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Instructions for modification of Behringer DCX analog inputs and outputs

The following instructions will cover the details of modifying a DCX for upgraded analog outputs 1-6 and analog inputs A & B (input C excluded).

These modifications require a high level of experience with electronics. If you doubt your ability to complete the mods correctly, please contact BehringerMods to arrange an installation service.
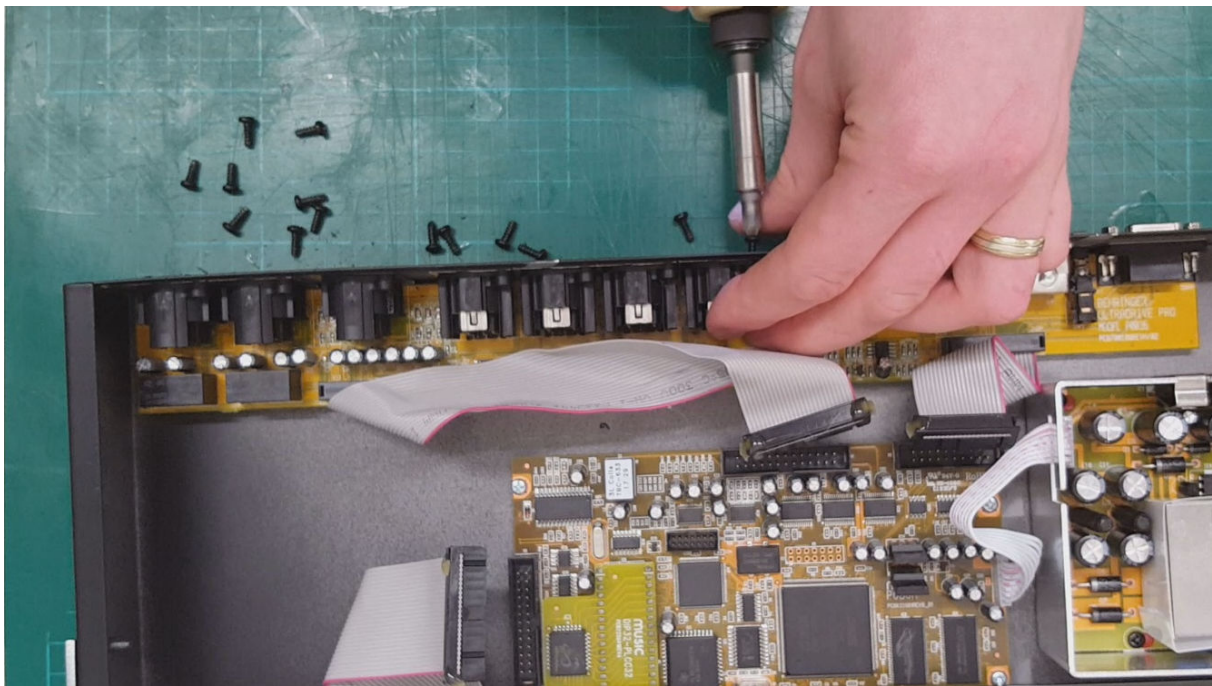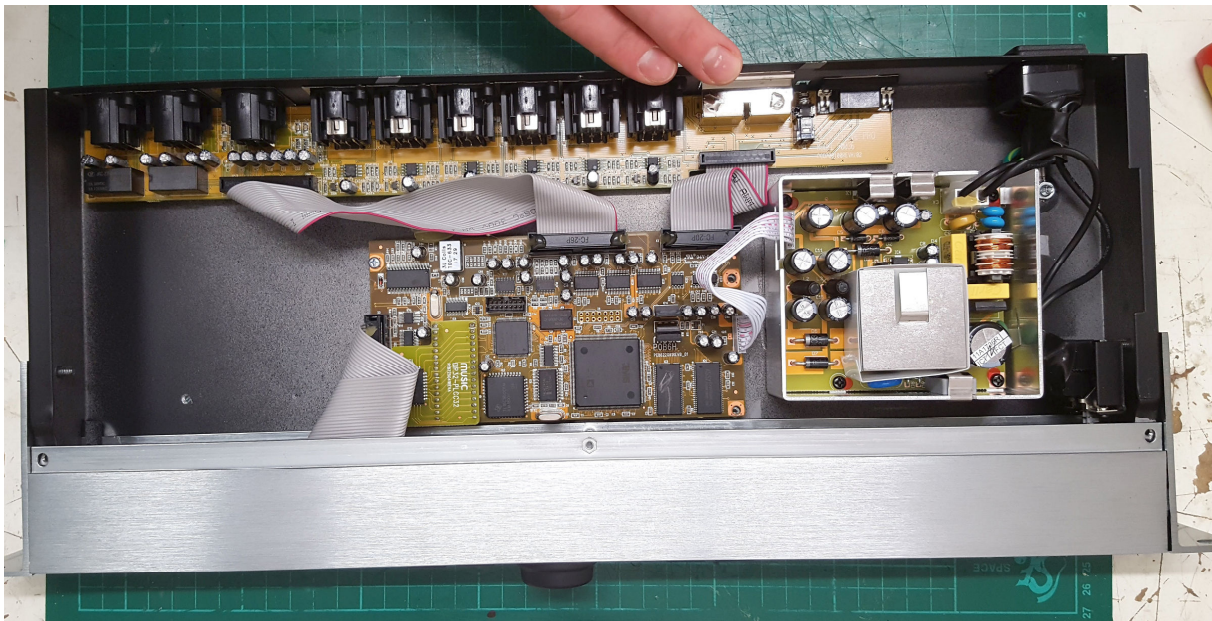
IDC 1 Ribbon

IDC 2 Ribbon

Link PCB
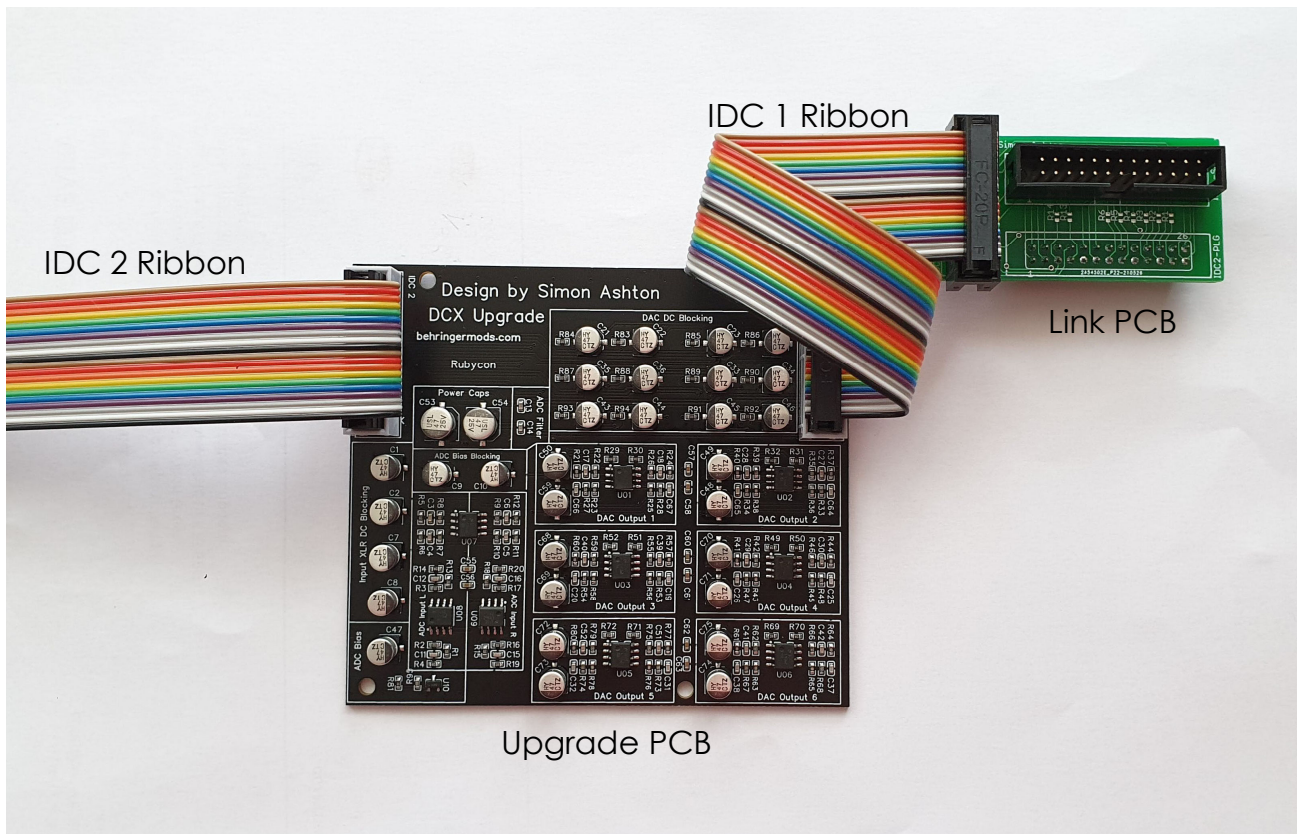
Upgrade PCB

The modification package should come with the following parts:

- Analog input and output upgrade PCB
- Link PCB
- Ribbon Cable x2
- PCB Stands x4

Note: This install guide shows older green colour upgrade PCBs, the newest version is black. The install process is identical.
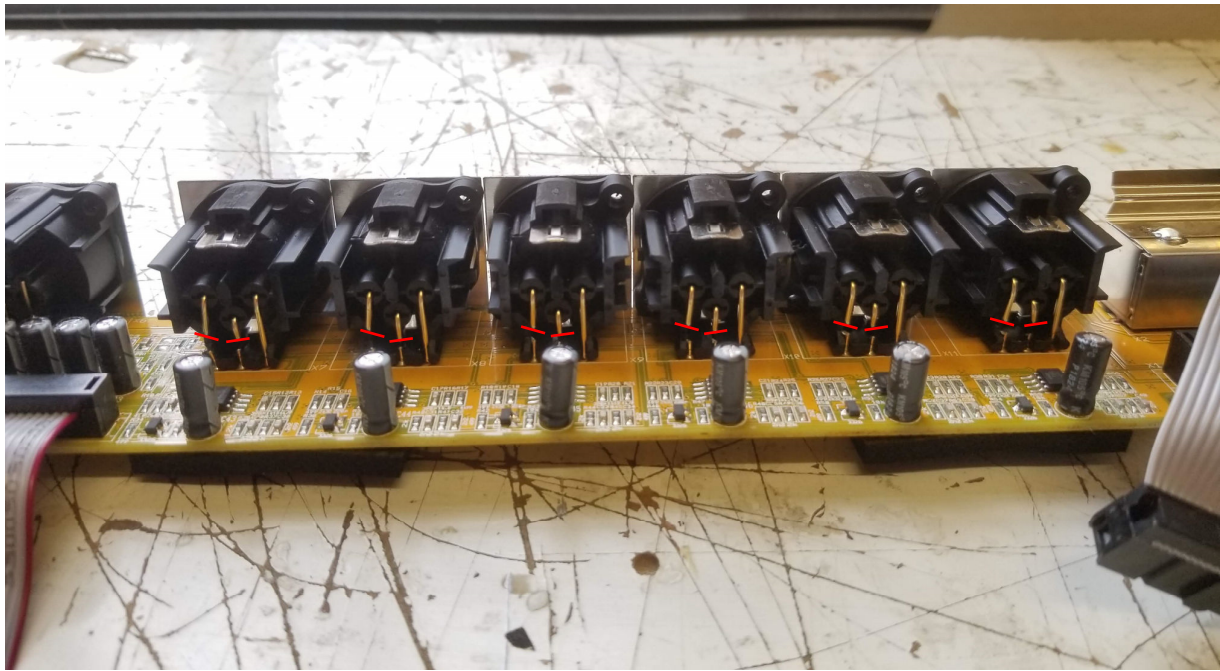
Get a cup of tea or coffee. Remove the equipment cover and keep the screws in a dish.

Use pointy nosed pliers to gently remove the glue securing the main ribbon and smaller ribbon cable connecting the rear PCB to the main PCB.
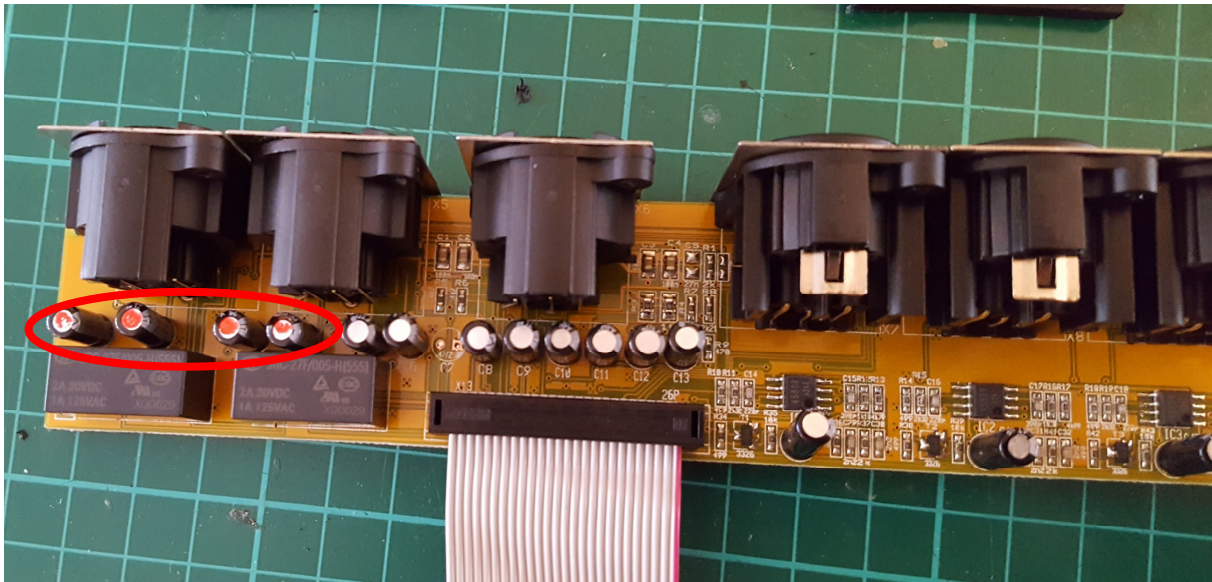
Remove all screws that secure the rear PCB to the case.

Remove the rear PCB from the case.

Cut the legs of pins 2 and 3 on output XLRs 1-6.

Tip: I make two cuts to leave a clear gap.
*If you look inside the front of the socket, the pins are numbered.*

Locate and remove capacitors C26, C27, C41, C42

Do not damage the PCB, it is delicate.

Note: The capacitor legs are slightly bent on the back to secure them in the PCB. If the capacitor is removed without care, the bent leg can tear out the PCB hole plating.
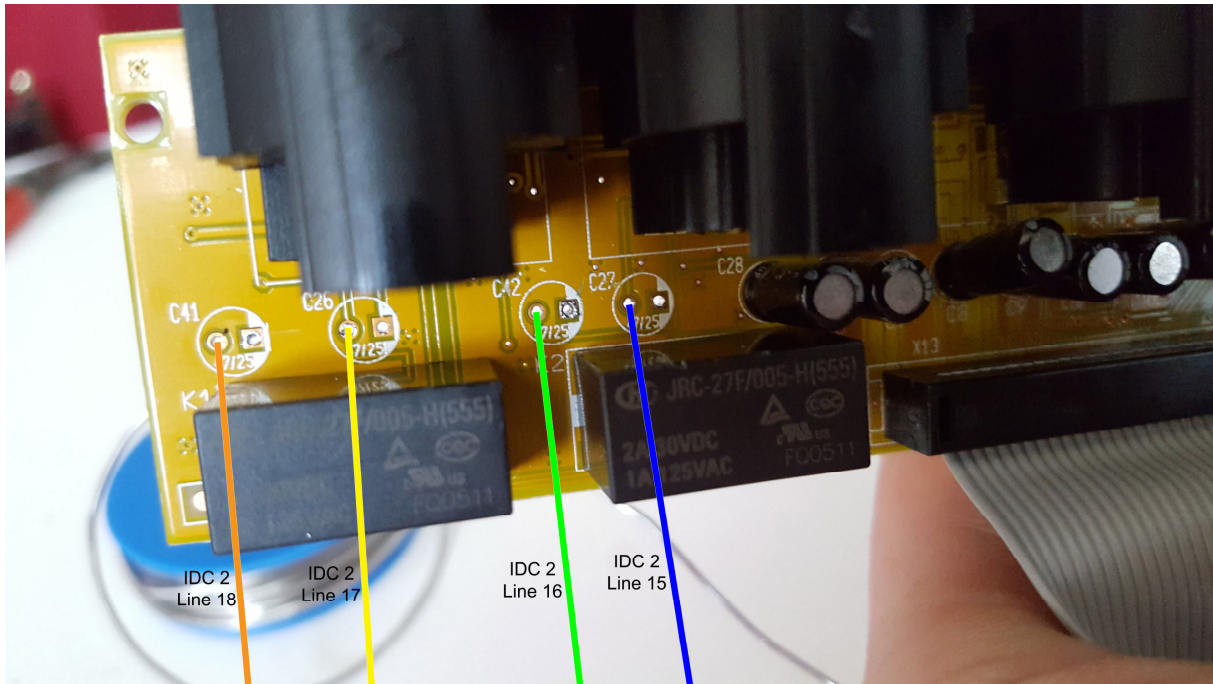
It can help to cut the back of the capacitor leg as close as possible to the PCB with side cutters. It is also helpful to cut off the body of the capacitor near the indented area. Then each leg can be removed individually.
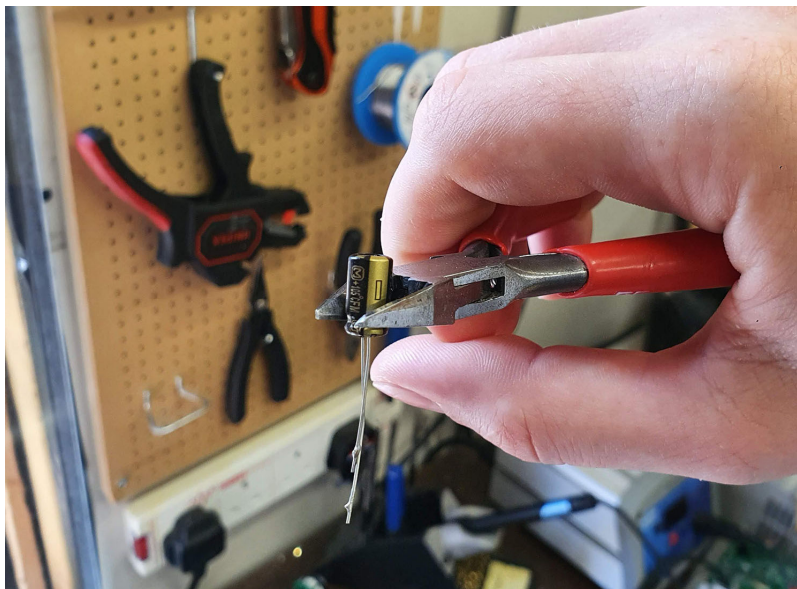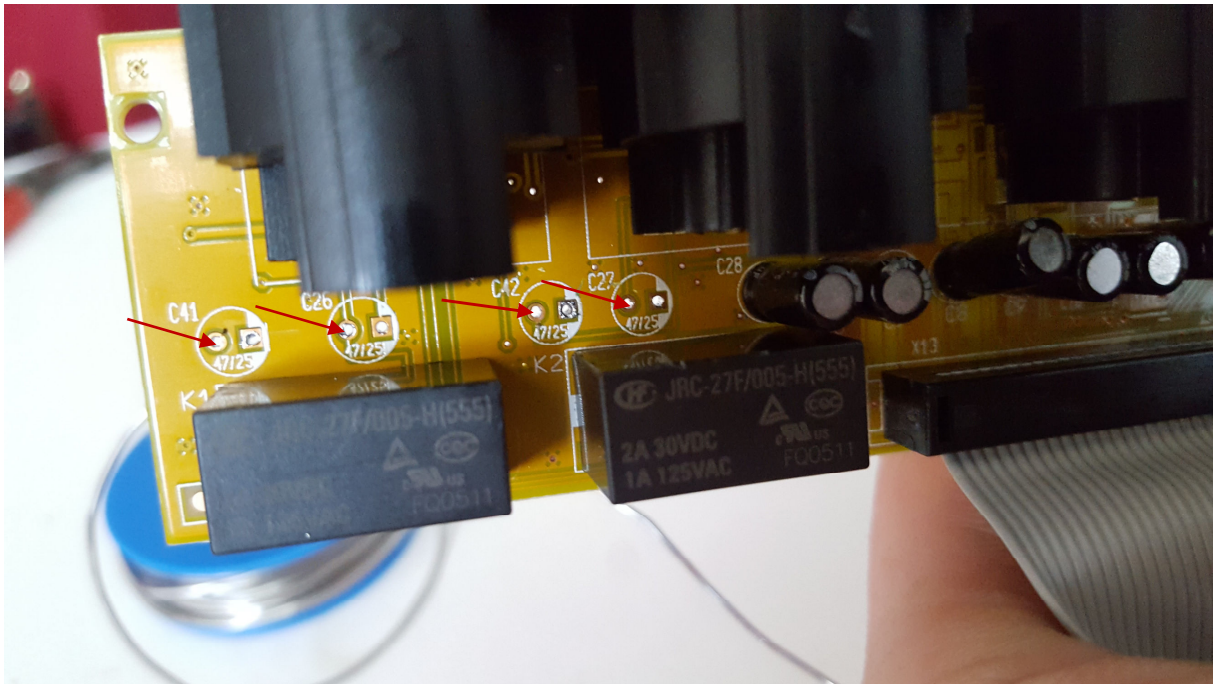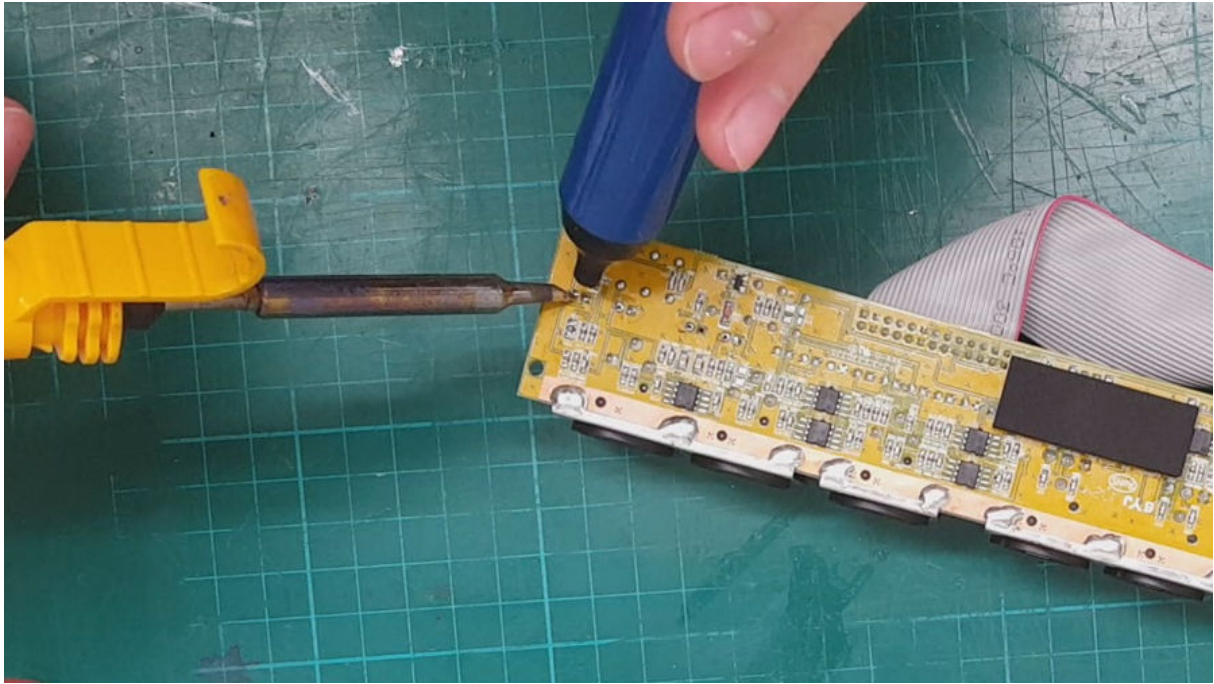
Clear solder from the positive pads (round holes, not square) with a solder sucker or solder wick.
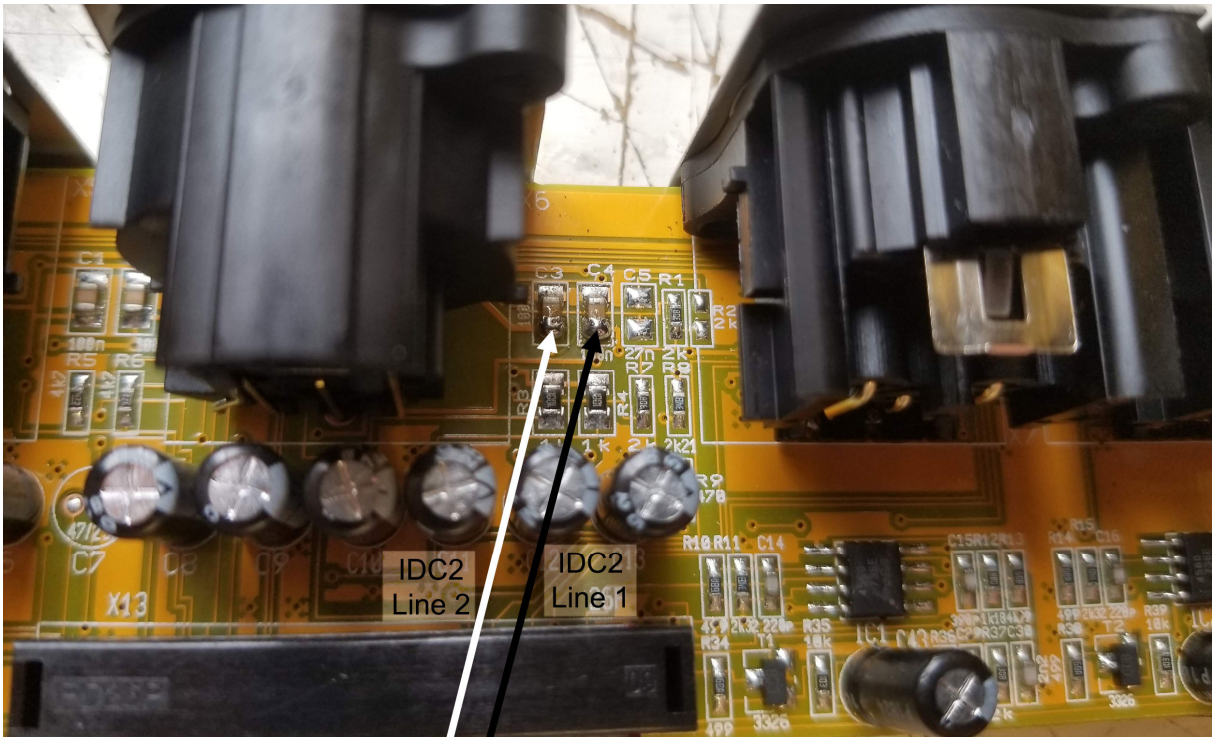
We will connect wires here.

Solder IDC 2 ribbon lines:

Line 18 (Orange) to C41
Line 17 (Yellow) to C26
Line 16 (Green) to C42
Line 15 (Blue) to C27

Line 1 is black on the far side of the ribbon, Line 20 is brown
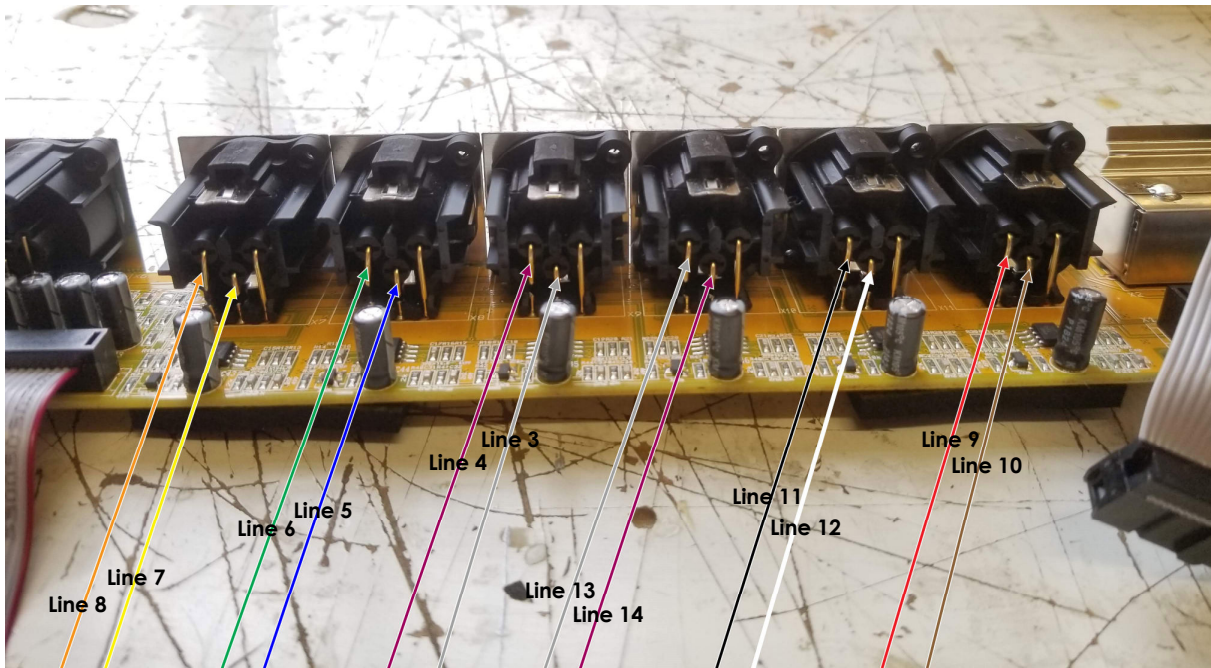

Line 1 ➡️   ⬅️ Line 20

Solder IDC 2:

Line 1 to Bottom of C4
Line 2 to Bottom of C3

These are small SMD components. Be carful not to short circuit them.

Solder IDC 2:

Line 3 (Gray) to XLR 3 - Pin 3
Line 4 (Violet) to XLR 3 - Pin 2
Line 5 (Blue) to XLR 2 - Pin 3
Line 6 (Green) to XLR 2 - Pin 2
Line 7 (Yellow) to XLR 1 – Pin 3
Line 8 (Orange) to XLR 1 – Pin 2

Line 9 (Red) to XLR 6 – Pin 2
Line 10 (Brown) to XLR 6 – Pin 3
Line 11 (Black) to XLR 5 – Pin 2
Line 12 (White) to XLR 5 – Pin 3
Line 13 Gray) to XLR 4 – Pin 2
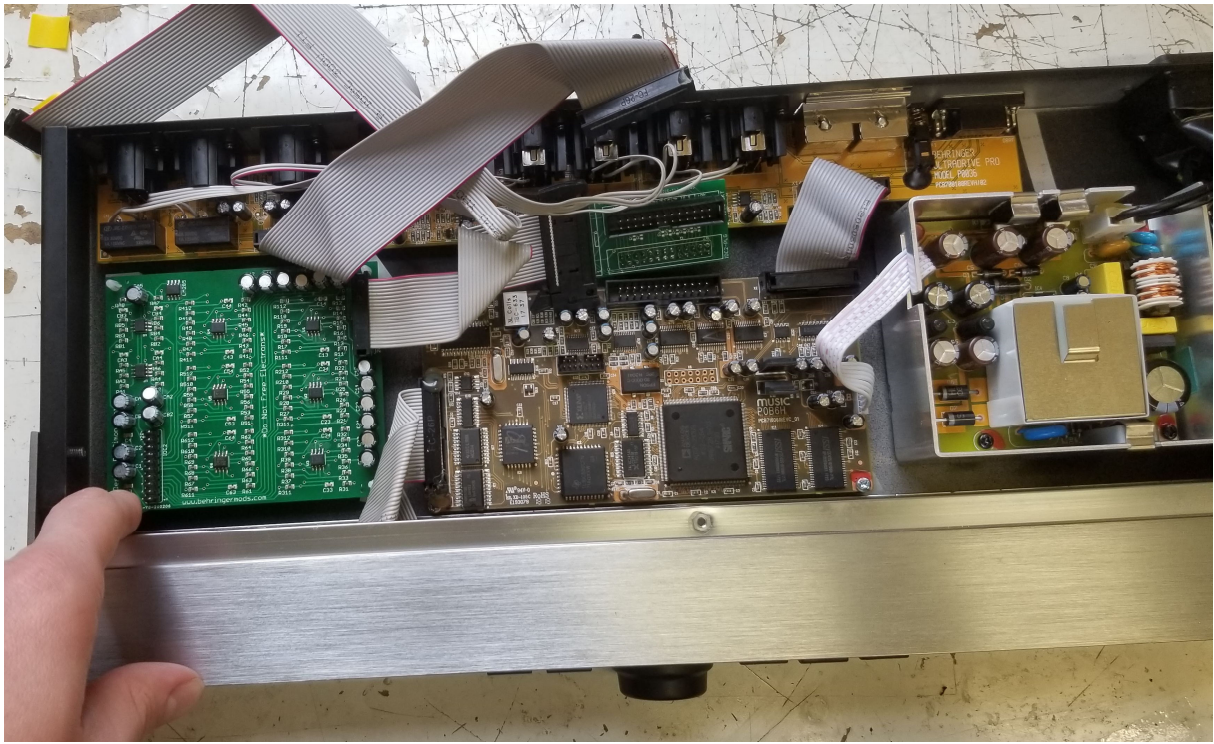Line 14 (Violet) to XLR 4 – Pin 3
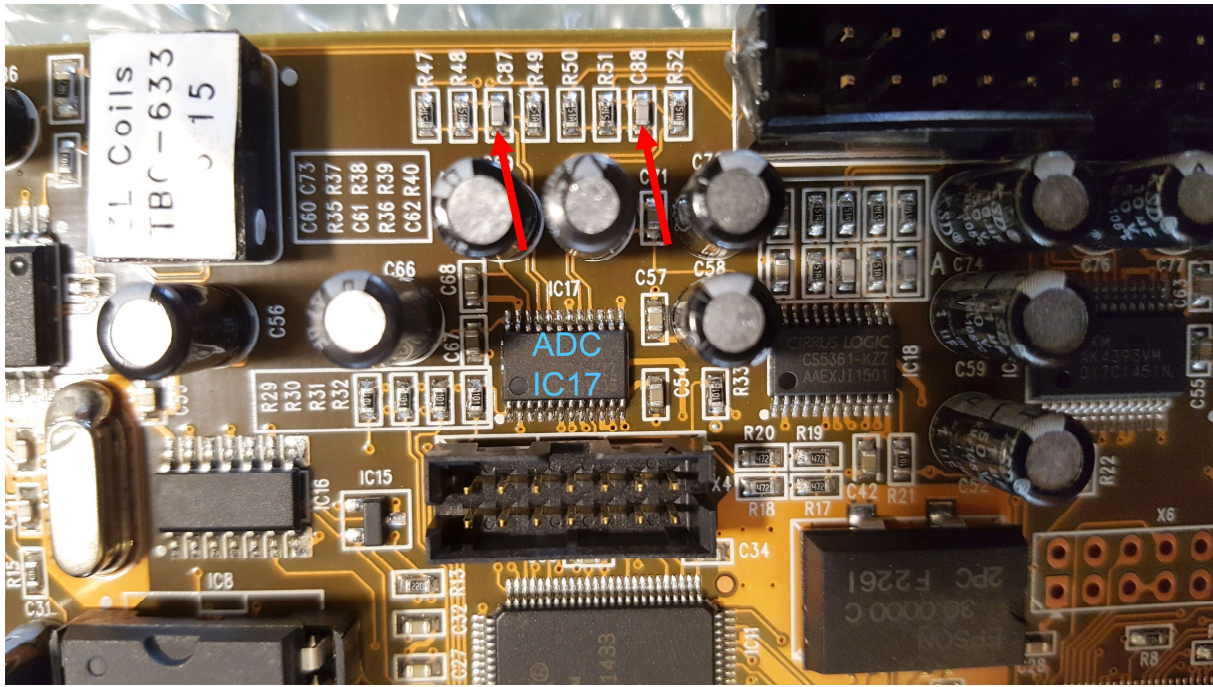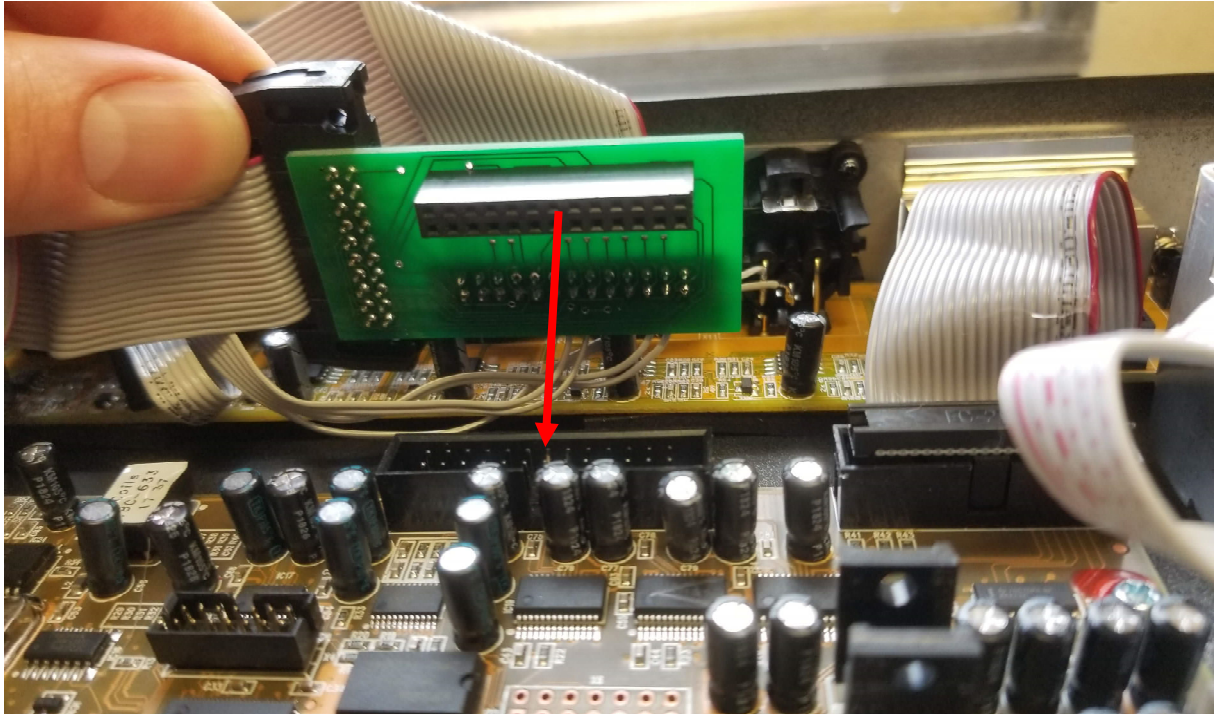
On the Main PCB (not rear PCB)

Remove SMD capacitors C88, C87.
Leave the gap open circuit.
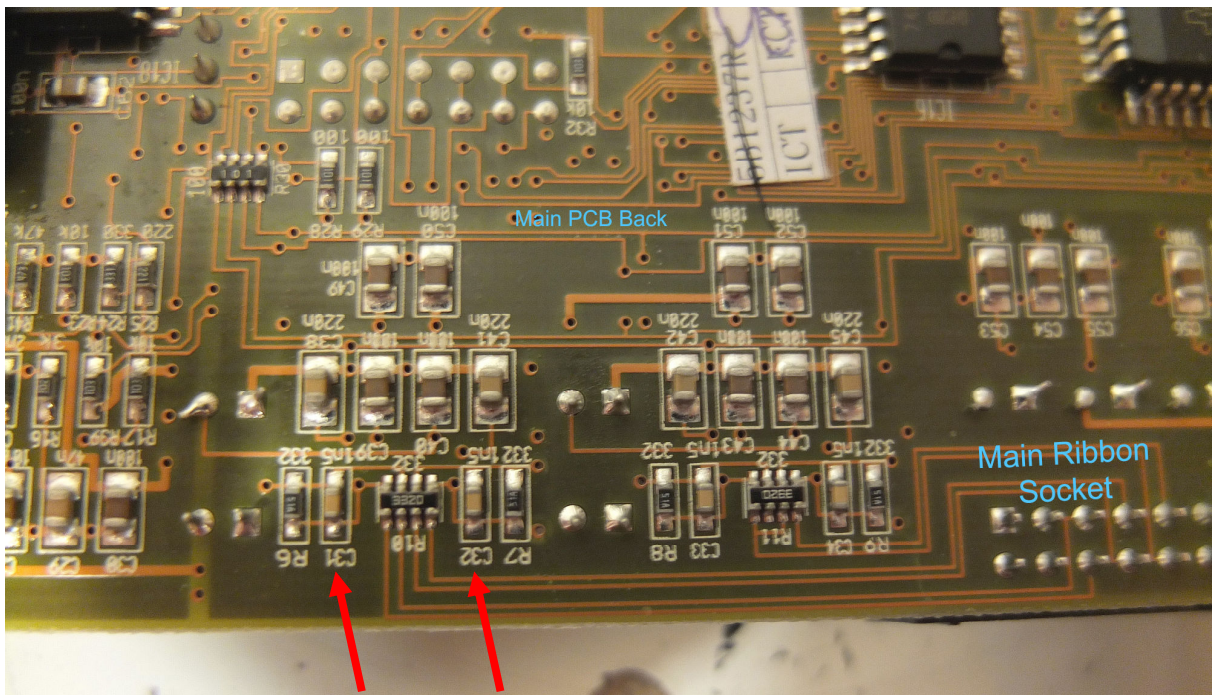
If you have an older version of the DCX, the capacitors may be on the
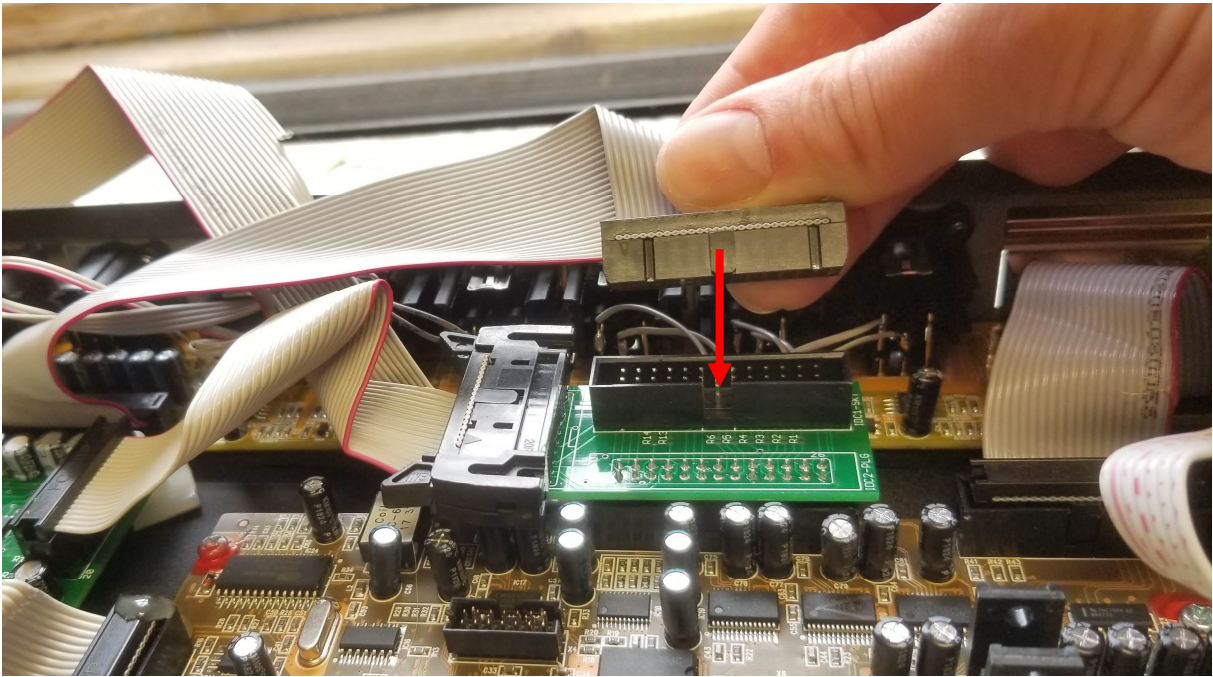back. C31, C32.

Re-install the rear PCB.
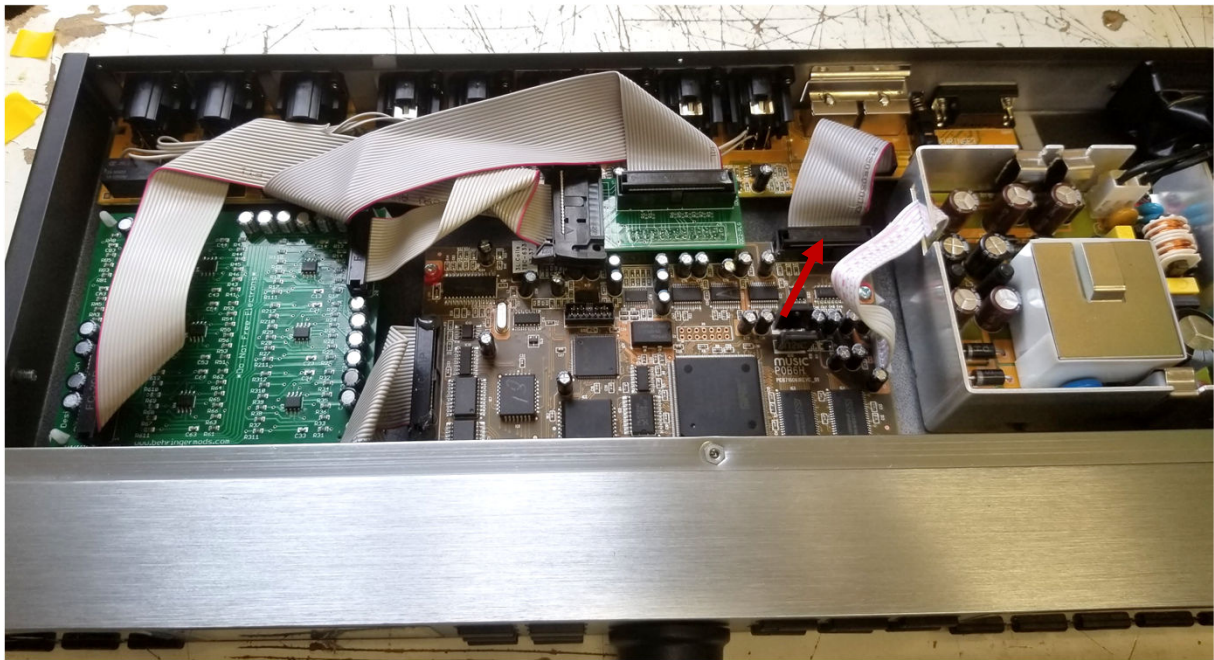Install the upgrade PCB with self adhesive feet.

Connect the Link PCB to the Main PCB ribbon socket.

Ensure the plug is central. It is possible to place it off-centre because there is no notch.

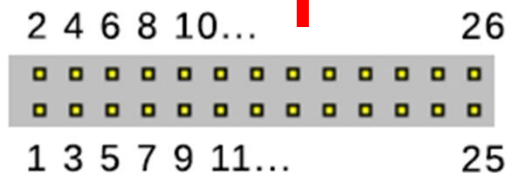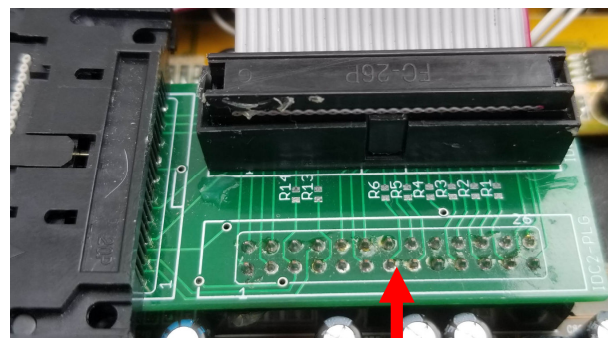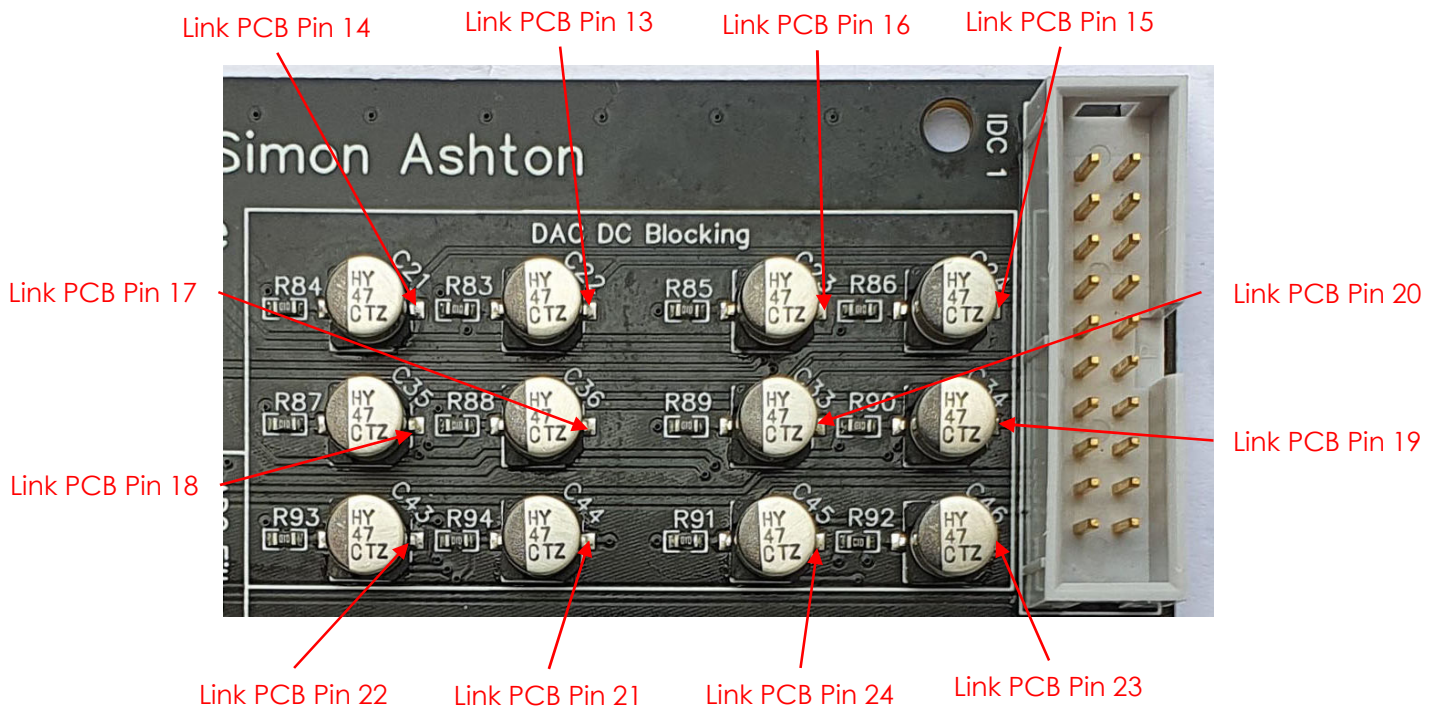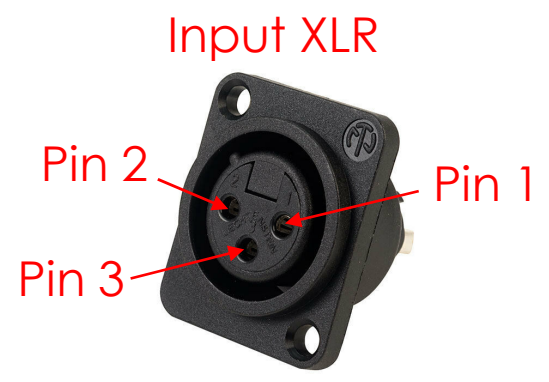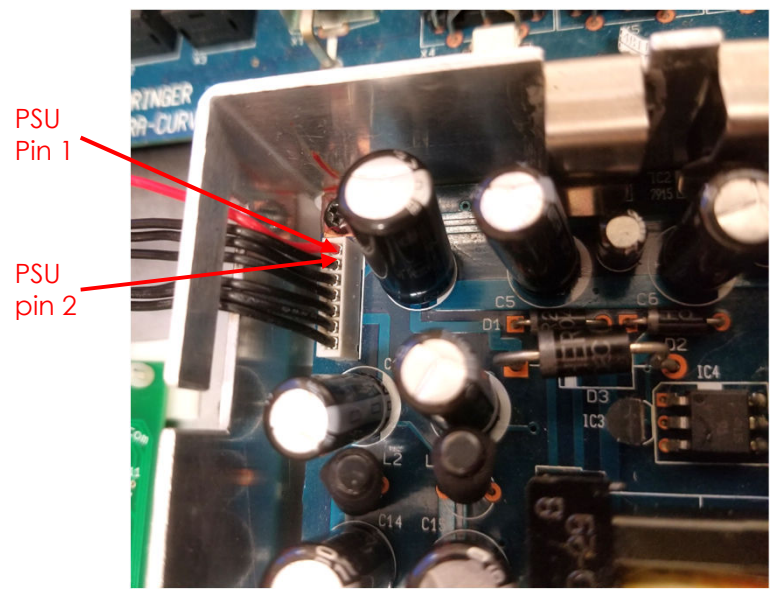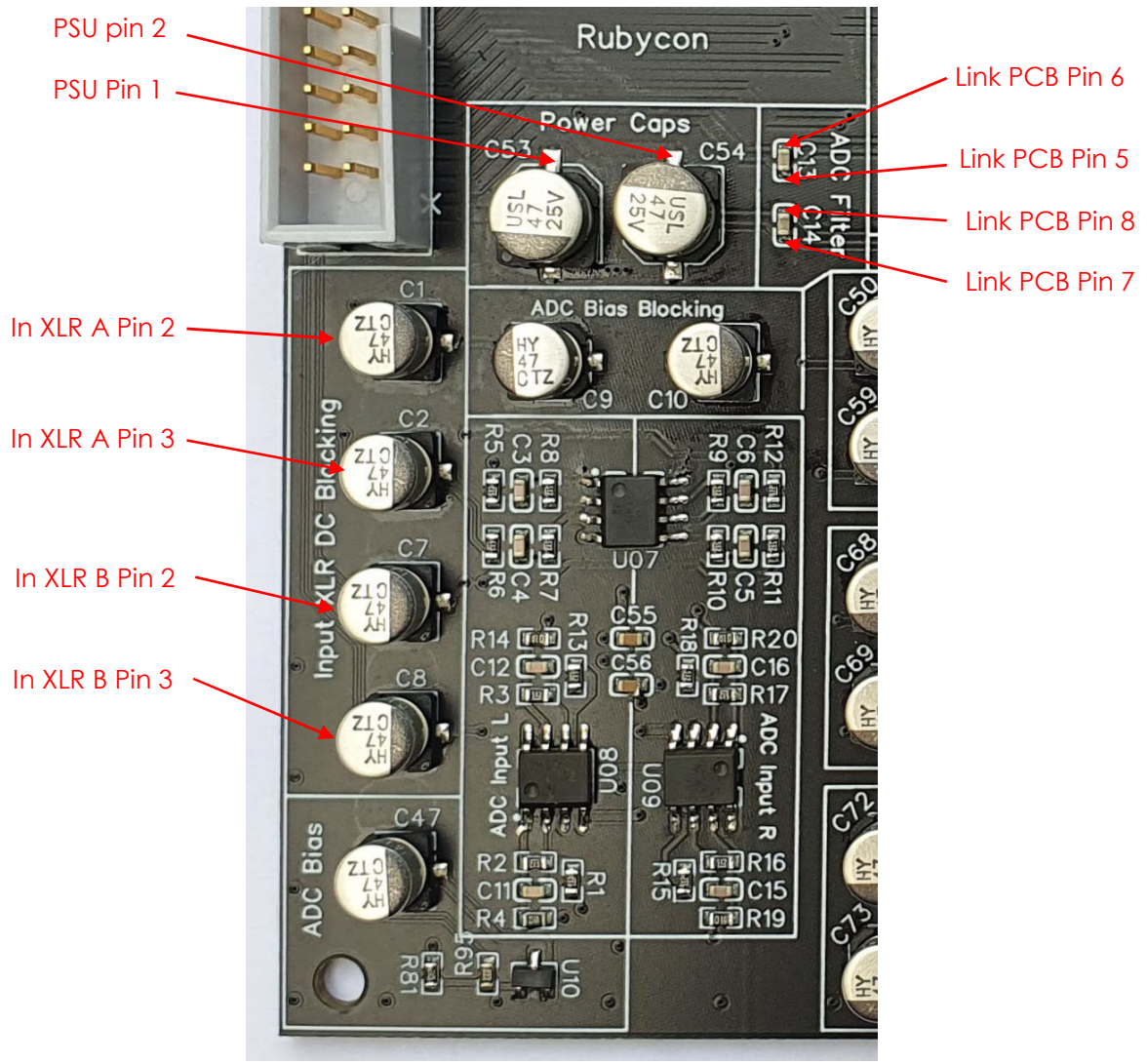Connect the Main ribbon from Rear PCB to the Link PCB.

Also re-connect the smaller Rear PCB ribbon.

Upgrades are now complete!

Troubleshooting

Ensure the equipment is turned off.
Use a multimeter on continuity or resistance setting to check the following connections are made correctly. The meter should read below 1 ohm.

Link PCB Pin 14   Link PCB Pin 13   Link PCB Pin 16   Link PCB Pin 15

Link PCB Pin 17   Link PCB Pin 20

Link PCB Pin 18   Link PCB Pin 19

Link PCB Pin 22   Link PCB Pin 21   Link PCB Pin 24   Link PCB Pin 23

2 4 6 8 10...   26

1 3 5 7 9 11...   25

PSU pin 2

PSU Pin 1

Link PCB Pin 6

Link PCB Pin 5

Link PCB Pin 8

Link PCB Pin 7

In XLR A Pin 2

In XLR A Pin 3

In XLR B Pin 2

In XLR B Pin 3

PSU
Pin 1

PSU
pin 2

Input XLR

Pin 2

Pin 1
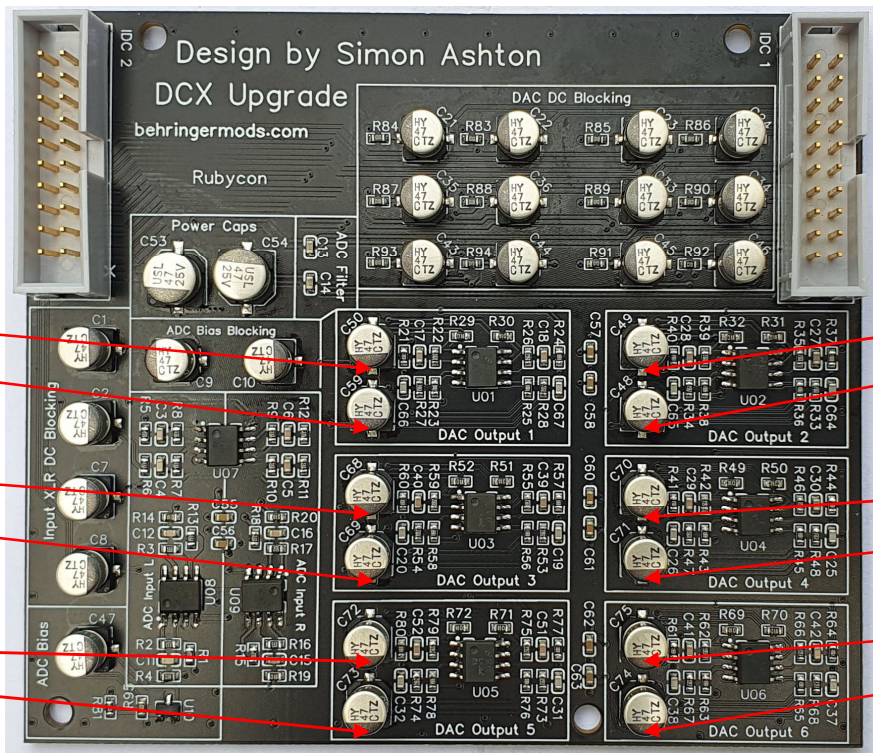
Pin 3

Out XLR 1 Pin 2
Out XLR 1 Pin 3

Out XLR 3 Pin 2
Out XLR 3 Pin 3

Out XLR 5 Pin 2
Out XLR 5 Pin 3

Out XLR 2 Pin 2
Out XLR 2 Pin 3

Out XLR 4 Pin 2
Out XLR 4 Pin 3

Out XLR 6 Pin 2
Out XLR 6 Pin 3

Output XLR

Pin 1

Pin 2

Pin 3