

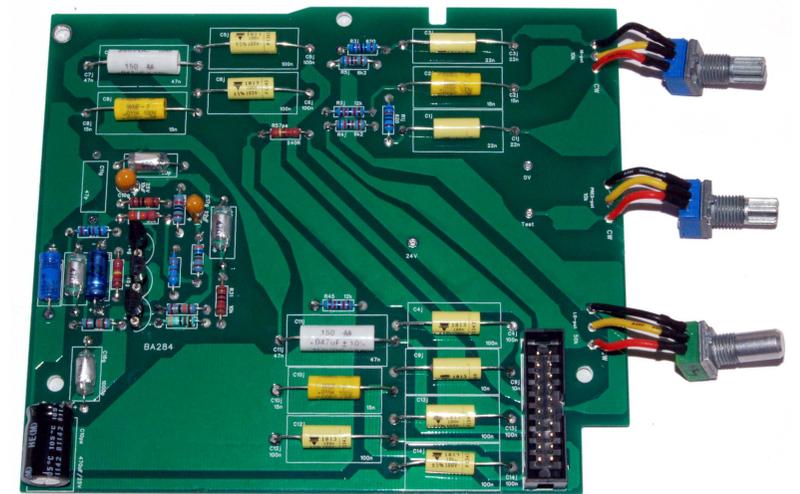
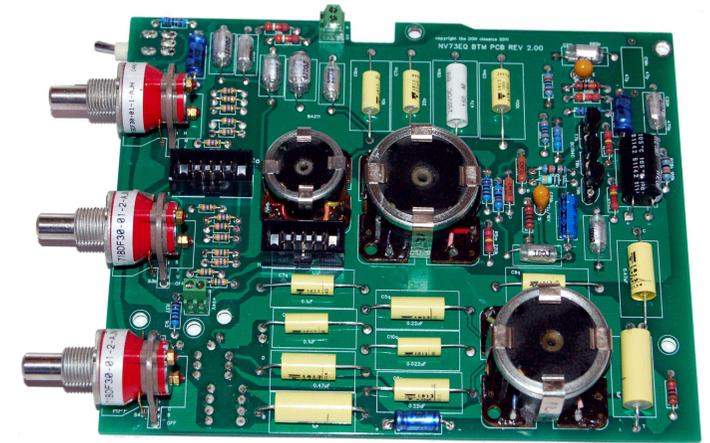
the DON classics

www.thedonclassics.com

NV73EQ

(ADD-ON)
ASSEMBLY GUIDE

REV: 1:00



QUICK ASSEMBLY GUIDE

8 STEPS TO EQ HEAVEN!

1. **Place/solder parts on PCB**
2. **Fit rotary switch pins**
3. **Wire pots**
4. **Make ribbon cable**
5. **Wire to NV73 micpre**
6. **Place PCBs in metal work**
7. **Initial test**
8. **Attach knobs**

Equalise!

NOTE: *This manual assumes that you already have a fully working 'NV73' micpre and are upgrading it to the 'NV73EQ' with the 'NV73EQ-Add-on'*

Frequently Asked Questions (FAQ)

Q. What is the difference between the 'NV73EQ' & 'NV73EQ add-on'?

A. The 'NV73EQ' is a 2 space mic-pre & EQ unit.

The 'NV73EQ-Add-on' is for people already with the NV73 mic-pre who want to upgrade it to the 'NV73EQ'

Q. What is included in the addon kit?

A. Everything included on [this page](#) is included in the kit from us.

Q. What other orders do I need to make?

A. You need to make 2 other orders as detailed on [this page](#).

Q. Is there a schematic that would be useful?

A. For reference you can download the NV73EQ schematics from the DON classics website. [NV73EQ Schematics](#)
PCB designations reference this.

Q. Who can build this?

A. You!

As long as you have patience and are thorough in your work, anyone can build this add-on. There's not a lot to the circuitry and is quick to complete with very minimal wiring. There's lots of support and information and it is tried and tested.

Q. How close to the original does it sound?

A. Spot on. We have chosen not to do any “new and improved” updates on a circuit that sounds so good. We have chosen the same parts that was used originally and recommend this. This includes large footprints for the mustard caps / polystyrene caps which were used in the vintage unit. And the add-on circuit joins to the mic-pre in exactly the same way as the vintage unit.

1. Solder parts on PCB

When inserting parts there are 3 resources that will be useful.

- A) **Silkscreen images** (*eg. for any hard to read designations*)
Silkscreens can be downloaded on the manual page: [silkscreens](#)
- B) **General BOM** (*eg. For more info on specific parts/values*)
General BOM can be found on the manual page: [General BOM](#)
- C) **Schematic** (*eg. For general confirmation of circuit*)
General BOM can be found on the manual page: [Schematics](#)

Armed with that info, **let's start!**

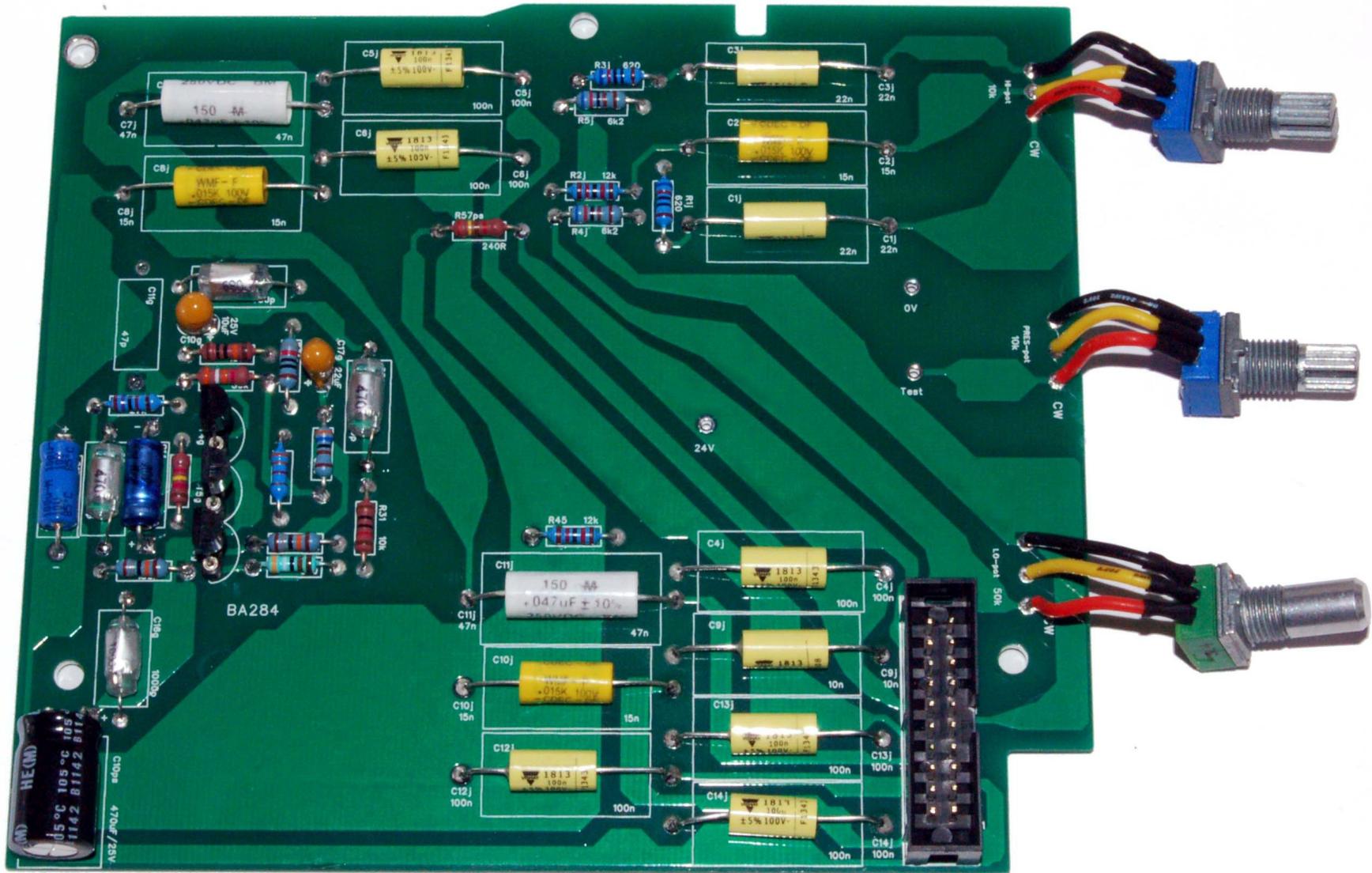
Insert all parts on to the PCB as marked on the silkscreen. *All designations and values for parts are marked on the PCB for ease*

TIPS:

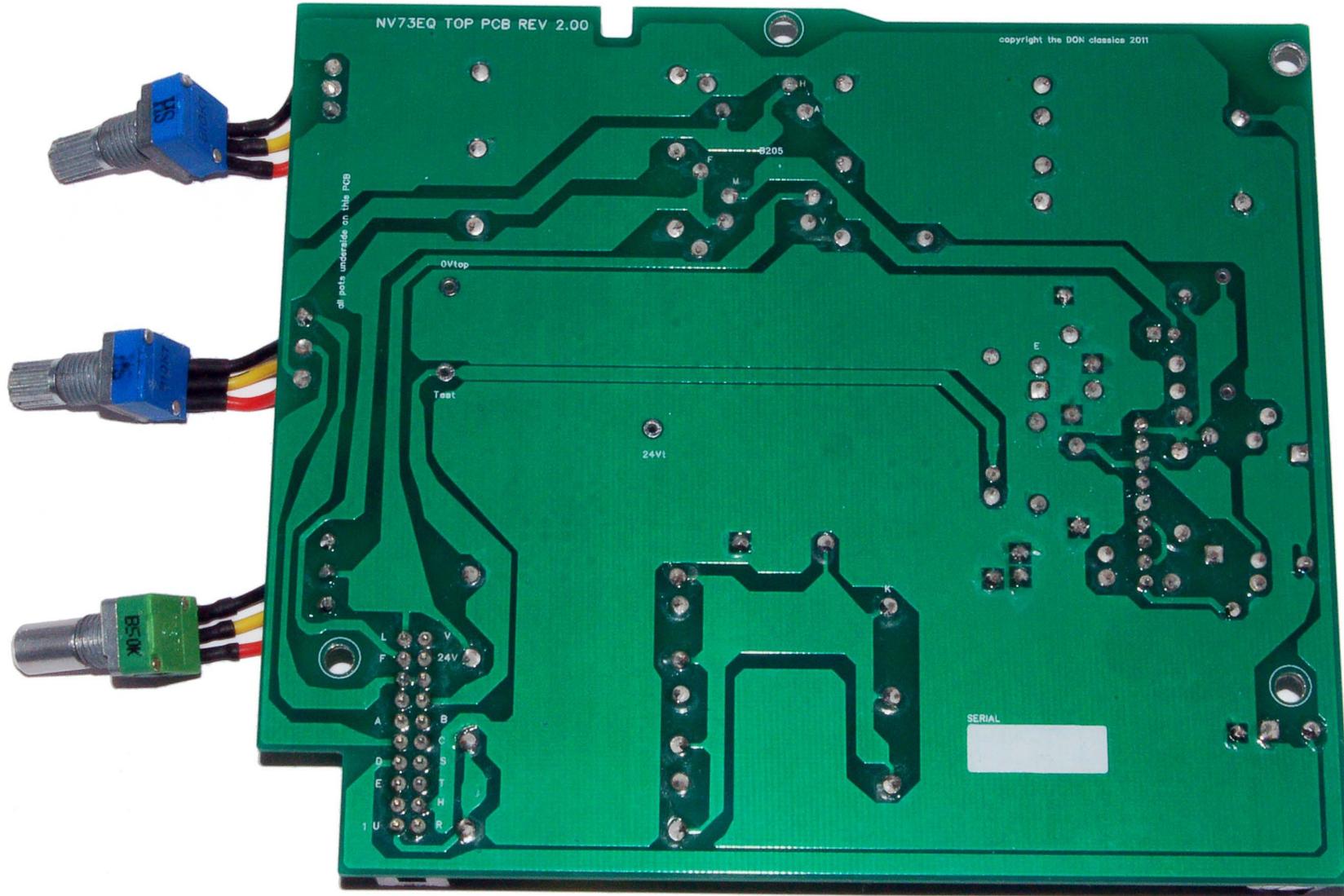
- Start with smaller parts (resistors etc.) and work up to the larger parts
- Solder inline sockets for transistors on both EQ boards
- Fit bottom parts first on **BTM** PCB as there'll be less room to solder up top.
- Make sure no metal legs protrude too much on the **TOP** PCB
- All the small 1/8W sized resistors near the rotary switches are 4M7 if not stated otherwise.
- Green molex K & 24V opening should face the middle rotary switch
- Green molex P & 0V opening should face the PCB cutout
- The 47pF caps are a hot topic.. some vintage units have them removed, some don't. They exhibit a large drop in the top end when EQ is pushed in, however if you are trying to emulate a particular vintage unit then the footprint is there. It's up to you!

PCBs should end up looking like this...

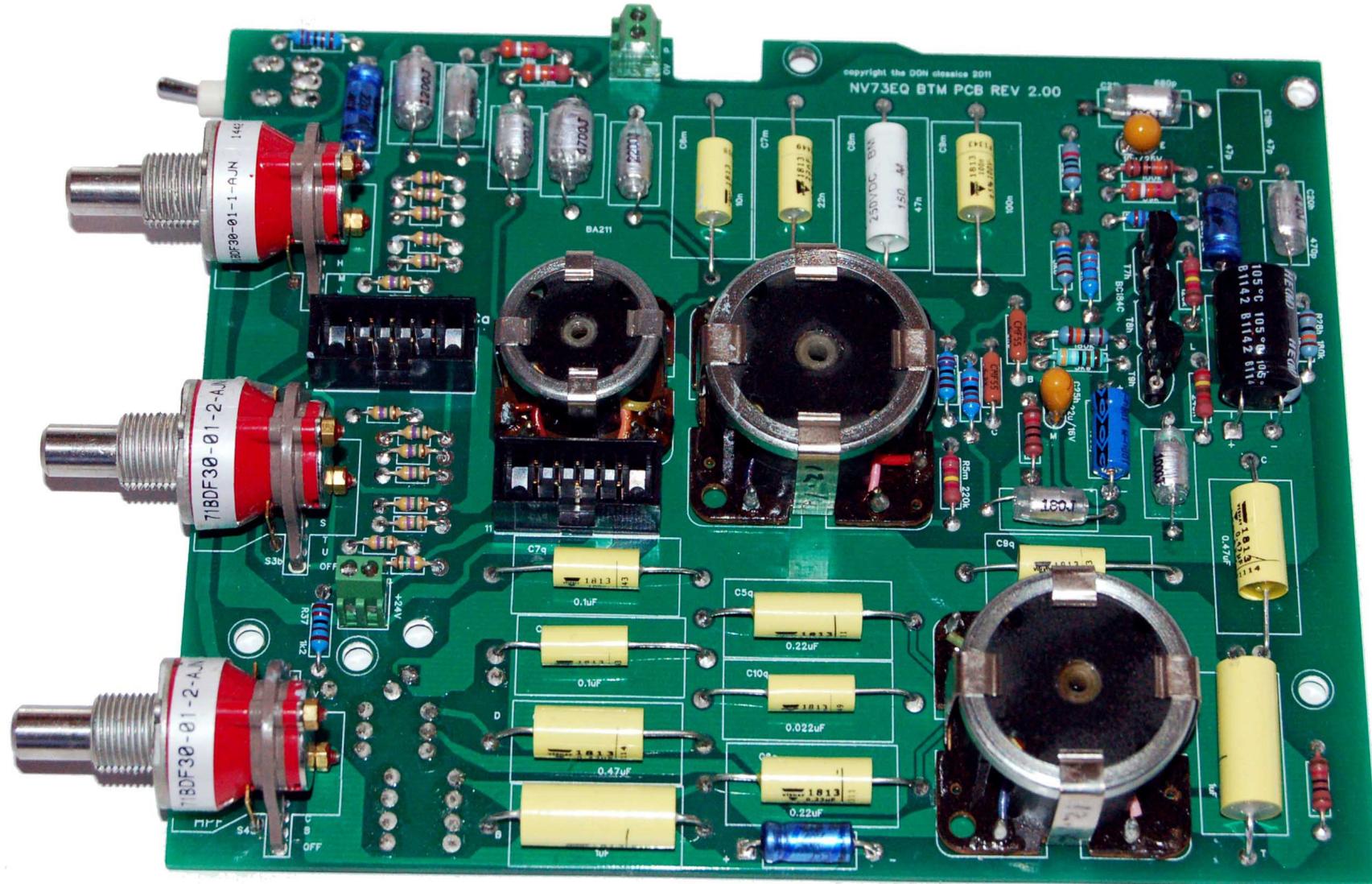
TOP PCB:



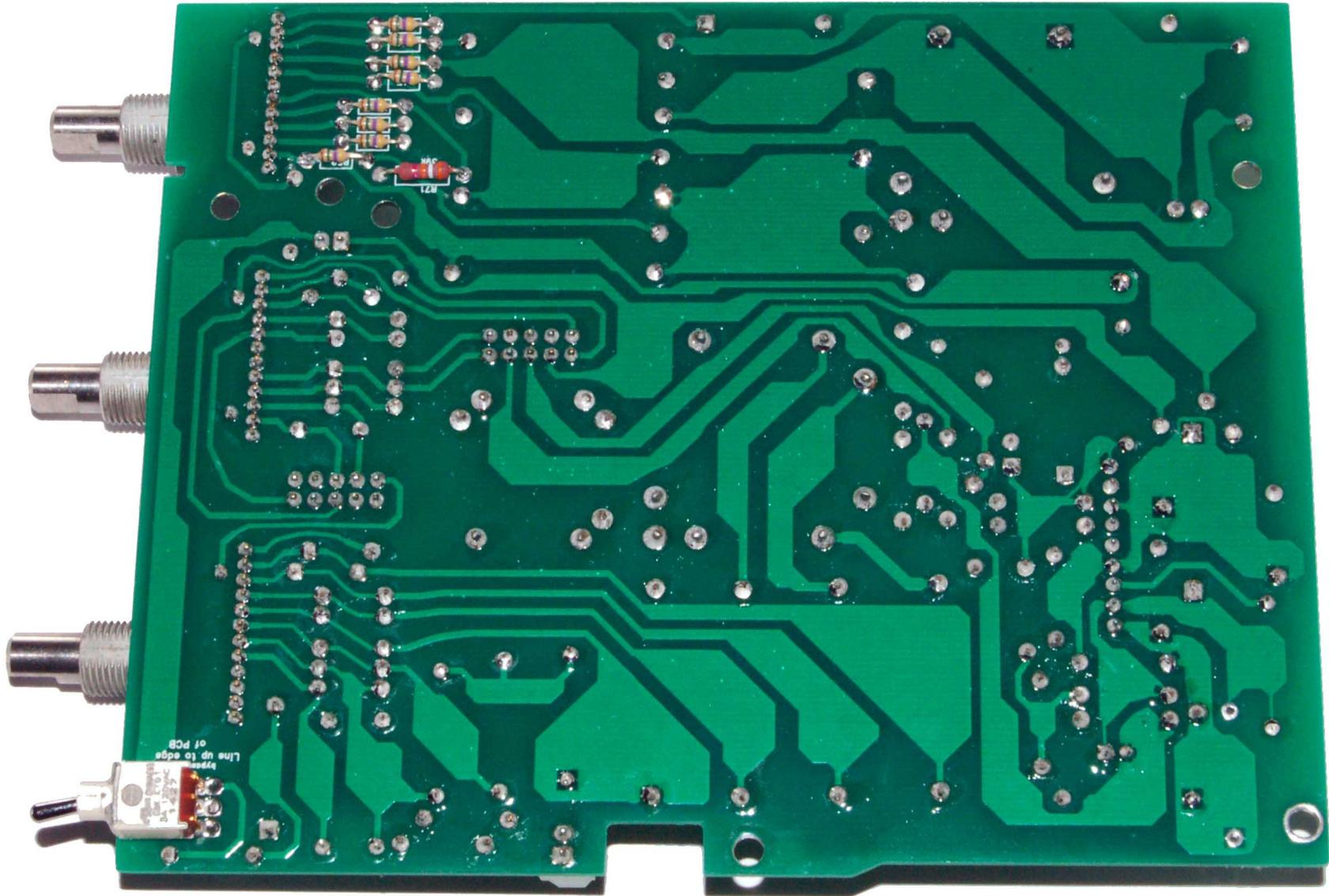
TOP PCB (underside):



BTM PCB:



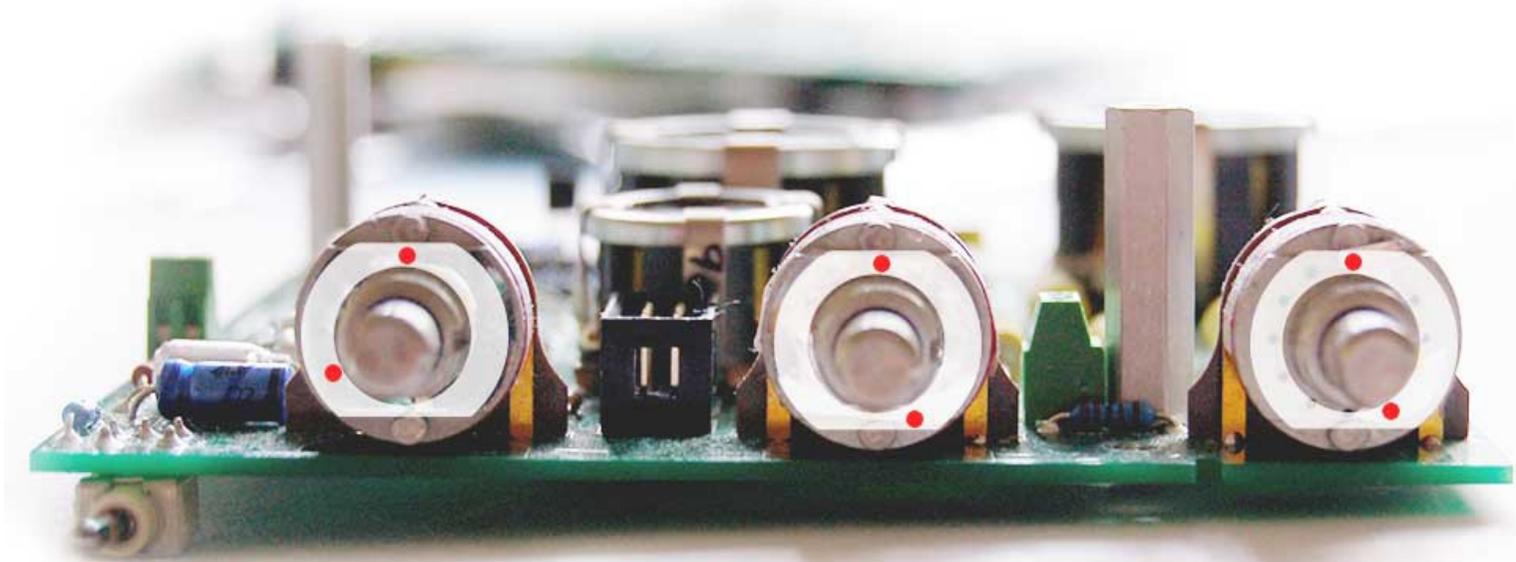
BTM PCB (underside):



2. Fit rotary switch pins as shown

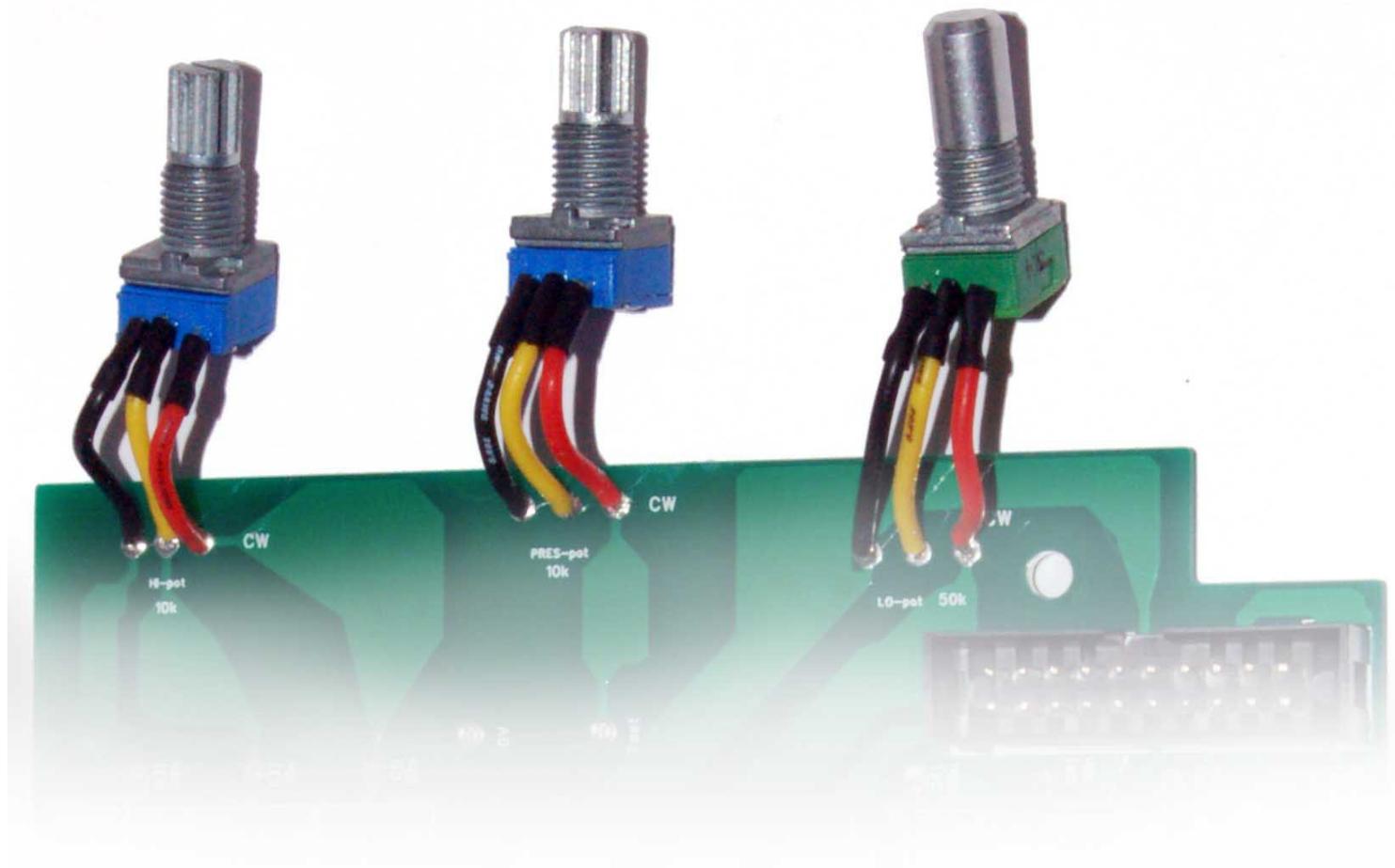
- **Before** inserting the stopper pins confirm that the common leg shorts to leg 1 of the switch (edge closest the common pin)
If it doesn't, twist the shaft to the position where it does. OR insert the pin in 12 o'clock, and then twist the shaft anticlockwise all the way. (Either method will work)
- Fit the stopper pins in the positions shown *(or a bit of component leg if you have misplaced the pins!)*
- Place the metal sticker over the pins (remove the inner middle circle sticker)

NOTE: *For the presence setting (there was an extra position of 10kHz. Achieved simply by an extra cap in an extra switch position. I've included this cap so you will have the extra position of 10kHz. If you prefer, you can of course set this rotary switch to just the 7 positions like the 1073 & front panel.*



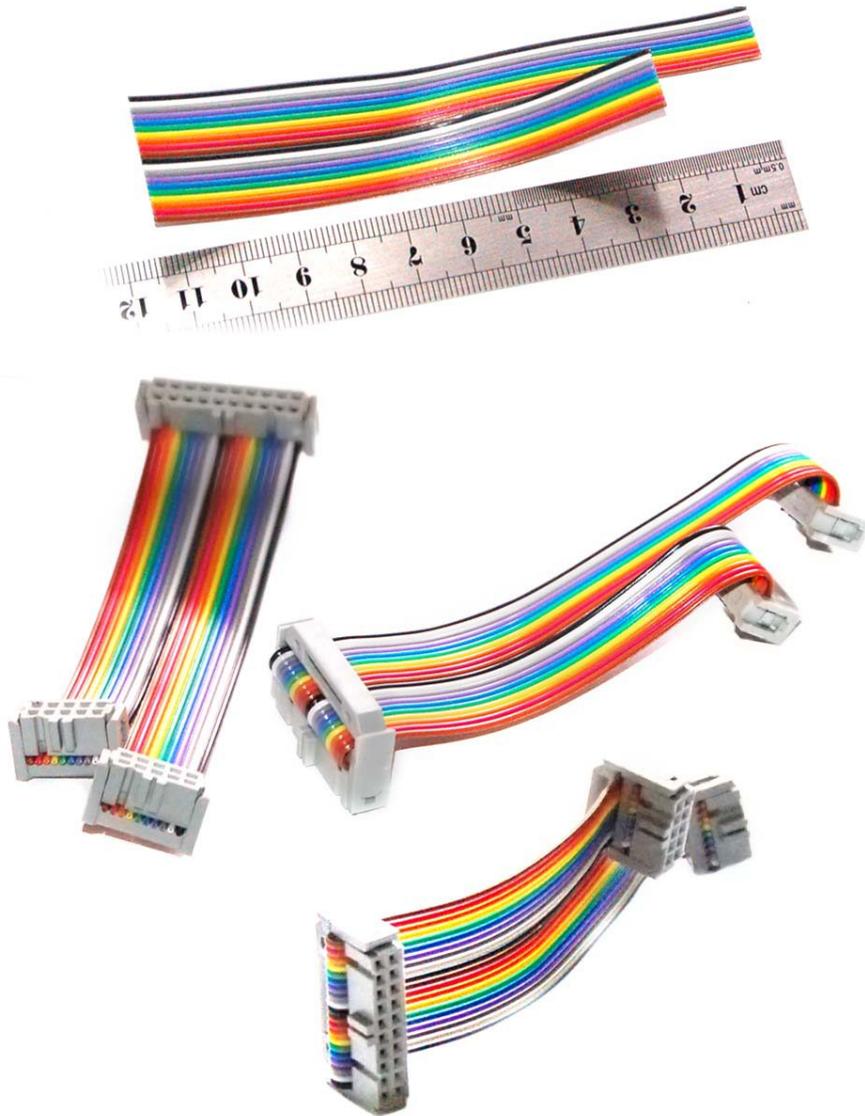
3. Wire the pots

Wire pots as shown:



TIP: *A little heatshrink will keep things neat and make sure no shorts happen between connections.*

4. Make ribbon cable



- Cut the 20way ribbon cable as shown in cm
(using scissors, cut straight and not off angle)
(Split the ribbon cable down the middle along half its length)
- Black is pin 1 as shown.
Make sure black will connect to pin 1 of the IDC headers.
(The triangles are pin 1 on the IDC headers.)
Make sure the headers line up as shown.
(Red will be pin 1 if using a grey ribbon cable)
- One at a time line up the headers correctly
(straight so the teeth line up & is not crooked)
Push down with fingers until it grips and confirm all is lined up.
Flush or overhanging the edge a little is correct.
Keep applying firm pressure so it doesn't slip out.
- Squash in a vice or use a handheld IDC tool.
It will clip into place.
Confirm the 2 side edge teeth pop through.
- Once fitted, bend back the ribbon cable and fit strain relief clips.
- Split the cable further long the middle to increase flexibility when plugging in the PCBs

5. Wire to NV73 micpre

- Remove the shielded cable on the bottom of the NV73 mic pre PCB.
- Remove the CW wire on the output gain potentiometer on the NV73.
- Cut and strip a shielded cable as shown for P & 0V.
- Cut and strip 2 wires for K & 24V.
Place the BTM PCB roughly in place as a reference for how long the wires should be.
- Solder wires as shown.
- The K & 24V wires can poke up through the extra hole in the **BTM** PCB.

The next page shows the connections...

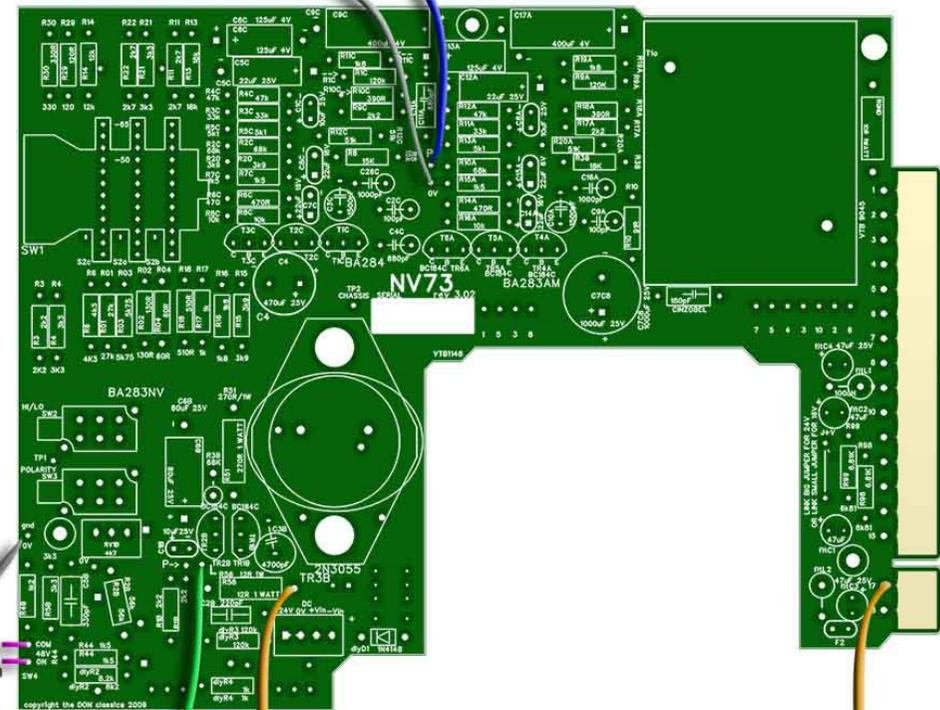


to P near input amps
to 0V near input amps

K = To CW of output pot
24V = To 24V rail

shielded cable

signal
shield



48V
switch

K
CW

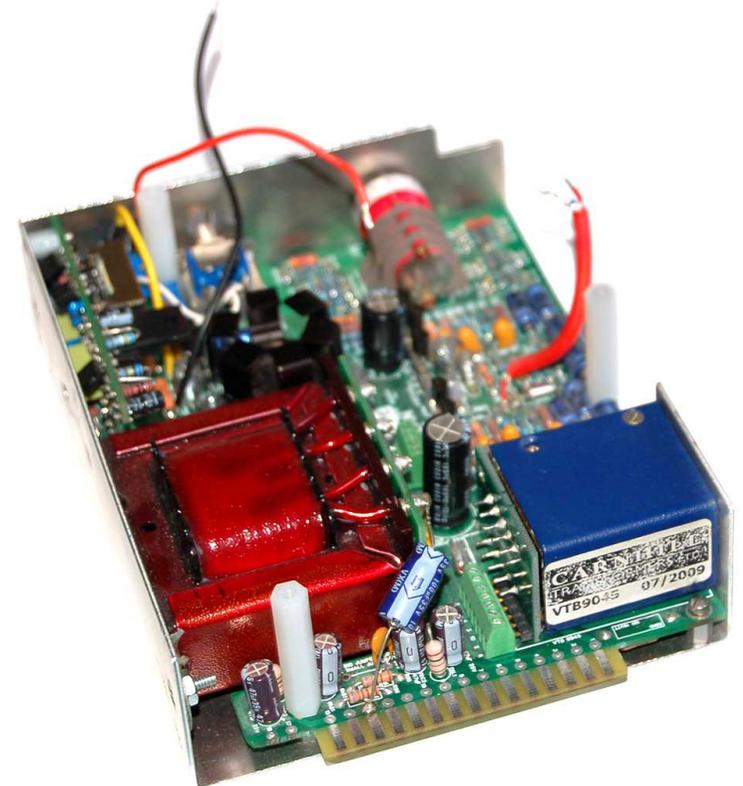
L (middle)

Take 24V from either:
+24V on the 12ohm resistor
or
Pin17 edge connector if 51X

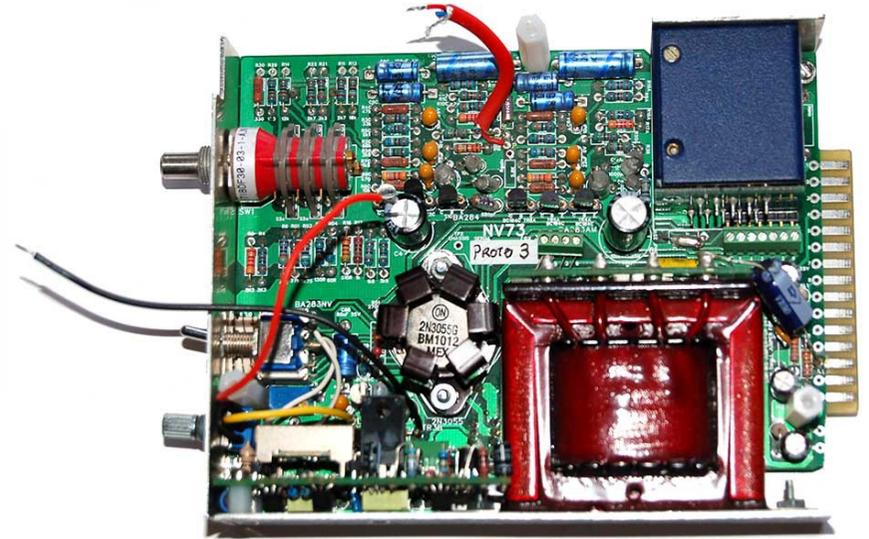
NOTE:
THE CABLE UNDERNEATH THE BOARD CONNECTING P TO P IN THE NV73
IS NO LONGER NEEDED AND SHOULD BE REMOVED

6. Fit metal work

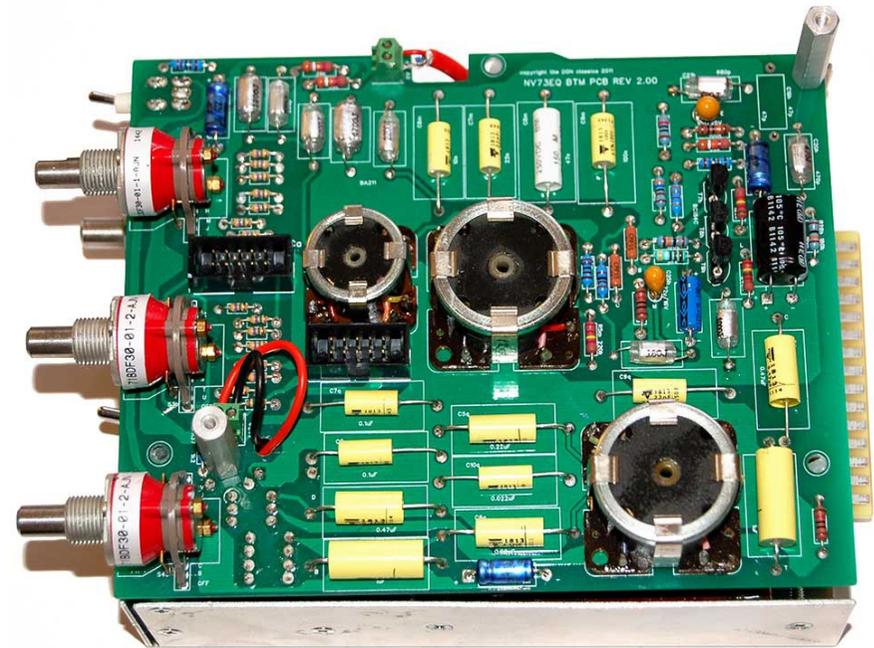
- **Cut a small section off the corner of the L-bracket to fit the new EQ bypass switch.**
Use aviation snips for less mess.. or a nibbler.. or a hacksaw/file if you prefer.
It will be hidden by the front panel, so no need to be too precise.
- **Prepare the L-bracket like before using the countersunk screws and standoffs.**
Place the one metal standoff like before, near the edge connector fingers pin1.
And the other nylon standoffs like before.
- **Fit everything in the NV73 like normal. eg. Transformers, Small PSU PCB..**
Place in the pot and phantom switch.. use the tabbed washer and make sure they don't fall back into the unit where it will be difficult to grab once we place on the other PCBs.
- Now the NV73 is together. Secure it in the L-bracket.
For the one metal standoff (near pin 1), use a normal pan head screw like before.
For the other standoffs, use the 3 large nylon male/female standoffs.
- ✓ Now confirm the following three things:
 - 1) 2N3055 case should short to output transformer pin 1..
 - 2) Output transformer pins shouldn't short to ground..
 - 3) Terminal block screws are tightened..



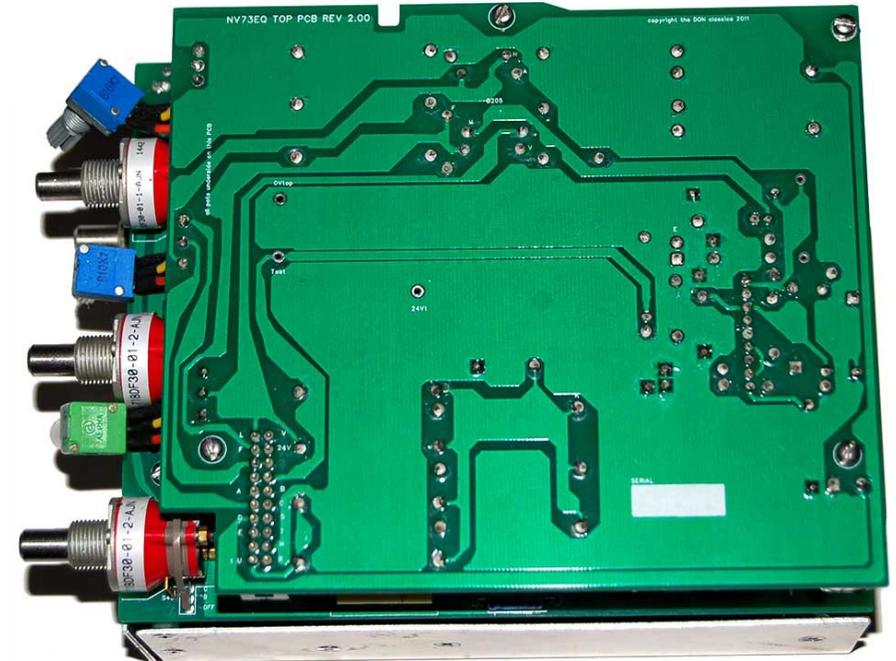
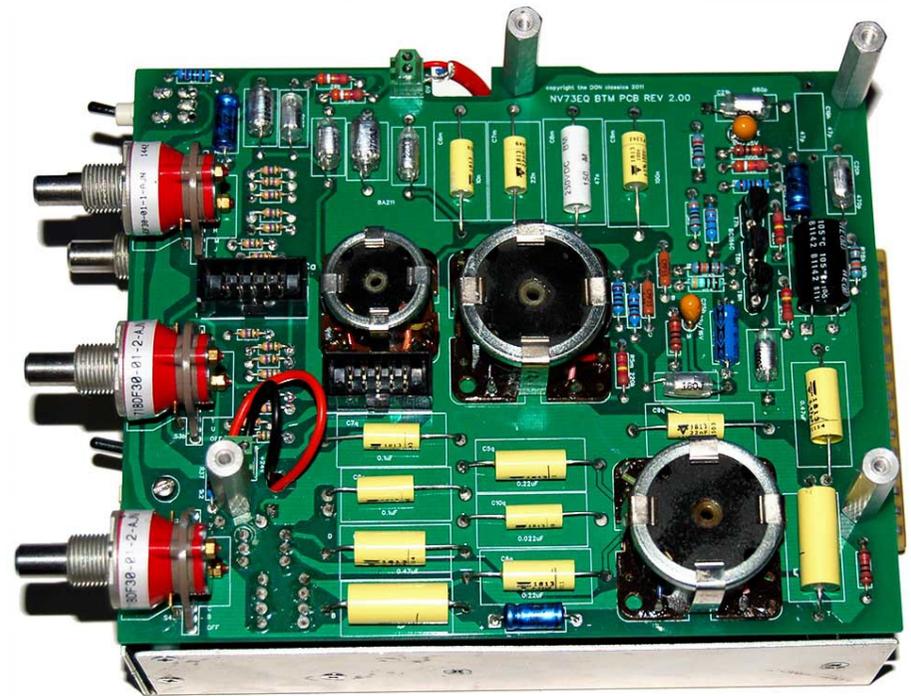
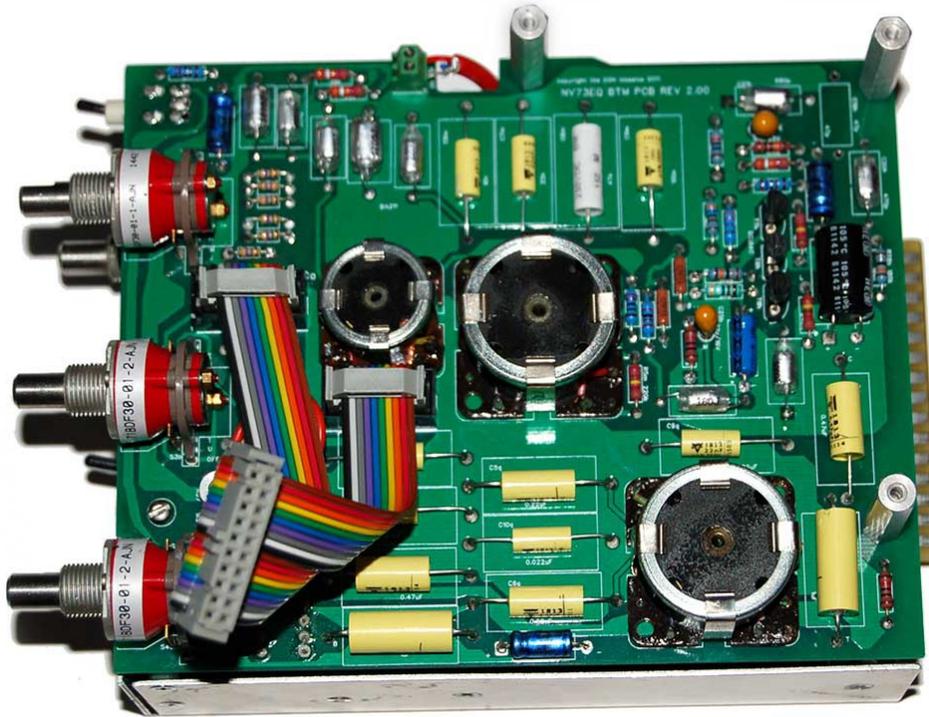
- Place two 1inch metal standoff on the *BTM* PCB as shown below. Secure with nut.



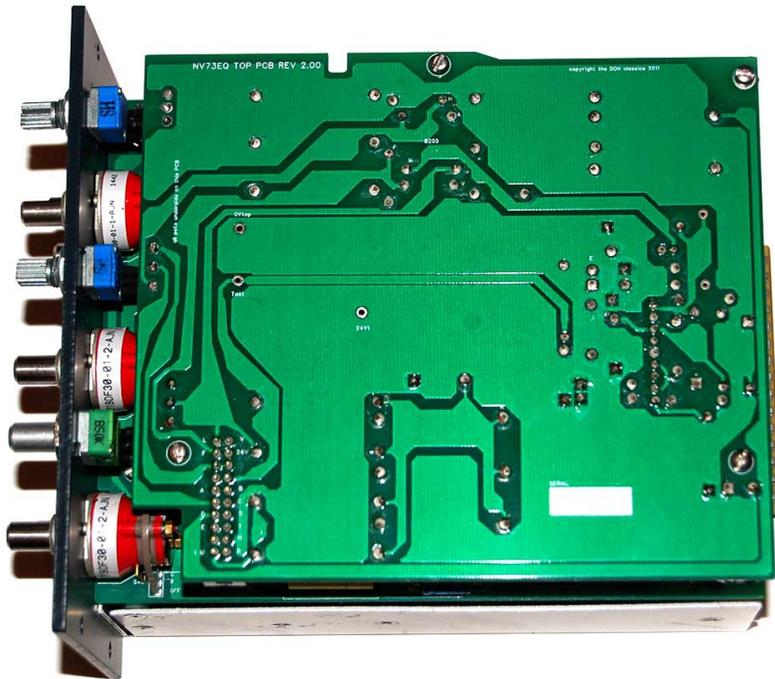
- Place on the *BTM* PCB and feed through the wires
- Tighten the screws in the two green terminal blocks.



- Secure the **BTM** PCB
Use a small pan head screw for the nylon standoff closest to the 48V switch.
Use metal 1 inch standoffs for the other 2 nylon standoffs.
- Insert the ribbon cable into the **BTM** PCB and **TOP** PCB.
Carefully shift the ribbon cable until the **TOP** PCB lines up with the standoffs and screw using the remaining 4 pan head screws.



- Before placing the front panel it's worth checking that there is no short on the power rails to ground. So confirm there's no continuity between the 24V and 0V pins marked on the top of the PCB and also the edge connectors voltage rails and ground. Pins 1,5 & 13 are ground. Pins 12,14,15 are power rails. (Pins 17 & 18 on 51X are also power rails)
(Power rails shouldn't short to each other or to ground.)
(a small beep when first testing is normal as the caps charge up.)
- Insert front panel carefully making sure the pot and 48V switch doesn't fall back into the unit. Secure everything with nuts. For the phantom switch you can reach in with a long nosed pliers if needs be to help when tightening. Same with the tab on the small pot. If not, long tweezers could also prevent turning of the body when tightening. Make use of the blind holes in the front panel for the tabs on the potentiometers.



7. Initial test

Turn the unit on!

Once the unit is on, measure to make sure you are reading +24V You can check on the top where +24V is marked and 0V.

Run some audio through the unit with EQ on and off and check that it sounds good and all controls work correctly.

Make sure there is no buzz or hum from the unit.

If all is well then we can fit the knobs...

8. Attach knobs

- Allow a little distance between the knobs and the front panel so the knobs don't grip against the front panel.
- Use a small flat head screw driver. (Use two at the same time for an easier way to secure the knobs evenly.)
- Use a T2 sized head screw the small grey knobs on.

Congratulations! Get recording & mixing!



* Further troubleshooting

For more in depth troubleshooting tests, it may be worthwhile to build or buy a little jig to test units without having to root around in a lunchbox. eg. An EDAC attached to long wires attached to a PCB with the 15/18 gold fingers to insert to the lunchbox. (One source of card edge connectors and edge adapters is Jeff's excellent store [classicAPI](#))

