

Congrats with your DIY PHONO PREAMP! Let's start building!



First of all, get your desk ready and make sure you have the necessary tools:

- Soldering iron
- Soldering tin
- Cutter (the ones like in the picture are the best, but a small nail clipper will do the job too)
- Tweezer
- On the last page of this manual you can find drawings of the position of each component on the PCBs.

Follow the steps in the order it is written down. After each step flip the board and clip off the wires.

We will start soldering on the back PCB (where the numbering starts)

1. We will start soldering all the flat resistors

- Solder the 93.1K resistors on R5 and R11 (white – orange – brown – red – brown)
- Solder the 2.49K resistors on R6 and R12 (red – white – yellow – brown – brown)
- Solder the 1.5K resistors on R7/R10/R13/R14 (brown – green – black – brown – brown)
- Solder the 866K resistor on R15 (grey – blue – blue – orange – brown)
- Solder the 2.26K resistors on R9 and R16 (red – red – blue – brown – brown)
- Solder the 100K resistors on R20 and R17 (brown – black – yellow – gold)
- Solder the 82R resistors on R18 and R19 (grey – red – black – gold – brown)

2. Now we solder some of the capacitors and the IC sockets

- Solder the 100nF capacitors on C1/C2/C3/C4 (small yellow ones)
- Solder the 8 pin IC sockets on IC3 and IC2. Mind the direction and make sure you fold the pins to the inside on the back of the PCB so that they do not stick out!
- Solder the 680 capacitors on C5/C6/C7/C8
- Solder the 3.3nF capacitors on C11 and C12 (it says 3300 on the capacitor)
- Solder the 33nF capacitors on C9 and C10 (it says 0.033 on the capacitor)
- Solder the 1uF capacitors on C13 and C14 (it says 1uK or 1uM on the capacitor)
- After soldering these capacitors, insert the 8pin chips in the IC sockets

3. Now we solder the standing resistors

- Solder the 47.5K resistors on R1 and R2 (yellow – purple – blue – red – brown)
- Solder the 270R resistors on R3 and R4 (red – purple – black – black – brown)
- Solder the 866K resistor on R8 (grey – blue – blue – orange – brown)

4. Then we solder the two diodes. We will solder them standing up. Make sure that the silver stripe is in the same direction as the arrow on the PCB.

- Solder the 1N4001 diodes on D1 and D2 (black with silver stripe)

5. Headers

- Solder the two female headers (2 pin and 5 pin), these will be mounted on the components side of the PCB. There is not much space between the 2 pin header and the 1uF cap. If you noticed the 2 pin header does not fit, you can shave a bit from the side of the header.
- Solder the power header (10pin) on the back of the PCB. Mind direction, drawn on the PCB.

6. On the back of the PCB solder the other capacitors

- Solder the 100uF 25V capacitors on C16 and C15 (round). Mind the direction, minus is the square pad!
- Solder the 2.2 uF capacitors on C18 and C19 (super big red ones)
- Solder the 100 uF 50V capacitor on C17 (biggest round one). Mind the direction, minus is the square pad!

7. Now we can attach the smaller, grounding PCB to the back of this PCB

Use the 2 screws, the longer one goes at the top, the shorter screw in the middle. In between the two PCBs place a small spacer, these are the two small, metal rings. Make sure you place the rings between the two panels. Then put a nut on the middle screw to keep it in place. Hold the nut with your nail while you fasten the screw with a screwdriver. (check the a4 drawing to see the position of all the different spacers)

8. Now we move on to the front PCB; first we solder the two male headers (5pin and 2pin)

9. Then we solder the resistors and the two last capacitors

- Solder the 10K resistors on R21/R22/R23/R28/R29 (brown – black – black – red – brown)
- Solder the 20K resistors on R24 and R25 (red – black – black – red – brown)
- Solder the 1K resistors on R26 and R27 (brown – black – black – brown – brown)
- Solder the 100nF capacitors on C20 and C21 (small yellow ones)

10. Then we solder the IC socket and insert the chip

- Solder the 14 pin IC socket. Mind the direction!
- Insert the TL074 chip into the socket.

11. Front panel elements. Now it gets a bit difficult so pay close attention! DO NOT SOLDER ANYTHING YET!

- Put the back PCB aside: for this step you only need the front PCB and the frontpanel.
- First: Grab one of the two black m3x6 screws and temporarily use this screw to hold the 10 mm spacer screw (not the round one) onto the top hole of the front PCB.
- Place the two jack sockets on the PCB (don't solder anything).
- Insert the volume potentiometer (green) (still don't solder anything)
- Insert the switch (again, do not solder anything yet)
- Place the frontpanel on top of the parts. (note that the two RCA sockets are not yet used).
- Take the black thumbscrew (BEFACO Knurlie) and screw it on the ground of the frontpanel in the spacer screw.
- Place the black plastic ring into the hole of the volume potentiometer (green potentiometer). Don't stress, it will fit. And then place the nut on top of it.
- Now you can solder the two jack sockets, the green potentiometer and the switch to the front PCB. Make sure the switch is flat on the PCB.

12. Almost last steps

- Unscrew the temporary m3x6 screw from the screw spacer but keep the Knurly thumb screw in its place.
- Remove the frontpanel (the screw spacer is still attached to the frontpanel).
- Grab the two RCA sockets and screw the red RCA socket onto the frontpanel in the R channel and the black on the L channel. Important: make sure the ground lips of the sockets face to the right (seen from the front).
- Replace the front PCB to the frontpanel, while fixating the spacer screw with a screw.
- Now you can solder the two RCA sockets onto the front PCB.
- Find two cut-off wires from earlier on your desk and use these to ground the RCA sockets by inserting the wires from the back of the PCB into the holes until they reach the lips. Solder them onto the lips of the RCA sockets and onto the PCB.

13. Last steps

Now we place the round spacer (11 mm long) on the long screw on the back PCB. Remove the temporary screw from the screw spacer and place the front PCB on top of the back PCB. Make sure the headers fit into each other. You can screw the back PCB to the front PCB with a screwdriver from the back.

Ready! Enjoy your PHONO PREAMP

