



EQ573 Assembly guide

**Safety warning**

The kits are main powered and use potentially lethal voltages. Under no circumstance should someone undertake the realisation of a kit unless he has full knowledge about safely handling main powered devices.

Please read the “DIY guide” before beginning.

Print or open the following documents :

- EQ573 Schematics
- EQ573 Components layout
- EQ573 Parts list
- EQ573 Setup guide

Follow this guide from item number 1 till the end, in this order. The assembly order is based on components height, from low to high profile, in order to ease the soldering process : The component you are soldering is always taller than the previously assembled ones and it is pressing nicely against the work area foam.

EQ573 Assembly guide – Main board

**1. Diodes**

Add D1 to D5. Use a lead forming tool to bend the leads at 0.4”.

Warning : Make sure to respect the direction of the diodes which is marked by a ring on the component and a double line on the PCB marking.

**2. Resistors – (1)**

The best method to select and install the resistors is the following:

1. pick a row of resistors in the resistors bag,
2. Measure one of the resistors with your DMM,
3. Look up the parts-list PDF for the closest value,
4. Check the color code and quantity for confirmation,
5. Use the search function on the Layout PDF page with the resistor value: All the corresponding resistors are highlighted,
6. Insert and solder.

(You can use the same method later, for the capacitors)

Add R17 to R66.

**3. Test pins**

Solder the 5 test pins TP1 to TP5.

**4. Ceramic capacitors**

Add C48, C79, C80, C87, C88.

EQ573 Assembly guide – Main board

5. Film capacitors



Add C24 to C47, C49, C51, C53 to C55, C57 to C75, C81, C84, C89, C92.

6. Tantalum capacitors



Add C78, C86. The plus lead is always on the right when facing the marking with the leads pointing down.

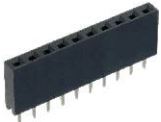
Warning : The +lead must go into the +hole. Do not reverse !

7. Connector



Solder the 2 x 8 pins header CN3A. Solder one pin first, check verticality, then solder the other pins.

8. SIL connector



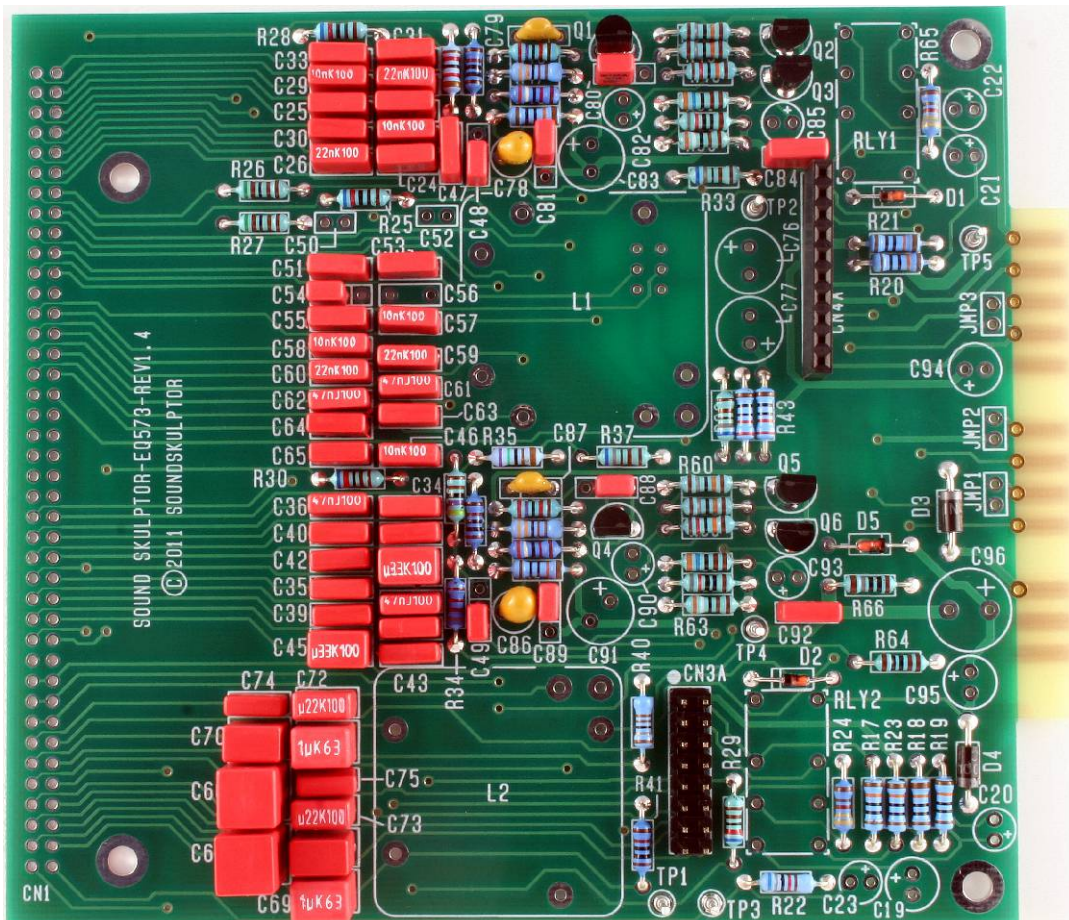
Solder the connector socket CN4A. Solder one pin first, check verticality, then solder the other pins.

9. Transistors



Add Q1 to Q6.

Warning : Watch out the transistor direction.



EQ573 Assembly guide – Main board



10. Relays

Add RLY1 and RLY2.

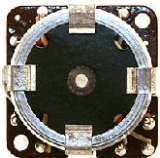


11. Electrolytic capacitors

Add C19 to C23, C76, C77, C82, C83, C85, C90, C91, C93 to C96.

Solder one lead first, adjust vertically then solder the second lead.

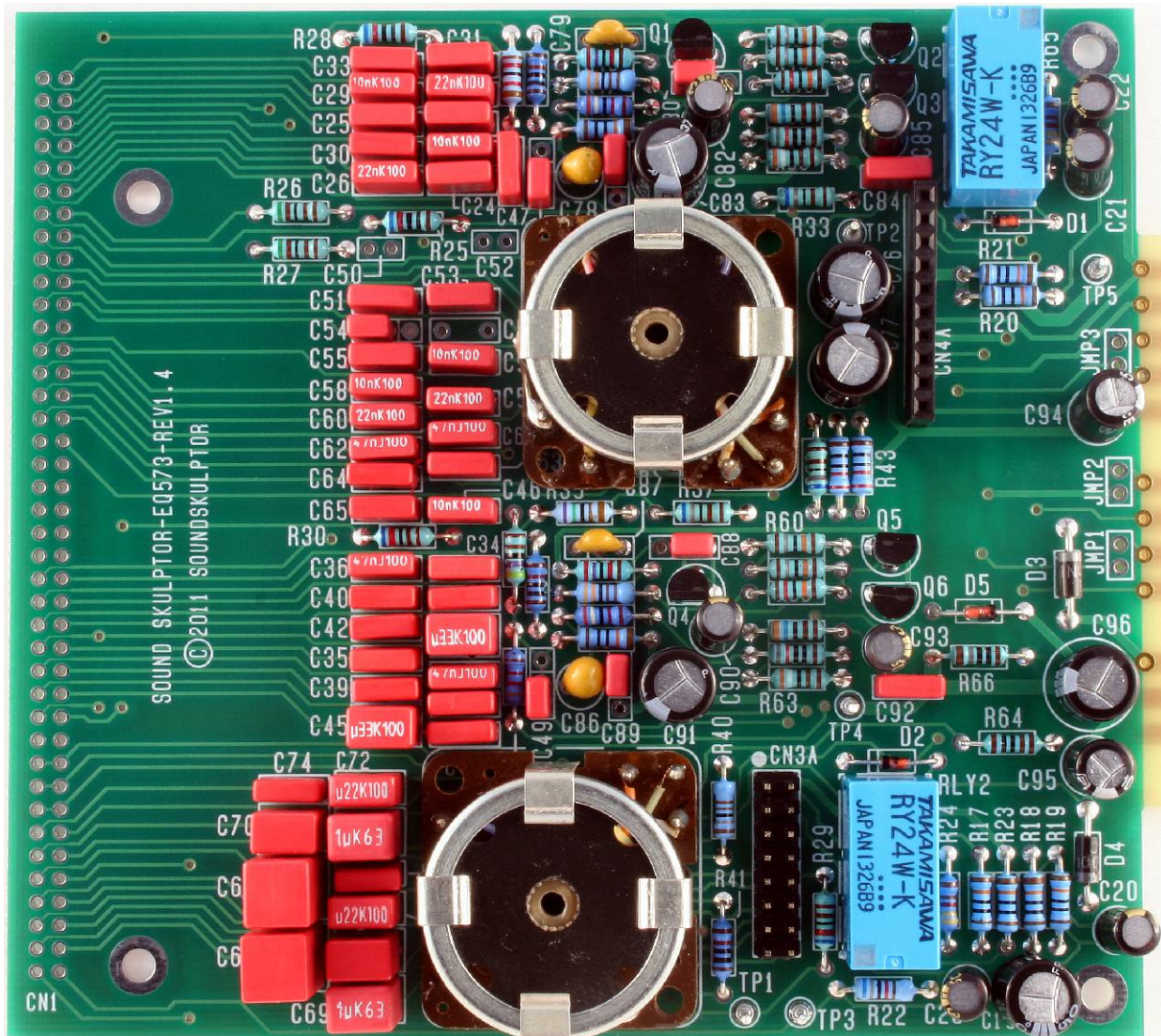
Warning : The +lead must go into the +hole. Do not reverse (they may explode !)



12. Inductors

It is necessary to leave a small gap between the inductors and the PCB surface in order to avoid any electrical contact between the metal parts and pads. Fit a piece of double sided adhesive tape (supplied with the kit) on the inductor, between the pins. It is not necessary to remove the second protective layer from the tape as it is only used as a spacer.

Solder L1 and L2.



EQ573 Assembly guide – Main board

13. Visual check

At this point, brush the solder side with a hard tooth brush to remove any remaining solder bits.

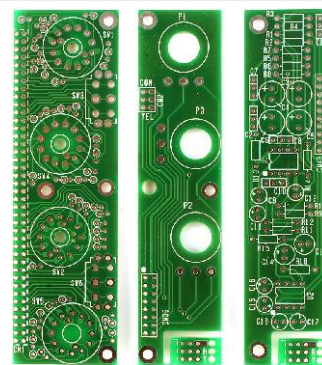
Make a full visual check. Any missing component on the board ? Any remaining component in the box ?

When everything looks correct, proceed with the other boards assembly.

EQ573 Assembly guide – Switches board

14. PCB split

Split the PCB along the pre-engraved lines in order to get 3 parts. You can polish the cut with a file.



15. PCB split (continued)

Separate the 2 tiny PCB's from the larger PCB's and smooth out the cuts with a file or sand paper.



16. Anti-clic resistors

Insert and solder 43 4M7 resistors. The resistors are placed vertically.



17. 12 positions Rotary switch

Add the 12 positions rotary switch SW4.

Warning : The position of the switches is critical for a good front-plate matching and a smooth potentiometer rotation. The switch rests on 3 small feet that must sit perfectly flat on the PCB. Press the switch on the PCB and solder two opposed pins. Check position then solder the other pins.



18. 6 positions rotary switches

Select the switch with the longest shaft (20 mm) and add it in SW5.

Next, add SW1 and SW2 (15mm shaft).

Warning : Do not mix the 20mm and 15mm shaft rotary switches

19. Toggle switches

Add the two toggle switches SW3, SW6.

Warning : The position of the switches is critical for a good front-plate matching. They must sit flat on the PCB. Press firmly the switch on the PCB and solder two opposite pins (housing). Check position then solder the other pins.



EQ573 Assembly guide – Switches board

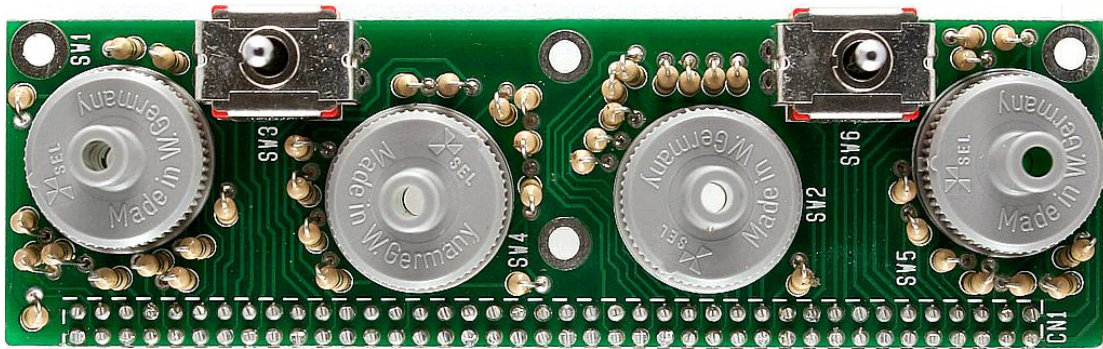
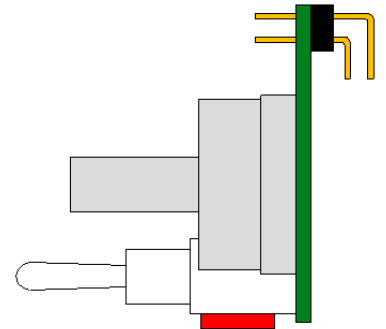
20. 2x40 Pins header

This part requires some care and you will need a good soldering iron with a thin tip. The position of the header is very important for the final assembly.

Insert the 2x40 pins header, straight pins forward from the solder side, as shown on the diagram. Hold it in position with the help of 3 blue jumpers and solder 3 pins, 2 extreme and 1 centre. Remove the jumpers which have no other purpose.

Solder all the pins on the external row. Cut the soldered pins flush, in order to get access to the second row. Solder the second row then cut the pins flush.

Warning : Solder quickly in order not to overheat the pins because if the black plastic base melts, the pins are no longer held in position and start moving around.

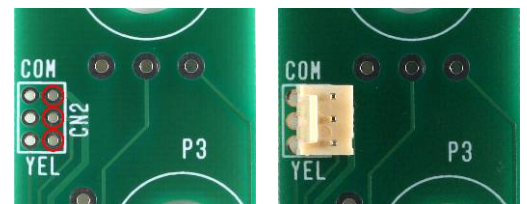


EQ573 Assembly guide – Potentiometers board



21. CN2 Connector

Solder the 3 pins header in the 3 right holes (circled in red on the picture). The plastic tab is on the left. Solder one pin first, check position then solder the other pins.



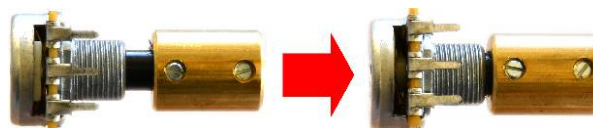
22. Connector

Solder the 2x8 pins header. Solder one pin first, check position then solder the other pins.



23. Potentiometers

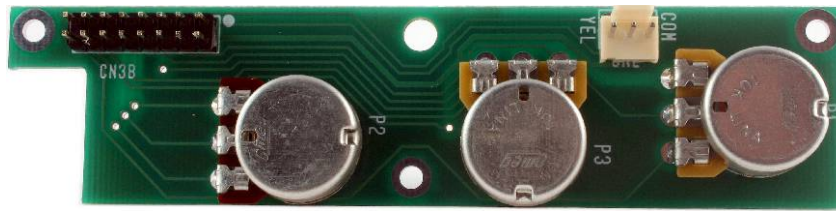
Some batches of potentiometers require that you shorten the shaft by 3mm, in order to get the adapter closer to the bushing (almost touching). You can do this simply with one stroke of cutting pliers.



Add P1 and P3 (10KA). Insert the potentiometers into the PCB holes from the components side, making sure the pins fit into the corresponding PCB pads. Attach with washer and nut on the solder side, then solder.

Add P2 (47KA) in the same way.

EQ573 Assembly guide – Potentiometers board



EQ573 Assembly guide – IO board



24. Resistors

Add R1 to R16.

Control the resistor values with a digital multimeter. Bend the leads at 0.4" with a lead forming tool.



25. Ceramic capacitors

Add C1, C2, C7, C8, C10.



26. IC Sockets

Insert and solder the 8 pins sockets of U1 and U2. Do not insert U1 at this time.

Warning : Make sure to respect the socket direction, marked by a notch.



27. Electrolytic capacitors

Add C9, C11, C12, C15 to C18, C13, C14, C3 to C6.

Solder one lead first, adjust verticality then solder the second lead.

Warning : The +lead must go into the +hole. Do not reverse (they may explode !)



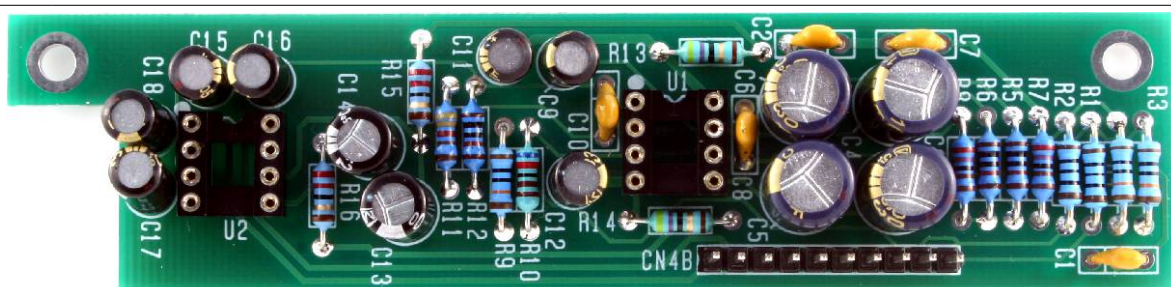
28. Connector

Solder the connector CN4B. Solder one pin first, check verticality, then solder the other pins.

Warning : the connector pins must be exactly perpendicular to the PCB to allow proper insertion into the main board.

29. IC's

Insert U1 and U2 in their respective socket.

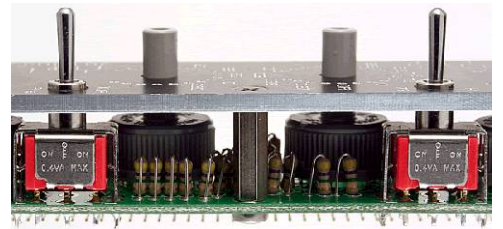


EQ573 Assembly guide – Final assembly

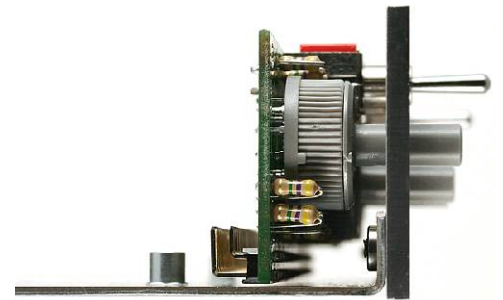
**30. Front pannel assembly**

Attach the 15mm female/female spacer to the front panel with an M3x6 countersunk black screw.

Next, insert the switches into the front panel and attach the switches board to the 15mm spacer with one M3x6 screw.

**31. Side panel**

Attach the side panel to the front plate with two M3x6 black countersunk screws.

**32. Main PCB**

Install the main PCB on the side panel, inserting the 2x40 pins header into the PCB holes. Attach it with two M3x6 screws and two shake-proof washers in the front and two M3x20 male/female spacers in the back.

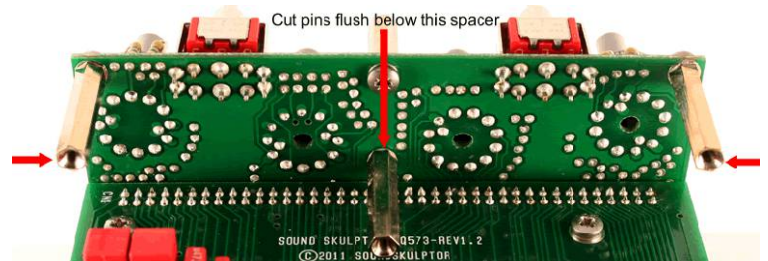
**33. Header soldering**

Solder the header's 2x40 pins that link the two PCB's, starting with the row that is close to the PCB edge. Cut flush 4 or 5 pairs of pins near the centre of the header, where a spacer will be installed.

**34. 25mm Spacers**

Remove the front panel by unscrewing three M3x6 black screws.

Attach three 25mm spacers to the switches PCB, on the solder side, with three M3x6 screws.

**35. Potentiometer 6/4mm shaft adapters**

On the potentiometers PCB, set all three pots fully clockwise. Insert the three 6mm/4mm adapters all the way down, with the screws facing towards the PCB edge that carries the two connectors. Tighten the screws.

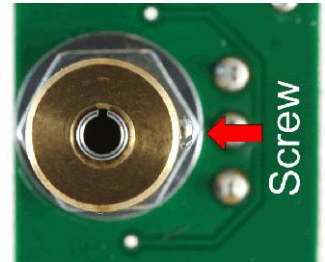


EQ573 Assembly guide – Final assembly



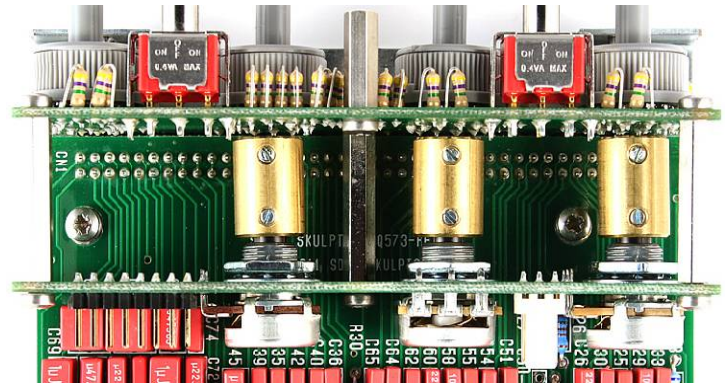
36. Potentiometer 4/3mm shaft adapters

While keeping the pots in their full clockwise position, insert the three 4mm/3mm adapters with their slot perpendicular to the screw (facing up). Tighten gently, just enough to hold them into position.



37. Potentiometers PCB assembly

Attach the potentiometers PCB to the switches PCB with three M3x6 screws. Do not tighten yet. Attach the front panel again with three M3x6 black countersunk screws.



38. 19mm buttons

Set all the rotary switches fully anti-clockwise. Place the three 19 mm red knobs on the three top switches, lining up the white lines to the "off" labels. Tighten gently the screws with the supplied 1.5mm hex key.

Warning : To not tighten too hard in order not to warp the switch shaft.



39. 3mm shafts

Insert the three 3mm shafts into the three top switches. Tighten firmly the screws on the 6/4mm adapters.



40. 12.7mm buttons

Set all the potentiometers to 12 o'clock by turning the 6/4mm adapters. You must feel the centre click in this position.

Insert the three 12.7mm black knobs into the three top switches, lining the white lines vertically. Tighten the two screws with the supplied 1.5mm hex key.

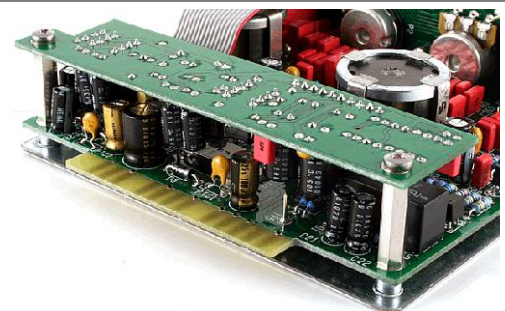
Attach the last knob to the lowest rotary (high pass), lining up the white line to the "off" label.

41. PCB tightening

Tighten the 3 screws that attach the potentiometers board.

42. I/O board assembly

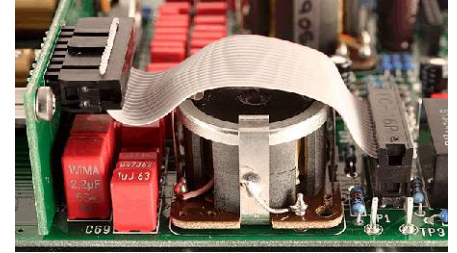
Insert the 10 pins header from the I/O board into the corresponding socket on the main PCB. Attach the board to the 20mm spacers with two M3x6 screws.



EQ573 Assembly guide – Final assembly

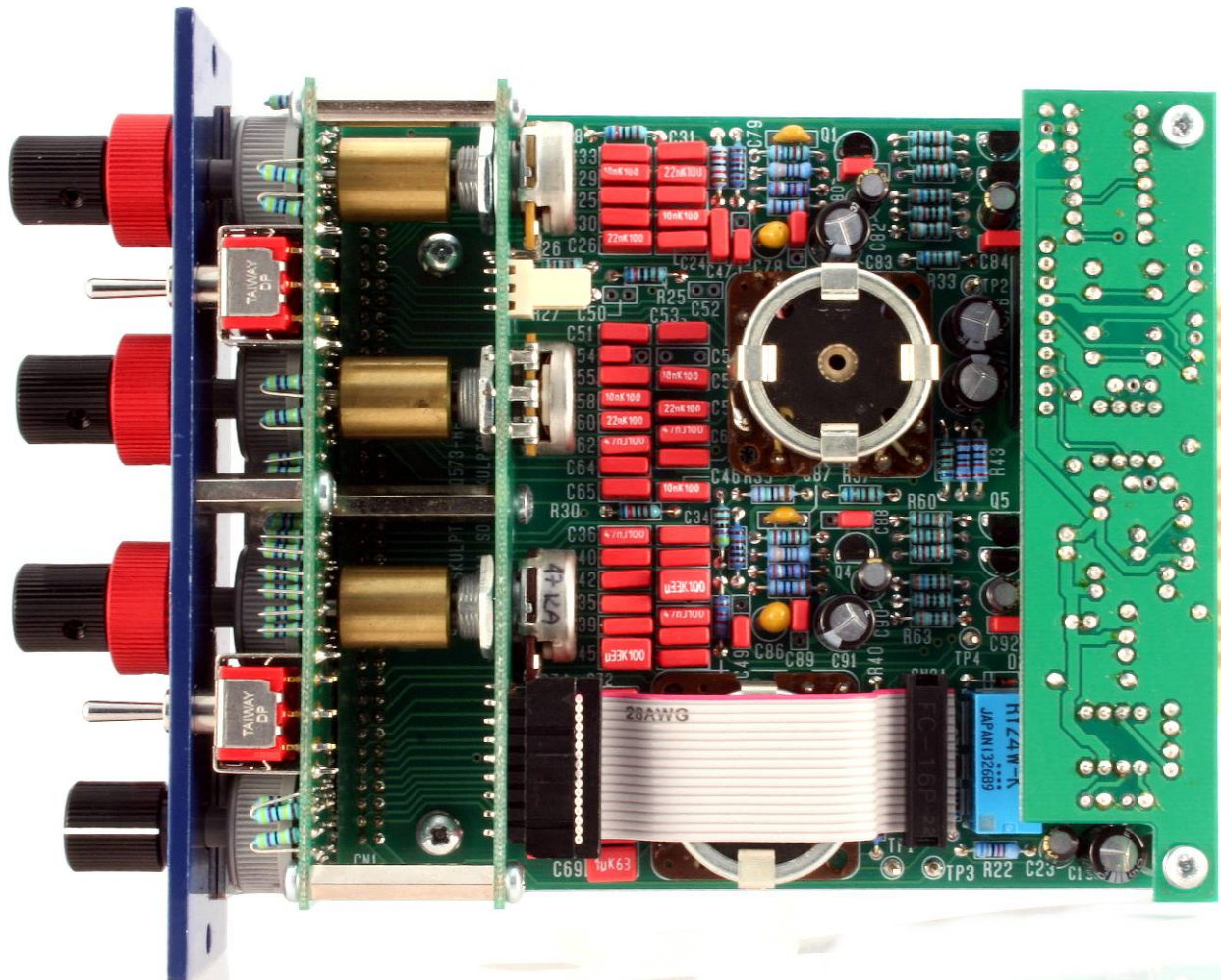
43. Ribbon cable

Connect the 16 conductors ribbon cable between the pots and the main PCB.



44. Congratulations

You're done!

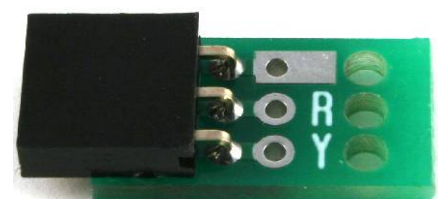
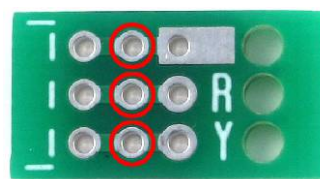


EQ573 Assembly guide – Link cable assembly (for connecting to MP573)

1. Connector soldering



Insert the 3 pins female connector into the second row of holes (circled red). You can add a drop of instant glue between connector and PCB to improve reliability. And solder. Repeat for the second PCB.



EQ573 Assembly guide – Link cable assembly (for connecting to MP573)

**2. Cable striping**

Split the 2 sections of the wire on a length of 3cm.

Strip 2cm of each section.

Merge the shield wires from the 2 sections and twist, red in the middle.

Strip red and yellow wires on 4mm.

Tin the wire tips to keep them together, with very little solder or they won't fit into the PCB holes.

3. Cable soldering

Insert the cable 3 wires from beneath the PCB into the 3 unplated holes, red in centre, yellow on the “Y” side. Insert the red and yellow wire tips into the corresponding PCB holes and solder.

Cut the shield cable to the good length, flatten it on the rectangular pad and solder.

Repeat for the other side of the cable.

