Bio Data Sonification using MIDI

This book is about how to use the SPAD ELECTRONICS Biodatasonification field diy kit. Learn how to make music with organic inputs by converting biodata (galvanic resistance) of plants, mushrooms, fungi, humans and other living beings to MIDI notes that can be used to trigger musical notes or MIDI events in sound, visuals and light.

- The Symbiotic Biodata Sonification Midisprout board
- How to use the board

The Symbiotic Biodata Sonification Midisprout board

The Symbiotic Biodata Sonification Board

Some general information about the Spad Electronics board from their product website.

Unlock the full potential of plants with **Symbiotic** - the ultimate plant-based musical instrument. Based on the open-source MidiSprout Biodata Sonification project, our device captures plants' micro electrical variations and transforms them into MIDI, CV, gate, and trigger signals for synthesizers. A perfect fit for makers and DIY enthusiasts, Symbiotic allows you to create truly unique and organic sounds using the natural world. Whether you're a musician, artist, or just a nature lover, Symbiotic is the perfect addition to your studio or home. Features: - Captures plants' micro electrical variations - Transforms them into MIDI, CV, gate, and trigger signals - Available as both a DIY kit and fully assembled - Create truly unique and organic sounds - Open source project

Buy now on Tindie and take your music to the next level with the power of plants. Join the community of makers and developers who are using Symbiotic to create new and innovative sounds. Don't miss out on this unique opportunity to own a Symbiotic device and start making music like never before!

How does it work?

Just attach the electrodes to the leaves of your favorite plant or your skin or any living thing and the fluctuations of the galvanic conductance will produce MIDI/cv notes. sampling the pulse widths and identifying the fluctuations will generate control messages and MIDI notes.

You can set the **threshold, the scale, the midi channel and the brightness of the leds** using the potentiometer and switch on the board. You will only need a plant, a 9v battery and a synth (hardware or software) and you are ready to listen to them if you buy the diy kit we send you the assembly pdf.

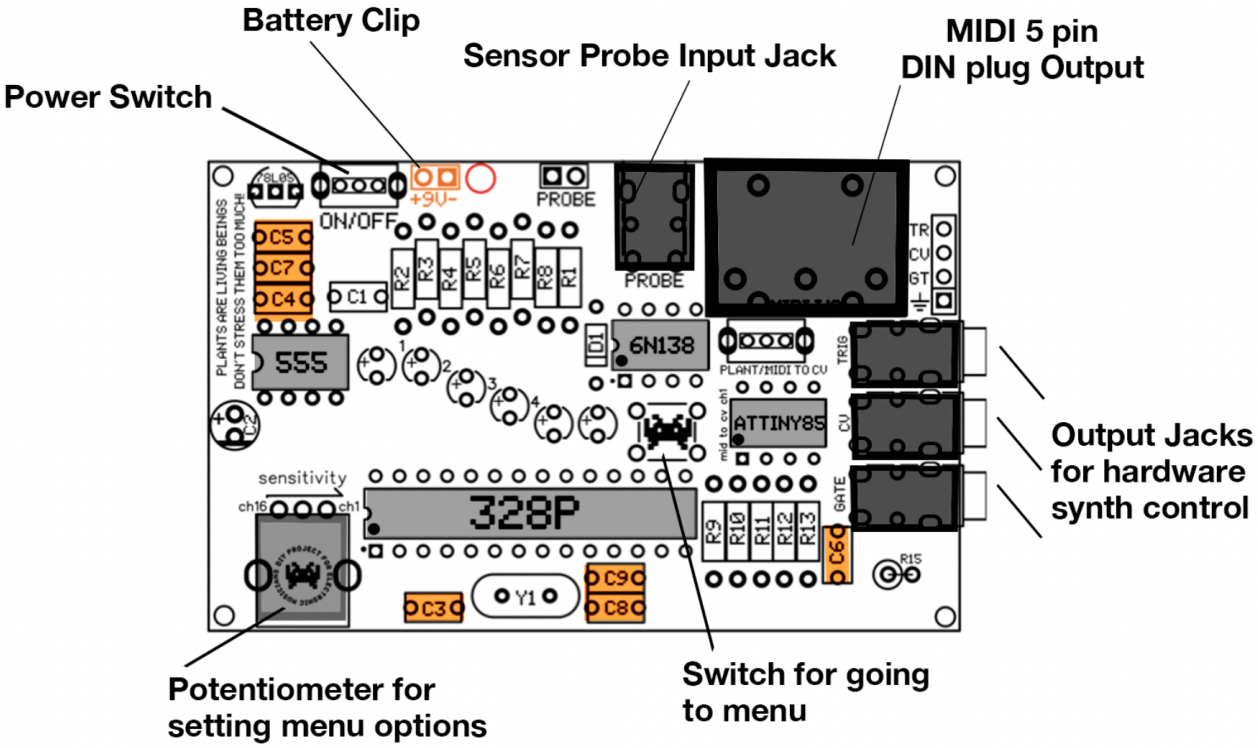
Some Examples of biodatasonification using the Spad Electronics board:

https://www.youtube.com/embed/zhMEVic4vUI

https://www.youtube.com/embed/UQX3P9gfix8

How to use the board

Board Layout



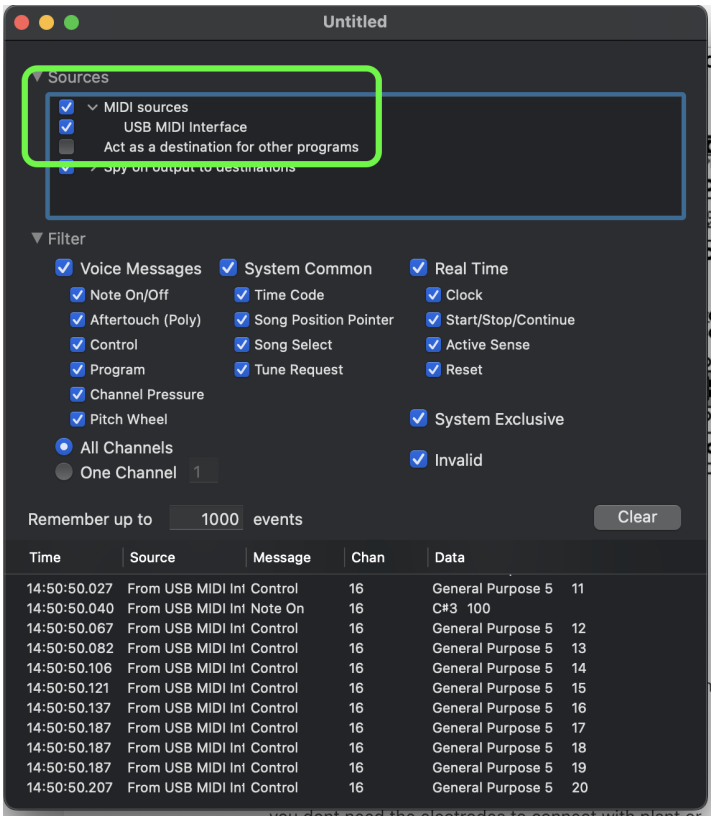
Connect the Board

Connect battery & Connect the USB-MIDI cable with the IN-midi side to the midi connector on the board. USB side in computer.

turn on the board

you don't need the electrodes to connect with plant, you can also use jumper wires, plug them in the holes [probe] next to the connection of the electrode cable. (board at Blackbox IBB has headers installed so its easier to use jumper wires)

Start Midi monitor to check the connection. Check your settings: Sources >



Touch both sides of the electrodes or jumper cables, you should see lights on the board moving and data flow in the bottom area of the midi monitor window.

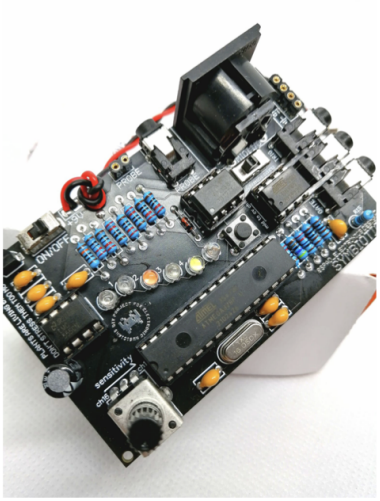
Now you can start mapping your MIDI data to any midi software or device you want to use. For how 2's on that go to >>> [under construction]

Symbiotic user guide.pdf

When you order a new board online and you need to assemble it:

When getting the DIY soldering kit, first follow the build and assembly instructions.

WELL DONE YOU ARE DONE ASSEMBLING YOUR SYMBIOTIC, NOW YOU SHOULD HAVE SOMETHING VERY SIMILAR TO THIS!



If the device is not working properly, check the try-to-fix-checklist in the document

- ☐ Check the polarity of polarized components such as capacitors, leds etc.
- ☐ 9v battery clip is wired correctly (red generally is +, black is -)
- ☐ Check if your 9v battery is charged!
- ☐ Check the solder points many times, can be a cold or not soldered properly