

AXON-R

INTEGRATED NEURAL INTERFACE SYSTEMS

AXON-R-STD

AXON-R-ADV

AXON-R-ELT



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

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 multi-modal interaction, augmented reality, and brain sensing in the lab or in the real world.

AXON-R — ALL-IN-ONE NEURAL HUB FOR BRAIN RESEARCH

Key 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 2kHz 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.

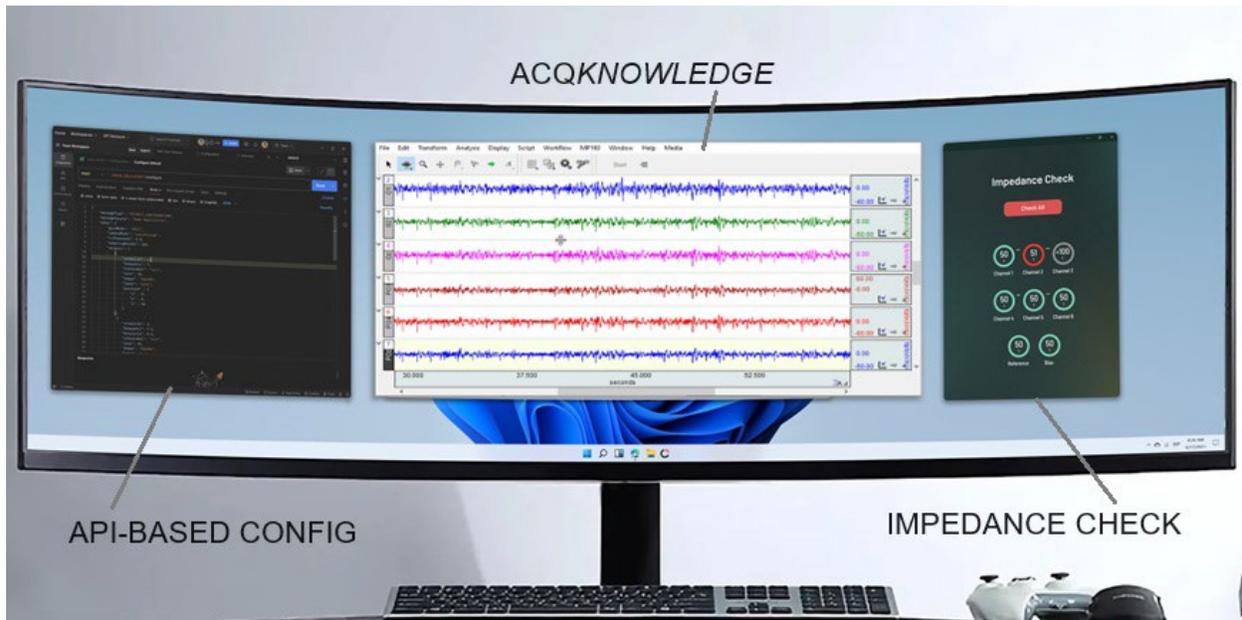
User-Centric Design

Axon-R is designed for safety and comfort, suitable for a variety of user conditions and research environments.

High-Quality Data

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

BCI STUDIO™



With robust software support, comprehensive documentation, and tutorial videos, BCI Studio minimizes setup time and simplifies use. Users can unlock customization potential with advanced features — all with minimal programming required. BCI Studio offers the following features:

- **API-Based Configurator:** JSON/REST API-based configuration using Postman or Python
- **LSL Stream:** LSL streams with raw, filtered, and classified data for easy integration
- **Impedance Check:** Integrated Impedance check to ensure data integrity across all experiments
- **Expanded Support:** Support for integration and dataflows with Python, AcqKnowledge, Intheon Neurotype, Openvibe, and Unity

Hardware	Axon-R-STD	Axon-R-ADV	Axon-R-ELT
Axon-R™ BCI Headset with WiFi & Bluetooth	X	X	X
Indoor Lens	X	X	X
Tinted Outdoor Lens		X	X
Dendrite™ Bipolar Cable		X	X
Software			
BCI Studio	X	X	X
AR Templates	X	X	X
Online Resources	X	X	X
Warranty			
1-year Limited Warranty	X	X	X
Extended Warranty			X

SYSTEM SPECIFICATIONS:

Operating System:	Android
Lens:	Patented optical see-through tinted lenses (indoor and/or outdoor)
Compatibility:	Compatible with prescription eyeglasses & research-grade eye trackers
Connectivity:	Standard: Bluetooth & WiFi // Elite: + 5G GSM Cellular
Head Strap:	Adjustable 8-chan. EEG (O1, O2, Oz, PO3, PO4, POz, G, R)
Dendrite™ cable:	Accessory DIN 8-channel bipolar ExG cable for EMG, ECG/EKG, EEG, EOG (Incl. with Advanced)
Speed:	2 kHz samples per second / channel
IMU	9-axis IMU for precision head positioning and tracking data
Integration:	On-Device classification for rapid integrations (VEPs)
Connectivity:	USB-C connectivity
Battery:	4-hour battery life (with typical use)
Power:	Auxiliary power output 100 mA/5V, medical-grade power supply

