

# Mini Turbo Charger

OPERATIONS MANUAL



## Mini Turbo Charger



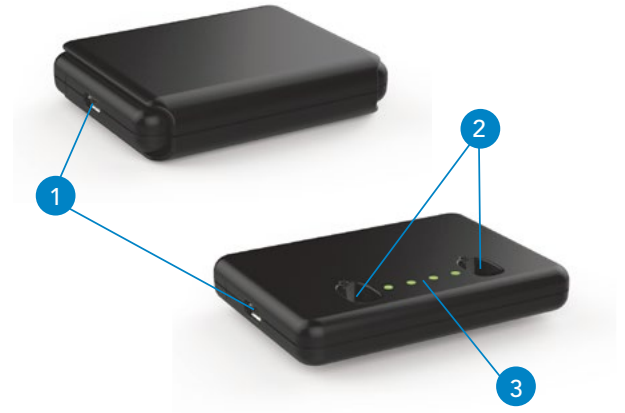

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The Mini Turbo Charger is designed to be a pocketable charging option for lithium-ion rechargeable RIC (Receiver-In-The-Canal) or BTE (Behind-The-Ear) hearing aid(s). The charger works when plugged into a wall, or on-the-go with an on-board battery that will recharge a pair of hearing aids up to four times. Be sure to fully charge your Mini Turbo Charger before you use it.

## Features, Controls and Identification

1. MicroUSB Port
2. Charging Ports
3. Hearing Aid Charging LEDs



## Charging Your Hearing Aids



Place your hearing aids on the Mini Turbo Charger with the earbud/earmold pointed out over the side of the charger, as shown above. There is not a designated right or left charging port; your left and right hearing aid can be placed in either port and charging will occur.

Your hearing aids will turn off automatically and begin to charge.

Note: The LEDs corresponding to each hearing aid will remain on for 10 seconds; an error state will remain on until the error is resolved:

- Glowing Green = Charging
- Solid Green = Fully Charged
- Blinking Red = Error State
- All four LEDs glowing in series = Turbo Charge

Your hearing aid will be completely charged in under three hours.

It is safe to keep them in the charger after they are fully charged.\*

Your hearing aid will automatically power on when removed from the charger.

Charging status of the hearing aids can be observed with two quick taps to the top of the charger. The LEDs will turn on for 10 seconds.

Charging status of the Mini Turbo Charger on-board battery can be observed with two quick taps to the charger while there are no hearing aids inserted. The LEDs will turn on for 10 seconds.

- 4 Solid > 75%
- 3 Solid < 75%
- 2 Solid < 50%
- 1 Solid < 25%
- 1 Blinking = Charge Low

*\*If you will not be wearing your hearing aids for an extended period of time, i.e., weeks, manually power them off by pressing the rocker switch for three seconds.*

## Turbo Charging

Turbo charging occurs when the battery life in the hearing aid or charger is nearly depleted. The charging rate will be at the turbo speed until it achieves 20 percent charge (max 7 minutes). All four LEDs will blink in series while turbo charging is occurring.

A 20 percent charge is equivalent to 3.5 hours of hearing aid use. The charger is able to fully charge a pair of hearing aids with 20 percent charge of the on-board battery.

Turbo charging of the hearing aid and the charger can occur at the same time while plugged in.

## Charging the On-Board Mini Turbo Charger Battery

The Mini Turbo Charger has a microUSB port for charging. The on-board battery is fully charged in under three hours. When fully charged, the on-board battery holds enough charge to fully charge a pair of hearing aids four times. The Mini Turbo Charger will maintain enough capacity to charge a pair of hearing aids at least one time for up to three weeks. In order to keep the charger battery at full capacity, it is necessary to charge the charger once every three weeks.

## Mini Turbo Charger Care

- Keep your charger clean. Heat, moisture and foreign materials can cause poor performance.
  - Wipe the charger with a dry, clean cloth making sure there is no build-up in the charging port.
  - Do not use water, solvents or cleaning fluids to clean the charging ports.
  - Store your charger in a clean, dry location, such as a dresser or shelf rather than the bathroom or kitchen.
- To ensure the longest life of your rechargeable hearing aid batteries and the charger batteries:
  - Fully charge hearing aid batteries every night.\*
  - Lithium-ion rechargeable batteries do not have a charge memory. The batteries will not wear out from charging nightly and fully discharging before recharging is not necessary.
  - Fully charge the Mini Turbo Charger on-board battery at least once every three weeks.
  - Do not expose to excess heat, i.e., do not store on a window sill or in a hot car.
- Keep your Mini Turbo Charger in the sleeve while not in use or when being transported.

*\*Nightly charging can occur in the Universal Charger. It is not necessary to use just one charger to charge the hearing aids daily.*

## Service and Repair

If, for any reason, your hearing aids and Mini Turbo Charger do not operate properly, do NOT attempt to fix them yourself. Not only are you likely to violate any applicable warranties or insurance, but you could easily cause further damage.

Should your hearing aids and charger fail or perform poorly, check the guide on the next page for possible solutions. If problems continue, contact your hearing professional for advice and assistance. Many common problems may be solved in your hearing professional's office or clinic.

## Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
No LED indicator when hearing aid inserted into the charging port	Power save mode	To refresh LEDs, tap the top surface of the charger twice. The LEDs corresponding to the hearing aids will illuminate to give status of charging for 10 seconds. They can be refreshed again at any time.
	Incorrect orientation	Reposition your hearing aid in the port with the earbud/earmold pointed out over the edge of the charger. There is not a right and left port, your hearing aid will charge in either port.

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
No LED indicator when hearing aid inserted into the charging port (contd.)	Dead battery	Connect the microUSB to your charger and plug it into the wall. The on-board battery LEDs will turn on for a few seconds to indicate connection to the power source. If they do not, contact your hearing professional.
Red blinking LED by charging port	Fault occurred	Remove the hearing aid from the charging port, wait until the LED turns off and reinsert. If the red, blinking LED persists, contact your hearing professional.
Hearing aids whistling in the charger	Incorrect orientation	Reposition your hearing aid in the port with the earbud/earmold pointed out over the edge of the charger. There is not a right and left port, your hearing aid will charge in either port. Confirm that the charging LED begins to glow.

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
Hearing aid whistling in the charger	Dead battery	The Mini Turbo Charger on-board battery has died. Plug in your charger. If you do not have the cord with you, push and hold the hearing aid's rocker switch for three seconds to turn it off. This will conserve the charge in your hearing aid.

## Safety Information

### Intended Use

An air conduction hearing aid is a wearable sound-amplifying device intended to compensate for impaired hearing. Hearing aids are available in multiple gain/output levels appropriate to treat hearing losses ranging from mild to profound. The Starkey Hearing Technologies Mini Turbo Charger is used to charge the batteries in hearing aids that use rechargeable lithium-ion batteries.

Your Mini Turbo Charger is designed to operate in public and residential environments and is designed to comply with international Electromagnetic Compatibility emissions and immunity standards for medical devices. However, it is still possible that you may experience interference caused by power line disturbances, airport metal detectors, electromagnetic fields from other medical devices, radio signals and electrostatic discharges.

If you use other medical devices or wear implantable medical devices such as defibrillators or pacemakers and are concerned that your charger might cause interference with your medical device, please contact your physician or the manufacturer of your medical device for information about the risk of disturbance.

The charger should not be used during an MRI procedure or in a hyperbaric chamber.

The charger is not formally certified to operate in explosive atmospheres such as may be found in coal mines or certain chemical factories.

Your Mini Turbo Charger should be stored within the temperature and humidity ranges of -10°C (14°F) to 45°C (113°F) and 10%-95% rH.

The charging temperature range is between 0°C (32°F) and 40°C (104°F).

### CAUTIONS:

- Charge both the hearing aids and charger for 3.5 hours before use.
- If the charger is hot, do not touch it until cool.
- If the product is not working, do not disassemble. Due to a shock hazard, please send in for repair.
- There is nothing edible in the package, including the desiccant, cleaning tool, etc.
- Any cords and AC adapters must be approved or listed by a Nationally Recognized Testing Laboratory.

We are required by regulations to provide the following warnings:

**WARNING:** Use of the charger directly next to other electronic equipment should be avoided because it could result in improper performance. If such use is necessary, note as to whether your hearing aids and the other equipment are operating normally.

**WARNING:** Use of accessories, components or replacement parts other than those provided by the manufacturer of the charger could result in increased electromagnetic emissions and decreased electromagnetic immunity and could result in degradation of performance.

**WARNING:** If Portable Radio Frequency communications equipment is used closer than 30 cm (12 inches) from your charger, degradation of the performance of your charger could result. If this occurs, move away from the communications equipment.

### **DO NOT OPEN CHARGER, NO USER-SERVICEABLE PARTS INSIDE**

The service life of the charger is 3 years.



The Starkey Hearing Technologies Mini Turbo Charger has been tested to, and has passed, the following emissions and immunity tests:

- IEC 60601-1-2 radiated and conducted emissions requirements for a Group 1 Class B device as stated in CISPR 11.
- Harmonic distortion and voltage fluctuations affecting the power input source as stated in Table 2 of IEC 60601-1-2.
- RF radiated immunity at a field level of 10 V/m between 80 MHz and 2.7 GHz as well as higher field levels from communications devices as stated in Table 9 of IEC 60601-1-2.
- Immunity to power frequency magnetic fields at a field level of 30 A/m.
- Immunity to ESD levels of +/- 8 kV conducted discharge and +/- 15 kV air discharge.
- Immunity to Electrical fast transients on the power input at a level of +/- 2 kV at a 100 Hz repetition rate.
- Immunity to Surges on the power input of +/- 1 kV line to line.
- Immunity to conducted disturbances induced by RF fields on the power input as stated in Table 6 of IEC 60601-1-2.
- Immunity to voltage dips and interruptions on the power input as stated in Table 6 of IEC 60601-1-2.

#### FCC NOTICE

This device complies with part 15 of the FCC rules and with ISCED Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this hearing aid must accept any interference received, including interference that may cause undesired operation.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.



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Class II Device



Waste from electronic equipment  
must be handled according to  
local regulations



Consult Operations Manual



#### INSTRUCTIONS FOR DISPOSAL OF OLD ELECTRONICS

Starkey Hearing Technologies encourages, the EU requires, and your local community laws may require, that your hearing aids and charger be disposed of via your local electronics recycling/disposal process.

The instructions below are provided for the benefit of disposal/recycling personnel. Please include this manual when disposing of your hearing aids and/or charger.

#### FOR DISPOSAL/RECYCLING PERSONNEL ONLY

This charger contains a Lithium-Ion Polymer battery. To remove the battery from the charger, follow one of two options:

##### Option 1

- Insert pry bars between the plastic and the USB metal housing (top and bottom)
- Pry apart to break the seam
- Clip battery wires and dispose battery

##### Option 2

- Using the style groove as a guide, sever the plastic case on all 4 sides with a dremel blade, ultrasonic knife, hot wire, or band saw blade
- In each case, establish a limit guide so entrance over 3/32 inch beyond the outer shell is prevented
- Clip battery wires and dispose battery





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