

Cochlear™ Chargers

User Guide



Hear now. And always



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About this guide

This guide is intended for people who use the:

- Cochlear™ Home Charger
- Cochlear™ Portable Charger.



NOTES

- See the Cautions and Warnings sections for safety advice relating to the use of the chargers, accessories and components.
- Please also 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.

Charge your processor

Your processor has an internal battery that needs regular charging. Please charge your sound processor as soon as you receive it.

To recharge your processor's internal battery you can:

- place it in the **Home Charger** (see page 5) or
- attach it to the **Portable Charger** (see page 8).

Before using the Portable Charger for the first time you must charge it. See *Charge the Portable Charger* on page 10.



WARNING

To charge your processor:

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

Use the Home Charger

The Home Charger will store, dry and charge your processor.

To fully charge a depleted sound processor takes approximately 4½ hours.



Home Charger equipment includes:

- Home Charger unit
- Power adapter
- USB cable to connect the power adapter to the charger.



NOTE

For optimum performance, we recommend you connect the Home Charger to a power outlet with the power adapter provided.

To use the Home Charger to charge your processor:

1. **Plug** the USB cable connector into the power adapter.



2. **Plug** the other end of the cable into the power connector on the back of the Home Charger.



3. **Plug** the power adapter into a power outlet and **switch** the power on.

When power is on, the Home Charger power light displays **steady green**.



4. **Open** the lid and **place** your sound processor inside.



CAUTION

Do not press down on the processor.



NOTE

Safety Lines and SoftWear Pads can remain attached to the processor while in the Home Charger.



5. **Close** the lid.

As it begins to charge, your processor light **pulses green**.



6. When fully charged, the processor light displays **steady green**.

Open the lid and remove the processor.

INDICATOR LIGHTS WHAT IT MEANS



Orange flashes

Problem with power or temperature.



Steady orange

Charger is faulty. Contact your clinician to arrange a replacement charger.



Use the Portable Charger

You can carry the Portable Charger* and use it as needed to charge your processor. The Portable Charger contains an internal battery that requires charging before use.

You must charge the Portable Charger before first use.

See *Charge the Portable Charger* on page 10.

The Portable Charger takes approximately 3 hours to fully charge. It can be connected to the back of the Home Charger for charging overnight.

When fully charged, the Portable Charger provides one full charge to your processor. To fully charge a depleted sound processor takes approximately 3–4 hours.



* Optional accessory

Portable Charger equipment includes:

- Portable Charger unit
- USB cable for charging
- Charger cable for connecting to your processor.

**WARNING**

- Remove the Portable Charger immediately if it becomes hot and contact your clinician.
- Do not place the Portable Charger under clothing of children or anyone who is unable to notify you if the charger becomes hot.

**CAUTION**

To optimise battery life:

- Fully charge the Portable Charger immediately, even if you don't plan to use it.
- Every 6 months, fully charge the Portable Charger.

Charge the Portable Charger

1. **Plug** the small USB-C cable connector into the Portable Charger.



2. **Plug** the larger USB-A cable connector into a power source. Options include:

- Home Charger DC 5V OUT socket
- Home Charger power adapter
- Laptop USB port*






*USB ports must be high power USB 2.0 or higher. If you use a USB hub to connect more than one USB device to a port, we recommend you use a powered hub.

3. After approximately 3 hours, **press** the button to check the charge level. When fully charged, **4 lights** will display.
4. When fully charged, **unplug** the Portable Charger.

It is now ready to take with you in case you need to recharge your processor.

Make sure you also take the Portable Charger cable so you can connect the charger to the processor.

| INDICATOR LIGHTS | WHAT IT MEANS |
|---|---|
|  <p>Green flashes</p> | <p>Power is connected for charging. Number of lights = amount of charge. Light display stops 30 seconds after charger is connected to power.</p> |
|  <p>Orange flashes</p> | <p>Problem with power or temperature.</p> |
|  <p>Steady orange</p> | <p>Charger is faulty. Contact your clinician to arrange a replacement charger.</p> |

Check the charge level

To check the charge level, **press the button** on the front of the Portable Charger.

Green lights display to indicate the available charge.



LIGHTS DISPLAYED

WHAT IT MEANS



1 light – ¼ full



2 lights – ½ full



3 lights – ¾ full



4 lights – fully charged

Green lights

Charge your processor

To use the Portable Charger to charge your processor:

1. **Connect** the cable to the **Portable Charger**.

The grey plug corresponds to the grey socket.



2. If the socket cover is in place, **remove** the socket cover from the back of your processor.



3. **Connect** the other end of the cable to your **processor**.

As it begins to charge, the processor light **pulses green**.



Continued on next page ...

4. **Wear** the charger by attaching to clothing (e.g. pocket or collar) or on a lanyard around your neck.



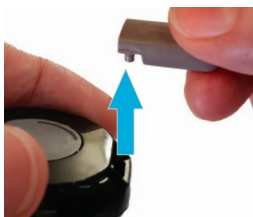
Use the hole on the clip to connect a **lanyard**.



5. **Place** the processor on your head.

6. When fully charged, the processor light displays **steady green**.

Disconnect the cable by lifting the connector upwards.



7. **Store** the charger and cable carefully to avoid damage.
If removing the cable, hold the connector on either side and pull.



NOTES

Two cable lengths are available for the Portable Charger: 30 cm and 50 cm.

Regular care



CAUTION

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

Every day

Check your chargers for dirt and moisture. Wipe the chargers with a soft dry cloth.

Store your chargers, power adapter and cables in a safe place to avoid damage.

Every six months

Charge the Portable Charger to optimise battery life.

Troubleshooting

An **orange light** (error) will flash on the chargers if they are:

- not receiving enough power, or
- used in temperatures outside their operating range.

What should you do?

- Check that cables are connected properly.
- Try using the charger in a different location. The temperature might be outside the charger's operating range.
- If using a USB port, try another port. The type of USB port could be incorrect.
- If using a USB hub:
 - Check you are using a powered hub. The type of hub could be incorrect.
 - Remove some devices. The hub may have too many devices connected.

Cautions

To charge your processor:

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

Warnings

- Removable parts of the system can be lost or may be a choking or strangulation hazard. Keep out of reach of children.
- Unsupervised use of long cables (e.g. Portable Charger cable) may present a risk of strangulation.
- Do not place the device or accessories inside any part of your body (e.g. nose, mouth).
- Carers must routinely check devices that are worn on the body for signs of overheating (e.g. Portable Charger). Remove the device immediately if it becomes hot and contact your clinician.
- Do not place the chargers or parts in any household devices (e.g. microwave oven, dishwasher, dryer).
- Do not expose the chargers or parts to heat (e.g. never leave them in sunlight, behind a window or in a car).
- Your chargers 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.

Specifications

Home Charger specifications

The Home Charger is the primary charging unit and includes capability to dry your processor. The Home Charger comprises:

- Wireless charging coil, internal fan and custom electronics
- Power input and error light indicators
- Built-in temperature sensor
- Power adaptor
- USB cable

MATERIALS

- | | |
|-------------------|--|
| External housings | <ul style="list-style-type: none">• Polycarbonate / acrylonitrile butadiene styrene• Polycarbonate• Silicone |
|-------------------|--|

DIMENSIONS

Home charger unit (typical values)

HEIGHT

42 mm

WIDTH

85 mm

DEPTH

83 mm

WEIGHT

Charging unit (typical value)

WEIGHT

111 g

| OPERATING CHARACTERISTICS | VALUE/RANGE |
|---|---------------------|
| Operating frequency (inductive charging link) | 100 kHz to 160 kHz |
| Input operating voltage | 4.75 V to 5.25 V DC |
| Output voltage | 4.75 V to 5.25 V DC |
| Output current | 200 mA |
| Power consumption | 3.5 W |

COMPATIBLE PRODUCTS

The Home Charger can be used to charge the:

- Kanto 2 Sound Processor (model number: CP1150)
- Cochlear CP1150S Surgical Processor.

Portable Charger specifications

The Cochlear Portable Charger's internal battery provides charge to the sound processor battery via the charger cable. The Portable Charger comprises:

- Custom electronics with internal battery
- Battery charge level check button and light indicators
- Built-in temperature sensor
- Charger cable to connect to sound processor
- USB cable

MATERIALS

External housings

Polyamide

DIMENSIONS

LENGTH

WIDTH

HEIGHT

Portable charger unit
(typical values)

59.5 mm

28 mm

13.7 mm
(excludes clip)

WEIGHT

WEIGHT

Portable charger unit and cable (typical value)

22 g

COMPATIBLE PRODUCTS

The Portable Charger can be used to charge the Kanso 2 Sound Processor (model number: CP1150).

| OPERATING CHARACTERISTICS | VALUE/RANGE |
|--|---------------------|
| Input operating voltage | 4.75 V to 5.25 V DC |
| Output voltage | 4.90 V to 5.25 V DC |
| Output current | 120 mA |
| Power consumption | 1 W |
| Button functions | Check battery level |
| Battery type | Lithium ion |
| Battery capacity | 1.18 Wh |
| Ingress Protection Rating when connected to the Kanso 2 Sound Processor | IP54 |

Environmental conditions

| CONDITIONS | MINIMUM | MAXIMUM |
|-----------------------------------|----------------|-----------------|
| Storage and transport temperature | -10° C (14° F) | +55° C (131° F) |
| Storage and transport humidity | 0% RH | 90% RH |
| Operating temperatures | +5° C (41° F) | +40° C (104° F) |
| Operating relative humidity | 0% RH | 90% RH |
| Operating pressure | 700 hPa | 1060 hPa |

Other information

Electromagnetic compatibility (EMC)

Guidance and manufacturer's declaration – electromagnetic emissions

The Cochlear Home Charger or Cochlear Portable Charger are intended for use in the electromagnetic environment specified below. The customer or the user of the chargers should assure they are used in such an environment.

| EMISSIONS TEST | COMPLIANCE | ELECTROMAGNETIC ENVIRONMENT – GUIDANCE |
|---|-----------------|---|
| RF emissions CISPR 11 | Group 1 | The Cochlear Home Charger and Cochlear Portable Charger use RF energy only for internal functions. Therefore, RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. |
| | Class B | <p>(Cochlear Home Charger Charging Mode, Cochlear Portable Charger Body-Worn Charging Mode)</p> <p>The Cochlear Home Charger and Cochlear Portable Charger are 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.</p> <p>The Cochlear Home Charger and Cochlear Portable Charger are suitable for use in clinics and hospitals.</p> |
| Harmonic emissions IEC 61000-3-2 | Not applicable* | Not applicable* |
| Voltage fluctuations/ flicker emissions IEC 61000-3-3 | Not applicable* | Not applicable* |

* Chargers do not connect to mains supply. Power adapter supplied is a commercially available part.

Guidance and manufacturer's declaration – electromagnetic immunity

The Cochlear Home Charger and Cochlear Portable Charger are intended for use in the electromagnetic environment specified below. The customer or the user of the chargers should assure they are 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. |

* Chargers do not connect to mains supply. Power adapter supplied is a commercially available part.

Guidance and manufacturer's declaration – electromagnetic immunity

The Cochlear Home Charger and Cochlear Portable Charger are intended for use in the electromagnetic environment specified below. The customer or the user of the chargers should assure they are used in such an environment.

ELECTROMAGNETIC ENVIRONMENT – GUIDANCE

Portable and mobile RF communications equipment should be used no closer to any part of the Cochlear Home Charger and Cochlear Portable Charger, 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:



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 Cochlear Home Charger or Cochlear Portable Charger, 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 Cochlear Home Charger and Cochlear Portable Charger.

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.

Equipment classification

Your chargers are 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.

Labelling symbols

The following symbols may appear on your charger 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



Temperature limits



CE registration mark

Ingress Protection Rating

IP21

- Protected against solid objects over 12.5 mm e.g. fingers or similar objects
- Protected against dripping water (vertically falling drops)

Rx Only

By prescription



Recyclable material



Dispose of electrical components in accordance with your local regulations



Medical device



CP1150

Kanso 2 Sound Processor (model number CP1150)



CP1150S

Cochlear CP1150S Surgical Processor

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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ACE, Advance Off-Stylet, AOS, AutoNRT, Autosensitivity, Beam, Bring Back the Beat, Button, Carina, Cochlear, 科利耳, コクレア, 코클리어, Cochlear SoftWear, Codacs, Contour, 콘트웬아, Contour Advance, Custom Sound, ESPrit, Freedom, Hear now. And always, Hugfit, Hybrid, Invisible Hearing, Kanso, MET, MicroDrive, MP3000, myCochlear, mySmartSound, NRT, Nucleus, Osia, Outcome Focused Fitting, Off-Stylet, Profile, Slimline, SmartSound, Softip, SPrint, True Wireless, the elliptical logo, and Whisper are either trademarks or registered trademarks of Cochlear Limited. Ardium, Baha, Baha SoftWear, BCDrive, DermaLock, EveryWear, Human Design, Piezo Power, SoundArc, Vistafix, and WindShield are either trademarks or registered trademarks of Cochlear Bone Anchored Solutions AB.

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