Minimal EEG Hero

Wearable dry-EEG device with sensors over central brain areas, optimized for cognitive and sensory-motor states estimation.

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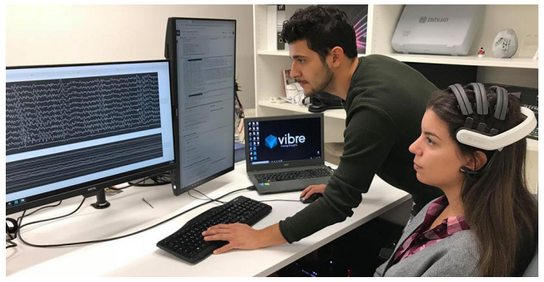
- **Wearable and comfortable**
  Fast and simple to set up.
- **Dry EEG sensors**
  No need to apply electrolytic substances or saline solutions.
- **Advanced electronics**
  Active shielding with optimized DRL to improve SNR and reduce artifacts.

- **Mechanical support**
  Flexible arcs and sensor adjustments that adapt to head morphology and hair volume.
- **Connectivity and storage**
  Bluetooth real time EEG streaming and local SD storage.
- **Battery**
  Swappable batteries for 3+ hours in streaming and local SD storage.

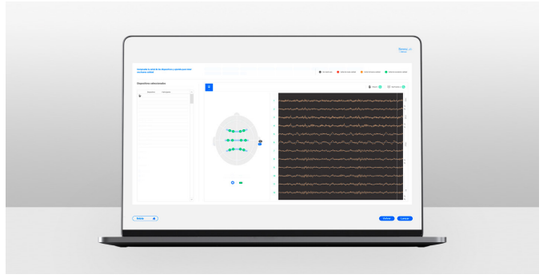
Some applications

New health interventions based on brain-computer interfaces for cognitive or motor neurorehabilitation.

Capture natural human behaviour to **evaluate interfaces or physical products** to build optimal user experiences.



Improve educational workspaces by measuring cognitive or sensori-motor estates, individually or in groups.

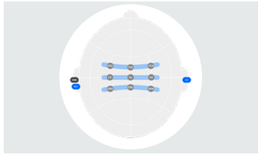


Learn about the **brain patterns of human behaviour** during reactions and interactions, combined with other monitoring technologies.

Bitbrain

Minimal EEG family
Hero

Technical overview



Layout optimized for mu/alpha ERD/ERS, ERPs (P300, N400), MRCPs, and CVN, among others.

Wearable and ultralight (250g) EEG headset. Quick and easy set up anywhere, and under any circumstances.

Reliable dry-EEG monitoring with 24 bits at 256Hz for 3+ hours. Bluetooth streaming and/or on-board SD storage.

Clean technology that is easy to transport.

Hardware specifications

Sensors and headset	
EEG channels	10 x EEG (FC3, FCz, FC4, C3, Cz, C4, CP3, CPz, CP4, A2), REF and GND (A1)
Type of sensors/ electronics	EEG dry sensors, active shielding and optimized DRL
Head breadth	13,5 - 16,5cm
Wireless Amplifier	
Sampling rate/resolution	256 SPS at 24 bits
Bandwidth	DC – 40Hz (3º order LPF)
Online/real-time impedance check	Yes (relative contact impedance)
Integrated sensors	Integrated IMU (9 axis): accelerometer, gyroscope and magnetometer
Input range and noise	± 100 mV, < 1 µVRMS (0.5 – 30Hz) @256Hz
CMRR / Input impedance	> 100 dB @50Hz, > 50 GΩ
Data streaming and store	
Data transmission and range	Bluetooth 2.1 + EDR with 10 meters in direct sight.
Data backup / files	Yes (removable micro SD card) / CSV (max 8GB. Class ≥ 10)
Power	
Battery	Swappable lipo battery. Charging time <3h
Autonomy	>3h per battery
General	
Weight	250g
Maintenance	Wipes moistened in tap water.
Warranty	2 years
Certifications	CE and CB, with EN 60950, EN 55032, EN 55024

Software specifications

Bitbrain software kit (included with equipment)	
Bitbrain real-time SDK	C/C++ with Python bindings for Windows and Linux
Bitbrain data acquisition and visualization suite	Live visualization, streaming or SD recording, data export in CSV and raw data visualization.
Third parties real-time I/O	LabStreamingLayer LSL compatibility (Matlab, Python, BCI2000, OpenVibe, NeuroPype, etc).
Third parties data processing	Matlab (EEGLAB, FieldTrip, BCILAB, etc), Python (MNE, etc) and more.
Bitbrain software platforms (optional)	
Bitbrain Human Behaviour Research Lab	Practical research platform for experiment design and data acquisition with 30+ sensor modalities seamlessly synchronized.
Bitbrain Programming Platform	Multimodal real-time neuroscience or brain-computer interface development.

Bundle includes

- EEG headset
- Power supply
- Cable USB-micro USB
- 2 rechargeable batteries 700mAh
- 3 sizes lateral extensions
- Instructions
- Suitcase
- Bitbrain Software Kit

Additional services

Installation and Initial Training
Our team provides a training course that includes the installation of your EEG headset and software. You and your team will gain a basic understanding of how to operate the system.

Hardware and Software Customization
Aesthetics (color, logos, etc), functionality (number of sensors, location, etc) or software customization. You will receive a fully made to order technology for your research or business.

Real-world research and applications

Bitbrain

Europe

Zaragoza, Spain
Calle. Sta. Teresa de Jesús, 32,
50006 Zaragoza
+34 931 444 823

America

New York, United States
228 E 45th Street. Suite 9E
New York, NY 10017

Email
info@bitbrain.com

Website
www.bitbrain.com