

BE2030
Mino Personal Amplifier



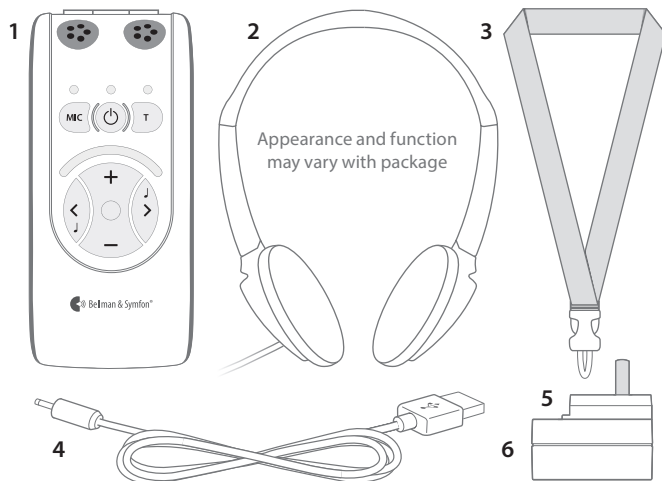
Welcome!

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

About Mino

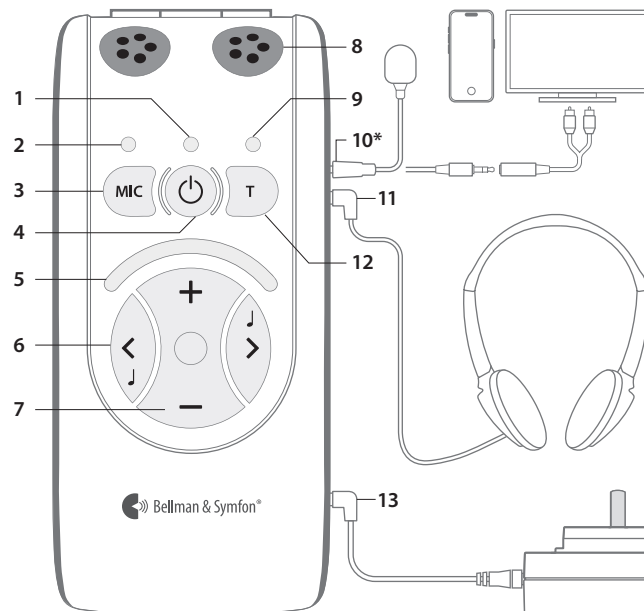
Mino is a digital conversation amplifier that brings out the words so you can hear them more clearly. Use Mino to enhance the speech around the table or connect it to your TV and listen at the volume of your choice.

In the Box



- 1 BE2030 Personal amplifier
- 2 Listening accessory
- 3 Lanyard with safety clasp
- 4 Charger cable
- 5 Mains plug
- 6 USB universal charger

Overview



- 1 Battery status indicator
- 2 Microphone indicator
- 3 Microphone selector
- 4 On/Off
- 5 Volume/tone indicator
- 6 Tone controls
- 7 Volume controls
- 8 Internal microphone
- 9 Telecom/External sound indicator
- 10* 2.5mm External sound source input*
- 11 Headphones output
- 12 Telecom selector
- 13 Power input
- * Additional accessories required

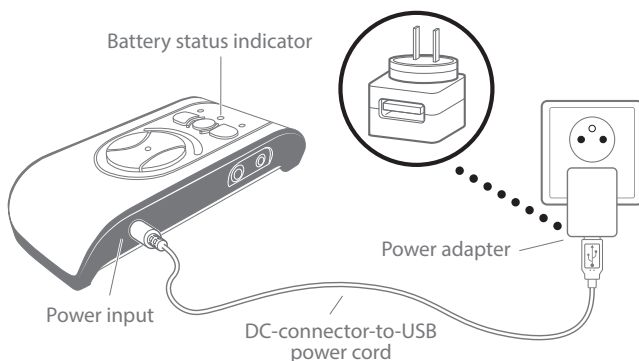
Getting started

Charge Mino

Mino is supplied with a built-in rechargeable battery. The battery must be charged before using the product for the first time. Mino contains a Lithium-Ion battery and a universal charger.

Warning: The product may only be charged with the charger supplied or using accessories from Bellman & Symfon.

- 1 Connect the charging cable to the power adapter and to the charger jack (13) mark in yellow.
- 2 Fit the mains plug to the power adapter and connect it to the power outlet.
- 3 The Battery status indicator (1) emits orange light during charging. After about 4 hours it emits a steady green light to show that Mino is fully charged.



Connect Mino

Connect the supplied headphones, earphones, headset, earset or neck loop to the Mino Headphones output (11) .

Start/switch off Mino

Press the On/Off button (4). The Battery status indicator (1) starts to shine with a green light to indicate that the unit is on.

When you have finished, you can switch off Mino by pressing the On/Off button (4) and holding it down until the Battery status indicator (1) goes out.

Mino always starts with the internal microphone selected as the sound source. In addition, the volume control is always set to low volume to avoid unpleasant sound levels.

Adjusting the volume

Press **+** on the Volume controls (7) to increase the volume and the **-** to decrease it. The Volume/tone indicator (5) shows the sound level. The more LEDs that are lit, the higher the volume. The LED indicator goes out 5 seconds after the sound volume has been set.

Adjusting the tone

Press **<** on the Tone controls (6) to decrease the treble and the **>** to increase it. The Volume/tone indicator (5) shows the selected setting. The LED indicator goes out 5 seconds after the sound quality has been set.

Using Mino to clarify speech

Mino contains two microphone options: one omnidirectional and one directional microphone.

You can switch between omnidirectional and directional microphone reception by pressing the **MIC** button (3). The omnidirectional microphone is indicated by the Microphone indicator (2) lighting up green and the directional microphone by it lighting up orange.

Note: With the directional microphone you can "point" towards the sounds source that you are interested in listening to while reducing sound from other directions. This is particularly useful in difficult listening situations, e.g. in crowds or in very noisy environments.

Listening via telecoil



The built-in telecoil is angled at 45 degrees in order to catch inductive signals from an inductive loop both when Mino is in the horizontal position (in the hand or on a table) and in the vertical position (on a clip or neck strap).

The **T** position can be used in premises where an inductive loop (or hearing loop) has been fitted. Look for the inductive loop symbol or ask staff whether there is an inductive loop if you are unsure. The **T** position is indicated by the indicator for the external sound source lighting up green.

Selecting the signal source

Press the **MIC** (4) and **T** (12) to choose between the internal microphone (**MIC** position) or built-in telecoil (**T** position). When switching between signal sources, the volume control will be set automatically to a low level to avoid unpleasant sound levels.

Mino automatically selects the input for the External sound source (10) when something is connected. When you remove the connector, Mino will automatically return to the internal microphone (**MIC** position).

Using Mino with external sound sources

When an external sound source such as a TV or external microphone is connected to the Mino External input (10), that source is automatically selected and the internal microphone is switched off.

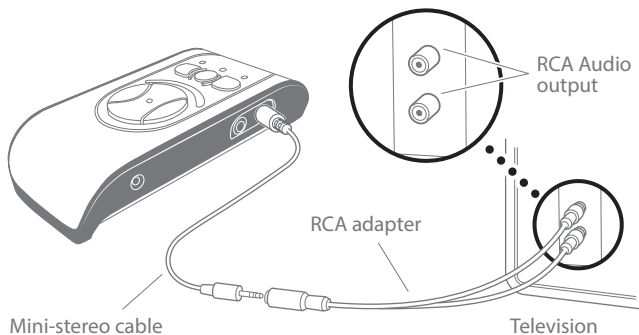
To temporarily mute the external sound source and listen to someone close to you, press the microphone selector (3). If you want to switch to the external sound source, you can press the Telecom button (12), the external sound source will come back at the same level as before.

Listening to the TV

The easiest way to connect Mino to your TV is using the BE9126 Cable kit accessory, see the installation instructions in below.

Here is how you set it up:

- 1 Connect one end of the mini-stereo cable to the Mino External sound input (10).
- 2 Connect the other end to the RCA adapter.
- 3 Connect the RCA plugs 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 Mino 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 Mino External input (10).

Using an external microphone

You can connect an external microphone to the External sound input (10). The Telecom/External sound indicator (9) will light up orange at the same time to indicate that the sound is coming from an external microphone.

The input sensitivity is automatically adjusted to a suitable amplification when an external microphone is connected.

Battery indicator

The Battery status indicator (1) normally lights up green. This indicates that the unit is switched on and the battery level is satisfactory.

When the battery is low, the Battery status indicator (1) blinks green until the battery is almost completely flat when it blinks orange instead. As soon as it blinks green, it is time to charge the unit again. If the unit is not charged, it is switched off automatically.


Charging starts automatically when you connect a charger to the Power input (13). Charging in progress is indicated on the unit by an orange light. Once the battery is fully charged, the indicator changes to green and the battery is continuously trickle charged until the charger is disconnected.

Configuration options

This device can be configured with the following original accessories:

Available accessories

- BE9136 External microphone
- BE9408 Extension cable for microphone 4m
- BE9159 Neck loop with 90 cm (35") cable
- BE9161 Neck loop with 15 cm (6") cable
- BE9126 Cable kit with 5 m, 16.4 ft.
- BE9148 Charger cable USB, single, black
- BE9122 Headphones
- BE9124 In-ear earphones
- BE9129 Microset
- BE9147 Travel case
- Power adapter USB, black
- Region specific plug, black

 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 booklet. 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 this booklet. If the product still doesn't function as intended, contact your local dealer 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.

Troubleshooting

If	Try
Nothing happens when you try to start the unit.	<ul style="list-style-type: none">▪ Connect the charger and check that charging starts within 10 seconds. <p>Please note! If charging does not start within 10 seconds, disconnect the charger immediately and contact your nearest dealer!</p>
No sound can be heard in the headphones when the unit is switched on.	<ul style="list-style-type: none">▪ Turn up the volume using the Volume controls + (9).▪ Check that the internal microphone has been selected as the signal source and that it works by gently scraping on the Microphones (1).▪ Check that the headphone plug is securely inserted in the headphone output.▪ Connect the headphones to another sound source (with a 3.5 mm headphone output) to test whether the headphones are working.
No sound can be heard in the headphones when the unit is switched on and External Sound is selected.	<ul style="list-style-type: none">▪ Check that the sound source is correctly connected to the unit if the stereo cable is connected to the External sound source input (10).
A high-pitched noise is heard in the headphones.	<ul style="list-style-type: none">▪ Turn down the volume or increase the distance between the microphone and headphones.▪ Direct the microphone away from you.

For further information about the product, refer to the **Appendix**.

Technical specifications

Power supply

Battery power

Built-in rechargeable li-ion battery 3.7 V, 860 mAh

Operating time

BE9124 Earphones – up to 30 hours

BE9159 Neck Loop – up to 10 hours

Charging device

Charging time

5V 1A DC adapter

~ 4 hours

Input signals

Microphones

Built-in omnidirectional and directional

Telecoil

Built-in telecoil angled at 45°

Line input

2.5 mm stereo jack, Max input: 0 dBV. Automatic selection between line input and external microphone.

Output signals

Headphone socket

3.5 mm stereo jack, Output: 100 mW at 16 Ω load

Distortion

BE9122 Headphones: 0.6% THD

BE9124 Earphones: 0.08% THD

Dynamic range

90 dB SNR (electrical)

Frequency range

40 – 10,000 Hz (electrical)

Max. output level

BE9122 Headphones: 124.3 dB SPL @ 2.5 kHz

BE9124 Earphones: 132.0 dB SPL @ 5 kHz

Amplification, full volume

(1 kHz, 60 dB SPL input)

BE9122 Headphones: 42.5 dB

BE9124 Earphones: 55.0 dB

Amplification, full volume

(60 dB SPL input HFA)

BE9122 Headphones: 46.5 dB

BE9124 Earphones: 51.5 dB

Features

Volume control

9 increments of 5 dB

Tone control

+/- 10 dB in 9 increments, cut-off frequency 1.6 kHz

On/Off button

Clear, countersunk pushbutton

Mic and T-position

Separate pushbuttons

Combined sound sources

For mixing external sound and sound from the internal microphone

L/R balance setting

0 – 20 dB reduction in increments of 5 dB

Max. volume setting

0 – 21 dB reduction in increments of 3 dB

Bass reduction setting

Lowering of frequencies under 400 Hz by 10 dB

Dynamic compressor

10 channels

Dynamic amplification 0-35 dB

Compression: 3:1

Expansion: 1:1.5

Attack time: 20 ms <3kHz, 25 ms \geq 3kHz

Recovery time: 110 ms <3kHz, 200 ms \geq 3kHz

Dynamic noise reduction

10 channel adaptive noise reduction

Feedback handling

Adaptive feedback reduction

Digital signal processing

22.050 kHz sampling frequency

16-bit resolution in stereo

Additional features

Stereo/Mono setting

Factory reset feature

Casing designed to reduce contact noise

Additional information

Dimensions and weight

48 × 99 × 22 mm, 1.9 × 3.9 × 0.9" (b × h × d)

Weight: 75 g, 2.6 oz.

In the box

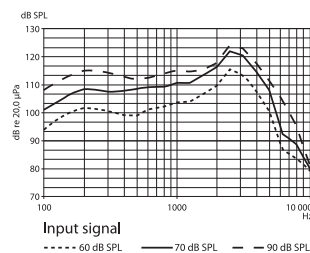
- BE2030 Personal amplifier
- USB universal charger
- Mains plug
- Charger cable
- Neck strap with safety clasp
- Listening accessory (varies with territory)

Measurements

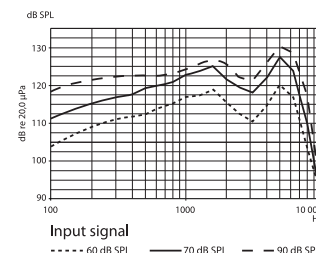
Frequency range (acoustic)

(BE9122 Headphones and BE9124 In-ear phones):

Preliminary measurements:



Output signal with BE9122,
Stereo headphones



Output signal with BE9124,
In-ear phones

General warnings

This section contains important information about safety, handling and operating conditions. Keep this booklet for future use. If you are just installing the device, this booklet should 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.
- 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!
- Protect the device from shocks during storage and transport.
- 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 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.
- The power adapter must not be exposed to water drops or splashes and objects containing liquids, such as vases must not be placed on the unit. To disconnect the power fully, the adapter plug must be disconnected from the mains socket. The adapter plug must not be blocked and must be easy to access for the intended use. Rating information is shown on the rear.
- Do not block any of the ventilation openings. Install the device in accordance with the manufacturer's instructions.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the

other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the unit.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Do not dismantle the device; there is a risk of electric shock. Tampering with or dismantling the device will void warranty.
- This device is designed for indoor use only. Do not expose the device to moisture.
- 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.
- The device may only be repaired by an authorized service center.
- 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** for contact info.
- This device should not be used on aircrafts unless specifically permitted by flight personnel.
- Rechargeable batteries should be charged fully before using the device for the first time. Only charge batteries in a temperature between 0°– 35°C, 32°– 95° F.
- Rechargeable batteries should only be changed by Bellman & Symfon or an authorized service center. There is a risk of explosion if the batteries are not replaced correctly.
- Do not use the device in areas where electronic equipment is prohibited.

Appendix

Bellman Audio Mino has more settings than those you can access in user mode. By going into the Settings Menu you can adjust settings that you do not normally need to change or which are adjusted when first used and never need to be changed again.

Settings Menu

How to get into the Settings Menu.


- Start the unit by pressing the On/Off button  (4).
- Hold down the On/Off button  (4) and press down the Volume button  (7) within 1 second until the **T** LED (9) starts to blink.
- When the **T** LED (9) starts to blink, you can release both the buttons.
- Press and hold down the **T** button (12) within 2 seconds of the moment the **T** LED (9) starts to blink.
- Release the **T** button (12) immediately once the **T** LED (9) has gone out.

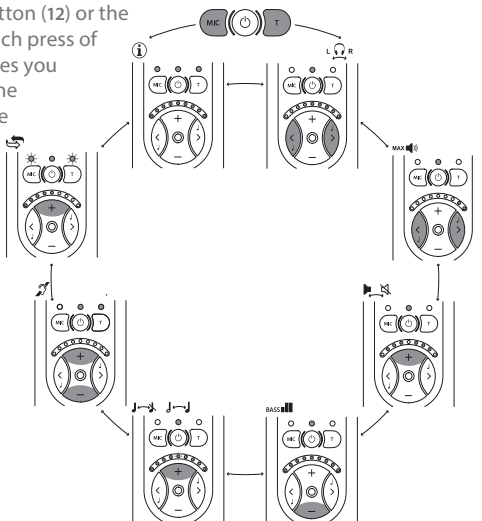
You are now in Balance Control mode.

Overview of the Settings Menu

In the Settings Menu you can switch between the different settings by pressing the **T** button (12) or the



MIC button (3). Each press of the **T** button moves you clockwise on to the next setting in the list and the **MIC** button takes you anti-clockwise to the previous setting in the list.

When you have finished adjusting your settings, give a short press on the On/Off button  (4) to return to normal user mode.



Balance control

The balance between the right and left-hand channels can be set as preferred in 5 dB steps.



Press the  button (6) to adjust the balance on the left and the  button (6) to adjust the balance on the right.

The standard setting is centered balance.



Basic attenuation

Different headphones have different sensitivity levels and you can compensate for this with basic attenuation. What you actually set is the attenuation you require at the maximum power output you want to have (which is therefore 0 dB attenuation). This setting is useful when you want to adjust the maximum volume in user mode for a pair of headphones or in-ear phones with a higher sensitivity than the BE9122 Bellman Stereo Headphones or, for example, if you want to limit the volume for a child.

Use the  button (6) to reduce the basic attenuation (increase the volume) and the  button (6) to increase the basic attenuation (reduce the volume). The basic attenuation is adjusted in increments of 3 dB.

The standard setting is 0 dB attenuation, which corresponds to the maximum output signal.



Stereo/Mono

The line-in signal can be rendered in either Stereo or in Mono. The intelligibility of speech can be increased in certain listening situations, such as when watching TV, if the signal is in Mono.

Press the  (7) button to select Stereo.

Press the  (7) button to select Mono.


The standard setting is Stereo.



Bass reduction

Low-frequency interference such as fans and road noise can be tiring if you are exposed to it for a long period. By activating bass reduction, low-frequency interference and sounds are reduced.

Press the  (7) button to select Bass Reduction.

Press the  (7) button to deactivate Bass Reduction and get level frequency response.

The standard setting is deactivated Bass Reduction.



Adjusting the Tone Control

The Tone Control Blocking function has been developed in case you want to make it easier for the user to use Mino. This setting can be used to choose whether or not the user should be able to adjust the Tone Control. If you choose to switch off the tone control buttons, you can preset the Tone Control that will be used in user mode.



Activation and deactivation of Tone Control in User Mode

Press the **+** (7) button to activate the Tone Control buttons. Press the **-** (7) button to deactivate them. The standard setting is Tone Control activated.

Presetting the Tone Control

Press the **<** button (6) and the **>** button (6) to preset the Tone Control to the level that will be used in user mode. The standard setting is Tone Control centered (level frequency response)

Please note that if the Tone Control is activated, the preset value will be changed as soon as the Tone Control is changed in user mode.



Blocking the T position

The **T** position can be blocked if you know that the **T** position will not be used. This setting is for those who will never use the **T** position and want to avoid selecting this position by mistake.

Press the **+** (7) button to activate the **T** position. Press the **-** (7) button to deactivate the **T** position. The standard setting is activated **T** position.



Resetting to the factory setting

You can use this to reset all settings to the standard settings the product was delivered with from the factory.

Press and hold down the **+** button (7) until all the LEDs on the display (5) are lit. After resetting is completed, the display will blink for a short period.



Version information

The product version information is presented here via a pattern of lit and blinking LEDs. This internal information is only intended as an aid for servicing and support.

Testing the internal microphones

- 1 Switch on the Mino and make sure that the Battery status indicator (1) lights up green.
- 2 Connect the headphones to the Headphones output (11) and scrape carefully on the round Microphone (8) with your finger and check that there is a scraping sound in the headphones.
- 3 Press the **MIC** button (3) and make sure that the Microphone indicator (2) changes colour and lights up orange.
- 4 Carefully scrape the small microphone hole on the top (1) and the round microphone (8) with your finger and check that there is a scraping sound in the headphones.
- 5 Press the buttons (6, 7) and check that the Volume and Tone LED indicator changes.

Testing the external sound

- 1 Press the **T** button (12) and make sure that the External Sound LED (9) lights up green.
- 2 Hold the unit against an electrical watch with mechanical hands (with built-in battery) and check that it ticks.
- 3 Connect an external sound source to the External Sound Source Input (10) and check that the sound from the sound source is heard in the headphones. The External Sound Source Input (10) can be tested, for example, by connecting the TV or a radio to the input via a BE9126 audio cable. The unit automatically switches to an external sound source when a connector is connected to the External Sound Source Input (10).

Troubleshooting

If	Try
The sound is louder in one ear than in the other.	▪ Adjust the Balance in the Settings Menu .
The sound volume is low even though the volume is set to max.	▪ Adjust the Basic Attenuation in the Settings Menu .
The sound is only in Mono even though it is connected via a stereo cable to a sound source which provides stereo sound.	▪ Change to Stereo in the Settings Menu .
The bass reproduction is weak.	▪ Switch off Bass Reduction in the Settings Menu .
The Tone Control cannot be adjusted.	▪ Use the Settings Menu to activate the Tone Control buttons or to adjust the sound.
It is not possible to select T position.	▪ Use the Settings Menu to activate the T position.
The unit is acting strangely.	▪ Reset the unit to the factory settings in the Settings Menu .
Humming occurs when connecting the stereo cable while charging.	▪ Only use the supplied charger.
Interference is heard when used in some environments	▪ Move the product away from the suspected source of radio frequency energy, for example a transmitter.

 CALIFORNIA PROPOSITION 65

WARNING

Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
For more information: www.P65Warnings.ca.gov

Model, type and classification

The information is available at the back of the product.

FCC compliance statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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 dealer or an experienced radio/TV technician for help.

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DESIGN FOR EARS™

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Revision: BE2030_158MAN1.0

Date of issue: 2023-05-22

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