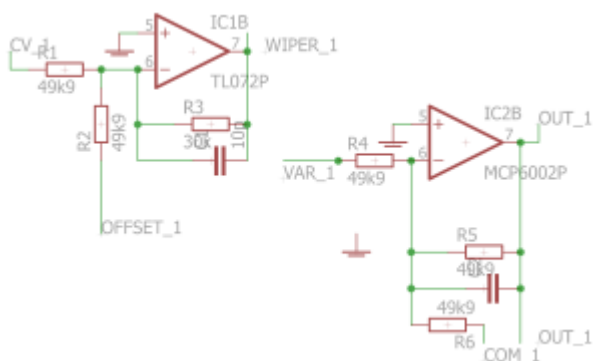


AIN_4 module

This is a simple way of scaling CVs (as might come from a modular) ready for an STM322F4 Core module.

Schematic



The circuit is a very simple series of two inverting amplifiers per channel. The first is a TL072 powered from +12/-12V, while the second is an MCP6002 powered from 3v3/0V (ground). It's possible to preset the ranges (see below) but it's probably more useful to use the associated [Control Board](#).

BOM

| Type | Qty | Value | Package | Parts | Notes |
|-------------------|-----|----------|--------------------|---|---|
| resistors | | | | | |
| | 20 | 49k9 | 0204/7 | R1, R2, R4, R5, R6, R7, R8, R10, R11, R12, R13, R14, R16, R17, R18, R19, R20, R22, R23, R24 | |
| | 4 | 30k | 0204/7 | R3, R9, R15, R21 | |
| capacitors | | | | | |
| | 4 | 10p | 025x050 | C1, C3, C5, C7 | |
| | 9 | 100n | 025x050 | C10, C12, C13, C14, C15, C16, C17, C18, C20 | remove 1 if powering from Core |
| | 3 | 10u | electrolytic 2,5-6 | C9, C11, C19 | remove 1 if powering from Core |
| | 4 | optional | C025-025x050 | C2, C4, C6, C8 | can use another e.g. 10pF cap here for more filtering |
| inductors | | | | | |
| | 2 | BEAD | 5MM | L1, L2 | |
| ICs | | | | | |
| | 2 | MCP6002P | DIL08 | IC2, IC4 | |
| | 2 | TL072P | DIL08 | IC1, IC3 | |
| Vreg | | | | | |

| Type | Qty | Value | Package | Parts | Notes |
|------------------|-----|----------|----------------|--|--|
| resistors | | | | | |
| | 1 | optional | 78XXS | VR1 | remove if powering from Core |
| headers | | | | | |
| | 7 | | 1X02_SMALL | JP1, JP2, JP3, JP4, JP5, JP6, JP7 | check board for headers as SIL strips of 3, 5 or 6 |
| | 8 | | 1X03_SMALL | JP8, JP9, JP10, JP11, JP12, JP13, JP14, JP15 | |
| | 2 | | 2*5 (shrouded) | J1, J2 | |

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