

Maxi

Personal amplifier



For use in all EU countries

Hereby, Bellman & Symfon Group AB, declares that this BE2020 is in compliance with the essential requirements and other relevant provisions of: EMC directives: 2014/30/EU. MDD directives: 93/42/EEC. RoHS directive: 2015/863/EU. EN 60601-1-2, Class B Passed.

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 個人輔聽器 BE2020

非常感謝您選擇瑞典貝爾曼Bellman & Symfon的產品。

Bellman Audio是一系列輔助聽力產品。該系列包括適用於不同聽力環境的輔聽產品。Bellman Audio產品可以幫助改善聽力，令人們可以更加自由地追求自己的興趣。

使用本產品前，請首先閱讀說明書。

配件和連接的說明圖例見封面內頁。

開始

打開包裝，安裝、測試

1. 按照箭頭方向按下電池蓋卡口(16)，打開電池後蓋(17)。根據電池蓋(14)內圖例，正確安裝電池。僅限使用5號(AA)鹼性電池，不要使用強力推壓。合上後蓋，聽到“咔”的聲響表示已關好。
2. 把BE9122耳機，BE9159環頸圈，BE9403下掛式耳塞，BE9124耳塞或者其它Bellman & Symfon推薦產品連接到右手邊綠色耳機插口(12)。
3. 按下鈕⊙(5)打開 Maxi，此時麥克風⊕鈕(6)和電感⊖鈕(7)上的小燈(3、4)會同時閃亮。

Maxi總是以前置麥克風(2)作為聲源打開的。開機時默認音量為小音量，以免音量過大。

使用音量調控⊖⊕(9)控制音量大小。⊕調大⊖調小音量。音量、音調條形燈(8)顯示音量大小。音量越大亮燈越多。為了節約用電，燈亮3秒後自動關閉。

使用音調調控⊕⊖(10)調整音調高低。⊕調高⊖調低音調。音量、音調條形燈(8)顯示音調高低。音調越高亮燈越多。為了節約用電，燈亮3秒後自動關閉。

使用完畢，按下⊙(5)鈕關閉。

功能

Bellman Audio Maxi個人輔聽器BE2020是一個數碼擴音器。它是專門用於在特殊情況下提供良好聲音的設備。特別是談話聲和音樂，經內置及外置麥克風(輔件)或是其他外部聲源傳導，Maxi表現尤為出色。

內置麥克風

內置麥克風(2)位於產品前部頂端的橡膠圈內。該麥克風全向收集聲音。

電感

內置電感以45度的角度斜立以便在平放狀態下(手持、在桌上)或是垂直狀態(夾著或掛著)均能接收感應信號。

電感檔用於在已安裝感應環路的範圍內。尋找感應環路的標識(如右上圖)，必要時可向工作人員詢問。



選擇聲源

聲源的選擇很簡單：

- 用戶可以通過按⊕鈕(6)選擇內置麥克風(M狀態)、或⊖鈕(7)選擇電感信號。聲源切換時音量自動調小，以免音量過大。
- 當接入延長麥克風時，Maxi會自動轉換至外部聲源。當斷開連接時，內置麥克風(M狀態)自動打開。

外部聲源

如果將聲源(電視、音響、MP3播放器等)通過轉換線(配件BE9126)與紅色2.5毫米插口(1)相連，該聲源則會被選擇，輸入敏感度也會自動調節到最適合狀態，此時內置麥克風(2)自動切斷。

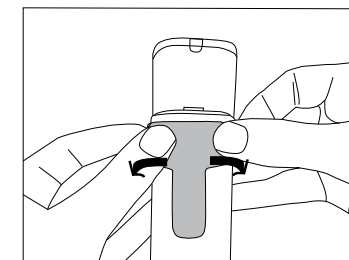
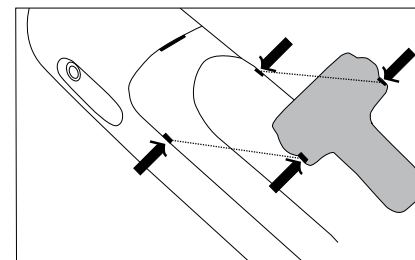
聯合信號源

當外部聲源連接到外部聲源插口(1)時，這一聲源在按住⊕鈕(6)按鈕時可以與內置麥克風(2)聯合使用。

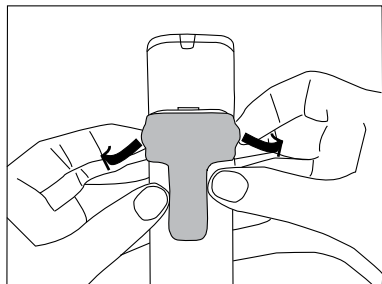
連接外部聲源時，比如看電視時，按住⊕鈕，即可與人交談，此時外接聲源音量自動降低。麥克風上方的顯示燈(3)亮起。

放開⊕鈕(6)，外接聲源自動恢復原來狀態，即收聽外部聲源(1)。

腰夾



腰夾按圖示對準兩個小缺口用力按下。



用手指輕輕掰開腰夾兩側即可將其取下。

指示燈與設置

音量、音調指示燈

音量、音調指示條形燈 (8) 指示音量及音調的位置。

為了節約用電，燈亮 3 秒後自動關閉。

電源提示燈

電源提示燈 (11) 通常情況下不亮，只有當電力不足時 (小於 10 小時工作時間，根據聲音大小等使用情況會有所不同) 該燈亮起。

電力不足提示燈 (11) 每 7 秒鐘閃爍一次時，應該更換電池。僅限使用 5 號 (AA) 鹼性電池。

音量控制

Maxi 數位音量控制鈕 (9) 按下 (10) 鈕音量變大，按下 (11) 鈕音量變小。

按住音量調節鈕一秒鐘以上，音量就會以每秒一個亮燈的速度升高或降低，直到達到最大或最小音量。

一下下地按 (10) 鈕 (9)，音量逐漸地變大，直到最大音量，此時音量、音調指示條形燈 (8) 全部亮滿。

一下下地按 (11) 鈕 (9)，音量逐漸地變小，直到最小音量，此時音量、音調指示條形燈 (8) 只有最左邊的一個小燈亮起。

音調控制

該型號 BE2020 數位音調控制鈕 (10) 按下 (10) 鈕音調變高，按下 (11) 鈕音調變低。

按住音調控制鈕一秒鐘以上，音調就會以每秒一個亮燈的速度升高或降低，直到達到最高或最低音調。

一下下地按 (10) 鈕 (10)，音調逐漸地變高，直到最高音調，此時音量、音調指示條形燈 (8) 全部亮滿。

一下下地按 (11) 鈕 (10)，音調逐漸地變低，直到最低音調，此時音量、音調指示條形燈 (8) 只有最左邊的一個小燈亮起。

當音量、音調指示條形燈 (8) 的小燈在中央時，音調為原調。

簡單故障處理

癥狀	解決
按下開關時 Maxi 沒反應。	更換電池， 僅限使用 5 號 (AA) 鹼性電池。
當 Maxi 處於打開狀態時，聽不到耳機裏的聲音。	確定所選檔， 比如麥克風 (M 狀態)。

更多資訊請見附錄。

1. 外部聲源 2.5 毫米插口
2. 內置麥克風
3. 麥克風指示燈
4. 電感指示燈
5. 開關按鈕 (10)
6. 麥克風按鈕 (11)
7. 選擇電感按鈕 (12)
8. 音量、音調指示條形燈
9. 音量控制鈕 (13)
10. 音調控制鈕 (14)
11. 電源指示燈
12. 3.5 毫米耳機插口
13. 掛繩孔
14. 電池蓋
15. 設置按鈕
16. 電池蓋卡口
17. 電池蓋
18. 腰夾


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, BE9128 Bellman Audio Neck Loop, BE9403 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.

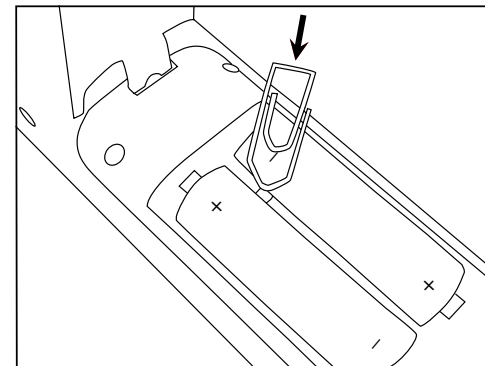
All settings are carried out in sequence, see below under Adjusting settings.

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), 37.01 dB
Full-on gain:	29.21 dB (SPL70)
Ref. test gain:	148.7 dB @ 1 kHz (SPL90)
Output level with BE9403:	52.6 dB (HF Ave. SPL90)
Ref. test gain:	71 dB (SPL70)
Distortion:	0.559% THD (electrical)
SNR:	82 dB
Frequency range:	40 Hz – 10 kHz
Output power:	Max 125 mW @ 16 ohms

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> -6dB@250Hz <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.	
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.
Operating temperature:	0°– 35° C, 32°– 95° F.
Transport and storage temperature:	-10°– 50° C.
Relative humidity:	15% – 90% (non condensing).

Regulatory requirements

FCC SDoC: FCC Part 15 Subpart B,
CE, RoHS, WEEE, RCM

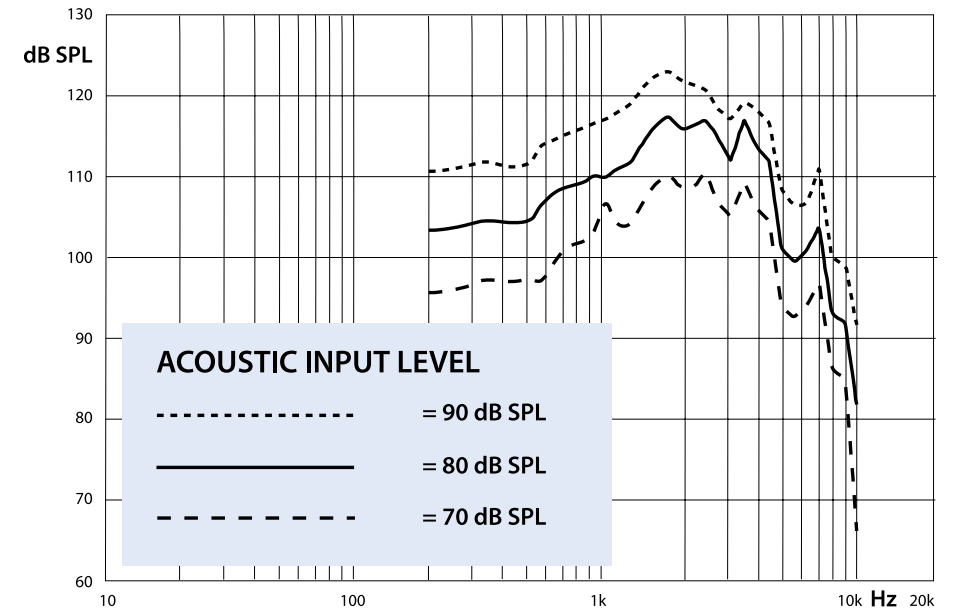


Accessories

BE9122	Bellman Audio Headphones
BE9128	Bellman Audio Neck Loop
BE9403	Bellman Audio Stetoclips
BE9124	Bellman Audio Ear Phones
BE9126	Bellman Audio Cable Kit
BE9127	Bellman Audio External Microphone

Measurements

Frequency response (acoustical):



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.

Statement for Industry Canada

Le fonctionnement de cet équipement est soumis aux conditions suivantes:



(1) l'équipement concerné ne doit pas causer d'interférences, et (2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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