



Please observe correct polarity of the electrolytic caps, voltage regulators, transistor, ICs etc!

#### Main PCB:

Populate the Main PCB as shown on the silkscreen, starting with the lowest profile components, so:

- Resistors, diodes
- IC sockets
- Non-electrolytic capacitors, transistors, trimmers
- Power header
- Electrolytic capacitors

Finally, cut 3 male header strips to the correct lengths (5, 5, 6) and solder to the PCB so that the long legs stick out of the rear of the PCB.

#### Panel PCB:

Populate the Panel PCB as shown on the silkscreen in this order:

- Resistors and diode
- Transistor
- **Don't do the LED yet!**
- Potentiometers (bend back the mounting lugs, then solder the middle lug in place. Reflow and adjust as necessary so that they all lie correctly. Solder lugs 1, 3 and the mounting lugs)

Cut 3 female header strips to the correct lengths (5, 5, 6) and solder to the PCB so that the black parts stick out of the rear of the PCB.

Now, place the 8 sockets onto the PCB with their ground lugs pointing towards the bottom of the PCB. **Don't solder them in place yet!** Assemble the panel to the panel PCB, put on the pots washers and tighten up the nuts. Now set the sockets to the panel using the nuts, making sure they all sit right. Place the assembly face down and solder the sockets in place. This process should allow a small space to be created between the rear of the sockets' bodies and the PCB, allowing jacks to go in balls-deep (!). Everything should line up nicely now!

Take the whole thing apart, ie remove the nuts/washers and take the panel away from the panel PCB. Now solder solid core (cut off resistor legs) between the sockets' ground tabs and the adjacent ground pads on the PCB.

Pop the LED through its pads on the PCB – **don't solder it yet!** Put the panel back together with the panel PCB, push the LED through the panel, making sure that it sits right, now solder it in place. Plug the Main PCB into the Panel PCB...you're done!

### **Tracking/calibration procedure**

- Send a 1V/oct source into Frequency CV input
- On plug-in with all trimmers in the mid position you should find that the bottom notes of a 5 octave keyboard don't do anything. So, trill between bottom C and C#, and adjust the Offset trimmer until both notes sound. You've just set up the CV offset.
- Play a couple of C's an octave apart towards the middle of the keyboard, adjust the 1V/oct trimmer until they are true. Then play every note on the keyboard, listen for any trilling notes - that means the note isn't quite sure what it wants to be. Fine tune Offset trimmer and 1V/oct trimmer until everything is cool, playing octaves and finally every damned note!
- Set Detune knob to 12 o'clock, match Waverider to a known pitch source using Zero trimmer. If you have an O'Tool = even easier: play an A on the keyboard, find a note close to A4 on the Frequency pot, adjust Zero trimmer to 440Hz.
- Takes about 5 minutes...!

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