

TV-A

TV Adapter



Instructions for Use

bernafon[®]
Your hearing • Our passion

Introduction to this booklet

This booklet guides you on how to use and maintain your new TV-A. Please read the booklet carefully, including the Warning section. This will help you to achieve the full benefit of your new TV-A.

If you have additional questions about the use of your TV-A, please contact your hearing care professional.

Intended use



Intended use:	The TV-A is intended as a wireless transmitter of sound from a TV or from other electronic audio devices to hearing aids.
Indications for use:	No indications for use.
Intended user:	Adults and children older than 36 months.
Use environment:	Home setting.
Contraindications:	No contraindications.
Clinical benefits:	See clinical benefits of the hearing aid.

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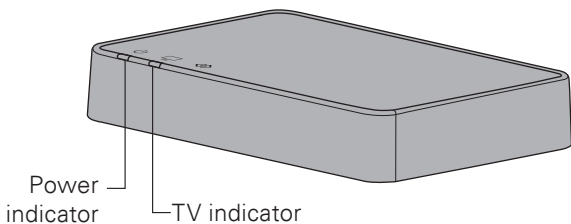
TV-A overview

Mode	 Power indicator	 TV indicator
Power on, not paired to any hearing aids	Fading blue	Fading blue
Pairing complete (steady light 30 seconds)	Steady blue	Steady blue
Power on, not streaming	Steady red	No light
RCA inserted and streaming	Steady green	Steady green
No RCA/Audio input	Steady green	Blinking green
TOSLINK inserted and streaming (digital)	Steady green	Steady blue
TOSLINK inserted and streaming (invalid signal)*	Steady green	Blinking red
Fault condition**	Blinking red	No light

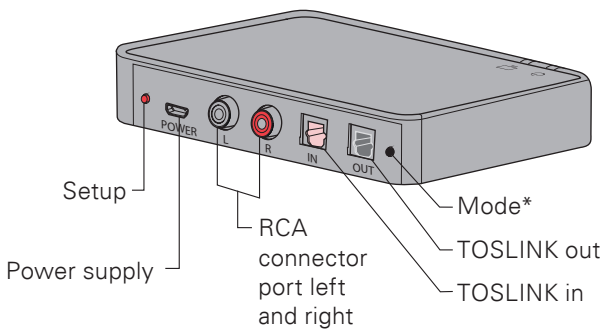
* Try other input connection

** Contact your hearing care professional

Front view



Back view



* Reserved for future use

Installation

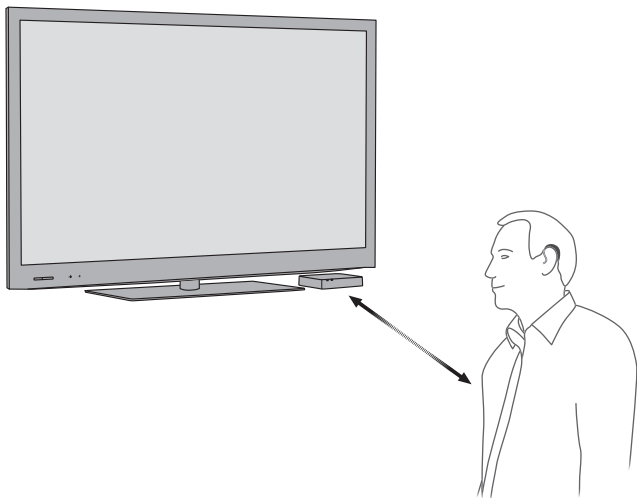
Using the TV-A for the first time

Before you can use your hearing aids with your TV, the TV-A must be connected to a power outlet, connected to the TV and paired with your hearing aids.

This is a step-by-step guide on how to install the TV-A.

Placing the TV-A

Place the TV-A close to the TV – horizontally, with free line of sight to the hearing aids.



Connecting the TV-A to a power outlet

Start by connecting the TV-A to a power outlet.

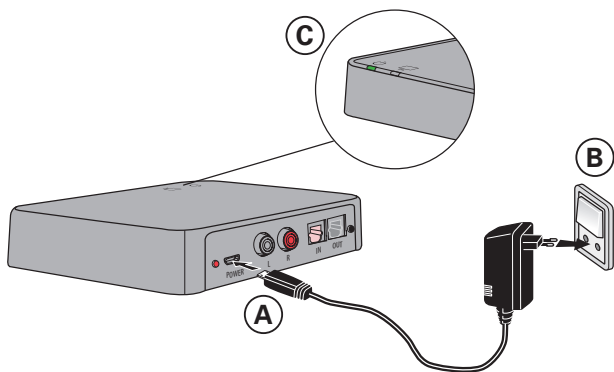
Use the provided power supply

1. Plug the power cord into the “power” connector on the TV-A (A).
2. Plug the power supply into the mains wall socket (B).
3. Check that the power is turned on (C); after a few seconds both indicators will fade blue to indicate that pairing with your hearing aids is needed. See page 24.

Important Notice

When charging the TV-A use the supplied original power supply 5.0V/1A, CE and safety marked.





Connecting the TV-A to the TV

You can connect the TV-A to the TV in four different ways.

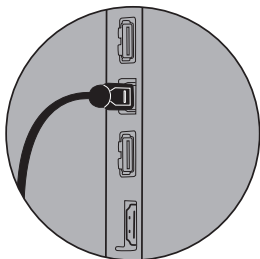
Connection
TOSLINK (either digital stereo PCM or Dolby® Digital*)
RCA audio output (L + R)
Mini jack output (typically headphone output)
SCART audio output (L + R)

* Dolby is a registered trademark of Dolby Laboratories.

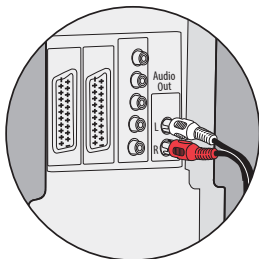
We recommend using TOSLINK.

Please see the following pages for a solution which fits your TV.

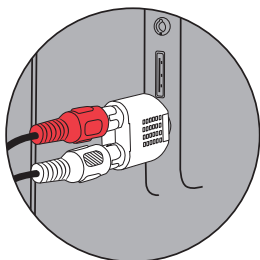
TOSLINK



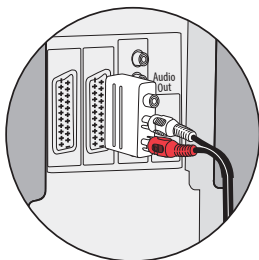
RCA



Mini jack



SCART

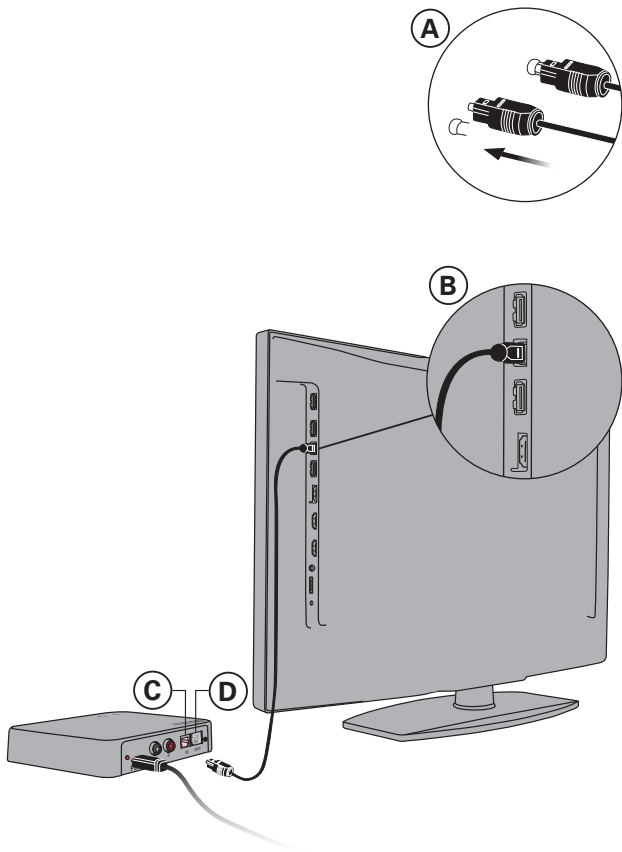


Connecting using TOSLINK

1. Use the TOSLINK cable.
2. Remove the plastic cap from the TOSLINK cable (A).
3. Connect the TOSLINK cable to the TOSLINK output on your TV/home theater system (B).
4. Connect the TOSLINK cable to the pink TOSLINK input (C) on the TV-A.
5. The TOSLINK output (D) may be used to connect other TOSLINK devices such as external Dolby® Decoders and surround sound systems.
6. Refer to page 24 for pairing of the TV-A with your hearing aid.



It may be necessary to configure your TV, DVD player or home theater system so that the correct audio output is available on the TOSLINK output.

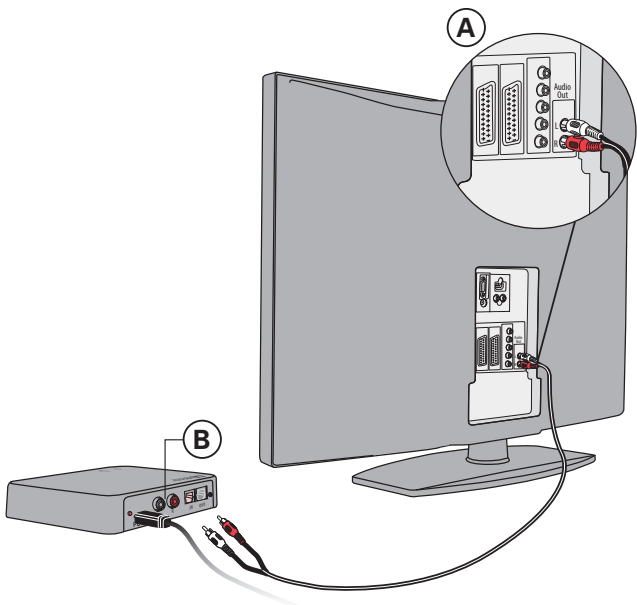


Connecting using RCA

1. Use the RCA cable.
2. Connect the RCA cable to the RCA output on your TV (A) or home theater system. (Typically marked "L – R AUDIO OUT" and found on the TV back or bottom panel.)
3. Connect the RCA cable to the RCA connectors (B) on the back of the TV-A.
4. Refer to page 24 for pairing of hearing aids with the TV-A.



It may be necessary to configure your TV so that the correct audio output is available on the RCA output.

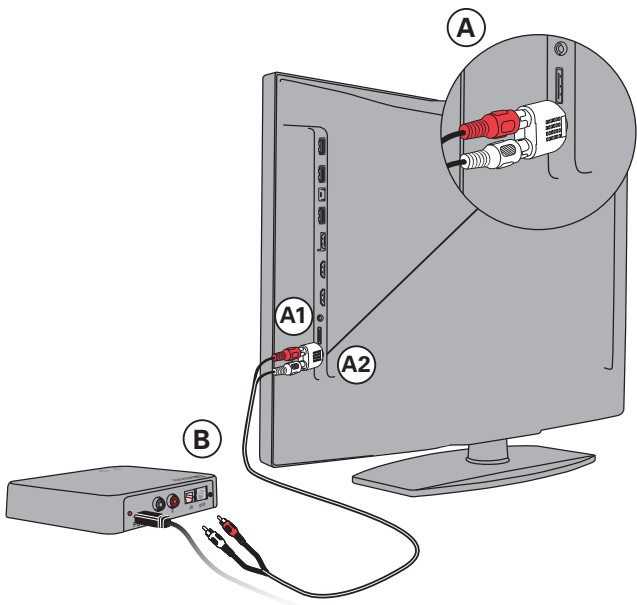


Connecting using mini jack adapter

1. Use the mini jack adapter.
2. Connect the RCA cable to the mini jack adapter (A1).
3. Connect the mini jack to the TV, this is typically the headphone output (A2).
4. Connect the RCA connectors to the TV-A RCA input (B).
5. Refer to page 24 for pairing of the TV-A with your hearing aids.



The TV speakers may be muted when connecting to the headphone output, and sound only heard through the hearing aids/TV-A.



Connecting using SCART

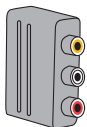
1. Use a SCART adapter* (A).
2. Connect the RCA cable to the red and white terminals on the SCART adapter (B).
3. Connect the SCART adapter to the SCART output on your TV (C).
4. Connect the RCA connectors to the TV-A RCA input (D).
5. Refer to page 24 for pairing of the TV-A with your hearing aids.

* The SCART adapter is an accessory which is not included in the package content. If you need a SCART adapter, please contact your hearing care professional.



The audio output on the SCART connector can be dependent on the source selected on the TV. For example, some TVs will only make TV sound available on the SCART output (i.e. not sound from a connected DVD player).

Scart adapter (accessory)

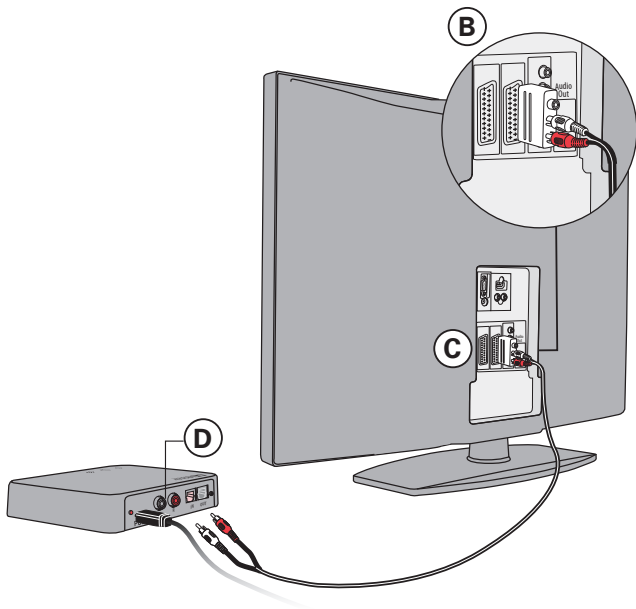


A

B

C

D



Pairing the TV-A with your hearing aids

Before using the TV-A, it must be paired with your hearing aids.

Pairing is only required once, and takes around 20–60 seconds.



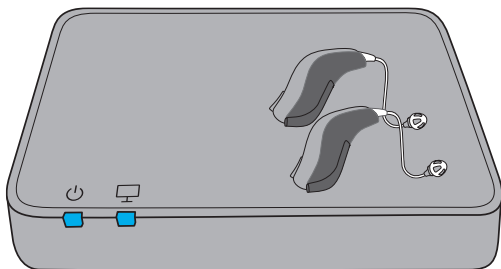
This TV-A can be paired to as many hearing aids as you like. All users will be able to hear the same sound. Please see page 36 for more details.

Important Notice

Please refer to your hearing aid's instructions for use for details on the functionality of your specific hearing aid solution.

Ensure the TV-A is powered on.

Restart the hearing aids to activate pairing mode. See instructions for use for your hearing aids, how to turn the hearing aids off and on again.



Place both hearing aids close to, or on top of the TV-A.

Pairing is completed when the power indicator and the TV indicator are blue for about 30 seconds.

TV and power Indicators	Mode
Steady blue	Pairing completed

Start TV sound using your hearing aids

Once a TV-A has been paired with your hearing aids, it will be available as a program in your hearing aids. To listen to TV simply press and hold the program switch on your hearing aids to change program.

The program cycle will depend on the programs already available in your hearing aids.

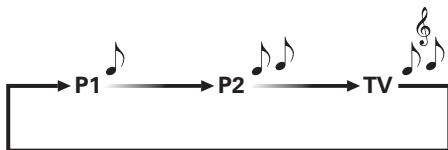
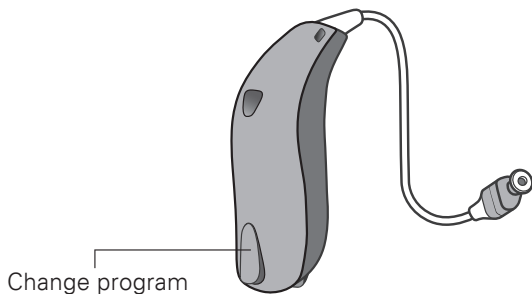
The TV program indicator – which is different from hearing aid program indicators – will be heard once the TV program is selected.

Important Notice

Please refer to your hearing aid's instructions for use for details on the functionality of your specific hearing aid solution.

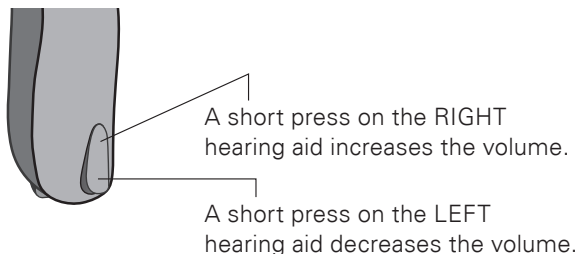
Turn off TV sound using your hearing aids

To stop the sound from the TV simply change to the desired program in your hearing aids.



Volume control using your hearing aids

Use the volume button on your hearing aid to adjust the TV volume level in both hearing aids. Adjust the volume by pressing up or down briefly. Press briefly, repeatedly, for further adjustments.



The TV volume in the hearing aids is normally not affected by volume adjustments from the TV remote control.

Important Notice

Please refer to your hearing aid's instructions for use for details on the functionality of your specific hearing aid solution.

Start TV sound using the hearing aid remote control

The RC-A remote control is an optional accessory to your wireless hearing aids.

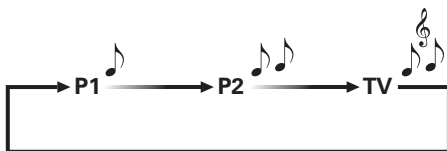
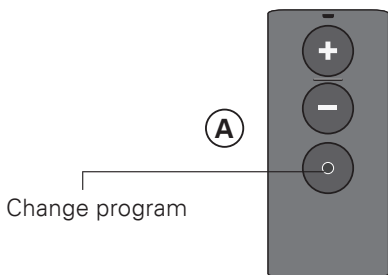
Once a TV-A has been paired to your hearing aids it will be available as a program. To listen to TV simply press the program selector and change program (A).

The program cycle will depend on the programs already available in your hearing aids.

The TV program indicator – which is different from program indicators – will be heard once the TV program is selected.

Turn off TV sound using your remote control

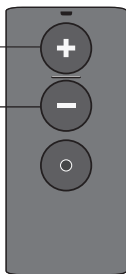
To stop the sound from the TV simply change to the desired program in your hearing aids.



Volume control using your RC-A remote control

Use the volume buttons on your remote to adjust the TV volume level in both hearing aids.

Adjust the volume by pressing up or down briefly. Repeat the brief press for further adjustments.



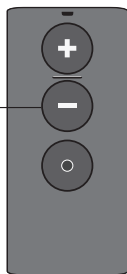
The TV volume in the hearing aids is normally not affected by volume adjustments from the TV remote control.

Mute using your RC-A remote control

While watching TV you can switch off the microphones in your hearing aids, so that only the sound from the TV is heard.

Press and hold the volume down button for approx. 3 seconds until the surrounding sound is muted.

To unmute simply press volume up or down briefly.



The mute and volume functions are optional and can be customized by your hearing care professional.

Using the TV-A with the Bernafon EasyControl-A app

Sound from the TV-A can also be controlled using the Bernafon EasyControl-A app.

Please refer to the instructions for use "Bernafon EasyControl-A app for Android and iOS" for further information.

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App Store is a service mark of Apple Inc. Android, Google Play, and the Google Play logo are trademarks of Google LLC.

More than one user

An unlimited number of hearing aid users can listen to the sound from one TV-A. Pair the hearing aids to the TV-A as described on page 24.

More than one TV-A

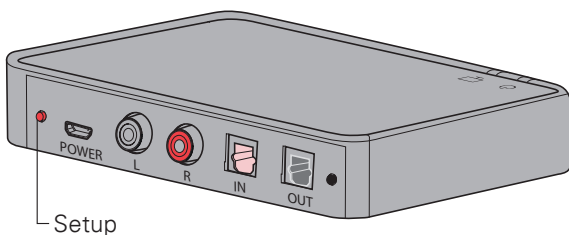
Your hearing aids can be paired with up to 4 TV-As. When you switch to "TV Program" mode, your hearing aids will automatically connect to the last connected TV-A within range. I.e. the last TV you were watching with sound streamed directly to your hearing aids. If you hear sound from another TV than the one you wish to, you may:

- 1a) Turn OFF the TV you do NOT want to hear sound from and wait 5 minutes, or
- 1b) Turn OFF the TV-A streaming sound by disconnecting the power cord.
- 2) Exit "TV Program" in your hearing aids.
- 3) Make sure you are within range of the TV and TV-A you wish to connect to, and that these are (still) turned ON.
- 4) Enter "TV Program" in you hearing aids.
- 5) Your hearing aids will now be connected to the right TV and TV-A
- 6) If another person wish to watch the TV that you turned OFF, it can be turned ON again after 5 minutes. If you do not wish to wait 5 minutes before turning this ON, you shall choose step 1b above, and the power cord can be reconnected immediately after step 5.

Removing a user/clear pairings

To remove a user from your TV-A perform a system reset and re-pair the required hearing aids.

1. Reset system: press and hold the setup button for more than 5 seconds.
2. Indicators fade blue to indicate no pairings.
3. Re-pair the required instruments (see page 24).



TV and power Indicators	Mode
Fading blue	No pairings

Cleaning and maintenance

Use a soft, dry cloth to clean the TV-A.

Important Notice

The TV-A must never be washed or immersed in water or other liquids.

Warnings

For your personal safety and to ensure correct usage, you should familiarize yourself fully with the following general warnings before using your TV-A. Consult your hearing care professional if you experience unexpected operations or serious incidents with your TV-A 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.

Warnings

Fire hazards

- The power source in your TV-A has insufficient energy to cause fire in normal usage conditions.

Interference

- Your TV-A has been thoroughly tested for interference according to the most stringent international standards. However, interference between your TV-A and other devices may occur. If this occurs, increase the distance between the TV-A and the interfering device.

Connection to external equipment

The safety of the use TV-A when connected to external equipment with an auxiliary input cable, 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. Incompatible accessories may result in reduced electromagnetic compatibility (EMC) of your device.

Technical information

Model name	TVA3
GTIN	05714464006762
Conditions of Use	
Operating conditions	Temperature: +5°C to +40°C (41°F to 104°F) Humidity: 15 % to 93 %, relative humidity, non-condensing Atmospheric pressure: 700 hPa to 1060 hPa
Storage and transportation conditions	Temperature and humidity shall not exceed the below limits for extended periods during transportation and storage: Temperature: -25°C to +70°C (-13°F to 158°F) Humidity: 15 % to 93 %, relative humidity, non-condensing Atmospheric pressure: 700 hPa to 1060 hPa
Dimensions	124 x 80 x 21 mm (4.9 x 3.1 x 0.8 inch); weight 107 g

System features	<ul style="list-style-type: none"> • Autopairing: TV-A will automatically pair with hearing aids in pairing mode • AutoStream: TV-A will automatically start streaming audio when a valid audio signal is detected • MultiConnect: TV-A can connect to an unlimited number of hearing aids
Compatibility	The TV-A works with all versions of Bernafon hearing aids with 2.4 GHz radio technology
Input connectors/ format	<ul style="list-style-type: none"> • Mini jack 3.5 mm (L+R) (using included cable and converter) • RCA (L+R) • TOSLINK Digital Stereo (PCM)/Dolby® Digital
Output	TOSLINK (buffered output of TOSLINK input)
Range	Up to 15 meters (free line of sight from TV-A to hearing aids)
Audio inputs (format)	<ul style="list-style-type: none"> • Stereo analog input (RCA) • Stereo/PCM (TOSLINK) • Dolby® Digital (TOSLINK)
Latency (TV-A input to hearing aid speaker)	<p>Analog: 25 ms Digital: 28 ms Dolby® Digital: 45 ms</p>
Line input sensitivity	6 dB Vrms (analog), impedance: 10 K Ω
Audio bandwidth	10 kHz/stereo from input to hearing aids

Dynamic self-adjustment	AGC (analogue inputs) (line in approximation to 0 dB 5 secs)
Status indicators	Power and status LED on front
Colors	Dark gray
Power consumption	Idle, not streaming sound: 0.8 W Streaming sound: 1.5 W
Transceiver:	
Operating frequency	2.402 GHz – 2.480 GHz (ISM Band)
Number of channels	39
Output power	Max. 17.1 dBm EIRP. In compliance with all relevant standards.
Channel bandwidth	1 MHz/2 MHz
Type of modulation	GFSK/2GFSK
ITU designator	F7E

The TV-A contains a radio transceiver using Bluetooth Low Energy (BLE) and a proprietary short range radio technology both working at ISM band 2.4 GHz. The radio transmitter is weak and always below 50 mW equal to 17 dBm in total radiated power. The TV-A complies with international standards concerning radio transmitters, electromagnetic compatibility and human exposure.

Due to the limited space available on the TV-A relevant approval markings can be found in this document.

Additional information can be found in the "Technical Information" section (see pages 42–44).

USA and Canada

This device is certified under:

FCC ID: 2ACAHTVA3

IC: 11936A-TVA3

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

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.

Notice: 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 TV-A is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

Declaration of Conformity is available at the manufacturer.



Manufacturer:

SBO Hearing A/S

Kongebakken 9

DK-2765 Smørum

Denmark

www.sbohearing.com



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








International Warranty









Your TV-A is covered by an international limited warranty issued by the manufacturer for a period of 12 months from the date of delivery. This limited warranty covers manufacturing and material defects in the device itself, but not in accessories such as batteries, cables, power supplies, etc. Problems arising from improper/incorrect handling or care, excessive use, accidents, repairs made by an unauthorised party, exposure to corrosive conditions, 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 TV-A to your hearing care professional, who may be able to sort out minor problems and adjustments immediately.

Description of symbols used in this booklet or on the packaging label

	<p>Warnings Text marked with a warning symbol must be read before using the device.</p>
	<p>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 Regulations 2017/745 and 2017/746.</p>
	<p>CE mark The device complies with Medical Device Regulation 2017/745.</p>
	<p>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).</p>
	<p>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.</p>
	<p>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.</p>
	<p>Indoor use Indicates that the product is qualified for indoor use.</p>

<p>Complies with IMDA Standards DA103820</p>	<p>Singapore IMDA label Indicates that the device complies with the standards and specification published by Info-Communications Media Development Authority (IMDA) and is compatible with the public telecommunication networks in Singapore and does not cause radio frequency interference to other authorized radio-communication networks.</p>
	<p>South Africa ICASA label Indicates that the device has license to be sold in South Africa.</p>
	<p>Japan TELEC symbol Indicates mark for certified radio equipment.</p>
	<p>Brazil ANATEL label Indicates that the device is certified and homologated in Brazil.</p>
	<p>Medical Device The device is a medical device.</p>
	<p>Keep dry Indicates a medical device that needs to be protected from moisture.</p>
	<p>Catalogue number Indicates the manufacturer's catalogue number so that the medical device can be identified.</p>
	<p>Serial number Indicates the manufacturer's serial number so that a specific medical device can be identified.</p>
<p>Rated input: 5,0 V \approx 0,4 A</p>	<p>Power supply outlet Indicates the rate at which power is sent from the outlet to your electrical device.</p>
	<p>Unique device identifier Indicates a carrier that contains unique device identifier information</p>

Date: _____ Model: _____

Warranty period: _____

Serial no.: _____

Hearing Center

< >
8,15 mm

Placeholder
for FSC logo

FSC
MIX
Paper

FSC® C043871

^
19 mm
v

< 15 mm >

^
9,0 mm
v

World Headquarters

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0000213700000001

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