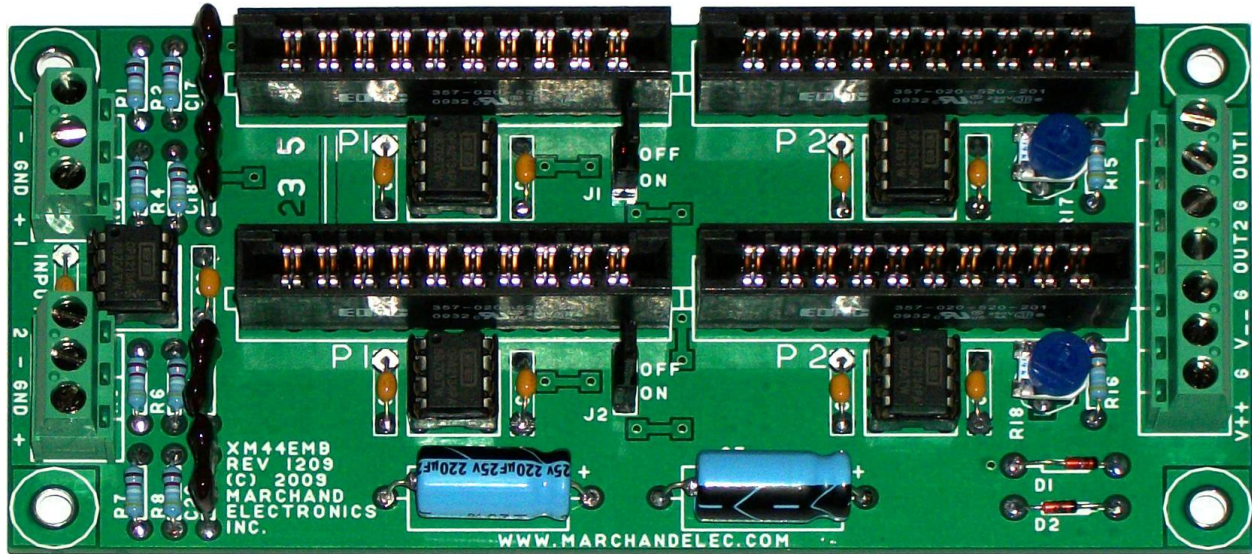


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XM44EMB embedded crossover



Description

Two channel XM44 type crossover: takes one or two XM44-FM frequency modules in each channel.
Sallen-Key second order filters.
Each channel can be configured as low-pass, high-pass or band-pass.
Balanced/single ended inputs.

Power supply requirements

Bipolar (positive and negative) power supply; typical +/-15VDC.
Power requirement: 50mA typ. (with OPA2134 op-amps, normally used)

Op-amps

The XM44EMB takes 5 standard dual op-amps in 8-pin DIP package. Many manufacturers make these parts. Best performance is achieved with low-input current type (FET input) For low power use TL062.

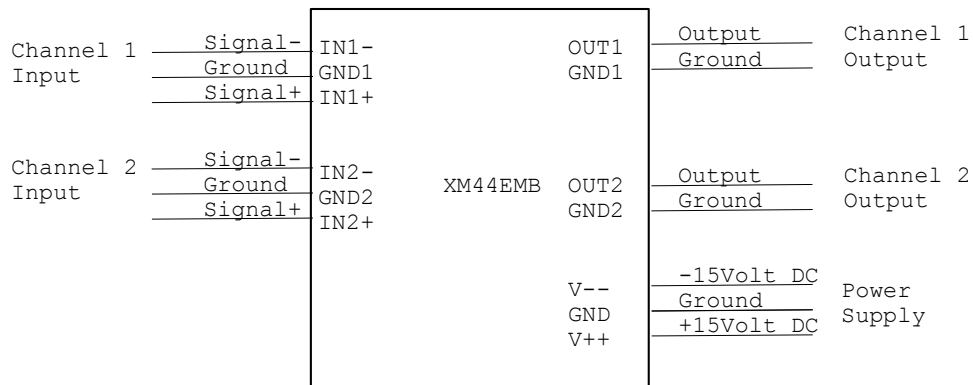


Figure 1. Signal Connections, balanced inputs

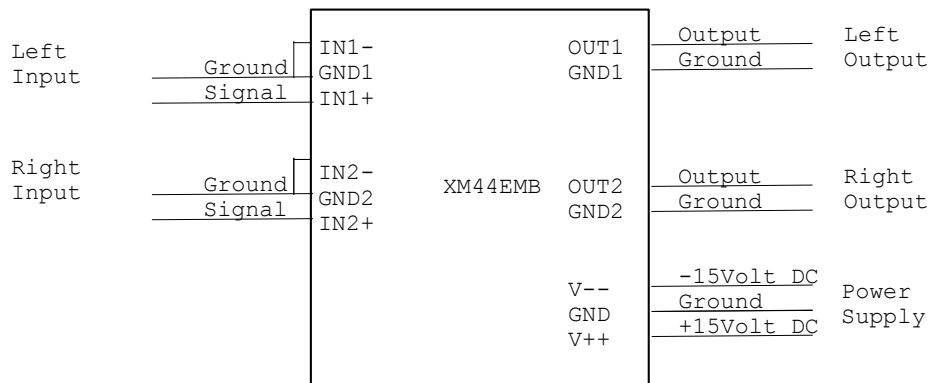


Figure 2. Signal Connections, single-ended inputs

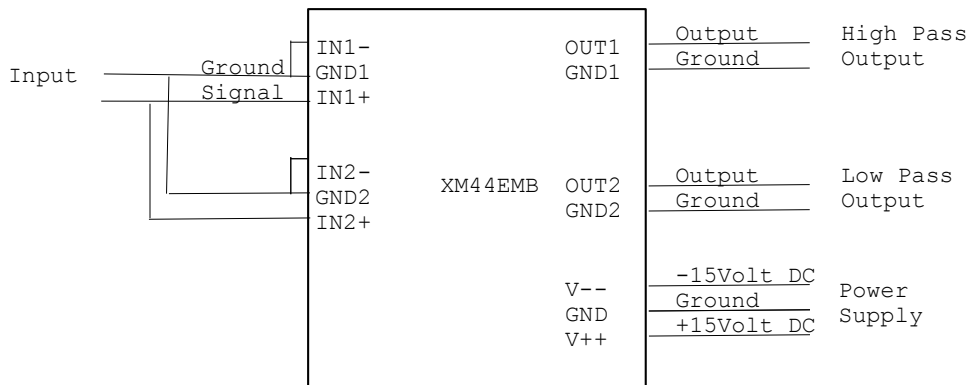


Figure 3 . Signal Connections, typical crossover

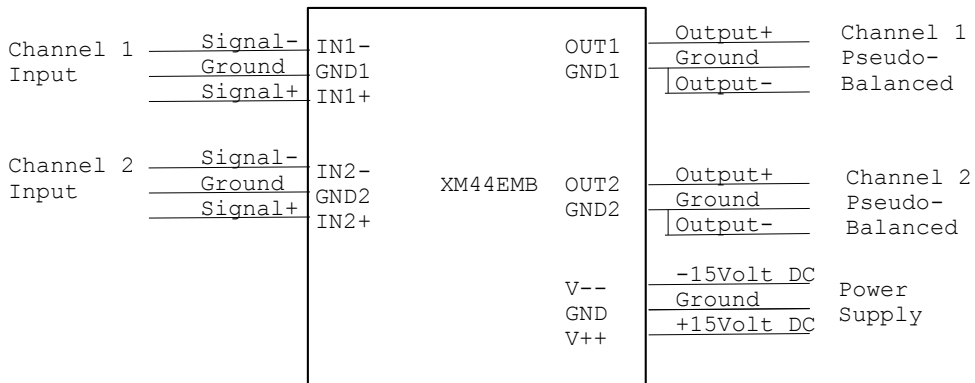
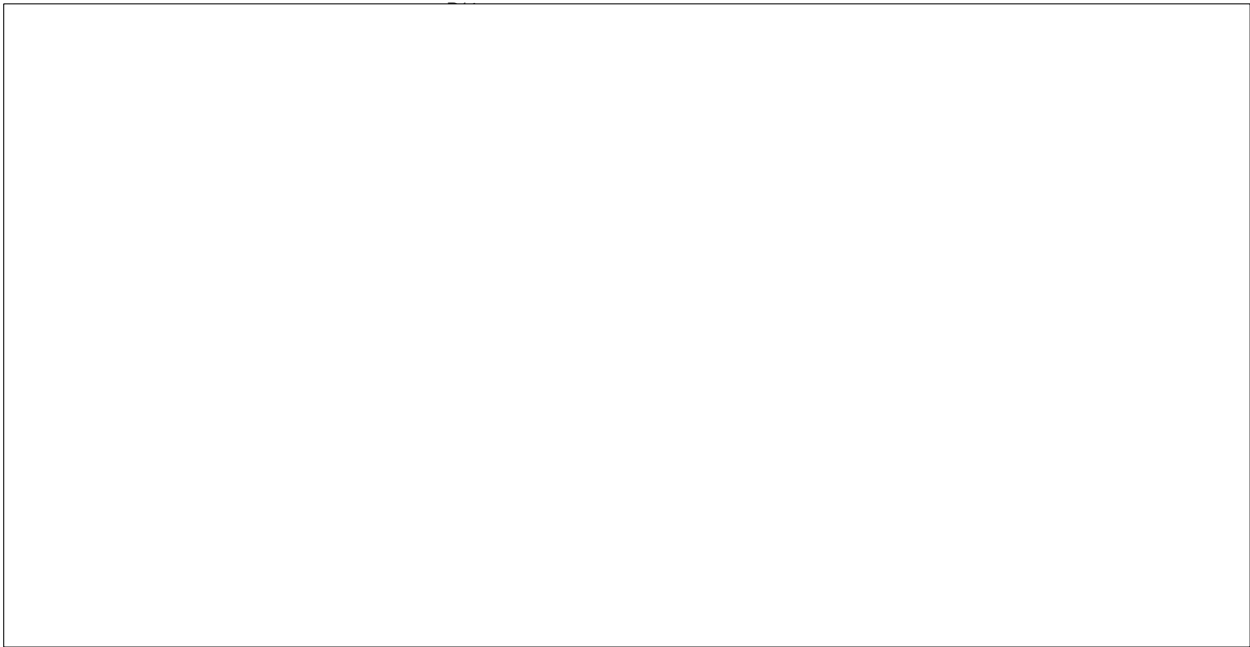
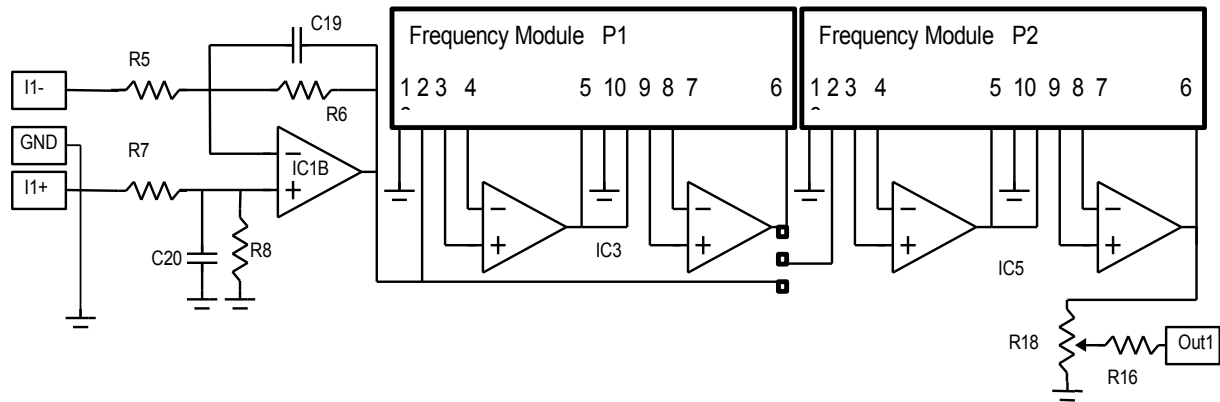
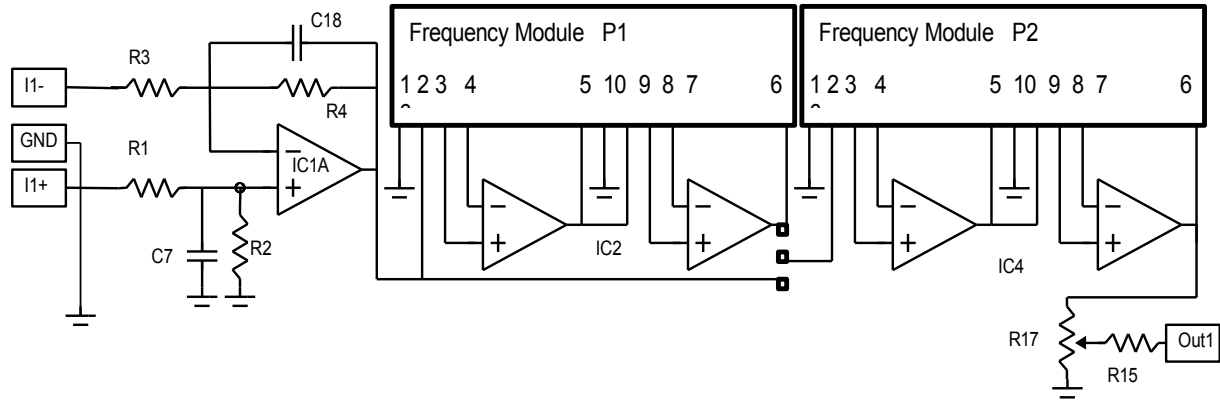


Figure 4. Pseudo-balanced outputs



XM44EMB filter
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XM44EMB circuit board parts list

| | | |
|-------------|------------------|--------------------------|
| R1 | 49.9K | 1%, 1/4W, Metal Film |
| R2 | 49.9K | 1%, 1/4W, Metal Film |
| R3 | 49.9K | 1%, 1/4W, Metal Film |
| R4 | 49.9K | 1%, 1/4W, Metal Film |
| R5 | 49.9K | 1%, 1/4W, Metal Film |
| R6 | 49.9K | 1%, 1/4W, Metal Film |
| R7 | 49.9K | 1%, 1/4W, Metal Film |
| R8 | 49.9K | 1%, 1/4W, Metal Film |
| R15 | 49.9 Ohm | 1%, 1/4W, Metal Film |
| R16 | 49.9 Ohm | 1%, 1/4W, Metal Film |
| R17 | 10K | Trimpot |
| R18 | 10K | Trimpot |
| | | |
| C1 | 0.1uF | Monolithic Axial Ceramic |
| C2 | 0.1uF | Monolithic Axial Ceramic |
| C3 | 0.1uF | Monolithic Axial Ceramic |
| C4 | 0.1uF | Monolithic Axial Ceramic |
| C5 | 0.1uF | Monolithic Axial Ceramic |
| C6 | 0.1uF | Monolithic Axial Ceramic |
| C7 | 220uf, 25v | Aluminum Electrolytic |
| C8 | 220uf, 25v | Aluminum Electrolytic |
| C9 | 0.1uF | Monolithic Axial Ceramic |
| C10 | 0.1uF | Monolithic Axial Ceramic |
| C11 | 0.1uF | Monolithic Axial Ceramic |
| C12 | 0.1uF | Monolithic Axial Ceramic |
| C17 | 22pF | Silver Mica |
| C18 | 22pF | Silver Mica |
| C19 | 22pF | Silver Mica |
| C20 | 22pF | Silver Mica |
| | | |
| D1 | 1N4937 | 1Amp. Diode |
| D2 | 1N4937 | 1Amp. Diode |
| | | |
| IC1 | OPA2134 | op-amp |
| IC2 | OPA2134 | op-amp |
| IC3 | OPA2134 | op-amp |
| IC4 | OPA2134 | op-amp |
| IC5 | OPA2134 | op-amp |
| | | |
| P1,2,3,4 | | 10pos. connector |
| IC1,2,3,4,5 | 8-pin dip socket | |
| TB1,2 | | 3-pin terminal block |
| TB3 | | 7-pin terminal block |
| H1,2 | | 3-pin header |
| | | Jumper block (2 pc.) |

!! Jumper blocks must be installed on the 3-pin headers !!

Please make sure the jumpers are installed onto either ON or OFF position, depending on whether there is a frequency module in slot P1. Slot P2 must always have a frequency module.