

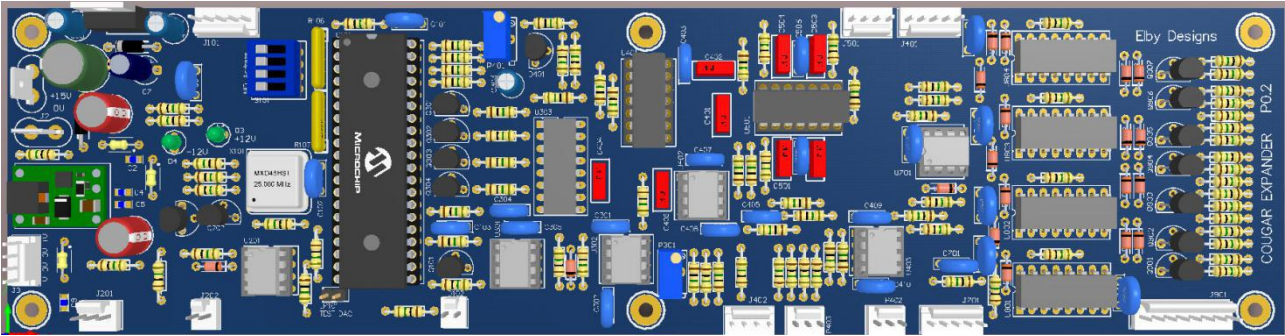


Cougar Expander

Construction Notes

February 5, 2020

Construction



[3D Model](#)

Construction of the Cougar Expander is pretty straightforward and only requires good general soldering skills. There are a handful of 0805 capacitors to be fitted and these should be done first - see [General Construction Notes](#) for a guide on installing SMD components. We then recommend building the board up in layers starting with the smaller components like resistors and diodes and moving up to the largest components. Normal anti-static precautions should be followed throughout, especially when handling the IC's. Please pay particular attention to the orientation of the IC's, diodes and electrolytic/tantalum components.

Calibration

The MonoDAC section of the Cougar Expander is the only section that requires any calibration.

Check that you receive MIDI data. Set S101 to MIDI Channel 1 (all 4 switches off).

Send it some notes and you should see the MIDI light D102 flash

- Monitor [NOTE 1] output (J402_2)
- Set [PITCHBEND] (P402) to its minimum position
- Adjust the [TUNE] knob (P403) (approximately mid-position) to give a reading of 0.000V
- Fit a jumper to JP101
- Adjust the SCALE trimmer (P301) to give a reading of 10.667V
- Remove the jumper
- Set the PITCHBEND (P402) to its maximum position
- Monitor the PITCHBEND output (pin 1 of J531)
- Adjust [PITCH ZERO] (P401) until you get a reading of 0.00V.