

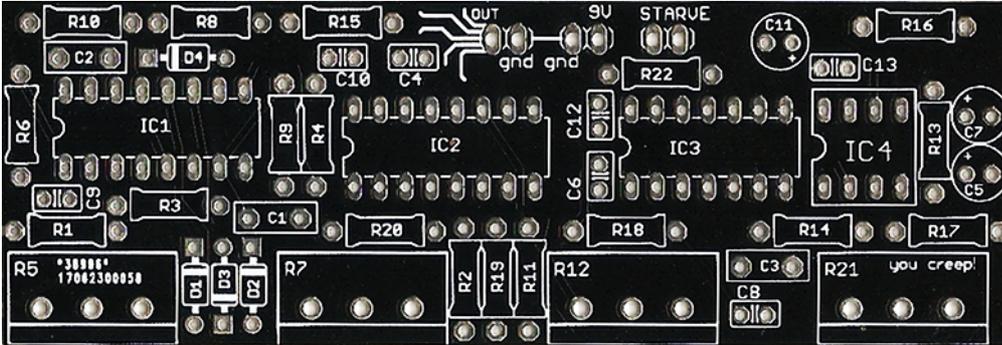
Creep Cluster Build Document. V0.3

Dual triangle oscillators are hard-switched by a fast squarewave.

Then the signal goes into a resonant lowpass filter.

Sounds vary from deep rumbling drones to phasing screaming lead sounds.

www.reverselandfill.org



Resistors:

Seek out the right locations for the resistors. The values are written on the resistor paper. If you are unsure, check the color codes or measure the resistance with a multimeter. Solder one value at the time, so prevent mistakes.

Be careful with the resistor color codes. The 470r , 4.7k and 470k look alike.

There are also the 10R and the 10M. Use a multimeter to be sure of the value!!

Bend both legs of the selected resistor at 90 degrees.

Push the resistor in and solder on the other side. Make sure the resistor is flat to the PCB.

r1 & r2: 2K (or 2K2)	(red-black-black-brown-brown)
r3, r4, r6, r8, r9, r10: 10K	(brown-red-black-black-brown)
r11: 470R	(yellow-purple-black-black-brown)
r13, r14: 100K	(brown-black-yellow-gold)
r15: 750K	(purple-green-black-orange-brown)
r16: 10R	(brown-black-black-gold)
r17, r22: 1K	(brown-black-red-gold)
r18: 10M	(brown-black-blue-gold)
r19: 4.7K (4K7)	(yellow-purple-red-gold)
r20: 470K	(yellow-purple-yellow-gold)

Starve:

Bridge (connect) the two holes with a snipped-off piece of wire.

Solder it in place. (Note: this is a Mod location)

Diodes:

The diodes are the four orange glass parts with a black marking on one end.

The black stripe should correspond with the white stripe on the pcb!!

d1, d2, d3, d4: 1n914

IC sockets:

Fit the IC sockets. Beware of their orientation!

The gap should correspond with the marking on the pcb

The best way to solder these in without them falling out is to mount the sockets, then take flat surface, like a book or a piece of wood, and lay it over the pcb. Flip the book+ pcb and solder two pins of each IC's socket. (one on each side) Remove the book and check if the sockets are flat to the pcb. If not, softly press the IC socket to the pcb and reheat the pins with the solder iron. The socket should click flat to the pcb.

IC1: 16pin socket
IC2: 16pin socket
IC3: 14pin socket
IC4: 8pin socket

Capacitors:

Start with the small capacitors. These parts are orange and light yellow.
c1, c2, c3: 220nF (light yellow blocks with the **.22j63** code)
c4, c9, c10, c12, c13: 100nF (bright orange blobs with the **104** code)
c6 & c8: 470pF (darker orange blobs with the **471** code)

These next capacitors have an orientation.

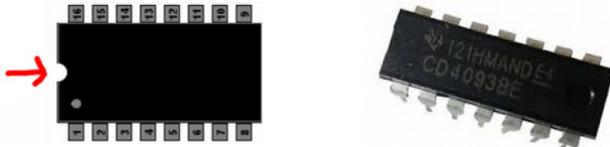
The **longer leg** goes in the hole marked with a "+" (PLUS) sign.
c5, c7, c11: 10uF

IC's:

These parts are the heart of the synthesizer. Each IC has a specific function.

Take the IC's from the foam. Check the codes. Observe the pins.

Bend the pins of the IC's so that they are in an angle of 90 degrees.



You can use a flat surface to bend the pins (per side) all at once.

Now check where each IC has to go in. This is a very important step!

Set the IC in its socket. The orientation gap has to correspond to the socket and the marking on the PCB. The small 8pin IC has a dot instead of a gap.

Push the IC's in. They should click flat to the sockets.

IC1: **CD4049** **This IC makes the two triangle wave oscillators.**
IC2: **CD4053** **This one switches between the oscillators.**
IC3: **CD4093** **The clock that drives the switch.**
IC4: **TL071** **The filter.**

Potmeters:

Snip off the anti-rotation nib with a sidecutter.

Stick the potmeters in the right holes (facing outward from the pcb) and first solder only the middle pin of each of them.

Flip the pcb and check if the pots are seated correctly (flat to the pcb, at the correct angle). Reheat the soldered pin to align them, then solder the rest of the pins.

R5: **B20k**

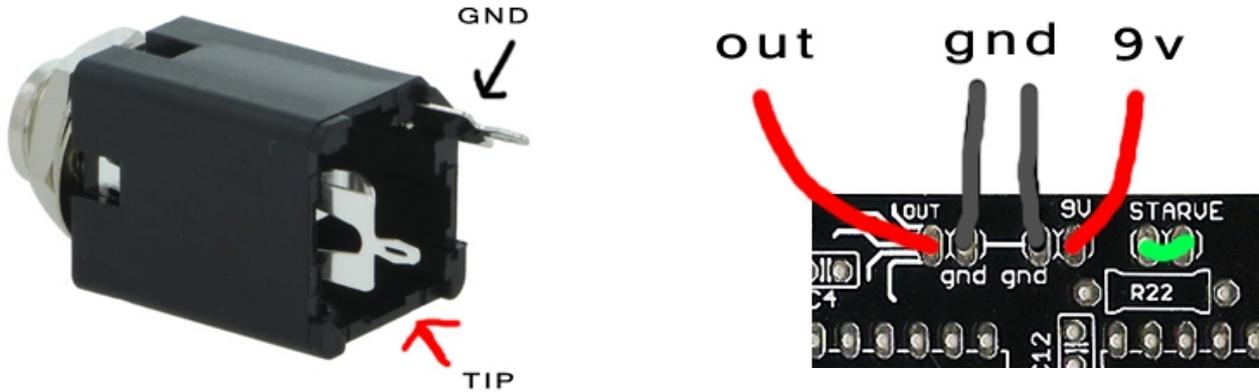
R7: **B20k**

R12: **B100K**

R21: **C100K or B100K**

Output:

Snip off two short wires (about 10 cm) and strip them on both sides.
Solder them to the OUT and the GND hole on the pcb.
Solder the GND to the GND to the jack socket (the angled side),
and the OUT to the TIP. (the flat side).
See Pictures!



Power:

Connect the 9v battery cable to the PCB.
The red cable in the 9v hole, the black cable in the GND hole.

Front panel:

Attach the PCB to the frontpanel with the potmeters. Use the rings + nuts. Fasten the nuts.
Also attach the jack socket and use only the nut. Fasten the nut. (with the ring it won't fit)

Knobs:

Turn the four potmeters all the way to the left (CCW) and fit the knobs on.
Push them in firmly, while supporting the back of the potmeters.

Back panel:

Use the four 35mm metal standoffs and the 4 convex screws to attach the frontpanel to the metal standoffs. Use the 4 smaller countersink screws to fasten the backpanel to the other side of the standoffs. Attach the four small rubber feet to the bottom of the backpanel.

Testing:

Connect the battery. Connect the Creep Cluster to a mixer with a jack cable.
You should hear sound!

Troubleshooting:

If it does not work, don't panic :)
Did you bridge the Starve holes?
Check the orientation and order of the IC's, the polarised capacitors and the battery cable.
Check the solder connections and reheat them to correct any bad connections.

Modding:

Desolder the bridge connection and attach a 50k potmeter. The left hole should connect to the middle leg of the potmeter, the right hole to the right leg. Attach GND to the left leg.
Now you can starve the synth, drowning out the power.

For more questions about the CreepCluster, mail me:
martijn@reverselandfill.org