WEARABLE Sensing

DSI-7-Flex
Clean. Mobile. Fast.

Revolutionizing EEG

State-of-the-art **active** dry electrode technology

Positive user experience for all

Wireless ambulatory research-grade EEG

Recording in natural environments

Resistant to electrical and motion artifacts

High data integrity

Fast-donning and comfortable for long-term use

Enhanced efficiency and productivity

Applications
Neuroscience research
Neurofeedback
Brain-computer interfaces
Consumer neuroscience
and many more

wearablesensing.com

The DSI-7-Flex is a complete, research-grade wireless EEG system designed for rapid application of 7 sensors at any location. Sensors can be positioned using the supplied BraiNet electrode harness or other harness systems. Alternatively the DSI-7-Flex sensors can be used for the acquisition of other biopotentials such as EMG, ECG, EOG, etc.

The system comprises ultra-high impedance active Dry Sensor Interface (DSI) sensors that function through hair, requiring no skin preparation or conductive gels. The sensors can be individually adjusted to optimize contact impedance. They are spring-loaded to provide constant, comfortable contact pressure that mitigates movement artifacts seen during ambulation and are actively and passively shielded to prevent contamination from electrical artifacts.

BraiNet electrode harness
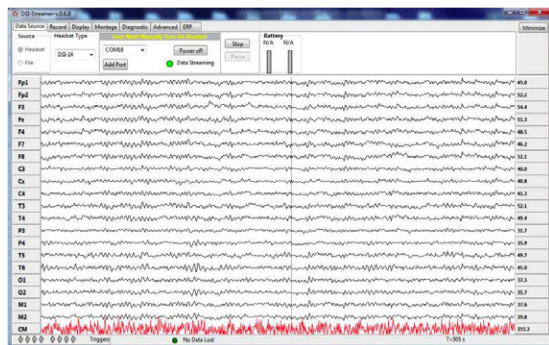
Uncompromising Signal Quality

- Active dry electrode sensor with 2-stage amplification and digitization in headset
- Research-grade EEG signal (>90% correlation with conventional wet electrode systems)
- Patented artifact-resistant electro-mechanical designs suitable for ambulation in naturalistic environments
- Continuous impedance and signal quality monitoring

Practical EEG

- Fully integrated, complete EEG system in a single device
- Reduced set-up and clean-up time
- Versatile sensor placement for exploratory investigations
- Comfortable for continuous and repeated use

Powerful Options

- Wireless triggering for synchronizing multiple devices (hyper-scanning) and ambulatory ERPs
- Bluetooth or wired-USB transmission
- Optional internal storage for computer-free recording
- Optional embedded 3D accelerometers

Alpha activity
10 µV
200 msec

— DSI
— Wet

Evoked potential
2 µV
50 msec

Technical Specifications

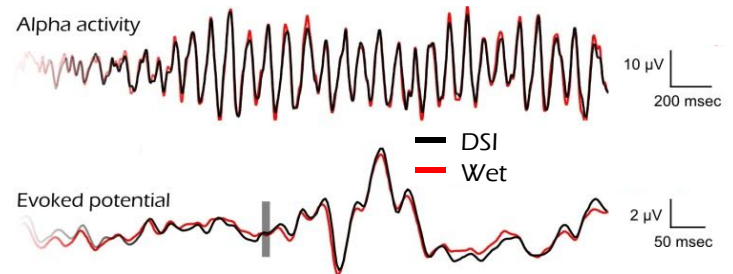|	
Sensor locations:	User-selectable
Reference:	Common-mode-follower
Ground:	Fpz
Amplifier/digitizer:	16 bits, 7 channels
A/D resolution:	0.317 µV referred to input
Sampling rate:	300 Hz (600 Hz option)
Bandwidth:	0.003-150 Hz
Gain:	60
CMRR:	> 120 dB
Channel cross-talk:	< -70 dB with sensors
Input impedance (1Hz):	47 GΩ
Input bias current:	< 25 pA
DC offset tolerance:	± 200 mV
Maximum input range:	10mV p-p
Noise (1-50Hz):	< 3 µV p-p
Digital inputs:	4 bits
Wireless:	Bluetooth
Wireless range:	10 m
Run-time:	> 12 h

Intuitive Software Included

- DSI-Streamer
  - Signal quality metrics
  - Montages
  - ERPs
  - File formats: EDF, CSV (filtered and raw)
  - Streaming via TCP/IP socket
- C-based API for Windows/Mac/Linux
- LSL streaming

Synchronized Interfaces

- Eye-tracking
- Motion capture
- NeuroGuide / BrainSurfer
- EEGLAB / ERPLAB /BCILAB
- Mensia Neuro RT / OpenVibe
- TEA Ergo CAPTIV
- BCI2000
- E-Prime
- Inquisit
- Presentation