In-ear Hearing Device

Natural Sound Electronics (Shenzhen) CO,.Ltd

User's Guide

Introduction:
The digital hearing aid produced by our company is a high-tech product integrating acoustics, medicine and electronics. The system hardware is based on the **xx**-signal chip, and the hearing aid function is realized through various software algorithms. The basic principle of digital hearing aids is to use electro-acoustic amplifiers to maximize the use of the user's residual hearing, so that the hearing impaired patients can hear the amplified sound. Through the compensation and adjustment of hearing impairment in different frequency bands, individual hearing compensation can be satisfied.

Introduction:
Name: In-ear hearing aid
Model specifications are shown in Table 1.

FCC ID: PWK-HB15

Structure composition:
The HB15 in-ear hearing aid is composed of earplugs, charging box, battery and host.

Working principle
The voice sensor converts the sound information into electrical signals, which are processed by the analog chip and then transmitted to the receiver and output through the sound tube. The signal processing adopts the principle of analog signal amplification.

The scope of application
After fitting, it can be used to compensate hearing for patients with air conduction hearing loss.

Model specification	HB15
MAX OSPL90	≤117±3dB
High frequency average OSPL90	109dB±4dB
Full range sound gain	30dB±3dB
Equivalent input noise level	≤29dB+3dB
Total harmonic distortion	≤5%+3%
Frequency response range (-10dB earlower than)	200Hz~8000Hz
Rated power supply current consumption	≤5mA

Model	Charging box
Working current	≤10mA
Rated working voltage	3.7V
Charging box input voltage	5V
Auxiliary hearing device charging current	≤50mA
Auxiliary hearing device charging voltage	≤5V

5、Product performance
1、Appearance and structure
1.1 All parts should be fully assembled and fixed reliably.
1.2 The text, symbols or marks should be clear, correct and firm.
1.3 The surface should be free of burrs, flashes, dents, scratches and other defects.
1.4 The connection of each component should be reliable and effective.
1.5 The operation of various adjustment buttons, switches, and other mechanisms should be flexible and effective.

6、Contraindications
1) Congenital atresia of the external ear or malformation of the external auditory canal, a large number of foreign bodies in the external auditory canal;
2) Deafness is unstable, and the degree of hearing loss often fluctuates;
3) The chief complaint is accompanied by obvious symptoms such as headache, dizziness, earache, tinnitus, etc;
4) Sudden deafness in the past 3 months; Progressive rapid deafness; Obvious unilateral deafness or other acute ear diseases at the same time;
5) Middle ear effusion and frequent discharge of pus;
6) Central deafness, non-organic deafness;
7) Patients with acute otitis externa and tympanitis;
8) Patients with acute and chronic suppurative otitis media (in the period of pus infection);
9) Patients who are allergic to the materials of this product.

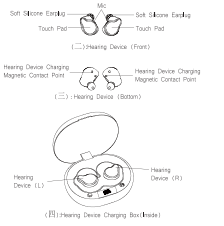
7、Matters needing attention, warnings and tips
1、Before fitting the auxiliary hearing device, it should undergo a professional inspection and hearing test, and use it under the guidance of a doctor or a professional hearing aid technician.
2、Pay attention to the product's moisture-proof, shock-proof and high-temperature protection.
3、Do not immerse the hearing aid in any liquid. Remove the hearing aid before swimming or washing your hair or bath; after swimming or washing, wait until the ear canal is dry before putting on the hearing aid.
4、After removing the auxiliary hearing device at night, it should be placed in a box with desiccant, protected from light, high temperature and high humidity, and avoiding collisions.
5、The outer surface of the hearing aid should be kept clean, and the earwax in the earplugs should be cleaned frequently.
6、Use the function and volume control switch correctly, try to turn on and off lightly to avoid excessive force.
7、The hearing aid should be sent to the fitting center for maintenance and inspection on a regular basis to ensure that the hearing aid is in good condition.
8、If you feel uncomfortable in your ears during use, please stop using it immediately.
9、Do not place the hearing aid in a place where infants and young children can reach it. If swallowed accidentally, seek medical attention immediately.
10、Applicable objects: meet the needs of (including) groups with severe hearing loss.
11、Please use the auxiliary hearing device with the auxiliary hearing device charging box.
12、When you are not using the hearing aid, please charge the product regularly to avoid battery damage; the recommended charging interval for the hearing aid is less than 28 days.
The recommended charging time interval for the auxiliary hearing device charging box is W90 days.

8、Operation guide for hearing aid mode:
1、Power on: Take out the headset from the charging box. (Pairing Mode/Begin to hear prompt tone appears at the same time after six tones), automatically power on and enters hearing aid and Bluetooth mode.
2、Increase the volume: double-click the touch panel to hear the volume prompt operation (from the digital voice broadcast One to the maximum volume Max Volume voice prompt)
3、Decrease the volume: double-click the touch panel to adjust the volume level in cycles, double-click after the maximum volume, and it will return to the minimum volume
4、Scene switching: Press and hold the center of any side panel until you hear a "Boom" and then a "Deep", then let go immediately, and select the scene you need according to the voice prompt (there are Quiet Place, Noise Place prompt sound options)
5、Manually turn on/off the hearing aid: Press and hold either side of the panel center and hear a "Boom" , then let go (There are Begin to hear/Close the hearing aid voice prompts)
6、For single ear use: Put the other one into the charging box.
7、Power off: Long press any touch panel to hear a "boom" and then a "beep" until the voice prompts "Power OFF" to power off, Or put the earphones back into the charging box to automatically shut down.

(一):Hearing Device

Operation guide for using Bluetooth mode:
1、Turn on the Bluetooth of the mobile phone, find the Bluetooth name HB15 and click Connect, it shows that HB15 is connected (Connected voice prompt)
2、Increase and decrease the volume, adjust the up and down music, Play and pause all mobile phone adjustments.
3、To answer/hang up the call, click on any side of the touch panel. (voice prompt Incoming call/Call ending)
4、To reject the call, Long press any side of the touch panel until you hear a "boom".
5、Turn off Bluetooth: When the Bluetooth mode is turned on, press any side 5 times, until there is a voice prompt, "Turn off Bluetooth".
6、Turn on Bluetooth: Double-click on both sides for 5 times until there is a voice prompt "Turn On Bluetooth".

Note: Before the hearing aid is fully worn, the hearing aid will make a squeaking sound, which is normal. The no-squeaking sound of the hearing aid is a sign of the correct wearing of the hearing aid. If the hearing aid has howling, please check whether you wear the hearing aid according to the correct steps. If the operation is correct and the howling still exists, please change to another earplug of appropriate size. When not using the auxiliary hearing aid, please turn off the auxiliary hearing aid in time.

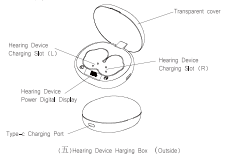


(二):Hearing Device (Front)

(三):Hearing Device (Bottom)

(四):Hearing Device Charging Box(Inside)

【How to use the auxiliary hearing device charging stand】
1、Put the auxiliary hearing device back into the charging box according to the left and right ear instructions, close the lid of the charging box and place it steadily.
2、Find the Type-C charging port corresponding to the charging box, and connect the charger to charge.
3、When charging the earphones, the digital tube will display the power of the charging box and the charging status of the earphones. When fully charged, the digital tube will not display.



(五):Hearing Device Harging Box (Outside)

Project	Possible Causes	Solution
Auxiliary devices no sound	Dead battery(The battery has no power)	Recharge
	The sound outlet or microphone port is blocked	Clean the sound outlet or microphone port
The voice is very weak and indistinct	Low battery	Recharge
	Volume setting is too low	Turn up the volume
	Loose earplugs	Re-tighten the hearing aid
The indicator light of the auxiliary hearing device does not light up after it is connected.	Poor contact between the auxiliary hearing device and the charging box	Reinsert the hearing aid into the charging slot of the charging box
	Auxiliary receiver is reversed	Check whether the auxiliary hearing device is connected reversely
	The power is not securely plugged in	Connect Type-C charging

9、Maintenance
1、Earplug cleaning and disinfection methods remove the earplugs from the hearing aid, rinse with water, or wipe with alcohol, and then install the earplugs on the hearing aid after the earplugs are dry.
2、How to clean the product: wipe it with a lint-free soft cloth or a sponge soaked with detergent. Be careful not to pour liquid on the instrument during cleaning, and make sure that no liquid enters the inside of the instrument. Be especially careful when wiping to ensure that no water can enter.

10、Storage/transportation conditions and methods
1、Environmental conditions for normal use:
a) Ambient temperature: 0℃~40℃;
b) Relative humidity: ≤80%;
c) Atmospheric pressure: 86kPa~106kPa;
2、The product should be stored in a cool and dry place, and the environment should meet the following conditions:
a) Ambient temperature: -10℃~55℃;
b) Relative humidity: ≤90%;
c) Atmospheric pressure: 50kPa~150kPa;
3、Handle with care to avoid collision or strong impact on the product.
Indicator Light does not shine

11、Disposal of waste and residue
Do not throw away scrapped earplugs, mainframes, and charging boxes at will. The disposal of waste and residue should comply with the corresponding national laws and regulations.

12、Parts list
Charging box: 1 set
Earplugs: 4
Charging cable: a Type-C charging cable
Certificate of conformity: 1
Instruction Manual: 1
Auxiliary hearing device host: 2

Warranty Card

Product name _____ Body number _____
Purchase date _____ Customer name _____
Warranty period One year Sales company _____

From the date of sale, the company will provide free warranty for the material and technical quality problems of the auxiliary hearing device during the warranty period; All man-made damage or improper use is not covered by the warranty.

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

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.