

NONLINEARCIRCUITS

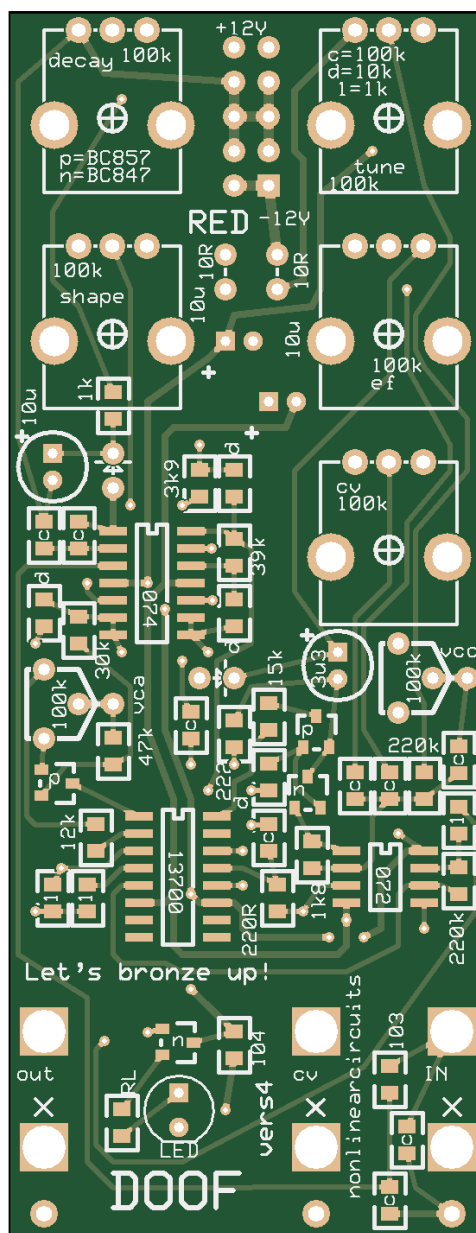
Doof Build Guide & BOM vers 1

Doof is a drum module. The design is typical of early 80s drum modules, best to look at the schematic to grok it. In this design, the VCO is a trimmed down version from the NLC dual OTA VCO and the VCA is the same as the ones in the NLC Matrix Mixer.

One suggested mod is to replace the 10nF capacitor on the input with a link to create 808 style extended drum hits with gates rather than triggers.



Another mod is to have the CV input control decay rather than Freq, you need an extra 30k-47k resistor for this. See details after the BOM.

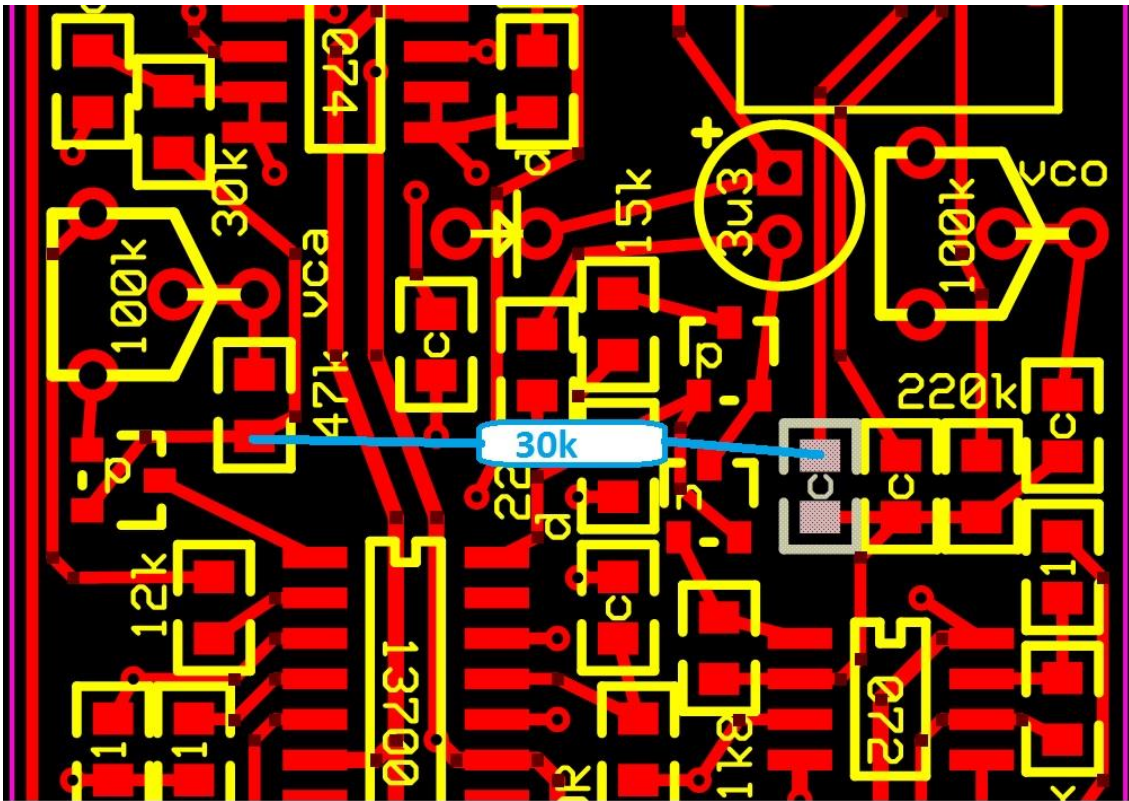
Also change the 220k next to pins 6&7 of the TL072 above the input jack to 1M to increase output level.



BOM (get spares, you might drop something)

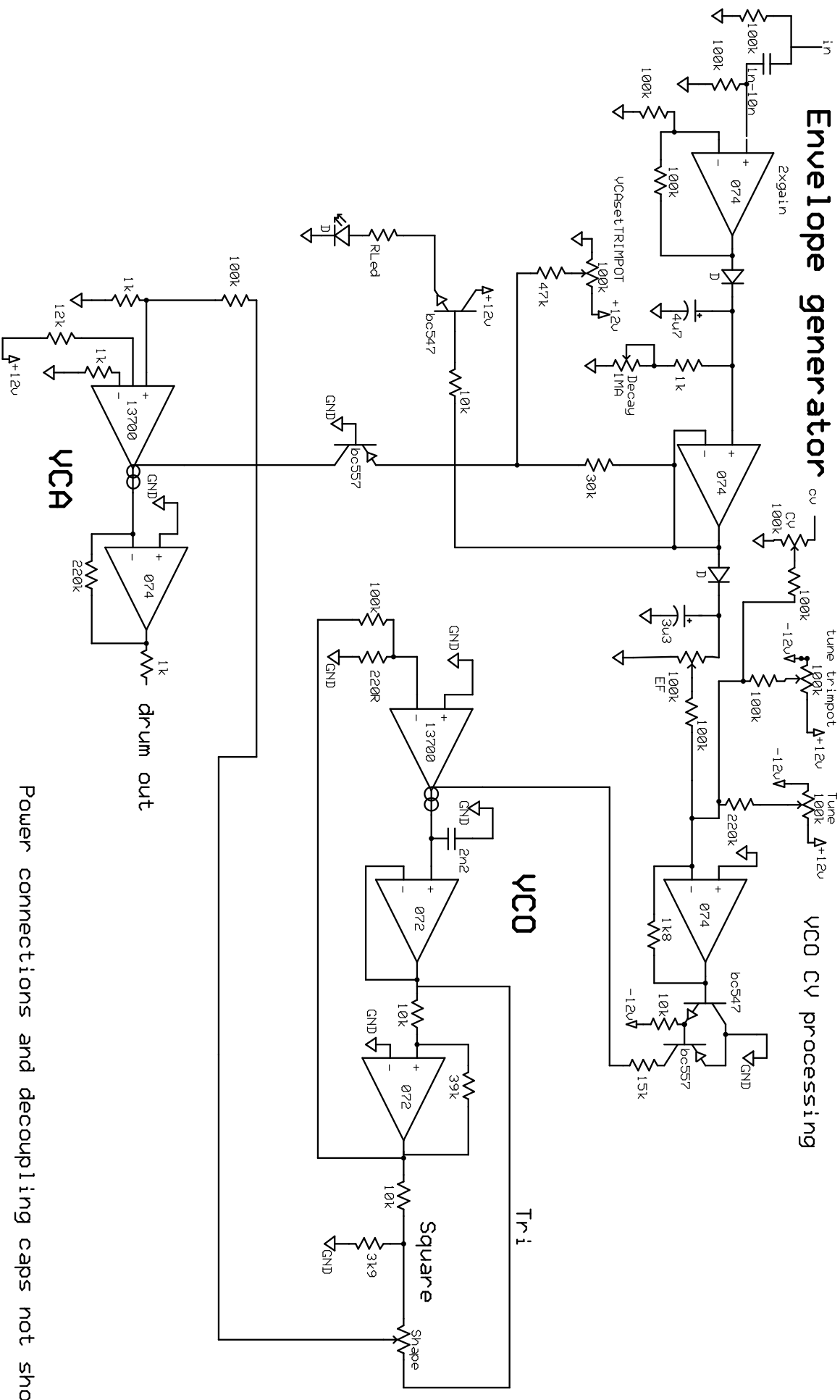
(...) indicates label on PCB

Component	quantity	notes
100k pot	5	Alpha style 
socket	3	Kobiconn style 
10 pin power connector	1	
100k trimpot	2	
LM13700	1	SMT SOIC - 0.050 pitch
TL074	1	SMT SOIC - 0.050 pitch
TL072	1	SMT SOIC - 0.050 pitch
BC847 (n)	2	SMT - SOT-23
BC857 (p)	2	SMT - SOT-23
LED	1	5mm if using NLC panel
1N4148 diode	2	thru-hole
2.2µF electro (3u3)	1	2mm lead spacing, minimum 25V voltage rating
10µF electro	3	2mm lead spacing, minimum 25V voltage rating
2.2nF (222)	1	0805
10nF (103)	1	0805
100nF (104)	1	0805
10Ω	2	thru-hole
220Ω	1	0805
1k (1)	4	0805
1k8	1	0805
3k9	1	0805
10k (d)	4	0805
12k	1	0805
15k	1	0805
30k	2	0805 (1 extra for decay mod)
39k	1	0805
47k	1	0805
100k (c)	9	0805
220k	1	0805
1M	1	0805 replace 220k marked in red next to pins 6, 7 of 072
RL	1	0805 select to suit LED, maybe 10k for super- bright types



- mod for decay CV**
1. remove highlighted 100k (marked 'c')
 2. add 30k from upper pad of 100k to lower pad of 47k
 3. enjoy

Anything from 30k up to 47k will be fine.....



nonlinear circuits

Doof

Rev 1.2	
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AF