

AXON-R • Immersive BCI



Introducing a groundbreaking brain-computer interface platform for researchers that combines augmented reality, EEG, and artificial intelligence in a novel, self-contained headset.

Immersive Neurophysiology & Interaction Research

The Axon-R™ enables precise measurement and modulation of brain activity through visual stimuli and neurofeedback. This wearable device offers up to 16 channels of research-quality physiological data and an integrated steady-state visually evoked potential classifier. Researchers equipped with the Axon-R can expand beyond the confines of standard laboratories, engaging in immersive and interactive studies that leverage multimodal interaction, augmented reality, and brain sensing in the lab or in the real world.



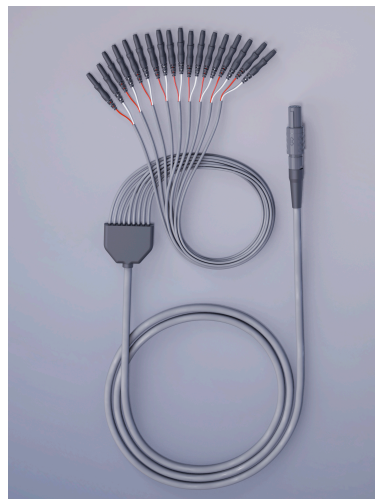
AXON-R™ BCI HEADSET

Fully Integrated Wireless AR BCI with EEG and Additional Biopotential Channels



NUCLEUS NEURAL HUB™

Wearable Computer and Battery, 16 Channels Biopotential Amplification and Data Acquisition Unit



DENDRITE™ CABLE

Bipolar 8-channel Biopotential Expansion Cable with Touch-Proof Connectors (EEG, ECG, EMG, EOG, EGG)



BCI STUDIO™

Fast, Easy Device Setup with Visual Evoked Potential (VEP) & Spatial Interaction R&D Tools

BIOPAC

(805) 685-0066

info@biopac.com

www.biopac.com

Contact BIOPAC to learn more or request a quotation!

Axon-R is the All-in-One Neural Hub for Brain Research



Powered by Cognixion®

Features

Immersive Neurophysiology

The only purpose-built, truly integrated BCI + AR device with a unique on-device ssVEP classifier system (Steady-state Visual Evoked Potentials).

Wireless, Wearable, Portable

Small, comfortable form factor allows for in-lab or real-world studies. Indoor lens included in the Standard System, Outdoor lens is included with the Advanced System.

Multimodal Sensor Fusion

6+2 EEG Sensors on Occipital and Occipital-Parietal (O1, O2, Oz, PO3, PO4, POz, G, R) with built-in impedance checker and a 9-axis Inertial Measurement Unit (IMU). Add EEG, ECG, EMG, EOG, EGG with Dendrite Cable (available in the Advanced System).

LSL Data Streaming

Streams with raw, filtered, and classified data across 16 channels at 2 kHz samples per second per channel (24bit).

Software Integration

AcqKnowledge, Python, Intheon, and Unity support for developing custom AR applications that integrate whole-body neural data.

BCI Studio + Unity 3D = Closed Loop System

Rapidly build holographic augmented reality 3D scenes that can evoke patterns in the brain or be interactively controlled by electrical patterns in the brain, eyes, heart, and motor neurons as inputs into your applications.

User-centric Design

Axon-R is designed for safety and comfort, suitable for a variety of participant's physical conditions and research environments.

High-quality Data

Built-in impedance check across all channels to ensure high-quality signals.

Applications

Brain-computer Interface
Human-computer Interface
Biomedical Engineering
Neuroscience
Cognitive Processes
Neurofeedback
Neurological Conditions
Ergonomics
Human Factors
Communications Disorders
Systems Engineering
Wellness

Use Cases

Memory, attention, perception, and cognitive load
Stroke recovery, epilepsy monitoring, and cognitive rehabilitation
Stress management, meditation, mood assessment, and brain-training games
Adaptive learning materials, skill acquisition, and language learning
Fatigue detection, automated safety responses, and smart home integrations
Adaptive gaming, mood-based media control, and interactive virtual environments

Contact BIOPAC to request a demo!

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