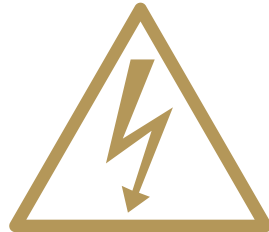


SECTION - 2

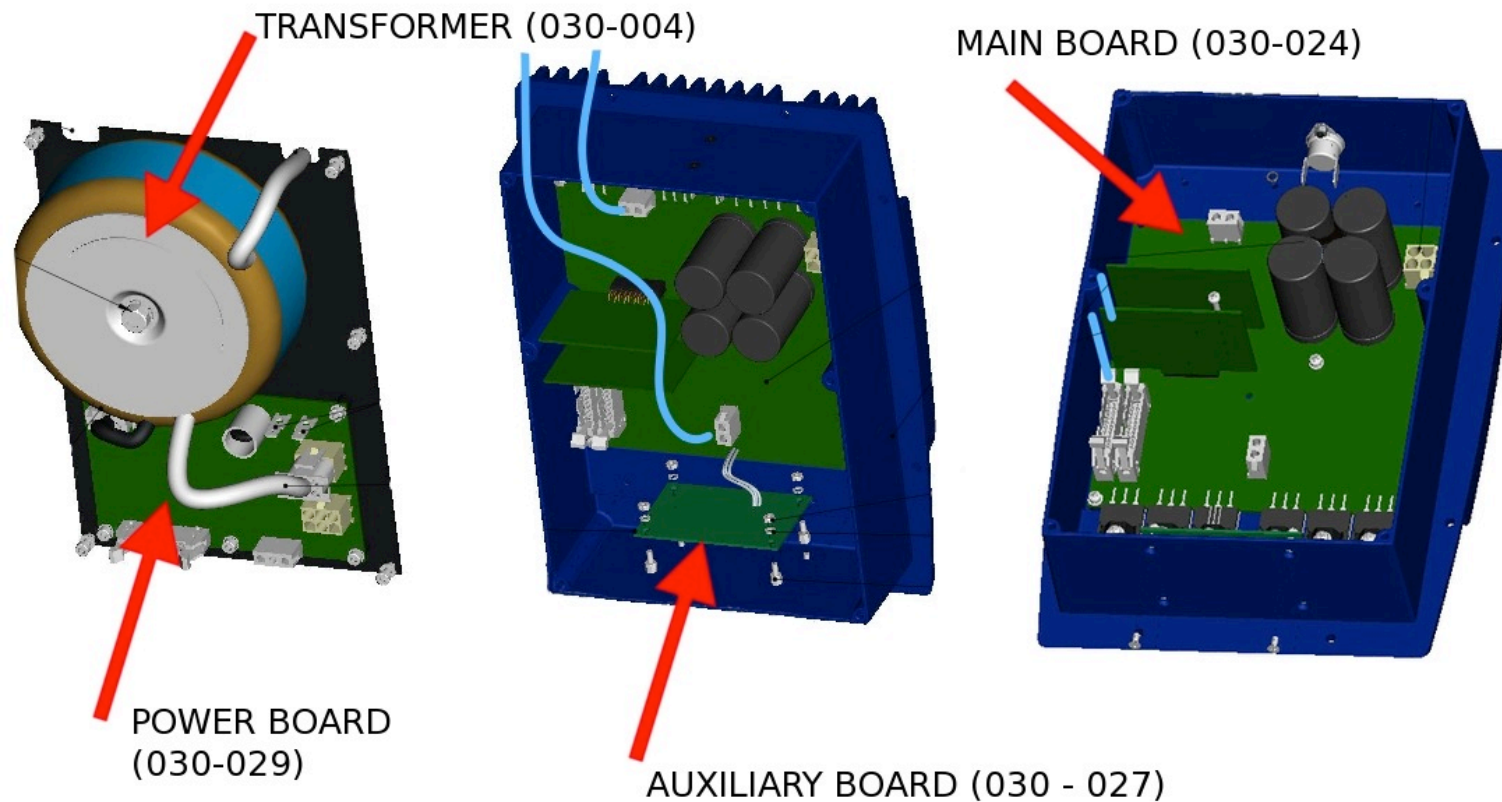
AMPLIFIER REPAIR GUIDE

V1.0



WARNING: SERVICE AND REPAIR OF ALL EVENT ELECTRONICS BRANDED PRODUCTS SHOULD ONLY BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.
RISK OF ELECTRIC SHOCK AND SEVERE INJURY!

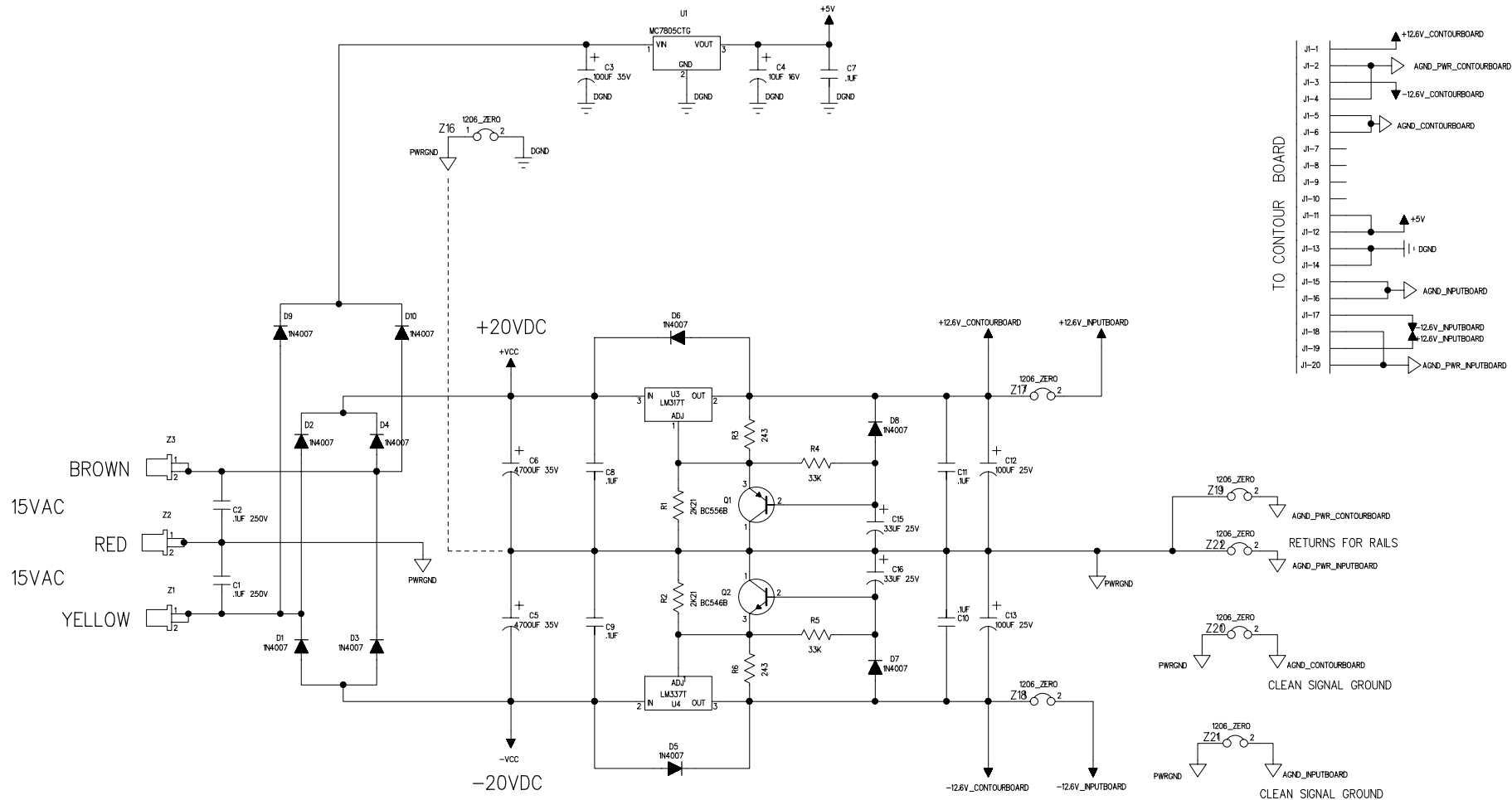
The amplifier sub assembly is made up of 4 key areas. These can be identified as the Main board, Auxiliary board, Power board and Transformer. These parts can be ordered as separate sub-assemblies when repairing the amplifier.



When testing the amplifier it is easier to leave it fitted in the rear of the Opal housing, this gives you easy access to power for the tests.

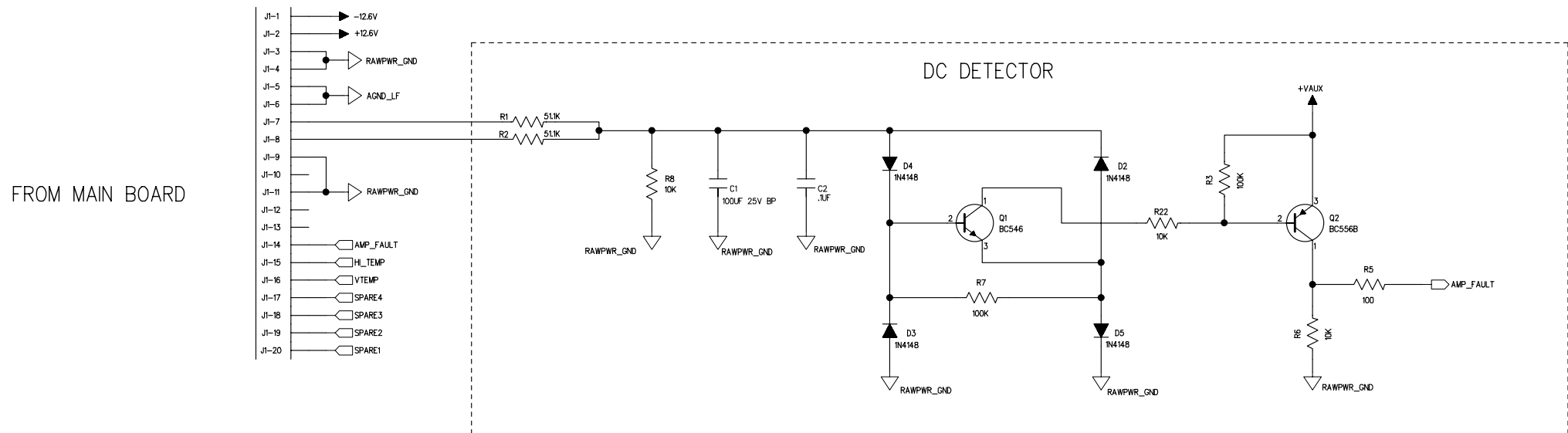
POWER BOARD

The Power board takes 15V AC from the secondary winding of the transformer and converts this into a +/- 12.6V DC supply for the contour board, fed through a ribbon cable connected to J1.



AUXILIARY BOARD

The Auxiliary board is used to detect a failure in the amp and trigger a mute on the contour board. The Auxiliary board is responsible for detecting excessive DC in the amp signal and for checking temperature levels.



MAIN BOARD

The Main Board is responsible for the power amplification of the separate HF and LF signals coming from the contour board.

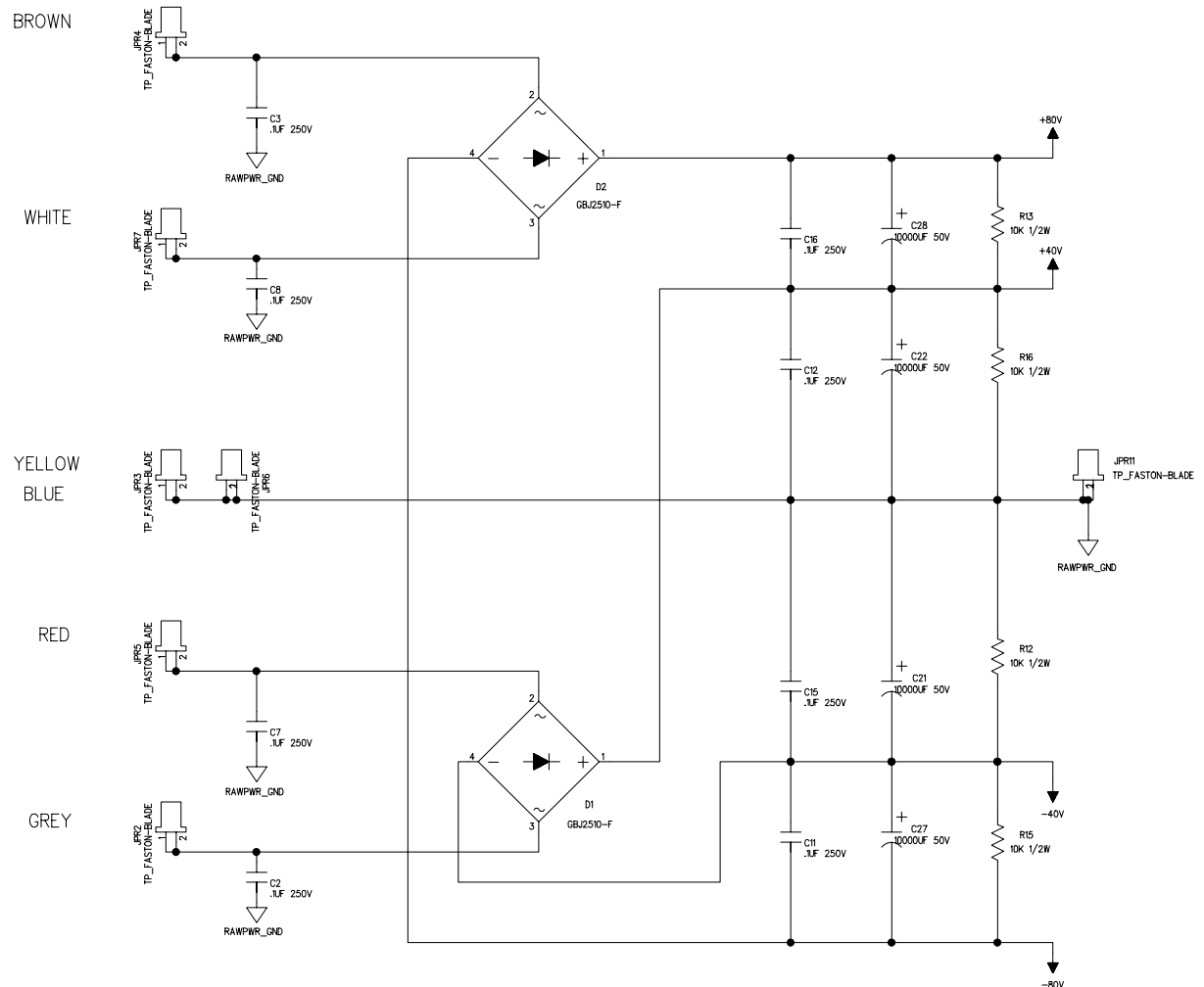
The Main board has the following AC Voltages:

BROWN to YELLOW 60V AC
WHITE to BLUE 60V AC

RED TO YELLOW 30V AC
GREY/GREEN to BLUE 30V AC

This voltage is then rectified to produce:

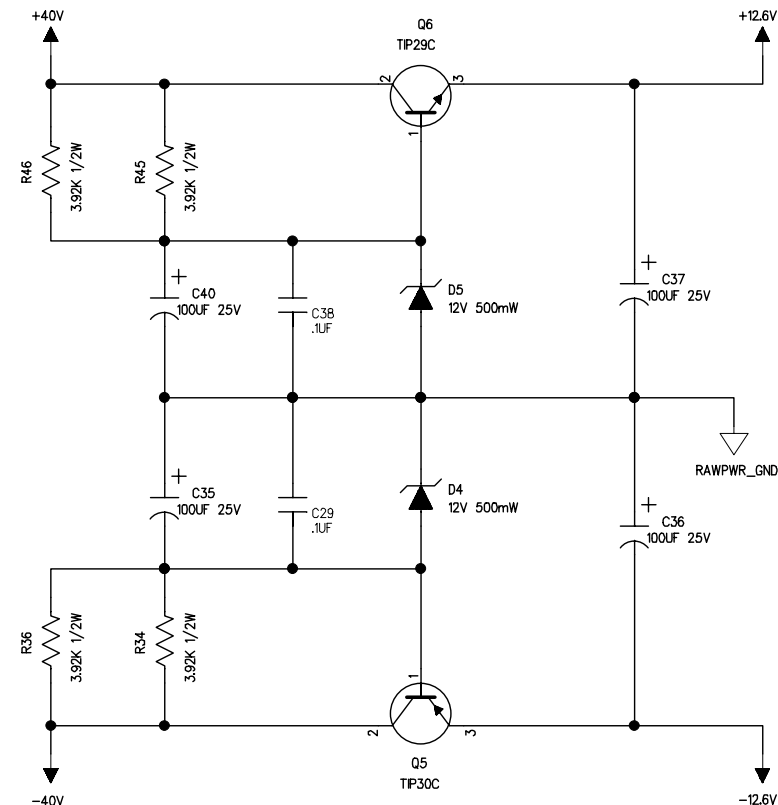
+/-80V for the LF circuit.
+/- 40V for the HF circuit.



The +/- 40V is also regulated down to +/- 12V to supply power to the main board daughter cards.

There are two daughter cards that supply the initial amplification stage for the HF and LF circuits, daughter cards are not field serviceable and cannot be easily removed from the main board without damage to the board.

Should you suspect a daughter card to be faulty please order a complete replacement main board.

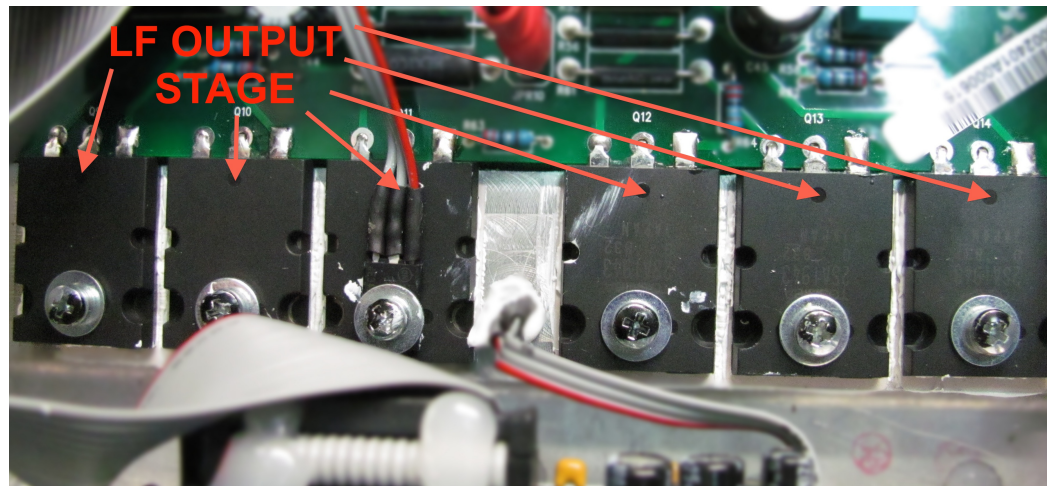
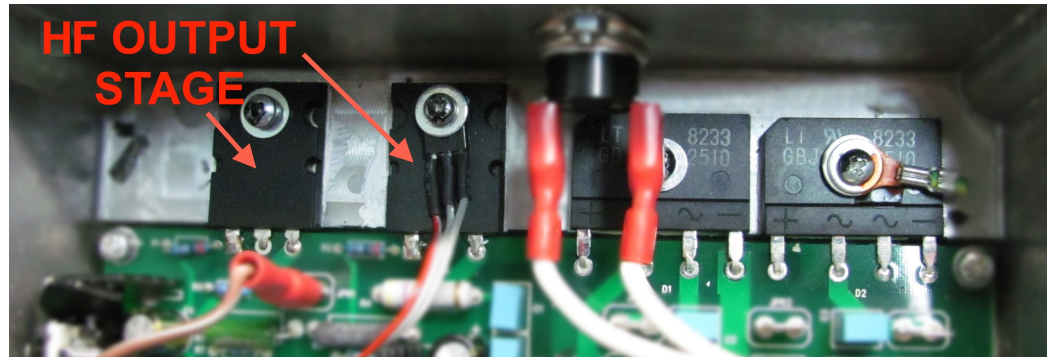


The +/- 80V rails are used to supply the output transistors for the LF circuit and the +/-40V rails are used for the output transistors of the HF circuit.

All transistors are either screwed to the main heatsink (blue) body or are vertical and have their own individual heatsink. All transistors should be firmly attached to the heatsink with the use of heat transfer compound as a loose transistor can overheat and fail.

The following transistors can be checked for voltage levels and for correct mounting.

SIGNAL	RAIL	TRANSISTOR
HF	+40V	Q1, Q3
HF	-40V	Q2, Q4
LF	+80V	Q7, Q9, Q10, Q11
LF	-80V	Q8, Q12, Q13, Q14



SUB ASSEMBLY REPLACEMENT

All of the amplifier sub assemblies can be easily replaced. Please follow the separate guide 'Amplifier Replacement' for information on how to remove and replace the complete amplifier assembly.

Power board

The power board is easily accessible, fitted directly on the main body of the amplifier.

Remove all connectors to the board (remembering which is which), remove the 6 X M3 Hex screws that hold the board in place. Fit the replacement and re-attach all cables. When fitting the ribbon cable, please use a rubber silicone to secure the ribbon in place.

There is no calibration required if the power board is replaced.

Transformer

To replace the transformer you will need to open up the amplifier and remove all the connections the transformer has with the main board, please note down (or take a picture of) the wire connections. Remove the transformer connection to the power board and the inline TCO. The transformer can be removed by unscrewing the locking bolt that holds it to the front of the amplifier. Follow these steps in reverse for fitting the replacement transformer.

There is no calibration required if the transformer is replaced.

Auxiliary board

To replace the Auxiliary board you will need to open up the amplifier, remove the ribbon cable between the main board and the Auxiliary board. Then gently lift out the component connected to point U1. The board can then be unscrewed from the amplifier body, lifted out and replaced. When replacing the board it is important to secure the ribbon cable in place.

There is no calibration required if the Auxiliary board is replaced.

Main board

The main board is the most complicated to replace. You will need to open up the amplifier, remove all connections from the main board and then remove all the screws that hold the PCB in place and all the screws that hold the transistors/rectifiers to the heatsink. There are 6 screws that hold the PCB in place and 10 for all of the connections to the heatsink.

When this is a new Main board can be installed. Before you install the board please make sure that thermal compound is applied to the back of each transistor or rectifier that is to be attached to the heatsink. When fitting in place, the transistors/rectifiers should be securely screwed onto the heatsink to allow for the maximum transfer of heat.

The bias of the main board is factor set, however you will need to carry out a complete speaker calibration, please refer to Section 9: “*Lineup Guide*” for more information on the procedure.