MICPS 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:

- MICPS Schematics
- MICPS Components layout
- MICPS Parts list

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.

| **Soldering** |
|---|
| All the PCB holes are metallized. It means the connection between the top and bottom pads is already done. The parts must be soldered only from below (unless differently stated). |
| Use only small diameter solder, 0.5 or 0.7 mm, 1mm maximum. Use the minimum possible amount of solder. Bad joints are almost always caused by too much solder. |
| Cut the component leads and pins totally flush with the PCB after soldering. A too long tail could create an electric connection with the side plate. |
| Here are two excellent introduction to soldering videos:
http://www.eevblog.com/2011/06/19/eevblog-180-soldering-tutorial-part-1-tools/
http://www.eevblog.com/2011/07/02/eevblog-183-soldering-tutorial-part-2/ |

MICPS Assembly guide – Main PCB
1. PCB split Split the PCB into 2 parts by breaking it along the red lines. Use extra thin sandpaper to polish all the rough sides
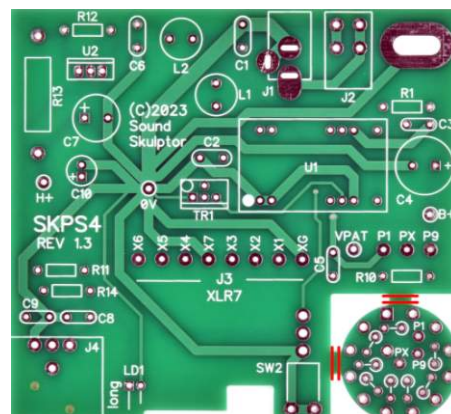
MICPS Assembly guide – Main PCB

2. Resistors

Insert and solder R1, R10, R11, R12, R14.
Control the resistor values with a digital multimeter. Bend the leads at 0.4" with a lead forming tool.

3. Ceramic capacitors

Add the ceramic capacitors C8, C9.
Add C3, C5.
Add C1, C2, C6.

4. Test pins

Solder the 4 test pins H+, 0V, VPAT, B+.

5. R13

Solder R13 at a small distance from the PCB because it will get hot.

6. U1

Add U1

7. Trimmer potentiometer

Add the trimmer potentiometer TR1. Solder one pin, check verticality then solder the other pins.

8. DC in connector

Add J1

9. Small electrolytic capacitor

Add the electrolytic capacitors C10.
Warning : The +lead must go into the +hole. Do not reverse (it may explode!)

10. Switch

Add SW2. The position of the switch is critical for a good front-plate matching. It must sit flat on the PCB. Press firmly the switch against the PCB and solder one of the front pins (housing). Check verticality and horizontality. Then solder the other pins.

11. Radial inductors

Add L1, L2.

MICPS Assembly guide – Main PCB

12. Wire terminal bloc

Insert and solder the wire terminal bloc J2, the wire holes facing towards the back.

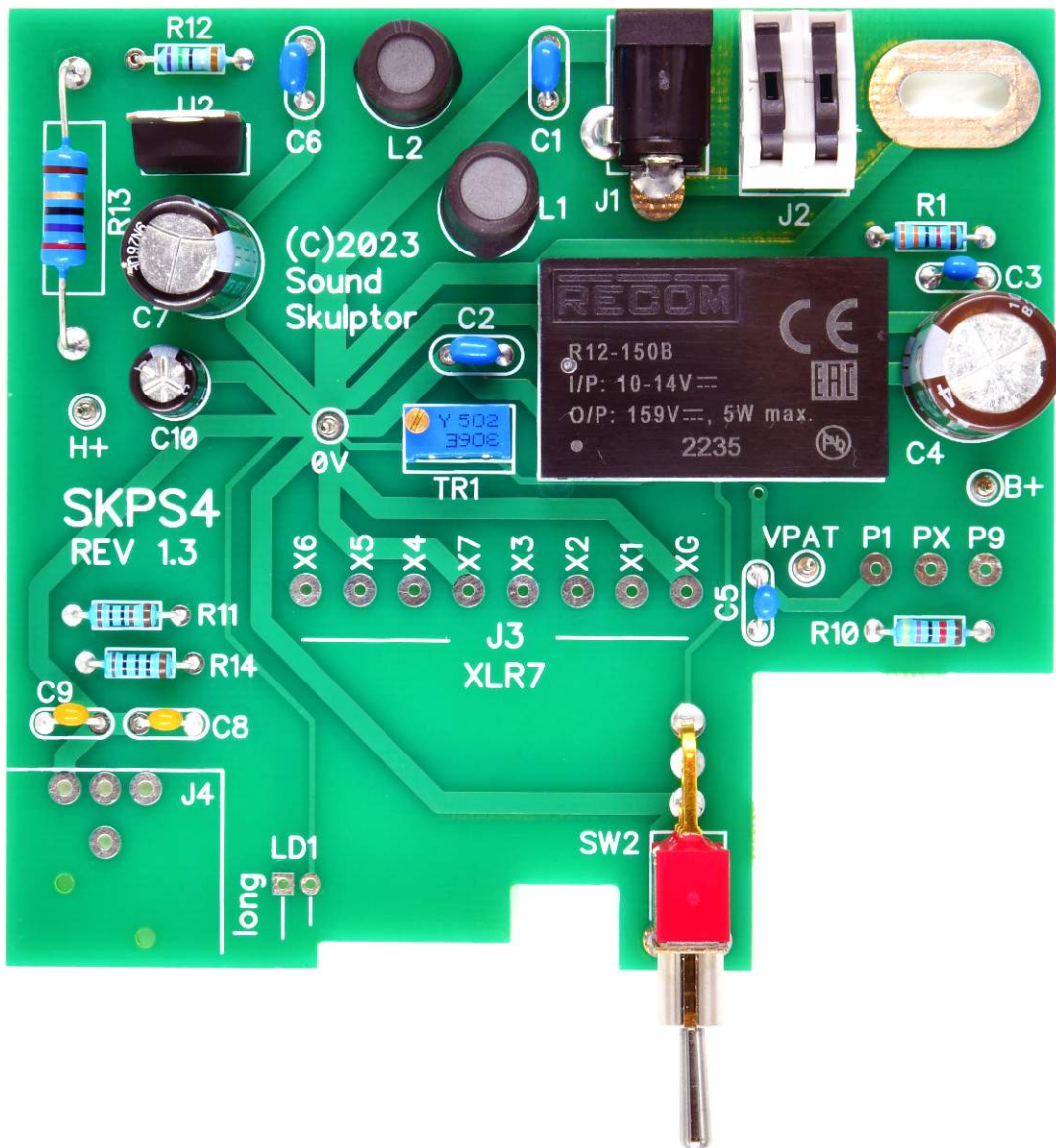## 13. U2

Insert and solder U2.

Warning : The direction is marked by a double line at the back of the regulator.

14. Large electrolytic capacitors

Add the electrolytic capacitors C4 and C7.
Warning : The +lead must go into the +hole. Do not reverse (it may explode!)

MICPS Assembly guide – Main PCB

15. XLR3 J4

Insert and solder the 3 pins XLR socket.

16. Visual check

Check that all component leads are cut short, in order not to risk touching the enclosure base. 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?
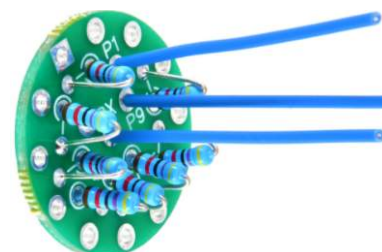
MICPS Assembly guide – Rotary switch PCB

17. Resistors

Add R2 to R9.

These resistors are installed vertically. Solder and cut the leads as short as possible

18. Wires

Prepare 3 pieces of single core hookup wires 4cm long, strip 4mm at both ends and solder to pads P1, PX, P9.

19. Rotary switch

Insert and solder the rotary switch SWR1.

Pin 1 goes into the square pad.

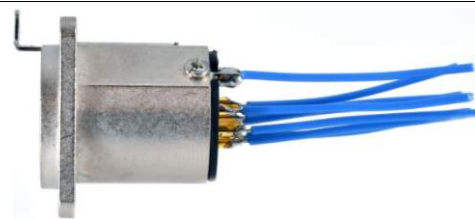Be careful when soldering the center pin not to touch the PX wire.

MICPS Assembly guide – Front panel assembly

20. XLR 7

Prepare 8 pieces of single core hookup wires 4cm long, strip 4mm at both ends and tin. Solder to the 7 pins plus chassis of the XLR socket.

Attach to the front panel from behind, with 2 M3x8 screws and nuts.

21. Rotary switch

Place the washer that sets the maximum position in the hole number 9 and attach the rotary switch to the front panel with the nut. Take care to match the anti rotation lug with the blind hole at the back of the panel.

22. LED

Bend the LED leads 90° at 9mm from the body and insert into the PCB. Do not solder yet.
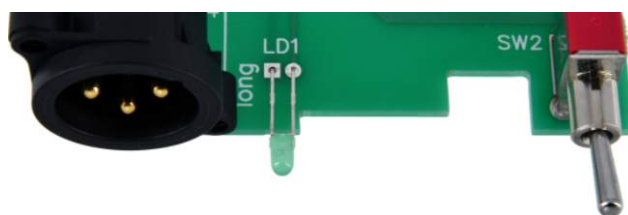
23. Front panel & PCB assembly

Assemble the PCB and front panel by matching the XLR3, LED and switch.
Attach the XLR3 socket with 2 self taping screws M2.9x8.

Solder the LED.

24. XLR7 connection

Solder the 8 wires by carefully matching the pins number with the numbers on the PCB.

25. Rotary switch connections

Solder the 3 wires by carefully matching the pad names the names on the PCB.

MICPS Assembly guide – Back panel assembly

26. Brackets

Attach an adhesive pad on two brackets, exactly over one of the holes.

27. Power switch

Cut two pieces of stranded hookup wire 15cm long, strip 4mm at one end and solder one terminal to each one.

Insert the terminals on the power switch pins and clip the switch into the backplate.

28. Backplate bracket

Insert one 8mm countersunk black screw into the backplate hole and attach one bracket with pad with one washer and nut.

29. Side profiles

Attach the two profiles to the backplate wit two M4x10 countersunk black screws.

Insert one 8mm screw into the two remaining brackets, add washer and nut. Do not tighten.

Insert the nut of the bracket with a pad into the center groove of the left profile. Insert the nut of the other bracket into the center groove of the right profile.

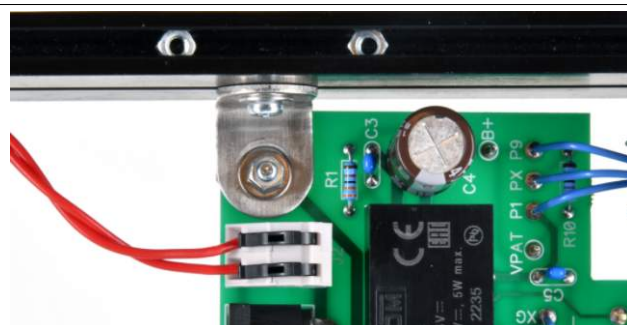Insert 2 nuts into the top and bottom grooves of each profiles (8 in total).

MICPS Assembly guide – Final assembly

30. Front panel

Attach the front panel to the profiles with 4 hex socket screws.

Strip 6mm of the switch wires and lock them in the spring terminal.

Bring the right bracket above the oblong PCB hole and attach it with an 8mm screw, a washer and a nut.

31. Bottom cover

Move the 4 nuts according to the holes and secure the bottom cover with 4 black countersunk screws, the side with a crease facing forward.
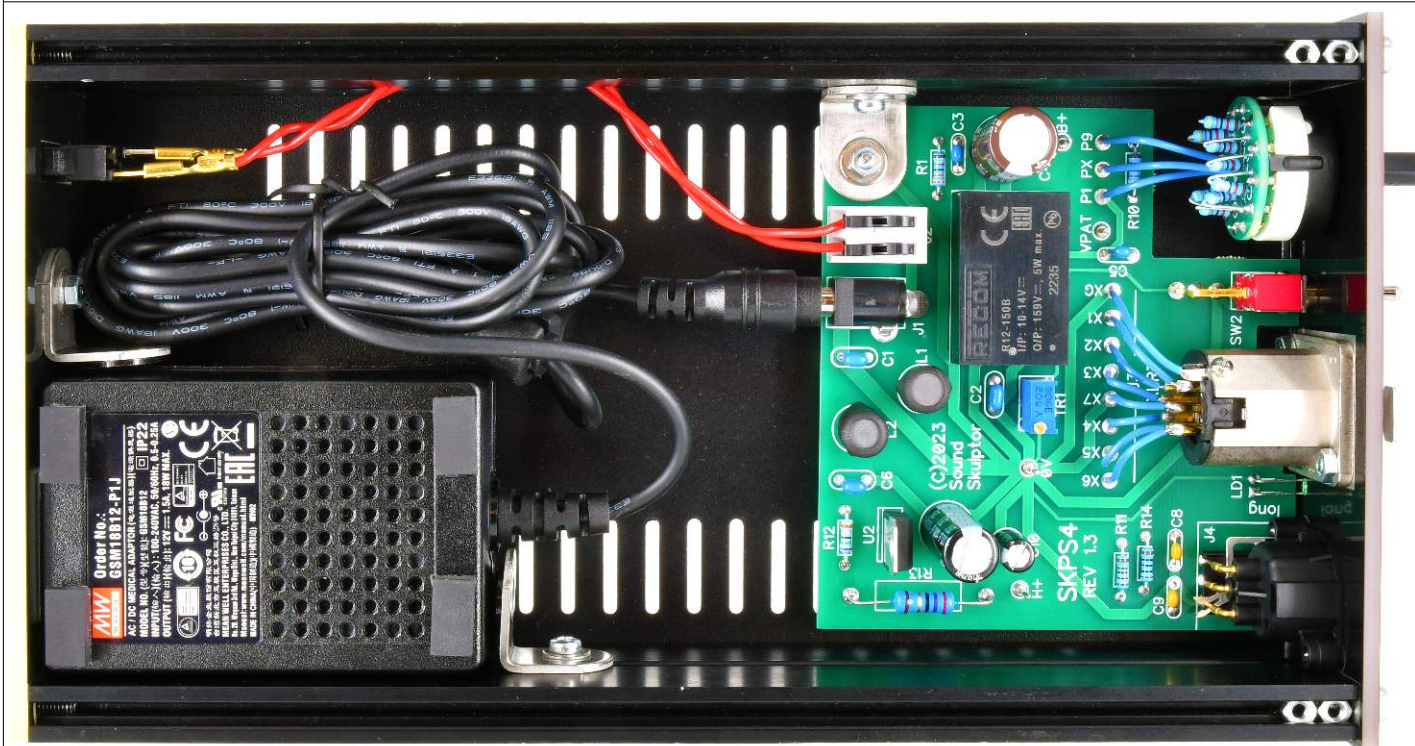
32. Rubber spacers

Attach 4 rubber spacers at the top of the power adapter and 4 at the bottom.

Place the adapter in the rear left corner of the case with the power cable socket facing the cutout in the back plate.

Move the left bracket with pad towards the adapter and tighten the screw to lock in position.

Connect the DC output plug to the DC socket on the PCB.

33. Knob

Cut the rotary switch shaft at 10mm from the bushing and attach the knob.

34. Setup

Time to setup. Follow the setup guide.

MICPS Assembly guide – Final assembly
35. Cover Attach the cover with 4 M3x6mm countersunk black screws.
36. Congratulations You're done!