

Maxi

Personal amplifier



For use in all EU countries

Hereby, Bellman & Symfon AB, declares that this BE2020 is in compliance with the essential requirements and other relevant provisions of directives: EMC 1989/336/EC.

Correct use and disposal of batteries:

Replace only with the same or equivalent type recommended by the manufacturer. Please dispose of old, defective batteries in an environmentally friendly manner in accordance with the relevant legislation.

Bellman Audio Maxi 个人辅听器 BE2020

非常感谢您选择瑞典贝尔曼Bellman & Symfon的产品。

Bellman Audio 是一系列辅助听力产品。该系列包括适用于不同听力环境的辅听产品。Bellman Audio 产品可以帮助改善听力，令人们可以更加自由地追求自己的兴趣。

使用本产品前，请首先阅读说明书。

配件和连接的说明图例见封面内页。

开始

打开包装，安装、测试

1. 按照箭头方向按下电池盖卡口(16)，打开电池后盖(17)。根据电池盖(14)内图例，正确安装电池。仅限使用5号(AA)碱性电池，不要使用强力推压。合上后盖，听到“咔”的声响表示已关好。
2. 把BE9122耳机，BE9159环颈圈，BE9125下挂式耳塞，BE9124耳塞或是其它Bellman & Symfon推荐产品连接到右手边绿色耳机插口(12)。
3. 按下按钮(5)打开Maxi，此时麦克风(6)和电感(7)上的小灯(3、4)会同时闪亮。

Maxi总是以内置麦克风(2)作为声源打开的。开机时默认音量为小音量，以免音量过大。

使用音量调控(9)控制音量大小。调大调小音量。音量、音调条形灯(8)显示声音大小。音量越大亮灯越多。为了节约用电，灯亮3秒后自动关闭。

使用音调调控(10)调整音调高低。调高调低音调。音量、音调条形灯(8)显示音调高低。音调越高亮灯越多。为了节约用电，灯亮3秒后自动关闭。

使用完毕，按下(5)按钮关闭。

功能

Bellman Audio Maxi个人辅听器BE2020是一个数码扩音器。它是专门用于在特殊情况下提供良好声音的设备。特别是谈话声和音乐，经内置及外置麦克风(辅件)或是其它外部声源传导，Maxi表现尤为出色。

内置麦克风

内置麦克风(2)位于产品前部顶端的橡胶圈内。该麦克风全向收集声音。

电感

内置电感以45度的角度斜立以便在平放状态下(手持、在桌上)或是垂直状态(夹着或挂着)均能接收感应信号。



电感档用于在已安装感应环路的范围内。寻找感应环路的标识(如右上图)，必要时可向工作人员询问。

选择声源

声源的选择很简单：

- 用户可以通过按(6)按钮选择内置麦克风(M状态)、或(7)按钮选择电感信号。声源切换时音量自动调小，以免音量过大。
- 当接入延长麦克风时，Maxi会自动转换至外部声源。当断开连接时，内置麦克风(M状态)自动打开。

外部声源

如果将声源(电视、音响、MP3播放器等)通过转换线(配件BE9126)与红色2.5毫米插口(1)相连，该声源则会被选择，输入敏感度也会自动调节到最适合状态，此时内置麦克风(2)自动切断。

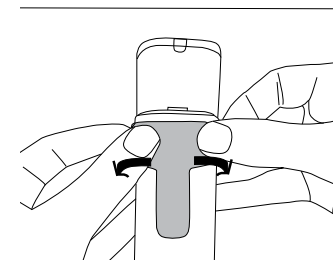
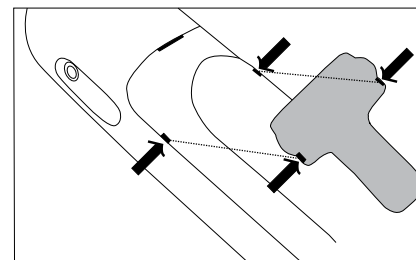
联合信号源

当外部声源连接到外部声源插口(1)时，这一声源在按住(6)按钮时可以与内置麦克风(2)联合使用。

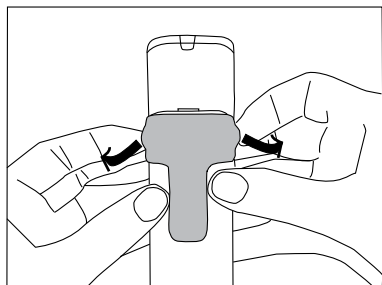
连接外部声源时，比如看电视时，按住(6)按钮，即可与人交谈，此时外接声源音量自动低。麦克风上方的显示灯(3)亮起。

放开(6)按钮，外接声源自动恢复原来状态，即收听外部声源(1)。

腰夹



腰夹按图示对准两个小缺口用力按下。



用手指轻轻掰开腰夹两侧即可将其取下。

指示灯与设置

音量、音调指示灯

音量、音调指示条形灯(8)指示音量及音调的位置。

为了节约用电,灯亮3秒后自动关闭。

电源提示灯

电源提示灯(11)通常情况下不亮,只有当电力不足时(小于10小时工作时间,根据声音大小等使用情况会有所不同)该灯亮起。

电力不足提示灯(11)每7秒钟闪烁一次时,应该更换电池。仅限使用5号(AA)碱性电池。

音量控制

Maxi数码音量控制钮(9)按下(+)钮音量变大,按下(-)钮音量变小。

按住音量调节钮一秒钟以上,音量就会以每秒一个亮灯的速度升高或降低,直到达到最大或最小音量。

一下下地按(+)钮(9),音量逐渐地变大,直到最大音量,此时音量、音调指示条形灯(8)全部亮满。

一下下地按(-)钮(9),音量逐渐地变小,直到最小音量,此时音量、音调指示条形灯(8)只有最左边的一个小灯亮起。

音调控制

该型号BE2020数码音调控制钮(10)、按下(↑)钮音调变高,按下(↓)钮音调变低。

按住音调控制钮一秒钟以上,音调就会以每秒一个亮灯的速度升高或降低,直到达到最高或最低音调。

一下下地按(↑)钮(10),音调逐渐地变高,直到最高音调,此时音量、音调指示条形灯(8)全部亮满。

一下下地按(↓)钮(10),音调逐渐地变低,直到最低音调,此时音量、音调指示条形灯(8)只有最左边的一个小灯亮起。

当音量、音调指示条形灯(8)的小灯在中央时,音调为原调。

简单故障处理

症状	解决
按下开关时Maxi没反应。	更换电池, 仅限使用5号(AA)碱性电池。
当Maxi处于打开状态时, 听不到耳机里的声音。	确定所选档, 比如麦克风(M状态)。

更多信息请见附录。

1. 外部声源2.5毫米插口
2. 内置麦克风
3. 麦克风指示灯
4. 电感指示灯
5. 开关按钮①
6. 麦克风按钮②
7. 选择电感按钮③
8. 音量、音调指示条形灯
9. 音量控制钮(+)(-)
10. 音调控制钮(↑)(↓)
11. 电源指示灯
12. 3.5毫米耳机插口
13. 挂绳孔
14. 电池盖
15. 设置按钮
16. 电池盖卡口
17. 电池盖
18. 腰夹


Appendix

Connection

Normally when you use Bellman Audio Maxi digital communication aid, you place it on a table, hold it in your hand, hang it round your neck using a neck strap (accessory) or attach it to an article of clothing with the clip supplied (18).

You can connect BE9122 Bellman Audio Headphones, BE9159 Bellman Audio Neck Loop, BE9125 Bellman Audio Stetoclips, BE9124 Bellman Audio Ear Phones or another product recommended by Bellman & Symfon to the Headphone Output (12).

You can connect a BE9126 Bellman Audio Cable Kit to the External Sound Source Input (1), which you can connect to the required sound source or a BE9127 Bellman Audio External Microphone. It has a 5 metre long cable so that it can, for example, be positioned next to the TV or someone who is speaking.

Press on the On/Off button  (5) to start Maxi. While Maxi is starting up, the Microphone LED (3) and the Telecoil LED (4) blinks. When the Microphone LED (3) comes on, Maxi is ready to use and you will hear sound from the internal microphone in the headphones.

Settings

Bellman Audio Maxi has more setting options than those found on the front. You can adjust and adapt Maxi to your individual requirements using the Setting button (15).

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 standard setting is centred balance.

All settings are carried out in sequence, see below under Adjusting settings.

Basic attenuation

The basic attenuation can be set, for example, for different headphones. 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 for a pair of headphones or in-ear phones with a higher sensitivity than the BE9122 Bellman Audio Headphones.

The standard setting is 0 dB attenuation.

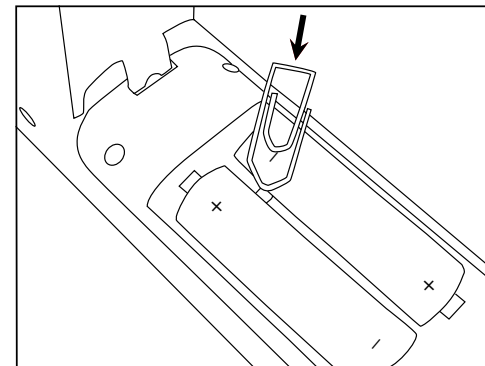
All settings are carried out in sequence, see below under Adjusting settings.

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 for those who will never use the Telecoil and want to avoid selecting this position by mistake.

The standard setting is for blocking of the T position not to be activated.




All settings are carried out in sequence, see below under Adjusting settings.










Adjusting settings

It is easy to adjust settings.

- Open the battery cover (17) by pressing the battery cover lock (16) in the direction of the arrow.
- Press the Setting button (15) for about 5 seconds. It is easiest to do this with a paper clip, see figure. One of the LEDs in the Volume and Tone LED Indicator (8) now starts to blink
- Adjust the balance between the right and left channels using the volume









control  (9).  moves the sound towards the right channel and  moves the sound towards the left channel. The current setting is indicated by a flashing dot on the Volume and Tone LED Indicator (8) which moves towards the right or left.

When the desired value has been set, give a short press on the Setting button (15) and Maxi will move on to setting the maximum volume.

- Adjust the maximum volume using the volume control  (9).  increases the maximum volume and  reduces the maximum volume. The current attenuation setting relative to the maximum volume is displayed via the Volume and Tone LED Indicator (8). No attenuation is shown by only one LED being visible at the right. The greater the attenuation the more LEDs come on from right to left. Each increment and hence each lit LED corresponds to a reduction of 3 dB. When the desired value has been set, give a short press on the Setting button (15) and Maxi will move on to the setting for locking the T position.
- Now set the use of the telecoil to locked or unlocked using the volume control  (9).  enables use of the telecoil and  blocks use of the telecoil. When the telecoil is activated, the Telecoil LED (4) blinks and when the function is blocked the Telecoil LED (4) is off.
- When the desired value has been set, there are three options:
 - o To start again: give a short press on the Setting button (15) and Maxi starts again with setting the balance above.
 - o To save: press the Setting button (15) for about 5 seconds and Maxi saves the settings that have been adjusted and returns to normal mode.
 - o To change your mind: press the On/Off button  (5) and Maxi will disregard all the settings that have been adjusted and return to normal mode.

Tone control lock



To prevent that the tone control is accidentally changed by the user it is possible to lock the tone control.

1. While the Maxi is off press and hold the  button (10). Switch on the Maxi, by pressing the On/Off button  (5). Keep the  button held down until the Maxi's lights (3, 4) have stopped flashing.
2. One of the LED in the Volume and Tone LED Indicator (8) will be flashing, this will be the set tone level. Adjust the preset tone level by using the Tone control   (10). If all the LED's on the Volume and Tone LED Indicator (8), except the blinking one, are lit at the same time, it means that the Tone control is activated while if the rest of the LED's are off the Tone control is deactivated.
3. Press the  button to activate the Tone control or press the  button to deactivate the Tone control.
4. Switch the Maxi off using the On/Off button  (5) to save these settings.

Testing

It is easy to test the Bellman Audio Maxi digital communication aid for yourself. If Maxi is not working as described below, you can carry out further troubleshooting as instructed in the section Troubleshooting/Troubleshooting guide.

How to test

The internal microphone and telecoil can be tested by connecting BE9122 Bellman Audio Headphones to the Headphone output (12) and then selecting the Internal microphone (2) using the Microphone Selection Button  (6) or the Telecoil Selection Button  (7).

The External sound source input (1) can be tested by connecting a CD player or a radio to the input via an audio cable. Switching to the External signal source input (1) takes place automatically when the connector is connected to the External sound source input (1) on Maxi.

Troubleshooting

You can carry out a number of checks yourself before sending a product for repair.

Troubleshooting guide

Symptom	Solution
Nothing happens when you try to start Maxi using the On/Off button.	<ul style="list-style-type: none"> • Check that the batteries have been inserted the right way round. • Change the batteries. Only use AA alkaline type batteries.
No sound can be heard in the headphones when Maxi is switched on.	<ul style="list-style-type: none"> • Check that the correct signal source has been selected, e.g. internal microphone (M position). • 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 the headphones.
A high-pitched noise is heard in the headphones.	<ul style="list-style-type: none"> • Lower the volume or increase the distance between Maxi and the headphones. • Direct the microphone away from you.

Technical information

Power supply

Battery power:	Two 1.5 V AA alkaline type batteries
Operating time:	100 - 150 hours depending on the load and sound pressure
Power consumption:	17 mA (120 mA max)

Input signals

Microphone:	Built-in microphone (omnidirectional)
Telecoil:	Built-in telecoil (angled at 45°)
Ext. sound source input:	2.5 mm stereo jack plug
Ext. in sensitivity (max input lvl.):	+6 dBV

Output signals

Headphone socket:	3.5 mm stereo jack plug
Output level with BE9122:	117.67 dB @ 1 kHz (SPL90) 119.52 dB (HF Ave. SPL90), 51.07 dB @ 1.6 kHz (50 dB in)
Full-on gain:	29.21 dB (SPL70)
Ref. test gain:	134.85 dB @ 1 kHz (SPL90) 130.89 dB (HF Ave. SPL90)
Output level with BE9125:	50.57 dB @ 1.6 kHz (50 dB in)
Full-on gain:	38.9 dB (SPL70)
Ref. test gain:	0.559% THD (electrical)
Distortion:	82 dB
SNR:	40 Hz – 10 kHz
Frequency range:	Max 125 mW @ 16 ohms
Output power:	

Features

Volume control:	9 steps (5 dB/step)
Maximum volume settings:	0-21 dB programmable attenuation (in settings mode only and in steps of 3 dB)
R/L-channel balance setting:	0-20 dB programmable attenuation (in steps of 5 dB)
Tone control:	+/- 10 dB (5 pre-set steps, push-buttons) <i>Tone, high:</i> +10dB@3.15 kHz <i>Tone, mid:</i> flat <i>Tone, low:</i> -10dB@3.15 kHz No bass boost
Power switch:	on-off toggle button
Mic and T-mode:	Separate mode select buttons
Ext. mic / Aux in accessories:	Automatically selects Aux in or ext. mic. when plugged in
MicroSet™ accessory:	Automatically selects MicroSet™ accessory 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:
Feedback cancellation:
Digital signal processing:

10 channels Adaptive frequency domain noise reduction
Adaptive time domain feedback cancellation
19.948 kHz sampling frequency 16-bit resolution in stereo

Additional information

For indoor use only.	
Regulatory requirements:	CE, RoHS, WEEE.
Dimensions WxHxD:	45 x 140 x 27 mm
Weight (without clip):	With battery: 133 g Without battery: 83 g
Colour:	Grey with white front panel and grey buttons.

Accessories

BE9122	Bellman Audio Headphones
BE9159	Bellman Audio Neck Loop
BE9125	Bellman Audio Stetoclips
BE9124	Bellman Audio Ear Phones
BE9126	Bellman Audio Cable Kit
BE9127	Bellman Audio External Microphone

Measurements

Frequency response (acoustical):

