

Headphones Lite

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

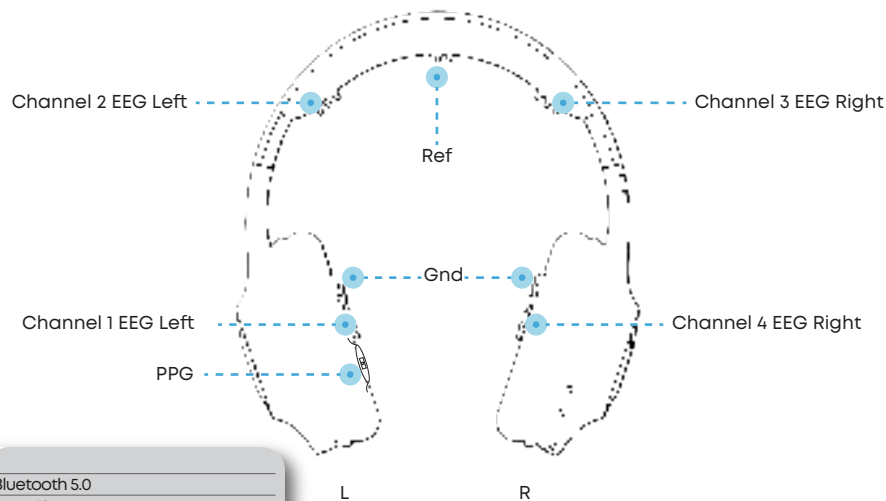
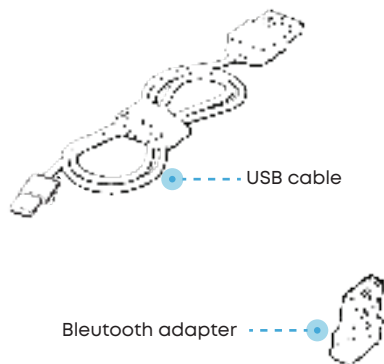
HeadPhones Pro device - 1 pc.

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 100 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 μ V peak to peak |
| PPG specifications | |
| Sampling rate of the PPG signal measurement | 250 Hz |
| PPG measurement data bit rate | 18 bits |
| MEMS specifications | |
| Angular velocity | along three orthogonal axes |
| The range of measured angular velocities | from \pm 250 to \pm 2000 $^{\circ}$ /c |
| Boost | along three orthogonal axes |
| The range of measured accelerations | from \pm 2 to \pm 16 g |

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:

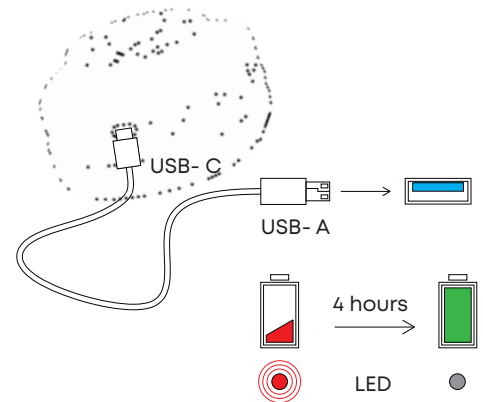
- Standby mode: No connection to the device is established.
The LED at the bottom of the headphones flashes alternately blue and red.
The side LED flashes green.
- Connection mode: Connection to PC established.
The LED at the bottom slowly flashes blue. The side LED flashes green.
- Charging mode: The device enters charging mode when connected to the power cable.
The LED at the bottom remains solid red. When the device is fully charged, the LED stops lighting up.

Device Charging:

To charge the device, follow these steps:

1. Connect the USB-C cable to a power adapter or any other power source with a USB connector.
2. Connect the USB-C cable to the HeadPhones Lite device.
An indicator should light up, indicating the device is charging.

 The full battery charge duration is approximately 4 hours.



Indicator Light Modes


The device has an indicator located on the right headphone near the power button.

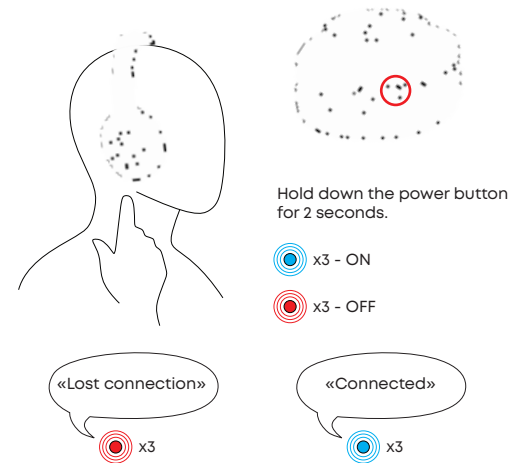
- Recording mode - The bottom LED blinks blue once per second. The side LED is green.
- Connection mode - The bottom LED slowly flashes blue. The side LED blinks green.
- Standby or pairing mode - The bottom LED alternates between red and blue flashing once per second. The side LED blinks green.
- Charging mode - The bottom LED is solid red. The side LED is off.
- Power on indication - The bottom LED glows blue for 1 second. The side LED blinks green.
- Power off indication - The bottom LED glows red for 1 second. The side LED blinks green.
- Device off or fully charged - LEDs are not lit.

Device Setup

How to use the device:

1. Unpack the device.
2. Turn on the device by pressing the power button for 6 seconds until a red indicator lights up above the button. Subsequent device startup is done normally to connect to your PC or mobile device.
3. Connect the HeadPhones Lite to your PC or mobile device.
4. Position the device so that all electrodes are in contact with the head.
5. Make sure the central (reference) electrode on the headband is in contact with the head in the crown region.

 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

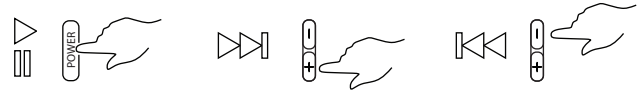
Pair an external device with the standard Bluetooth search and connection procedure. For this, go to the Bluetooth search page, search new devices and put HeadPhones Pro into pairing mode for the first time. In the list of devices available, select the HD 450BT device. Then launch the application to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

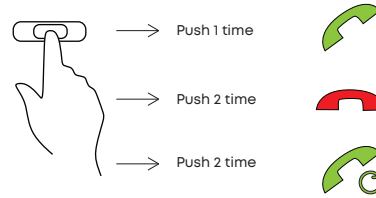
Pause and track switch:

- Start playing audio (PLAY) - press the power button once.
- Stop playing audio (STOP) - press the power button once.
- Next track (NEXT) - long press the "+" button.
- Previous track (BACK) - long press the "-" button.



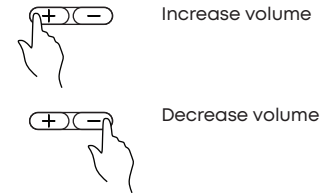
Phone functions:

- Accept a call - press the power button once.
- End the call - press the power button twice.
- Redial the last number - press the power button twice.



Sound Volume Adjustment:

- Increase volume - press the "+" button.
- Decrease volume - press the "-" button.



Transportation and Storage

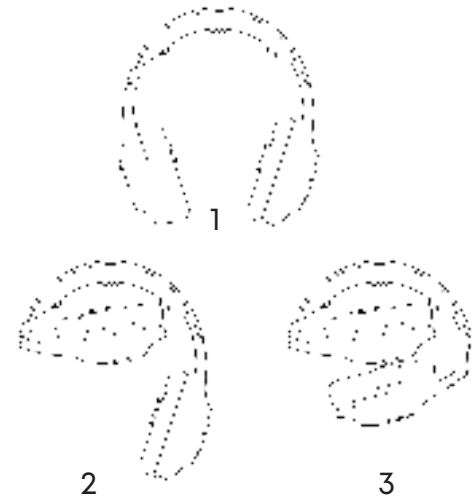
The device can be transported by all types of transport, in covered vehicles according to the transport rules applicable for each type of transport.

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 common problems and their solutions:

Device not connecting to PC or mobile device:

- Ensure the device is in pairing mode, and the LED is flashing green.
- Retry searching for the device on the computer.
- If in doubt about the internal Bluetooth adapter, use the Bluetooth module from the device kit. Recommended for Windows OS PCs.

LED not lighting up:

- The device is completely discharged. Charge it following the "Device Charging" section.
- Try turning on the device again and ensure it is in standby mode.

Some contacts on the electrode are malfunctioning:

- The failure of up to 4 spring contacts or total detachment of a contact from one electrode is allowed. This will not affect the quality of the registered 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 Lite