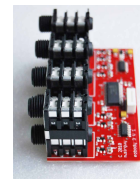
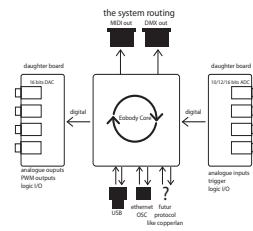
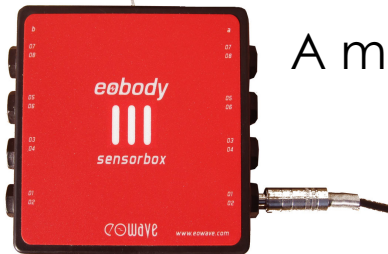


Eobody3: a ready-to-use pre-mapped & multi-protocol sensor interface

With its compatibility with USB, MIDI, OSC, CV and DMX protocols, Eobody3 is a two-ways bridge between the analogue and digital worlds.

A modular architecture



Input formats

- 0-5V sensors (can be switched to 3.3V)
- triggers
- pedals
- logic I/O

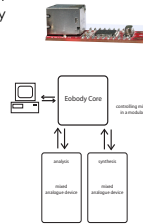
Output formats

- CV
- PWM
- Digital I/O.

Microchip 16 bit dsPIC receives data from the sensors, samples them at 30 kHz and transmits them to the core in high speed SPI.

Eobody3 core

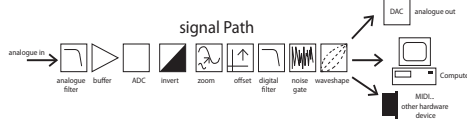
- Microchip PIC-32 MX microcontroller with a frequency of 80 MHz for 1.56 DMIPS/MHz
- pre-mapping per sensors
- pre-processing with integrated ESS library



Compatibility with other protocols

- OSC
- MIDI
- USB
- DMX
- compatible with future protocols

Internal pre-processing of the signal



The microcontroller Microchip PIC32 allows to have different processes according to the type of data, standard sensors (continuous controller), triggers (peak detection), simple logic or more complex algorithms for certain sensors like gyroscopes.

The compatibility with other MIDI softwares requires:

Buffering the data flow: To limit the flow of incoming data, data from sensors are packed in Eobody3 and updated after a complete scanning cycle has been realized.

Denoising the signal with gate and filter: With Eobody3, a pre-amp with analogue filters has replaced the PGA. Before the A/D conversion is done, the signal goes thru a low-pass filter and a unity gain buffer. This eliminates high frequency noises and allows sensors with high impedance outputs. Digital noise filtering is done by a 32-bit low-pass filter and a noise gate, which smoothes the signal.

Compatibility with triggers

- Integrated velocity process
- Adjustable trigger input level with a sensibility parameter
- Wave Shaper to modify the velocity response curve
- Response with less than 2ms delay

Challenge

Create an interface that is:

- ✓ A product for the market
- ✓ Ready to use
- ✓ Compatible with all MIDI software like Ableton Live
- ✓ Compatible with all types of applications
- ✓ Compatible with different protocols
- ✓ Includes signal pre-processing
- ✓ Includes sensors pre-mapping
- ✓ Affordable
- ✓ No need to program
- ✓ No need to solder
- ✓ Anybody can use
- ✓ Powerful
- ✓ With editable parameters
- ✓ Reprogrammable
- ✓ 3 levels of use:
 - 1: ready-to-use
 - 2: internal processing tools
 - 3: opened max file available

Applications



Music control



Interactive installations



Museums



Dance and live performances

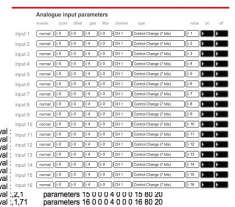


Design of new instruments

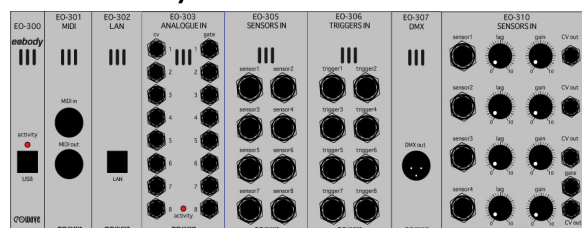
Editor

Eobody3 editor gives access to editable pre-mapping configuration and other pre-processing tools.

All settings can be stored in Eobody3 non-volatile memory.



Eobody3 PRO



Eobody3 PRO enables to combine modules to create a stand-alone interface with different input and output formats.

Eobody3 modules are also compatible with eurorack format synthesizers. They offer the possibility to use iPads or iPhones to control any CV or MIDI gears without a computer thru the CV outputs connected to a USB cable or via a LAN network with a wireless router.

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