

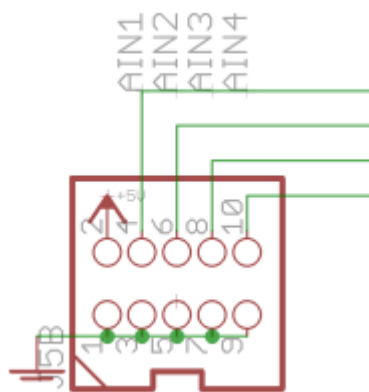
I2C

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 | 20 MHz | HC49/s | Q1-4 | | | | | |

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|-------------------|------|--------------|---------|-------|----------------|----------|--------|-------|----------------------------------|
| 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.

Programming

PICs require flashing with a special version of MIOS as indicated on [the uCapps page](#).

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Last update: **2018/09/03 20:22**

