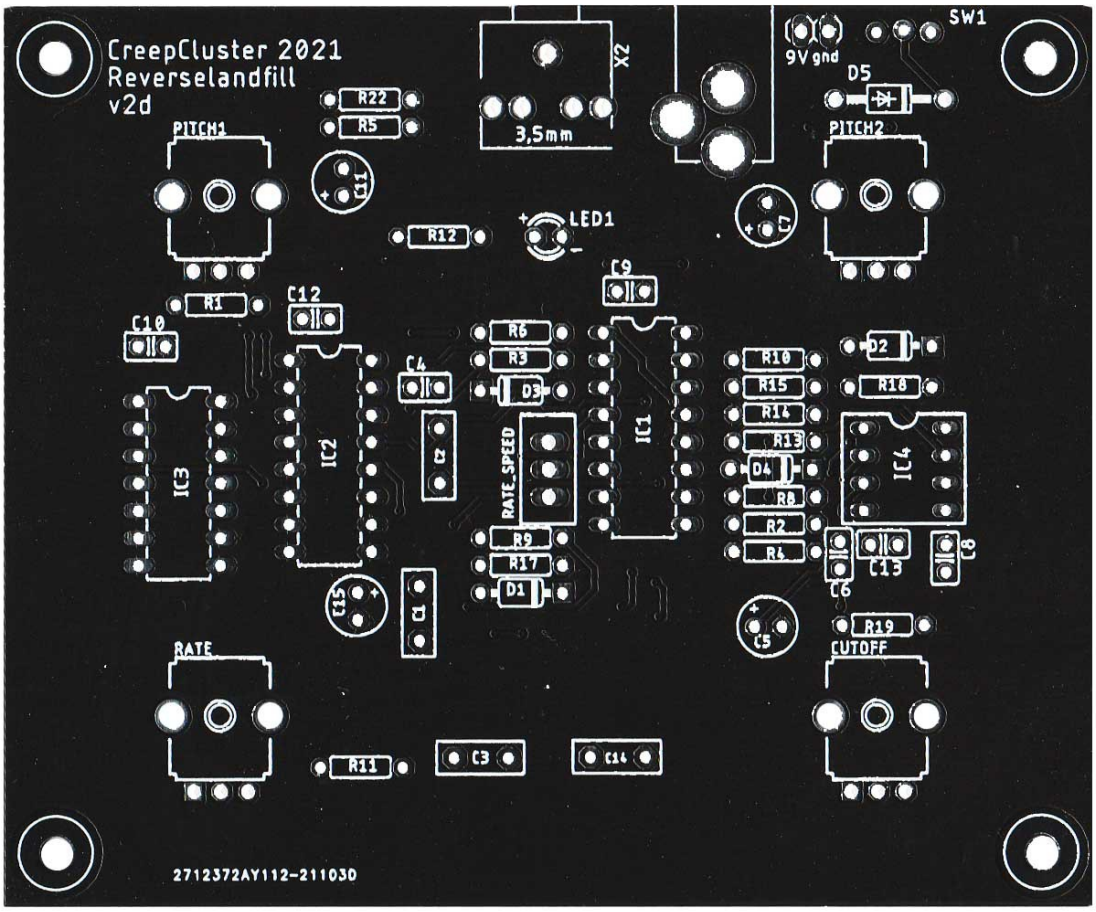
CreepCluster Desktop (v2d) Build guide 2022



Resistors
In the kit, the values of the resistors are written on the paper, but when unsure, you can measure the values with a multimeter.
Start with bending the legs of the 2k resistors at a 90 degree angle and mount them at these locations:

2k : R1, R2

Now solder one of the leads. Make sure the resistors are flat on the PCB surface. If not, reheat the soldered lead and press the resistor to the surface of the PCB. When all is good, solder the remaining leads.

Continue with the other resistors:

10k : R3, R4, R6, R8, R9, R10
1k: R5, R12, R17, R22
470R: R11 → Make sure you select the 470R, not the 470k
100k: R13, R14
750k: R15
10M: R18
470k: R19 → Make sure you select the 470k, not the 470R

Diodes
These parts have an orientation. The stripe must match the marking on the PCB.
Start with the black 1N4001. Place the part in D5 and make sure the stripe matches the marking!
Solder one lead and check if the part is flat to the surface of the PCB. Now solder the other lead.

1n914: D1, D2, D3, D4 → These are the orange glass diodes.

IC's & sockets
Take the foam with the IC's and IC sockets.
Start with the sockets. These parts have an orientation. Notice the litte notch on the socket and on the PCB. These must match!

Place the 16pin sockets at IC1 and IC2, the 14pin socket at IC3 and the 8pin socket at IC4
To solder these sockets, lay something flat (such as the frontpanel) on top of the sockets,
hold the PCB and the panel together and flip it 180 degrees.

Lay it on the table and solder one pin of each socket.
Now remove the frontpanel and check if the sockets are flat to the PCB surface.
If not, slightly press on the socket and reheat the pin.
The socket should snap to the surface of the PCB.
Now solder the remaining pins.

Take the ICs out of the foam. The pins have to be bend at a 90 degrees angle to fit in the IC sockets.
You can do this by laying the IC on the table, hold each end and carefully bend the pins all at once.
(from one side) Repeat this on the other side and check if all pins are at a 90 degree angle.

Now place the ICs in the sockets. If you cannot read the IC code, look at the PCB picture at the beginning of this manual. Make sure the notch on the IC matches the notch on the PCB
(and Socket) Firmly press the ICs into place.

CD4049: IC1
CD4053: IC2
CD4093: IC3
TL071: IC4

Capacitors
Start with the small capacitors! The space between the panel and the PCB is limited, so make sure all capacitors are soldered closely to the PCB surface.

100NF (code 104): C4, C9, C10, C12, C13
1NF (code 102): C6, C8

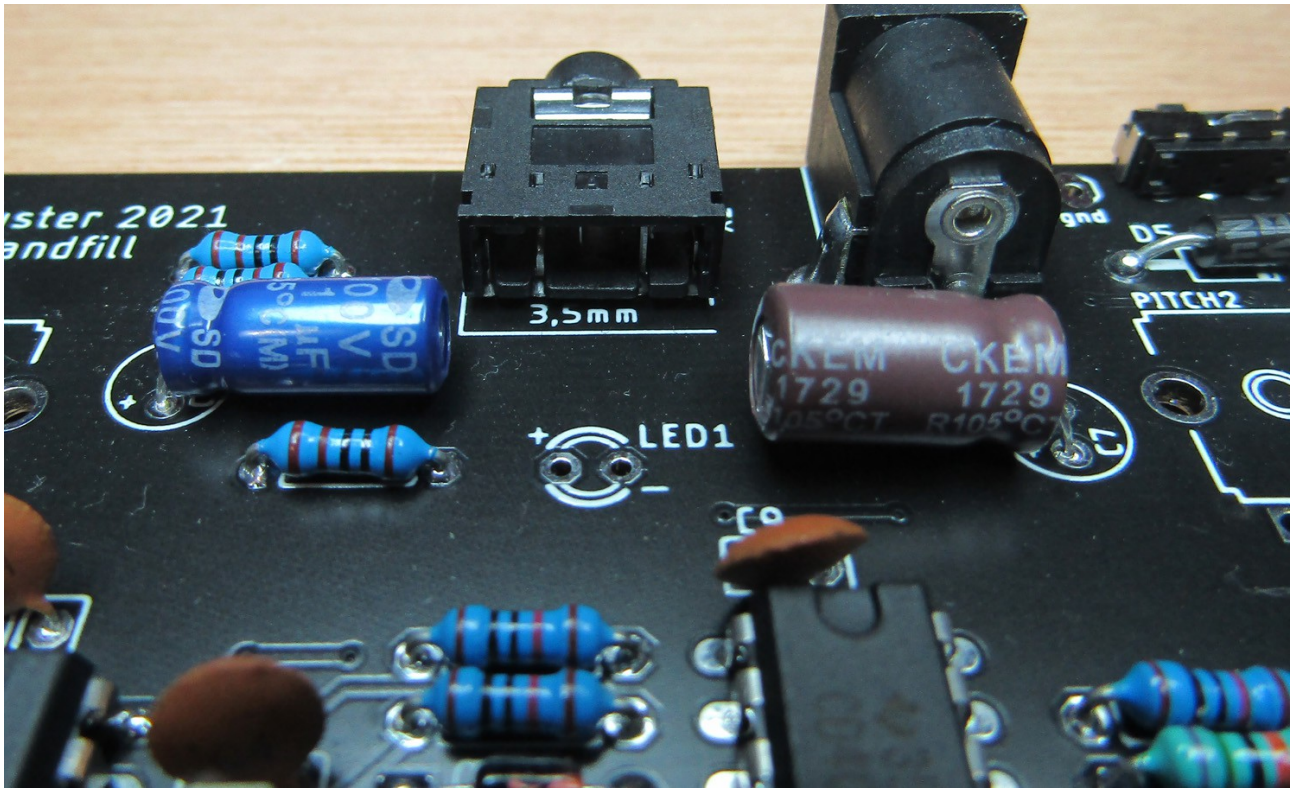
The yellow box shaped capacitors in the KIT all fit between the PCB and Panel.

[If you bought the PCB set, make the maximum height of the film capacitor is 10mm. If it is heigher, you must lay the capacitor down. (see below)]

220NF: C1, C2, C3
470NF: C14

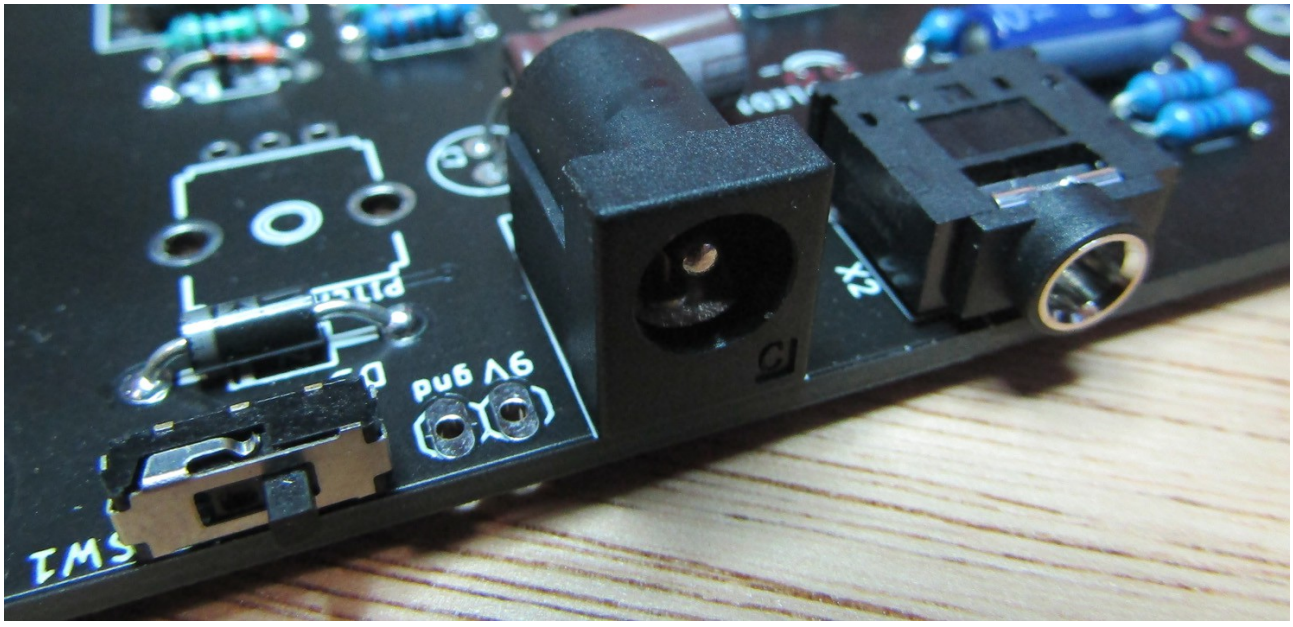
The Electrolythic capacitors have an orientation.
The longer leg is the PLUS and there is a PLUS marking on the PCB as well.

These capacitors are too tall to fit under the panel.
Place them and bend them 90 degrees. There is space reserved for this on the PCB.



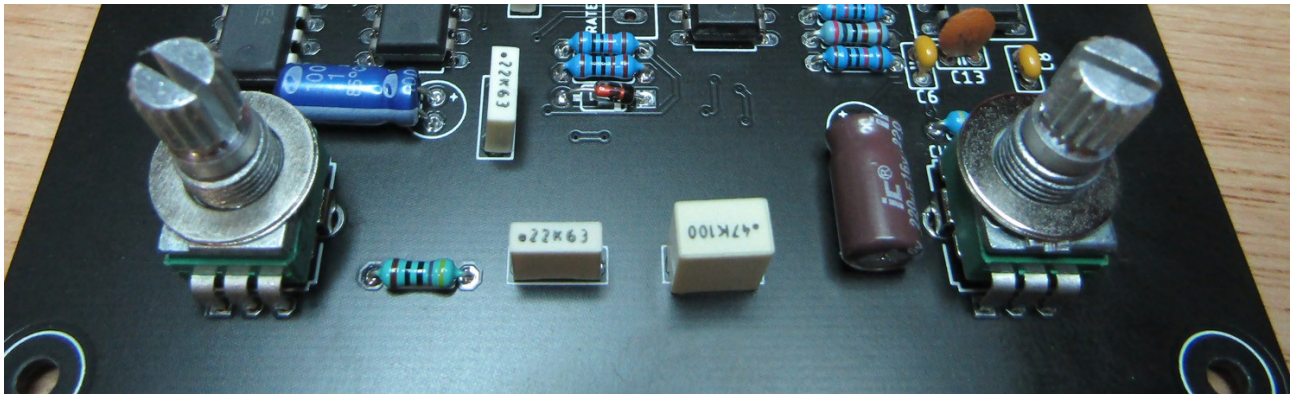
Solder one lead of the capacitors and check if they are flat to the surface of the PCB.
Correct if needed by reheating the soldered pin, then solder the remaining leads.

Jack, Powerbarrel and slide switch
Place the jack socket and solder one pin, check it the socket is aligned correctly and solder the other pins. Do the same for the powerbarrel and the small slide switch.
The slide switch has to face outwards!



After soldering, snip off the pins of the power barrel so that they don't stick out too far.

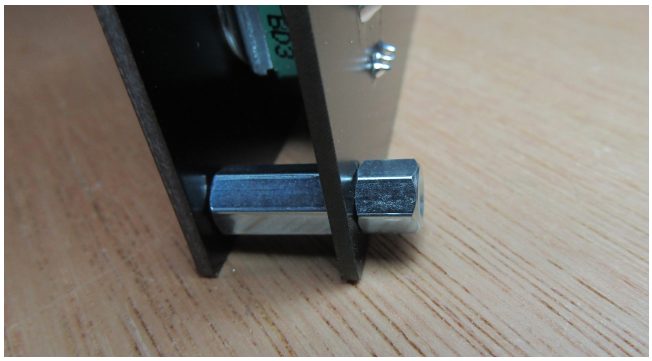
Pots, toggle switch and LED
Place the pots , toggleswitch and LED. The longer leg of the LED is the PLUS, which is also marked on the PCB.
DON'T SOLDER YET!



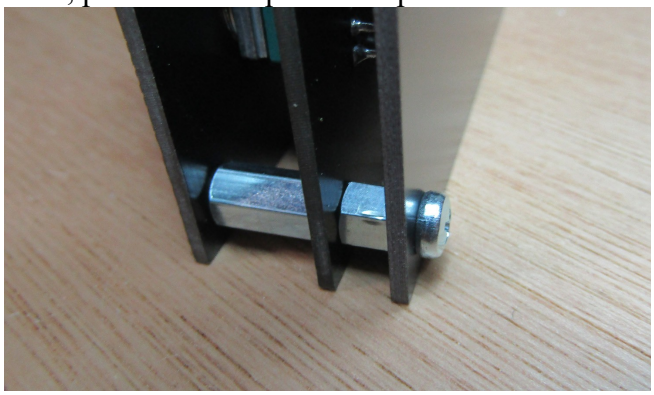
Place 2x rings on each Potmeter and one nut on the Toggle Switch, then place the frontpanel.
Use a nut on one of the potmeters to affix the panel to the PCB.
Position the LED so that it fits through the hole of the frontpanel.
Now solder one pin of each potmeter, LED and Switch.
Check if all parts are aligned correctly, then solder the rest.
Fasten the remaining nuts on the potmeters and switch.

Panels
This synth has 2 panels, one for the backside, one for the frontside.
The backpanel is connected to the pcb with 4x 5mm hex standoffs and 4x 4mm M3 screws.
The frontpanel uses 4x 11mm hex standoffs and 6mm black M3 screws.

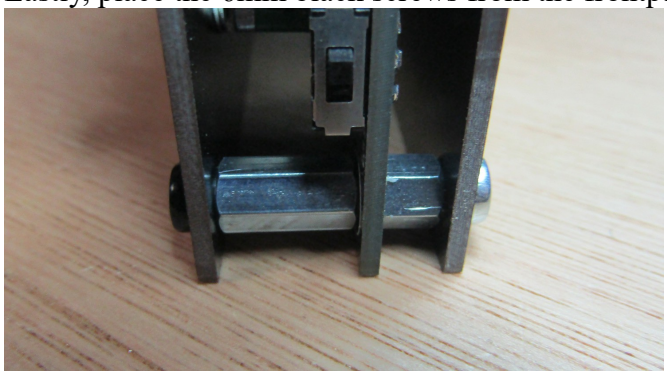
Start with fitting the 11mm standoffs between the frontpanel and PCB and secure them with the 5mm standoffs:



Next, place the backpanel and place the silver 4mm screws:



Lastly, place the 6mm black screws from the frontpanel side:



The rubber feet are to be placed on the backpanel, in such a way that you can still read the information printed there, next the the screws like this:

Knobs
Turn all four Potmeters fully CCW / the the left and place the knobs.
Make sure all pointers are in the same direction, then push them down.

Power adapter info
9 volt, 2.1mm barrel, CENTER NEGATIVE adapter (BOSS style), 200mA

Testing:
Check if all parts are soldered correctly and that all parts with polarity are in the correct direction.
Also check for obvious shorts.
Connect the 9v adapter.
Turn all knobs to 12 'o clock, with the middle toggleswitch down.
Connect a 3.5mm stereo jack to the socket and plug it into your mixer.
When turning on the unit with the small power switch on the back, it will take some time for it to start making sound, because the big capacitors have to fill up.
Test all functions, and you are done!

This project is Open Source.
You can use the schematic to make your own boards, but please:
-Mention my name “Reverselandfill” or “M.Verhallen”
-Only do non-commercial runs. Private use only.

martijn@reverselandfill.org
www.reverselandfill.org