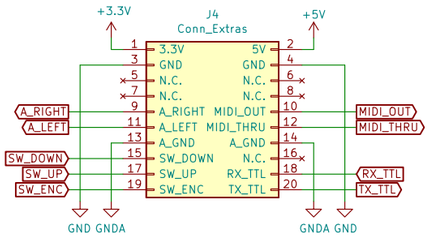
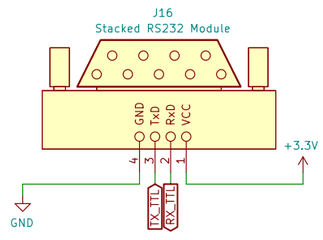
Extras connector

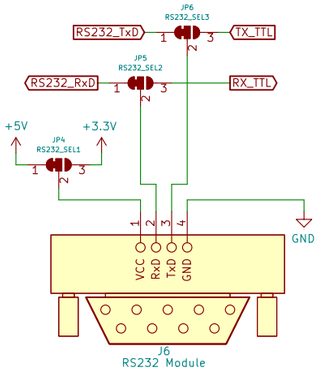
When the extras board is used along with the BulkyMIDI-32, this connector takes care of all signals to and from the main module. The board is powered from this connector as well, for that reason the barrel connection should not be installed unless you intend to use it this way.



RS-232 Modules (1 or 2 stacked)

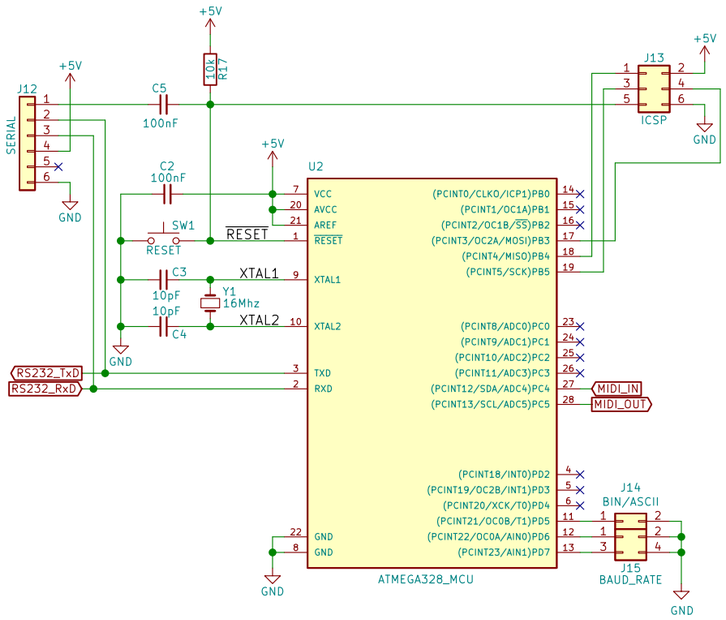
A set of two RS232 modules can be stacked upside down, the second one on top is usually just connected to the Raspberry Pi. The primary module can either be linked to the MCU for baud rate convertersion by linking 1-2 across JP4-JP6, 2-3 is instead used when we just want the adapter without any conversion.

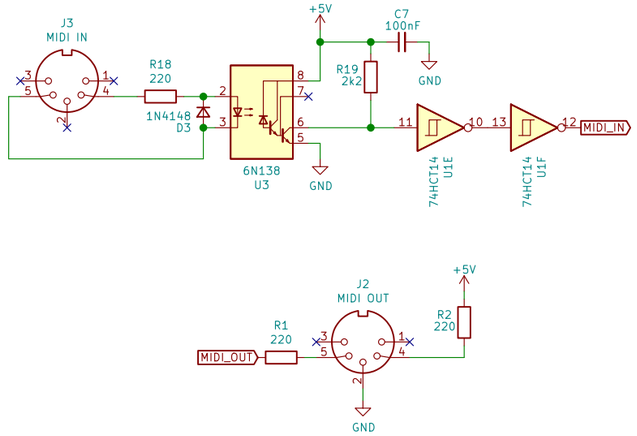




RS-232 Baud rate converter

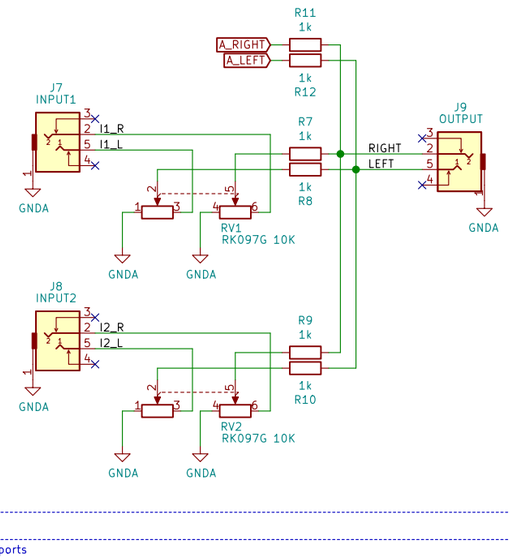
1 or 2 RS-232 modules may be installed on the board, this section uses an Atmega328 MCU in order to convert the incoming serial data to the baud rate used by the MIDI protocol (31500 baud). A regular PC serial port can use different baud rates, but the closest is 38400 baud rate and that is still too far out of spec. Note that the MT32-Pi itself is able to handle these non-standard baud rates via a configuration option, this is more intended for real MIDI devices.



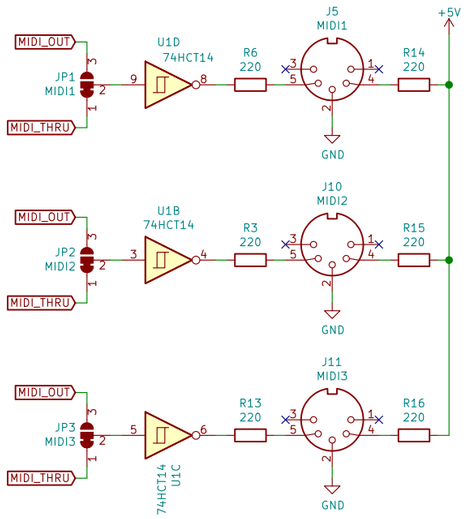


Passive audio mixer

The audio inputs can be routed via the extras connector from the main module, alternatively you can manually route it externally to INPUT1/INPUT2 if you prefer (as this offers a way of controlling the signal).

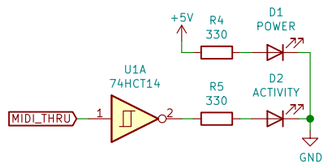


Extra MIDI ports



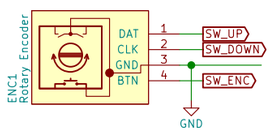
Status LEDs

Board status, the ACTIVITY follows data sent to the MT32-Pi.



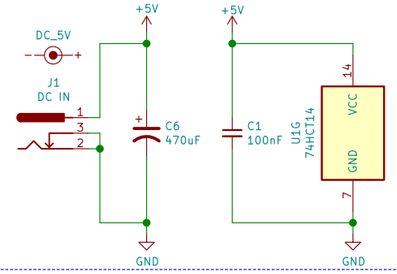
Control scheme ("simple_encoder")

4-pin connector for connecting up a rotary encoder, but because I couldn't find a pre-made module that would fit this is included as a separate PCB. This would have been easier if the real right-angle encoders weren't so expensive.



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.

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Title: BulkyMIDI-32 Extras

Size: A3	Date:	**Rev: A**
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