SKMP-V2 Assembly guide

Safety warning

This kit is main powered and use potentially lethal voltages. Under no circumstance should someone undertake the realisation of this 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 :

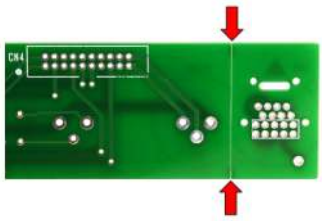
- SKMP Schematic
- SKMP Layout
- SKMP Parts list
- SKMP Setup guide

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.

SKMP-V2 - PCB Assembly - A side

1. PCB split

Split the main PCB along the groove.



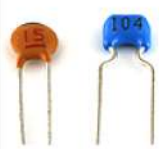
2. Diodes

Add D2 to D9. Use a lead forming tool to cleanly 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.

3. Resistors (A side)

Add R1 to R8. Control the resistor values with a digital multimeter. Bend the leads at 0.4" with a lead forming tool.



4. Ceramic capacitors

Add C1, C2 and C3.

5. Ferrite beads

Add L1, L2 and L3.

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SKMP-V2 - PCB Assembly - A side

6. Chassis pin

Solder the 1.3mm chassis pin (marked CH. on the PCB).

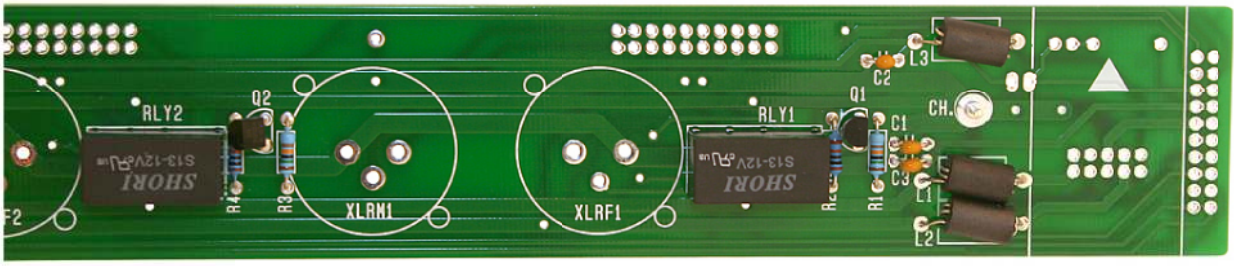
7. Transistors

Add Q1 to Q4.

Warning : Watch out the transistor direction.

8. Relays

Add RLY1 to RLY4.



SKMP-V2 - PCB Assembly - B side

9. Resistor (B side)

Add R9.

10. Red LED

Add the red LED.

Warning : Respect the long lead/short lead position.

11. Jumper header

Solder the jumper header JMP1.

12. Ground pins

Insert and solder the three 1mm ground pins (marked GND on the PCB).

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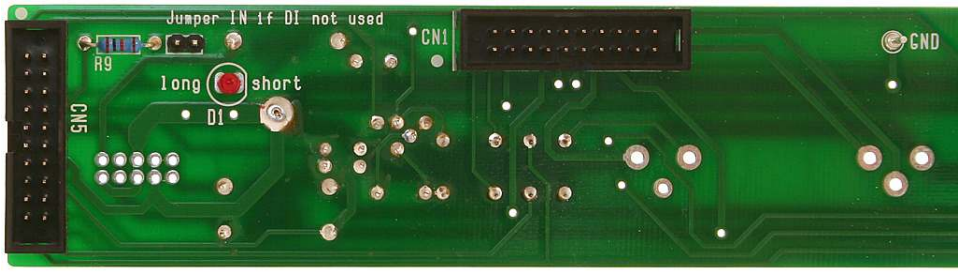
SKMP-V2 - PCB Assembly - B side

13. Connectors

Add CN1 to CN5. Start soldering one pin, check the position, then solder the other pins.
Warning : Check the position of the slot, it must not be mounted backwards.

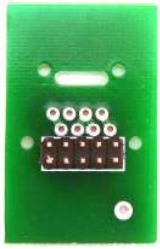


SKMP-V2 - PCB Assembly – Power connector PCB

14. Power connection

Solder the 2x5 DIL connector on the small PCB.

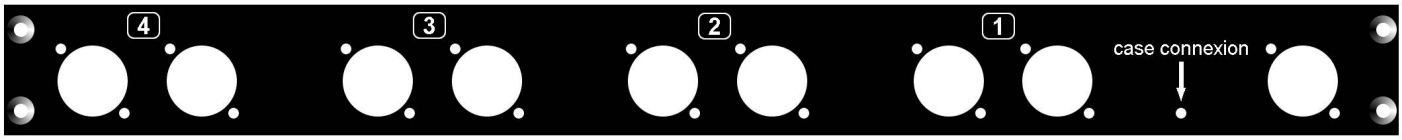
Warning: The connector must be placed on the side with the white rectangle. It must sit perfectly flat on the PCB. Solder one pin, check position then solder the other pins.



15. XLR/RJ45

Solder the XLR/RJ45 on the other side of the PCB. It must sit perfectly flat on the PCB.

SKMP-V2 – Backplate



16. Channel labels

Stick the 4 channel number labels on the back plate, between each pair of XLR's, near the top edge.

Warning: the labels must be stuck on the external side of the plate which can be identified from the 4 countersunk corner holes.

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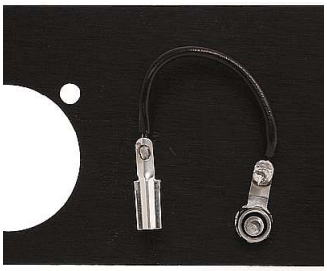
SKMP-V2 – Backplate

17. Case connection



Insert an M3x10 pan head screw into the backplate, from outside. Add a shakeproof washer, a solder tag and finally a self locking nut. Tighten together.

Strip 5mm on both ends of a 5cm black wire. Solder one end to the 1.3mm socket. Solder the other end to the case solder tag.

18. XLR installation

Install the XLR's on the back panel with 18 M2.9x9.5 self taping screws.

19. Backplate and PCB assembly

Insert the 1.3mm socket hanging from the back plate into the 1.3mm pin on the PCB.
Assemble PCB and backplate. The XLR's pins must match exactly the PCB holes. Push all the way down and solder the XLR pins and the 2x5 connector.

SKMP-V2 - Case assembly

20. Sides

Assemble the backplate and the two sides of the case with four black M4 countersunk screws.
The internal face of the sides is the one with a single groove.

21. Top and bottom fixing nuts

Insert 2 nuts in the top groove and 3 nuts in the bottom groove of both sides of the case (for a total of 10 nuts). They will be used to attach the top and bottom covers.

22. Front

Attach the front plate to the sides with four black M4 countersunk screws.

23. Bottom

The top and bottom covers have a 5mm front fold that must be placed against the front panel.
With the help of the panel, adjust the position oft the 3 nuts on both sides in order to make them face the panel holes. Then screw the panel in place with 6 M3w6 black countersunk screws.

24. Adhesive feet

Stick four self adhesive rubber feet to the bottom of the case.

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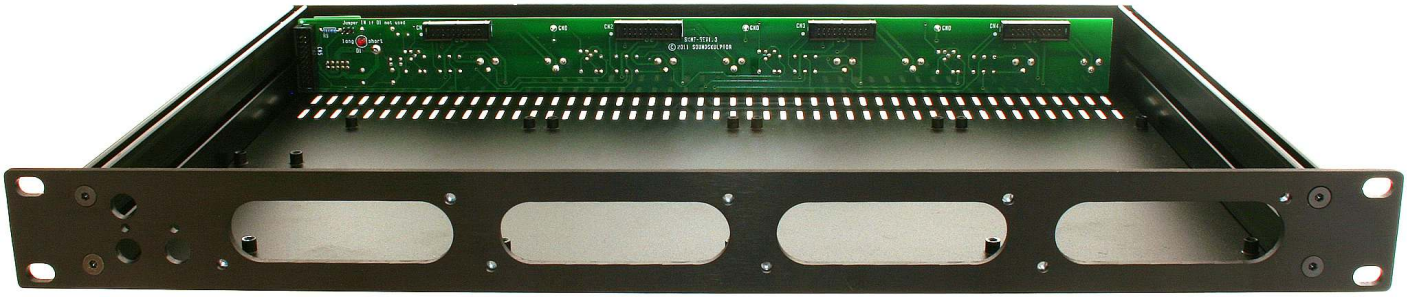
SKMP-V2 - Case assembly



SKMP-V2 – Installing the DI2 board

25. Board

Install the DI2 board at the left of the rack and attach it with 2 M3x6 pan head screws. The jacks and switch goes through the holes in the front panel.

26. Front plate

Add the front plate and attach it with an M3x12 countersunk screw.

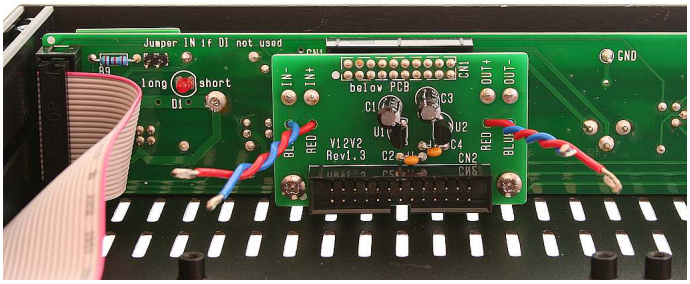
27. Cable

Connect the ribbon cable.

SKMP-V2 – Installing a preamp board

28. V12v2 board

First thing is to plug the V12V2 adapter board on the corresponding SKMP connector. One V12V2 board is needed for each installed mic pre.



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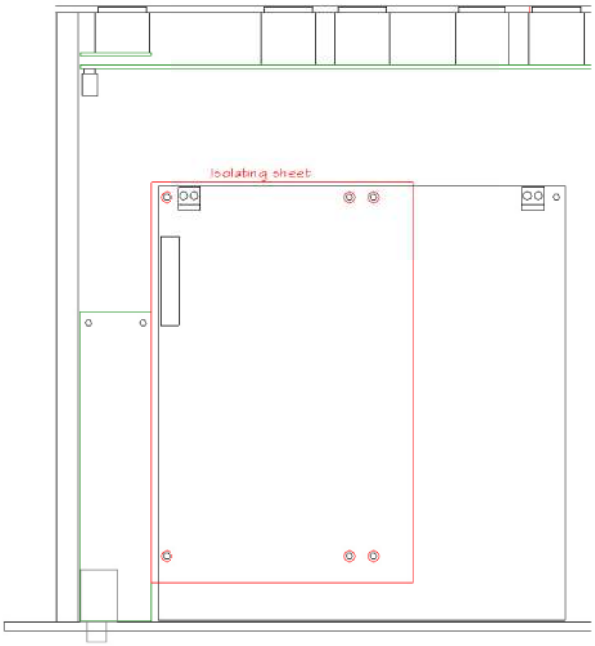
SKMP-V2 – Installing a preamp board

29. Isolating sheet installation

The isolating sheet is only used with the MP66 because of the high voltages between the PCB and the case.

As shown in the example, the mylar sheet is placed on 6 spacers underneath the left side of the MP66 board.



30. Board installation

Insert a nut on the gain potentiometer.

Warning : Screwing the nut is easy. If you feel any hardness, it means that the nut is not correctly engaged in the thread. Remove it and try again. Never force.

Install the board in the case on the four spacers in a free slot. Attach with 4 M3x6 screws (6 screws for MP66) but do not tighten yet.

Adjust the potentiometer nut position so that it comes flush with the case front panel.

31. Frontplate

Remove the red cap on the 48V switch and put the frontplate in place, checking that the LED comes nicely through the hole.

Attach it with two M3x6 stainless steel screws.

Insert a second nut on the gain potentiometer and secure it very gently. The thread is made of plastic and should not be forced.

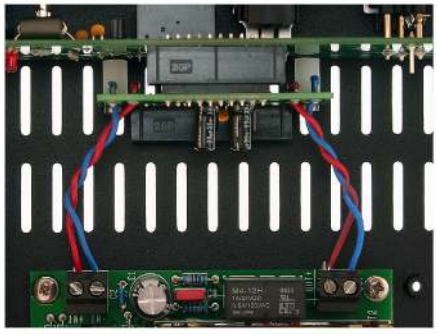
Now tighten the 4 screws of the board.

Put back the red cap on the 48V switch.

32. Input/Output connexion

Connect input and output wires between the V12V2 adapter and the mic pre terminals :

Red left to Input+
Blue left to Input -
Red right to Output+
Blue right to Output -



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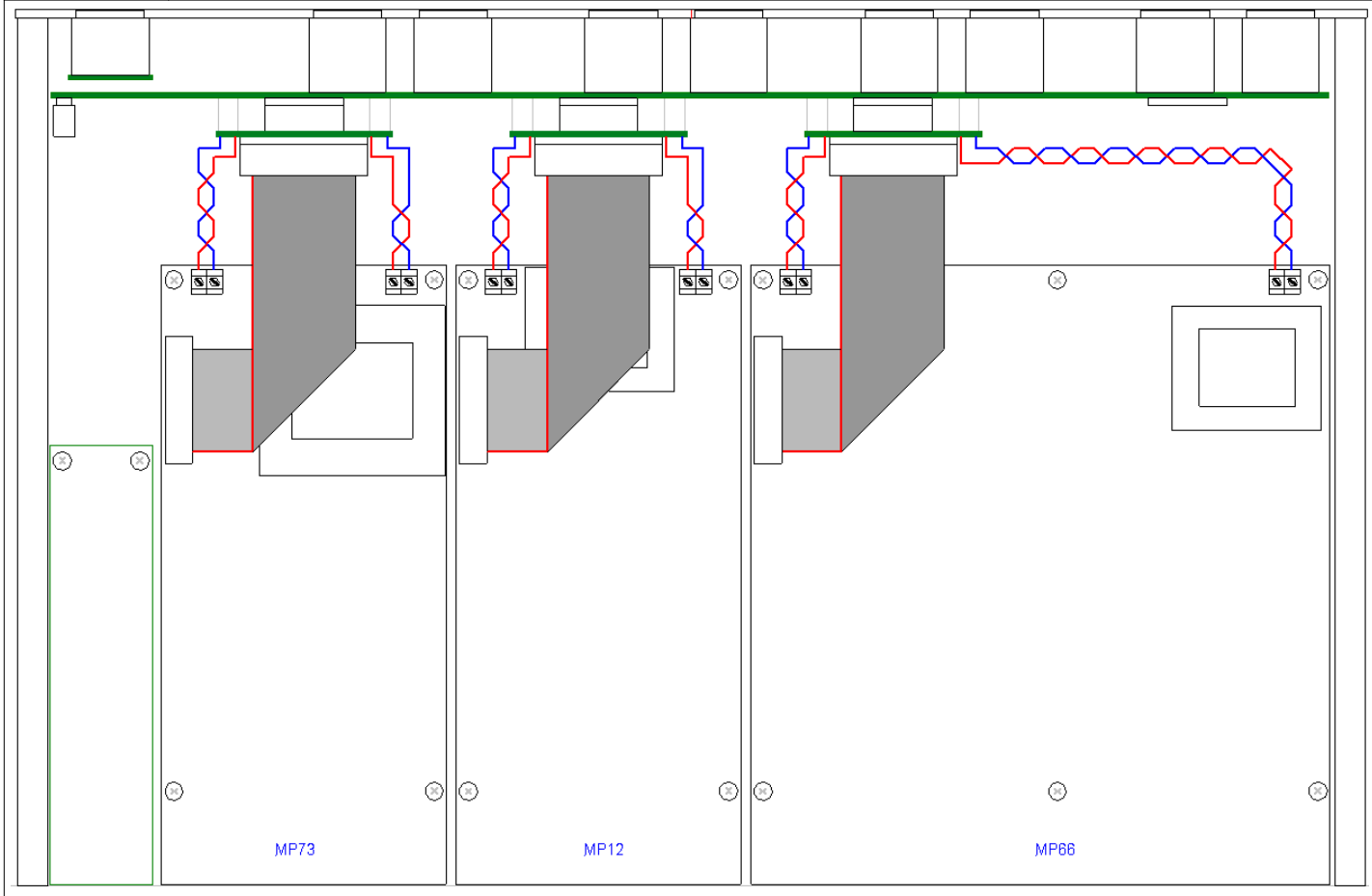
SKMP-V2 – Installing a preamp board

33. Ribbon cable connection

Connect the 26 conductors ribbon cable between the V12V2 adapter and the mic pre board.



34. Knobs installation

Place the knobs on the potentiometers.

In some cases, the gain potentiometer shaft needs to be shortened by 2.5mm (1/10th of an inch). The simplest method is to use wire cutters and snap off the shaft in one stroke.

Warning: Do not use the potentiometer end of track self stop to lock the knob while you tighten the knob because you may damage it. Instead hold the knob with one hand while screwing the nut.

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DI2 Assembly guide

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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 :

- DI2 Schematics
- DI2 Components layout
- DI2 Parts list
- DI2 Test 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.

DI02 Assembly guide

1. Diodes

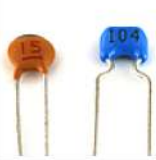
Add D1 to D4. Use a lead forming tool to cleanly bend the leads at 0.4".

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

Add R1 to R27.

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



3. Ceramic capacitors

Add C12.

4. Film capacitors

Add C1 and C6.

5. Test pins

Solder the 2 test pins GND and +24V.

6. Low power transistors and IC's

Add Q1, Q2, Q3,Q4 and U2.

Warning : Watch out the transistor direction.

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DI02 Assembly guide

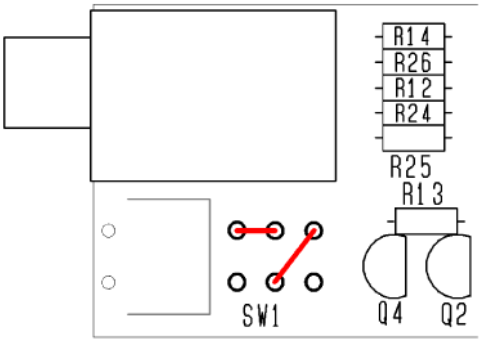
7. Connector

Add CN1. Start soldering one pin, check the position, then solder the other pins.
Warning : Check the position of the slot, it must not be mounted backwards.

8. Switch – in case of 2 MP66

If your SKMP is going to host *two* MP66 boards, the switch is not necessary. Instead it is preferable to permanently tie the two DI input to the two MP66 pres. Use two wire straps to connect the switch pads as shown as red lines on the picture.

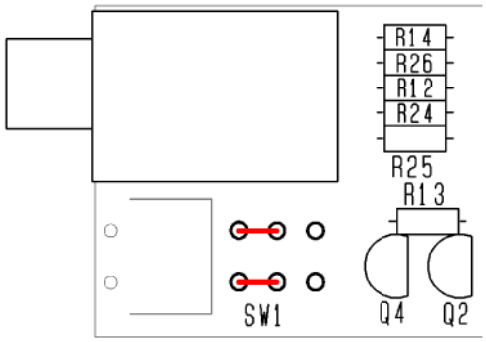
A special version of the front plate, without a switch hole is available.



9. Switch – in case of one EQ73

If your SKMP is going to host one EQ73 board, the switch is not necessary. Instead it is preferable to permanently tie the two DI input to the two pre slots. The pre(s) should be installed in slot 1 and 2 and the eq73 in slots 3 and 4. Use two wire straps to connect the switch pads as shown as red lines on the picture.

A special version of the front plate, without a switch hole is available.



10. Switch

In all other cases, add SW1. The position of the switch is critical for a good front-plate matching. It must sit flat on the PCB. Press firmly the switch on the PCB and solder one of the front pins (housing). Check verticality and horizontality. Then solder the other pins.

11. Electrolytic capacitors

Add C10, C11. Then add C3, C4, C7, C8. Finally add C5, C9.
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 !)

12. Regulator

Add U1. Insert as far down as possible, solder one pin, adjust the verticality, then solder the two other pins.

Warning : Watch out the direction. The metal tab at the back of the device is symbolized by a double line on the PCB marking.

13. Jack socket

Add the dual jack socket. The position is critical for a good front-plate matching. It must sit flat on the PCB. Press firmly the socket on the PCB and solder one of the pins. Check position then solder the other pins.

Trim the pins flush, in particular the ground pin at the front as it may touch the case bottom.

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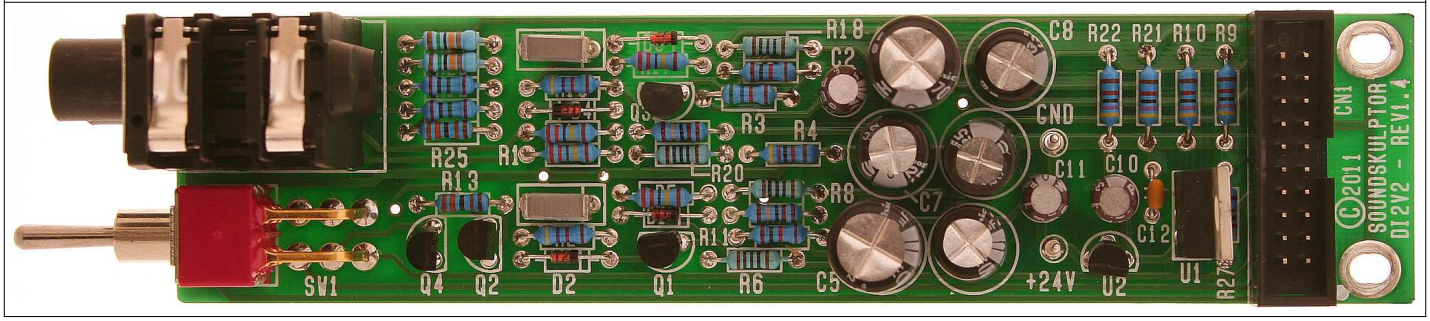
DI02 Assembly guide



After your board has been stuffed, 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 ?

Your DI2 is now ready for testing. Please follow instructions in the "DI2 test guide" document.

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