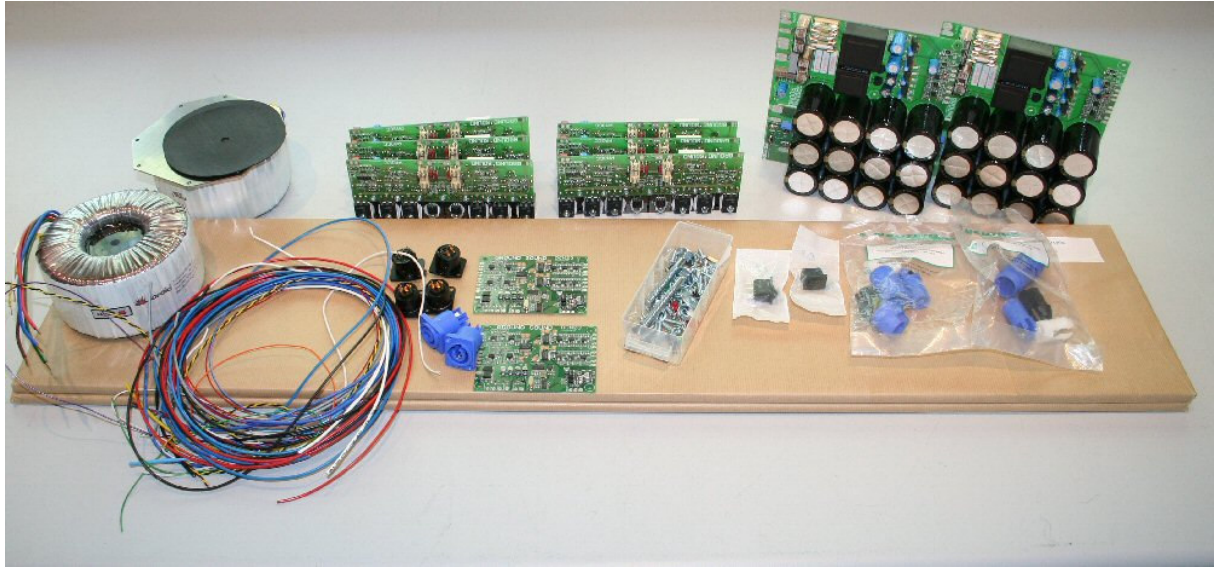


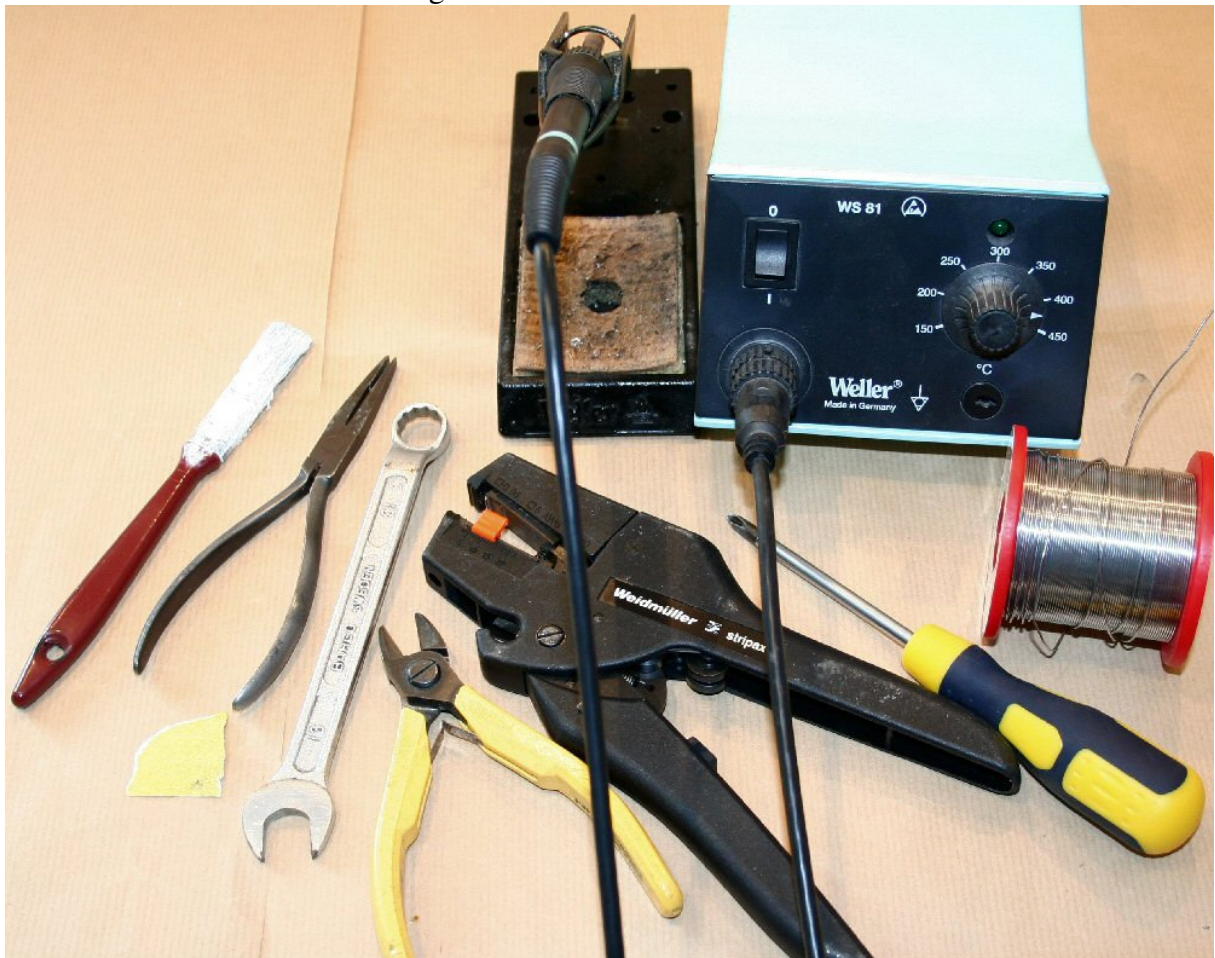
Assembly Guide



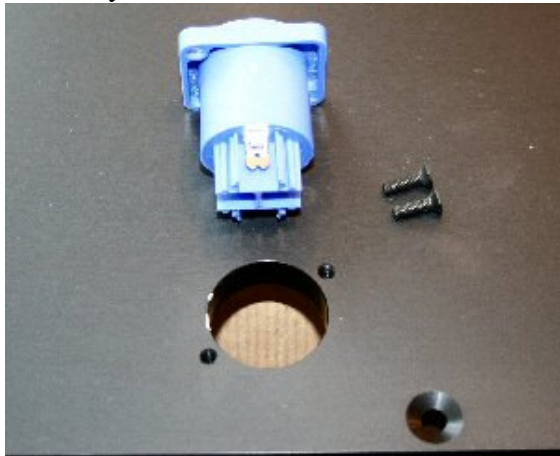
Coolback Kit 603

To ensure excellent and perfect operation, please read this assembly guide through before any mounting and soldering. While assembling the Coolback use this guide to ease the work.

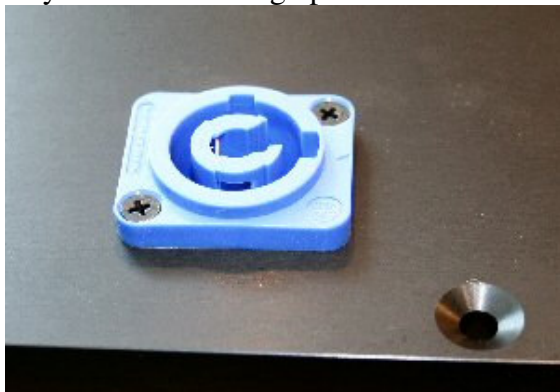
Tools to be used when assembling the Coolback:



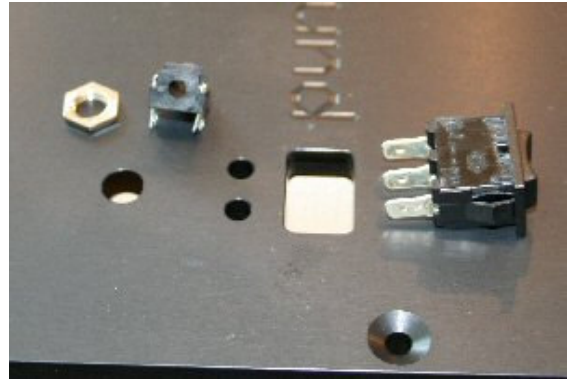
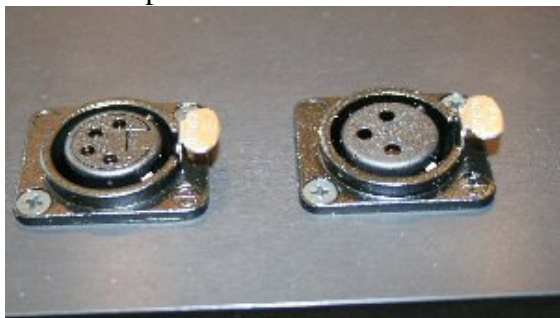
Mount connectors and modules in the following order to make the easiest assembly.



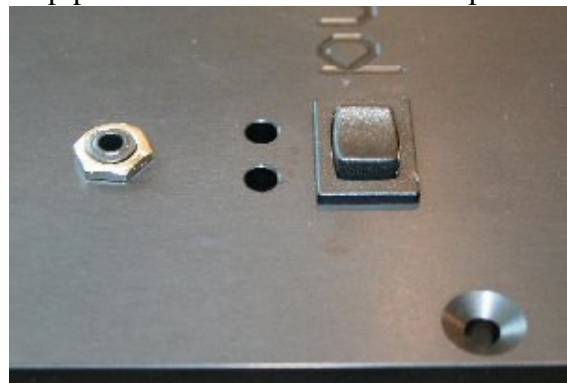
230Vac power mains input connector Neutrik NAC3MPA. Ensure that the connector turns as the picture shows. This way the lock is facing upwards.



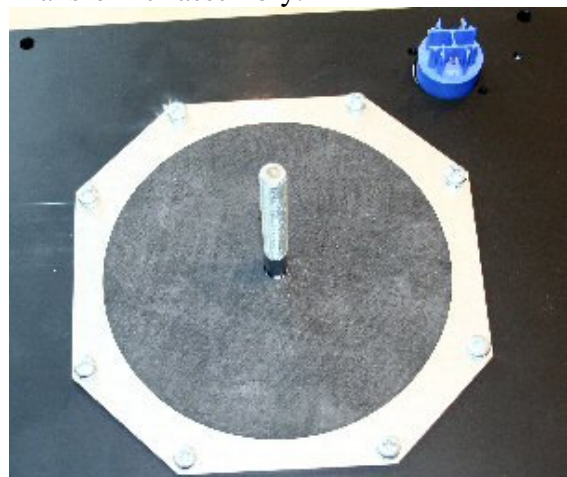
Signal input connector Neutrik NC3FD-L1 and data input connector NC4FD-L1



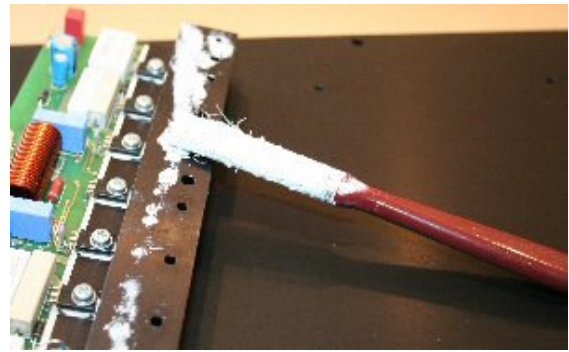
Operation switch ON-OFF-AUTO and optional AUTO power input connector. This connector can be used if the pre-amp/processor has a DC control output.



Transformer assembly:



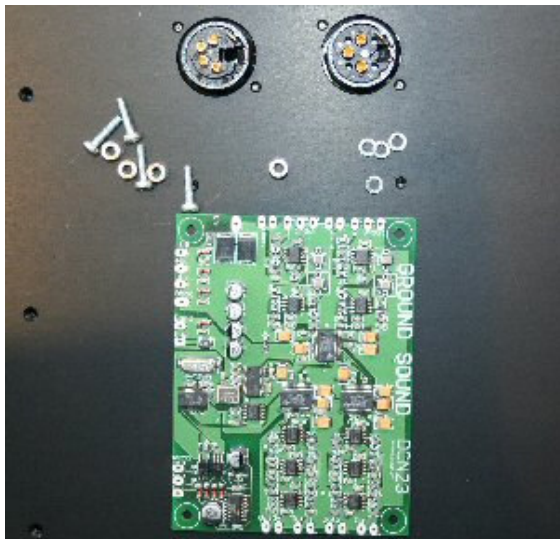
The assembly consists of steel plate, 8mm bolt, plain/spring washer, not and rubber washer.



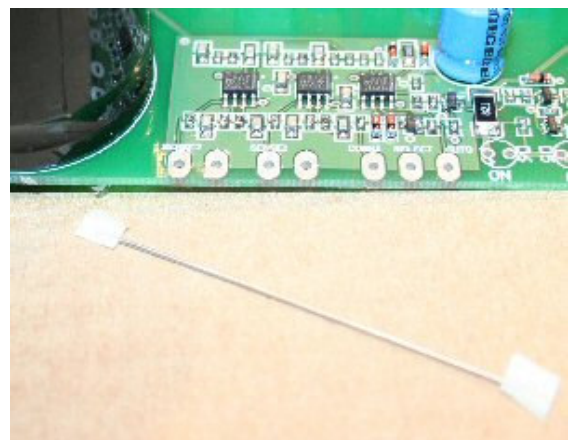
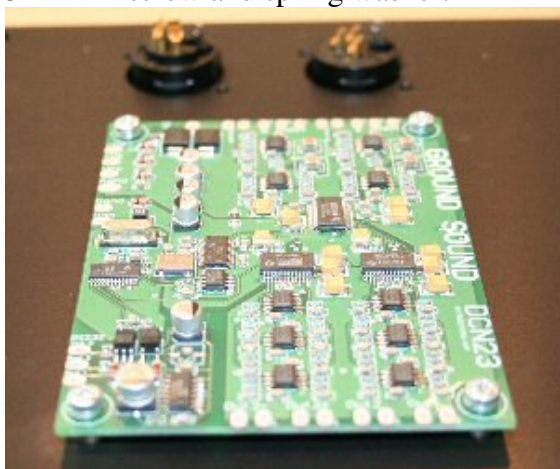
Put a thin layer of silicone paste on the mounting profile of the PA3CC.



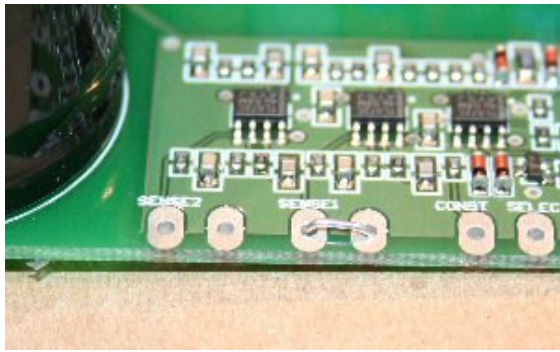
To ease the mounting of the PA3CC put the two 4x20mm screws/spring washers in each end of the profile before lowering and adjusting the module, after right placing put the last screw in and tighten all screws.



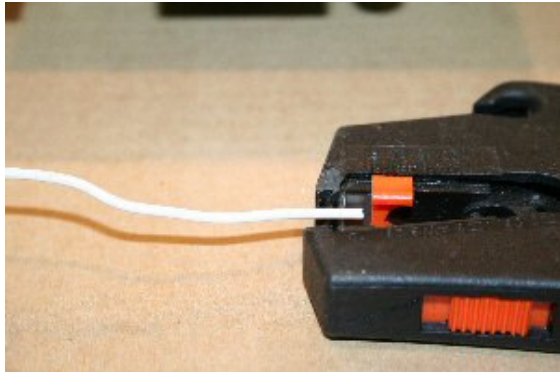
DCN23 board on 5mm spacing tubes with 3x12mm screw and spring washer.



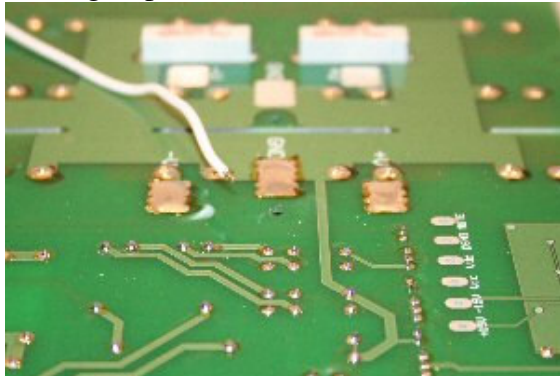
Short sense2 input of PSU12SA.



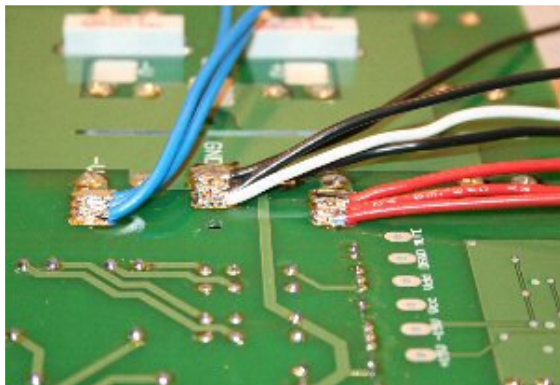
Solder the short.



Strip the wire 5mm. Add tin solder to both stripped wire and pad. Advice concerning soldering: Use a high temperature approximately 420°C for shorter time. This will ensure best connection and avoiding melting of plastic cover.

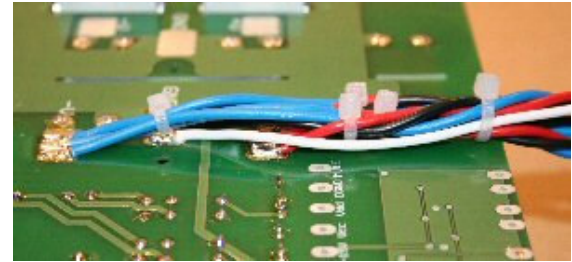


Solder blue wire to -V, black wire to GND, red wire to +V and the white wire to GND.

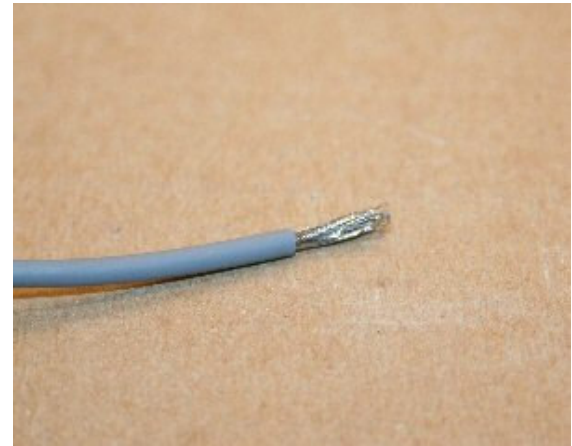


Length of wires:

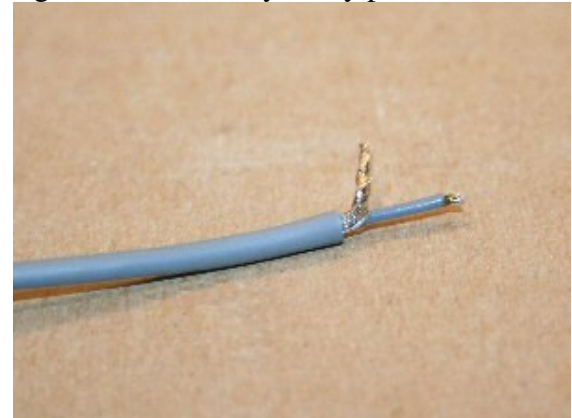
- Amp1: blue 50cm, black 48cm, red 46cm
- Amp2: blue 40cm, black 38cm, red 36cm
- Amp3: blue 30cm, black 28cm, red 26cm
- Amp4: blue 20cm, black 18cm, red 16cm
- DCN23 AGND: white 65cm

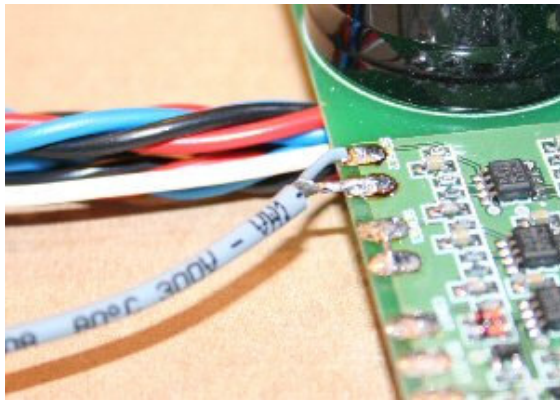


Twist associated power cables (ex. Blue+black+red to amp1) to avoid crosstalk. Secure cables with cables ties as shown above.

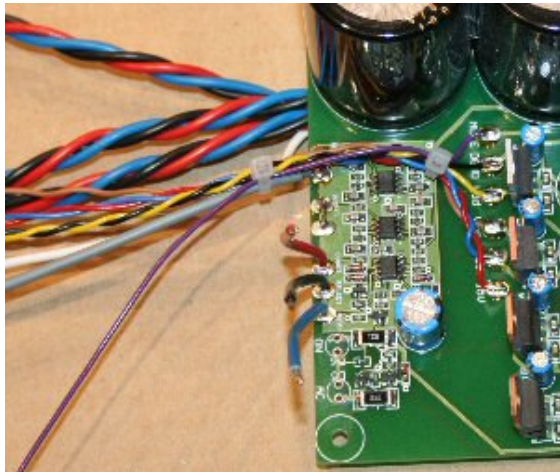


Strip outer plastic covers of signal cable 8mm. Twist shield cores. Strip plastic covers of inner lead 2mm. Ensure that no cores makes a short and solder the ends of shield and inner lead. Avoid melting the plastic covers - possible shortening the signal. This is a very likely potential fault.

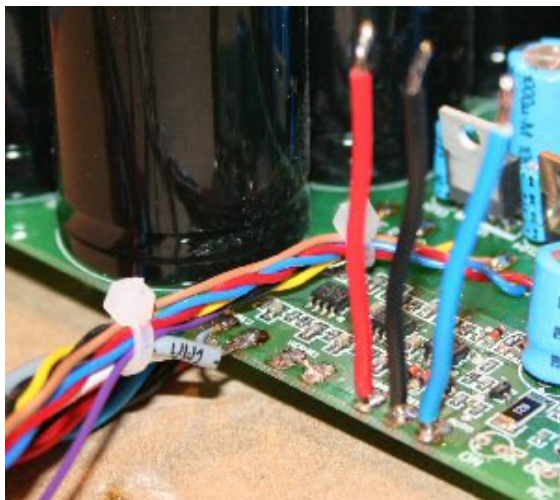




Connect grey signal cable's inner lead to sense1 and shield to GND.



Connect wires 0.2mm:
 Mute: violet
 DGND: Black
 Vdd: yellow twist with DGND wire
 Vcc: brown
 -15V: blue
 +15V: red twist with -15V
 Secure with cable ties.



Connect wires for the operation switch.



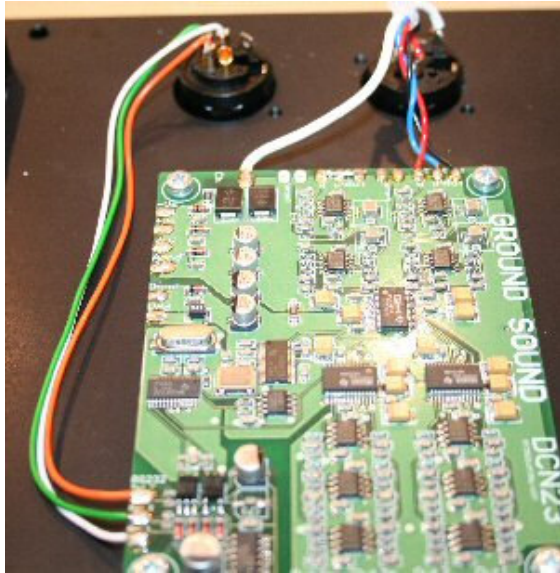
Optional connection of the operation switch with DC control of the AUTO position. Wire connects tip with switch pin closest to edge. Ring of mini jack connects to GND of PSU12SA.



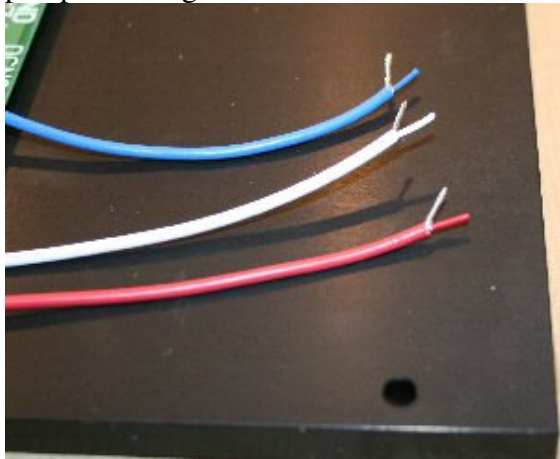
Connect white 0.75mm wire from DCN23 CH pad to NC3FD-L1 chassis pin.



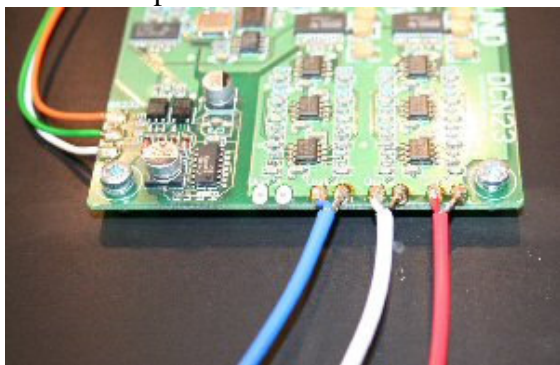
Connect DCN23 ch.A input to XLR 3-pol with 0.2mm wire. Pad/pin1 black, pad/pin2 black, pad/pin3 blue and twist.



Connect RS-232 interface to XLR 4-pol. Pad/pin1 white, pad/pin2 green and pad/pin3 orange.



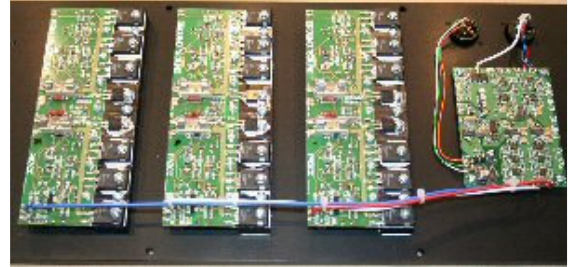
Prepare and connect signal cables to DCN23 outputs as shown.



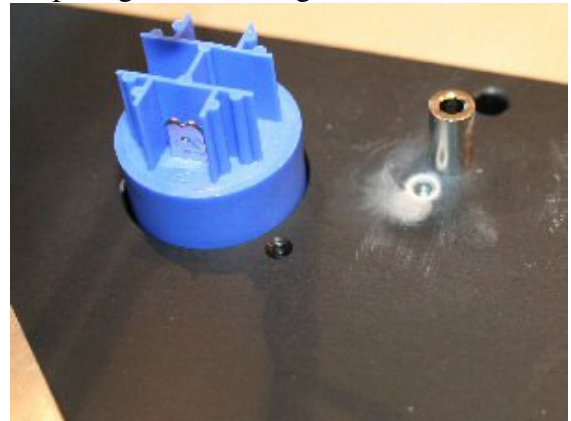
Cut signal cable a bit pass the edge of amp.



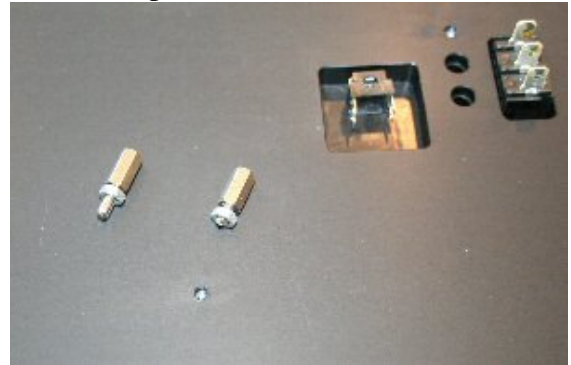
Solder and secure with cable ties.



Preparing the mounting of PSU12SA:



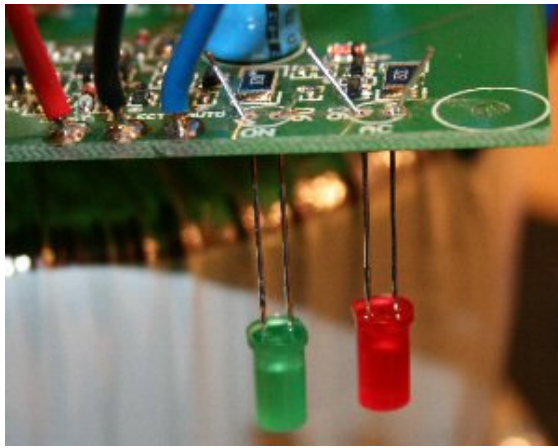
Remove the black anodizing to make a good contact plain for the mains ground under the space tube.



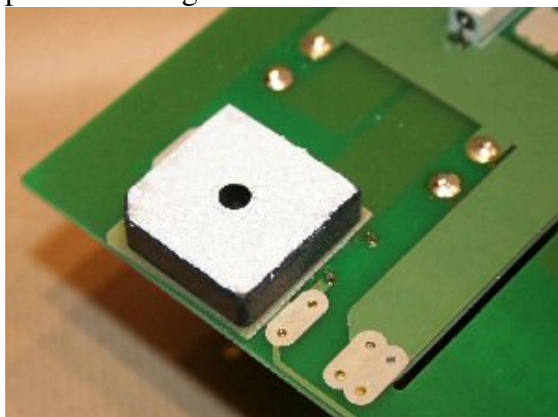
The thread of the spacing bolt is too long and has to be shortened. Put a nut on the thread before cutting it.



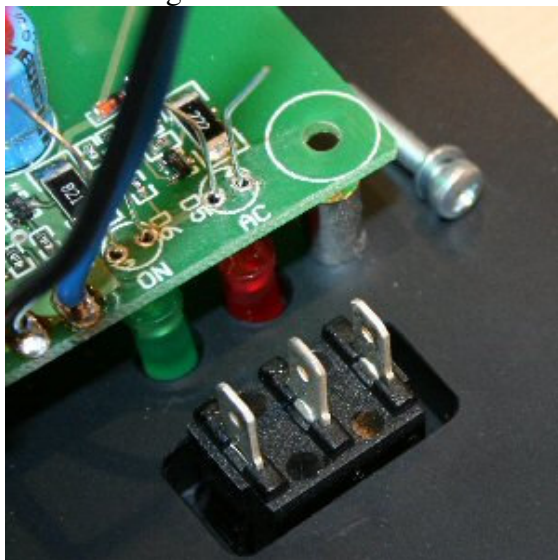
Place spacing tubes/bolt.



Place LEDs with the longest lead in pad signed A – anode. The anode can be identified as the smallest metal in the plastic housing.



Put an even layer of silicone paste on the rectifier bridge.



Mount the PSU12SA. Screw 3x16mm + spring washer.



Screw 3x16mm + spring washer.



Screw 3x16mm + spring washer.



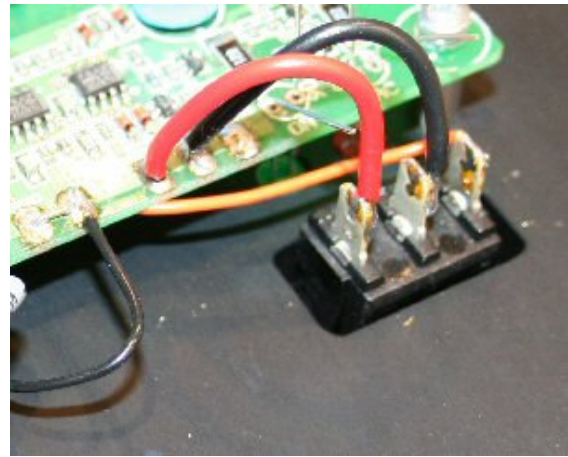
Screw 3x16mm + spring washer + plain washer.



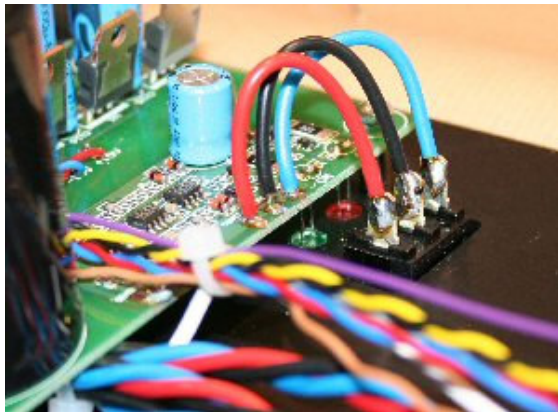
Screw 3x6mm + spring washer.



Solder the LEDS when levelled at surface.



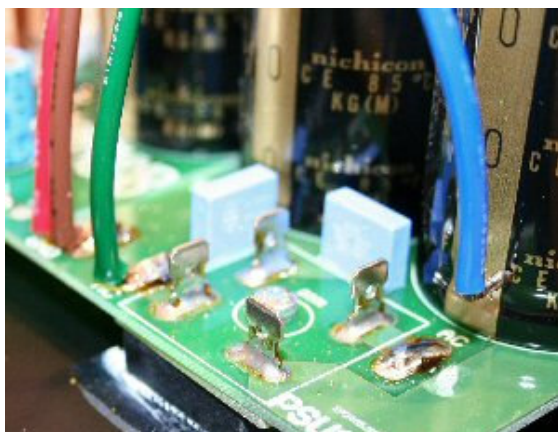
Optional DC control input connection.



Normal connection of operation switch.



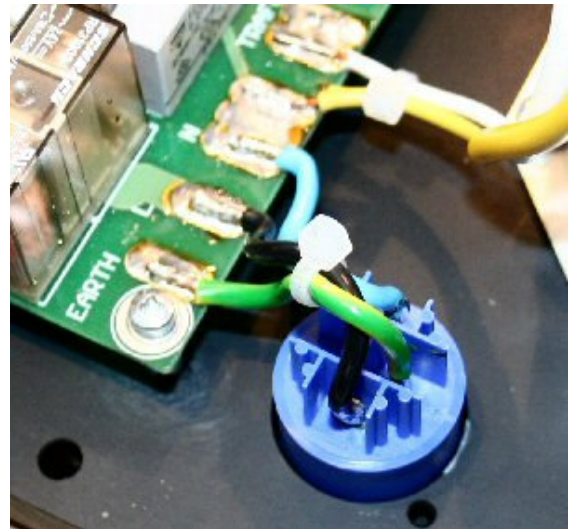
This is how it looks this far.



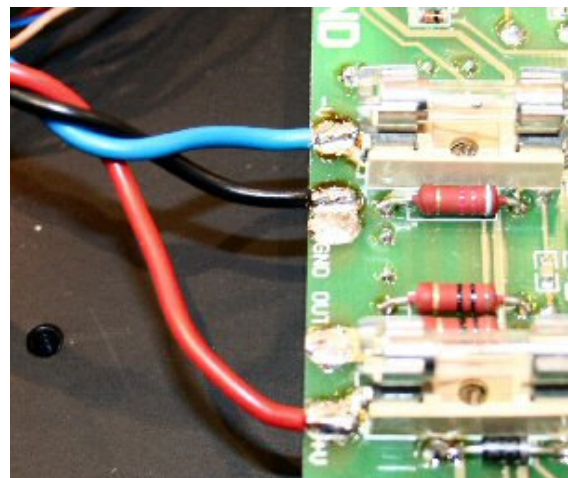
Soldering the secondary wires of the transformer takes a lot of heat to make a good connection. Avoid melting the plastic cover. Let the whole wire point straight up and bend the stripped ends at an angle of 90°. Add tin solders to pads and wire ends. Bend the wire a bit away from the end positioning it over the pads and solder for a bit longer than normal.



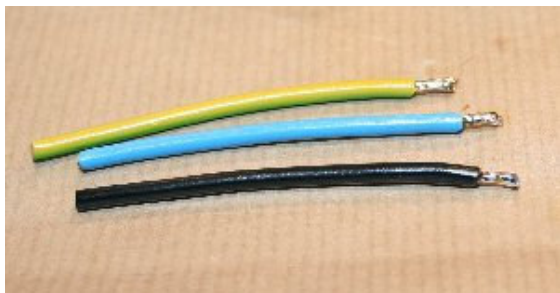
Secure with cable tie.



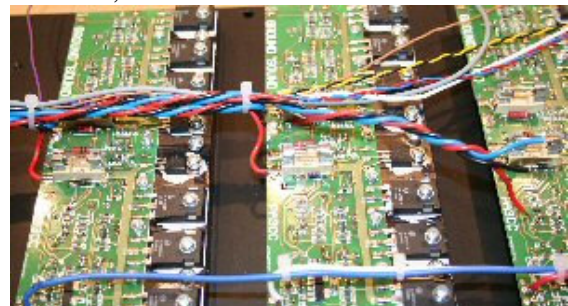
Solder the primary wires of the transformer and secure with cable ties.



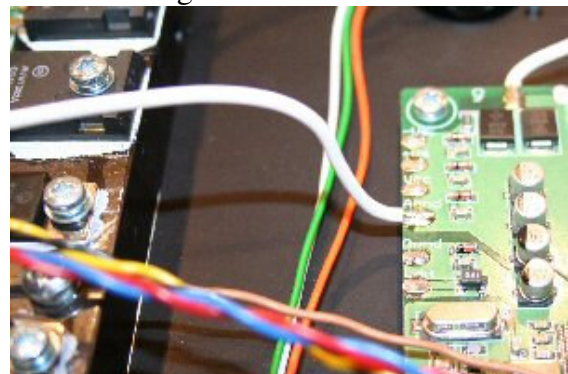
Connect wires to the amplifier modules.
-V blue, GND black and +V red



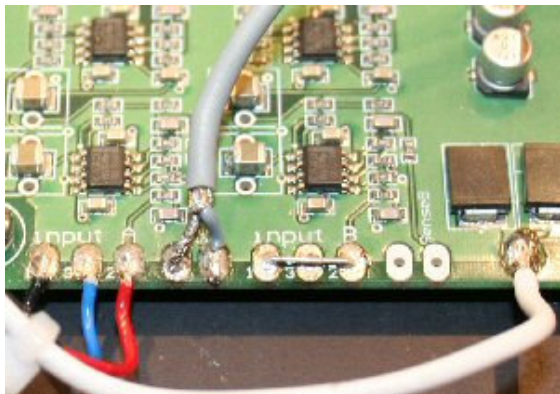
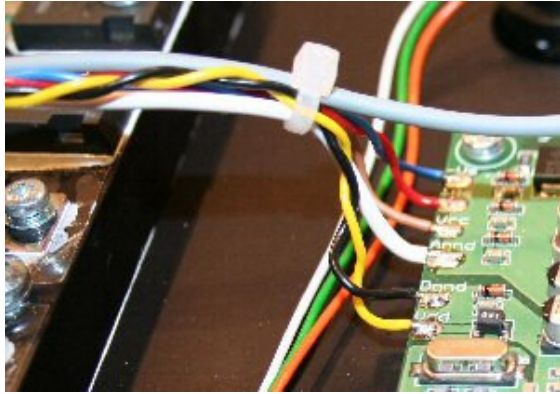
Connect the mains input power with: L black, N blue and Earth yellow/green - 0,75mm Wire. Secure with cable tie.



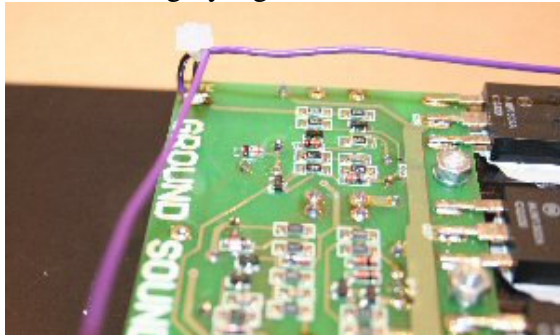
The "highway" of wires should be secured with a cable tie just before each power entry and the "highway" positioned just beside the negative fuse holders.



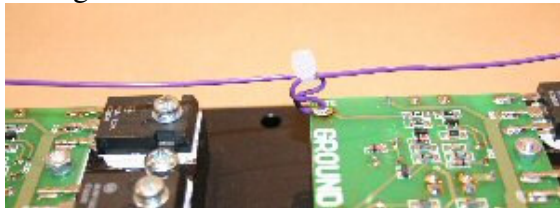
Connection of the wires to DCN23: Begin with the thick white AGND. -Vs blue, +Vs red, Vcc brown, DGND black and Vdd yellow. Secure with cable tie.



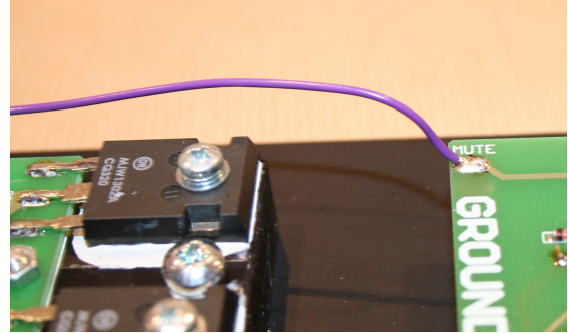
Connect the grey signal cable to sense A.



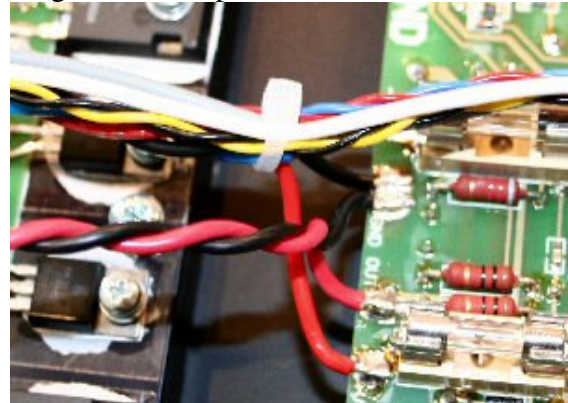
The mute wire must take the “exit” from the “highway” at the first amplifier module and connect through hole at MUTE pad. Another wire connected on pad bringing the signal to the next module.



The wire chain ends at the amplifier module below DCN23.

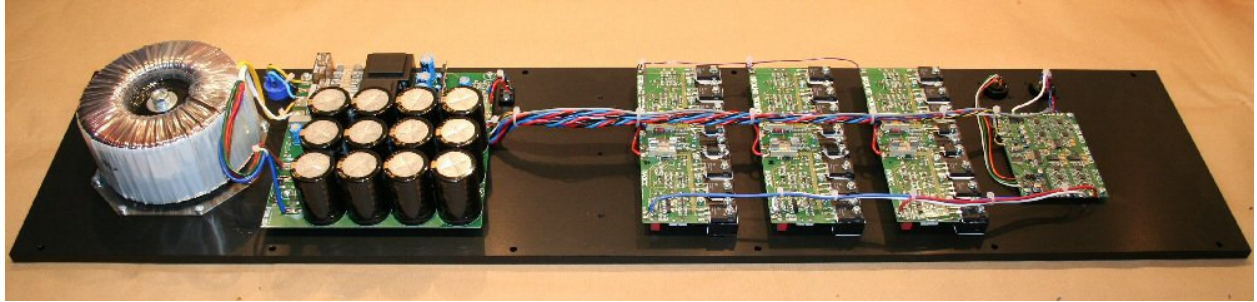


This ends the assembly of the Coolback except of the speaker cables. The speaker cables do not have to be that “thick” as the distance to the speaker terminals are very short representing a limited resistance compared to the normal of connectors, long wire and a passive filter.



How to make a bridged output giving higher output power: Two amplifier modules are need, one driving the positive speaker terminal and the other driving the negative speaker terminal with an inverted signal done in software. The two speaker terminals only connect to the OUT pads. How to parallel drive 2,4,6.. bass woofers: Two amp modules are needed, one driving the first half normal and the other half driven by the other amp with inverted signal and then inverted at the output. This makes a symmetric load of the power supply and an extended bandwidth is gain in the low end.

This is the completed Coolback603



Dimensions:

Overall size: 1000mm x 220mm x

10mm aluminium sheet – app.70mm at PSU12SA – app.80mm at transformer

Cut-out: 960mm x 185mm (Flange min.15mm)



Ground Sound

www.groundsound.com

active@groundsound.com

Tel. +45 30 25 56 75

Denmark