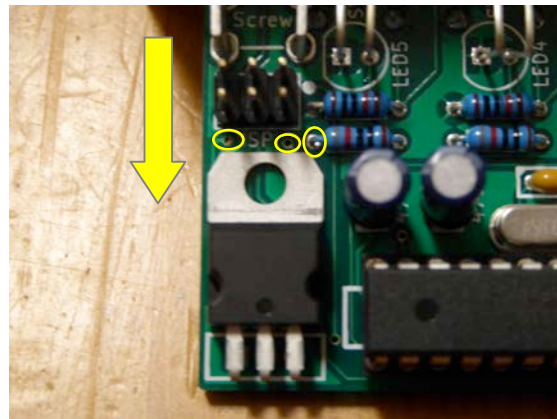
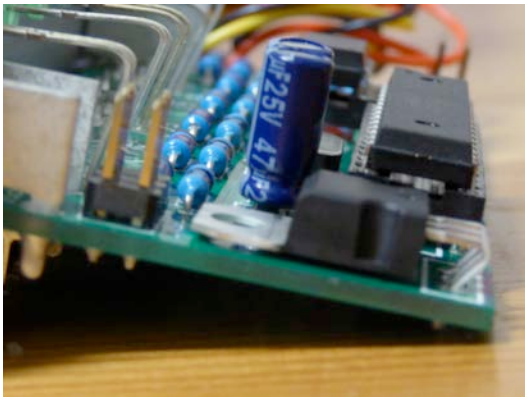


Iungo build

Order to solder components:

- 1 – Diodes (check polarity -square pad / line on silkscreen same side as line on diode)
- 2 – Resistors
- 3 – Ceramic caps
- 4 – 16 MHz clock
- 5 – IC Sockets
- 6 – 7805 Voltage Reg

Bend legs 90° so that metal sink is closest to the board when inserted.
Before soldering, push regulator away from ISP header so that it doesn't short on the 820Ω resistor or vias.



7 – Power and ISP headers

8 – Electrolytic caps (check polarity: square pad = negative)

9 – Wire Jacks

3.5mm mono for cv and gate – I use the “Kobiconn” style, others may work but check the spacing first with the board screwed to the panel and jacks in place

2.5mm stereo for midi in/out – I use PSG08266 from Farnell. Again others may fit, probably more scope here for alternatives as there is more space here.

Before soldering wire to the jacks, loosely fit the cv and gate jacks to the panel. If using the Kobiconn jacks it fits better with the ground pin pointing up. A 200kΩ resistor needs to go between the “switch” of cv input and the tip of the gate input:



Remember to put the wire through the gate tip before soldering the resistor!

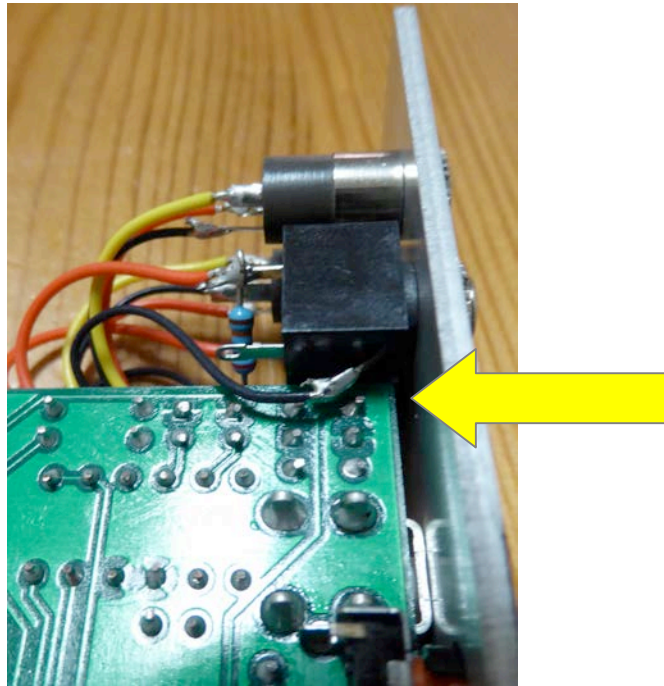
Wire should be approx 6 cm length. I tend to bend the ground terminal of the mono jacks back a bit.

CV, Gate, midi in and out are labelled on the pcb. Ground/sleeve goes to the square pads.

'T' and 'R' silkscreened by the midi in and out show where Tip and Ring of the 2.5mm stereo jacks should go. Square pad in the middle is sleeve. If you use the same jack sockets as me tip is labelled 1 and ring 2 on the solder terminals.

I put a small bit of heat shrink over each jack terminal after soldering the wire. This is more for aesthetic reasons, but I think some should at least be used for the Gate input's sleeve terminal. I built one without heat shrink and it didn't short, but its a bit close for comfort at that one point!

A small bit of heat shrink there before soldering the wires to the board will stop any potential issue. I use a hairdryer to shrink it, but even if you don't have that it should stay in place and prevent a possible short. If you are using a different style jack this may not be an issue.



Solder the wires to the board. I find the jacks fit tidier if you do the cv and gate first, then thread the 2 midi sockets in between the cv and gate jacks. Weighing the board down with a pair of pliers helps keep wires in place while soldering. Be quick soldering here as some wire insulation will melt easily!

10 – Switches and screw terminals

Switches go on the other side of the pcb. Screw terminals same side as other components.

Clip switches and screw terminals into place, then screw board to the panel. Put buttons onto the switches and make sure everything lines up with the panel. Once everything is in place solder switches and screw terminals.

11 – LEDs

Check orientation of LEDs. Short leg goes to the square pad. With this in mind, bend legs 90° about 1.2cm from edge of LED.

With panel screwed to the pcb, put the LED legs through the pcb holes, then push it into the hole in the panel. Check again short leg is in the square pad, and then solder.

Repeat for other 4 LEDs

12 – MIDI leads.

Get a stereo 2.5mm cable and cut it in half.

Make sure you put the 5 pin din chassis onto the cable before soldering!

Solder the 5 pin din to the cut end of the cable.

Tip goes to pin 5, Ring to pin 4. Shield to pin 2.

Be very careful you connect to the right pins. There is a lot of wrong/vague information about midi sockets online. The pin numbers aren't consecutive and there is a difference between looking at the connector from the perspective of outside or within the cable.

AV19217 from CPC Farnell is quite cheap and has the pins numbered which is very helpful!

This will probably be the trickiest part of the build if you haven't made cables before. Make sure wires and sleeve are twisted and tinned. A vice, helping hand or simply another pair of hands can all help. If you don't have any of these, take one wire at a time, put it in to the solder well and hold it in place with whatever you can, even a pair of pliers stopping it rolling will do. Get a blob of solder on your iron and put it over the well. The sleeve can be tricky, if its too thick just trim it to a spike with your cutters.