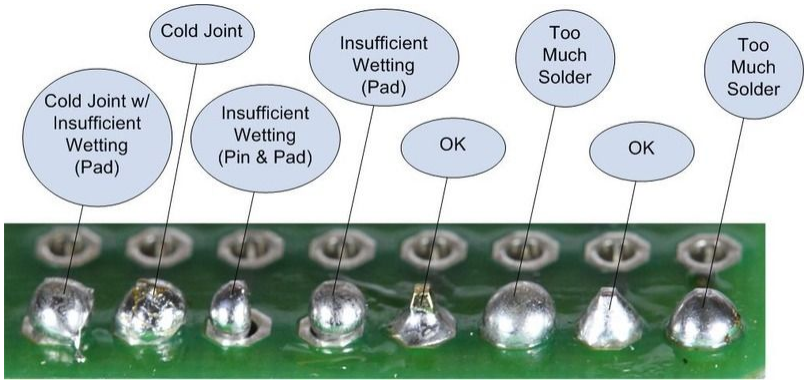
Sonveskan Build Document

Your solder joints should look like those shown as ‘OK’ below, they should have that neat conical shape on BOTH sides of the PCB. If they don’t look the same on both sides then stop! Work out why from the soldering guides linked and don’t continue until you are getting those results. This isn’t about perfectionism, you are very likely to end up with a destroyed, damaged or defective unit if you’re not hitting that standard.



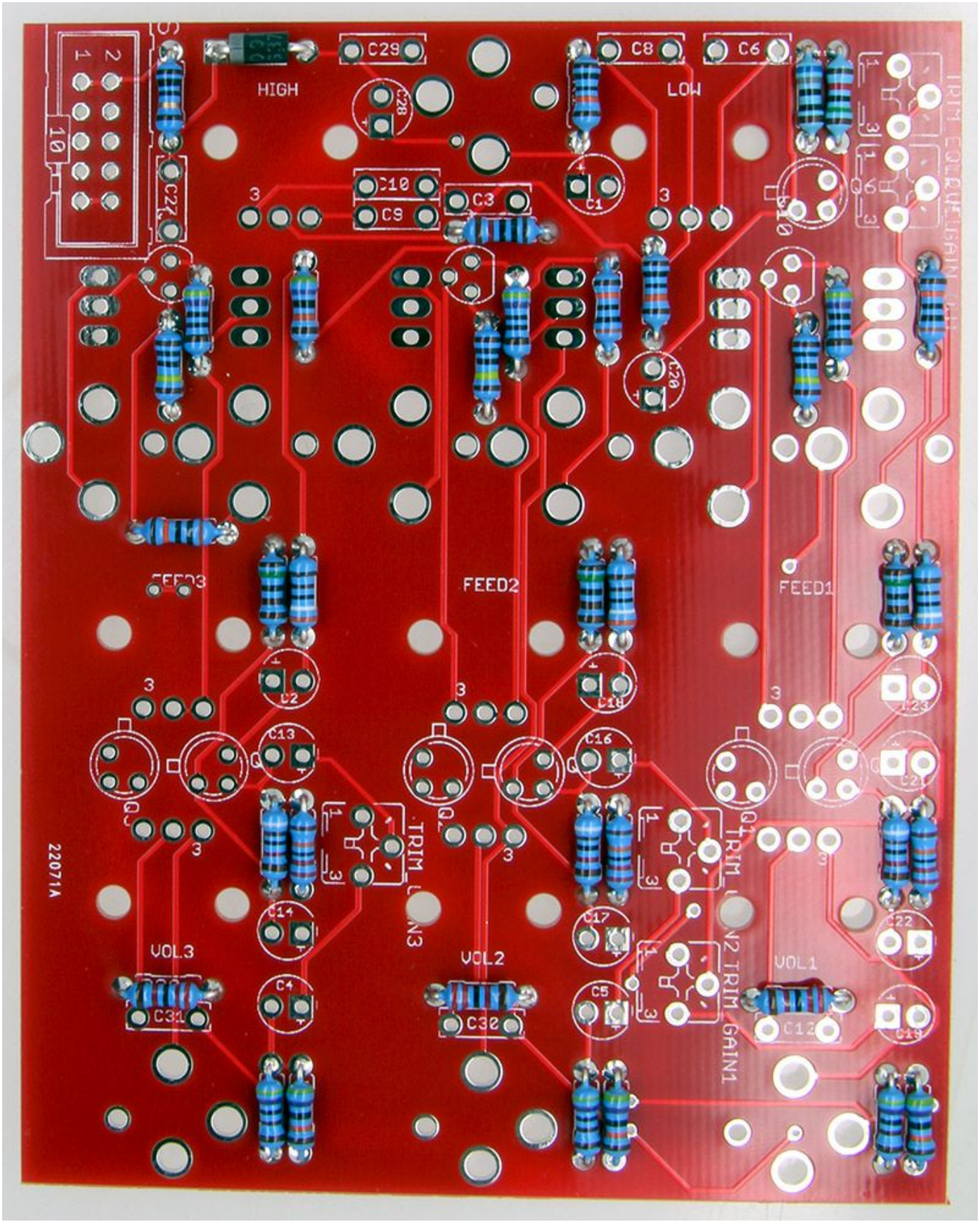
This photo is from the Adafruit guide to excellent soldering - http://bit.ly/1l77tF4 and is reproduced under an Attribution-Sharealike creative commons license - http://creativecommons.org/licenses/by-sa/3.0/

Start off by soldering the resistors and diode

1	R40	10R
1	R9	10k
2	R1, R11	100k
3	R29, R41, R43	1M
3	R3, R27, R34	1,5k
1	R14	15k
3	R6, R17, R20	22k
3	R23, R24, R32	220k
3	R28, R31, R44	300k
3	R4, R26, R35	3,9k
3	R30, R42, R45	470R
3	R7, R8, R21	4,7k
4	R2, R5, R16, R19	470k
1	R39	680R
3	R22, R25, R33	91k

1	D1 **(SEE IMAGE FOR CORRECT POLARITY!)**	1N4001

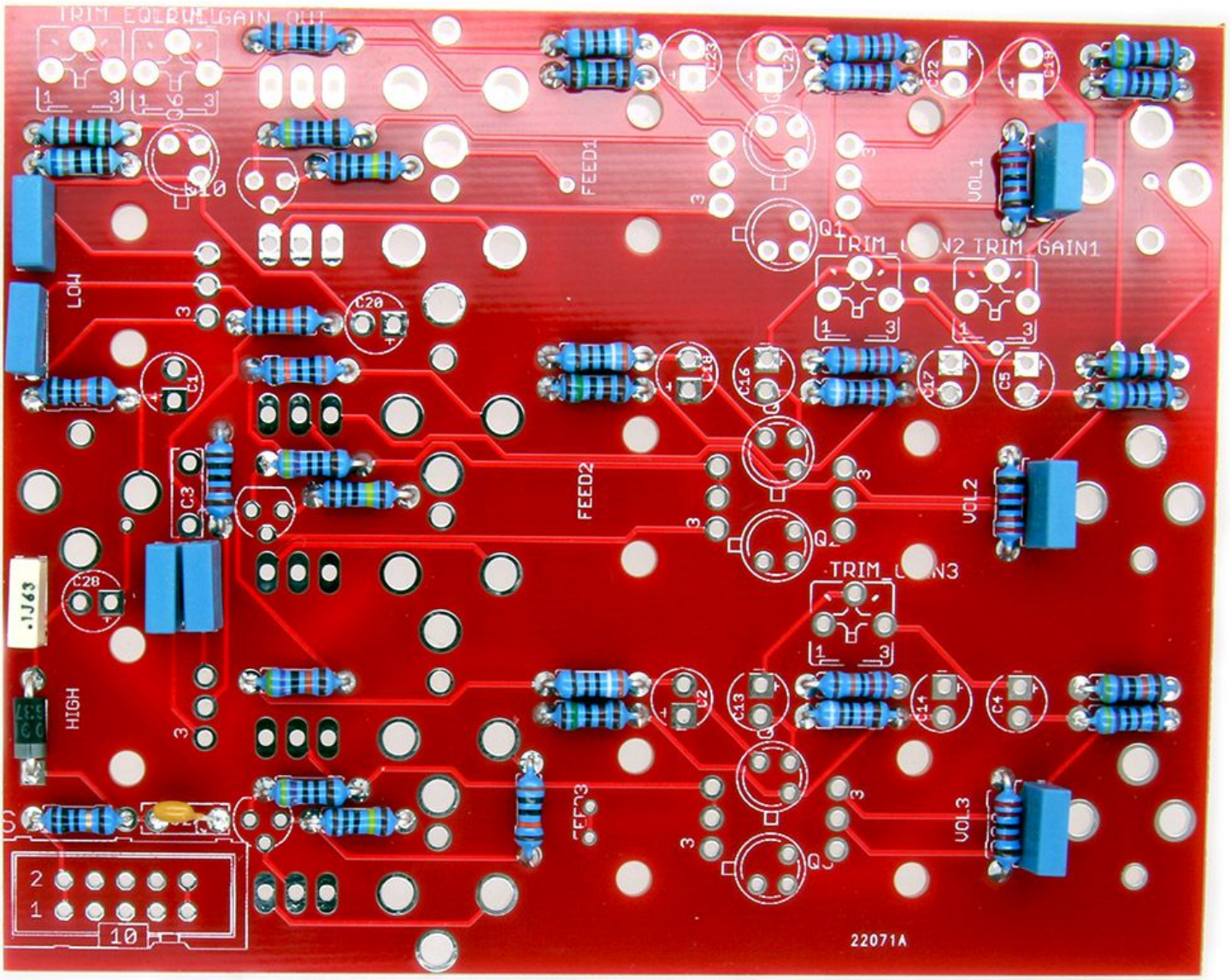
Sonveskan Build Document



Sonveskan Build Document

Next solder the Ceramic Capacitor and Film Capacitors.

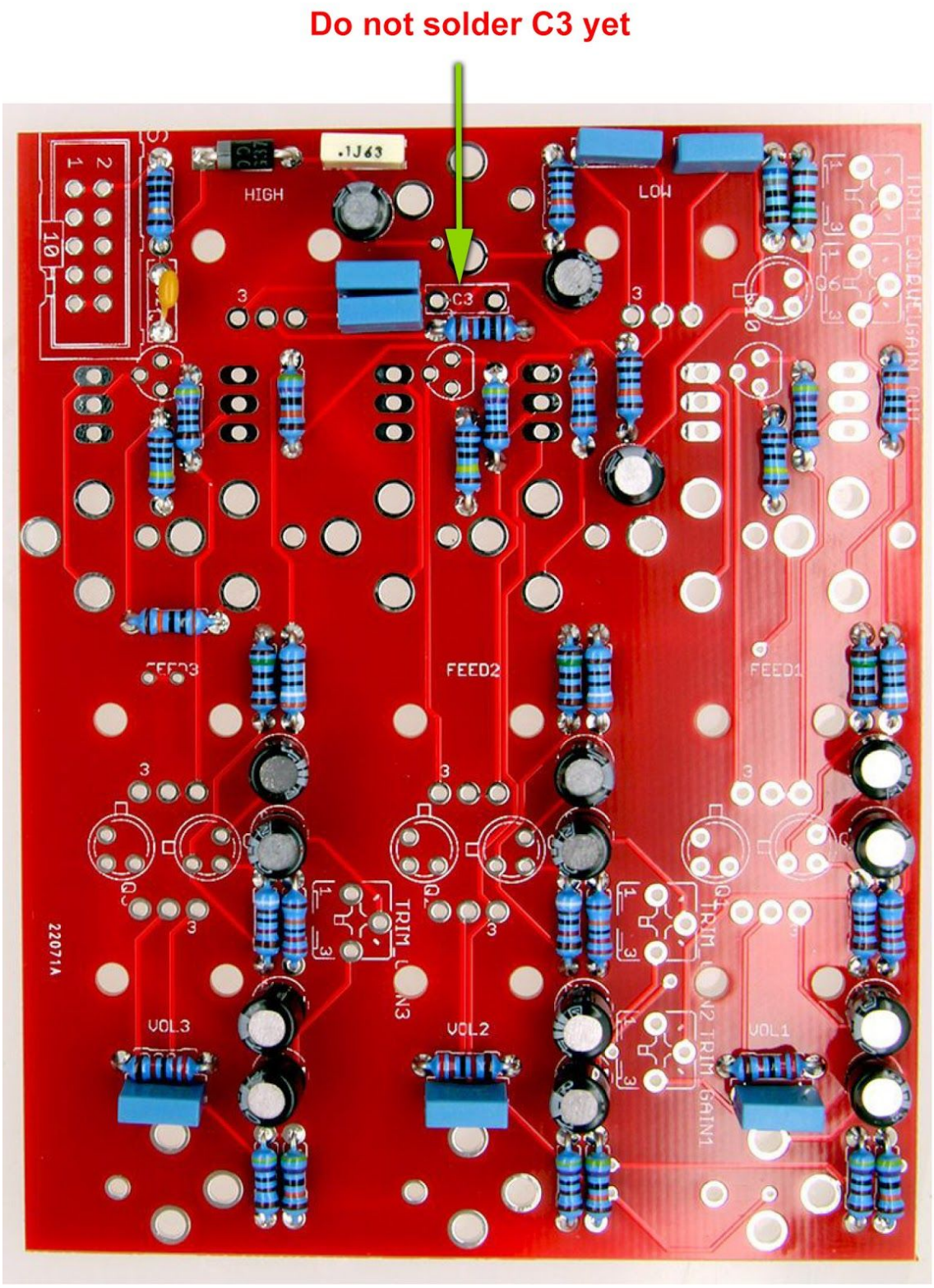
1	C6	22nF
4	C8, C12, C30, C31	220nF
1	C9	10nF
1	C10	2.2nF
1	C27	4700pf
1	C29	100nF



Sonveskan Build Document

Now place and solder 15 of the 16 Electrolytic capacitors - the positive leads are marked by square pads on the PCB - IMPORTANT: DO NOT SOLDER IN C3 YET.

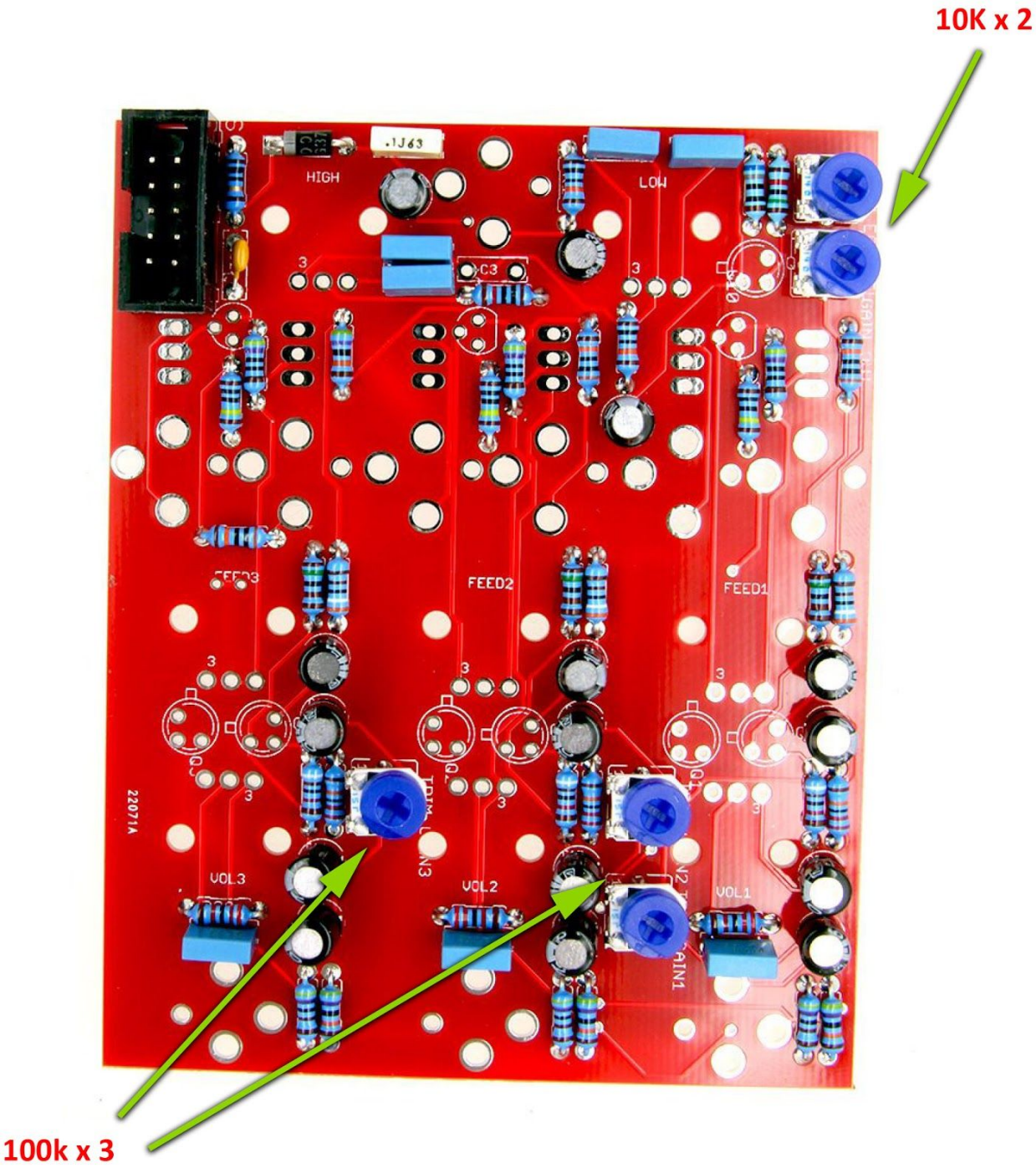
15	C1, C2, C4, C5, C13, C14, C16-C23, C28	10uF



Sonveskan Build Document

Now solder the five trimmers and the power header, make sure that the indent on the power header matches the pcb silkscreen, facing towards the edge of the PCB.

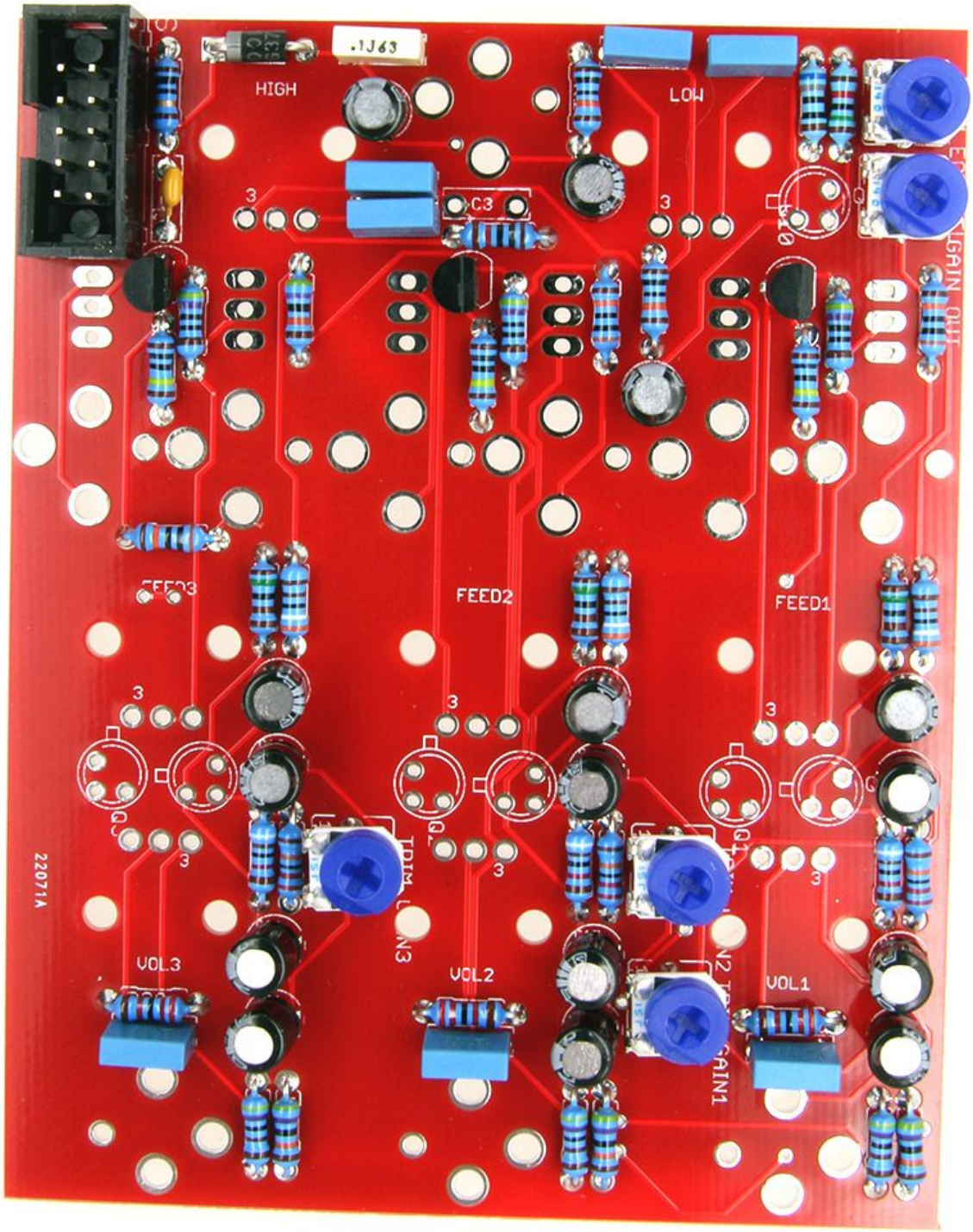
3	TRIMMER - GAIN1-3	100k
2	TRIMMER - GAIN OUT, EQLEVEL	10k



Sonveskan Build Document

Now solder the three BF256 transistors - make sure to match the curve of the body with the silkscreen on the PCB.

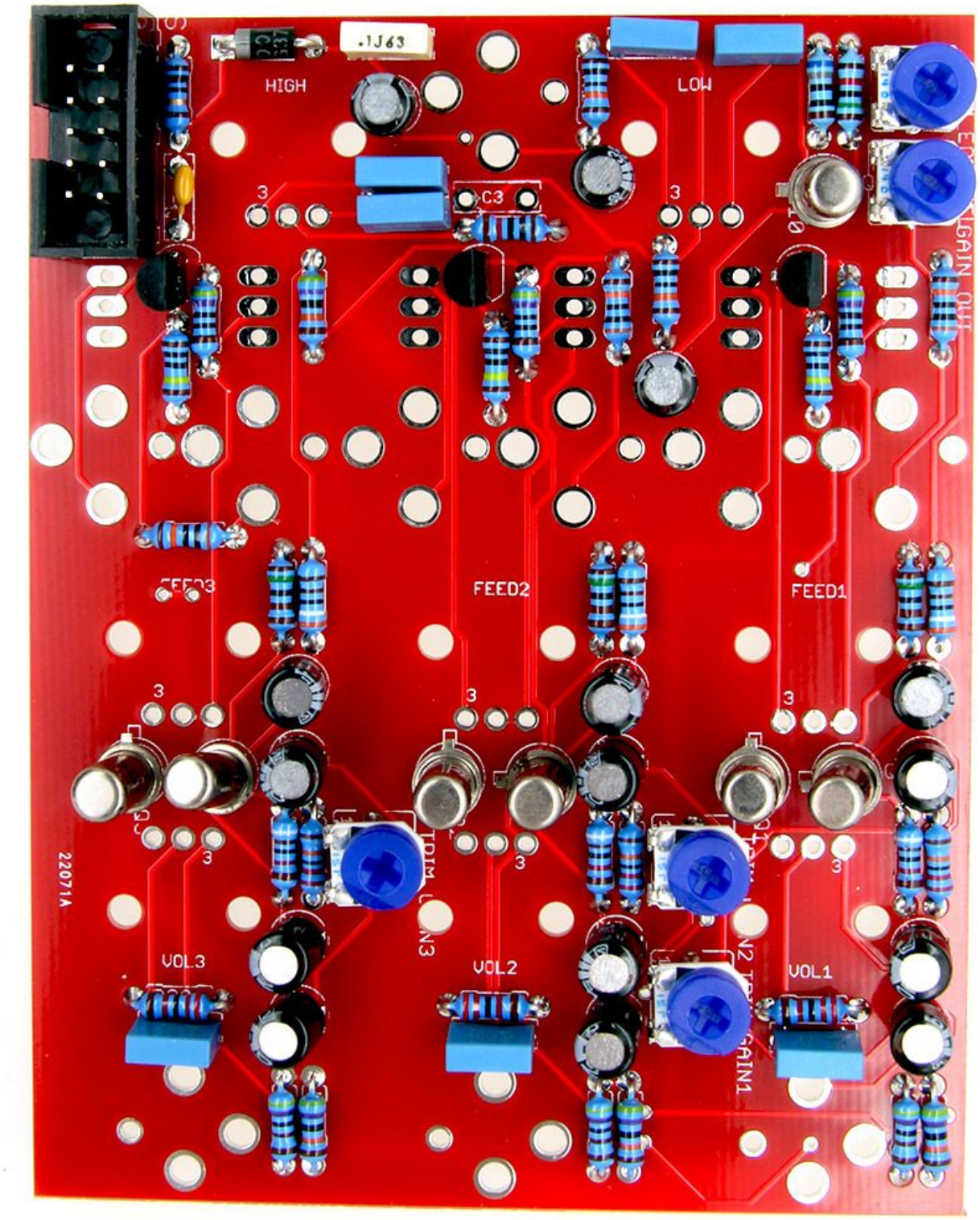
3	Q8, Q9, Q10	BF256



Sonveskan Build Document

Next solder the seven ‘silver can’ germanium transistors - make sure to line up the tab with the silkscreen on the PCB without twisting the legs.

7	Q1 - Q7	GS109C RFT



Sonveskan Build Document

Now it's time to fit the Frontpanel hardware, before you place the potentiometers you will need to remove the foot on the back all eight pots (underneath where the value is written) by either by cutting or bending them off with pliers. Note: If you are using cutters then wear eye protection!

Remove the part highlighted red

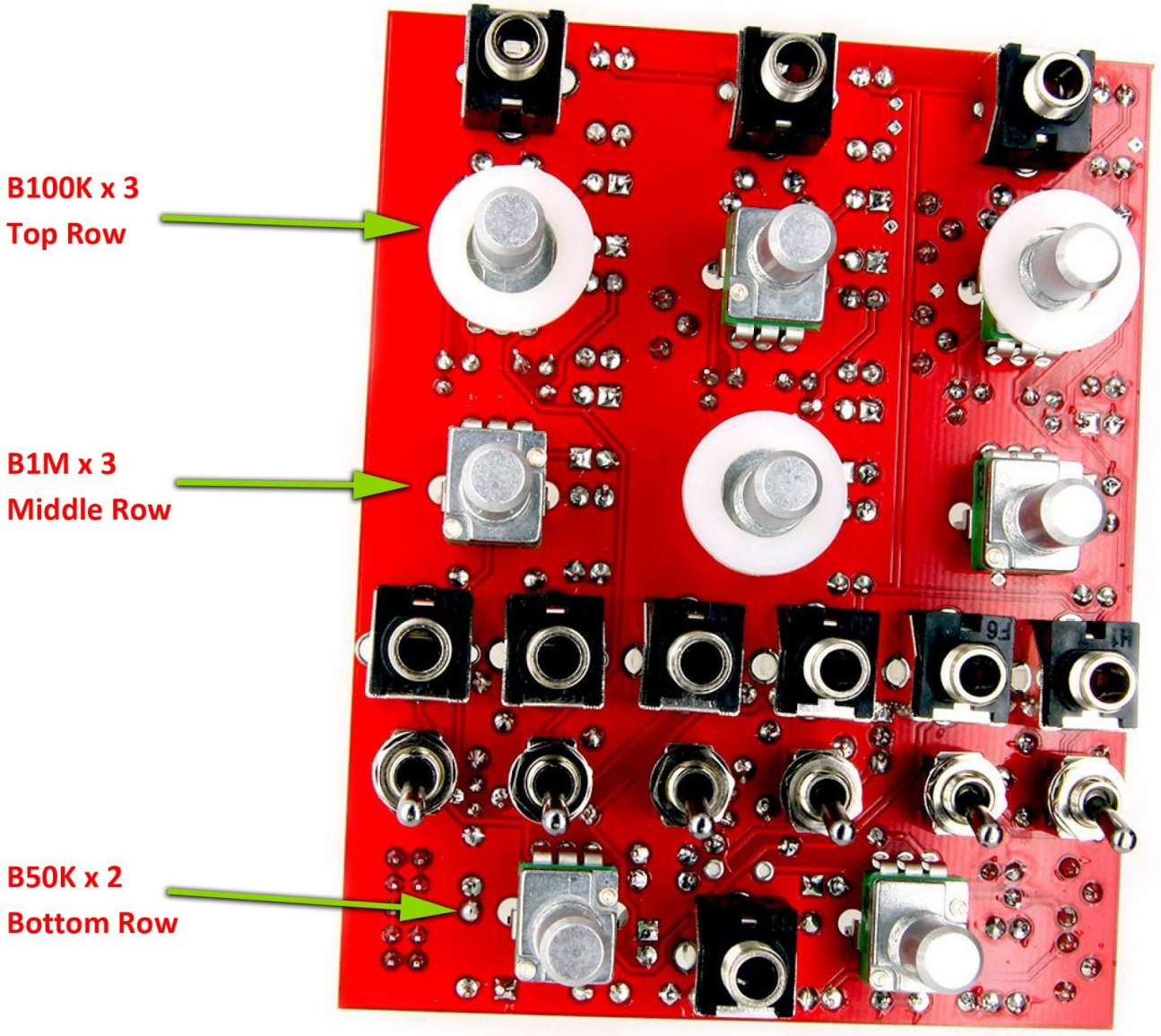
3	Pots (See image on next page for correct placement)	B1M
2	Pots (See image on next page for correct placement)	B50k
3	Pots (See image on next page for correct placement)	B100k

Sonveskan Build Document

Now place all the Frontpanel hardware but DO NOT SOLDER ANYTHING YET. Make sure the switches have both nuts and washer screwed on. Pay attention to the pot values as shown below. Next place the three plastic washers on the pots and carefully position the panel onto the PCB.

IMPORTANT: before you solder any pots, make sure that you place the Frontpanel and screw nuts and washers on to ALL of the pots. You may have to push the pots up through the panel slightly to get this to work.

It's very important to do this, if you fail to do so you may not have enough thread to fit the nuts and washers after soldering.



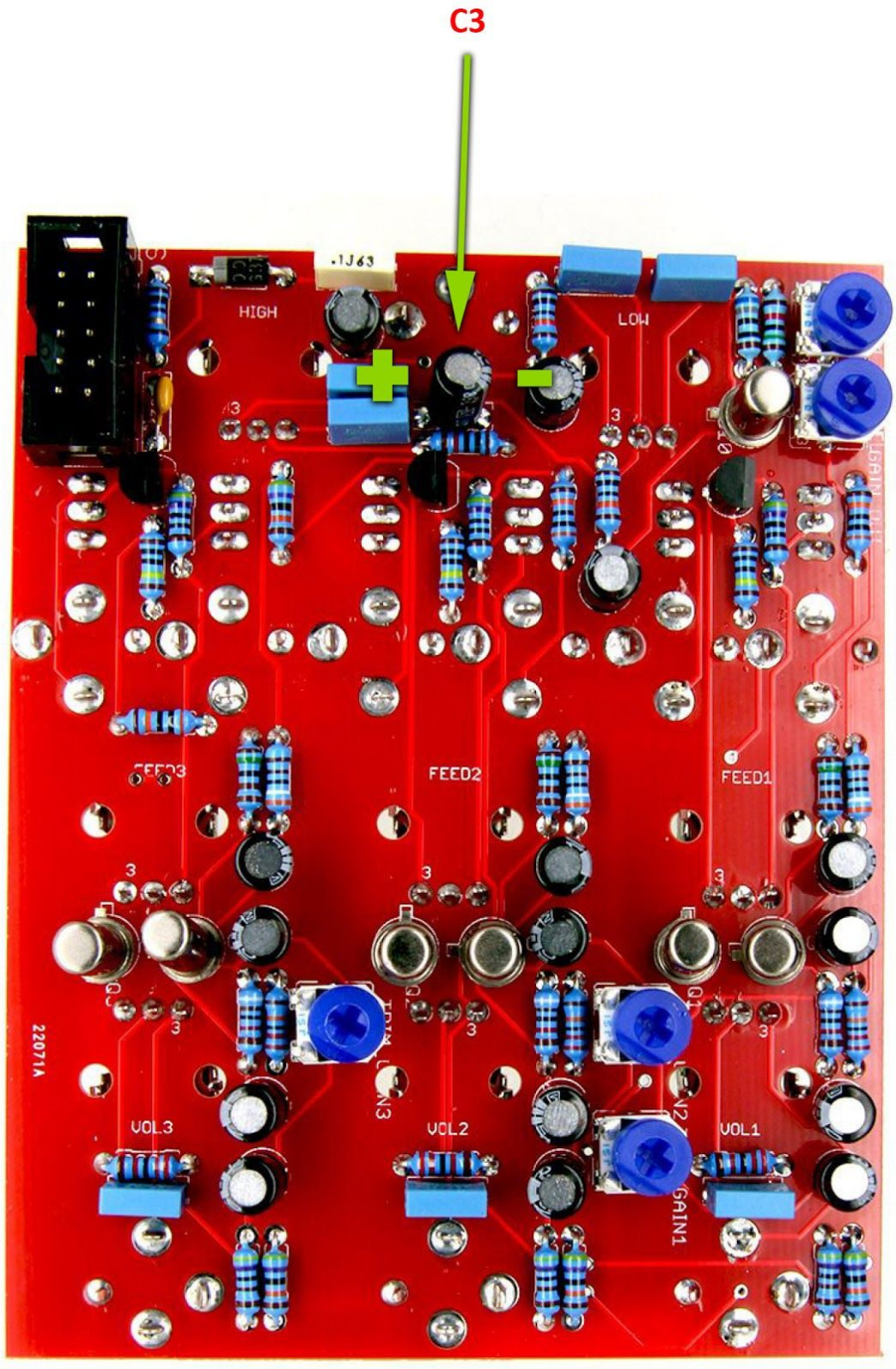
Sonveskan Build Document

Once you have placed the the Frontpanel and screwed nuts and washers onto ALL of the pots (unlike the photo) you can then solder in the pots, jacks and switches. Be careful when doing this - there are a lot of delicate components on the backside of the PCB, solder carefully and avoid touching them with your soldering iron. The switches DO NOT have nuts on the front of the panel, they sit free.

Sonveskan Build Document

Now remove the Frontpanel and solder the final 10uF cap into C3. IMPORTANT: orientation is vital - the longer (+) lead must go to the pad closest to the power header.

1	C3	10uF



Sonveskan Build Document

Now finally place the Frontpanel and after securing all nuts and washers - put on the eight knobs.

You are now ready to power up and calibrate - calibration info can be found here:
http://www.touellskouarn.fr/wp-content/uploads/2016/03/sonveskan_user_manual.pdf