

MOBITA-W MOBILE BIOPOTENTIAL SYSTEM

MOBITA-EEG-W 32-Channel Mobile EEG System

MB-CAP Series: MB32-EEG-CAP-A, MB 12+20-CAP, MB-20EEG-CAP-B

Mobita Overview

- The flexible Mobita® system is fully integrated with *AcqKnowledge*, records up to 32 channels of EEG data at up to 2K s/s, is battery operated, and fits in the palm of your hand.
- Stream data live into *AcqKnowledge* or log data for later upload.



Mobita® is a new wearable physiological signal amplifier system that can record up to 32 channels of high-fidelity wireless biopotential data, including: ECG, EEG, EGG, EMG and EOG data. The system includes the Mobita hardware and electrode leads and is fully integrated with *AcqKnowledge* software. The system can either telemeter data back to a computer running *AcqKnowledge* for real-time display and analysis of the signals, or record it locally for later download. Easily switch between live or logging modes to suit your research protocol.

Mobita® is uniquely suited to record biopotentials for a variety of applications, such as exercise physiology) gait and movement analysis), brain-computer interfacing, psychology, neuromarketing, sports, ambulatory testing, and many more.

Mobita® can record many different signal types. Quickly change the electrode configuration or signal type by swapping out the ConfigCap™. ConfigCap™ allows you to quickly change the configurations of the inputs for specific applications (i.e. 32-ch EEG, EMG, or combinations of ECG/EMG/EEG, etc.), customize your own design or create research protocol driven configurations. Simply disconnect one header and snap on a new configuration for a completely different application. Each channel is unipolar (single-ended) and *AcqKnowledge* is easily configured to create unique montages and combinations of signals. Record a 12-lead ECG while recording EEG and EMG data all with the same device. With *AcqKnowledge* and Mobita®, the system is quickly configured to do the work of multiple systems without the added cost of multiple amplifiers.

Mobita® is battery operated, rechargeable and its compact size, integrated WiFi connectivity and impressive flexibility combine to create the ultimate solution in a mobile physiologic measurement device.

Rugged construction makes the Mobita® system well suited for tough and demanding measurement situations like sports, movement analysis, brain-computer interfacing, home-based ambulatory testing and more!

System Options

MOBITA-W Mobile Biopotential System

Complete system includes the Mobita hardware unit and one ConfigCap configuration of user's choosing (MB-32EEG-CAP-A, MB-12+20-CAP, or MB-20EEG-CAP-B), along with *AcqKnowledge* software and accessories.

MOBITA-EEG-W 32-Channel Mobile Biopotential System

The system includes the Mobita hardware unit and one ConfigCap with medium 32-channel EEG cap and water electrodes – no gel required (MB-20EEG-CAP-A) along with *AcqKnowledge* software and accessories – other cap sizes available.

The device includes a trigger channel that can be used to synchronize the system with other devices or data streams. When the onboard accelerometer is used with *AcqKnowledge*'s Actigraphy feature, it is possible to evaluate a subject's activity levels.

ConfiCap™ Options



Mobita ConfiCap Connection

EEG 32 Channel ConfiCap – MB-32EEG-CAP-A

The MB-32EEG-CAP-A is a complete assembly for the Mobita wearable biopotential system that interfaces with a 32-channel electrode cap. This particular EEG cap uses water electrodes, which eliminates the need for gel. The assembly also includes a trigger connector for synchronization with other devices. The Mobita supports TTL trigger inputs from third-party hardware. The electrodes terminate in a Mobita conf-cap connector. Snap the assembly to the Mobita unit and attach the cap to a subject to record 32 channels of data for either in laboratory telemetry or remote data logging applications.

12 Surface Electrodes + 20 TP Adapters – MB-12+20-CAP

The MB-12+20-CAP is a complete assembly for the Mobita wearable biopotential system that interfaces with 12 snap fit electrode leads and 20 touch proof sockets. Record 32 channels of biopotential data using a variety of electrode configurations including both disposable and reusable options. Connect to the Mobita and the subject and record 32 channels of data for either in laboratory telemetry or remote data logging applications. Snap the assembly to the Mobita unit and attach the cap to a subject to record 32 channels of data for either in laboratory telemetry or remote data logging applications.

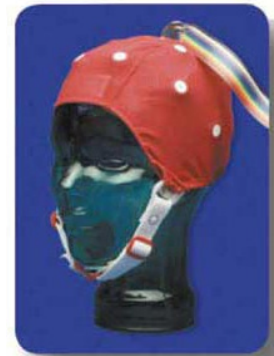
EEG 10/20 + 13 TP Adapters – MB-20EEG-CAP-B

The MB-20EEG-CAP-B is a complete assembly for the Mobita wearable biopotential system that interfaces with a 10/20 electrode cap and Touchproof sockets for adding additional signals.

This combination interface allows for a full 10/20 EEG, plus optional biopotential signals for EOG, EMG, and ECG. Snap the assembly to the Mobita unit and attach the cap to a subject to record 32 channels of data for either in laboratory telemetry or remote data logging applications.

The EEG cap connects via a dSub connector for the quick connection of different size caps. Ships with medium cap; other sizes available. Additional electrodes are interfaced via the standard Touchproof sockets.

Breakout boxes are available. Contact [BIOPAC](http://www.biopac.com) for more information.



Analyze with AcqKnowledge

- Powerful automated analysis routines for ECG, HRV, EEG, EMG, EGG, and many more!
- Intuitive user interface with fully customizable display
- Video Tutorials on key features and analysis routines
- Guided channel and acquisition setup with presets and quickstarts

Featured Applications

32 channels of biopotential data with 3D accelerometer and trigger channel for:

- Psychophysiology
- Neuroscience
- Exercise Physiology
- Gait Analysis
- Brain Computer Interface
- Sleep Studies
- Ambulatory Monitoring

Key Features

- Up to 32 channels of wireless biopotential data
- Fully-integrated in AcqKnowledge® software
- No cable movement artifacts
- True DC recording
- 24 bit data resolution
- Flash disk recording (up to 16 GB) for data back-up and holter applications
- Built-in WiFi telemetry (range typical > 10 m indoors)
- Rechargeable Li-Po battery
- Rugged construction: sturdy, dustproof enclosure
- Built-in 3D accelerometer for position information
- No filtering (including Notch filter) for true unadulterated signal quality

Computer Requirements

Computer should be running Windows 7 64-bit or Windows 8 64-bit with a Core i5 or a Core i7 processor. No support is provided for any operating systems older than Windows 7.

NOTE: Slower computers may be able to use WiFi mode with the Mobita, but it may not be possible to transfer or import the logged data.

Specifications

Sampling

Resolution:	24.414 nV/bit, referred to input
Sampling rate:	2000, 1000, 500, 250 Hz
Channel bandwidth:	DC up to 0.2 x sample frequency

Inputs

Input signal difference:	409.6 mVpp
Input common mode range:	-2.0 V – +2.0 V
Gain factor:	10
Noise:	< 0.4 μ V RMS @ 0.1 – 10 Hz
Input Impedance:	>10 G Ω
CMRR:	> 100 dB typical
# of channels:	Up to 32 analog
Power supply:	Battery Li-Polymer with protection circuit
Battery life:	8-10 hours typical

Filtering

Filter:	No filtering within channel bandwidth
Connectors:	Individually shielded inputs
Type:	Unipolar, bipolar (user configurable from unipolar inputs)
Trigger:	Either trigger (TTL) or generic (e.g. RS232 compatible) digital inputs possible through custom designed ConfiCap

Accelerometer

Range:	$\pm 16 g$
Resolution:	13 bit
Sensitivity:	3.9 mg/bit
Dimensions:	150 x 70 x 25 mm (with ConfiCap attached)