

Instructions for use

miniRITE R

Oticon Opn S™
Oticon Opn Play™
Oticon Ruby



Made for
iPhone | iPad | iPod

oticon
life-changing technology

Model overview

This booklet is valid for the Oticon Opn S™, Oticon Opn Play™ and Oticon Ruby families in the following hearing aid models:

FW 8

- | | |
|---|---------------------------|
| ☐ Oticon Opn S 1 | GTIN: (01) 05707131374967 |
| ☐ Oticon Opn S 2 | GTIN: (01) 05707131374974 |
| ☐ Oticon Opn S 3 | GTIN: (01) 05707131374981 |

- | | |
|--|---------------------------|
| ☐ Oticon Opn Play 1 | GTIN: (01) 05707131374998 |
| ☐ Oticon Opn Play 2 | GTIN: (01) 05707131375001 |

FW 1

- | | |
|--|---------------------------|
| ☐ Oticon Ruby 1 | GTIN: (01) 05707131378491 |
| ☐ Oticon Ruby 2 | GTIN: (01) 05707131378507 |

The following speakers are available for the above models:

- ☐ Speaker 60
- ☐ Speaker 85
- ☐ Speaker 100 (Power Instrument)

- ☐ Power receiver mold speaker 100
- ☐ Power receiver mold speaker 105

Introduction to this booklet

This booklet gives you guidance on how to use and maintain your new hearing aid. Please read the booklet carefully, including the **Warnings** section. This will help you to get the most out of your new hearing aid.

Your hearing care professional has adjusted the hearing aid to meet your needs. If you have further questions, please contact your hearing care professional.

| **About** | [Start-up](#) | [Handling](#) | [Options](#) | [Tinnitus](#) | [Warnings](#) | [More info](#) |

For your convenience, this booklet contains a navigation bar to help you easily navigate through the different sections.

Intended use

Intended use	The hearing aid is intended to amplify and transmit sound to the ear.
Indications for use	Impaired hearing within mild to severe-to-profound hearing loss.
Intended user	Adults and children older than 36 months.
User environment	Indoor and outdoor.
Contraindications	Users of active implants must pay special attention when using the hearing aid. For more information read the Warnings section.
Clinical benefits	The hearing aid is designed to provide better speech understanding to help ease communication with the aim of improving quality of life.

IMPORTANT NOTICE

The hearing aid amplification is uniquely adjusted and optimized to your personal hearing capabilities during the hearing aid fitting performed by your hearing care professional.

In short

Charging

Charge the hearing aid every night.

The LED on the hearing aid will turn RED/ORANGE when the hearing aid is charging and GREEN when fully charged.

It takes 3 hours to fully charge the hearing aid.

ON/OFF

The hearing aid turns ON when you remove it from the charger.
The hearing aid turns OFF when you place it in the charger.

Always leave the charger connected to a power source when the hearing aid is seated in the charging port. Switching off the charger will make the hearing aid turn on and start using battery.

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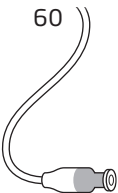
Your hearing aid, speaker and earpiece



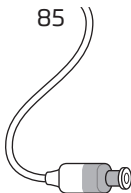
The hearing aid uses one of the following speakers:

Standard speakers

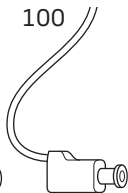
60



85

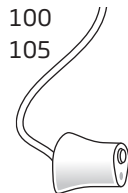


100



Power Receiver Mold speakers

100



105

The speakers uses one of the following earpieces:

Standard earpieces



☐ Open dome



☐ Bass dome, single vent



☐ Bass dome, double vent



☐ Power dome



☐ Grip Tip

Available in small and large, left and right, with or without vent.

Dome sizes



5 mm*



6 mm



8 mm



10 mm



12 mm**

* only as open dome for speaker 60

** not for open dome

Custom earpieces



☐ MicroMold



☐ LiteTip



☐ VarioTherm® MicroMold



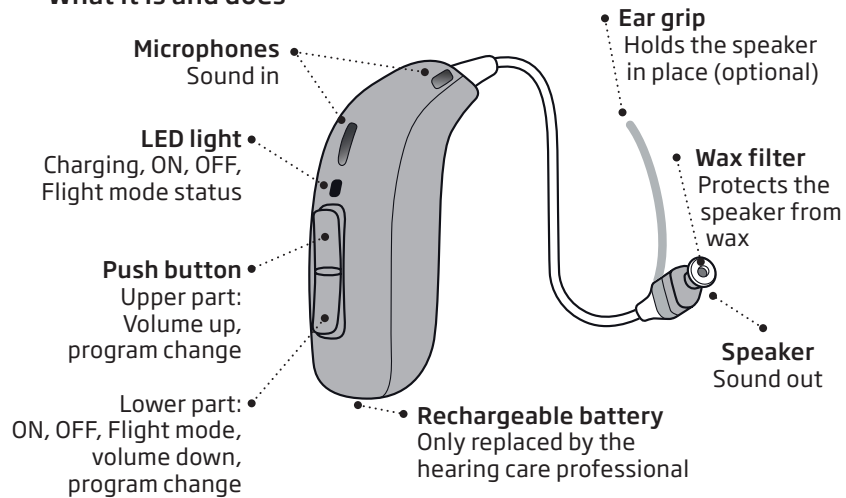
☐ VarioTherm® LiteTip

® VarioTherm is a registered trademark of Dreve

Please see details for replacing the dome in section "Replace standard earpieces".

Hearing aid

What it is and does



Charging time

Fully charge your hearing aid before first time use.

Charge your hearing aid every night. That ensures you start your day with a fully charged hearing aid.

If your hearing aid is completely drained the normal charging time is:

3 hours	1 hour	0.5 hour
Fully charged	50% charged	25% charged

The charging process will automatically stop when the battery is fully charged. Leave the hearing aid in the charger when you do not use it. Remember to keep the charger connected to a power source.

Charging time may vary depending on the remaining capacity of the battery and between the left and right hearing aid.
For how to use your charger see the charger **Instructions** for use.

Battery performance

The daily battery performance varies depending on your individual use and hearing aid settings.

Streaming sound from e.g. TV, mobile phone or ConnectClip can influence daily battery performance.

If your hearing aid runs out of battery charge, place it in the charger for a re-charge. Additional usage time cannot be achieved by trying to restart the hearing aid.

For best charging condition, the room temperature should be between +50°F to +95°F.

If you experience that your hearing aid does not perform a full day, it might be time to have the battery replaced. Contact your hearing care professional.

Turn hearing aid ON/OFF using charger

Your hearing aid automatically turns **ON** when removed from the charger.

The hearing aid LED turns **GREEN** after 6 seconds, confirming that it is ready for use. You may hear a start-up jingle.

Your hearing aid automatically turns **OFF** when placed in the charger and starts charging. The LED turns **RED/ORANGE**.

IMPORTANT NOTICE

Always leave the charger connected to a power source when the hearing aid is seated in the charging port. Switching off the charger will make the hearing aid turn on and start using battery.

Turn hearing aid ON/OFF using push button

The hearing aid can be turned ON and OFF using the push button.



ON:

Press and hold the lower part of the push button for approx. 2 seconds.

Release the button and wait until the hearing aid LED turns GREEN.

The hearing aid is now turned ON. You may hear a short start-up jingle.

OFF:

Press and hold the lower part of the button for approx. 3 seconds until the hearing aid LED turns RED/ORANGE and the hearing aid plays 4 descending tones.

Release the push button and the hearing aid is turned OFF.

See overview "Sound and LED indications".

Battery low indication

When the battery is running low, you will hear three short beeps. This will leave you approximately two hours before the hearing aid stops working. The beeps will be repeated every 30 minutes. Just before the battery runs out you will hear four descending tones.

If streaming audio to your hearing aid (from e.g. TV or mobile phone) you have approximately one hour before the hearing aid stops working, when you hear the three short beeps. Stopping streaming will prolong the battery performance.



Three beeps

= The battery is running low



Four descending tones

= The battery has run out

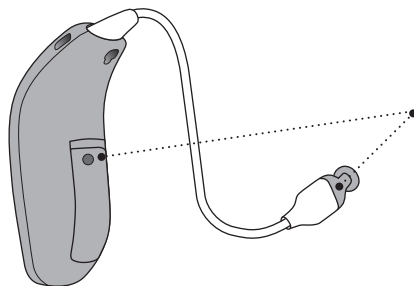
Optional LED

Red/orange blinks, continuously repeated, to indicate battery low.

Identify left and right hearing aid

It is important to distinguish between the left and the right hearing aid, as they may be programmed differently.

You can find left/right color indicators on the hearing aid itself and on 60 and 85 speakers as shown. Indicators (either L or R) can also be found on 100 speakers and some earpieces.



A **RED** indicator marks the **RIGHT** hearing aid.

A **BLUE** indicator marks the **LEFT** hearing aid.

Put on hearing aid

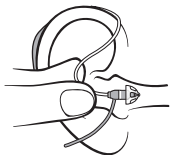
Step 1



Place the hearing aid behind your ear.

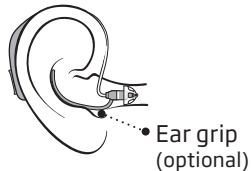
The speaker should always be used with an earpiece attached. Use only parts designed for your hearing aid.

Step 2



Hold the bend of the speaker wire between your thumb and index finger. The earpiece should point toward the opening of the ear canal.

Step 3

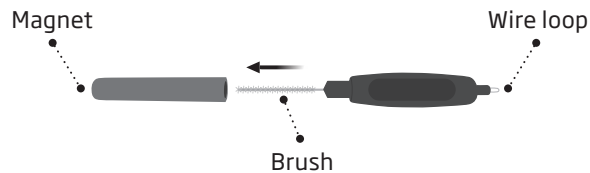


Gently push the earpiece into your ear canal until the speaker wire sits close to your head.

If the speaker has an ear grip, place it in the ear so it follows the contour of the ear.

Cleaning

The MultiTool contains a brush and wire loop for cleaning and removing earwax. If you need a new MultiTool, please contact your hearing care professional.



IMPORTANT NOTICE

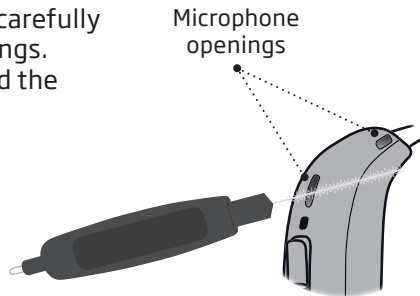
The MultiTool has a built-in magnet. Keep the MultiTool 12 in. away from credit cards and other magnetically sensitive devices.

When handling your hearing aid, hold it over a soft surface to avoid damage if you drop it.

Clean the microphone openings

Use the brush of the MultiTool to carefully brush debris away from the openings. Carefully brush the surface around the opening.

Make sure that no parts of the MultiTool are squeezed into the microphone openings by force. This may damage the hearing aid.



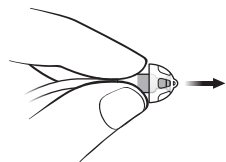
IMPORTANT NOTICE

Use a soft, dry cloth to clean the hearing aid. The hearing aid must never be washed or immersed in water or other liquids.

Replace standard earpieces

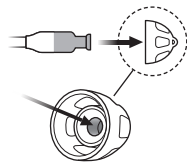
The standard earpiece (dome and Grip Tip) should not be cleaned. If the earpiece is filled with wax, replace it with a new one. Grip Tip needs to be replaced at least once a month.

Step 1



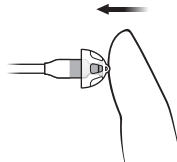
Hold on to the speaker and pull off the earpiece.

Step 2



Insert the speaker exactly into the middle of the earpiece to obtain a secure attachment.

Step 3



Push firmly to ensure that the earpiece is fastened securely.

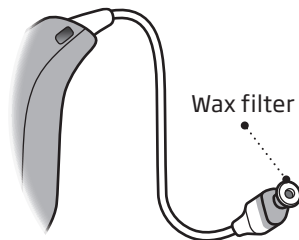
IMPORTANT NOTICE

If the earpiece is not on the speaker when removed from the ear, the earpiece may still be in the ear canal. Consult your hearing care professional for further instructions.

ProWax miniFit filter

The speaker has a white wax filter attached to the end where the earpiece is attached. The wax filter keeps wax and debris from damaging the speaker. Replace the filter when clogged, or if the hearing aid does not sound normal. Alternatively, contact your hearing care professional.

Remove the earpiece from the speaker before replacing the wax filter.

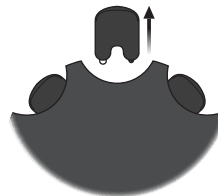


IMPORTANT NOTICE

Always use the same type of wax filter as was originally supplied with the hearing aid. If you are in any doubt about the use or replacement of wax filters, contact your hearing care professional.

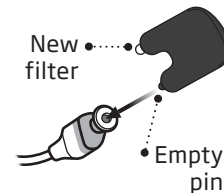
Replace ProWax miniFit filter

1. Tool



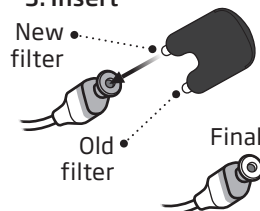
Remove the tool from the shell. The tool has two pins, one empty for removal and one with the new wax filter.

2. Remove



Push the empty pin into the wax filter in the speaker and pull it out.

3. Insert



Insert the new wax filter using the other pin, remove the tool, and throw it out.

Note:

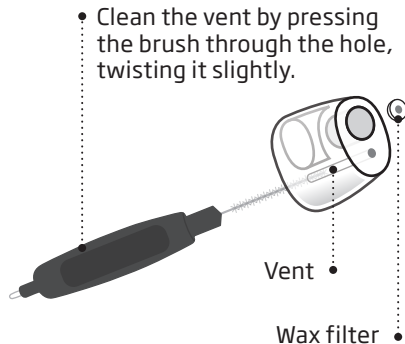
If you use a mold or LiteTip, your hearing care professional must replace the wax filter in the speaker.

Clean custom earpieces

The earpiece should be cleaned regularly.

The earpiece has a white wax filter*. The filter keeps wax and debris from damaging the speaker.

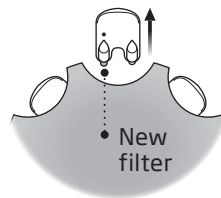
Replace the filter when clogged, or if the hearing aid does not sound normal. Alternatively, contact your hearing care professional.



* VarioTherm MicroMold and LiteTip do not have a wax filter

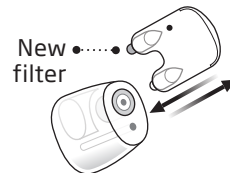
Replace ProWax filter

1. Tool



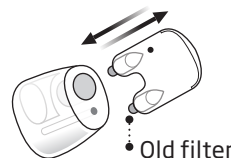
Remove the tool from the shell. The tool has two pins, one empty for removal and one with the new wax filter.

2. Remove



Push the empty pin into the wax filter in the earpiece and pull it out.

3. Insert



Insert the new wax filter using the other pin, remove the tool, and throw it out.

Storage of the hearing aid

The charger is the best storage for the hearing aid. Anytime your hearing aid is not in use, place it in the charger for charging. This will ensure your hearing aid is always charged.

To ensure the longest life of the rechargeable battery in the hearing aid do not expose to excessive heat. For example, do not leave the hearing aid in the sun in a window or in a car, even if the hearing aid is in the charger.

IMPORTANT NOTICE

Always leave the charger connected to a power source when the hearing aid is seated in the charging port. Switching off the charger will make the hearing aid turn on and start using power.

Long term storage (weeks, months)

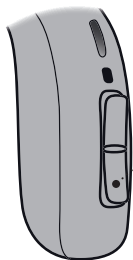
Before storing the hearing aid for a longer period (more than 14 days) fully charge the hearing aid. Then turn the hearing aid off. This way the battery can be charged again.

It is necessary to fully charge the hearing aid every 6 months to protect the rechargeable battery. If a stored hearing aid is not charged within a 6 month time frame, the rechargeable battery will need to be replaced.

To see how to place the hearing aid in the charger see the Charger Instructions for use.

Flight mode

To activate and deactivate flight mode press and hold the push button (lower part) for 7 seconds.



Beep: The hearing aid plays 4 descending beeps followed by 4 beeps. This indicates that flight mode is activated or deactivated.

LED flight mode activated: A long red/orange blink followed by green, red/orange, red/orange. The LED will blink green, red/orange, red/orange a few times. This confirms that flight mode is activated.

LED flight mode deactivated: A long red blink followed by two long green blinks. This confirms that flight mode is deactivated.

Pressing the lower part of the push button on one hearing aid will activate flight mode on both hearing aids.

When flight mode is activated, Bluetooth® is turned off. The hearing aid will still be working.

See overview "Sound and LED indications".

Optional features and accessories

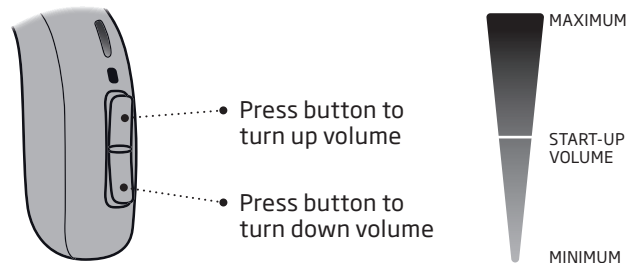
The features and accessories described in the following pages are optional. Please contact your hearing care professional to find out how your hearing aid is programmed.

If you experience difficult listening situations, a special program may be helpful. These are programmed by your hearing care professional.

Write down hearing situations in which you may need help.

Change volume

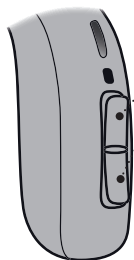
The push button allows you to adjust the volume. You will hear a beep when you turn the volume up or down.



Change program

Your hearing aid can have up to four different programs. These are programmed by your hearing care professional. You will hear one to four tones when you change program depending on the program.

See the Sound and LED indicator section.



Press the push button to switch between programs.

The program cycle switches one program forward, for example program 1 to 2 or program 4 to 1.

Mute

Use the mute function if you need to silence the hearing aid. Your hearing aid can be muted by using one of the following optional devices:

Oticon ON App
ConnectClip
Remote Control 3.0

How to unmute your hearing aid

The hearing aid can be unmuted using one of the optional devices or by applying a short press to the upper or lower part of the button on the hearing aid.

IMPORTANT NOTICE

Do not use the mute function as an off switch, as the hearing aid still draws current from the battery in this mode.

Use hearing aid with iPhone and iPad

Your hearing aid is Made for iPhone® and allows for direct communication and control with iPhone, iPad® or iPod touch®. For assistance in using these products with your hearing aid, please contact your hearing care professional.



To see how to pair your hearing aid with your iPhone please visit www.oticon.com/support

For information on compatibility, please visit www.oticon.com/support

Use of the Made for Apple badge means that an accessory has been designed to connect specifically to the Apple product(s) identified in the badge, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that use of this Accessory with iPod, iPhone, or iPad may affect wireless performance.

Wireless accessories and other options

As an enhancement to your wireless hearing aid, a range of accessories is available. These can enable you to hear and communicate better in many everyday situations.

ConnectClip

When ConnectClip is paired with your mobile phone, you can use the hearing aid as a hands-free headset. ConnectClip can also be used as a remote microphone

TV Adapter 3.0

TV Adapter streams sound directly from a TV or electronic audio device to your hearing aid.

Remote Control 3.0

Offers the ability to change program, adjust volume, or mute your hearing aid.

Oticon ON App

Intuitive and discreet control of your hearing aid. For iPhone, iPad, iPod touch, and Android™ devices.

Phone Adapter 2.0

Connects wirelessly to the hearing aids via Connect Clip allowing for use of landline phones.

Telecoil program

Telecoil helps you hear better when using a telephone with a built-in loop or when you are in buildings with teleloop systems such as theaters, churches, or lecture rooms. This symbol or a similar sign is shown wherever a teleloop has been installed.



CROS - optional for Oticon Opn S 1, Opn S 2, Oticon Opn Play 1, Oticon Ruby 1 and Ruby 2

Solution for people with an unaidable hearing loss in one ear. Oticon CROS on the poorer ear transmits sound to the hearing aid on the better ear.

For more information visit www.oticon.com or contact your hearing care professional.

☐ **Tinnitus SoundSupport™** (optional)

Intended use of Tinnitus SoundSupport

Tinnitus SoundSupport is a tool intended to generate sounds to provide temporary relief for patients suffering from tinnitus as part of a tinnitus management program.

The target population is the adult population (over 18 years old).

Tinnitus SoundSupport is targeted to licensed hearing care professionals (audiologists, hearing aid specialists, or otolaryngologists) who are familiar with the evaluation and treatment of tinnitus and hearing loss. Fitting of Tinnitus SoundSupport must be done by a hearing care professional participating in a tinnitus management program.

Guidelines for tinnitus sound generator users

These instructions contain information about Tinnitus SoundSupport, which may have been enabled in your hearing aids by your hearing care professional.

Tinnitus SoundSupport is a tinnitus management device intended to generate sound of sufficient intensity and bandwidth to help manage tinnitus.

Your hearing care professional will also be able to offer the appropriate follow-up care. It is important to follow his/her advice and directions regarding such care.

Prescription use only

Good health practice requires that a person reporting tinnitus have a medical evaluation by a licensed ear physician before using a sound generator. The purpose of such an evaluation is to ensure that any medically treatable condition that may cause tinnitus is identified and treated prior to using a sound generator.

Sound and volume adjustments

Tinnitus SoundSupport is programmed by your hearing care professional to match your hearing loss and preferences for tinnitus relief. It offers a number of different sound options. Together with your hearing care professional, you can select your preferred sound(s).

Tinnitus SoundSupport programs

Together with your hearing care professional you decide for which programs you may want to have Tinnitus SoundSupport activated. The sound generator can be activated in up to four different programs.

Volume adjustments with Tinnitus SoundSupport

When you select a hearing aid program for which Tinnitus SoundSupport is activated, your hearing care professional can only set the push button on your hearing aid to work as a volume control for the tinnitus relief sound.

Your hearing care professional will set the volume control for the sound generator in one of two ways:

- A) Change volume in each ear separately, or
- B) Change volume in both ears simultaneously.

miniRITE R

A) How to change Tinnitus SoundSupport volume in each ear separately

To **increase** volume (on one hearing aid only), use a short press on the upper part of the push button repeatedly until desired level is reached.
To **decrease** volume (on one hearing aid only), use a short press on the lower part of the push button repeatedly until desired level is reached.

B) How to change Tinnitus SoundSupport volume in both ears simultaneously

You can use one hearing aid to increase/decrease the sound in both hearing aids. When changing the volume in one hearing aid, the volume on the other hearing aid will follow.

To **increase** volume, use a short press on the upper part of the push button repeatedly.

To **decrease** volume, use a short press on the lower part of the push button repeatedly.

To be filled out by your hearing care professional.

Limitation on use time

Daily use

The volume levels of Tinnitus SoundSupport can be set to a level which could lead to permanent hearing damage when used for a prolonged period of time. Your hearing care professional will advise you of the maximum amount of time per day you should use Tinnitus SoundSupport. It should never be used at uncomfortable levels.

See table "Tinnitus SoundSupport: Limitation on use" in section "Your individual hearing aid settings" at the end of this booklet to learn how many hours per day you can safely use the relief sound in your hearing aid.

Important information for hearing care professionals about Tinnitus SoundSupport

Device description

Tinnitus SoundSupport is a module function that can be enabled in the hearing aids by the hearing care professional.

Maximum wearing time

The wearing time of Tinnitus SoundSupport will decrease as you increase the level above 80 dB(A) SPL. The fitting software will automatically display a warning when the hearing aid exceeds 80 dB(A) SPL. See "Max wearing time indicator" next to the tinnitus fitting graph in the fitting software.

The volume control is deactivated

By default the volume control for the sound generator is deactivated in the hearing aid. Risk of noise exposure increases when the volume control is activated.

If the volume control is activated

A warning may be displayed if you activate the tinnitus volume control in the "Buttons & Indicators" screen. This occurs if the relief sound can be listened to at levels that may cause hearing damage. The "Max wearing time" table in the fitting software displays the number of hours the patient can safely use Tinnitus SoundSupport.

- Note the max wearing time for each program for which Tinnitus SoundSupport is activated.
- Write those values in the table: "Tinnitus SoundSupport: Limitation on use", in the back of this booklet.
- Instruct your patient accordingly.

Tinnitus SoundSupport warnings

If your hearing care professional has activated the sound generator Tinnitus SoundSupport, please pay attention to the following warnings.

There are some potential concerns associated with the use of any sound generated by a tinnitus management device. Among them are the potential worsening of tinnitus, and/or a possible change in hearing thresholds.

Should you experience or notice a change in hearing or tinnitus, or any dizziness, nausea, headaches, heart palpitations, or possible skin irritation at the point of contact with the device, you should immediately discontinue use of the device and consult a medical, audiology, or other hearing care professional.

As with any device, misuse of the sound generator feature may cause potentially harmful effects. Care should be taken to prevent unauthorized use and to keep the device out of reach of children and pets.

Maximum wearing time

Always follow the maximum wearing time per day of the Tinnitus SoundSupport advised by your hearing care professional. Prolonged use may lead to worsening of your tinnitus or of your hearing loss.

General warnings

For your personal safety and to ensure correct usage, you should familiarize yourself fully with the following general warnings before using your hearing aid.

Consult your hearing care professional if you experience unexpected operations or serious incidents with your hearing aid during use or because of its use. Your hearing care professional will support you with issue handling and, if relevant, reporting to the manufacturer and/or the national authorities.

Please note that a hearing aid will not restore normal hearing and will not prevent or improve a hearing impairment resulting from organic conditions. A hearing aid is only a part of hearing habilitation and may need to be supplemented by auditory training and instruction in lipreading. Furthermore,

note that in most cases, infrequent use of a hearing aid does not permit a user to attain full benefit from it.

This hearing aid is supported by a non-removable rechargeable Lithium-ion battery cell. Please ensure to charge the hearing aid and familiarize yourself with the safety and handling information related to rechargeable hearing aids.

Do not try to get access to the battery inserted in the hearing instrument. The battery must only be replaced by your hearing care professional.

Only charge the hearing aid with an Oticon charger. Other chargers risk destroying the hearing aid and battery.

Usage of hearing aids

Hearing aids should be used only as directed and adjusted by your hearing

care professional. Misuse can result in sudden and permanent hearing loss.

Never allow others to wear your hearing aid, as incorrect usage could cause permanent damage to their hearing.

Choking hazards & risk of swallowing small parts

Hearing aids and their parts should be kept out of reach of children and anyone who might swallow these items or otherwise cause injury to themselves.

Explosives

The hearing aid is safe to use under normal usage conditions. The hearing aid has not been tested for compliance with international standards concerning explosive environments.

Therefore, do not use the hearing aid in environments with danger of explosions e.g. mines, oxygen rich environments or areas where flammable anaesthetics are handled.

Fatality hazards and risk of swallowing Lithium-ion batteries or placing them in the ear or nose

Never swallow Lithium-ion batteries neither place them in the ear or the nose as this may lead to serious injury or death in as little as 2 hours. This can be due to chemical burn, which can cause permanent damage to the nose or ear or potentially lead to perforation of the inner organs. If a Lithium-ion battery is swallowed or placed in the ear or nose, seek emergency medical treatment immediately.

If a battery or hearing aid is swallowed, see a doctor immediately and contact the National Poison Center at 1-800-222-1222 or National Battery Ingestion Hotline at 1-800-498-8666.

General warnings

Rechargeable battery

Do not attempt to open the hearing aid, as it may damage the battery.

Never attempt to replace the battery. If battery replacement is needed, please return your device to the supplier. The service guarantee is void if there are signs of tampering.

The safety of recharging batteries using a USB connector is determined by the external signal source. When connected to external equipment plugged into a wall outlet, this equipment must comply with IEC 62368-1 or equivalent safety standards.

Dysfunction

Be aware of the possibility that your hearing aid may stop working without notice. Keep this in mind when you depend on warning sounds (e.g. when you are in traffic). The hearing aids may stop functioning, for instance if the batteries have expired or if the tubing is blocked by moisture or earwax.

Active implants

The hearing aid has been thoroughly tested and characterized for human health according to international standards for human exposure (Specific Absorption Ratio - SAR), induced electromagnetic power and voltages into the human body.

The exposure values are well below internationally accepted safety limits for SAR, Induced electromagnetic power and voltages into the human body defined in the standards for human health and coexistence with active medical implants such as pacemakers and heart defibrillators.

If you have an active brain Implant, please contact the manufacturer of your implantable device for information about the risk of disturbance.

The Autophone or MultiTool (which has a built-in magnet) should be kept at least 30 cm away from the implant, e.g. do not carry it in your breast pocket.

In general, please follow the guidelines recommended by the manufacturers of implantable defibrillators and pacemakers on use with magnets.

Cochlear implants

If you are using a cochlear implant (CI) on one ear and a hearing aid on the other ear, make sure to always keep your CI at least at a 1cm distance from your hearing aid. The magnetic field from the CI sound processors, coils, and magnets may permanently damage the speaker unit in your hearing aid. Never place the devices close together on a table e.g. when cleaning or changing batteries. Do not carry the CI and the hearing aid together in the same box.

X-ray/CT/MR/PET scanning, electrotherapy and surgery

Remove your hearing aid before X-ray, CT/MR/PET scanning, electrotherapy, surgery, etc. as your hearing aid may be damaged when exposed to strong fields.

General warnings

Heat and chemicals

The hearing aid must never be exposed to extreme heat, e.g. left inside a parked car in the sun.

The hearing aid must not be dried in microwave ovens or other ovens.

The chemicals in cosmetics, hairspray, perfume, aftershave lotion, sunscreen lotion, and insect repellent can damage the hearing aid. Always remove your hearing aid before applying such products and allow time to dry before use.

Power instrument

Special care should be exercised in selecting, fitting and using a hearing aid whose maximum sound pressure capability exceeds 132 dB SPL (IEC 60138-4/IEC 711), as there may be risk of impairing the remaining hearing of the hearing aid user.

For information on whether your hearing aid is a power instrument, see the model overview.

Possible side effects

Hearing aids and earpieces may cause an accelerated accumulation of earwax.

The non-allergenic materials used in hearing aids may in rare cases cause a skin irritation or other side effects.

Please seek consultation with a physician if these conditions occur.

Use on aircraft

Your hearing aid has Bluetooth. On board an aircraft, the hearing aid must be put into flight mode to deactivate Bluetooth, unless Bluetooth is permitted by the flight personnel.

Connection to external equipment

The safety of the use of hearing aids when connected to external equipment (with an auxiliary input cable and/or USB cable and/or directly), is determined by the external signal source. When connected to external equipment plugged into a wall outlet, this equipment must comply with IEC 62368-1 or equivalent safety standards.

Incompatible non-supplied accessories

Only use accessories, transducers or cables supplied by the manufacturer of this device. Incompatible accessories

may result in reduced electromagnetic compatibility (EMC) of your device.

Modification of hearing aids is not allowed

Changes or modifications not expressly approved by the manufacturer will void the warranty of the equipment.

Interference

The hearing aid has been thoroughly tested for interference according to the most stringent international standards.

Electromagnetic interference may occur in the vicinity of equipment with this symbol. Portable and mobile RF (radio frequency) communications equipment can affect the performance of the hearing aid. If your hearing aid is affected by electromagnetic interference, move away from the source to reduce the interference

Continues on next page

General warnings

Warning to hearing care professional

A hearing care professional should advise a prospective hearing aid user to consult immediately with a licensed physician (preferably an ear specialist) before dispensing a hearing aid if the hearing care professional determines through inquiry, actual observation, or review of any other available information concerning the prospective user, that the prospective user has any of the following conditions:

- (i) Visible congenital or traumatic deformity of the ear.
- (ii) History of active drainage from the ear within the previous 90 days.

- (iii) History of sudden or rapidly progressive hearing loss within the previous 90 days.
- (iv) Acute or chronic dizziness.
- (v) Unilateral hearing loss of sudden or recent onset within the previous 90 days.
- (vi) Audiometric air-bone gap equal to or greater than 15 decibels at 500 Hertz (Hz), 1,000 Hz, and 2,000 Hz.
- (vii) Visible evidence of significant cerumen accumulation or a foreign body in the ear canal.
- (viii) Pain or discomfort in the ear.

Special care should be exercised in selecting and fitting a hearing aid whose maximum sound pressure capability exceeds 132 dB SPL as there may be risk of impairing the remaining hearing of the hearing aid user.

Important notice for prospective hearing aid users

Good health practice requires that a person with a hearing loss have a medical evaluation by a licensed physician (preferably a physician who specializes in diseases of the ear) before purchasing a hearing aid. Licensed physicians who specialize in diseases of the ear are often referred to as Otolaryngologists, Otologists or

Otorhinolaryngologists. The purpose of medical evaluation is to ensure that all medically treatable conditions that may affect hearing are identified and treated before the hearing aid is purchased. Following the medical evaluation, the physician will give you a written statement that states that your hearing loss has been medically evaluated and that you may be considered a candidate for a hearing aid. The physician will refer you to an audiologist or a hearing aid dispenser, as appropriate, for a hearing aid evaluation.

General warnings

The audiologist or hearing care professional will conduct a hearing aid evaluation to assess your ability to hear with and without a hearing aid. The hearing aid evaluation will enable the audiologist or dispenser to select and fit a hearing aid to your individual needs. If you have reservations about your ability to adapt to amplification, you should inquire about the availability of a trial, rental or purchase option program. Many hearing care professionals now offer programs that permit you to wear a hearing aid for a period of time for a nominal fee, after which you may decide if you want to purchase the hearing aid. Federal law limits the sale of hearing aids to those individuals

who have obtained a medical evaluation from a licensed physician.

Federal law permits a fully informed adult to sign a waiver statement declining the medical evaluation for religious or personal beliefs that preclude consultation with a physician. The exercise of such a waiver is not in your best health interest and its use is strongly discouraged. A hearing aid will not restore normal hearing and will not prevent or improve a hearing impairment resulting from organic conditions. A hearing aid is only part of hearing rehabilitation and may need to be supplemented by auditory training and lip reading.

Children with hearing loss

In addition to seeing a physician for medical evaluation, a child with a hearing loss should be directed to an audiologist for evaluation and rehabilitation, since hearing loss may cause problems in language development and educational and social growth of a child. An audiologist is qualified by training and experience to assist in the evaluation and rehabilitation of a child with a hearing loss. If the user is an infant, small child, or person with cognitive impairment, it is recommended that the hearing aid be modified with a tamper-resistant battery compartment.

Troubleshooting guide

Troubleshooting for Charger, see Charger Instructions for use

Symptom	Possible causes	Solutions
No sound	Hearing aid is out of power	Charge the hearing aid
	Dead battery	Contact your hearing care professional
	Clogged earpieces (dome, Grip Tip, or mold)	Clean mold Replace wax filter, dome, or Grip Tip
Intermittent or reduced sound	Clogged sound outlet	Clean mold or replace wax filter, dome, or Grip Tip
	Moisture	Gently wipe the hearing aid and let it dry
	Hearing aid is out of power	Charge the hearing aid
Squealing noise	Hearing aid earpiece inserted incorrectly	Re-insert the earpiece
	Earwax accumulated in ear canal	Have ear canal examined by your doctor
Beeping	If your hearing aid plays 8 beeps, 4 times consecutively, your hearing aid needs a microphone service check	Contact your hearing care professional

If none of the above solutions work, consult your hearing care professional.

Continues on next page

Troubleshooting guide

Troubleshooting for Charger, see Charger Instructions for use

Symptom	Possible causes	Solutions
Hearing aid LED remains off when the hearing aid is placed in the charger	The charger is not switched on	Verify that the charger power supply is connected correctly
	The hearing aid or charger is either too warm or too cold	Move the charger and hearing aid to a location with a temperature between +41°F to +104°F
	Charging is incomplete. The room temperature exceeds +95°F, which prolongs the charging time. The charger has stopped charging to protect the battery	Reinsert the hearing aid into the charger. This will complete the charging within approximately 15 minutes
	The hearing aid is not correctly inserted into the charger	Check the charger slots for foreign objects
The hearing aid LED blinks red/orange when the hearing aid is placed in the charger	System error	Contact your hearing care professional
Pairing issue with Apple device	Bluetooth connection failed	1) Unpair your hearing aid 2) Turn Bluetooth off and on again. 3) Turn off and turn back on the hearing aid. 4) Re-pair hearing aid (please visit www.oticon.com/support).
	Only one hearing aid paired	

If none of the above solutions work, consult your hearing care professional.

Water & dust resistant (IP68)

Your hearing aid is dust tight and protected against ingress of water, which means it is designed to be worn in all daily life situations. Therefore, you do not have to worry about sweat or getting wet in the rain.

Before charging the hearing aid make sure to wipe off any moisture.

Should your hearing aid come into contact with water and stop working, gently wipe off any water and let the hearing aid dry.

IMPORTANT NOTICE

Do not wear your hearing aid while showering or participating in water activities. Do not immerse your hearing aid in water or other liquids.

Conditions of use

Operational environment conditions	Temperature: +41°F to +104°F Relative humidity: 5% to 93%, non-condensing
Charging conditions	Temperature: +41°F to +104°F Relative humidity: 5% to 93%, non-condensing
Transportation and storage conditions	Temperature and humidity should not exceed the following limits for extended periods during transportation and storage: Transport: Temperature: -4°F to +140°F Relative humidity: 5% to 93%, non-condensing Storage: Temperature: -4°F to +86°F Relative humidity: 5% to 93%, non-condensing

Information about Charger: Condition of use, see Charger Instruction for use

Mobile phone

Some hearing aid users have reported a buzzing sound in their hearing aid when they are using mobile phones, indicating that the mobile phone and hearing aid may not be compatible.

The ANSI C63.19 standard determines the prediction of compatibility between a specific hearing aid and a mobile phone by: adding the numerical value of the rating for the hearing aid immunity to the numerical value of the rating for the mobile phone emissions. A sum of 4 would indicate that the combination of wireless device and hearing aid is usable; a combined rating that equals at least 5 would provide normal use; a combined rating of 6 or greater would indicate excellent performance.

Whereas all hearing aids have acoustic coupling, only the larger hearing aids have the physical space for telecoil (inductive) coupling. These two types of coupling have different rating scales (M1-M4 for acoustic coupling and T1-T4 for telecoil coupling, respectively) and both ratings are therefore relevant when predicting the compatibility of a particular hearing aid.

For a hearing aid with both acoustic coupling and telecoil coupling with a rating of M4/T2 and with a telephone rating of M3/T3), the combined rating is 7 ($M4 + M3$) for the acoustic coupling and 5 ($T2 + T3$) for the telecoil coupling. According to the guidelines given above, both types of

coupling will thereby be acceptable, with the acoustic coupling indicating excellent performance and the telecoil coupling indicating normal use.

The above equipment performance measurements, categories and system classifications are based upon the best information available, but it cannot be guaranteed that all users will be satisfied.

The immunity of the hearing aid is at least M2/T2.

The equipment performance measurements, categories and system classifications are based upon the best information available but cannot guarantee that all users will be satisfied.

IMPORTANT NOTICE

The performance of individual hearing aids may vary with individual mobile phones. Therefore, please try this hearing aid with your mobile phone or, if you are purchasing a new phone, be sure to try it with your hearing aid prior to purchase. For additional guidance, please ask your mobile phone provider for the booklet entitled "Hearing Aid Compatibility with Digital Wireless Cell Phones."

Technical information

The hearing aid contains two radio technologies which are described below:

The hearing aid contains a radio transceiver using short range magnetic induction technology working at 3.84 MHz. The magnetic field strength of the transmitter is very weak and always below 15 nW (typically below -40 dBμA/m (-12.20 dBμA/ft) at 10 meter (33 feet) distance).

The hearing aid also contains a radio transceiver using Bluetooth Low Energy (BLE) and a proprietary short-range radio technology, both working at 2.4 GHz. The 2.4 GHz radio trans-

mitter is weak and is always below 4 dBm e.i.r.p. in total radiated power.

The hearing aid complies with international standards concerning electromagnetic compatibility and human exposure. Only use your hearing aid in areas where wireless transmission is permitted.

Due to the limited space available on the hearing aid, relevant approval markings can be found in this booklet.

Additional information can be found in the "Technical Data sheets" on www.oticon.com

USA and Canada

The hearing aid contains a radio module with the following certification ID numbers:

FCC ID: U28AUMRTRC
IC: 1350B-AUMRTRC

The device complies with Part 15 of the FCC Rules and with Industry Canada's license-exempt RSSs.

Operation is subject to the following two conditions:

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

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

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

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 manufacturer or an experienced radio/TV technician for help.

The manufacturer declares that this hearing aid is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

Declaration of Conformity is available from the manufacturer.



Oticon A/S
Kongebakken 9
DK-2765 Smørum
Denmark
www.oticon.global

CE 0543



Waste from electronic equipment must be handled according to local regulations.

 **Bluetooth®**



IP68

Description of symbols used in this booklet	
	Warnings Text marked with a warning symbol must be read before using the device.
	Manufacturer The device is produced by the manufacturer whose name and address are stated next to the symbol. Indicates the medical device manufacturer, as defined in EU Directives 90/385/EEC, 93/42/EEC and 98/79/EC.
	CE mark The device complies with Medical Device Directive 93/42/EEC. The four digit number indicates the identification of the notified body.
	Electronic waste (WEEE) Recycle hearing aids, accessories or batteries according to local regulations. Hearing aid users can also return electronic waste to their hearing care professional for disposal. Electronic equipment covered by Directive 2012/19/EU on waste and electrical equipment (WEEE).
	Regulatory Compliance Mark (RCM) The device complies with electrical safety, EMC and radio spectrum requirements for devices supplied to the Australian or New Zealand market.
	Double insulation Indicates that product power supply is double insulated. This means a very low risk of single fault failures i.e. single fault failures cannot occur.

	Indoor use Indicates that the product is qualified for indoor use.
	IP code Indicates the class of protections against harmful ingress of water and particulate matter according to EN 60529:199. IP6X indicates total dust protection. IPX8 indicates the protection against the effects of continuous immersion in water.
	Bluetooth logo Registered trademark of Bluetooth SIG, Inc. where any use of such requires a license.
	Made for Apple badges Indicates that the device is compatible with iPhone, iPad and iPod touch.
	Hearing loop This logo incorporates the universal symbol for hearing assistance. The "T" signifies that a hearing loop is installed.
	Radio Frequency (RF) transmitter Your hearing aid contains an RF transmitter.
	Global Trade Item Number A globally unique 14-digit number used to identify medical device products including medical device software. GTIN in this booklet is related to medical device firmware. GTIN on regulatory packaging label is related to medical device hardware

Description of additional symbols used on labels	
	Keep dry Indicates a medical device that needs to be protected from moisture.
	Caution symbol Consult instructions for use for warnings and cautions.
	Catalog number Indicates the manufacturer's catalog number so that the medical device can be identified.
	Serial number Indicates the manufacturer's serial number so that a specific medical device can be identified.
	Medical Device The device is a medical device.
	Use-by date Indicates the date after which the medical device is not to be used.
 Li-ion	Battery recycling symbol Li-Ion Battery recycling symbol

	Temperature limit Indicates the temperature limits to which the medical device can be safely exposed
	Humidity limitation Indicates the range of humidity to which the medical device can be safely exposed.

International warranty

Your hearing aid is covered by an international limited warranty issued by the manufacturer for a period of at least 24 months from the date of delivery. This limited warranty covers manufacturing and material defects in the hearing aid itself, but not in accessories such as batteries, tubing, speakers, earpieces and filters, etc. Problems resulting from improper or incorrect handling or care, excessive use, accidents, repairs made by an unauthorized party, exposure to corrosive conditions, physical changes in your ear, damage due to foreign objects entering the device, or incorrect adjustments are NOT covered by the limited warranty and may void it. The above warranty does not affect

any legal rights that you might have under applicable national legislation governing sale of consumer goods. Your hearing care professional may have issued a warranty that goes beyond the clauses of this limited warranty. Please consult him/her for further information.

If you need service

Take your hearing aid to your hearing care professional, who may be able to sort out minor problems and adjustments immediately.

Warranty

Certificate

Name of owner: _____

Hearing care professional: _____

Hearing care professional's address: _____

Hearing care professional's phone: _____

Purchase date: _____

Warranty period: _____ Month: _____

Model left: _____ Serial no.: _____

Model right: _____ Serial no.: _____

Your individual hearing aid settings

To be filled out by your hearing care professional.

Tinnitus SoundSupport: Limitation on use			
☐	No limitation on use		
☐	Program	Start-up volume (Tinnitus)	Max volume (Tinnitus)
☐	1	Max _____ hours per day	Max _____ hours per day
☐	2	Max _____ hours per day	Max _____ hours per day
☐	3	Max _____ hours per day	Max _____ hours per day
☐	4	Max _____ hours per day	Max _____ hours per day

Settings overview for your hearing aid				
Left			Right	
☐ Yes	☐ No	Volume control	☐ Yes	☐ No
☐ Yes	☐ No	Program shift	☐ Yes	☐ No
☐ Yes	☐ No	Tinnitus SoundSupport	☐ Yes	☐ No
Volume control indicators				
☐ On	☐ Off	Beeps at min/max volume	☐ On	☐ Off
☐ On	☐ Off	Beeps when changing volume	☐ On	☐ Off
☐ On	☐ Off	Beeps at start-up volume	☐ On	☐ Off
Battery indicators				
☐ On	☐ Off	Low battery warning	☐ On	☐ Off

Sound and LED indicators

Different sounds and LED lights indicate the hearing aid status. The different indicators are listed on the following pages. For charger LED indicators, see Charger Instruction for use.

Your hearing care professional can set sound and LED indicators to match your preferences.

Program	☐ Sound	☐ LED ¹⁾	When to use
1	1 tone		
2	2 tones	 	
3	3 tones	  	
4	4 tones	   	

 Green flash

1) LED continuous or repeated three times with small pauses

ON/OFF	Sound	LED	LED comments
On	☐ Jingle	☐  	Shown one time
Off	☐ 4 descending tones	☐ 	
Volume	Sound	LED	
Start-up volume	☐ 2 beeps	☐ 	
Minimum/maximum volume	☐ 3 beeps	☐ 	Continuous or repeated three times
Volume up/down	☐ 1 beep	☐ 	
Mute activated on ON App, ConnectClip or Remote Control 3.0		☐  	

 Long green flash  Green flash  Red/orange flash  Long red/orange flash

Continues on next page

Accessories	☐ Sound	☐ LED	LED comments
TV Adapter	2 different tones		Continuous or repeated three times
ConnectClip remote microphone	2 different tones		
Flight mode	Sound	☐ LED	
Flight mode active	4 descending tones + short jingle	   	
Flight mode inactive	4 descending tones + short jingle	   ¹⁾	

 Long green flash  Green flash  Red/orange flash

1) Only available when three-time repetition is selected

Warnings	Sound	LED	LED comments
Low battery	☐ 3 alternate tones	☐       	Continuously flashing
Battery shut down	4 descending tones		
Microphone service check needed	8 beeps repeated 4 times	☐    	Repeated four times
No light in the hearing aid LED when placed in the charger		Turned off	See Troubleshooting, solutions
The hearing aid LED flashes red/orange when the hearing aid is placed in the charger		  	Continuously flashing. See Troubleshooting, solutions

 Red/orange flash  Long red/orange flash

Technical Data

60

2CC Coupler
measured
according to
American
National
Standard
ANSI S3.22-2014
and ANSI S3.55-
2014/Part 5

Supply voltage:
Lithium ion

0 dB SPL ref. 20 mPa

	Oticon Opn S 1 Opn Play 1	Oticon Opn S 2 Ruby 1	Oticon Opn S 3 Opn Play 2 Ruby 2
Peak OSPL90	105 dB SPL	105 dB SPL	105 dB SPL
HF Average OSPL90	102 dB SPL	102 dB SPL	102 dB SPL
Peak Full-on Gain	35 dB	35 dB	35 dB
HF Average Full-on Gain	30 dB	30 dB	30 dB
Reference Test Gain	26 dB	26 dB	26 dB
Frequency Range	100-9200 Hz	100-7500 Hz	100-7500 Hz
Total Harmonic Distortion 500 Hz	<2 %	<2 %	<2 %
Total Harmonic Distortion 800 Hz	<2%	<2%	<2%
Total Harmonic Distortion 1600 Hz	<2 %	<2 %	<2 %
Battery Consumption	1.6 mA	1.6 mA	1.6 mA
Equivalent Input Noise Level (omni/dir)	18/27 dB SPL	19/28 dB SPL	19/28 dB SPL
HF Average SPLITS (left/right ear) (miniRITE R)	85/85 dB SPL	85/85 dB SPL	85/85 dB SPL
Attack Time	2 ms	2 ms	2 ms
Release Time	30 ms	30 ms	30 ms

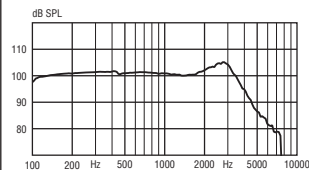
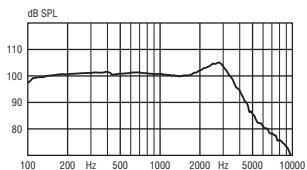
miniRITE R

60

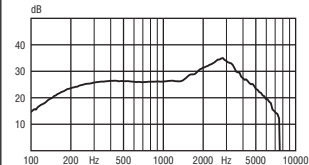
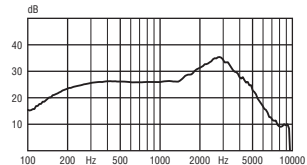
Oticon Opn S 1
Oticon Opn Play 1

Oticon Opn S 2 & Opn S 3
Oticon Opn Play 2
Ruby 1 & Ruby 2

**OSPL90 - Output
Sound
Pressure Level**
Input: 90 dB SPL.
Technical setting: A0



Full-on Gain
Input: 50 dB SPL.
Technical setting: A0



Technical Data

85

2CC Coupler
measured
according to
American
National
Standard
ANSI S3.22-2014
and ANSI S3.55-
2014/Part 5

Supply voltage:
Lithium ion

0 dB SPL ref. 20 mPa

	Oticon Opn S 1 Opn Play 1	Oticon Opn S 2 Ruby 1	Oticon Opn S 3 Opn Play 2 Ruby 2
Peak OSPL90	116 dB SPL	116 dB SPL	116 dB SPL
HF Average OSPL90	112 dB SPL	112 dB SPL	112 dB SPL
Peak Full-on Gain	54 dB	54 dB	54 dB
HF Average Full-on Gain	47dB	47dB	47dB
Reference Test Gain	34dB	34dB	34dB
Frequency Range	100-8500 Hz	100-7500 Hz	100-7500 Hz
Total Harmonic Distortion 500 Hz	<2 %	<2 %	<2 %
Total Harmonic Distortion 800 Hz	<2%	<2%	<2%
Total Harmonic Distortion 1600 Hz	<2 %	<2 %	<2 %
Battery Consumption	1.7 mA	1.7 mA	1.7mA
Equivalent Input Noise Level (omni/dir)	20/29 dB SPL	21/30dB SPL	21/30dB SPL
HF Average SPLITS (left/right ear) (miniRITE R)	94/94 dB SPL	94/94 dB SPL	94/94 dB SPL
Attack Time	2 ms	2 ms	2 ms
Release Time	20 ms	20 ms	20 ms

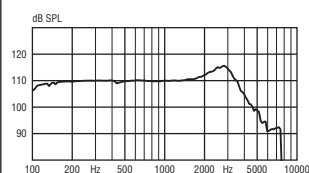
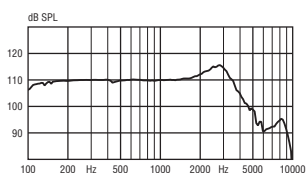
miniRITE R

85

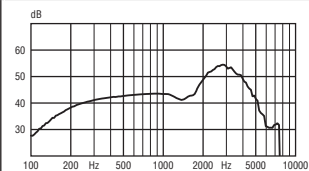
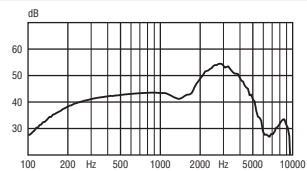
Oticon Opn S 1
Oticon Opn Play 1

Oticon Opn S 2 & Opn S 3
Oticon Opn Play 2
Ruby 1 & Ruby 2

**OSPL90 - Output
Sound
Pressure Level**
Input: 90 dB SPL.
Technical setting: A0



Full-on Gain
Input: 50 dB SPL.
Technical setting: A0



Technical Data

100

2CC Coupler
measured
according to
American
National
Standard
ANSI S3.22-2014
and ANSI S3.55-
2014/Part 5

Supply voltage:
Lithium ion

miniRITE R

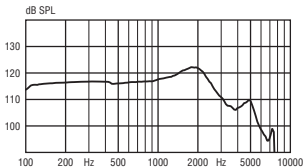
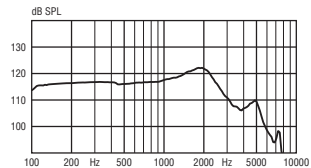
0 dB SPL ref. 20 mPa	Oticon Opn S 1 Opn Play 1	Oticon Opn S 2 Ruby 1	Oticon Opn S 3 Opn Play 2 Ruby 2
Peak OSPL90	122 dB SPL	122 dB SPL	122 dB SPL
HF Average OSPL90	118 dB SPL	118 dB SPL	118 dB SPL
Peak Full-on Gain	57dB	57dB	57dB
HF Average Full-on Gain	51dB	51dB	51dB
Reference Test Gain	42 dB	42 dB	42 dB
Frequency Range	100-8000 Hz	100-7500 Hz	100-7500 Hz
Total Harmonic Distortion 500 Hz	<2 %	<2 %	<2 %
Total Harmonic Distortion 800 Hz	<2%	<2%	<2%
Total Harmonic Distortion 1600 Hz	<2 %	<2 %	<2 %
Battery Consumption	1.7 mA	1.7 mA	1.7 mA
Equivalent Input Noise Level (omni/dir)	19/30 dB SPL	19/30 dB SPL	19/30 dB SPL
HF Average SPLITS (left/right ear) (miniRITE R)	103/103 dB SPL	103/103 dB SPL	103/103 dB SPL
Attack Time	2 ms	2 ms	2 ms
Release Time	10 ms	10 ms	10 ms

100

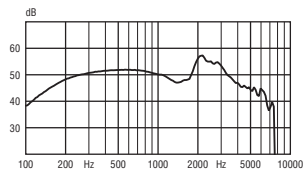
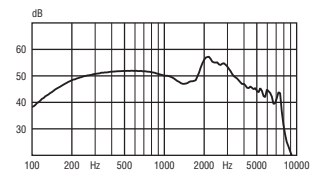
Oticon Opn S 1 Oticon Opn Play 1

Oticon Opn S 2 & Opn S 3 Oticon Opn Play 2 Ruby 1 & Ruby 2

**OSPL90 - Output
Sound
Pressure Level**
Input: 90 dB SPL.
Technical setting: A0



Full-on Gain
Input: 50 dB SPL.
Technical setting: A0



Technical Data

105

2CC Coupler
measured
according to
American
National
Standard
ANSI S3.22-2014
and ANSI S3.55-
2014/Part 5

Supply voltage:
Lithium ion

miniRITE R

0 dB SPL ref. 20 mPa	Oticon Opn S 1 Opn Play 1	Oticon Opn S 2 Ruby 1	Oticon Opn S 3 Opn Play 2 Ruby 2
Peak OSPL90	127 dB SPL	127 dB SPL	127 dB SPL
HF Average OSPL90	122 dB SPL	122 dB SPL	122 dB SPL
Peak Full-on Gain	64dB	64dB	64dB
HF Average Full-on Gain	57dB	57dB	57dB
Reference Test Gain	46 dB	46 dB	46 dB
Frequency Range	100-7800 Hz	100-6500 Hz	100-6500 Hz
Total Harmonic Distortion 500 Hz	<2 %	<2 %	<2 %
Total Harmonic Distortion 800 Hz	<2%	<2%	<2%
Total Harmonic Distortion 1600 Hz	<2 %	<2 %	<2 %
Battery Consumption	1.7 mA	1.7 mA	1.7 mA
Equivalent Input Noise Level (omni/dir)	18/29 dB SPL	18/29 dB SPL	18/29 dB SPL
HF Average SPLITS (left/right ear) (miniRITE R)	105/105 dB SPL	105/105 dB SPL	105/105 dB SPL
Attack Time	2 ms	2 ms	2 ms
Release Time	20 ms	20 ms	20 ms

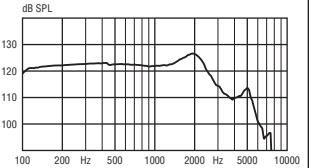
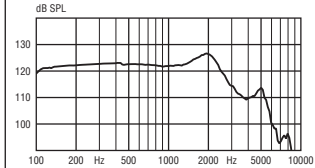
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105

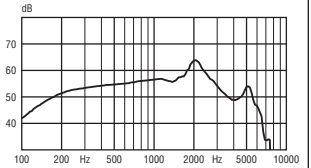
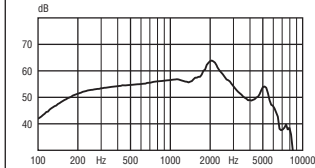
Oticon Opn S 1 Oticon Opn Play 1

Oticon Opn S 2 & Opn S 3 Oticon Opn Play 2 Ruby 1 & Ruby 2

**OSPL90 - Output
Sound
Pressure Level**
Input: 90 dB SPL.
Technical setting: A0



Full-on Gain
Input: 50 dB SPL.
Technical setting: A0



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8, Oticon Ruby Firmware 1