

Cognionics Mobile EEG Systems

Dry | Wireless | Lightweight | Research Grade

Integrated Accessories and Software



Cognionics systems are designed to work with a family of accessories to form a versatile, full-featured and flexible recording system for any experiment:



Wireless Trigger Module

- Eliminates the latency and jitter inherent in wireless communications
- Sub millisecond precision
- Standard DB-9, DB-25 and USB inputs
- Compatible with *E-Prime*, *Presentation* and most stimulus packages



Extension Module

- 8 analog inputs for *ECG*, *EMG*, *GSR*, *Respiration* and other physiological sensors
- Standard 5-pin powered Binder connector
- Light weight and wearable on arm/belt
- Custom inputs upon request

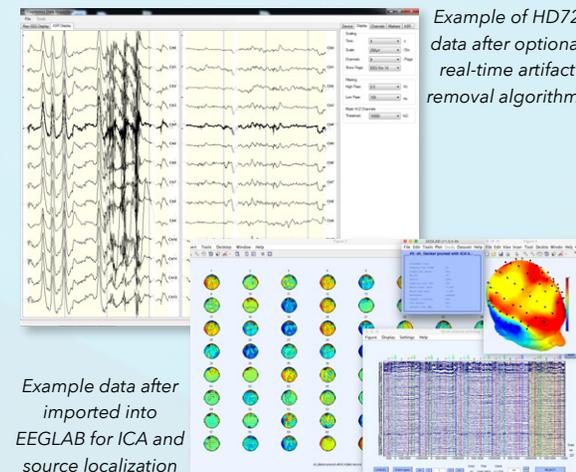


Dry ECG/EMG Belt

- Diagnostic grade signal
- For ambulatory use with dry electrodes
- Adjustable belt, slideable sensor mounts
- Use as extension from EEG system
- Or use with separate stand-alone wireless electronics

Software and 3rd Party Support

- Cognionics Acquisition includes graphical impedance check, viewing and storage of raw data
- Raw unfiltered data spec and custom development tools
- Optional real-time artifact removal (via UCSD ASR)
- Built-in support for live data streaming
- Supported integration with: *EEGLAB/BCILAB*, *MATLAB*, *OpenVibe*, *Brain Vision Analyzer* and more



- ▶ **Rapid and Easy Setup**
- ▶ **Comfortable - Lightweight and Wearable**
- ▶ **Designed for Mobility and High Data Quality**
- ▶ **Open Software, Raw Data Access**

 **Cognionics**

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Cognionics scientists and engineers have been developing the next generation of sensors, electronics and mechanics to build truly portable, high-quality EEG and physiological sensor platforms. Our systems are designed to set a new standard in usability and signal-quality to enable the exploration and application of real-world neuroimaging.



HD-72 High Density Dry Headset

- Up to 72 (64 EEG+ 8 AUX) channels
- Dry electrodes without mess or cleanup
- High signal quality with headset-wide global active shielding
- Wearable design that can be applied with minimal assistance
- Only 350 g



Quick-20 Dry EEG Headset

- Extremely fast and easy setup, 1-2 min with minimal adjustments and assistance
- High signal quality with advanced active electrodes and shielding
- Conformable and comfortable design
- Complete 10-20 sensor array
- Only 250 g



Mobile-72 High Density Cap

- Traditional Ag/AgCl gel electrode cap taken to the next level of mobility
- Actively shielded electrodes
- Head-worn system, no backpacks or separate computers required
- No need for skin abrasion with active shielding
- Only 200 g

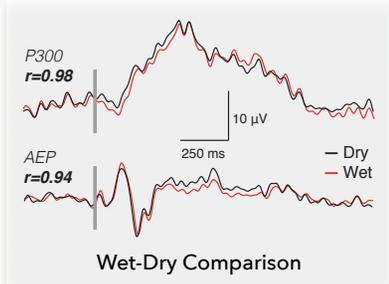


MPB-12 Dry EEG Headband

- Flexible dry electrode experimentation platform
- Active electrode lead wires
- Miniature electronics worn on headband
- Sensors reposition-able around 12 10-20 standard locations
- Only 150 g



Flex, Drypad and Drypad Earclip Electrodes



Wet-Dry Comparison

	HD-72	Mobile-72	Quick-20	MPB-12
EEG Channels	16 to 64	16 to 64	2 to 20	2 to 10
Extension Channels	8 (with extension module)	8 (with extension module)	8 (with extension module)	n/a
Sensors	Flex and Drypad	Ag/AgCl Gel	Flex and Drypad	Flex and Drypad
Unassisted Setup	Yes	No	Yes	Yes
Live Impedance Check	Yes, simultaneous with EEG	Yes, simultaneous with EEG	Yes, simultaneous with EEG	Yes, simultaneous with EEG
A/D Resolution	24-bits	24-bits	24-bits	24-bits
Sampling Rate	500 samples/sec (1000 for < 32-channels)	500 samples/sec (1000 for < 32-channels)	500 and 1000 samples/sec	500 and 1000 samples/sec
Bandwidth	DC - 130/260 Hz	DC - 130/260 Hz	DC - 130/260 Hz	DC - 130/260 Hz
Storage	microSD/HC	microSD/HC	microSD/HC	microSD/HC
Triggering	Wireless	Wireless	Wireless	Wireless
Power	Removable Li-Ion (4 hours streaming, 8 hours microSD)	Removable Li-Ion (4 hours streaming, 8 hours microSD)	Removable Li-Ion (5 hours streaming, 10 hours microSD)	Removable Li-Ion (5 hours streaming, 10 hours microSD)
Swappable Electronics	Yes, electronics module can be exchanged between multiple HD-72 and Mobi-72 caps		No, electronics integrated in headset	Yes, detachable lead wires and module