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g.[®] MOBilab⁺
MOBILE LABORATORY

g.MOBilab+ Data File Format V3.10.01

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General

This document contains the specification of the binary data file format for g.MOBIIlab+ V3.00 used to store data on the SDcard in g.MOBIIlab+. All channels are sampled at 256 Hz.

Header

The header consists of ASCII lines. Each line is ending with CR/LF. The header ends with the line: EOH.

| Position | Meaning | Contents |
|---------------------------|--|--|
| 1. line | producer | g.tec |
| 2. line | product | g.MOBIIlab |
| 3. line | file format version | 3.0 |
| 4. line | sampling frequency | 256 |
| 5. line | channel coding The first 8 bits show the ID of the analog channel. In the example below channel 1 to 6 are recorded. The next 8 bits show the ID of the digital input/output used. In this case DI 1 to DI 3 and DIO 4 are used. The last 8 bits show the direction of the digital channels, in this case DIO 4 is used as output. Note that the direction of the Digital Inputs 1-3 and 8 is always set to 1. e.g. 00111111 00001111 10000111 | 0011111110000111110000111 |
| 6. line | displayed channels | 3 |
| 7. line | displayed time [s] | 2 |
| 8. line | Hardware version | 100 |
| 9. line | serial number | MP-200x.xx.xx |
| 10. line to 17.line | Highpass [Hz] / Lowpass [Hz] / Sensitivity [μ V] / Samplerate [Hz] / Polarity (U...Unipolar, B...Bipolar) Analog Channel 1 to Analog Channel 8 e.g. 5.000e-1/1.000e2/5.000e2/2.560e2/B | 5.000e-1/1.000e2/ 5.000e2/2.560e2/B |
| 18. line | end of header | EOH |

Data

Data are stored in int16 format:

| | |
|-------------------|---|
| <int16 channel 1> | if EEG/EOG1 is scanned |
| <int16 channel 2> | if EEG/EOG2 is scanned |
| <int16 channel 3> | if EEG/EOG3 is scanned |
| <int16 channel 4> | if EEG/EOG4 is scanned |
| <int16 channel 5> | if ECG/EMG1 is scanned |
| <int16 channel 6> | if ECGEMG2 is scanned |
| <int16 channel 7> | if AIN1 is scanned |
| <int16 channel 8> | if AIN2 is scanned |
| <int16 DIOs > | if any of the digital channels is scanned |

| | |
|-------------------|------------------------|
| <int16 channel 1> | if EEG/EOG1 is scanned |
| <int16 channel 2> | if EEG/EOG2 is scanned |

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All digital I/Os are coded in a single int16 value:

| | |
|--------------------------|-----------------|
| bit 0: Digital Channel 1 | Digital Input 1 |
| bit 1: Digital Channel 3 | Digital Input 3 |
| bit 2: Digital Channel 4 | DIO1 |
| bit 3: Digital Channel 2 | Digital Input 2 |
| bit 4: Digital Channel 5 | DIO2 |
| bit 5: Digital Channel 6 | DIO3 |
| bit 6: Digital Channel 7 | DIO4 |
| bit 7: Digital Channel 8 | Digital Input 4 |

Data have to be scaled with factors due to the channels input sensitivities in order to get values in μV :

$$\text{data} = (\text{int16 value}) * (2^5 / (2^{16*4})) * (\text{Channel Sensitivity in } \mu\text{V}) [\mu\text{V}]$$

Contact

