

nonlinearcircuits

8bit Cipher build & BOM vers.1

For build pictures go to <http://nonlinearcircuits.blogspot.com.au/2016/10/8bit-cipher-panel.html>

This module is based on the one part of the Buchla Source of Uncertainty/Random Voltage source, although it has been modded somewhat to obtain 4 CV and 9 gate outputs. It requires a clock signal and a signal on at least one of the data inputs to operate.

The sync input makes it a bit like an 8 bit sample and hold. If nothing is inserted into the sync jack the module carries on as normal. When a signal is introduced to sync, the data obtained from the data jack is only loaded onto the outputs when the sync signal is high.

Like virtually everything else in the NLC synth, any signal crossing 1V can be used as a clock or data signal. The best way to see what it does is feed it two signals from different sources, say two LFOs. Leave the clock signal steady and vary the frequency of the signal to the data input. Also try different wave-shapes such as square, sawtooth or triangle. You will see how the data is shifted down thru the stages.

It takes a little bit of tweaking to get the data moving thru in patterns you like, but should be very easy to see what is happening by watching the LEDs.

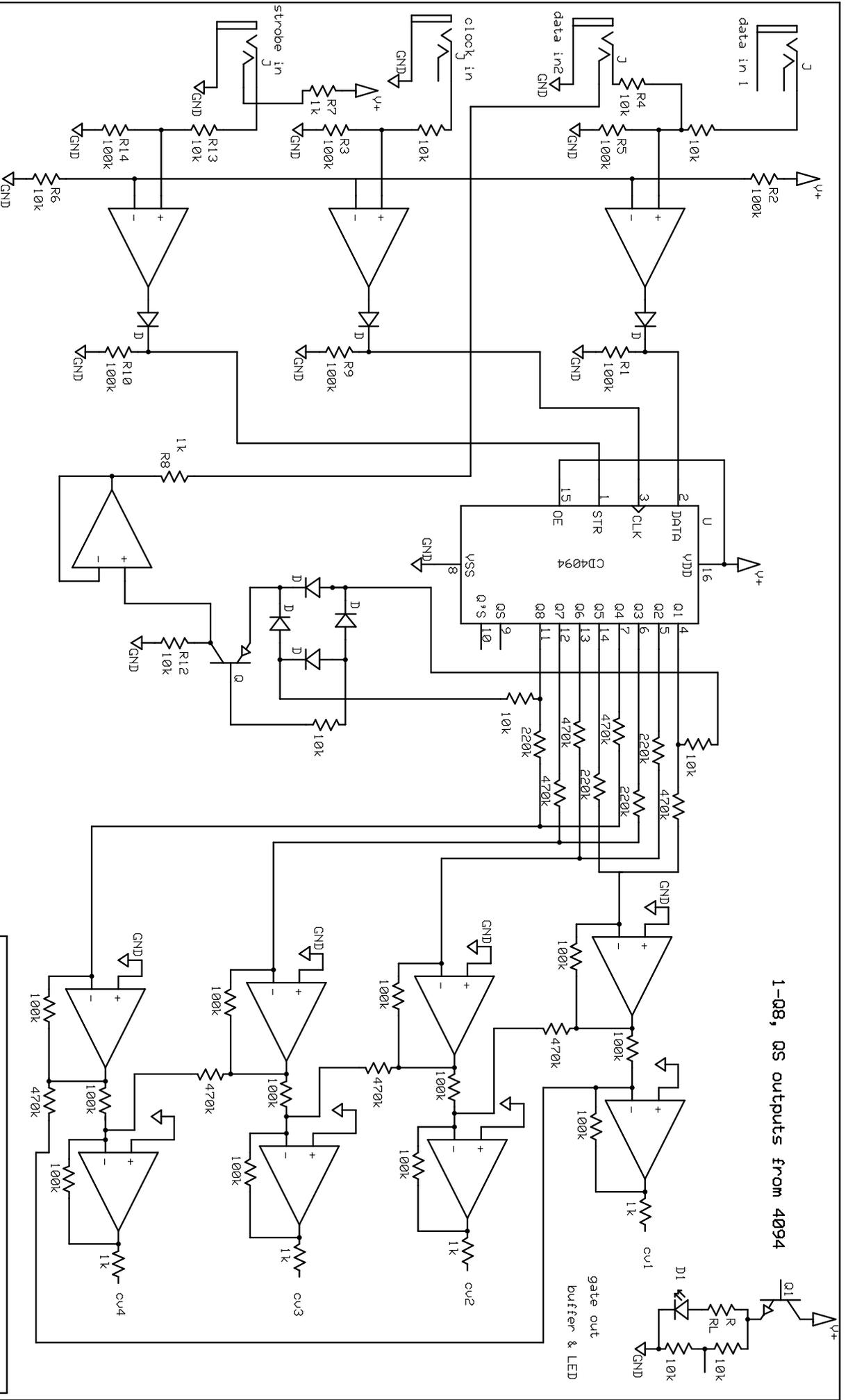
Once you have it running nicely, connect one of the CV outputs to a VCO and have a listen to the patterns. Tweak the signal on the data input to see how this changes. The first & final stages are fed back to Data input2 via a crude XOR circuit. If nothing is patched into this input, the feedback signal will ensure a nice level of complexity to the output patterns.

The CV outputs are all related to each other but are all different; part of CV1 is fed to CV2, part of CV2 is fed to CV3 etc.

The stage outputs are great for driving drum modules....or anything you like.

component	quantity	notes	component	quantity	notes
TL074	3	SOIC Tayda# A-1137	10Ω	2	thru-hole
4094	1	SOIC CMOS Mouser# 511- HCF4094YM013TR	1k	6	0805
BC847	9	SOT-23 NPN Tayda# A-1339	10k	27	0805
BC857	1	SOT-23 PNP Tayda# A-1345	100k	19	0805
LL4148	7	diode SOD-80	220k	4	0805
			470k	8	0805
10uF	2	electrolytic 25V or higher rating	RL	9	select resistor to suit LEDs, for WAMOD this will be 10k
100nF	3	0805	3mm LED	9	3mm!!! not 5mm
10 pin euro power connector	1	(2x5) Tayda# A-198	3.5mm kobiconn type socket	17	Tayda# A-865
40 pin single row header	1	break into three sections of 10 Tayda# A-197	10 pin single row female header	3	Tayda# A-1306

1-08, Q5 outputs from 4094



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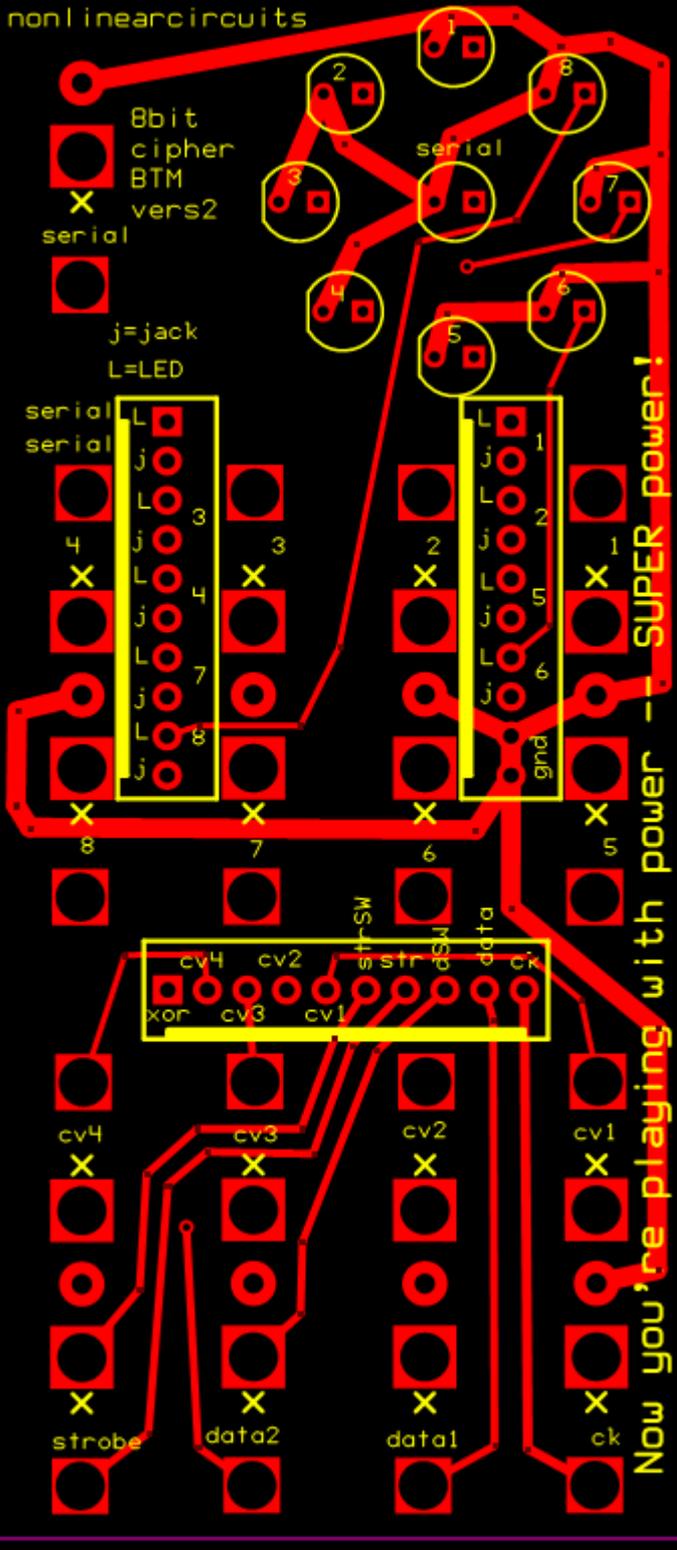
8bit cipher (euro)

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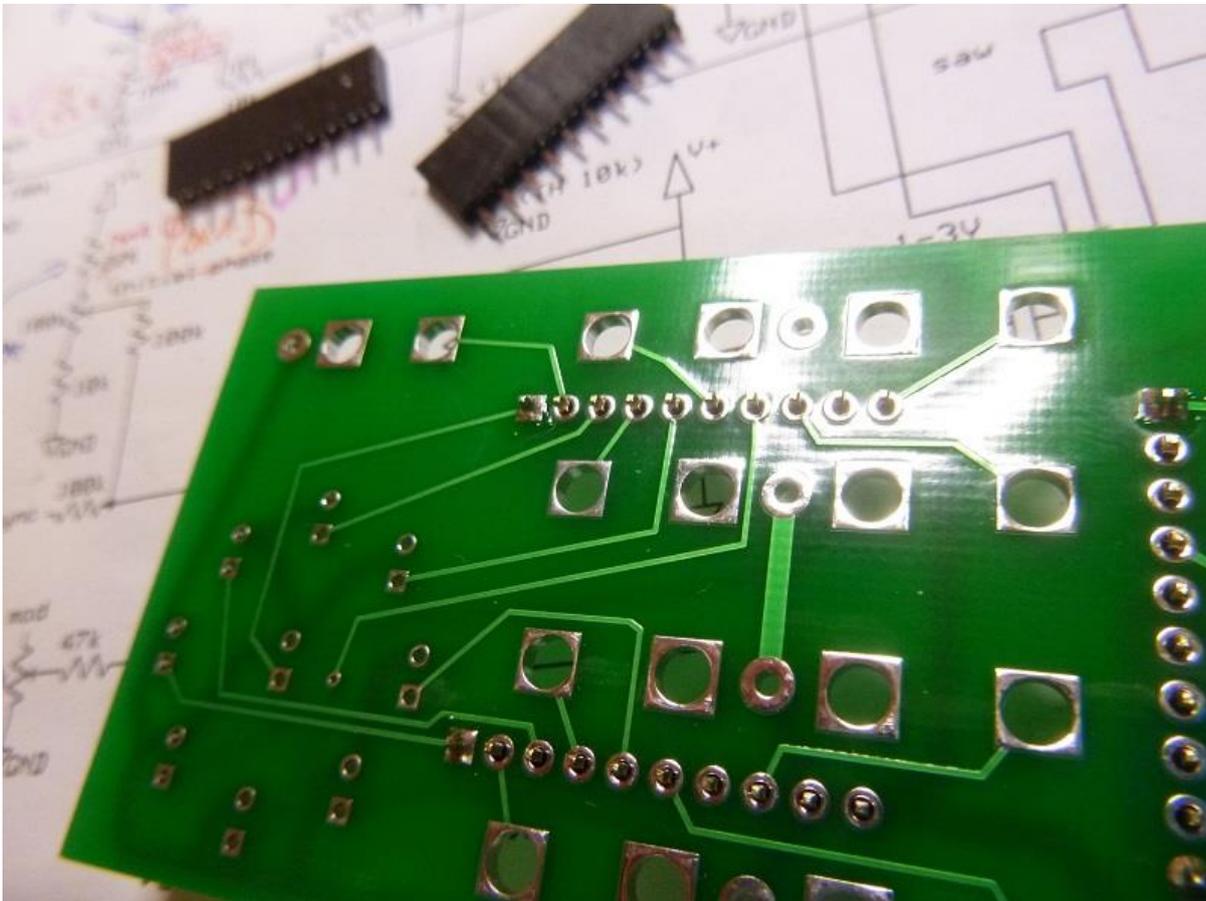
8bit cipher BTM vers2
serial

j=jack
L=LED

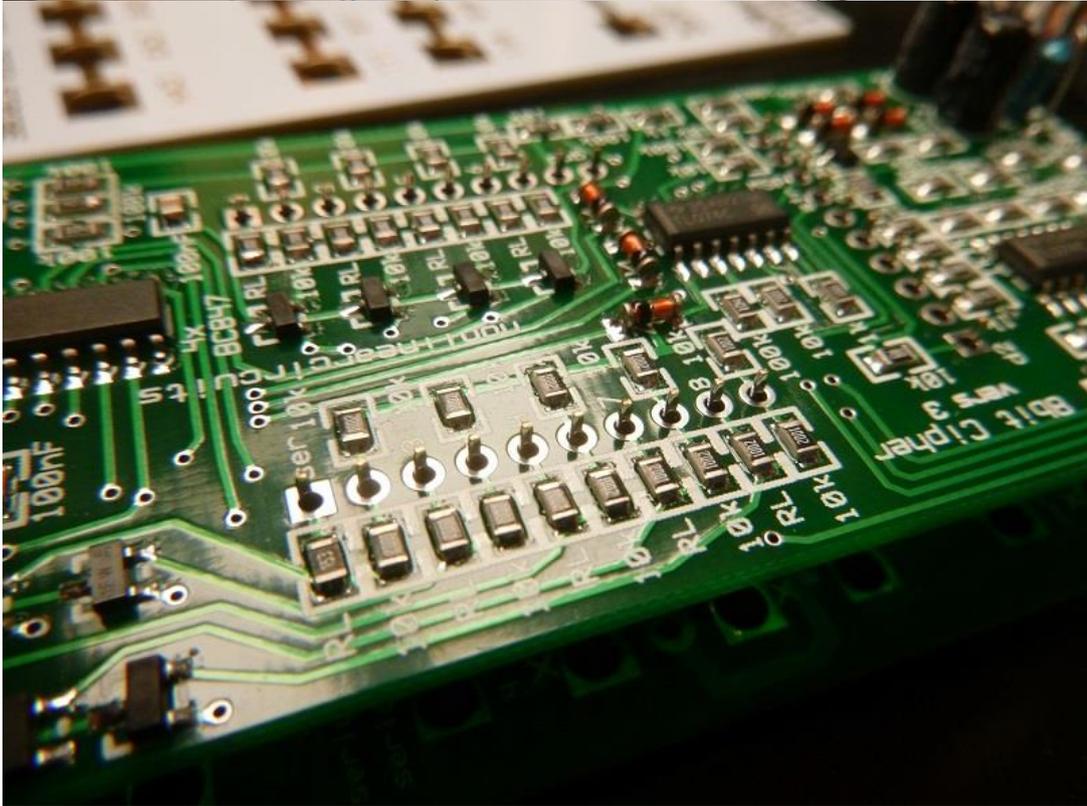
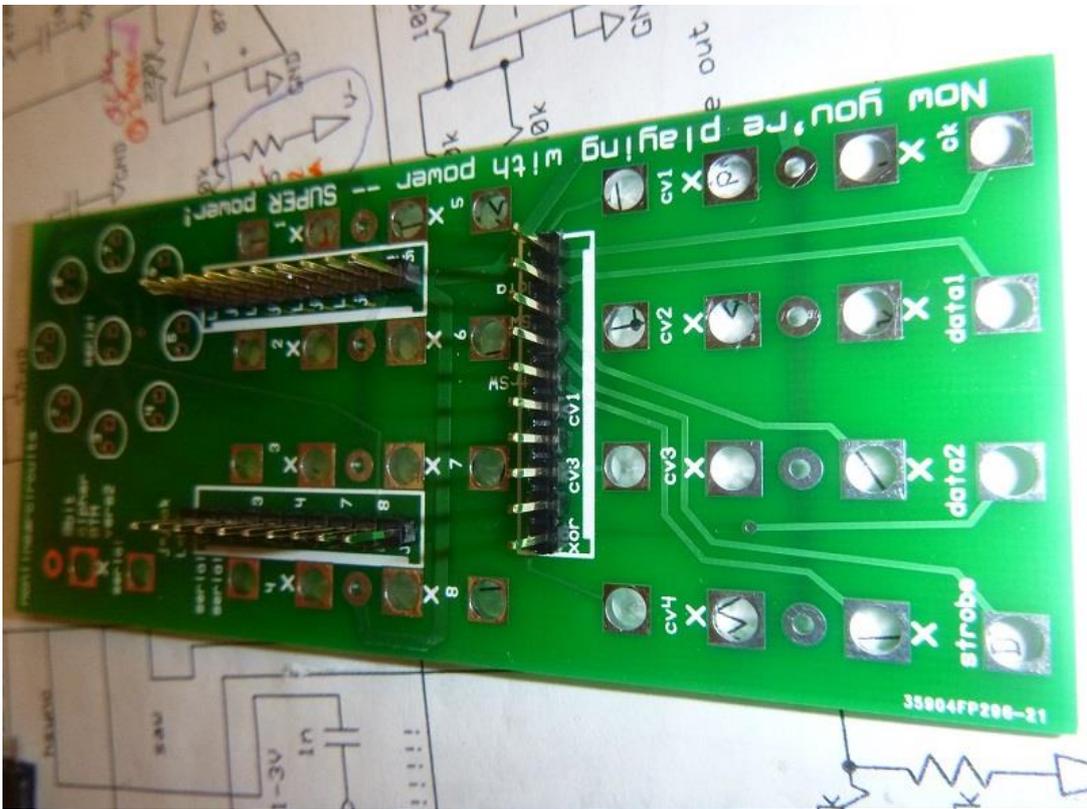
serial
serial



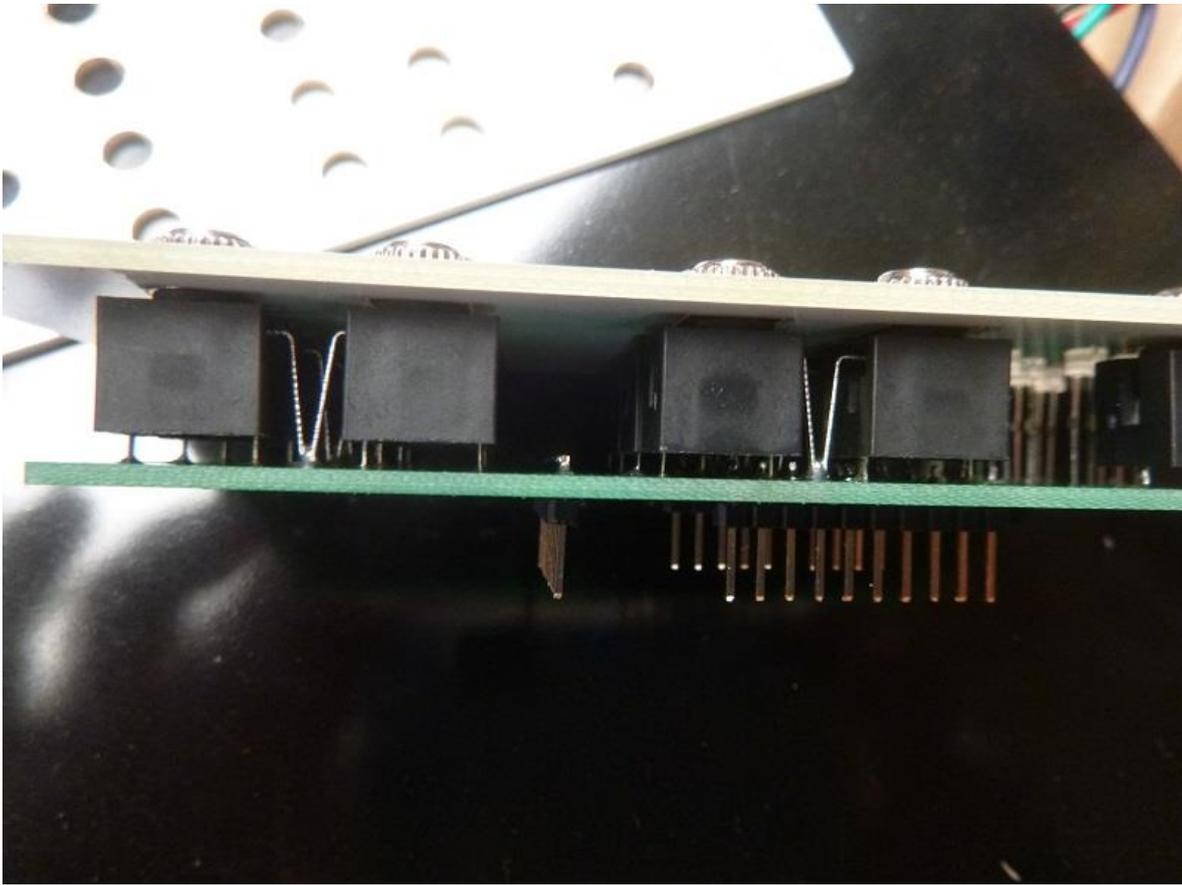
Now you're playing with power -- SUPER power!



Place the connectors on the bottom PCB, solder the 2 end pins 1st and check they are standing perpendicular to the PCB. Correct if necessary and then solder the rest.



Place the other connectors onto the engine PCB, do not solder them yet



Note: rows of jacks share ground tabs

