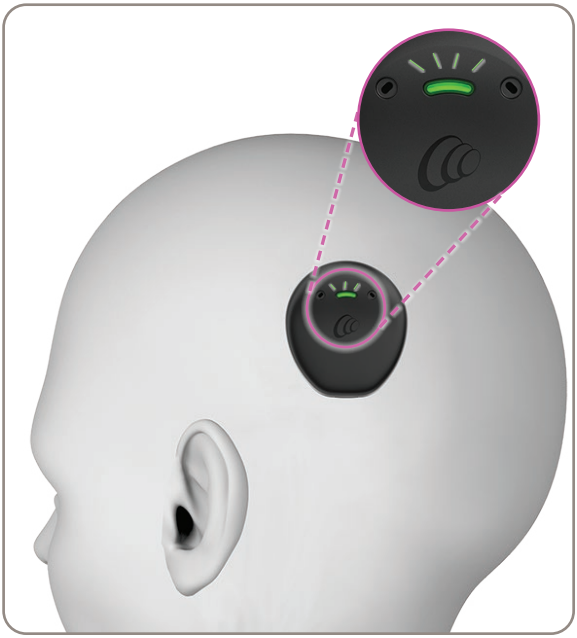
Wear your sound processor

Place the sound processor on your implant with the:

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

Caution

Make sure you position your sound processor correctly to obtain the best performance, and so it does not fall off the implant.



INDICATOR LIGHTS	WHAT IT MEANS
 Flash of orange every second	Sound processor is off your head (or connected to the wrong implant).

People with two implants

Ask your clinician to give you coloured stickers (red for right, blue for left) to make identifying left and right sound processors easier.

Caution

If you have two implants, you must use the correct sound processor for each implant.

People with CI600 Series implants

If you have a CI600 Series implant, avoid sliding your sound processor sideways onto your implant. This could cause the sound processor magnet to misalign with your implant. Always place the sound processor down onto your implant.

To place the sound processor on your head:

1. Hold the sound processor slightly above the implant location on your head.
2. Rotate the sound processor slightly in both directions (clockwise and anti-clockwise).

3. When you feel a strong pull, place the sound processor on the implant.
4. Rotate the sound processor so that the microphones are facing up.

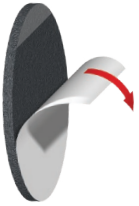
Attach a SoftWear pad

The Cochlear SoftWear™ pad is an optional foam soft-pad accessory to provide a cushioned surface to the sound processor.

If you experience discomfort when wearing your sound processor, you can attach this adhesive pad to the back.

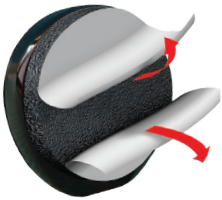
Note
You may need to use a stronger magnet after attaching a SoftWear pad.

1. **Peel off** the single backing strip on the adhesive side of the pad.



2. **Attach** the pad to the back of the sound processor – **press down** firmly.

3. **Peel off** the two semicircle backing covers on the cushion side of the pad.



4. **Place** your sound processor on your implant as usual.

Note
If you notice any change in your sound processor's performance after attaching a SoftWear pad, contact your clinician.

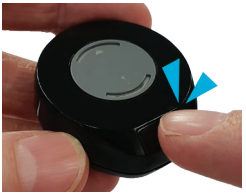
Use the Socket Cover

The Cochlear™ Nucleus® Kanso® Socket Cover is an optional accessory that can prevent dust and other material from entering the sound processor socket.

Insert the Socket Cover

1. **Place** the Socket Cover in the sound processor socket.

2. **Press** until it clicks into place.



Remove the Socket Cover

Place your thumbnail in the slot at the base and **lift**.

Warning

Socket covers can be lost or may be a choking hazard. Keep out of reach of children.

Attach a Safety Line

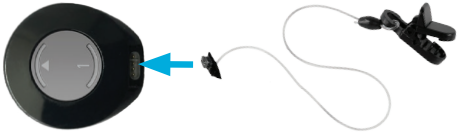
To reduce the risk of losing your sound processor, you can attach a Cochlear™ Safety Line and clip it onto your clothing.

There are five Safety Lines for use with Kanso 2:

- Cochlear Safety Line (Short) – for children
- Cochlear Safety LIne (Long) – for adults
- Cochlear Safety Line (Short Loop) – for use with a hair clip
- Cochlear Safety Line (Short Double Loop) – for use with a hair clip and Kanso® Halo Accessory
- Nucleus Safety Line – for use with the Kanso Halo Accessory or Kanso Aqua+.

Warning

Parents and carers are advised that unsupervised use of long cables (for example, safety lines) may present a risk of strangulation.



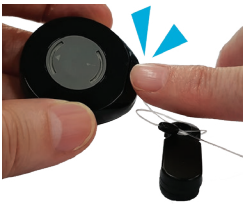
When using the **Cochlear™ Nucleus® Kanso® Aqua+** you need a Nucleus Safety Line, which has a loop to connect to Aqua+.

For details on how to use a Safety Line with your Aqua+ refer to the *Cochlear Nucleus Kanso Aqua+ User Guide*.

To attach a long or short safety line to the sound processor:

1. If the socket cover is in place on the back of the sound processor, **remove** the socket cover.

2. Put the safety line connector in the socket and **press** until it clicks into place.



3. **Attach** the clip to clothing:

Long safety line (adults)

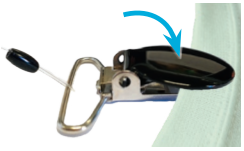
a. **Lift** the lever to **open** the clip.

b. Place the clip on clothing and press **down** on the lever to **close**.

Short safety line (children)

c. **Lift** the round cover to **open** the clip.

d. Place the clip on clothing and press **down** on the round cover to **close**.



4. **Place** the sound processor on the implant.

Safety Line – short loop or short double loop

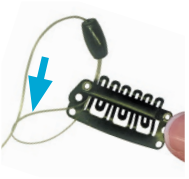
To reduce the risk of losing your sound processor, you can attach a Safety Line that clips into your hair:

1. **Pinch** the loop end of the line between your finger and thumb.

2. **Pass** the loop through the attachment hole in the hair clip.

Tip
Use the left hole for a left side sound processor and the right hole for a right side sound processor.

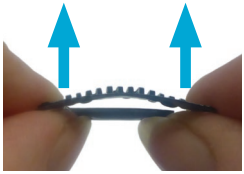
3. **Pass** the other end of the line through the loop and **pull** the line tight.
4. Connect the other end of the Safety Line:
   - attach the short loop directly to the sound processor
   - attach the short double loop through the rings of the Kanso Halo Accessory which is attached to the Sound Processor. For more information, refer to *Wear the Halo Accessory* on the page 37.



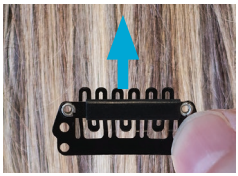
5. If the socket cover is in place on the back of your sound processor, **remove** the socket cover.

6. Put the safety line connector in the socket and **press** until it clicks into place.

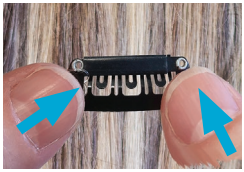
7. **Press up** on the ends to open the clip.



8. With the teeth facing up and against your hair, **push** the clip up into your hair.



9. **Press down** on the ends to close the clip.



10. **Place** your sound processor on your implant.

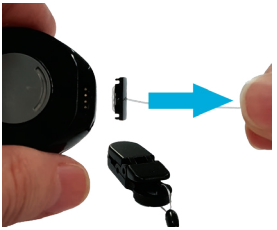
Remove a Safety Line

To remove a safety line from your sound processor:

place your thumbnail in the slot at the base and **lift**

or

hold the line close to the socket and **pull**.



Wear the Headband

The Cochlear™ Headband is an optional accessory that holds the sound processor in place during physical activities.

Warning

The Headband should be used by recipients who can either remove the sound processor themselves if it is causing discomfort or who can indicate any discomfort to their parent or caregiver.

Headband sizing

To choose a Headband, measure your head circumference:

SIZE	CIRCUMFERENCE	SIZE	CIRCUMFERENCE
XS	40–48 cm	M	48–58 cm
S	45–53 cm	L	53–63 cm

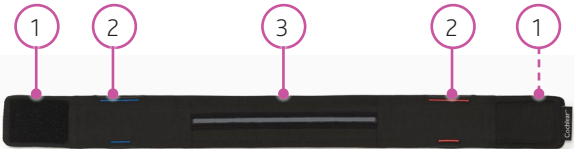
Note

- The Headband may affect your sound processor's performance. If you notice any change, contact your clinician.
- It is recommended to remove the Headband at least once daily while sleeping. If worn continuously, the Headband should not be worn without removal for more than 30 days.

Fitting the Headband

To fit the Headband, follow these steps.

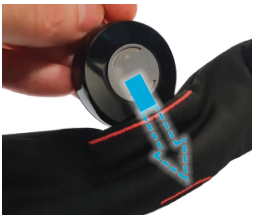
1. **Open** the Headband and lay it flat, with the anti-slip section facing you and the longer pocket lines at the top.



1 Hook and loop fastener
2 Pocket for sound processor
3 Anti-slip section for forehead

2. **Open** the correct **pocket** for your sound processor.
   - left-side pocket (blue) for left sound processor
   - right-side pocket (red) for right sound processor.

3. **Insert** your sound processor into the pocket, making sure that:
    - the back of the sound processor (with magnet) is facing towards you
    - the bottom of the sound processor (straight edge) goes in first.



4. If you have **two** sound processors, place your second sound processor in the other pocket.

5. **Place** the Headband on your head, making sure that:
    - the anti-slip section is against your forehead
    - your sound processor is over your implant
    - the Headband fits firmly
    - the hook and loop fastener join is secure (press firmly).

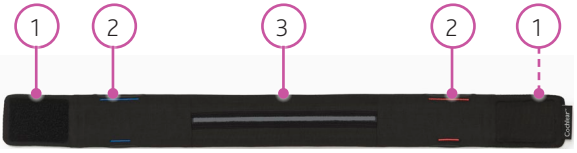
Fitting the Headband with Portable Charger

You can charge your sound processor while it's in the Headband using the Cochlear Portable Charger. At the base of each Headband pocket there is an opening for the charger cable.

For more information on the charger, refer to the *Cochlear Chargers User Guide*.

To fit the Headband with charger, follow these steps.

1. Open the Headband and lay it flat, with the anti-slip section facing you and the longer pocket lines at the top.



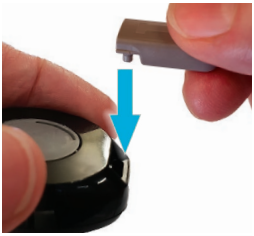
1 Hook and loop fastener
2 Pocket for sound processor
3 Anti-slip section for forehead

2. **Open** the **base** of the correct **pocket** for your sound processor:
   - left-side pocket (blue) for left sound processor
   - right-side pocket (red) for right sound processor.

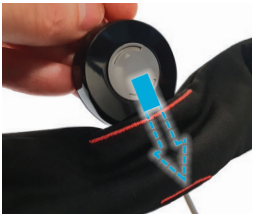
3. **Feed** the Portable Charger connector and cable through the pocket's bottom opening and out through the top opening.

4. If the socket cover is in place on the back of your sound processor, **remove** the socket cover.

5. **Attach** your Portable Charger connector to the sound processor.



6. **Insert** your sound processor into the pocket, making sure that the back of the sound processor (with magnet) is facing towards you.



7. **Attach** the Portable Charger to your clothing.

   For more information on the Portable Charger, refer to the *Cochlear Chargers User Guide*.

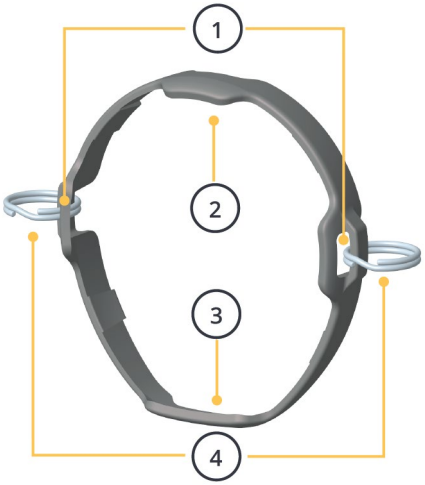
8. **Place** the Headband on your head, making sure that:
   - the anti-slip section is against your forehead
   - your sound processor is over your implant
   - the Headband fits firmly
   - the hook and loop fastener join is secure (press firmly).

Wear the Halo Accessory

The Kanso Halo Accessory is a loss prevention device for your sound processor. This device provides increased security against dropping the sound processor.

Warning

The Halo Accessory should be used by recipients who can either remove the sound processor themselves if it is causing discomfort or who can indicate any discomfort to their parent or caregiver.



1 Eyelets
2 Short notch
3 Long notch
4 Option showing rings attached to the eyelets

Two options to wear the Halo Accessory

1. Use **rings** as anchor points to attach to the eyelets.

   or

2. Use **Cochlear Safety Lines (short double loop)** as anchor points to attach to the eyelets.

   Remove any rings on the Halo Accessory first.
   a. Thread one end of the Safety Line through the eyelet.
   b. Thread the other end through the hole in the hairclip and loop.
   c. Repeat for the second Safety Line.

Note
Using Safety Lines may assist with hairclip orientation if difficulty with using rings. The Safety Line allows rotation adjustment of the hairclip without affecting its connection.

Hairclips will be required to attach to the rings or Safety Lines.

Use the Halo Accessory

1. **Align** the eyelets and notches of the Halo Accessory with the sound processor:
   - shorter notch aligns with the top
   - longer notch aligns with the base of the sound processor.

2. **Ensure** that the Halo Accessory is aligned parallel to the sound processor.

3. **Gently push** the Halo Accessory until it slides into place on the sound processor. Ensure the sound processor is securely attached.

Note
Fit the Halo Accessory over the sound processor, rather than fitting the sound processor into the Halo Accessory.

4. **Thread** the hairclips to both sides of the rings (or Safety Lines if using), attached to the Halo Accessory.

Note
Ensure the **teeth of the hairclips face into the head** to grip the hair.

5. **Mount** the sound processor on to the implant, with hairclips hanging from the rings (or Safety Lines if using).

6. **Attach** each hairclip to the hair:

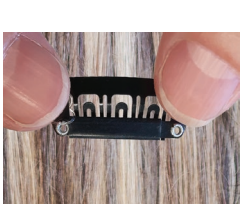
   a. **Bend open** the hairclip from the edges to expand it out.

Note
The image is shown without the sound processor attached to illustrate how the hairclip expands open to grip the hair.

   b. **Attach** the hairclip teeth into the hair.

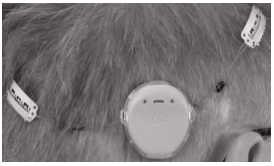
Note
Hairclip teeth direction may face up or down depending on individual preference.

   c. **Press** the edges of the hairclip to close.



7. **Check** if the hairclips are secure and orient in a V-shape with the sound processor.

Halo Accessory with rings



Halo Accessory with Safety Lines

Warning

To avoid damage to your sound processor, ensure the Halo Accessory is properly secured.

Note

When the Halo Accessory is on your sound processor, a Portable Charger can be attached.

Remove the Halo Accessory

1. **Detach** hairclips from your hair.
2. **Remove** your sound processor from the implant.
3. **Support** the Halo Accessory on either side with your fingers.
4. **Push** the sound processor through with your thumbs.

Caution

- The Halo Accessory is a loss prevention device. Do not use it for any other purpose.
- If your Halo Accessory appears damaged or worn, replace it with a new Halo Accessory.

Change the magnet

Use the Cochlear™ Magnet Tool to change your magnet.

If the Cochlear™ Nucleus® Kanso® Magnet is too weak your sound processor may fall off. If the magnet is too strong it may cause discomfort.

Magnet strength ranges from **½** (weakest) to **6** (strongest) for standard magnets and **½(I)** (weakest) to **5(I)** (strongest) for '**(I)**' magnets.

Note
If your clinician has given you a reverse polarity magnet, use it as described here for a standard magnet.

Remove the magnet

To remove the magnet from your sound processor:

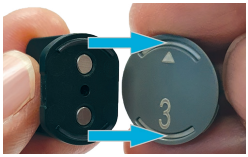
1. **Place** the tool on the magnet. Insert the tool ridges into the magnet grooves.

2. **Turn** the tool **anti-clockwise** and **pull** the magnet out.

Insert a magnet

To insert a magnet into your sound processor:

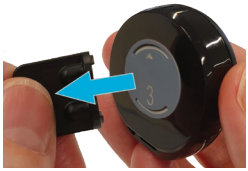
1. **Place** the tool on the magnet. Insert the tool ridges into the magnet grooves.



2. **Insert** the magnet into the sound processor.

3. **Turn** the tool **clockwise** until until the magnet **clicks** into place.

4. **Remove** the tool from the magnet and store in a safe place.



Warning

Magnet Tools can be lost or may be a choking hazard. Keep out of reach of children.

Sport and exercise

Note
If you want to use your sound processor while bathing, swimming or showering, ask your clinician about the Cochlear Nucleus Kanso Aqua+.

1. Use accessories such as the Safety Line, Cochlear Headband or Kanso Halo Accessory to help hold your sound processor in place when you play sport or exercise.
2. After exercise, wipe your sound processor with a soft cloth to remove sweat or grime.
3. Check your microphone protectors for dirt.

   Refer to *Change the microphone cover* on page 52.

Travel

Note

Visit *www.cochlear.com/clinic-finder* to find the nearest clinic in places you are travelling.

- Take a printout from your clinician of your most recent program in case you need help with your sound processor.
- If you have a backup sound processor, check that it is programmed correctly and take it with you.
- You can move through metal detectors and full body scanners with your sound processor on.
- Ask your clinician for a Patient Identification Card/ Implant Card. In the unlikely event that your implant sets off a metal detector this card will help explain that you have an implanted medical device.
- If you need to remove your sound processor as you move through airport security, place it in a case in your hand luggage.
- Your sound processor transmits high frequency radio waves when switched on, and may need to be placed in a flight-safe mode during take-off and landing (refer to *Use flight mode* on page 48). Check with airline staff before flying if you are unsure.
- If you use a Remote Control for your sound processor, switch it off before take-off as it transmits high frequency radio waves when switched on.

Use flight mode

To switch your sound processor to flight mode:

1. **Remove** the sound processor from your head.
2. **Quadruple-tap** (4 taps, quick and firm) on the Cochlear logo.
3. Within **5 seconds**, place the sound processor back on your head.

INDICATOR LIGHT	WHAT IT MEANS
Steady green	Sound processor enters flight mode. Green light stays on until the sound processor is placed on the implant.

To switch flight mode **off**, turn your sound processor off and on again. Refer to *Turn on and off* on page 10.

Regular care

Caution

- Do not use cleaning agents or alcohol to clean your sound processor.
- Turn your sound processor off before cleaning or performing maintenance.

Every day

- ✓ Check all parts and accessories (for example, SoftWear pad, Safety Line) for dirt and moisture. Wipe the sound processor with a soft dry cloth.
- ✓ Keep your sound processor free from moisture by drying it every night in the Home Charger.
- ✓ Check the microphone protectors for signs of dirt or grime. Replace as needed. Refer to *Change the microphone cover* on page 52.

Every month

- ✓ Replace a used SoftWear pad that is worn or damaged, or has accumulated dirt or moisture that cannot be wiped off. Refer to *Attach a SoftWear pad* on page 20.
  If you have a comfort problem that is not helped by changing the SoftWear pad, contact your clinician.
- ✓ Check used Safety Lines for signs of wear. Replace as needed. Refer to *Attach a Safety Line* on page 23.

Every three months

- ✓ Replace the microphone protectors – this is very important for the quality of sound. Refer to *Change the microphone cover* on page 52.

Every six months

- ✓ Charge the sound processor to ensure the internal battery does not deteriorate.

Headband care

Caution

Before cleaning your Headband, remove the sound processor.

If the Headband is dirty:

- Wash in cold water (machine or hand wash)
- Do not bleach
- Do not tumble dry
- Iron on medium heat.

Wash the Headband as needed or at least once a week if worn continuously.

Halo Accessory care

Caution

- Do not use cleaning agents or alcohol to clean your Halo Accessory.
- To avoid deformation or breakage of your Halo Accessory, do not wring or twist it.
- The Halo Accessory is a loss prevention device. Do not use it for any other purpose.
- Always use the Halo Accessory with a compatible sound processor.
- If your Halo Accessory appears damaged or worn, replace it with a new one.

- Check the Halo Accessory for dirt or moisture regularly. Wipe the Halo Accessory with a soft dry cloth.
- Check if the Halo Accessory is becoming loose or showing signs of wear. Replace if needed.

Storage

Home Charger

Store your sound processor at night in the Home Charger provided by Cochlear.

Store the fully assembled sound processor overnight for optimal drying effect.

Refer to the *Cochlear Chargers User Guide*.

Change the microphone cover

Replace your Kanso 2 Microphone Cover every three months, or if your sound quality degrades or the microphone cavities contain dirt.

Microphone cavities

Caution

When the cover is removed, sensitive microphones are exposed. Do not touch the microphones – this could damage your sound processor.

Microphones

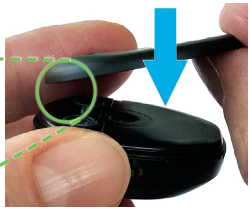
Replace the microphone cover

1. **Remove** the cover from your sound processor:
   a. **Place** your thumbnail in the slot at the base and **lift** firmly.

b. **Slide** your thumbnail around both sides to release the cover.

c. **Lift** the cover off.

2. **Place** the new cover on your sound processor.



3. **Press** around the edge with your thumbs to make sure the cover is sealed.

Water, sand and dirt

Your sound processor is protected against failure from dust penetration and temporary immersion in fresh water.

With the Portable Charger attached, your sound processor is protected from dust penetration and fresh water splashing.

PARTS	RATING	INGRESS PROTECTION
Kanso 2 Sound Processor only	IP68	Protected against access of solid foreign objects greater than or equal to 1.0 mm diameter. Protected against dust penetration. Protected against failure from continuous immersion in water up to 1 metre deep for up to 1 hour.
Kanso 2 Sound Processor with Portable Charger attached	IP54	Protected against access of solid foreign objects greater than or equal to 1.0 mm diameter. Protected against excessive dust penetration that could interfere with satisfactory operation. Protected against failure from splashing water.

The Kanso 2 Sound Processor is a precision electronic device, so please take the following precautions.

Water

If your sound processor gets **wet**:

1. Dry it with a soft cloth.
2. Replace the microphone protectors. Refer to *Change the microphone cover* on page 52.
3. Place your sound processor in the Home Charger to dry. Refer to the *Cochlear Chargers User Guide*.

Sand and dirt

If **sand** or **dirt** enter the sound processor, carefully brush all indents and holes in the sound processor's casing.

Lights

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

Turning on and off

LIGHT	WHAT IT MEANS
 Quick green flashes	Sound processor flashes while receiving sound from microphones (Child mode only).
 Quick green flashes	Turning on and changing programs. Number of flashes indicates the number of the current program.
 Long flash of orange	Turning off sound processor.

Alerts

LIGHT	WHAT IT MEANS
 Flash of orange every second	Sound processor flashes while it is off your head (or connected to the wrong implant).
 Orange flashes	Sound processor battery is low. Charge the sound processor.
 Steady orange	Fault. Contact your clinician. Stays on until the issue is resolved.

Audio sources

LIGHT	WHAT IT MEANS
Quick blue flash	Sound processor flashes when pairing to wireless device is successful.
 Quick blue flashes	Sound processor flashes while receiving audio from an audio source (Child mode only).
Steady blue	Sound Check function in Nucleus Smart App is recording sound from your sound processor.

ForwardFocus *

LIGHT	WHAT IT MEANS
Quick green flash	Turning ForwardFocus on/off (Child mode only).

* If available, Nucleus Smart App only

Beeps

Your clinician can set up your sound processor so you can hear the following beeps. The beeps are only audible to the recipient.

Turning on and off

BEEP	WHAT IT MEANS
 Short high beeps	Changing the program. The number of beeps indicates the number of the selected program.
 Short high beep	Changing volume or sensitivity level (if available).
 Short high then short low beep	When changing volume or sensitivity, indicates upper or lower limit of volume/ sensitivity reached.

Wireless devices

BEEP	WHAT IT MEANS
 3-tone chime	Connecting with wireless device to begin streaming audio.
 Short beep	When stopping streaming.

Alerts

BEEP	WHAT IT MEANS
 2 Short low beeps	Battery is low. Recharge your sound processor.
 Short low beeps for 4 seconds	Battery is empty and sound processor is turning off. Recharge your sound processor.
 4 long low beeps over 4 seconds	General fault or if Portable Charger attached, charging error. Consult your clinician.

Adjusting bass and treble *

BEEP	WHAT IT MEANS
 Loud medium beep	Adjusting master volume level.
 Loud long high beep	Adjusting treble level.
Loud long low beep	Adjusting bass level.

* If available, Nucleus Smart App and Remote Control only

ForwardFocus *

BEEP	WHAT IT MEANS
● Short high beep	Turning ForwardFocus on/off.

* If available, Nucleus Smart App only

Sound Check *

BEEP	WHAT IT MEANS
 5-tone chime	Begin recording.
■ Short beep	End recording.

* App function to record sound processor sound

Troubleshoot

Contact your clinician if you have any concerns regarding the operation or safety of your sound processor.

PROBLEM	RESOLUTION
Sound processor will not turn on	1. Try turning the sound processor on again. Refer to *Turn on and off* on page 10. 2. If you have two implants, check that you are wearing the correct sound processor on each implant. 3. If the problem continues, contact your clinician.
The sound processor switches off	This is normal operation, as the sound processor automatically switches off when not connected to the implant for more than two minutes (if enabled by your clincian).
You want to perform a regular check on your sound processor	Refer to *Regular care* on page 49.
Sound processor does not attach as strongly as usual	Make sure the sound processor is oriented properly on your head. Refer to *Wear your sound processor* on page 17.

PROBLEM	RESOLUTION
You are not sure what sound processor beeps or light flashes mean	Refer to *Lights* on page 56 and *Beeps* on page 58.
You want to confirm your sound processor is receiving sound	1. Check the light on the top of the sound processor (if enabled). Refer to *Lights* on page 56. 2. If you have the Nucleus Smart App, use the Status screen to check the sound processor is receiving sound. 3. If you have the Nucleus Smart App, use Sound Check to record sound received by your sound processor. A hearing person can listen to the recording to check sound received by the sound processor. Refer to your Nucleus Smart App user guide for details. 4. If the problem continues, contact your clinician.
The sound processor becomes hot	Remove the sound processor from your head immediately and contact your clinician.

PROBLEM	RESOLUTION
You experience tightness, discomfort or develop a skin irritation at your implant site	1. Try using an adhesive SoftWear pad. Refer to *Attach a SoftWear pad* on page 20. 2. If you are using a retention aid, such as a Headband, this may be placing pressure on your sound processor. Adjust your retention aid, or try a different aid. 3. Your sound processor magnet may be too strong. Ask your clinician to change to a weaker magnet and use a retention aid such as the Safety Line if required. Refer to *Change the magnet* on page 44. 4. If the problem continues, contact your clinician.
You do not hear sound or sound is intermittent	1. Try a different program. Refer to *Change program* on page 13. 2. Make sure you are using the correct magnet for your implant. If unsure, contact your clinician. 3. If you use the Remote Control, turn up the volume. 4. If you have the Nucleus Smart App, turn up the volume or sensitivity. 5. Make sure the sound processor is properly oriented on your head. Refer to *Wear your sound processor* on page 17. 6. If the problem continues, contact your clinician.

PROBLEM	RESOLUTION
You do not hear sound from a wireless device	1. Interference from nearby electrical devices can sometimes disrupt streaming from a wireless device. Try moving away from any device that might be causing this interference. 2. Check that the wireless device is charged and turned on. 3. Check that the wireless device is paired with your sound processor. 4. Check the volume of the wireless device. 5. If you have the Nucleus Smart App, use the Status screen to check the sound processor is receiving sound from the device. 6. If you have the Nucleus Smart App, check and adjust the device/microphone volume. 7. If available, try a different sound processor. 8. For more troubleshooting, refer to the *True Wireless Accessories Supplement*.

PROBLEM	RESOLUTION
You hear intermittent sound, a buzzing sound or distorted speech	1. Check for sources of interference such as radio and TV transmission towers (within approximately 1.6 km or 1 mile), shopping centre or airport security systems, and mobile phones. 2. Try moving away from any source of magnetic or electronic interference. 3. If the problem continues, contact your clinician.
Sound is too loud or uncomfortable	1. Try a different program. Refer to *Change program* on page 13. 2. If you use a Remote Control, turn down the volume. 3. If you have the Nucleus Smart App, turn down the volume or sensitivity. 4. If you have two sound processors (one for each side), ensure you have them on the correct side. 5. If the problem continues, remove your external equipment immediately (such as, your sound processor) and contact your clinician.

PROBLEM	RESOLUTION
Sound is too quiet or muffled	1. Try a different program. Refer to *Change program* on page 13. 2. If you use a Remote Control, turn up the volume. 3. If you have the Nucleus Smart App, turn up the volume or sensitivity. 4. Try changing the microphone protectors. Refer to *Change the microphone cover* on page 52. 5. If the problem continues, contact your clinician.
The sound processor gets wet	Dry the sound processor with a soft cloth, change the microphone protectors and place it in the Home Charger provided by Cochlear to dry. Refer to *Water, sand and dirt* on page 54.
Battery does not last as long as usual	1. If you are using a non-recommended retention aid that covers your sound processor, replace it with an aid recommended by Cochlear. 2. Make sure you are using the correct magnet for your implant. If unsure, contact your clinician. 3. Make sure the sound processor is properly oriented on your head. Refer to *Wear your sound processor* on page 17. 4. If the problem continues, contact your clinician.

Cautions

- Young children who are developing motor skills are at greater risk of an impact to the head from a hard object (for example, table or chair). Impact to the sound processor may cause damage to the sound processor or its parts. Impact to the head in the area of the Cochlear implant could damage it and result in its failure.
- Avoid placing metallic or magnetic objects near your sound processor while it is on your implant or in the Home Charger. This could affect sound levels (while wearing) or damage your Home Charger.
- Most patients can benefit from electrical stimulation levels that are considered safe, based on animal experimental data. The long-term effects of such stimulation in humans are unknown.
- Your sound processor may be affected by other sound processors or coils. Always keep your sound processor more than 1 cm (½ in) away from other sound processors or coils.
- Do not use cleaning agents or alcohol to clean your sound processor or accessories.

Notes

Warnings

For parents and carers

- Sound processors and related accessories contain small parts that alone or in combination may pose a hazard of inhalation, choking or ingestion. Swallowing or inhaling small parts can cause severe or fatal injuries. Always supervise children under 3 years of age and others who may be at risk of inhalation, choking or ingestion of small parts when they use the sound processor and related accessories. When not in use, keep small parts, and combinations of small parts, out of reach from children. If small parts are swallowed or inhaled, seek immediate medical attention.
- Parents and carers are advised that unsupervised use of long cables (for example, safety lines, accessory cables or the Headband) may present a risk of strangulation.
- Carers must routinely check the device for signs of overheating and for signs of discomfort or skin irritation at the implant site. Remove the sound processor immediately if there is any discomfort or pain (for example, if device becomes hot, or sound is uncomfortably loud) and inform your clinician.
- Carers must monitor for signs of discomfort or skin irritation if a retention aid (for example, Headband) is used that applies pressure to the sound processor. Remove the aid immediately if there is any discomfort or pain and contact your clinician.

Sound processors and parts

- Do not operate your sound processor beyond these temperature and humidity ranges: +5° C (41° F) to +40° C (104° F) and 0% RH to 90% RH.
- Each sound processor is programmed specifically for each implant. Never wear another person's sound processor or lend yours to another person.
- Use your Cochlear implant system only with approved devices and accessories.
- If you experience a significant change in performance, remove your sound processor and contact your clinician.
- Your sound processor and other parts of the system contain complex electronic parts. These parts are durable but must be treated with care.
- No modification of this equipment is allowed. Warranty will be void if modified.
- If the magnet is too strong or is in contact with the skin, pressure sores may develop at the sound processor site. If this happens, or if you experience any discomfort in this area, contact your clinician.
- If you experience tightness or pain at the implant site, or develop significant skin irritation, stop using your sound processor and contact your clinician.
- Do not apply continued pressure to the sound processor when in contact with the skin (for example, sleeping while lying on the sound processor, or using tight fitting headwear).

- Do not push the volume too high for comfort in case a loud noise occurs nearby.
- If you need to adjust the volume often, or if adjusting volume ever causes discomfort, contact your clinician.
- Remove the sound processor before entering a room where an MRI scanner is located.
- Do not place the sound processor or parts in any household devices (for example, microwave oven, dryer).
- Do not expose the sound processor or parts to heat (for example, never leave them in sunlight, behind a window or in a car).
- The Halo Accessory and sound processor should be protected from excessive heat sources such as prolonged exposure to bright sunlight. Before wearing the Halo Accessory and sound processor, check the surface to ensure it is not too hot to wear without discomfort to skin.
- The magnetic attachment of your sound processor to your implant may be affected by other magnetic sources.
- Your sound processor magnet may be affected by metallic or magnetic objects. Keep metallic or magnetic objects away from your sound processor.
- Store spare magnets safely and away from cards that may have a magnetic strip (for example, credit cards, bus tickets).
- Your device contains magnets that should be kept away from life supporting devices (for example, cardiac pacemakers and ICDs (implantable cardioverter defibrillators) and magnetic ventricular shunts), as the magnets may affect the function of these devices. Keep your sound processor at least 15 cm (6 in) from such devices. Contact the manufacturer of the specific device to find out more.

- Your sound processor and Remote Control radiate electromagnetic energy that may interfere with life supporting devices (for example, cardiac pacemakers and ICDs). Keep your sound processor and Remote Control at least 15 cm (6 in) from such devices. Contact the manufacturer of the specific device to find out more
- Remove the sound processor immediately if the sound level is uncomfortably loud and inform your clinician.
- Do not place the device or accessories inside any part of your body (for example, nose, mouth).
- Seek medical advice before entering any environment that may adversely affect the operation of your Cochlear implant, including areas protected by a warning notice preventing entry by patients fitted with a pacemaker.
- Some types of digital mobile telephones (for example, Global System for Mobile communications (GSM) as used in some countries), may interfere with the operation of your external equipment. You may hear distorted sound when close, 1-4 m (~3-12 ft), to a digital mobile telephone in use.
- For Cochlear Nucleus cochlear implant recipients only, the maximum diving depth is 40 m (~131 ft). Seek medical advice before diving to ensure you do not have any conditions that might make diving contraindicated (for example, middle ear infection). When wearing a mask, avoid pressure over the implant site.

- Before activities that create electrostatic discharge (for example, playing on plastic slides), remove your sound processor. In rare cases, discharge of static electricity can damage your Cochlear implant's electrical components or corrupt the sound processor's program. If static electricity is present (for example, when putting on clothes over your head, or getting out of a car), before the Cochlear implant system touches any object or person, you should touch something conductive such as a metal door handle.
- Only use battery chargers supplied or recommended by Cochlear. Use of other battery chargers may result in harm or injury.

Medical treatments

Magnetic resonance imaging (MRI)

The Kanso 2 Sound Processor, Remote Control and related accessories (such as the Wireless Programming Pod) are MR Unsafe.

Full MRI safety information is available at *www.cochlear.com/mri* or by calling your regional Cochlear office (contact numbers available at the end of this document).

Medical treatments generating induced currents, heat and vibration

Having a cochlear implant means extra care must be taken when receiving some medical treatments. Before starting medical treatment, the information in this section should be discussed with the recipient's physician.

The sound processor must be removed before starting any of the medical treatments listed in this section.

Some medical treatments generate induced currents that may cause tissue damage or permanent damage to the implant. Before initiating any of the following treatments deactivate the device.

Warnings for specific treatments are provided below.

CONDITION	WARNING
Diathermy	Do not use therapeutic or medical diathermy (thermopenetration) using electromagnetic radiation (magnetic induction coils or microwave). High currents induced into the electrode lead can cause tissue damage to the cochlea/brainstem or permanent damage to the implant. Medical diathermy using ultrasound may be used below the head and neck.
Electroconvulsive therapy	Do not use electroconvulsive therapy on an implant patient under any circumstances. Electroconvulsive therapy can cause tissue damage or damage to the implant.

CONDITION	WARNING
Electrosurgery	Electrosurgical instruments can induce radio frequency currents that could flow through the electrode. Monopolar electrosurgical instruments must not be used on the head or neck of an implant patient as induced currents could cause damage to cochlear/neural tissues or permanent damage to the implant. When using bipolar electrosurgical instruments on the head and neck of a patient, the cautery electrodes must not contact the implant and should be kept more than 1 cm (½ in) from the electrodes.
Ionising radiation therapy	Do not use ionising radiation therapy directly over the implant. It may cause damage to the implant.
Neurostimulation	Do not use neurostimulation directly over the implant. High currents induced into the electrode lead can cause tissue damage to the cochlea/ brainstem or permanent damage to the implant.
Therapeutic ultrasound	Do not use therapeutic levels of ultrasound energy directly over the implant. It may inadvertently concentrate the ultrasound field and cause tissue damage or damage to the implant.

Notes

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 sound processor function or problem.
- Tap interface allowing the user to turn the sound processor on and off.

The internal battery provides power to the sound 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	12.5 mm

WEIGHT	WEIGHT
Processing unit and magnet	14.2 g

OPERATING CHARACTERISTICS	VALUE/RANGE
Sound input frequency range	100 Hz to 8 kHz
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 sound processor on and off

COIL CHARACTERISTIC	VALUE/RANGE
Technology	Inductive power and data transfer using coupled resonant coils
Operating voltage	2.33 V
Data rate	1.25 Mbps (4 CPC), 1 Mbps (5 CPC)
Protocols	Cochlear's proprietary embedded protocol employing a series of 4 or 5 consecutive pulses at 5 MHz
Separation between coil and implant	1–10 mm

Sound processor to implant inductive link

The inductive link between the sound processor coil and the implant performs two functions: it transfers power from the sound processor to the implant and provides a bi-directional data communication link. Both power and data are transferred in the reactive near H-field. The link uses a Cochlear proprietary embedded protocol employing a series of 4 or 5 consecutive pulses clocked at 5 MHz and operates over a distance of 1-10 mm. Data validity and parity checking is used to ensure correct data transfer. In the presence of interference, the sound processor triggers a 'coil-off' orange light indication and the Nucleus Smart App provides a visual indication that the coil is decoupled from the implant.

Wireless technology

CHARACTERISTIC	VALUE/RANGE
Technology	Proprietary low power bi-directional wireless link Published commercial wireless protocol (Bluetooth Low Energy)
Power output	1 mW (0 dBm)
RF frequency	2.4 GHz (range 2.40 – 2.83 GHz)
Radiated power	+0.55 dBm
Channel spacing	1 MHz
Maximum data rate	2 Mbps
Modulation	GFSK
Protocols	NXP2 protocol: Proprietary wireless protocol based on GN ReSound's low power bi-directional wireless link (Proximity 2 protocol). Bluetooth Smart: Commercially available low energy wireless protocol.

CHARACTERISTIC	VALUE/RANGE
Wireless transmission 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 sound processor. It indicates via its display when the sound processor is out of operating distance (or switched off) or when the link is interrupted due to broad spectrum interference (refer to the Remote Control's user guide for more information).
- The True Wireless Devices 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 Nucleus Smart App indicates when the sound 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

The temperature of the sound processor while charging with the Portable Charger may rise by up to 1.5° C (2.7° F) during normal operation, and could result in these components reaching a temperature of +42.8° C (+109.0° F) when operated at the maximum environmental temperature of +40.0° C (+104° F).

Softwear pad specifications

MATERIALS	
Layer 1	Polyurethane medical tape
Layer 2	Soft pad polyurethane foam
Layer 3	Double-sided adhesive film
Layer 4	Finger lift tape
Layer 5	Release liner

DIMENSIONS	
Diameter (assembled)	Ø 29 mm ± 1 mm

Headband specifications

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

Halo Accessory specifications

MATERIALS	
Halo Accessory	Nylon
Rings	316 Stainless Steel

DIMENSIONS	WEIGHT	WIDTH	DEPTH
Halo Accessory	1 g	38.9 mm	40.1 mm

Other information

Electromagnetic compatiblity (EMC)

Guidance and manufacturer's declaration – electromagnetic emissions

The Kanso 2 Sound Processor is intended for use in the electromagnetic environment specified below. The customer or the user of the Kanso 2 Sound Processor should assure that it is used in such an environment.

EMISSIONS TEST	COMPLIANCE	ELECTROMAGNETIC ENVIRONMENT – GUIDANCE
RF emissions CISPR 11	Group 1	The Kanso 2 Sound Processor uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
	Class B	(Normal Mode, Wireless Programming Mode, Wired Programming Mode) The Kanso 2 Sound Processor is suitable for use in all establishments, including domestic and those directly connected to the public low voltage power supply network that supplies buildings used for domestic purposes. The Kanso 2 Sound Processor is suitable for use in clinics and hospitals.
Harmonic emissions IEC 61000-3-2	Not applicable	Not applicable
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	Not applicable

Guidance and manufacturer's declaration – electromagnetic immunity

The Kanso 2 Sound Processor is intended for use in the electromagnetic environment specified below. The customer or the user of the Kanso 2 Sound Processor should assure that it is used in such an environment.

IMMUNITY TEST	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT – GUIDANCE
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	Not applicable	Not applicable
Surge IEC 61000-4-5	Not applicable	Not applicable
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	Not applicable	Not applicable
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacturer's declaration – electromagnetic immunity

The Kanso 2 Sound Processor is intended for use in the electromagnetic environment specified below. The customer or the user of the Kanso 2 Sound Processor should assure that it is used in such an environment.

ELECTROMAGNETIC ENVIRONMENT – GUIDANCE
Portable and mobile RF communications equipment should be used no closer to any part of the Kanso 2 Sound Processor, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
IMMUNITY TEST: Radiated RF IEC 61000-4-3
COMPLIANCE LEVEL: 10 V/m 80 MHz to 2.7 GHz
$d=0.35\sqrt{P}$ 80 MHz to 800 MHz
$d=0.70\sqrt{P}$ 800 MHz to 2.7 GHz
where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).
Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.
Interference may occur in the vicinity of equipment marked with the following symbol: 

ELECTROMAGNETIC ENVIRONMENT – GUIDANCE
IMMUNITY TEST: Proximity fields from RF wireless communications equipment IEC 61000-4-3
COMPLIANCE LEVEL: 385 MHz (27 V/m); 450, 810, 870, 930, 1720, 1845, 1970, 2450 MHz (28 V/m); 710, 745, 780, 5240, 5500, 5785 MHz (9 V/m)

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.

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Note 3: If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Kanso 2 Sound Processor.

Radio Frequency Identification (RFID)

RFID uses electromagnetic fields to automatically identify and track tags attached to objects. Interference may occur in the vicinity of equipment that uses RFID, such as shop security and card scanners.

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.

The Kanso 2 (CP1150) device complies with part 15 of the FCC Rules, including part 15B for equipment classes with Unintentional Radiators. 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

Supplier's declaration of conformity

47 CFR § 2.1077 Compliance Information

Unique identifier:	CP1150
Responsible party:	Cochlear Americas 10350 Park Meadows Drive Lone Tree, CO 80124, USA Toll free: +1 800 483 3123 Telephone: +1 303 790 9010 https://www.cochlear.com/us

Cochlear Ltd warrants that each unit marketed under this Supplier's Declaration of Conformity will be identical to the unit tested and found acceptable with the standards.

The devices will continue to comply within the variation that can be expected due to quantity production and testing on statistical basis.

The records maintained by the responsible party will continue to reflect the devices being produced under the Supplier's Declaration of Conformity.

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

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+A2:2020, Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance.

Cochlear implant compatibility

The Kanso 2 Sound Processor is compatible with the following Nucleus Cochlear Implants:

- CI24M, CI24M Double Array and ABI24M
- CI24R (CA), CI24R (ST) and CI24R (CS)
- CI24RE Series: CI24RE (CA), CI24RE (ST), CI24RE Hybrid L24 and CI422
- CI500 Series: CI512, CI513, CI522, CI532 and ABI541
- CI600 Series: CI612, CI622, CI624, CI632.

Labelling symbols

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

	Refer to instruction manual
	Consult instructions for use
	Specific warnings or precautions associated with the device, which are not otherwise found on the label
	Medical device
	Unique Device Identifier
	Manufacturer
	Date of manufacture
	Use by date
	Model number
	Catalogue number
	Serial number
	Batch code

EC REP	Authorised representative in the European Community/ European Union
CH REP	Authorised representative in Switzerland
CE	CE registration mark
CE 0123	CE registration mark with notified body number
LATEX	Contains or presence of natural rubber latex. May cause allergy.
	Radio compliance certification for Australia and New Zealand
R	Radio compliance certification for Japan
	Radio compliance certification for Korea
	Compatible sound processor
	Compatible implant
Rx Only	By prescription Caution: US law restricts this device to sale by, or on the order of, a physician
	Temperature limits
	Recyclable material
	Dispose of electrical components in accordance with your local regulations
	Dispose of batteries separately from normal waste and according to your local regulations

Type B applied part

IP54

Ingress Protection Rating

- Protected against access of solid foreign objects greater than or equal to 1.0 mm diameter.
- Protected against excessive dust penetration that could interfere with satisfactory operation.
- Protected against failure from splashing water.

IP68

Ingress Protection Rating

- Protected against access of solid foreign objects greater than or equal to 1.0 mm diameter.
- Protected against dust penetration.
- Protected against failure from continuous immersion in water up to 1 metre deep for up to 1 hour.

Compatible accessories

CATEGORY	ACCESSORIES
Retention	Cochlear Nucleus Kanso Magnet, Cochlear Headband, Cochlear Softwear pad
Loss prevention	Kanso Halo Accessory, Cochlear Safety Line (Short), Cochlear Safety Line (Long), Cochlear Safety Line (Short Loop), Cochlear Safety Line (Short Double Loop), Nucleus Safety Line, Nucleus Safety Line Hair Clip
Water-safe	Cochlear Nucleus Kanso Aqua+
Care and maintenance	Kanso 2 Microphone Cover, Cochlear Nucleus Kanso Socket Cover, Cochlear Magnet Tool, Activity Kit Case
Wireless	Cochlear Remote Control, Nucleus Smart App, Cochlear Wireless Mini Microphone, Cochlear Wireless Mini Microphone 2+, Cochlear Wireless TV Streamer, Cochlear Wireless Phone Clip
Power	Cochlear Home Charger, Cochlear Portable Charger, Cochlear Portable Charger Cable (long and short)
Miscellaneous	Recipient Backpack, Cochlear Personalisation Stickers, Nucleus Bilateral Identification Adhesive Labels

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.

Reliability reports

Reliability reports are available on www.cochlear.com.

Trademark legal notice

Hear now. And always

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