Kra Pao - DIY Eurorack Resonant Low Pass Gate

Specs:

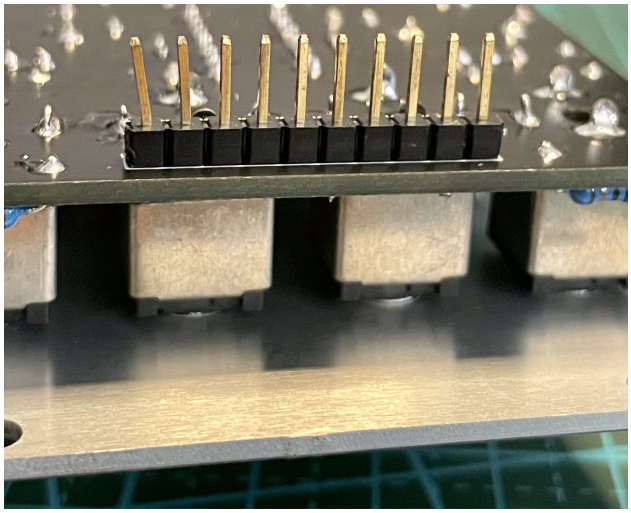
- 12 HP
- Power: 15mA from both power rails (+12 and -12)
- Low Pass Gate with Resonance control

Build Instructions

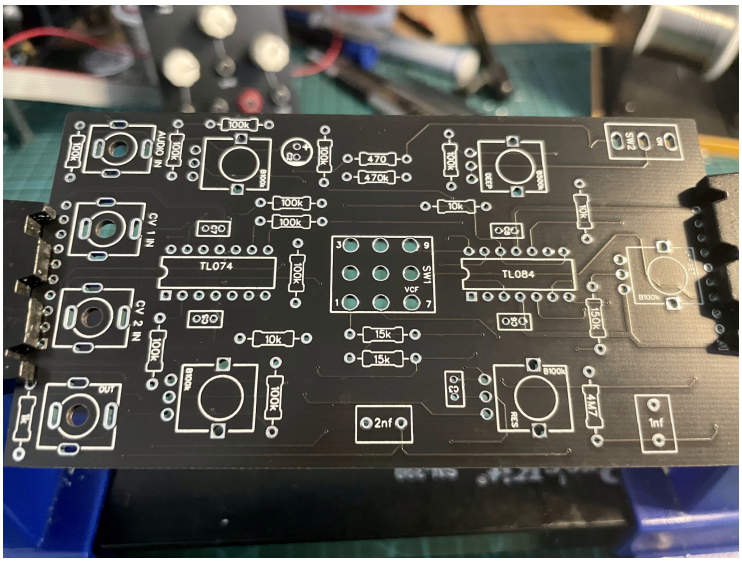
Please check the BOM file (Bill of Materials) where you can find all the components you'll need in order to build this module, alongside some notes as well.

This module is built upon two PCBs plus the front panel. I recommend starting by soldering the control board first, which is the one holding all controls, like potentiometers for the front panel.

The pins are to connect both PCB boards, make sure you solder them easily so that they stay in the right position, don't forget the **pins on the control board are mounted on the back**.



Control PCB Board

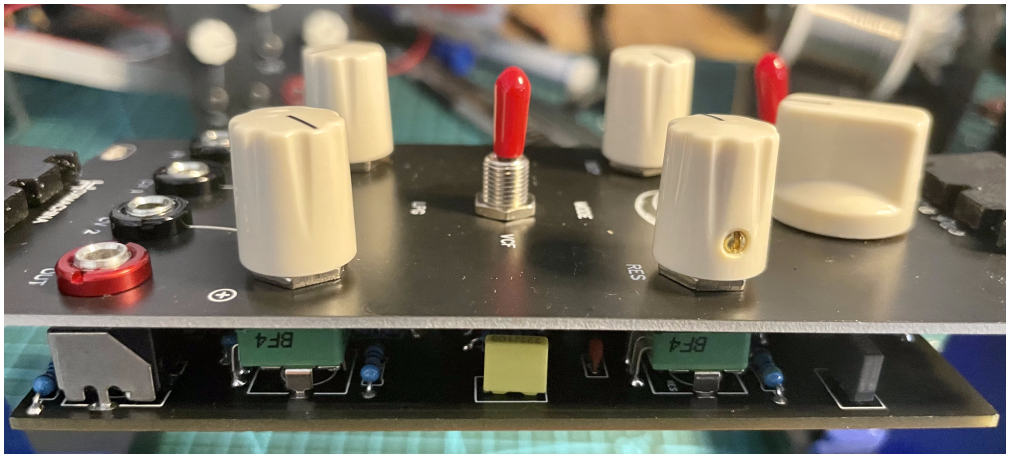


All the components are very well marked down on the boards, if possible with the exact value, except for some smaller ones where you can see the indicator, lile “D6”, and for those ones just consult the BOM file and check for the value and notes.

I recommend placing all the resistors first, for this you won’t even need to look at the guide or BOM file, as their values are directly noted down on the board, afterwards the diodes to which you’ll have to check the BOM file for their values, and once all down on the pcb fitted and ready to solder, start with a tiny dash of soldering directly on the top, quickly, smaller, this will keep all of these on the right position right away, then go to the back finish the ones who need more solder and trim down the wires.

Continue to the capacitors and transistors.

Now for the potentiometers, jacks and the pitch calibration trimmer we are going to firstly place the front panel installed, just place those components in the PCB without soldering, so we’ll attach the panel and make sure everything will be soldered in the right place.



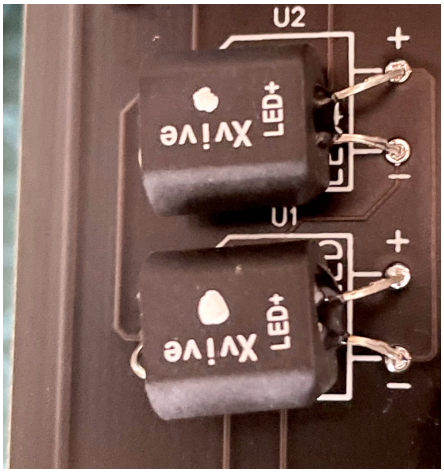
Once you attach the front panel, make sure you do the needed adjustments so that all front facing components are accessible, once done turn to the back of the PCB and solder away all the remaining components.

Main PCB Board

Follow the same approach for the second PCB board, just two details you need to know for this board.

Firstly if you want to fit the power capacitors (2x 47uf) they need to be max 7mm height which can be tricky to find, but in any case if you have taller ones you just need to either bend them a bit so they fit before soldering or you can as well solder them through the back, just make sure they are in the right position.

For the vactrols, I've bought mine from https://www.thonk.co.uk/ these are high quality with great response, you can also build your own vactrols such as demonstrated here: https://youtu.be/grP3pgTkaDs



The last thing is to note and don’t forget that the power connector goes solded in the bottom layer of the PCB: