

OpenSignals (r)evolution Software Data Sheet

OSR 160616

SPECIFICATIONS

- > **Supported Devices:** BITalino; BITalino (r)evolution; biosignalsplux; motionplux
- > **Simultaneous Devices:** up to 3
- > **File Formats:** TXT; HDF5
- > **Plugins:** Video synchronization; Electromyography (EMG) analysis; Heart Rate Variability (HRV); Electrodermal Activity (EDA) events; Respiration (PZT & RIP) analysis

FEATURES

- > Real-time data visualization & recording
- > Visualization of recorded data
- > Feature extraction plugins with reporting
- > Synchronized multi-device recording
- > Multiplatform support
- > User-friendly GUI

APPLICATIONS

- > Psychophysiology
- > Biomedical projects
- > Computer science
- > Electrical engineering
- > Human-Computer Interaction
- > Robotics & Cybernetics
- > Physiology studies
- > Biomechanics
- > Biofeedback

GENERAL DESCRIPTION

Our cross-platform OpenSignals software enables instant data visualization and recording from any PLUX device. With a web-based GUI and a Python backend, OpenSignals combines high performance data handling and computing with user-friendly interfaces. The modular architecture enables it to be expanded with plugins for real-time or offline data processing and information extraction. Recorded data can be stored in a standard ASCII tab delimited file format or in the modern and highly efficient HDF5 format.

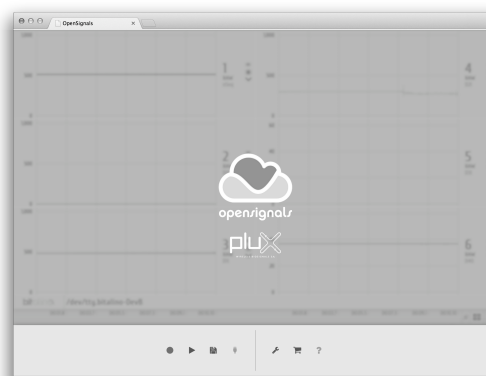


Fig. 1. Main screen.

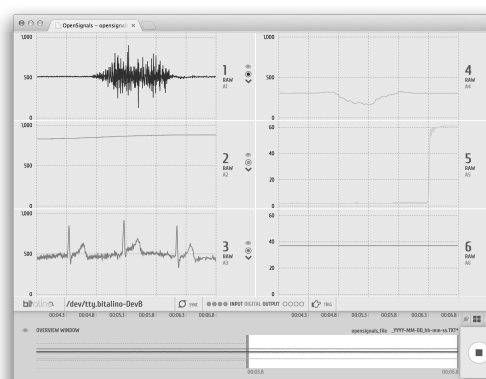


Fig. 2. Example of a visualization screen.

```
opensignals_file_2015-03-28_12-23-55.txt
# OpenSignals Text File Format
# {"device name": "/dev/tty.BITalino-DevB-1", "sensor": ["RAW", "RAW", "RAW", "RAW", "RAW", "RAW"], "sync interval": 2, "time": "12:24:2.911", "comments": "", "label": ["Fused", "D1", "D2", "D3", "D4", "A1", "A2", "A3", "A4", "A5", "A6"], "channels": [1, 2, 3, 4, 5, 6], "date": "2015-3-28", "mode": 0, "digital ID": [0, 0, 0, 0, 1, 1, 1], "firmware version": "3.3a_18032014", "device": "BITalino", "position": 0, "sampling rate": 1000, "resolution": [4, 1, 1, 1, 1, 10, 10, 10, 10, 6, 6]}
# EndOfHeader
1 515 0 527 316 1 34
2 513 0 527 316 1 34
3 513 0 527 316 0 34
4 513 0 527 316 0 34
5 513 0 527 316 1 34
6 513 0 527 316 1 34
7 513 0 527 316 1 34
8 513 0 527 316 1 34
9 513 0 527 316 1 34
10 513 0 527 316 1 34
11 513 0 527 316 1 34
12 513 0 527 316 1 34
13 513 0 527 316 0 34
14 513 0 527 316 0 34
15 513 0 527 316 1 34
16 513 0 527 316 1 34
1 515 0 527 316 1 34
2 513 0 527 316 1 34
3 513 0 527 316 1 34
4 513 0 527 316 1 34
5 513 0 527 316 1 34
6 513 0 527 316 1 34
7 513 0 527 316 0 34
8 513 0 527 316 0 34
9 513 0 527 316 1 34
10 515 0 527 316 1 34
```

Fig. 3. Example of a recording stored in ASCII format.



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