



The PCB shows the correct orientation for BC547/BC557. Other transistor types can be used (eg 2N3904/2N3906), but please observe the correct pinout.

### Bill of materials

100R x 1	4n7 x 1	LF351 x 1 (or TL071)	<a href="#">A100K x 3</a>
1K5 x 1	10n x 4	LM13700 x 2	<a href="#">B100K x 3</a>
1K8 x 4	47n x 1	TL084 x 1	All pots are 9mm Alpha PCB mount
10K x 18	22uF electrolytic x 6	BC547 x 1	
15K x 2	47uF electrolytic x 2	BC557 x 1	<a href="#">10K trimmer x 1</a>
27K x 11		1N4148 x 2	<a href="#">100K trimmer x 1</a>
100K x 6			All trimmers are 6mm
150K x 1			
270K x 1			<a href="#">SPDT toggle x 1</a>
1M x 1			<a href="#">Power header</a>
			<a href="#">Male header strip</a>
			<a href="#">Female header strip</a>
			<a href="#">Kobiconn sockets x 5</a>

#### 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, 9) 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:

- 100R Resistor
- Electrolytic capacitors (the legs will need to be bent by 90° so that the caps lie on the PCB)
- 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)
- SPDT switch, making sure it's flush as can be

Cut 3 female header strips to the correct lengths (5, 5, 9) and solder to the PCB so that the black parts stick out of the rear of the PCB.

Now, place the 5 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/switch 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.

Put the panel back together with the panel PCB, plug the Main PCB into the Panel PCB...you're done!

**Trimmers:** turn both fully anti-clockwise (that's how I like 'em), adjust to taste.

RDH 19th July 2014

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