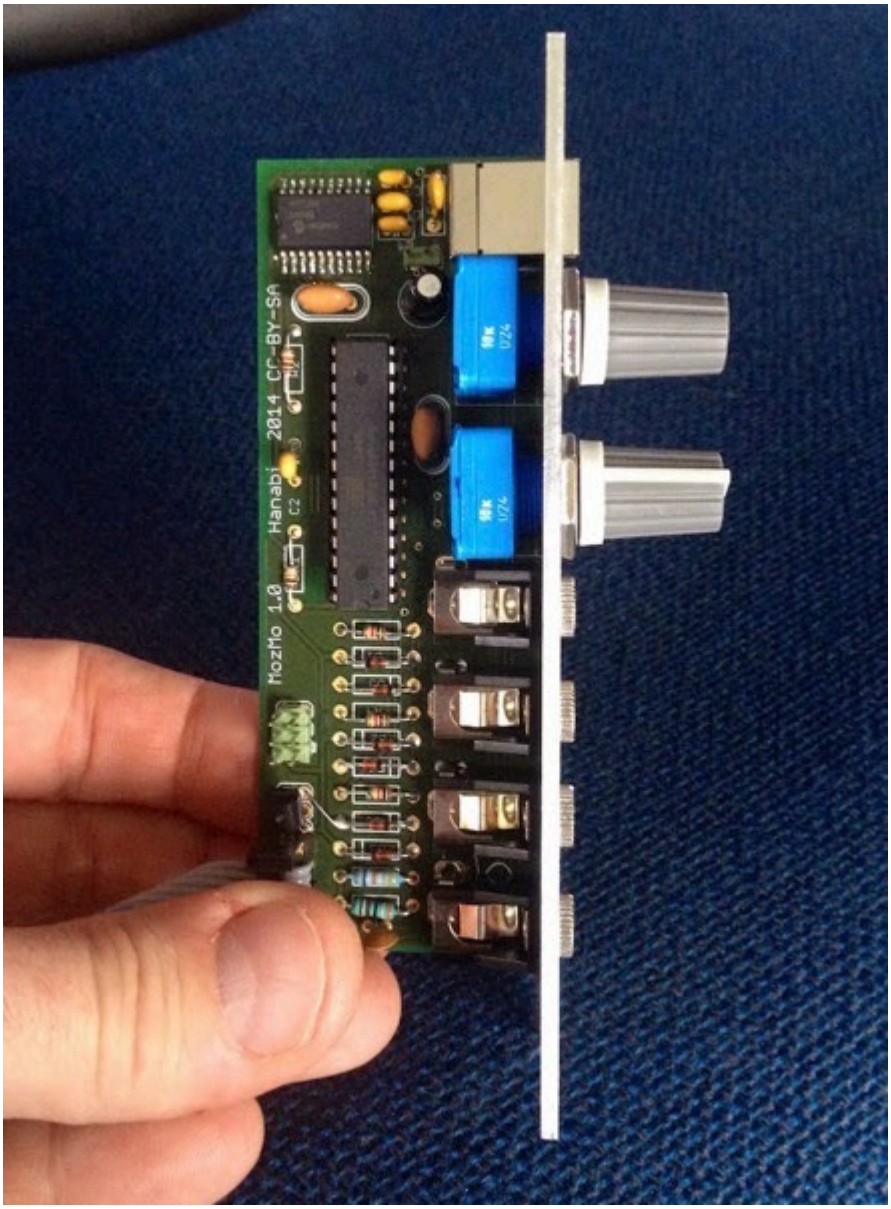
MozMo : the brilliant Arduino Mozzi synth in an Eurorack hardware.

The idea

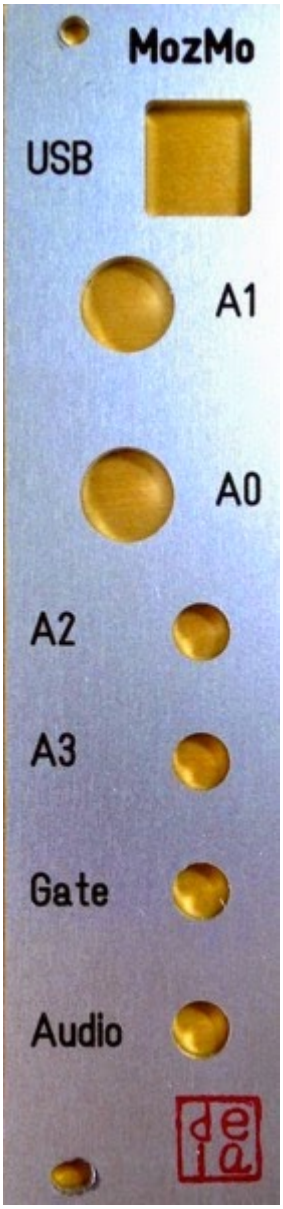
Mozzi by Tim Barras is an outstanding library that allow the Arduino to produce complex and exiting sounds with almost no additional hardware.
(In fact MozMo uses the hifi mode that requires … 2 resistors and a cap !) The idea was to build a dirty cheap modular synth exploiting the vast potential of this library.

Features

- Arduino compatible with Usb connection
- Powered via Doepfer 5v bus or via Usb (via jumper)
- Uses Mozzi Hifi mode
- 2 potentiometers
- 2 CV entries
- 1 gate entry
- 1 audio out
- Depth : 40 mm
- Size : 6 hp



Panel

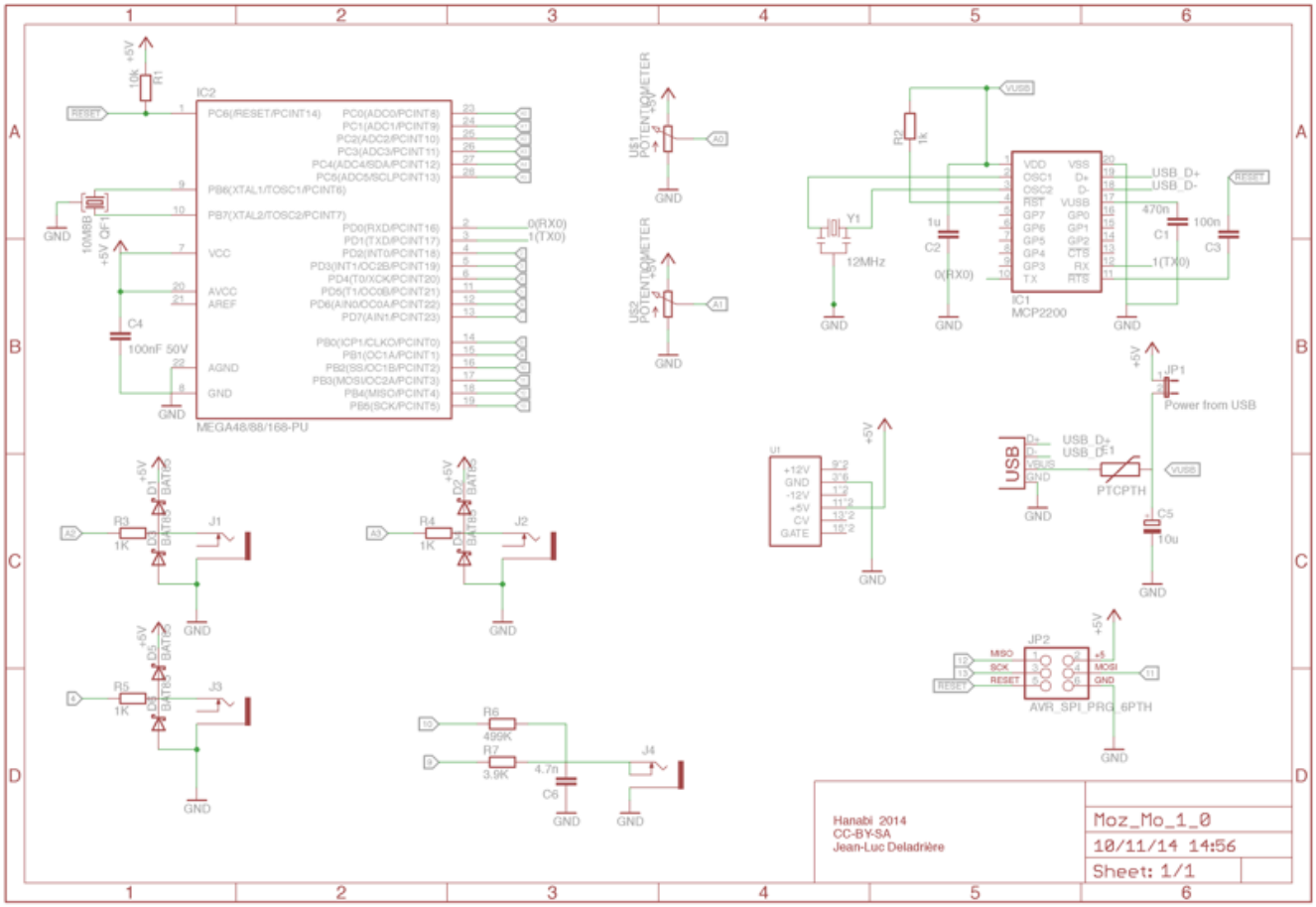


Soundcloud

Here is one example

Check my [Soundcloud]() for more demos

Schematic



Examples sketches

I am building a collection of [Mozzi sketches] adapted for this module.
(wait for the page to load as there a few Soundclouds files embedded)
You can help me to build this collection by sending me your best sketches.

Github

All the hardware files and the Arduino sketches are kept under my [Github repository]

Assembly

If you plan to build one, have a look a this [https://www.evernote.com/l/AAUrhQ524SpHc4VzwlT0_xva_Gbh5O]

W4n_8

Shipping

I keep a few pieces of each components and I can ship :

- pcb
- panel
- programmed Atmega328p
- full kit
- assembled module

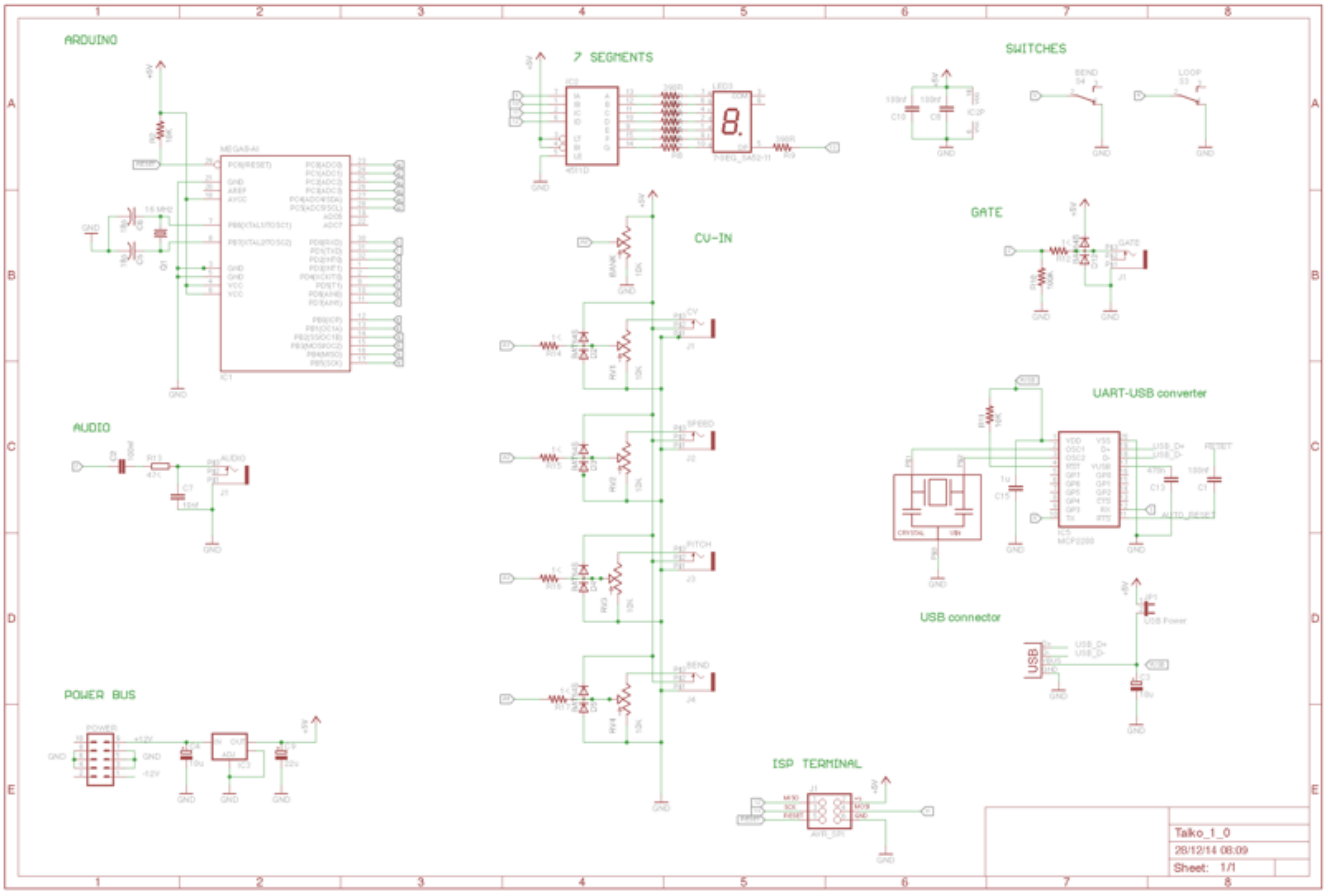
Next

- re label panel entries A2 A3 and pots A0 A1
- install onboard 5V regulator

Talkie Eurorack Module – Part 2 : Schematic & Pcb

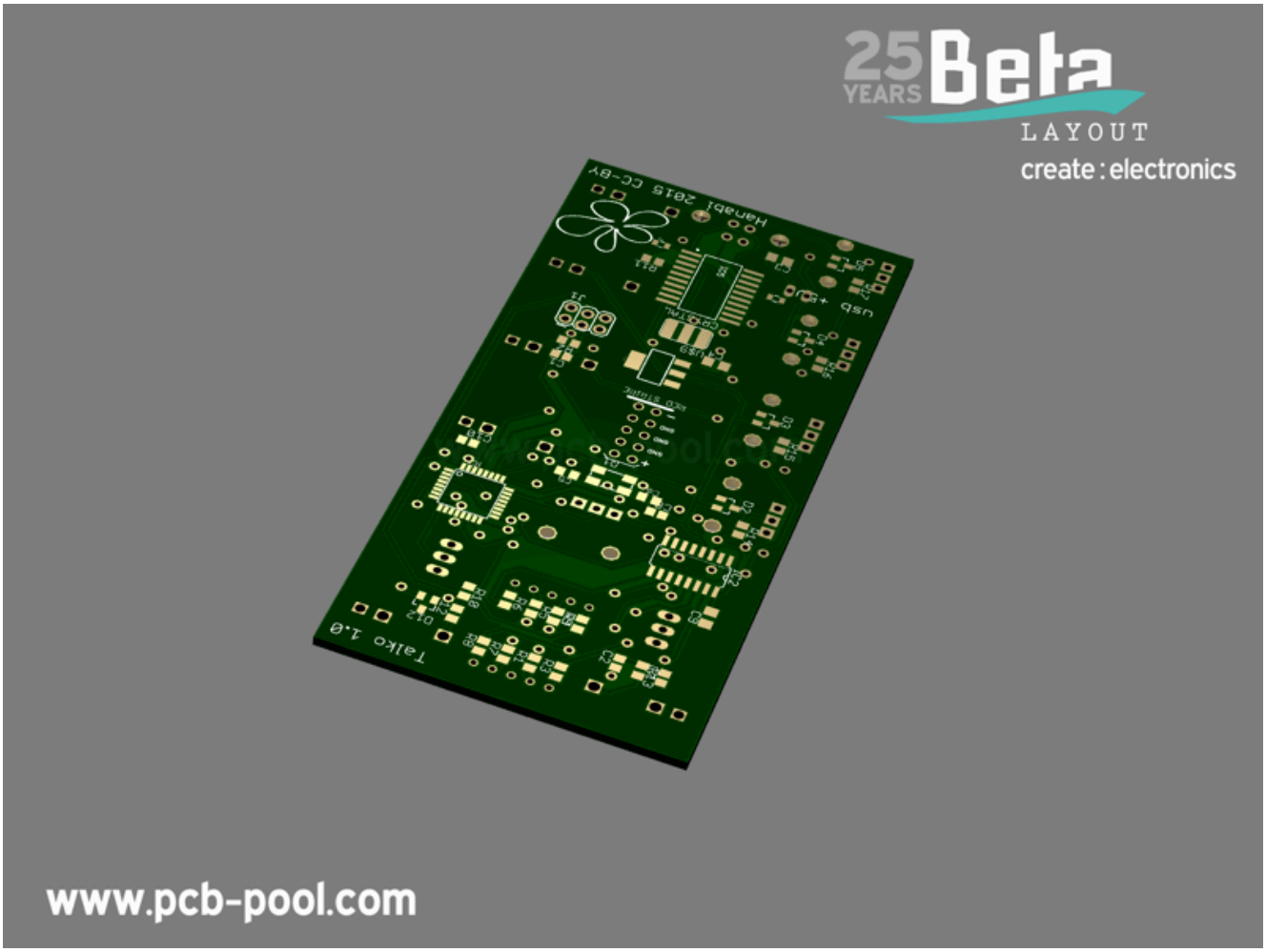
Schematic

Here is the schematic. Nothing really special : A simple RC filter I have used before with the Talkie library and a few pots to fiddle with the various functions. All the entries (cv and gate) are now protected with diodes to allow connections with modulars synths modules using higher voltages. A simple 7 segment to show the current playing mode. I plan to use the dot as the clock led



PCB

I am ordering 8 Pcb from Beta Layout.
Here is the preview I got by uploading the file to their web site



Software

Added female voice used in the [talking clock]

New sound demo

Here is the setup : a clock with variable pulse width is triggering the sound and stepping a sequencer feeding cv to the module. A bit of reverb is sometimes added just for fun

More demo on my [Soundcloud]

Github

You can find all the files (hardware & software) on my [Github]

Next

- To share the Mouser cart
- Module assembly
- Eurorack Panel design

Talkie Eurorack Module – Part 1 : Concept

Credits

This arduino based module works thanks to a clever library : Talkie from https://github.com/going-digital/Talkie

I have already used this library to build a Talking clock

It is so simple to use that building a sound module requires only 5 pots and a button to get going.

Software

I have slightly modified the original library to allow hacking it with various pots. The code is hosted on my github I edit the code and library directly from my favorite IDE : UECIDE

Functions

Mode

For the moment I have added 4 modes or sound banks :

- digits
- voltmeter (reading the CV voltage)
- frequencemeter (fake mode just saying “Hertz” instead of “Volts”)
- alphabet
- nato alphabet

I plan to add a 5th mode with a large vocabulary and a 6th mode with weird sounds

CV

CV signal change the words or phrase to be said

Gate

Pressing the button start the complete sound in trigger mode.

(regardless of it’s length)
If the trigger switch is off, the gate will start the sound and hold it as long as the gate level stays up. Very useful to create crazy rhythms.

If the cable is plugged in, the gate is triggered via an external signal

Trigger

Choose between trigger mode or gated mode

Bend

If bend is on, the bend pot … distords the sound.

Speed

Change the speed

Pitch

Change the pitch

Sounds

First test of the differents functions. Manual gate via a button

Looping a sequence in Ableton Live to trigger gate & cv while I play with the mode /speed /pitch / bend knobs

Next

I am now working on a PCB and a panel.
I will upload these details and the schematics in a next post.