

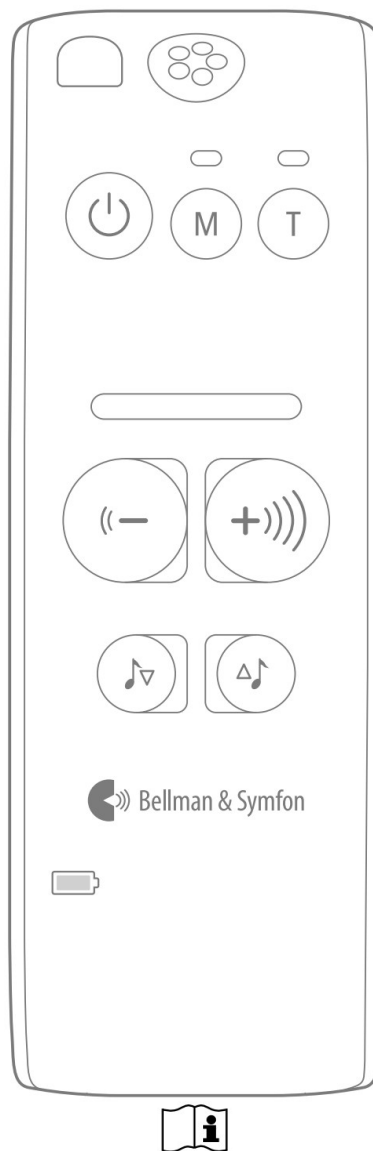


# Bellman Symfon BE2020 Maxi Personal Amplifier User Manual

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**BE2020**  
**Maxi personal amplifier**  
**User Manual**



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## Read this first

This booklet guides you on how to use and maintain your new Maxi personal amplifier. Ensure you read this booklet carefully, including the Warnings section. This will help you get the most out of your Maxi. If you have additional questions, contact your hearing care professional.

### Intended purpose

The intended purpose of the audio product family is to amplify the volume and improve the speech intelligibility

during conversations and TV-listening. It can also be used with other sound sources.

### Intended user

The intended user is a person with mild to severe hearing loss who needs sound amplification.

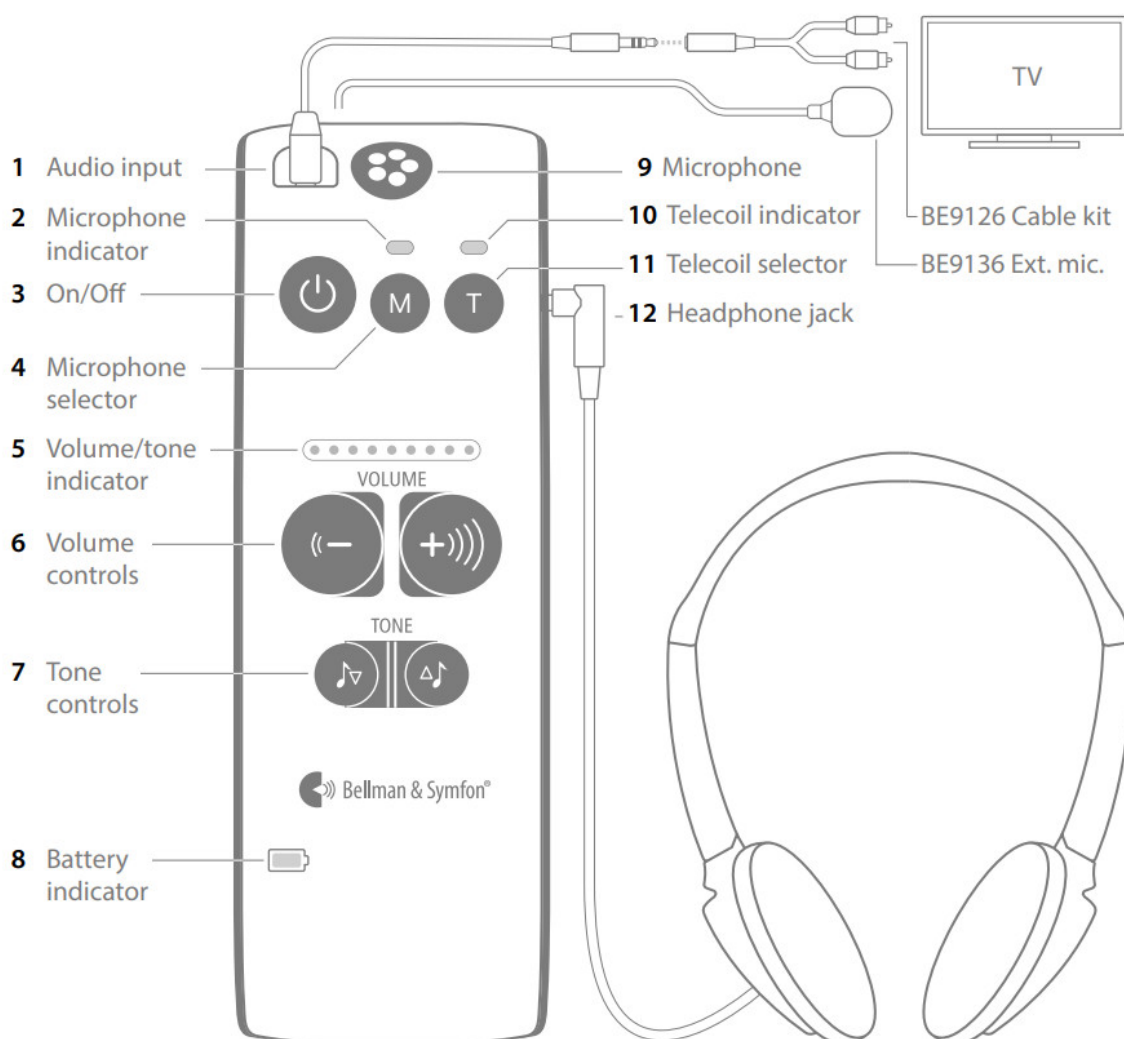
### Intended user group

The intended user group consists of people of all ages experiencing mild to severe hearing loss who need sound amplification in different situations.

### Principle of operation

The audio product family consists of several amplifiers and sound transmitters which have been specifically developed to provide sound enhancement even in demanding situations. Depending on the assigned function of the specific amplifier or sound transmitter, different microphones can be used to pick up direct sound or enhance the ambient sound.

## Overview

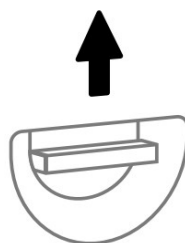


### About Maxi

Maxi is a digital conversation amplifier that brings out the words so you can hear them loudly and clearly. Use Maxi to enhance the speech around the table or connect it to your TV and listen at the volume of your choice.

## Getting started

1. Power it up Open the battery cover on the back of Maxi by pressing the battery lock in the direction of the arrow.





Follow the markings in the battery compartment and insert the batteries. Only use AA alkaline type batteries.

Close the battery cover and check that it locks with a click.



2. Connect it Connect your headphones, earphones or neck loop to the Maxi headphone jack (12) marked in green.
3. Start it Press the On/Off button (3) to start your Maxi. After a few seconds, the microphone indicator (2) lights up in green to show that the internal microphone is selected. The current volume is shown by the volume/tone indicator (5) for three seconds. To switch Maxi off, press and hold the On/Off button (3) until all indicators go out.

### Adjusting the volume

Press  on the volume controls (6) to increase the volume and  to decrease it. The volume can be adjusted in nine steps and the level is shown in the volume/tone indicator (5).

When you start Maxi or switch sound source, the volume will be set to low to avoid unpleasant sound levels.

### Adjusting the tone

Press  on the tone controls (7) to increase the treble and  to decrease it. The treble can be adjusted in five steps and is visible in the volume/tone indicator (5).

Increasing the treble makes the S, F and T sounds more pronounced and the words easier to make out.

### Using Maxi to clarify speech

Maxi is equipped with a microphone (9) that picks up speech from all directions. Place Maxi on a table close to the person talking, hold it in your hand or attach it to your clothes using the clip.

### Listening via telecoil

Maxi features a built-in telecoil that you can use in venues fitted with inductive loop systems. Look for the T loop symbol or ask a staff member if you are unsure. Press the telecoil selector (11) to switch to T-position. The telecoil indicator lights up in green to confirm. To switch back to the internal microphone, press the microphone selector (4).

### Using Maxi with external sound sources

When an external sound source such as a TV or external microphone is connected to the Maxi audio input (1), that source is automatically selected and the internal microphone is switched off.

To temporarily mute the external sound source and listen to someone close to you, just hold down the microphone selector (4). When you release the button, the external sound source will come back at the same level as before.

#### Listening to the TV

The easiest way to connect Maxi to your TV is using the BE9126 Cable kit accessory, see the installation instructions on the next page.

#### Using an external microphone

A BE9136 External microphone accessory can be used to move the microphone closer to the speaker, improving speech intelligibility.

#### Changing batteries

When the battery indicator (8) lights up, the battery level is low, but Maxi will still operate for about 10 hours.

When the battery indicator (8) starts to blink, it's time to change batteries, see Power it up.

## Connecting Maxi to the TV

The easiest way to connect Maxi to your TV is using the BE9126 Cable kit accessory. Here is how you set it up:

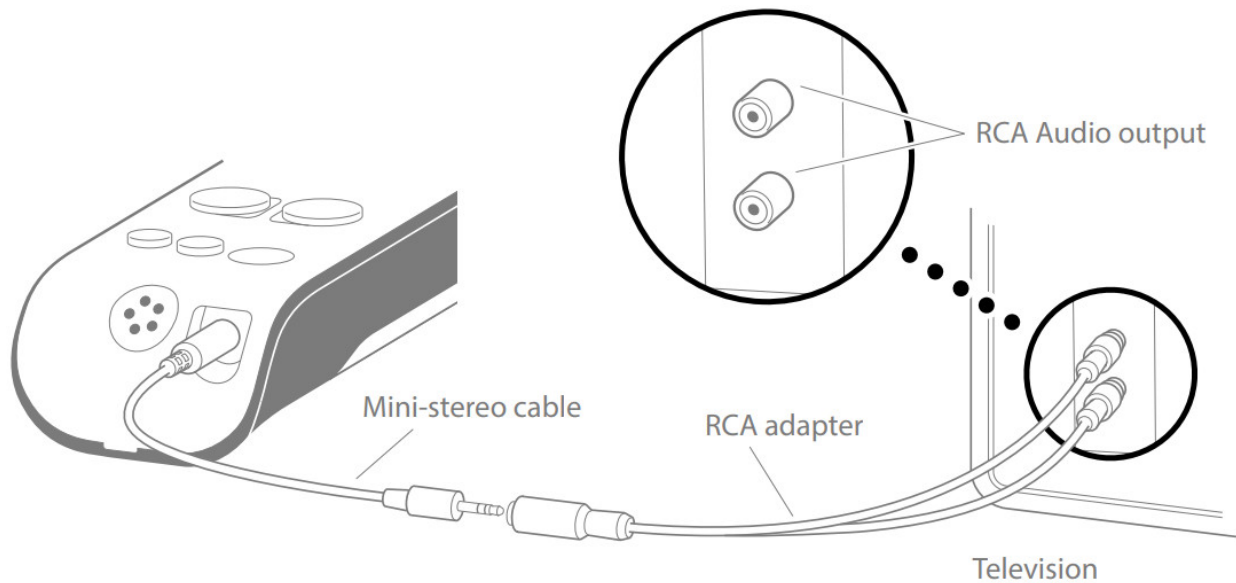
1. Connect one end of the mini-stereo cable to the Maxi audio input (1).
2. Connect the other end to the RCA adapter (13).
3. Connect the RCA plugs (14) to the RCA audio output on your TV.

You can also connect the mini-stereo cable directly to the headphones output on your TV.

Please note that this may mute the speakers on some TV models.

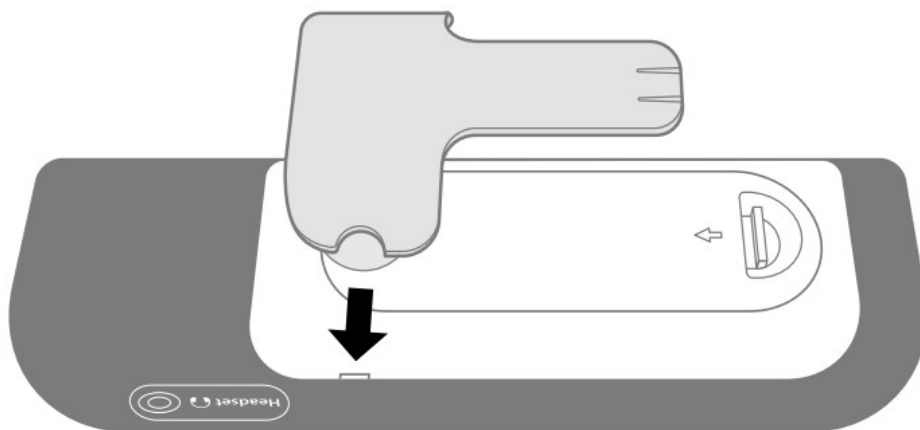
Using the same method, you can connect Maxi to your radio, computer or mobile phone.

In case your TV does not have any audio outputs, the external microphone can also be used for listening to the TV. Just attach or place the microphone close to the TV's loudspeaker and connect it to the Maxi audio input (1).



### Attaching the clip

To attach the clip, place the clip against the back cover and press firmly until it locks. To remove it, gently pull the round handles out from the sides.



## General warnings

This section contains important information about safety, handling and operating conditions.

Keep this leaflet for future use. If you are just installing the device, this leaflet must be given to the householder.



**Hazard warnings**

- Failure to follow these safety instructions could result in fire, electric shock, or other injury or damage to the device or other property.
- Keep this device out of reach of children under 3 years.
- Do not use or store this device near any heat sources such as naked flames, radiators, ovens or other devices that produce heat.
- Protect cables from any potential source of damage.
- Use only battery types specified in this leaflet. Do not expose batteries to fire or to direct sunlight.
- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating.
- Do not dismantle the device; there is a risk of electric shock. Tampering with, modifying or dismantling the device will void warranty. normally.
- Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm,12" to any part of this device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- This device has a very powerful amplifier and the sound level can cause discomfort or, in serious cases, endanger hearing if the product is used carelessly. Always turn the volume down to a low level before putting on the headphones!
- This device is designed for indoor use only. Do not expose the device to moisture.
- Protect the device from shocks during storage and transport.
- Batteries are toxic. Do not swallow them! Keep out of reach of children and pets. If they are swallowed, consult your physician immediately!

### **Information on product safety**

- Failure to follow these instructions could result in damage to the device and void the warranty.
- Do not drop your device. Dropping onto a hard surface can damage it.
- Do not use the device in areas where electronic equipment is prohibited.
- If a serious incident occurs in relation to this device, contact the manufacturer and relevant authority.
- If you encounter other problems with your device, contact the point of purchase, your local Bellman & Symfon office or the manufacturer. Visit [bellman.com](http://bellman.com) for contact information.
- The device may only be repaired by an authorized service center.
- This device should not be used on aircrafts unless specifically permitted by flight personnel.

### **Configuration options**

This device can be configured with the following Bellman & Symfon original accessories:

- BE9136 External microphone
- BE9159 Neck loop with 90 cm (3") cable
- BE9161 Neck loop with 15 cm (6") cable
- BE9126 Cable kit with 5 m, 16.4 ft.

- BE9122 Headphones
- BE9124 In-ear earphones
- BE9147 Travel case
- BE9408 External cable

For detailed product information, see the corresponding user manual.

### **Operating conditions**

Operate the device in a dry environment within the temperature and humidity limits stated in this leaflet. If the device gets wet or is exposed to moisture, it should no longer be regarded as reliable and should therefore be replaced.

### **Cleaning**

Disconnect all cables before you clean your device. Use a soft, lint-free cloth. Avoid getting moisture in openings. Do not use household cleaners, aerosol sprays, solvents, alcohol, ammonia or abrasives.

This device does not require sterilization.

### **Service and support**

If the device appears to be damaged or doesn't function properly, follow the instructions in the user guide. If the product still doesn't function as intended, contact your local Bellman & Symfon representative for information on service and warranty.

### **Warranty conditions**

Bellman & Symfon guarantees this product for two (2) years from date of purchase against any defects that are due to faulty materials or workmanship.

This guarantee only applies to normal conditions of use and service, and does not include damage resulting from accident, neglect, misuse, unauthorized dismantling, or contamination howsoever caused. This guarantee excludes incidental and consequential damage. Furthermore, the warranty does not cover Acts of God, such as fire, flood, hurricanes and tornadoes.













This warranty gives you specific legal rights and you may also have other rights that vary with territory. Some countries or jurisdictions do not allow the limitation or exclusion of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This guarantee is in addition to your statutory rights as a consumer. The above warranty may not be altered except in writing signed by both parties hereto.

### **Compliance information**

Hereby Bellman & Symfon declares that, in Europe, this product is in compliance with the essential requirements of the Medical Device Regulation EU 2017/745 as well as the directives and regulations listed below. The full text of the declaration of conformity can be obtained from Bellman & Symfon or your local Bellman & Symfon representative. Visit [bellman.com](http://bellman.com) for contact information.

- Medical Device Regulation (MDR)
- EC General Product Safety Directive
- EC Battery Directive
- REACH Regulation
- Restriction of Hazardous Substances Directive (RoHS)
- Waste Electrical & Electronic Equipment (WEEE)
- Electromagnetic Compatibility Directive (EMC)

### **Regulatory symbols**

	With this symbol, Bellman & Symfon confirms that the product meets the Medical Device Regulation EU 2017/745.
	This symbol indicates the manufacturer's serial number so that a specific medical device can be identified. It's available on the product and gift box.
	This symbol indicates the manufacturer's catalogue number so that the medical device can be identified. It's available on the product and gift box.
	This symbol indicates the medical device manufacturer, as defined in EU Directives 90/385/EEC, 93/42/EEC and 98/79/EC.
	This symbol indicates that the user should consult the instructions for use.
	This symbol indicates that it is important for the user to pay attention to the relevant warning notices in the instructions for use.
	This symbol indicates important information for handling and product safety.
	Temperature during transport and storage: -10° to 50° C, 14° to 122° F Temperature during operation: 0° to 35° C, 32° to 95° F
	Humidity during transportation and storage: <90%, non-condensing Humidity during operation: 15% to 90%, non-condensing
	Atmospheric pressure during operation, transportation and storage: 700hpa to 1060hpa
<b>Operating conditions</b>	This device is designed such that it functions without problems or restrictions if used as intended, unless otherwise noted in this booklet.
	With this CE symbol, Bellman & Symfon confirms that the product meets EU standards for health, safety, and environmental protection as well as the Radio Equipment Directive 2014/53/EU.
	This symbol indicates that the product shall not be treated as household waste. Please hand over your old or unused product to the applicable collection point for the recycling of electrical and electronic equipment.

### ISO Certification of legal manufacturer

Bellman & Symfon is certified in accordance with SS-EN ISO 9001 and SS-EN ISO 13485.

SS-EN ISO 9001 Certification Number: CN19/42071

SS-EN ISO 13485 Certification Number: CN19/42070

### Certification Body

SGS United Kingdom Ltd

Inward Way

Rossmore Business Park Ellesmere Port Cheshire CH65 3EN UK

### Technical specifications

Power supply	
Battery power	2 × AA alkaline batteries
Operating time	100 – 150 h depending on the load and sound pressure



Power consumption	17 mA (120 mA max)
<b>Input signals</b>	
Microphone	Built-in omnidirectional
Telecoil	Built-in telecoil angled at 45°
Ext. sound source input	2.5 mm stereo jack, Max input level: +6 dBV
<b>Output signals</b>	
Output level with BE9122	117.67 dB @ 1 kHz (SPL90), 119.52 dB (HF Ave. SPL90)
Full-on gain	51.07 dB @ 1.6 kHz (60 dB in)
Ref. test gain	29.21 dB (SPL70)
Distortion	0.557% THD (electrical)
SNR	82 dB
Frequency range	40 Hz – 10 kHz
Output power	Max 125 mW @ 16 ohms.
<b>Features</b>	
Volume control	9 steps (5 dB/step)
Maximum volume setting	0 – 21 dB programmable attenuation in steps of 3 dB
R/L balance setting	0 – 20 dB programmable attenuation in steps of 5 dB
Tone control	+/- 10 dB in 5 pre-set steps Tone, high: +10dB @ 3.15 kHz, -6dB @ 250Hz Tone, mid: flat Tone, low: -10dB @ 3.15 kHz, no bass boost
Power switch	On/Off toggle button
Mic and T-mode	Separate mode select buttons
Aux in/Ext mic accessories	Automatically selects Aux in or External microphone when plugged in
Dynamic compressor	10 channels Dynamic gain range: 0 – 35 dB Compression: 3 : 1 Expansion: 1 : 1.5 Attack time: 25 ms Release time: 250 ms
Dynamic noise reduction	10 channels adaptive frequency domain noise reduction
Feedback cancellation	Adaptive time domain feedback cancellation
Digital signal processing	20.05 kHz sampling frequency, 16-bit resolution in stereo
<b>Additional information</b>	
Dimensions and weight	45 × 140 × 27 mm, 1.8 × 5.5 × 1.1" (b × h × d) Weight: 133 g, 4.7 oz. including batteries

In the box	<ul style="list-style-type: none"> <li>• BE2020 Maxi personal amplifier</li> <li>• 2 × AA alkaline batteries</li> <li>• Belt clip</li> <li>• Neck strap with safety clasp</li> <li>• Listening accessory (varies with territory)</li> </ul>
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## Troubleshooting

Most problems with Maxi can be solved quickly by following the advice below.

If	Try this
Nothing happens when I try to start Maxi using the On/Off button.	<ul style="list-style-type: none"> <li>• Check that the batteries have been inserted the right way round.</li> <li>• Change the batteries. Only use AA alkaline type batteries.</li> </ul>
Maxi is on, but I hear no sound in my headphones.	<ul style="list-style-type: none"> <li>• Press <b>+)))</b> on the volume controls (6) to increase the volume.</li> <li>• Check that the correct signal source has been selected, e.g. internal microphone (M position).</li> <li>• Check that the headphone plug is securely inserted in the headphone jack.</li> <li>• Connect the headphones to another sound source to test them.</li> </ul>
I hear a high-pitched noise in my headphones.	<ul style="list-style-type: none"> <li>• Lower the volume or increase the distance between Maxi and the headphones.</li> <li>• Direct the Maxi microphone away from you.</li> </ul>

## Advanced settings

Maxi has a few advanced settings that can be used to adapt it to the user's individual requirements. Some of the advanced settings are aimed at limiting the user to accidentally operate the product in an undesired way. The following settings can be adjusted:

### Balance

The balance between the right and left channels can be set, e.g. for headphones. This setting can be used to compensate for a hearing loss in one ear. The default setting is centered balance.

### Basic attenuation

The basic attenuation reduces the gain and basically shifts the user volume setting downwards.

This setting is useful when you want to adjust the maximum volume for a pair of headphones or in-ear phones with a higher sensitivity or when you want to limit the maximum volume a user can set. The default setting is 0 dB attenuation (full gain).

### Blocking the T position

The Telecoil selection button can be blocked if you know that the T position will not be used. This setting is useful for those who will never use the telecoil and want to avoid selecting it by mistake.

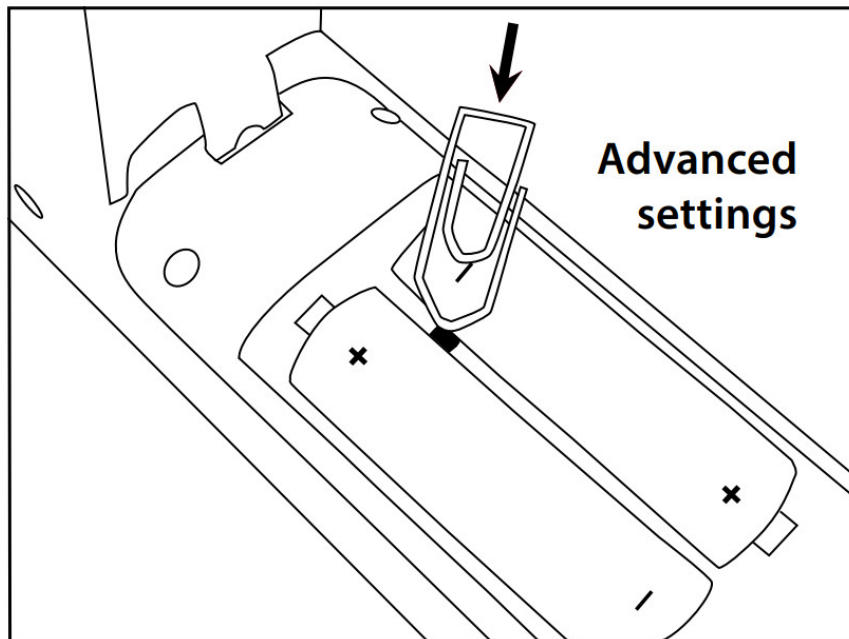
The default position is not blocked.

## Adjusting advanced settings

### To enter the advanced settings menu:

1. Open the battery cover on the back of Maxi by pressing the battery lock in the direction of the arrow.
2. Use e.g. a paper clip to press the advanced settings button for about 5 seconds, see the illustration.

One of the LEDs in the volume/tone indicator (5) will start to blink.



**To adjust the L/R balance:**

Press **⏮** on the volume controls (6) to move the sound towards the left channel and **⏭** to move it towards the right channel. The current setting is shown in the volume/tone indicator (5). When you are done, press the advanced settings button to enter Basic attenuation.

**To adjust the basic attenuation:**

Press **⏮** on the volume controls (6) to increase the attenuation and **⏭** to reduce it. The current attenuation relative to the maximum volume is shown in the volume/tone indicator (5). As you increase the attenuation, more and more LEDs will light up, each corresponding to a 3dB volume reduction. When you are done, press the advanced settings button to enter T position blocking.

**To block the T position:**

Press **⏮** on the volume controls (6) to block the telecoil and **⏭** to turn it back on. When the telecoil is blocked, the telecoil indicator (10) is off and when the telecoil is activated, the telecoil indicator (10) blinks in green.

**When you are done, you have two options:**

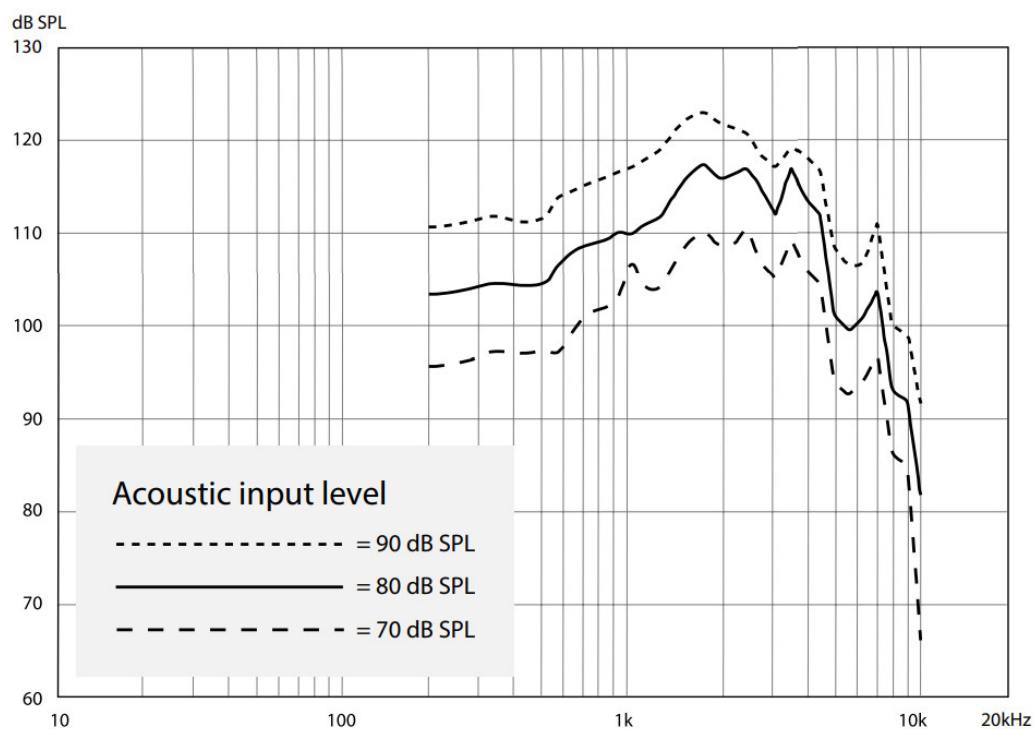
1. To save your settings, press the advanced settings button for about 5 seconds.
2. To start all over, press the settings button briefly and Maxi will return to the L/R balance settings.

**Locking the tone controls**

You can lock the tone controls to prevent the tone from being accidentally changed by the user.

1. First, make sure that Maxi is switched off. Then, hold down the **🎵**-button on the tone controls (7) and start Maxi by pressing the On/Off button (3). Keep the **🎵**-button down until Maxi has stopped blinking.
2. The blinking LED in the volume/tone indicator (5) shows the current setting. Use the tone controls (7) to adjust it.
3. If all other volume/tone indicators are lit, the tone control is activated. If all other volume/tone indicators are off, the tone control is locked. Press **⏭** on the volume controls (6) to activate the tone controls and **⏮** to lock them.
4. To save your settings, switch Maxi off using the On/Off button (3).

## Maxi frequency response



<https://bellman.com/be2020/>

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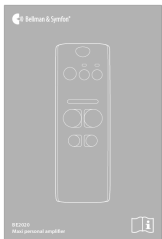
### Manufacturer

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BE2020, BE2020 Maxi Personal Amplifier, Maxi Personal Amplifier, Amplifier

## References

- [Bellman & Symfon | Start](#)

[Manuals+](#),