

KORG KR-55

Artefacts μ Sync installation guide
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Introduction

The Korg KR-55 or KR-55B has no standard din sync input. Artefacts developed a piece of hardware to convert a standard 24ppqn DIN sync signal to the needed clock, start and stop signals to get the KR-55 running in sync. If no sync signal is present the Kr-55 uses it's internal clock and start/stop circuitry. The μ Sync switches to the DIN Sync input as soon as a master start is detected on the DIN sync input. So no need for a switch to switch between internal and external clock. Note: the swing functions does not work when the KR-55 is externally synced!

Before you start

Before you buy and install this kit make sure you have the needed skills and tools to perform this modification and the KR-55 is fully functional. Although it is a simple modification it is important to read and follow the instructions.

Skills you need:

- basic metal working skills
- basic soldering skills

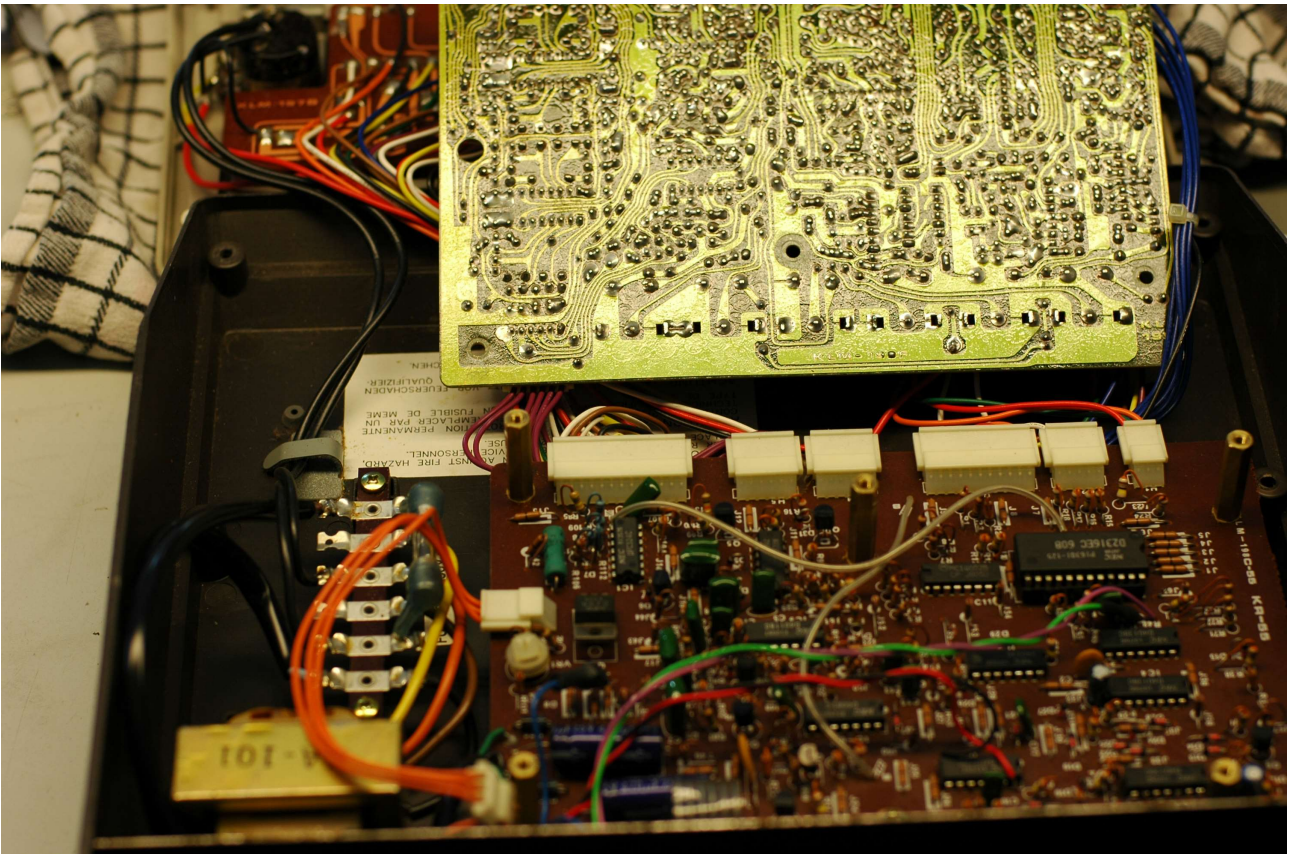
Tools you need:

- hand held drill
- A 3 or 3,5mm drill bit
- step drill bit including a 16mm step, or 16mm hole saw or several drill bits up to 15,5 or 16mm
- Digital multi meter(DMM)
- soldering iron
- solder wick, de-soldering pump or de-soldering iron
- screwdriver philips #2
- screwdriver pozidriv #1
- heat gun
- transparent tape

Opening the KR-55 and getting ready for installation

Remove the power plug from the socket before you start working on the KR-55!

Remove the 7 screws on the bottom side of the KR-55. Put the KR-55 with backside facing towards you. Open the KR-55 and put some soft cloth underneath the front panel. Remove the serial plate located on the back side. Remove the 5 screws holding the voice board. Disconnect the orange connector on the left side and flip the voice board towards the front panel. See picture 1.

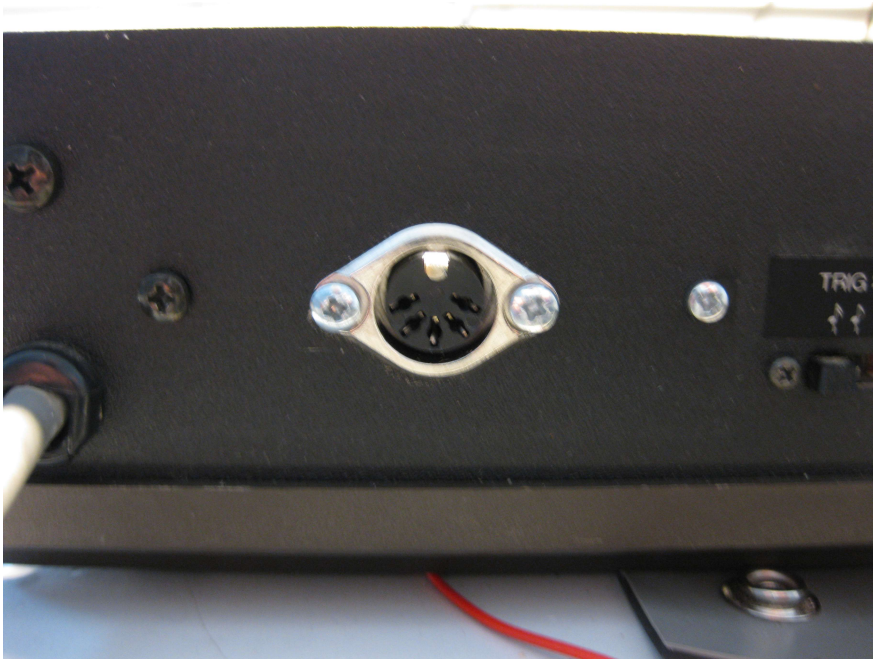


Picture 1, the KR-55 open with the voice board flipped over onto the frontpanel

Drilling the hole for the DIN sync socket

Put some transparent tape where the serial plate used to be. Mark the position between the two screw holes from the serial plate. Drill a pilot hole with a 3mm drill bit. Then use the hole saw, step drill or several drill bits to create a hole with a size of 15,5 or 16mm. Use DIN-socket to draw the centers of the 3mm holes for the screws. Drill the holes with a 3 or 3,5mm drill. See picture 2. Remove all metal pieces that fell in to the housing of KR-55.

Mating the male din connector with the din socket is easier when you can see the little nudge on the connector, therefore I advise to install the din socket with it's pins located on the lower side. If you have a different opinion on this feel free to install it the other way around. Use the included M3 screws, lock washers and nuts to mount the din socket.



Picture 2, location of the DIN-socket.

Wiring

Fit the heat shrink on the black, brown and orange wire. Solder the brown, black and orange wire to the din socket.

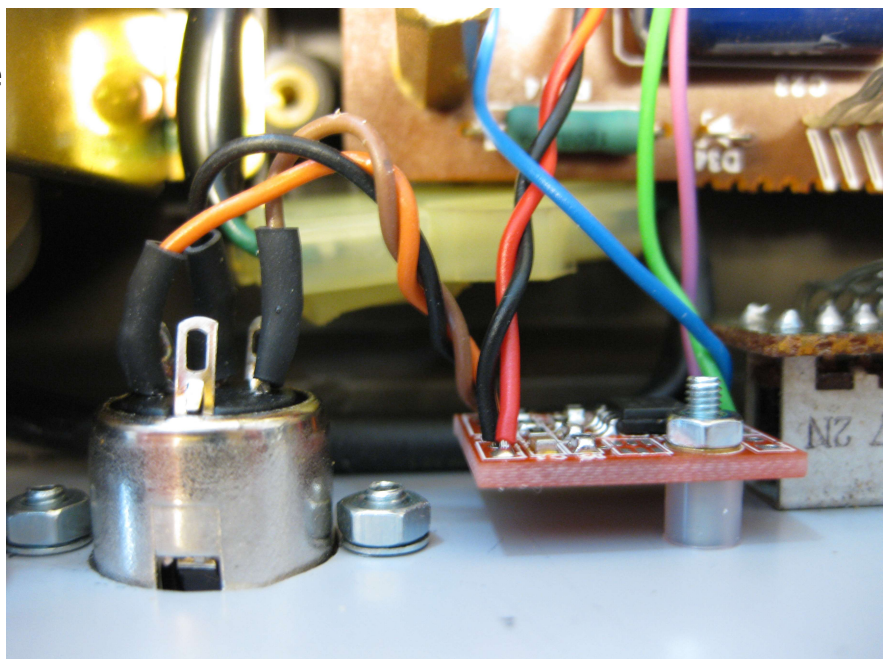
Pin 1 = brown

Pin 2 = black

pin 3 = orange

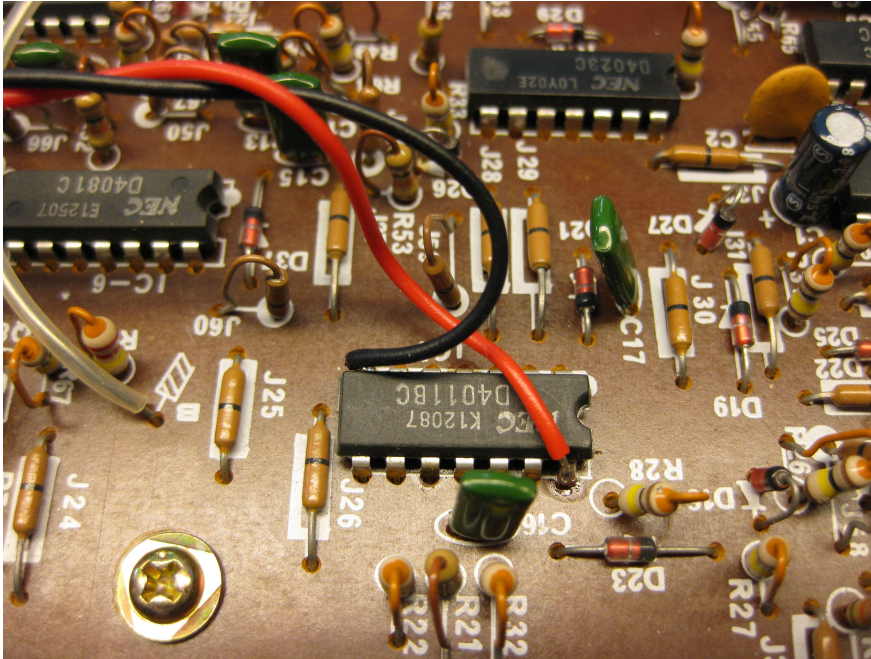
Shrink the heat shrink to a tight fit.

See picture 3.



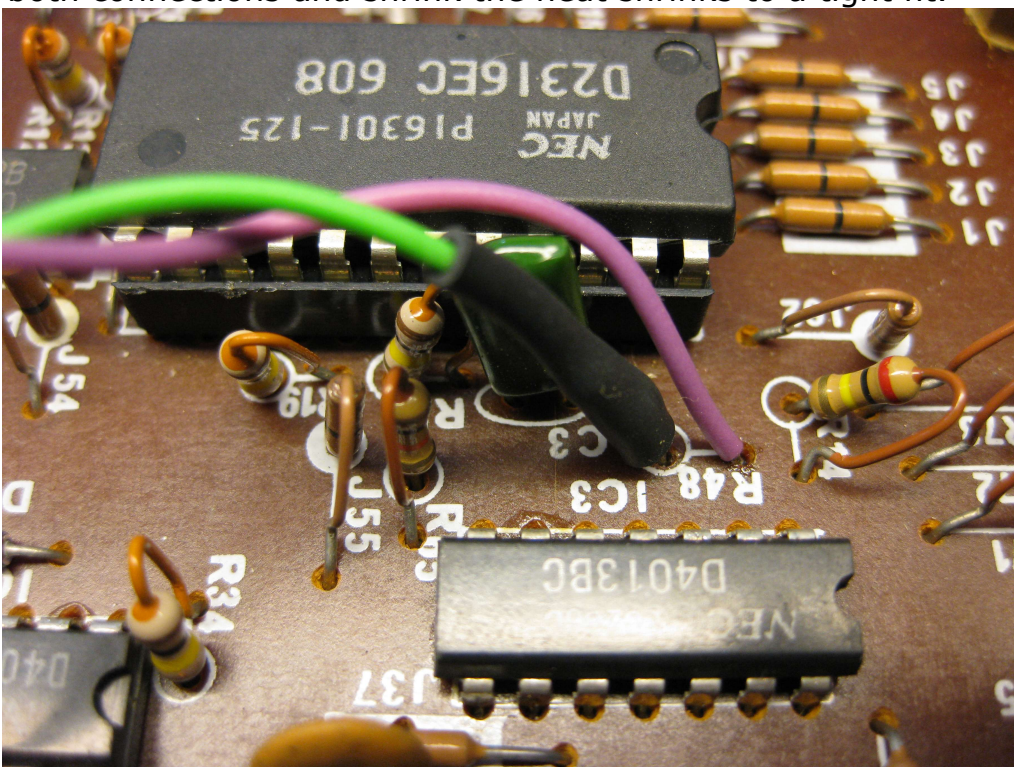
Picture 3, wiring of the DIN-socket

Solder the black wire to pin 7 of IC7(CD4011). Solder the red wire to pin 14 of IC7. See picture 4.



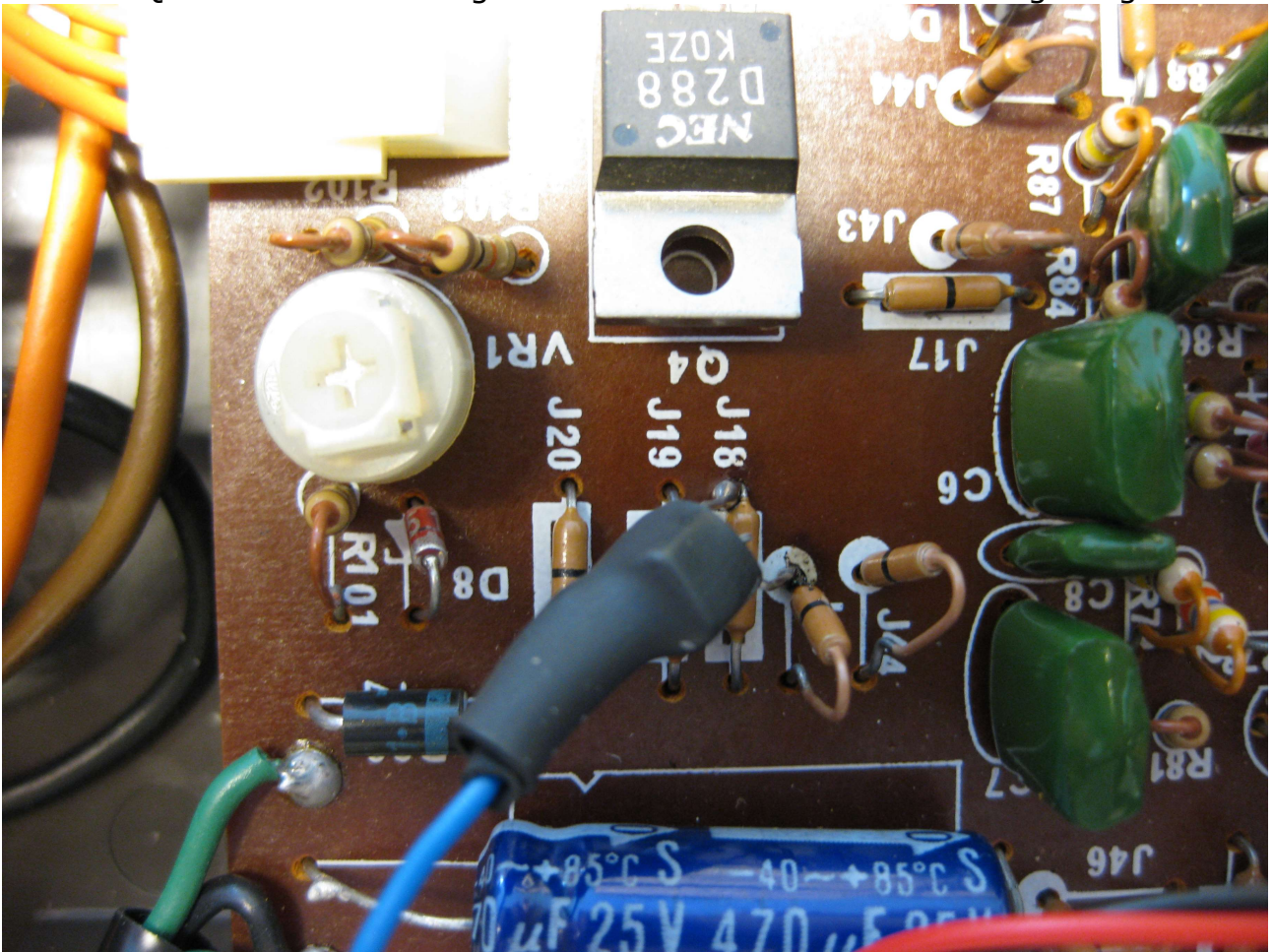
Picture 4, location of the red and black wire.

Locate resistor R48, it is below the largest chip(IC 10) on the board. See picture 5. Cut the wire of the resistor in such a way that you can solder a wire to both sides of the resistor. (note the resistor is not removed!!!) Put a piece of black heat shrink over both the green wire and purple wire. Solder the green wire to the resistor side and the purple to the wire side(you might have to scrape off the paint to make a good solder joint. I removed the lower board and soldered the purple wire directly to the board) Fit the heat shrink over both connections and shrink the heat shrinks to a tight fit.

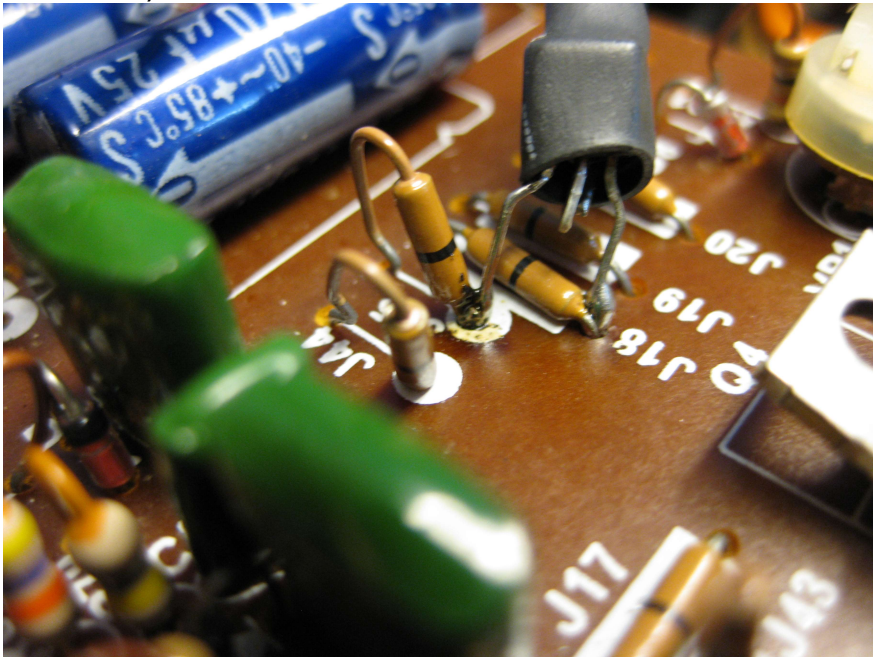


Picture 5, location of R48, green and purple wire.

The blue wire with the transistor goes on the left side just below Q4. See picture 6 and 7. The flat side of the transistor package should be facing towards Q4. Solder the left leg of the transistor to J18 and the right leg to J45.



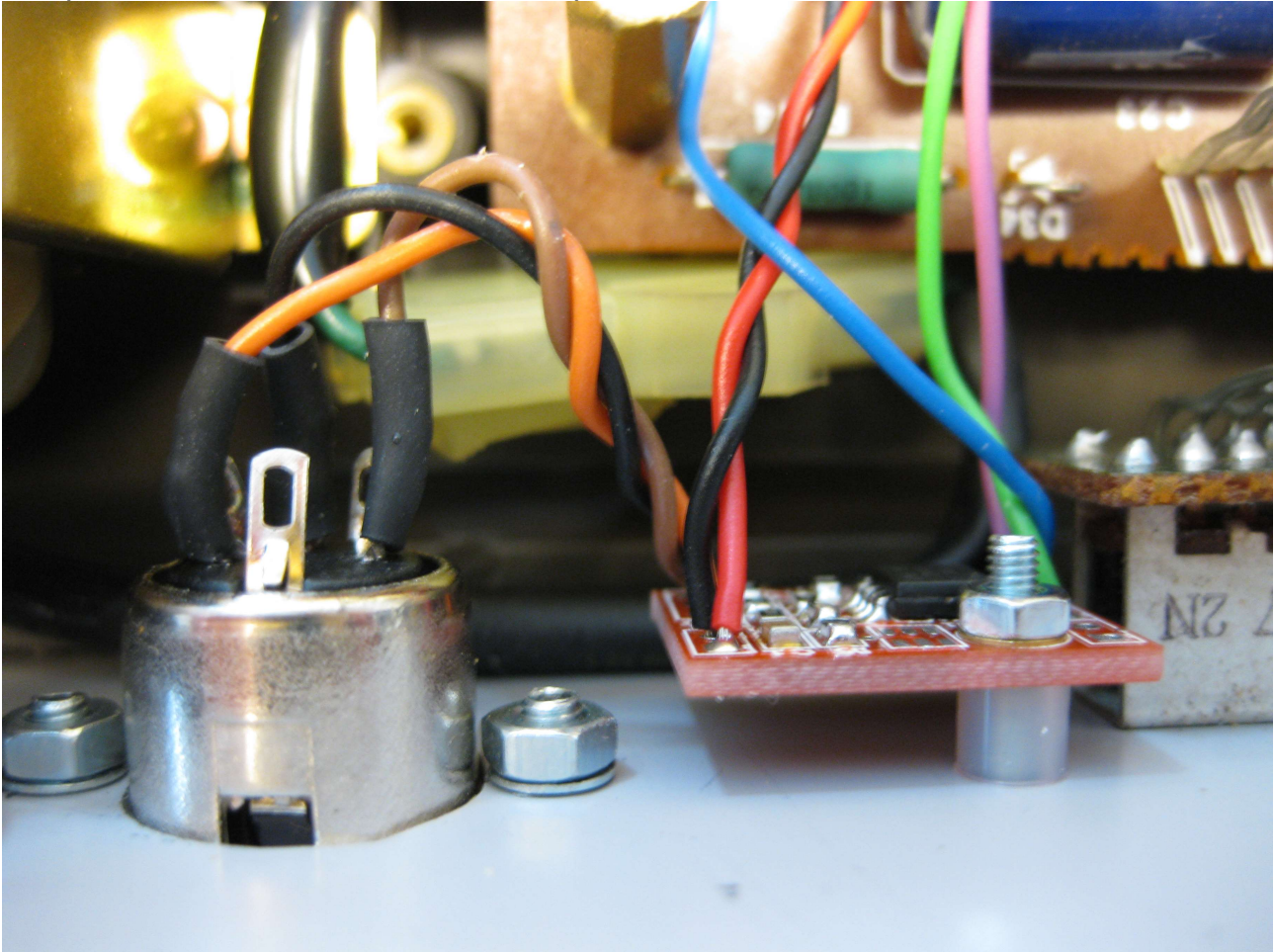
Picture 6, location of the transistor connected to the blue wire.



Picture 7, transistor seen from the front side of the KR-55.

Mounting the pcb

Use the included M2.5 screw to mount the μ Sync pcb to the back panel. Use the right hole what was used for the serial plate. Mount the spacer followed by the pcb, washer and M2.5 nut. See picture 8.



Picture 8 pcb mounted on back panel.

Test

At this time it is wise to test KR-55 and check if everything is working as it should. Flip the voice board back and use 3 screws to secure it temporary. Reconnect the connector with the orange wires on the left side of the voice board. Put the front panel back onto the KR-55. Make sure it is in position before you continue. Connect the power plug and audio jack. Turn on the KR-55 and check without a sync cable connected if the KR-55 is behaving in the same way as before. Start a rhythm and change the tempo. If the KR-55 runs OK, stop the KR-55 and connect a sync cable to a Din sync source. Test if the KR-55 is running in Sync with the master. If you use a Roland Tr-606, TR-808 or similar drum machine or sync box make sure the master is set in the right scale or division factor i.e. 24ppqn. If you encounter any problems, verify all wires and connections.

If the test works out fine switch off the KR-55 and remove the power plug. Put the remaining screws in the voice board. Now you re-assemble the KR-55. Notice the difference in screws on the bottom side, the 3 self tapping screws go on the front side of the KR-55.