Headphones Pro

manual

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About this manual

This user manual details functionality, specifications, and operation process of the HeadPhones Pro device. For safety reasons, read the manual before using the device.

Symbols and abbreviations used in the manual

Caution - situations that may result in injury to you or others.

Warning – situations that may cause damage to the device or other equipment.

Note - recommendations or additional information.

This user manual includes the following abbreviations:
OS – operating system;
PC – personal computer/laptop;

Precautions

- Do not use a damaged USB cable or loose wall outlets.
- Do not bend or damage USB cable while charging the device.
- Do not use the device during a thunderstorm (increases the risk of electrocution).
- Do not place the device on or inside heating appliances (microwaves, stoves or radiators).
- Prevent moisture from the device.

- Do not disassemble or repair the product yourself. In case of device malfunction, contact the manufacturer's technical support service.
- Note that excessively high or low temperatures can damage the device.
- Dispose of this device at designated collection points.
For further product disposal instructions, contact local authorities.
- Place the device on undamaged skin areas.

About the device

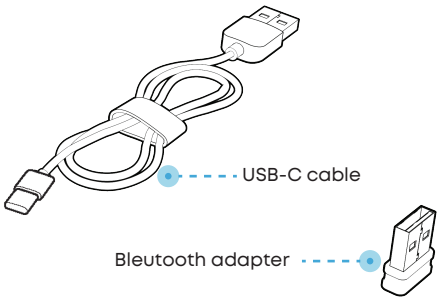
The device allows real-time recording of brain potentials generated by the brain, listening to audio, and participating in online meetings.

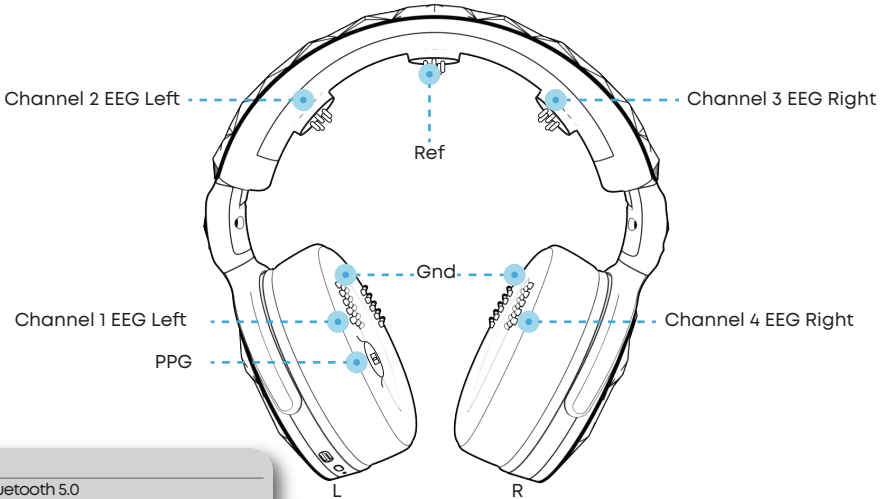
What's in the box

HeadPhones Pro device - 1 pc.
USB to USB-C cable - 1 pc.
Bluetooth adapter 5.0* - 1 pc.

*Provided optionally for PC usage.

Device and accessories overview





Technical specifications:

Headphones specifications	
Communication interface	Bluetooth 5.0
Wireless range	up to 10 meters
Battery life	up to 30 hours
Impedance	32 Ohm
Frequency range	20 - 20,000 Hz
Sensitivity	108 dB
Active Noise Cancellation (ANC) system	Present
Microphone	Present
EEG specifications	
Number of EEG signal channels	4
EEG signal sampling frequency	250Hz
Signal measurement data digitization	24 bits
Measured voltage range per channel	+/- 0.4 V
Noise level per channel	under 4 µV peak to peak
MEMS specifications	
Angular velocity	along three orthogonal axes
The range of measured angular velocities	from ±250 to ±2000 °/c
Boost	along three orthogonal axes
The range of measured accelerations	from ±2 to ±16 g
PPG specifications	
Sampling rate of the PPG signal measurement	250 Hz
PPG measurement data bit rate	18 bits

Power source requirements

USB cable can be connected to any power source equipped with a USB (5V) connector that provides a charge current of at least 200 mA.

Marking

Device marking has the following information:
•Serial number.

Packaging marking has the following information:
•Manufacturer's name or trademark;
•Device name;
•Symbols and abbreviations;
•FCC ID.

Device operation modes

•Standby mode: The connection to the device is not established. The LED on the right earpiece flashes blue and red one after another. On the left earpiece, LED flashes green every second.

•Connection mode: The connection to PC is established. The LED on the right earpiece is off. The LED on the left earpiece continuously glows green.

•Charging mode: The device is in charge mode when connected to the power cable. The LED on the right earpiece continuously glows red. When the device is charged, LED turns off. The LED on the left earphone is off.

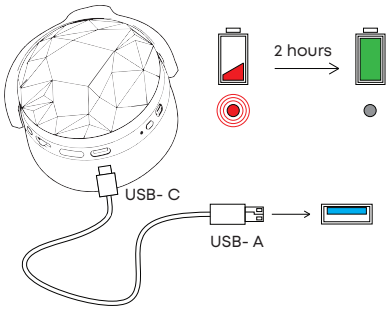
•Noise reduction mode: The device is switched to this mode by pressing the power button quickly when the device is turned on.

To disable the noise reduction mode, press the power button again.

Device charging

To charge the device, follow these steps:
1. Connect the USB-C cable to adaptor or any other power source equpped with a USB connector.
2. Connect the USB-C cable to the HeadPhones Pro device.

The indicator should continuously glow, indicating device charging.



The battery is fully charged in under 2 hours.

Indicator light modes

The device has two indicators, one is located on the right earpiece near the power button. The other indicator is placed on the left earpiece.

• Registration mode - The LED on the left earpiece continuously glow green, and the right LED flashes blue every second.

• Connection mode - The right LED is off, and the left one continuously glows green.

• Standby or pairing mode - red and blue indicators flash one after another every second and, on the other side, green also flashes every second.

• Charging mode – The right LED is red.

• Power–on indication - Right blue LED: three short flashes. Left LED: Short flashes every second.

• Power-off indication - Right red LED: three short blinks. Left LED: Off.

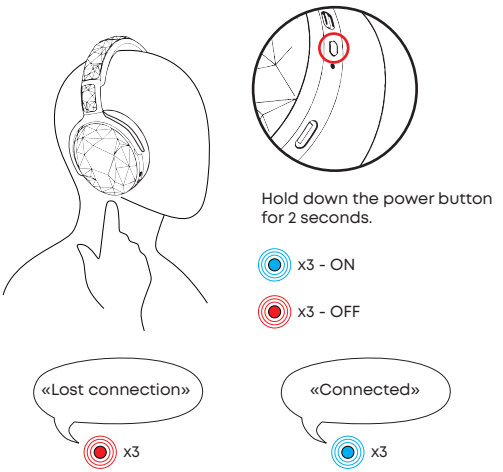
• Charging or being turned off - Both LEDs are off.

• Noise reduction mode - the LED on the right earpiece flashes purple 3 times.

Device setup

How to use the device:

1. Unpack the device.
2. Turn on the device, hold the power button for 6 seconds until the red indicator above the button glows. Afterwards, it will be enough to simply turn on the device to connect to your PC or mobile device.
3. Connect the HeadPhones Pro to your PC or mobile device.
4. Position the device so that all the electrodes are adjacent to the head.
5. Make sure the central (reference) electrode on the rim is adjacent to the head in the crown area.



Before using the device, wipe the electrodes with a damp cloth or tissue.

Connection and pairing mode:

When connecting the device to PC or mobile device, pairing via Bluetooth is required. To pair the device, hold the power button for 6 seconds until the indicator above the power button that was flashing blue, continuously glows red. Then, release the power button and proceed to connect HeadPhones Pro to your PC or mobile device.

For Windows / Android
Pair an external device with the standard Bluetooth search and connection procedure. For this, go to the Bluetooth search page, search new devices and put HeadPhones Pro into pairing mode for the first time. In the list of devices available, select the HeadPhones Pro device. Then search again and select the HD 450BT device.

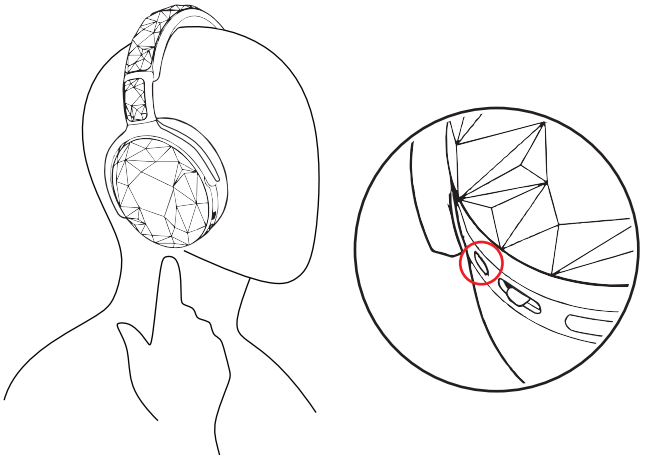
For Mac OS / iOS
Pair an external device with the standard Bluetooth search and connection procedure. For this, go to the Bluetooth search page, search new devices and put HeadPhones Pro into pairing mode for the first time. In the list of devices available, select the HD 450BT device. Then launch the application to work with the device, search for devices and connect the HeadPhones Pro device.

There is no need to pair the HeadPhones Pro device with Mac OS / iOS in advance, because the Mac OS/iOS family fully transfers this function to the application.

Headset Function Control

Activating voice assistant:

Press the top button on the back, located on the right earphone.



Pausing and changing tracks:

Start playing audio (PLAY) - press the sliding button once

Stop audio playback (STOP) - press the sliding button once

Next audio track (NEXT) - Slide the button down

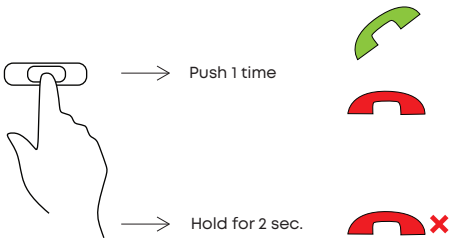
Previous audio track (BACK) - Slide the button up

Calling options:

Accept a call - press the sliding button once

End a call - press the sliding button once

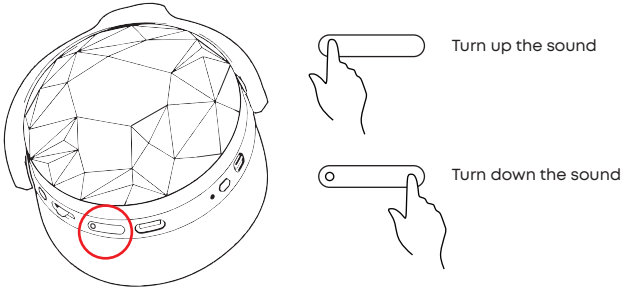
Reset a call - hold the sliding button for 2 seconds



Controlling volume:

Increase the volume of the sound - press the rocker button on the relevant side (left side of the button)

Lowering the volume of the sound - press the rocker button on the relevant side (right side of the button)



Transportation and Storage

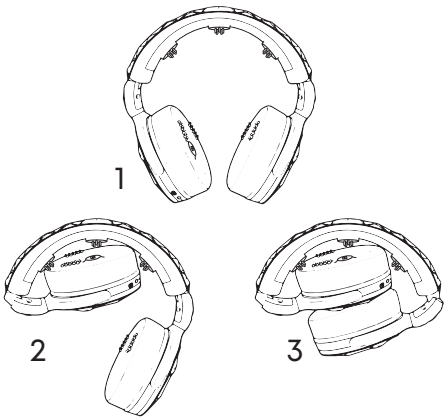
The device can be transported by all types of transport, in covered vehicles according to the transport rules applicable for each type of transport.

Operation of the device should be within the temperature range of +1 to +40°C and relative air humidity not exceeding 80% at +25°C.

While using indoors, avoid corrosive substances (alkalis, acids, ethers, etc.) and high dust concentrations.

Transportation by sea is to comply with the General Cargo Safety Rules of Maritime Transportation. During transportation, the device should withstand climatic factors in a temperature range of -10 to +50°C.

In the manufacturer's packaging, the device is kept in storage facilities with an ambient temperature ranging from +5 to +40°C and relative air humidity not exceeding 80% at +25°C.
Acid vapors, alkalis, and other aggressive impurities in the air are not allowed.



Device Maintenance

- The battery is fully charged in under 2 hours.
- Ensure routine preventive cleaning of the electrodes with damp wipes.
- Prevent moisture from the device!

Manufacturer's Warranty

The warranty period is 12 months. The product storage warranty period is 6 months from the manufacturing date. If the device was repaired, the warranty period is extended for the period when the product was not used due to malfunction elimination (repair period).

If the device was replaced, the warranty period restarts and starts from the day of replacement.

Manufacturer covers the warranty repair costs.

Post-warranty repair is provided by the manufacturer, but the repair cost is covered by the device user.
If the device malfunctions due to improper usage within the warranty period the repair cost is covered by the device user.
Warranty does not cover:

- Non-compliance with device operating conditions and rules by the user;
- Unauthorized access to the device internals;
- Design changes made to the device;
- Self-repair of the device within the warranty period.

Troubleshooting

Before contacting technical support, review the list of standard problems and solutions:

The device does not connect to a PC or mobile device:
• Make sure that the device is in pairing mode and the LED is flashing green.
• Search for the device on the PC again.
• Use the Bluetooth unit provided with the device if you are sure that the problem is with the built-in Bluetooth adapter. It is recommended to use the Bluetooth unit on a Windows PC.
The LED is off when:
• The device is completely discharged. Charge it according to the instructions on charging.
• After that, try turning it on again and make sure the device is in standby mode.

Some electrode contacts are out of order:
• it is acceptable if a spring contact sinks in or completely falls out from an electrode, however, there should not be more than 4 contacts like this. This will not affect the quality of the recorded signal.

FCC Notice

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 get any interference received, including interference that may cause undesired operation.
Any changes or modifications 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 emits 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 device. 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 correcting 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 to an outlet on a circuit different from that to which the receiver is connected;
• Consult the dealer or an experienced radio/TV 24/7 technician for help.
The device was tested for compliance with general radio frequency requirements.
The device can be used in portable exposure without restrictions.

FCC ID

Headphones Pro