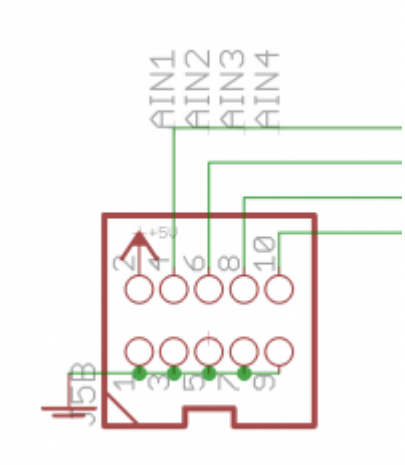
I2C

Trivial combination of four I2C modules for four MIDI outs. It differs from the previously designed Quad I2C MIDI in that the connectors are on convenient 2*5 IDCs, and the BLM port is moved over to the MIDI8 module If somebody wants to code it, the ADCs onboard could also be used.

Schematic

See here for I2C. The I2C addresses are fixed and the LED indicators omitted. Apparently the compensation caps for the crystal are often calculated wrong. Although 16pF should work fine, I recommend ~33pF.

Each PIC has AIN ports RA2-5 connected to an IDC10 header (note that the AINs would need to be explicitly enabled in code):



Although not recommended, it is possible to connect two I2C modules for a total of 8 I2C MIDI outs. In this case, put one IDC in the middle of the ribbon and connect the data in parallel.

BOM v1.0

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
Resistors									
	8	220R 5%	THT						
Capacitors									
	8	33pF	THT 2.5mm	C1, C2, C4, C5, C7, C8, C10, C11					could use 16pF as noted
	4	100nF	THT 2.5mm	C3, C6, C9, C12					
Crystals									
	4	10 MHz	HC49/s	Q1-4					

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
Resistors									
ICs									
	4	PIC16F88	DIP18						
IC sockets									
	4		DIP18						
Headers									
	1(5)	2*5	male						
Sockets									
	4	DIN5	female		806-KCDX-5S-S2				
Hardware									
	2	M3 spacer							optional, suggest to panel mount
	2	M3 PCB mount			534-7695				

Versions

v1.0: first release.

Assembly

Building is straightforward with all part values indicated (consider 33pF caps in place of 16pF). Start with the flattest components (resistors, caps, crystals, IC sockets) and work up to the higher ones. Ensure the DIN sockets are snug against the PCB before soldering caps all of the pins! Make sure resistor legs etc. don't inadvertently short out with metal parts such as the sockets and the crystal cans.

License

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