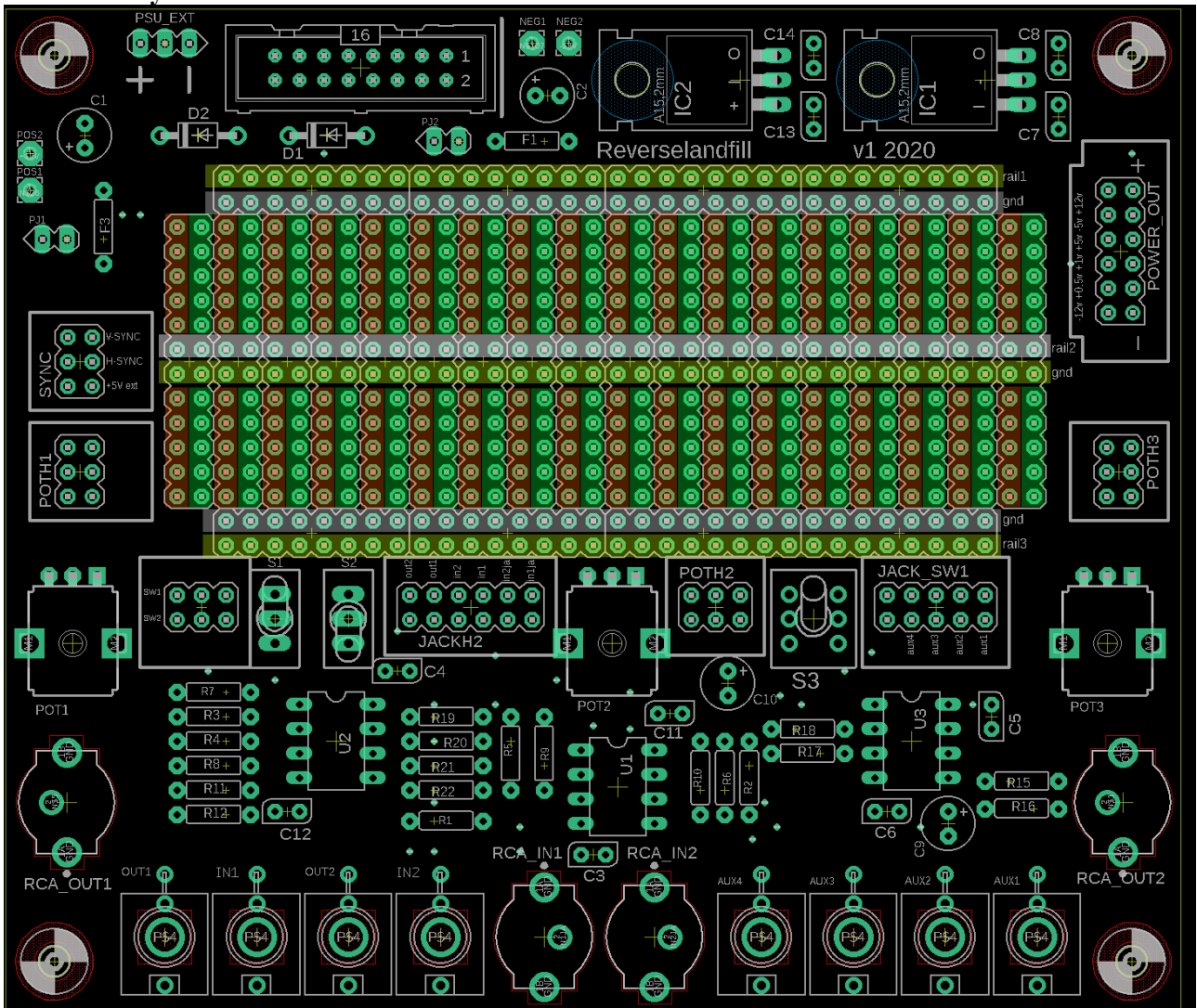


Video Experimentation Board (VEB) v1 2020

Build guide

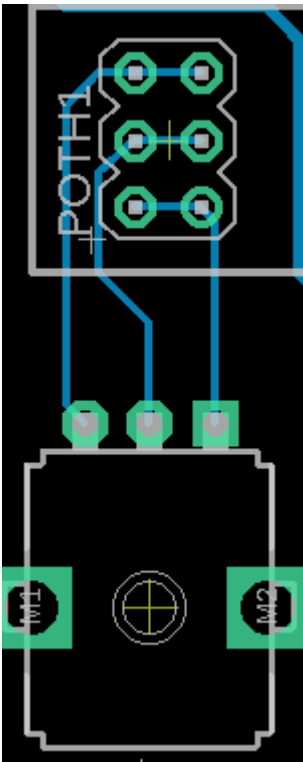
PCB overlay:



The solder area is connected just like a 'breadboard'. The colors in the overlay show you what lines are connected. You can use the RAILS (rail1, rail2, rail3) for powerlines. Use the POWER_OUT header on the right side. There are 3 GND rails

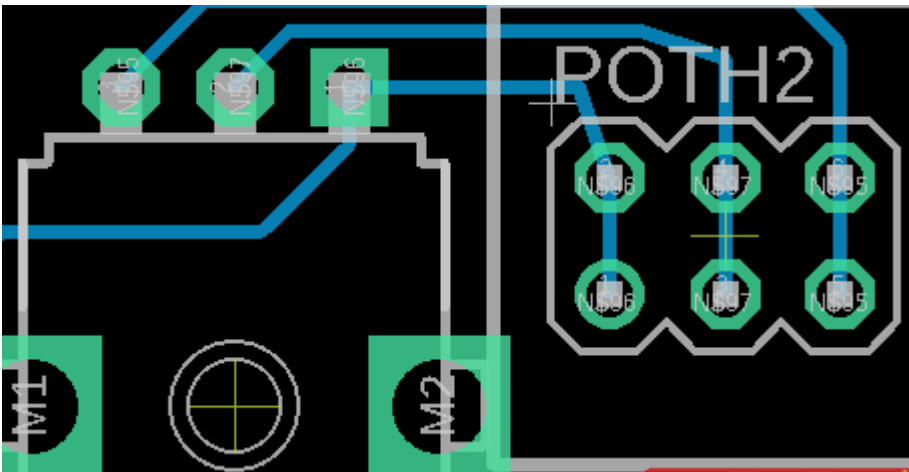
POT1

the pins are connected to POTH1, with 2 pins per connection



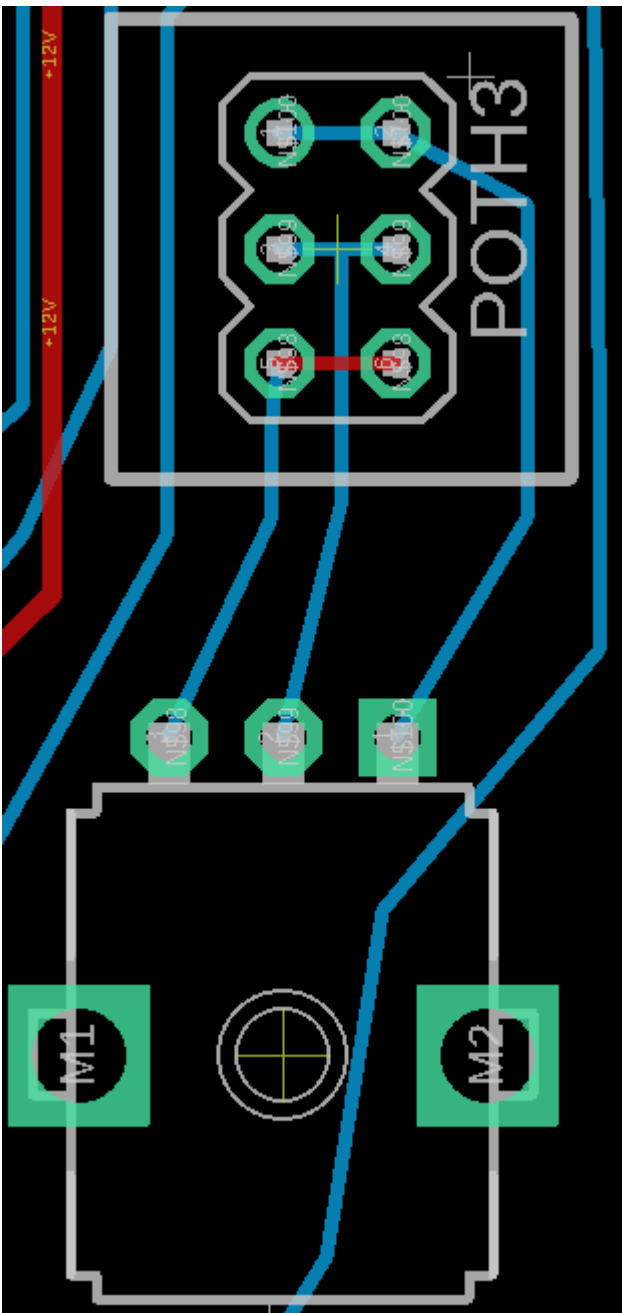
POT2

the pins are connected to POTH2, with 2 pins per connection



POT3

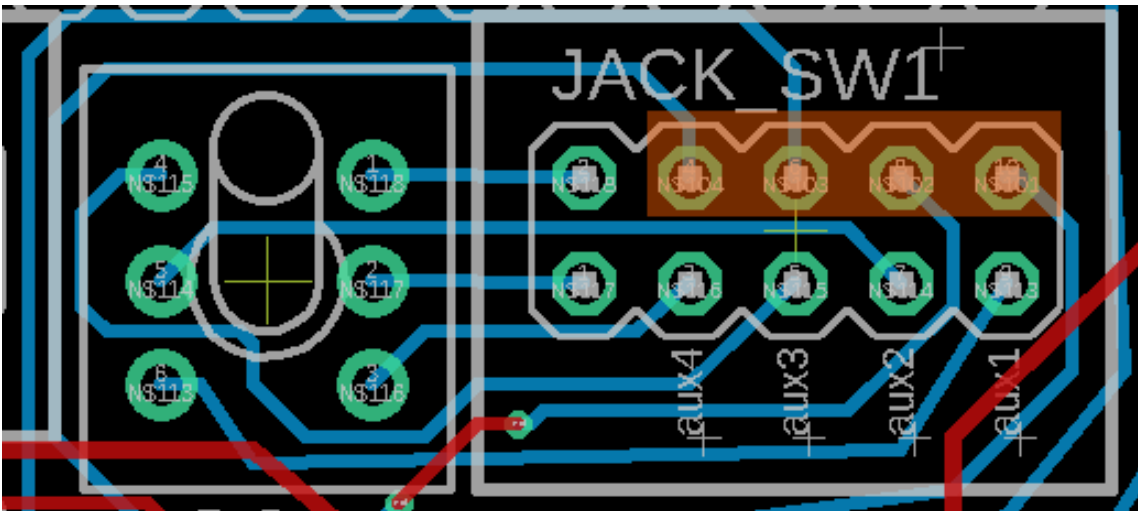
the pins are connected to POTH3, with 2 pins per connection



AUX JACKS:

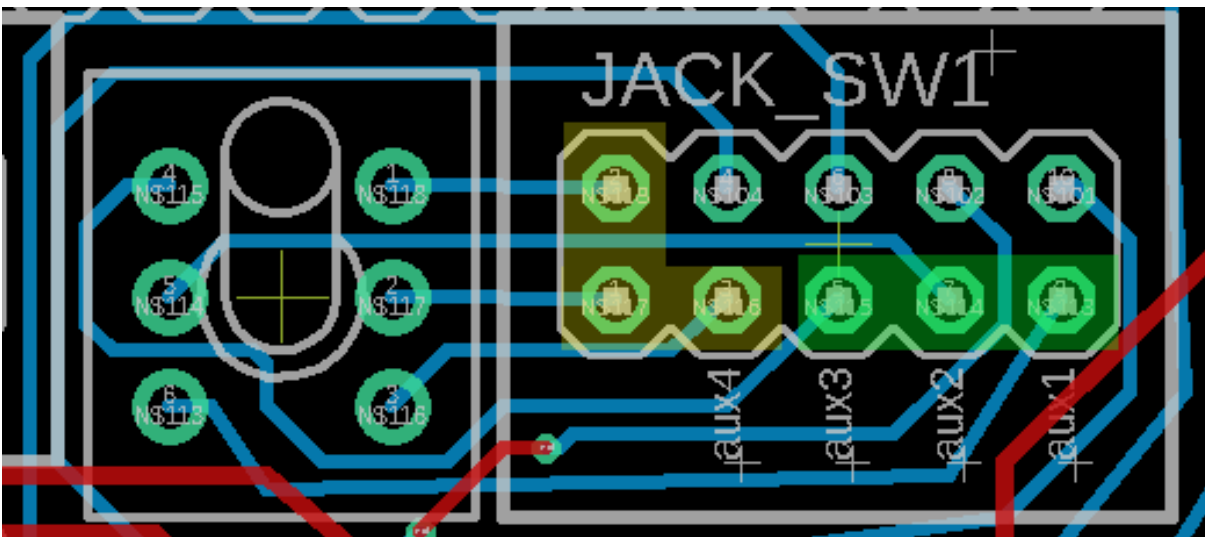
The four AUX jacks are connected to the JACK_SW1 header.

AUX1= top right



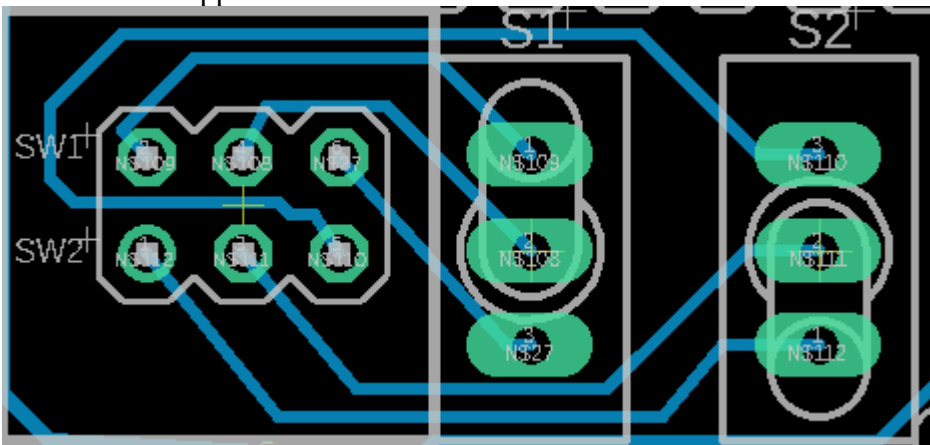
DPDT SWITCH:

pin 1 of the switch (top right pin of the switch) is connected to top left of the header.

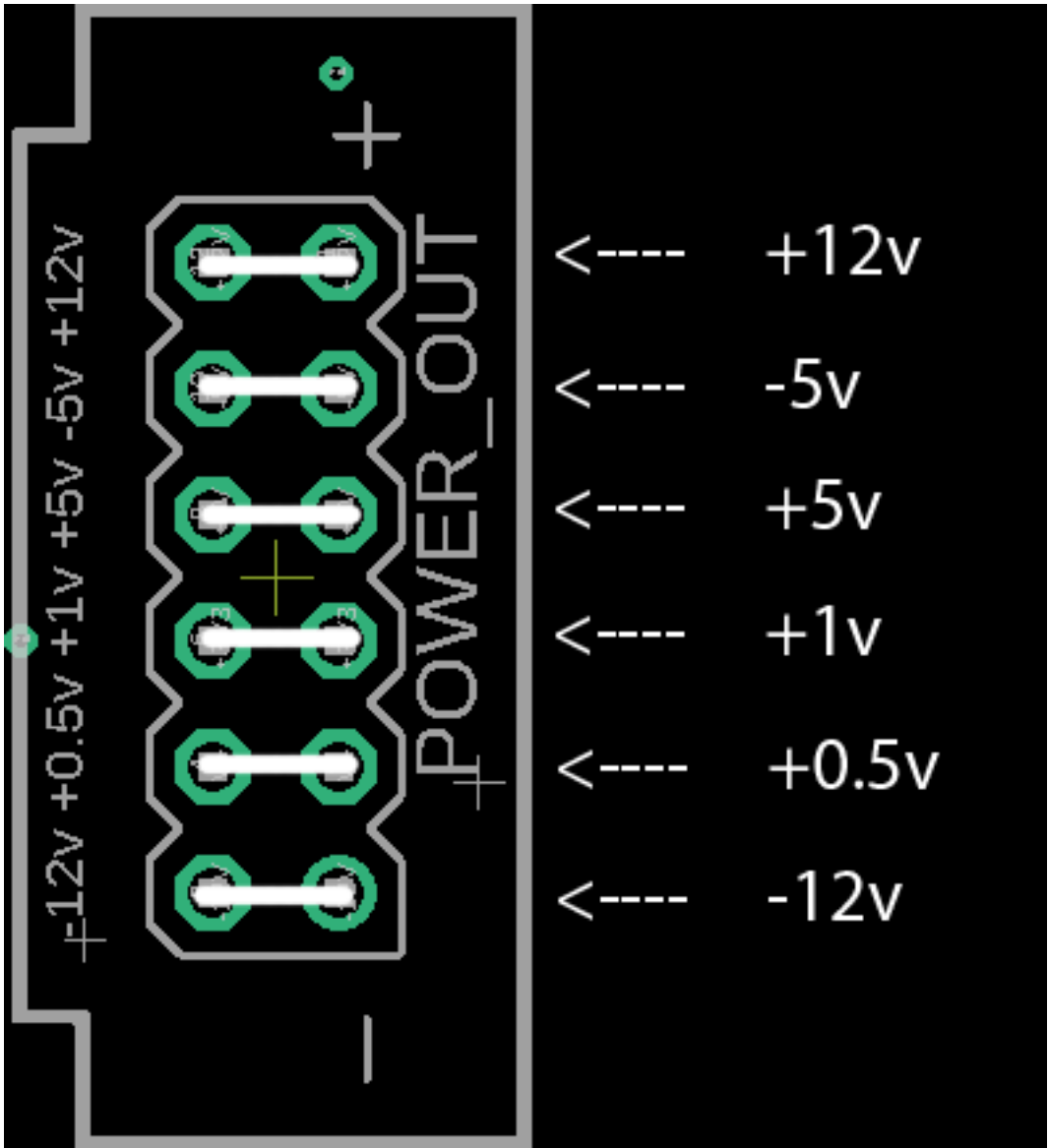


SPDT SWITCHES:

SW1 is in the opposite direction of SW2

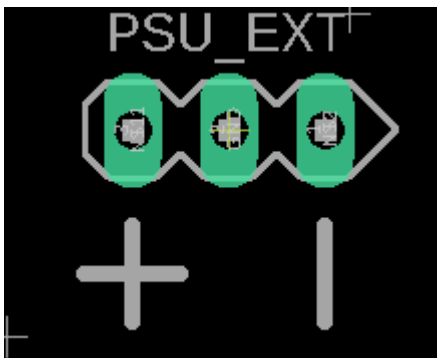


POWER_OUT HEADER:



PSU_EXT:

For external power input methods.
The middle pin in GND



JACKH2:

Each connection has 2 pads

in1ja = connection to the TIP of jack1 / RCA_in1

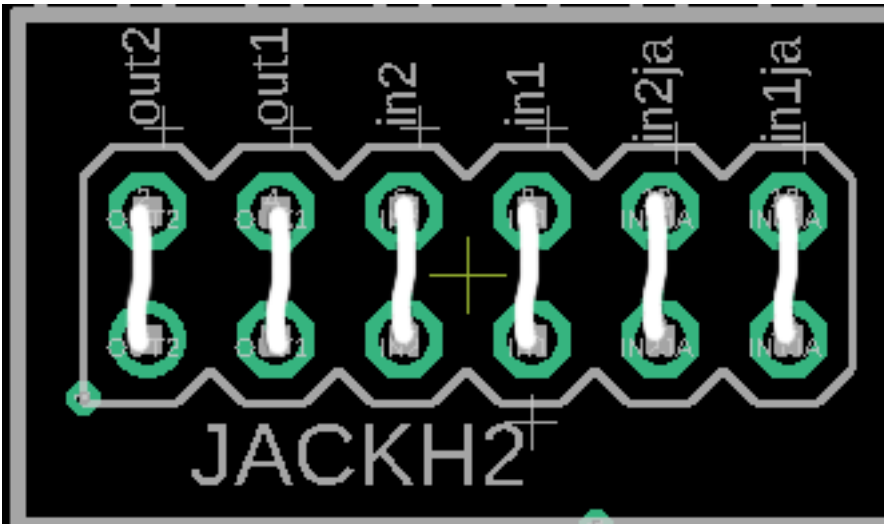
in2ja = connection to the TIP of jack2 / RCA_in2

in1 = buffered input jack1 / RCA_in1

in2 = buffered input jack1 / RCA_in2

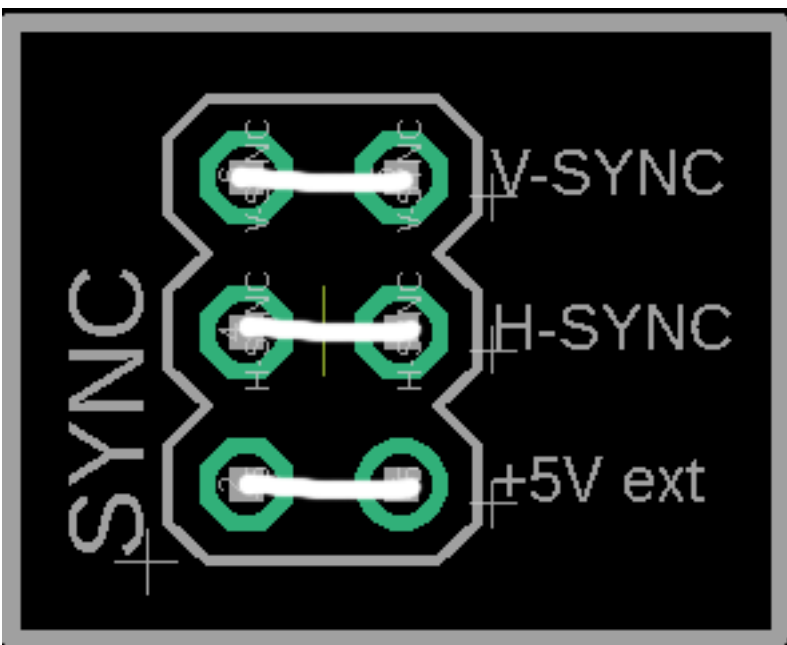
out1 = buffered output jack1 / RCA_out1

out2 = buffered output jack2 / RCA_out2



SYNC:

If your Sync Generator carries SYNC signals to the power header (on the CV & Gate pins), you can tap into these from this header. There are 2 pins for each connection.



Basic BOM:

Input buffer 1:

R1 = 100k

R5 = 499r

R9 = 1k

U1 = LM6172

Input buffer 2:

R2 = 100k

R6 = 499r

R10 = 1k

Output buffer1:

R8 = 1k

R11 = DNP

R4 = DNP

R3 = 1k

R7 = 499r

U2 = LM6172

Output buffer2:

R22 = 1k

R12 = DNP

R21 = DNP

R20 = 1k

R19 = 499r

Voltage dividers:

+1v

R17 = 100k

R18 = 25k (or 24k)

C10 = 10uF

U3 = TL072

Voltage dividers:

+0.5v

R15 = 100k

R16 = 10k

C9 = 10uF

Voltage regulators:

C7 = 330nF

C8 = 100nF

IC1 = 78105

C13 = 330nF

C14 = 100nF

IC2 = 79105

PSU:

1x 16pin shrouded header

PJ1, PJ2 = 2pin header + jumpers . Remove jumpers to measure Ampere at POS1&2 and NEG1&2

F1, F3 = ferrite or 10r resistor

D1, D2 = 1N4001

C1, C2 = 10uF (polarised electrolytic)

C3, C4, C5, C6, C11, C12 =100nF (2.5mm ceramic)

Sockets:

Jack sockets: 8x Thonkiconn

RCA sockets: 4x

Pots: 3x 9mm vertical pots

Switches: 2x miniature spdt, 1x miniature dpdt

Alternative RCA composite buffers:**buffer 1:**

R1 = 75

R5 = 499r

R9 = 1k

U1 = LM6172

Input buffer 2:

R2 = 75

R6 = 499r

R10 = 1k

Output buffer1:

R8 = 499r

R11 = DNP

R3 = 1k

R4 = 1k

R7 = 75r

U2 = LM6172

Output buffer2:

R22 = 499r

R12 = DNP

R21 = 1k

R20 = 1k

R19 = 75r