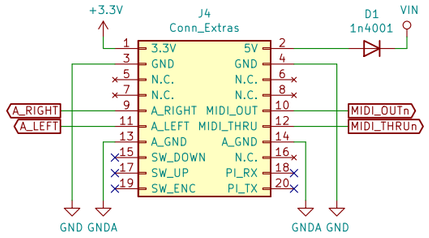
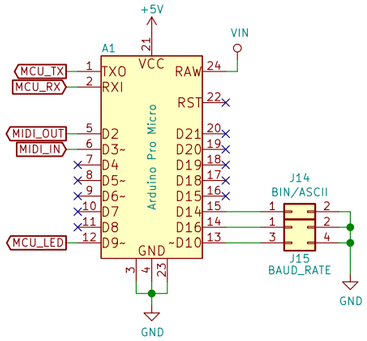
Extras connector

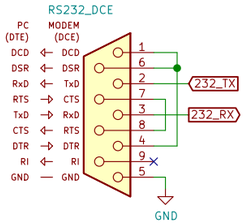
When the extras board is used along with the BulkyMIDI-32, this connector takes care of all signals to and from the main module. The board can also be powered via this connector as well, so you do not need to install the barrel connector unless it will be used by itself. The diode keeps the Arduino Pro Micro from attempting to power the Raspberry Pi.

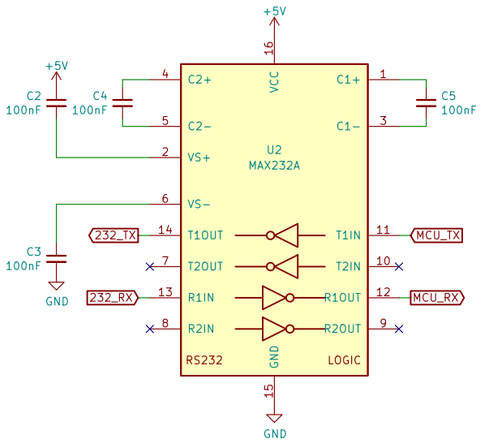


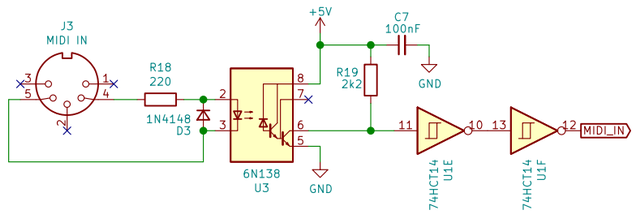
RS-232 Baud rate converter

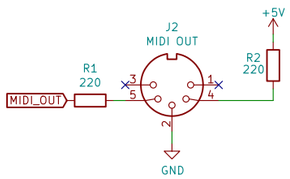
A regular PC serial port can use different baud rates, but the closest to what a MIDI-device would expect is 38400 baud – something that is too far away from the specification to function. While the MT32-PI itself is able to handle these non-standard baud rates via a configuration option, this is more of an option for real MIDI devices.





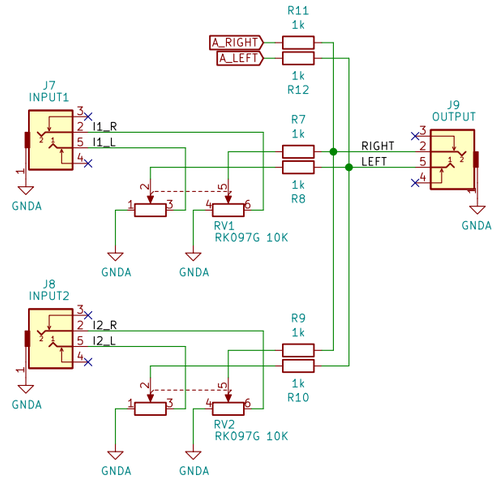




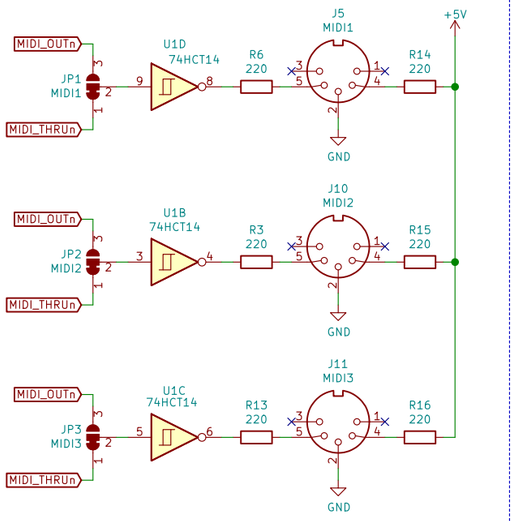


Passive audio mixer

The audio inputs can be routed via the extras connector from the main module, alternatively you can manually route it externally to INPUT1/INPUT2. The two inputs will passively be mixed into the output sound, note that the level will be slightly lower on the output as compared to directly from the DAC.



Extra MIDI ports

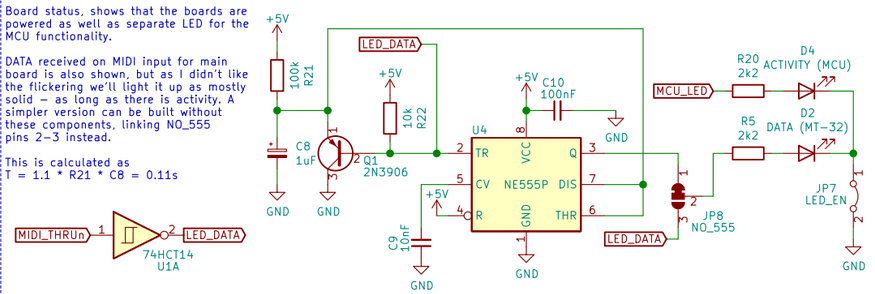


Status LEDs

Board status, shows that the boards are powered as well as separate LED for the MCU functionality.

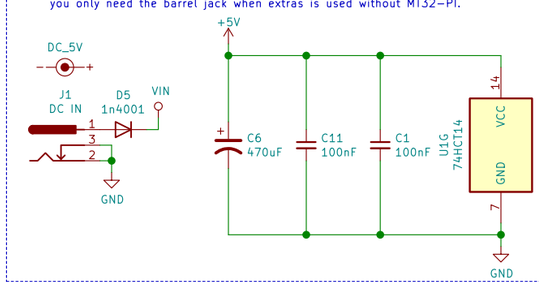
DATA received on MIDI input for main board is also shown, but as I didn't like the flickering we'll light it up as mostly solid – as long as there is activity. A simpler version can be built without these components, linking NO_555 pins 2-3 instead.

This is calculated as
T = 1.1 * R21 * C8 = 0.11s



Power section

The power section has been duplicated for the main MT32-PI module, you only need the barrel jack when extras is used without MT32-PI.



Basically a bunch of features that I wasn't able to fit onto the main PCB.

Sheet: /
File: BulkyMIDI-32 Extras.sch

Title: BulkyMIDI-32 Extras

Size: A3	Date:	**Rev: G**
KiCad E.D.A. kicad (5.1.8)-1		Id: 1/1