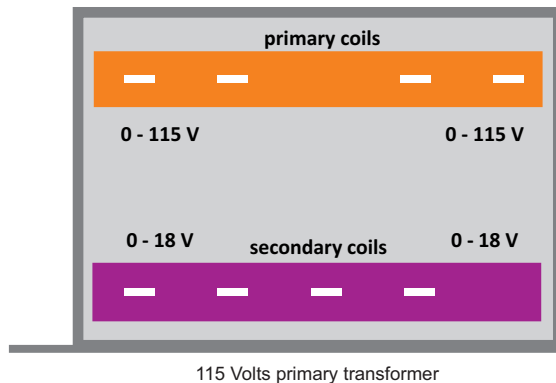


Wiring the PSU

The next step is to wire the PSU. All leads have to be soldered carefully to avoid damages. Ensure to use insulated leads only, to prevent unwanted links to the environment and electric shock. Dont leave the PSU plate area by any electrical conducting parts. **It is recommended to insulate solderpoints and naked cables by shrink-on tubes** to minimize any electric danger coming from the primary PSU circuit.

Step 1.)

Take a look at the transformer in the graphic below. The upper lugs are the primary coils connectors (orange), the lower lugs are the secondary coils connectors (violet).



There are two different transformer types. Which one is coming with your kit depends on the stock and the destination country.

Provided are the following two types:

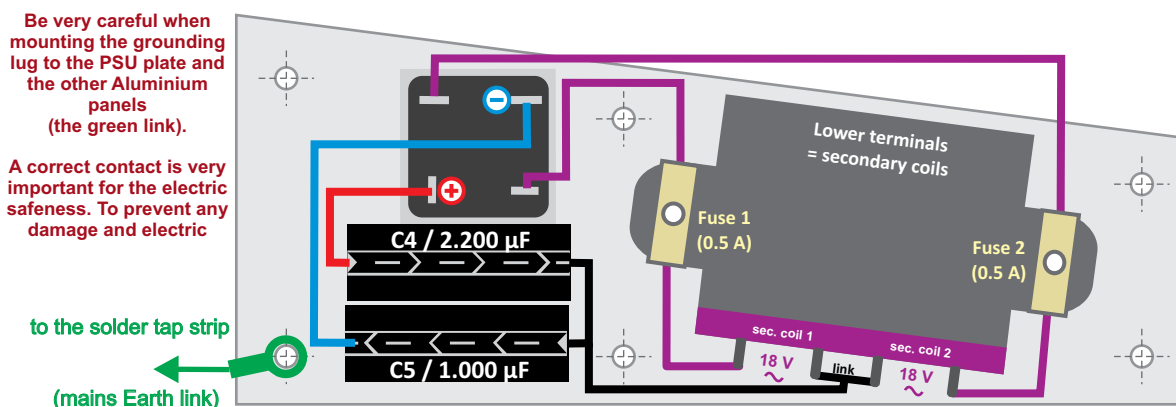
110 - 115 Volts primary voltage

220 - 240 Volts primary voltage

For the primary coils wiring see the diagrams at Appendix „B“.

Step 2.)

The violet lugs connect the secondary coils of the transformer to the fuse holders and way on to the rectifier. At the other end solder the tip of the leads through the hole at the rectifiers lugs. Don't use too much soldering tin to keep the lugs clean. In a further step, two additional leads will be soldered to the two fuse holders and to the „Mains“ indicator lamp at the lower control panel (see page 9).



Step 3.)

The black lead connects the two secondary coils of the transformer to the capacitors C4 and C5. Ensure to connect the correct side of each capacitor, regarding the polarity! Insulate the soldered points at the transformer with shrink-on tube. Connect the green grounding lead to a round cable lug. This lug has to be screwed to the PSU plate, when the PSU plate is mounted to the housing. It is important to wire the PSU plate to the solder tap strip (the mains earth link / see Appendix „B“).

Step 4.)

Connect the opposite of the two capacitors to the rectifier as shown in the graphic above. Instead of using the provided cable shoes you can also solder the wires to the rectifier.

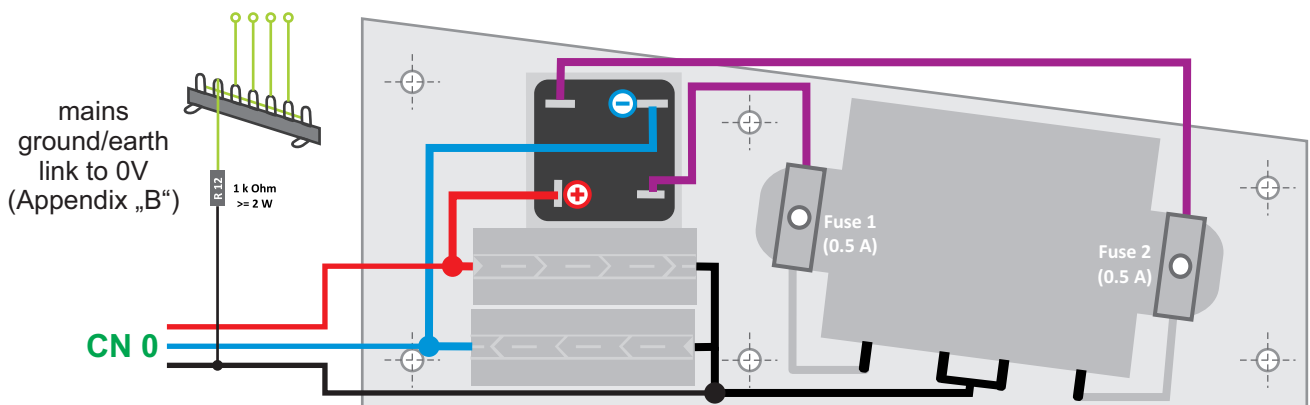
Firing up the power

Step 1.)

First of all, put the X/Y/Z boards off the backplane. Then stick the fuses (0.5 A / 250 V) to the two fuse holders at the PSU plate. Pull the fuse holder out of the mains terminal at the rear (between the mains switch and the mains socket) and replace the standard fuse with the third 0.5 A / 250 V fuse out of the sundries bag. Stick the fuse holder back to the mains terminal.

Step 2.)

Switch the mains on (Mains terminal at the rear **and** the „mains“ power switch at the lower control panel). Check the voltage at the rectifier and on the CN 0 bus (see graphic below).



- At the alternating side (between the two **violet rails**) the AC voltage should be around **38 V**
- At the rectified side (**between the red and the blue rail**) the DC voltage should be around **47 V**
- At the wires leading to the backplane (**CN 0**) the DC voltage has to be around **+23 V** and **-23 V**

Step 3.)

Check all solder points at the bottom side of the X board. Even for pros and techs, it is normal to forget one or more solder points. When all solder points are surely accurate, stick the X board to the 64 pin X connector on the backplane. **Only the X board, no other board!**

Turn PR 1 and PR 2 at the X board to the center. Take a multimeter and check the resistance between the 0 V and the 12 V rails at any of the 4 pole connectors on the backplane PCB. You should read around 1.2 k Ohms. Test the same at the - 9 V rail. The result should be around 1.6 K Ohms.

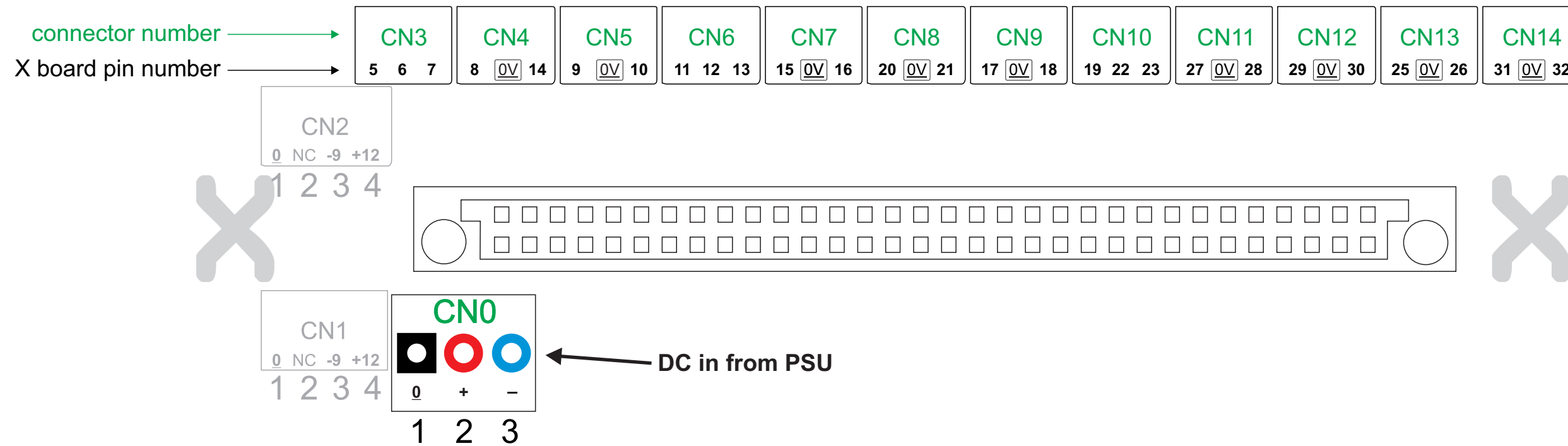
Step 4.)

Turn on the power. Check the **+12 V** rail against 0 V. Set the rail voltage to 12.0 V by adjusting **PR 2**.

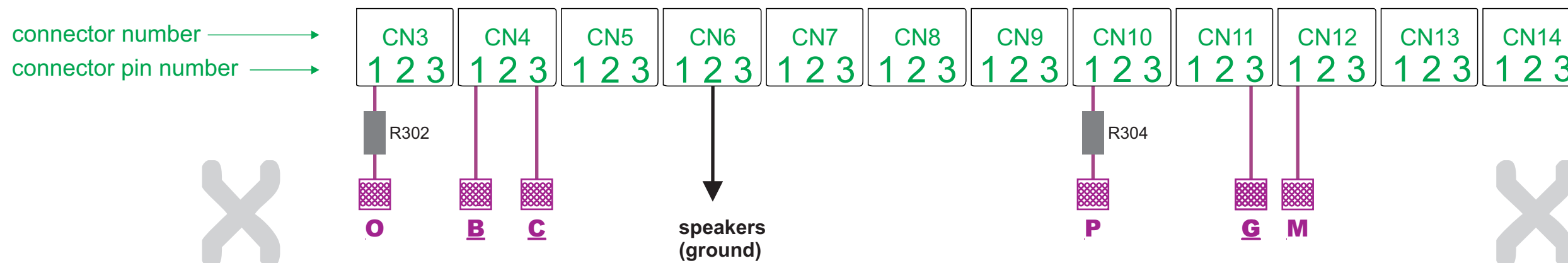
Then check the **-9 V** rail against 0 V. Adjust the voltage by **PR 1**. Because the - 9 V adjustment affects the 12 V rail in a parasitic manner, recheck the + 12 V rail and re-adjust the voltage by PR 2 if necessary. Check both rails again after a few minutes, to proof the voltages are stable.

Congratulations! The first major step is done.

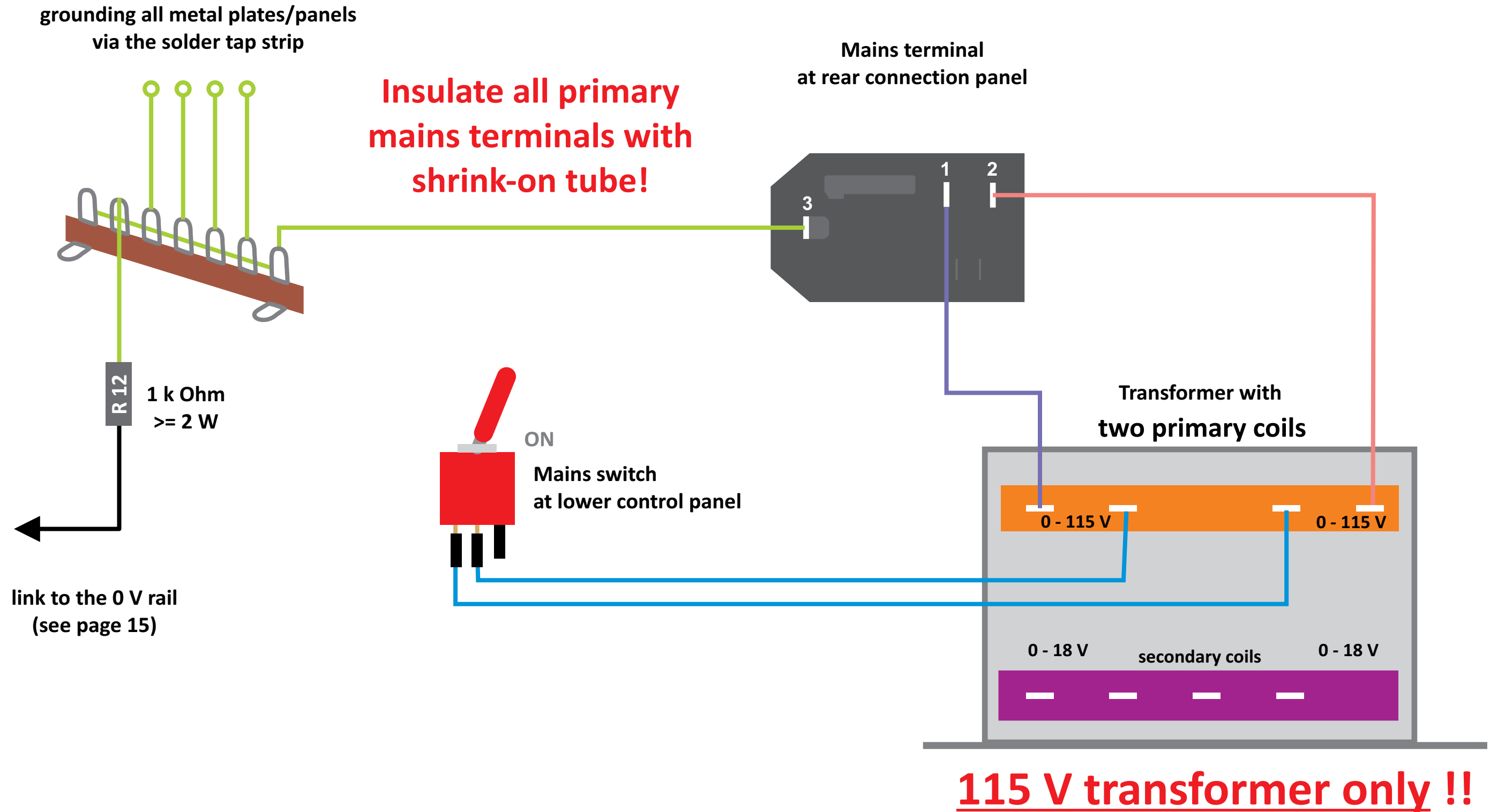
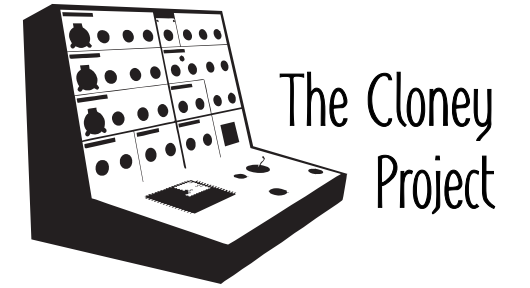
Appendix „A“ - wiring back plane - X board connector



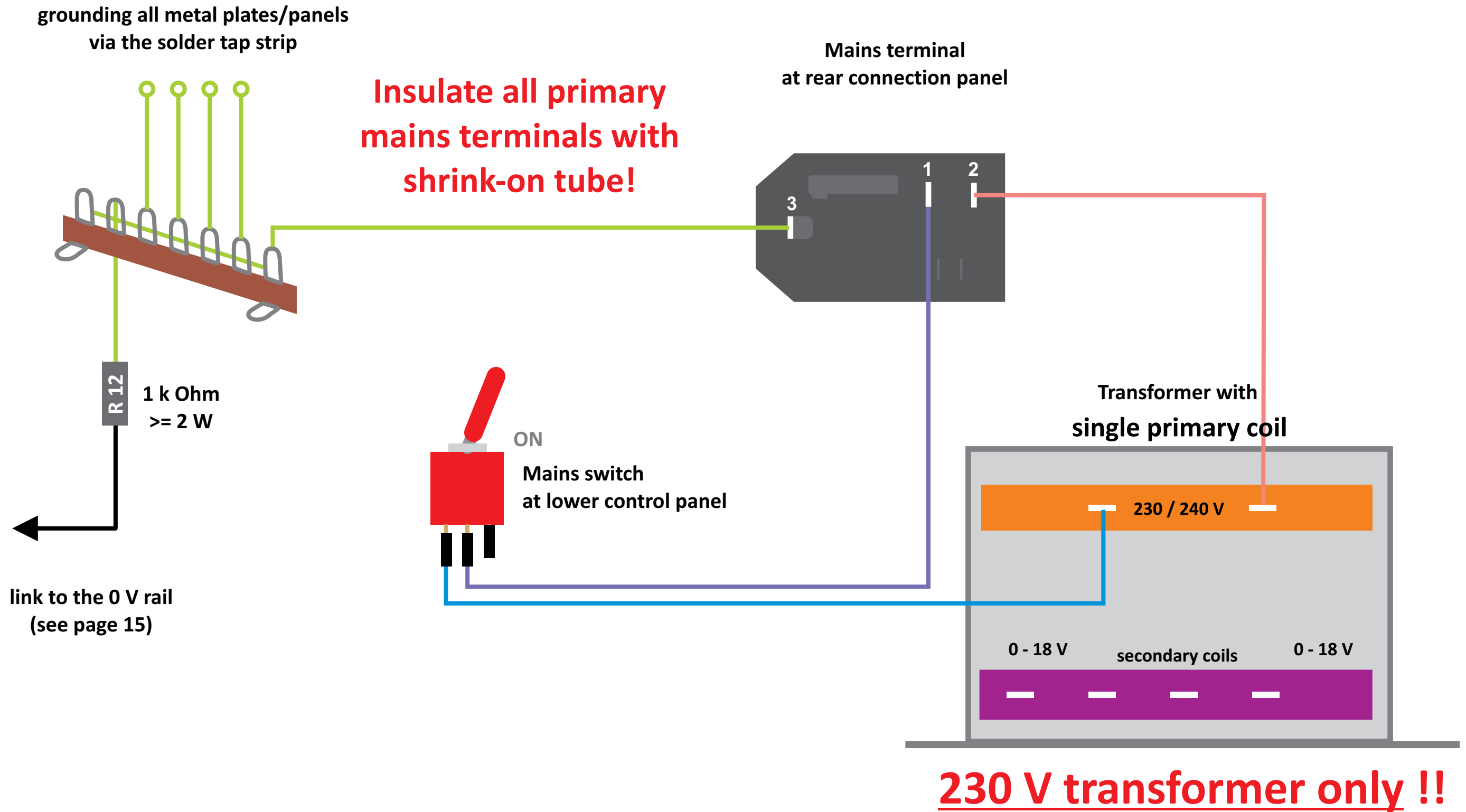
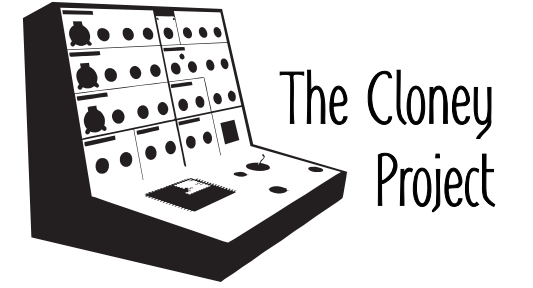
wiring X board to matrix (shielded wires are underlined)



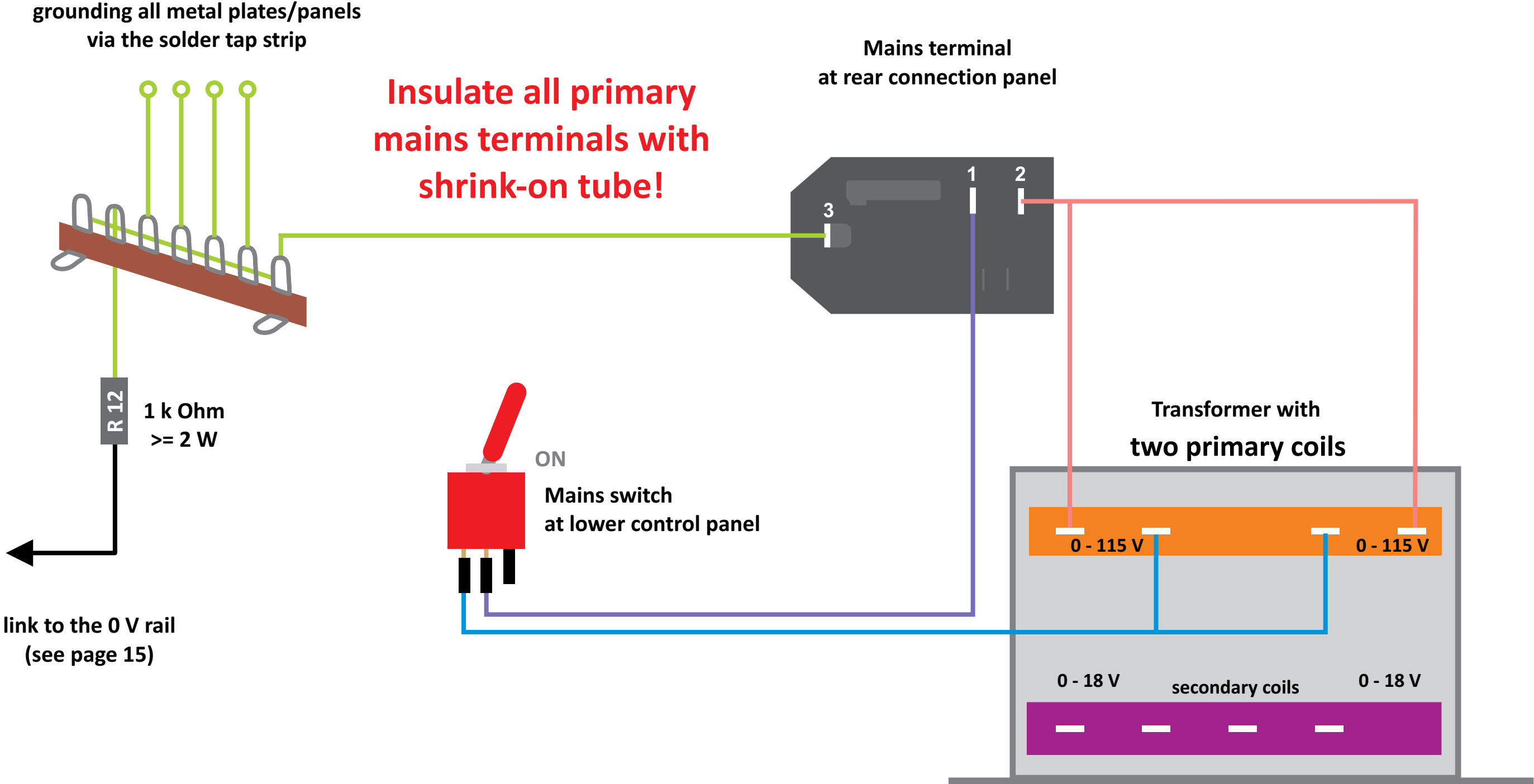
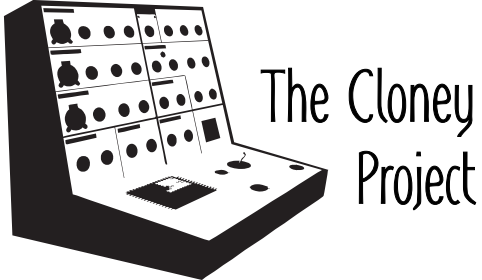
Appendix „B“ - soldering diagram PSU primary coils for 220 V - 240 V mains voltage



Appendix „B“ - soldering diagram PSU primary coils for 220 V - 240 V mains voltage



Appendix „B“ - soldering diagram PSU primary coils for 110 V - 115 V mains voltage



Insulate all primary mains terminals with shrink-on tube!

115 V transformer only !!