

Model : BCI-AIC

Smart Glasses

Instructional Guide Booklet

Shenzhen Biai Intelligent Life Technology Co.,LTD

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smart glasses is a portable wearable brain-computer interactive device that takes the traditional glasses structure as the carrier and obtains the high-fidelity signals closely related to the brain and mental state such as EEG, heart rate, eye movement, and analyzes them by mathematical modeling and machine algorithms, and then presents them to users with different needs through the friendly and readable visualization interface on different smart terminals, including cell phones, computers, and tablets. It is presented to users with varying needs through friendly and easy-to-read visualization interfaces on different smart terminals, including mobile phones, computers, and tablets.

Currently, smart glasses are mainly used in children's concentration training, students' mental health assessment, public transportation safety driving monitoring, and neurological rehabilitation training; according to the functional attributes of our product, smart glasses, it can provide monitoring, reminding, and regulating functions for people's mental states.

smart glasses Product Format Diagram



I. Basic Functions

smart glasses is a non-invasive, intelligent, convenient, and professional brain-computer interaction product for people of all ages. Our smart glasses can be fitted with lenses for nearsightedness, farsightedness, or flatness that match the user's specific needs. Similar to standard glasses, they are suitable for continuous daily wear. When the power is turned off, the lenses can be used as standard glasses with the right combination.

1. Scope of application:

(1) For the 6 - 18 age group, it can be used for attention enhancement and eyesight protection, as well as for safety and health issues in brain and eye use.

(2) For adults, the maintenance and rehabilitation of **neurological functions**, including fatigue, depression, and other problems.

We are monitoring the regulation of symptoms such as anxiety and insomnia.

(3) For the 60+ age group, it applies to managing and preventing **chronic diseases (heart, brain, and eyes**, including stroke, vascular dementia, and diabetes.)

2. Notice: For different age groups and characteristics, various models of spectacles with other functions are suitable. Please consult the company's professionals for details.

3. How to charge: C state interface charging, 3.7V lithium battery, 0.5-1.0 hours can be complete and continuous use up to about 2 hours.

II. Principle of operation

smart glasses has built-in sensor chips and circuit boards in the eyewear frames. By integrating EEG, PPG, machine vision, and other technologies, it collects physiological characteristics of the human body in multi-modal and multi-parameter. It combines with artificial neural network algorithms based on deep learning to compute indices that are closely related to the emotional and cognitive states of the human brain and then outputs easy-to-read and understandable visual results according to the user's specific needs, to objectively and quantitatively monitor and intervene in visual fatigue, attention problems, emotional and cognitive states. According to the user's particular needs, it outputs easy-to-read visualization results, which can be used to monitor, remind, and intervene in visual fatigue, attention problems, and emotional and cognitive states in an objective and quantifiable way.

Schematic diagram of how smart glasses work

Related Articles & Patents:

1. Li XT*, Fan FF, Chen XJ, Ning L, Li J, Lin KG, Chen Z, Qin ZY, Yeung AS, Li XJ, Wang LP, So KF. Computer vision for brain disorders based primarily on ocular responses. *Frontiers in Neurology*, 2021; 12:584270.
2. Brain stimulation system, method and apparatus based on artificial intelligence and storage medium. Xiaotao Li, et al. U.S. Invention License Patent . US16/248902. 2023-02-14.
3. Artificial intelligence-based brain stimulation system, method, device and storage medium. Li Xiaotao, et al. Patent authorized by Chinese invention. CN201810500943.9. 2022-05-23.
4. A kind of smart glasses with transcranial electrical stimulation . Li Xiaotao, et al. Domestic utility model authorized patent . CN 202123194846.8. 2021-12-16.
5. Digital smart glasses for enhancing brain intelligence. Xiaotao Li, et al. Patent granted for invention in the Netherlands, NL2032145.2024-01-31.

III. Main functions

1. **Vision Protection** ----- This product can monitor and warn of vision fatigue and excessive eye use in time, and combined with the matching brain-controlled toys, it can adjust the ciliary muscle tension of the eyes at the right time, thus realizing effective prevention and control of myopia for children and adolescents.

2. **Mental regulation** ----- This product can monitor and warn of inattention, high brain load, and excessive stress promptly, which is conducive to a more reasonable, scientific, and efficient way for people who consume a lot of brain power to use their brains to study or work.

3. **Heart-brain monitoring** ----- This product (specific model) allows for timely monitoring of hemodynamic parameters of the cerebral aorta. It can help the middle-aged and 60+ age group with early warning of risk indices for stroke, vascular dementia, hypertension, and diabetes.

* Please note that this product is intended for health consumer-grade use only and should not be used for unauthorized clinical medical use.

Photos of specific application scenarios of smart glasses



IV. Quantitative parameters

1. **Concentration** -- 0-100 points, 0-25 points: severely distracted; 26-50 points: inattentive; 51-75: good attention; 76-100: high attention

2. **Fatigue** -- 0-100 points, 0-25: high energy; 26-50: good energy; 51-75

Score: Fairly fatigued; 76-100: Severely fatigued

3. **Mood value** -- 0-100 points, 0-25 points: mood disorder; 26-50 points: negative mood; 51-75 points

Score: Positive mood; 76-100: Full mood

4. **Heart rate** 0-120 beats/minute

5. **Cerebral oxygen** 0-100 %

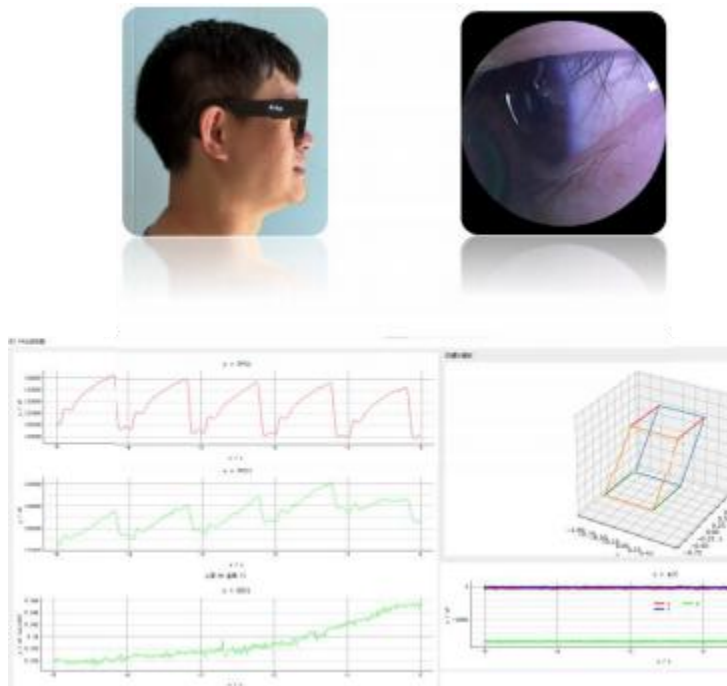
6. **Respiration** 0-50 breaths/min

7. **Infrared ranging** 10-200 cm

8. **Head movements** 1-60 per second

P.S. Quantitative parameters (4) - (8) are incorrectly displayed in some models.

The main quantitative parameters of the output of the smart glasses



7:10am, alarm goes off, just woke up after a long night.

7:35am, Meditation 20Mins later

8:00 a.m., shower and get dressed.

8:47am, after breakfast and coffee.

V. How to use

A. Charging

Connect the charging port on the nosepiece of the glasses to the USB-C charging cable and keep it connected to charge the glasses, ensuring that the light on the back of the glasses is on.

1 Charging: red light on

1 Full charge: light off





Tips:

1. Do not use overload voltage to charge the glasses (avoid using fast chargers for cell phones and computers);
2. It is strongly recommended to use the special charging cable for smart glasses for charging;
3. Do not charge the glasses while wearing them.

B. Pairing

1. Press the on/off button on the back of the eyeglasses and release it to turn on the green light, and the eyeglasses will enter the pairing mode.

Ensuring the eyeglasses indicator is green and not connected to another device.

If the indicator does not light up after pressing the ON/OFF key, please charge it quickly.

2. Turn on your cell phone's Bluetooth.

3. Search and open the WeChat app "BIAI Fairy, and click "Scan Settings" in the middle of the page.

Select the current device "BT-11" and wait for a few seconds. After a successful connection, the page will display the current wearer's concentration, fatigue, and mood values.



Warm Tip:

1. Do not press the on/off button repeatedly;
2. Due to the unstable Bluetooth signal, "smart glasses" cannot scan Bluetooth devices. It may be necessary to click "Scan for Devices" several times.

C. Unlock more features on WeChat Small Program

Search and open the WeChat app ; there are four buttons at the bottom of the app: "Home," "Record," "Class," and "My," "Classroom," and "My."

1. The primary function of the "Home" page is to scan, connect, and display the most essential functions of the smart glasses.
2. The primary function of the "Record" page is to record the duration of each training session by wearing the smart glasses, total number of training sessions, and parameters related to emotional-cognitive states to meet the different needs of users.
3. The primary function of the "Classroom" page is to display the product specification of the smart glasses and share scientific articles on cognitive focus, vision protection, and emotional management from time to time, as well as to provide a functional window for "expert matching."
4. The main functions of the "My" page are to fill out your personal information, view frequently asked questions, and introduce the BE Smart team. In addition, you can purchase our hardware products by clicking the "Buy Device" button.
 - For more details, please refer to "apply manual".

D. Connecting brain-controlled toys

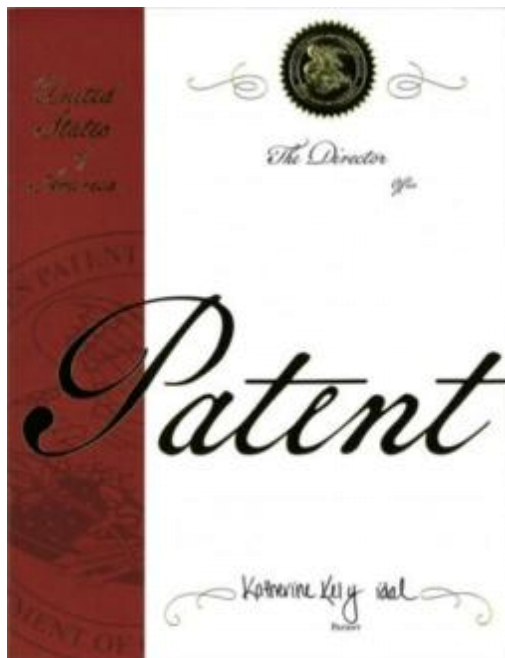
1. When connecting the brain control toy, please turn off the Bluetooth on your phone that connects to the WeChat app in advance.
2. Turn on the power switch of the toy and then turn on the power switch of the smart glasses.
3. When wearing the smart glasses, it is necessary to let the metal part of the glasses touch the side of the nose and the side of the ear in each of the two places.
The skin.
4. If the connection signal is not good, clean the metal parts of the glasses with a 75% alcohol wipe.
5. If there is much hair on the side of the ears of female students blocking the signal, it is recommended to pull out the hair by hand or use hairpins to organize the hair so that the metal part of the eyeglasses' legs can touch the skin on the side of the ears.
6. When the signal is successfully connected, wait 5-10 seconds for the brain-controlled toy to move. Different toys have different brain control modes.

smart glasses Control Toys Connected by Brain Glasses

VI. Precautions

1. Suitable for people over six years old. It is recommended for children under parental guidance.
2. It is not suitable for infants and young children to come into direct contact with the product, and it is prohibited for them to chew on it.
3. Do not use the fast charging cables of cell phones and computers to charge the smart glasses directly, which will damage the electric power of the glasses.
- Pool.
4. When using smart glasses, keep them away from flammable and explosive environments, high temperatures, and high pressure.
5. It is not recommended to wear BIA I-eyeglasses products while sleeping.
6. When the power-on indicator does not light up, please charge it in time.
7. When there is much sweat on the skin, wipe it off before use. It is also advisable to clean the metal parts of the smart glasses with 75% alcohol to increase the electrical conductivity.
8. Promptly consult the company's after-sales staff when the product fails.

Related Qualifications and Certificates



VII. User feedback form

Thank you for taking time out of your busy schedule to fill out the user feedback form; your small feedback will significantly help us! Please fill out the user feedback form and mail it to 4103, 41st Floor, Building 1, Changfu Jinmao Mansion, Shihua Road, Futian District, Shenzhen City, Guangdong Province, China, Contact Person: Li Xiaotao, Contact Phone: 18588272528.

Your name: Contact:_____

1. The main purpose for which you purchased this product is (Multiple choice): Vision protection ☐ Mind regulation ☐ Mind-brain monitoring ☐

2. Do you feel uncomfortable when wearing eyeglasses: Yes ☐ No ☐ If yes, do you think that specific

What makes you uncomfortable is:_____

3. How often do you wear it in your daily life? Weekly: 7 times or more ☐; 4-6 times ☐; 2-3 times ☐.

1 time ☐; 0 times ☐

4. What do you like most about the product?

5. Any Improvements:

It is not convenient to send an email to xtli@biai123.net

VIII. Maintenance services

Please contact us if you need any help using the product. We will reply within three days and repair within one week. We will not be responsible for any intentional damage to the product. Contact us as follows: Tel: 18588272528, 13554703270

Email: xtli@biai123.net 微信: lixt_hk

IX. Company Profile

Shenzhen BIA Intelligent Life/Medical Technology Co., Ltd (BIA I for short), relying on the technology platforms of the U.S. MIT and the Chinese Academy of Sciences, is operated by a high-tech innovation and entrepreneurship team led by overseas-introduced high-level talents of Peacock. BIA I = BI + AI, combining Biological Intelligence (BI) and Artificial Intelligence (AI) to develop non-invasive deep brain-computer interaction digital assessment and cognitive intervention products based on Eye-Brain-Integrated Engineering (EBI) technology to help human beings solve brain-eye related stress problems in the era of information explosion. The team focuses on the development of e-pharmaceuticals and digital therapies, emphasizing "treating the disease before it is too late and specifically targeting brain dysfunctions such as anxiety, depression, visual fatigue, and cognitive deterioration.

For more information, please visit our website:_____

<https://www.biai123.net/www.biai123.net/>

FCC Caution:

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. 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 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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.