

CBV001S
Circuit bent enhancer
User/Build Guide



CBV001S is the standalone version of CBV001, update of AVE MOD, circuit bent enhancer. The audio reactive part has been replaced by a CV input, allowing control over brightness/enhance from DC signal up to video rate, while keeping similar glitch effects.

Power supply : 12VDC 100mA
Input/Output : composite 75ohm.

Special thanks to :

- *Phil Baljeu for tracing the circuit from his Archer unit and posting it on electro-music forum back in 2012, that I found a few years later while looking for a simple video circuit to modify, and more recently for suggesting using a JFET as VCR.*
- *Lorenzo Ferronato for the graphic design and Iker Muruaga for the enclosure design*
- *And everyone who has been supporting Syntonie since the AVE MOD*

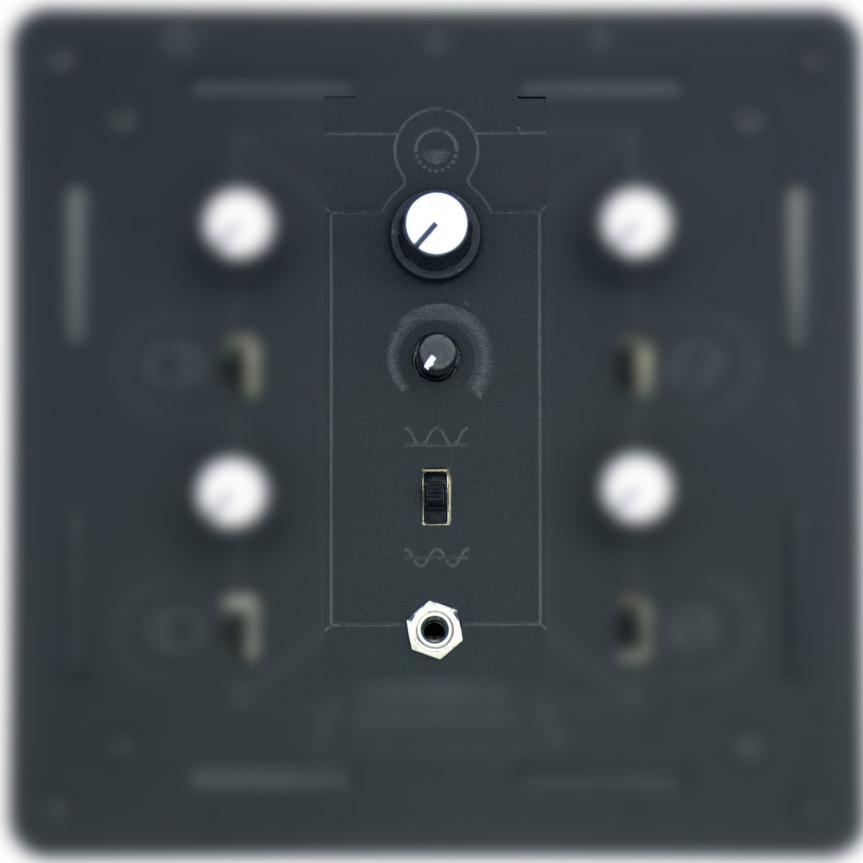
Inputs/Outputs



- Composite video input is located in the center
- Composite video output is located on the left.
- DC connector is located on the right, requires a 12VDC center positive supply with 100mA current at least.

Some effects can alter synchronisation, resulting in unstable video, and may require time base correction depending on the use case.

Enhance



The enhance section is the core of the circuit, which means that all glitch effects will depends on it.

The top potentiometer is used to set the enhance level.

The tall trimmer just under is the CV attenuator.

The jack at the bottom is the CV input which controls the enhance level.

The switch allow :

- DC coupling when up, any DC offset will be added to the one generated by the enhance level
- AC coupling when down, any DC offset will be removed (signal centered around 0)
- Disabling CV when centered (since the CV input section is rather simple, the CV attenuator might not cut the CV completely, the switch will).

Glitch effects



Each of the 4 effects works in a similar way :

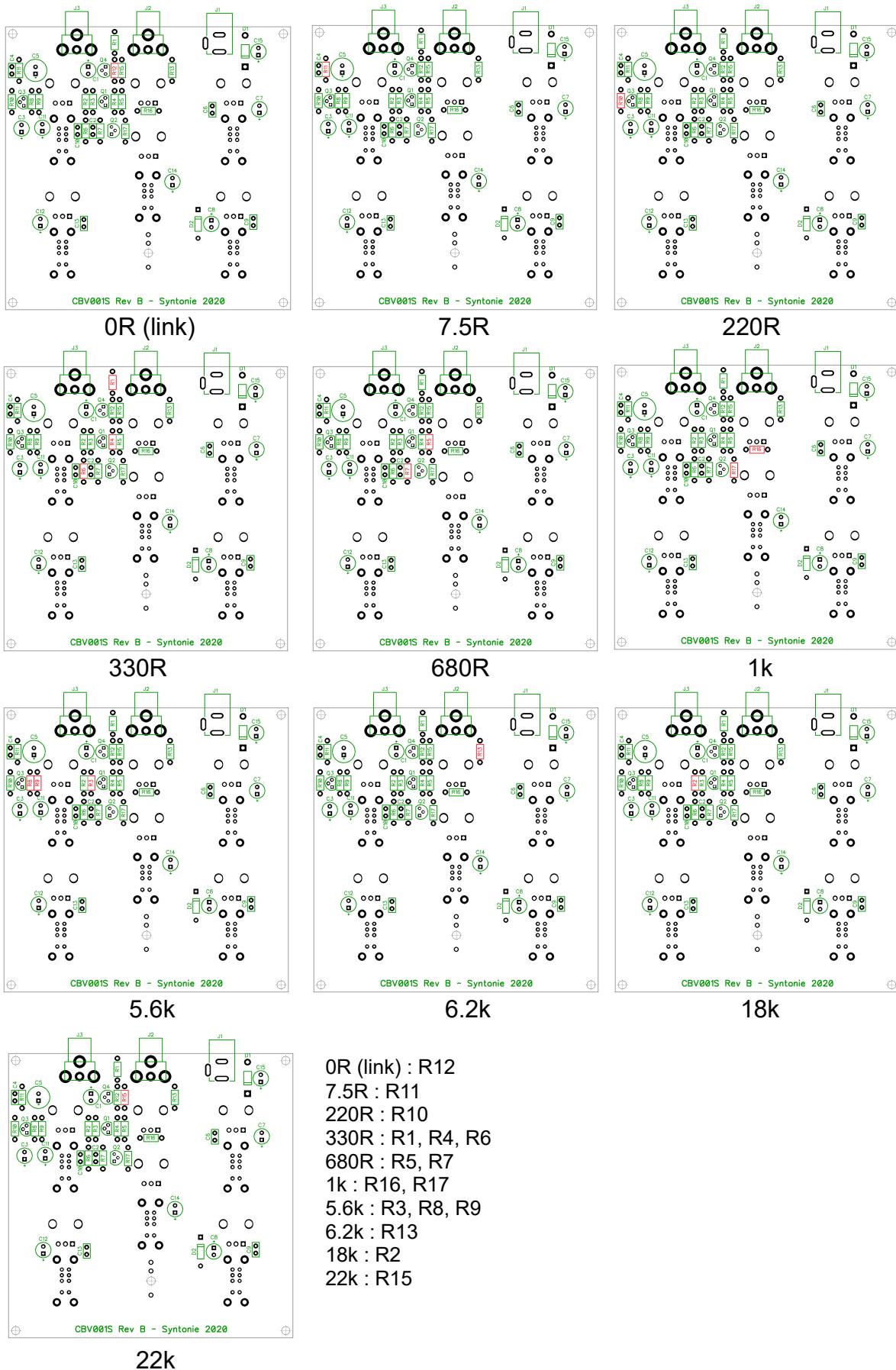
- When the switch is centered, the effect is off, the potentiometer has no effect.
- When the switch is up, the effect is on
- When the switch is down, the effect is on, but in a different variation than when it's up.

The potentiometer sets the intensity of the effect.

Best results are made by a combination of each of the 4 effects and the enhance level.

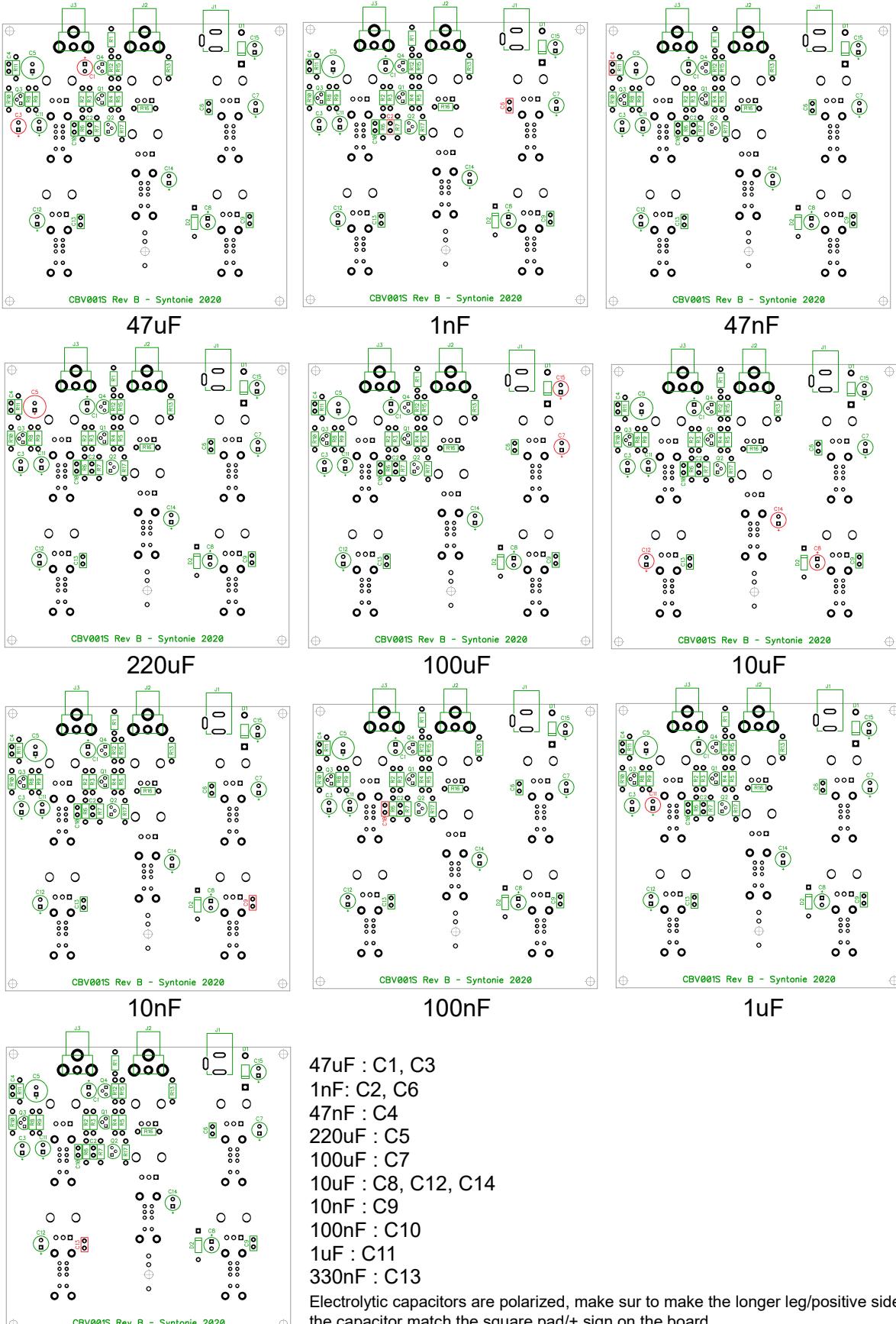
Build

Resistors



Build

Capacitors/Ferrites



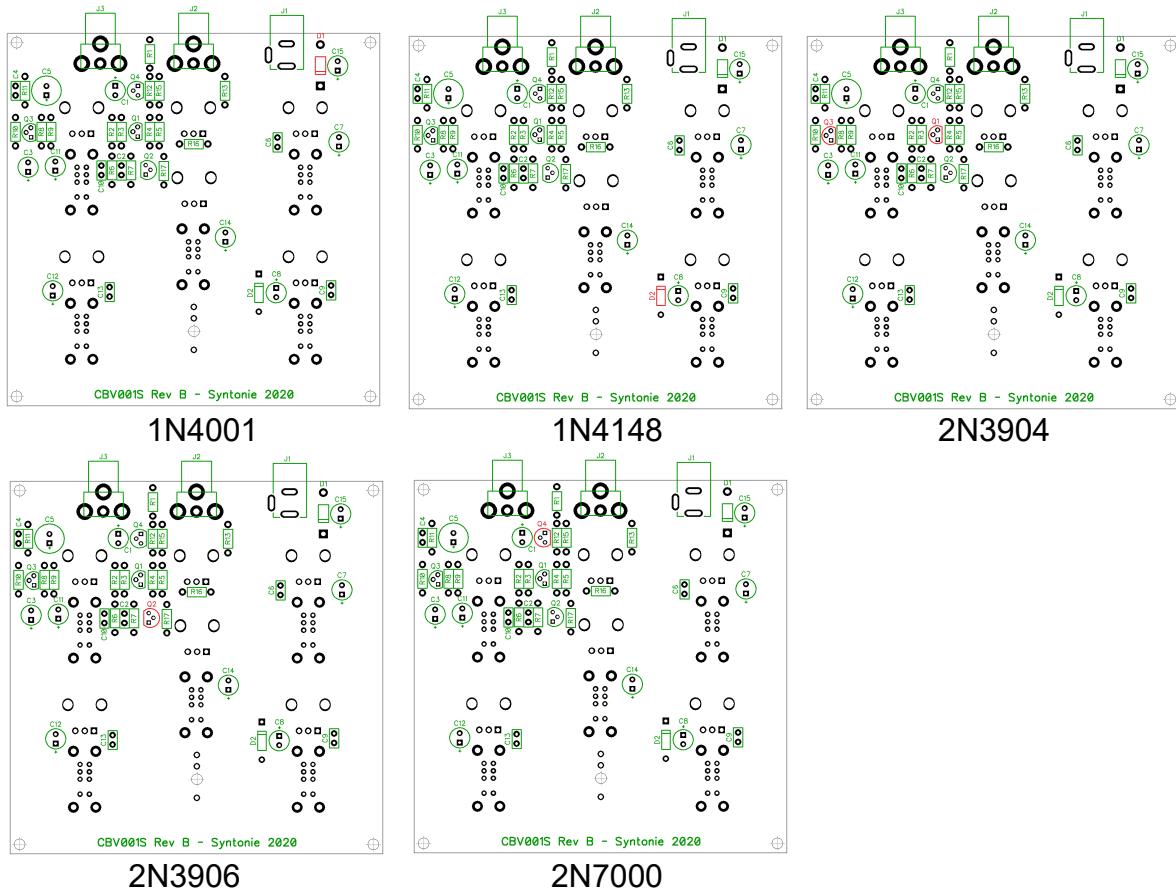
47uF : C1, C3
1nF : C2, C6
47nF : C4
220uF : C5
100uF : C7
10uF : C8, C12, C14
10nF : C9
100nF : C10
1uF : C11
330nF : C13

Electrolytic capacitors are polarized, make sure to make the longer leg/positive side of the capacitor match the square pad/+ sign on the board.

Ceramic capacitors are not polarized, can fit either way.

330nF

Semiconductors



1N4001 : D1

1N4148 : D2

2N3904 : Q1, Q3

2N3906 : Q2

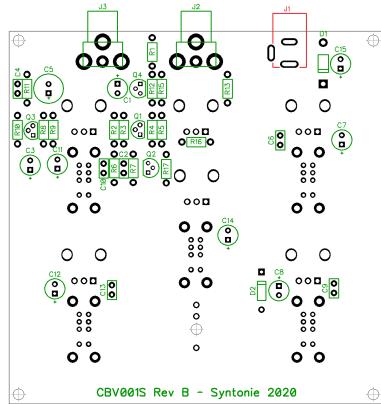
2N7000 : Q4

Diodes are polarized, make sure that the ring on the diode matches with the line on the circuit board.

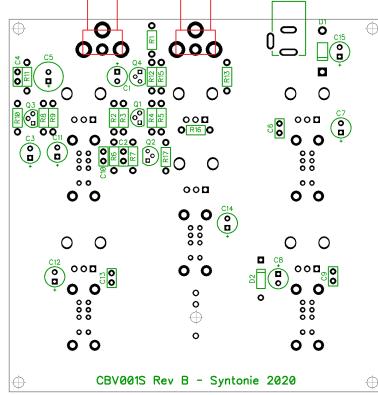
Transistors are polarized, make sure that the flat side of the component matches the straight line on the circuit board.

Build

Connectors



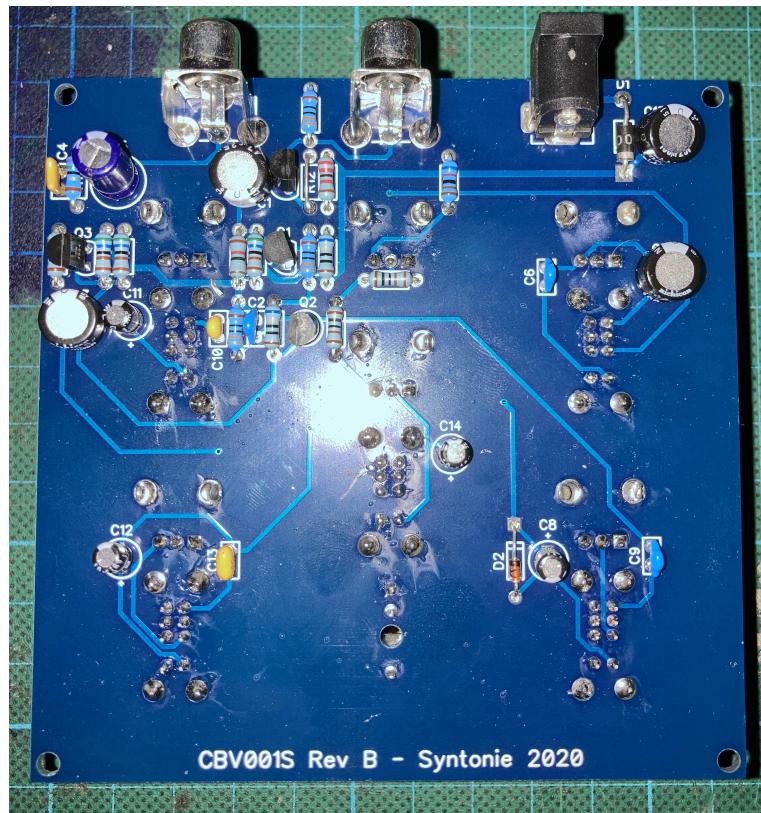
DC connector



RCA

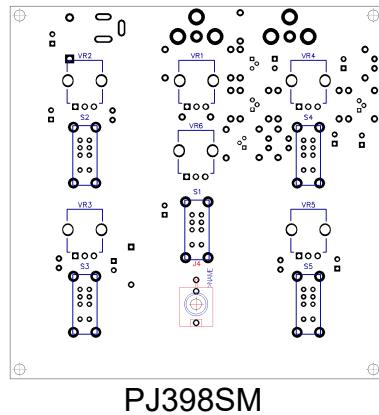
J1 : DC connector
J2, J3 : RCJ-014

This is how the board should look once all the components on the back side are populated
Let's move on to the front/controls



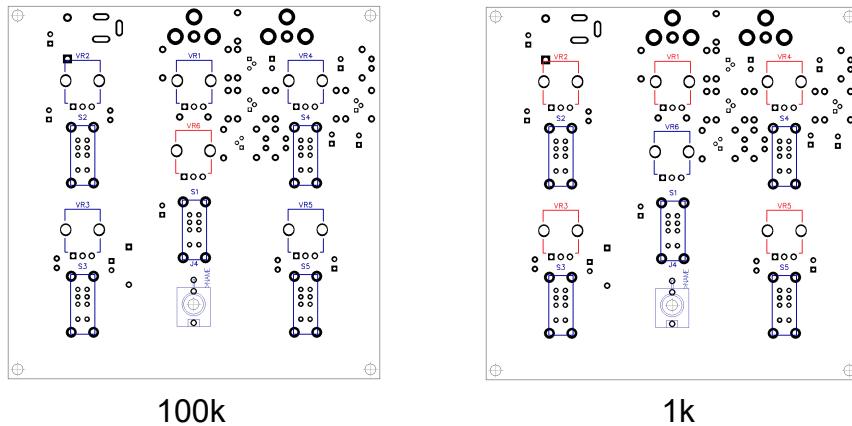
Build

Connectors



J4 : PJ398SM

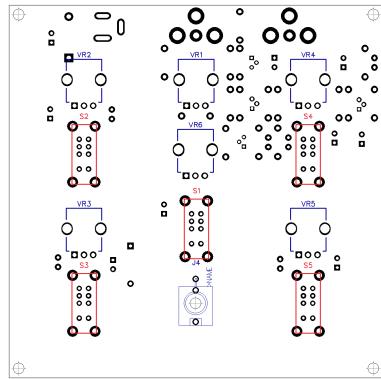
Potentiometers



1k : VR1, VR2, VR3, VR4, VR5

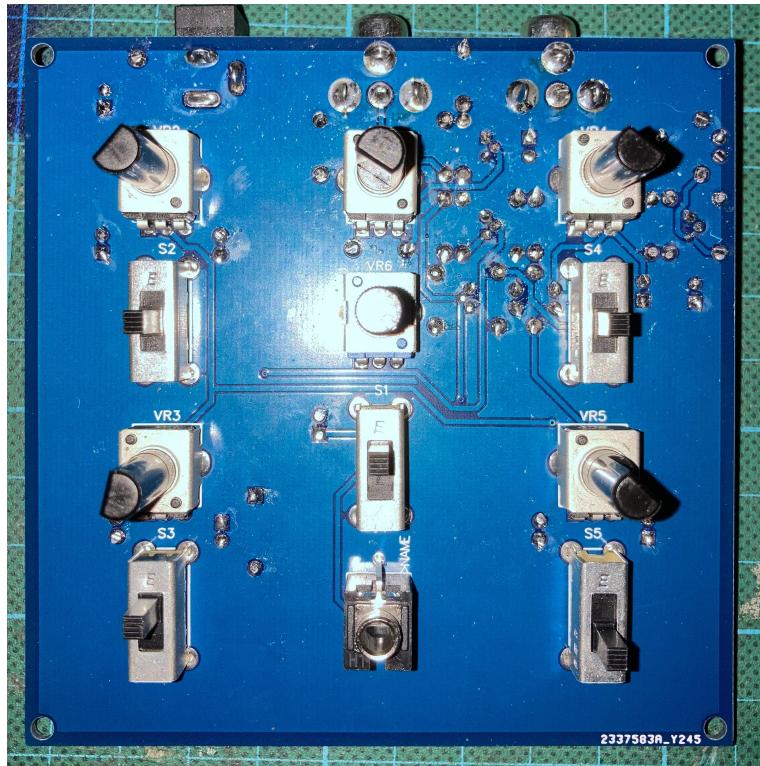
100k : VR6

Build Switches



EG2301B

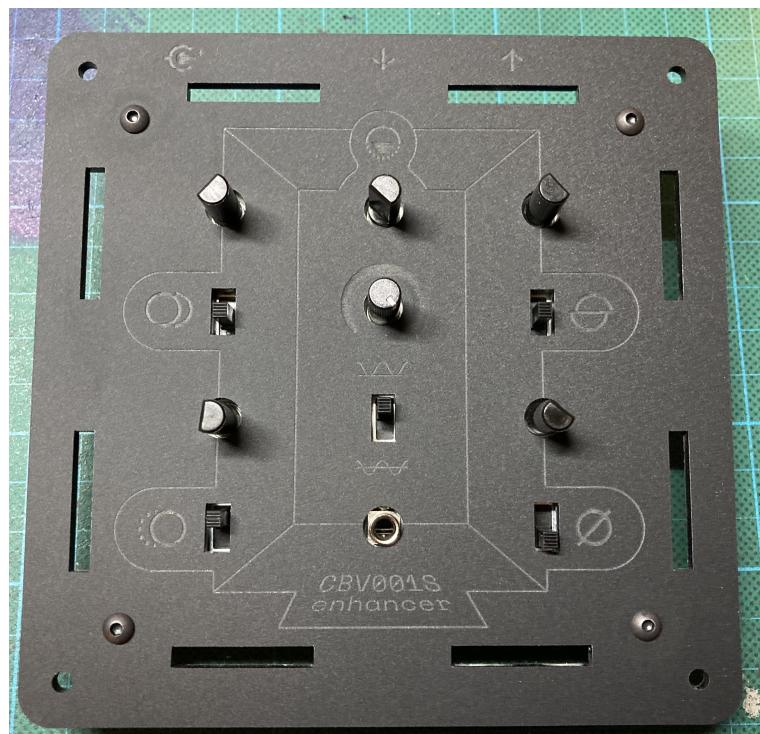
EG2301B : S1, S2, S3, S4, S5



Build Enclosure

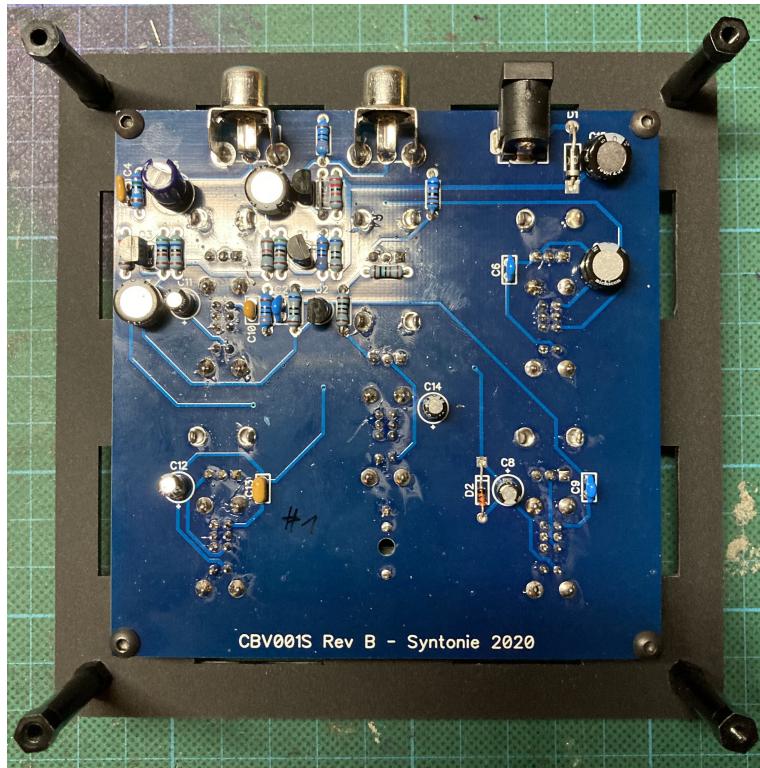


First, place the 4x 10mm spacers using 6mm M3 screws. Spacers goes on the control side of the board.

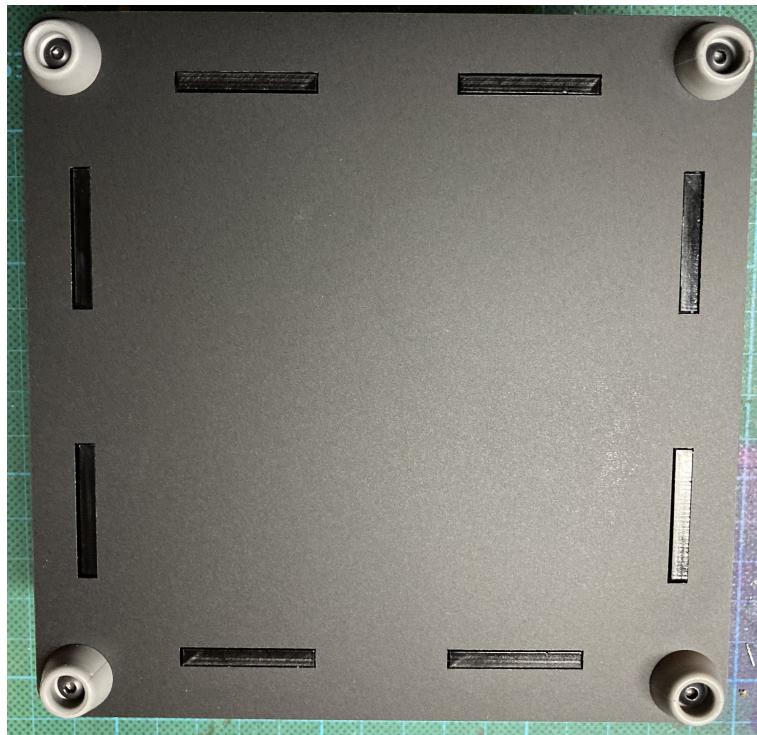


Then, the front panel can be secured using 6mm M3 screws.

Build



Now, place the 4x 30mm spacers.



Then, the sides and bottom panel can be placed, it's then secured using 8mm M3 screws and the rubber feet.

