

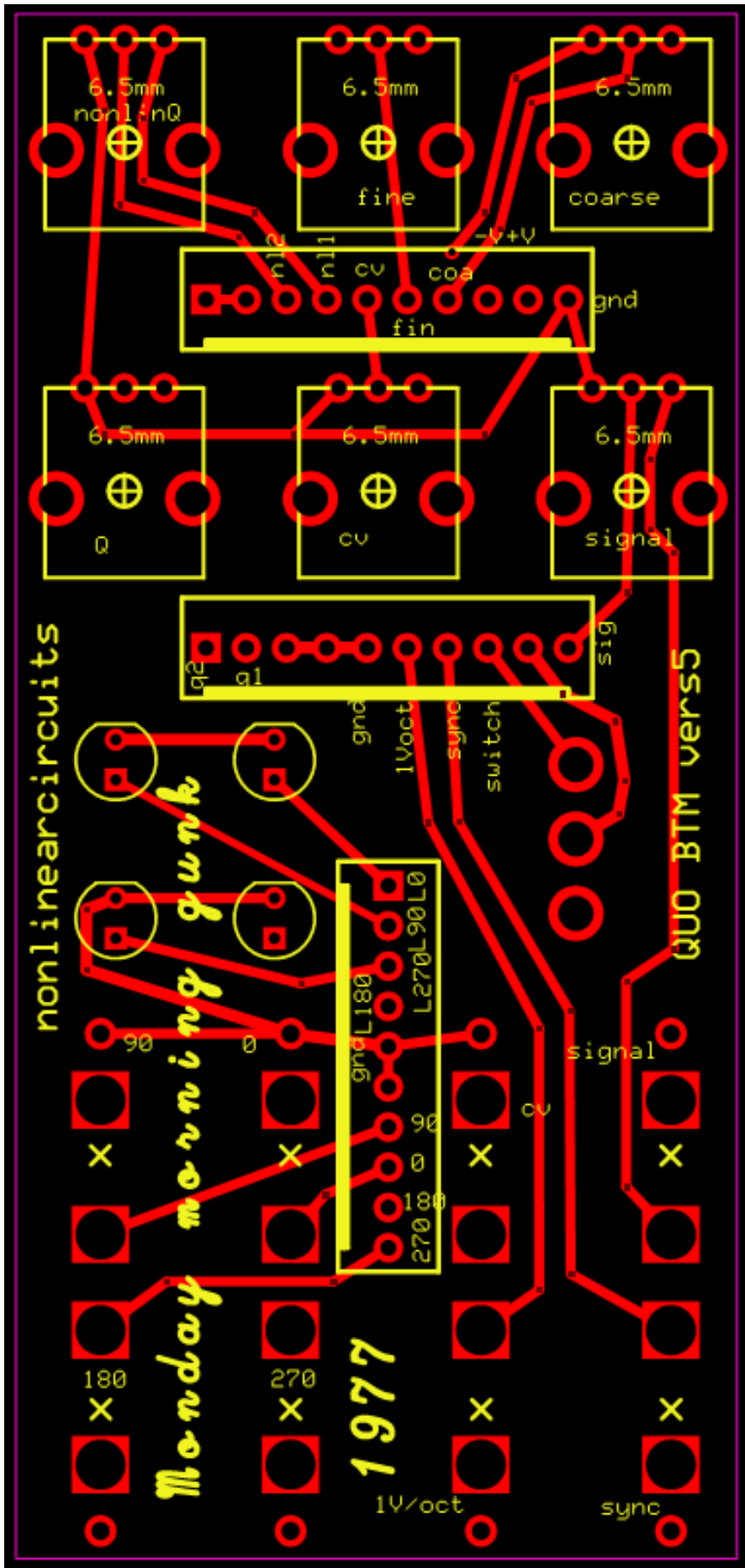
nonlinearcircuits

Feague Build guide & BOM v2

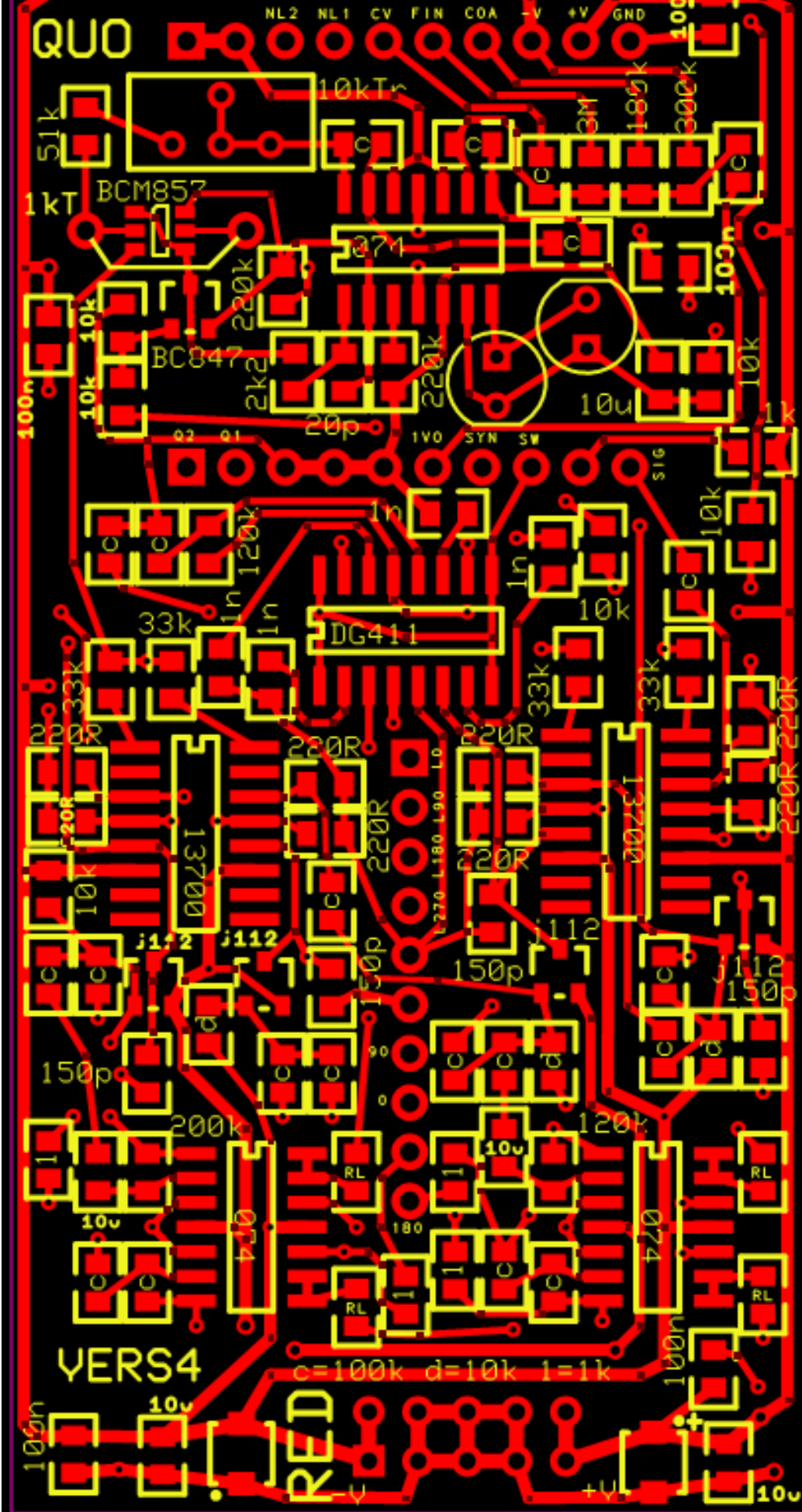
Feague is a 4 pole VCF and quadrature oscillator. Generally based on the circuit in Electronotes 41 but has a number of changes to get more functionality. On the PCB, the printing for some 10k resistors, marked 'd', is not clear making them look like a 'c'. Check pg3 of this build guide to confirm component labels.

BOM – part numbers for <http://www.taydaelectronics.com/> are given as examples

component	quantity	notes	component	quantity	notes
TL074	3	SOIC	10k (marked 'd' or 10k)	9	0805
LM13700 or NJM13700	2	SOIC or DMP-16	33k	4	0805
DG411 or similar	1	SOIC, make sure the power ratings suit +/-12V	51k	1	0805
BCM857DS	1	SOT23-6 or SOT457 Mouser: 771-BCM857DS-T/R	100k	22	0805
BC847	1	SOT-23	120k	2	0805
J108 or J109 or J112 (MMBFJ108) or MMBF5459 or MMBF5486	4	SOT-23, marked J112 on PCB	180k replace with 100k or 120k	1 (added to 100k total)	0805 sets range of Coarse tune pot
S1JL or similar, optional - for reverse voltage protection	2	SMD, standard power diode 600V 1A, dot on PCB indicates anode (stripe)	200k	1	0805
3mm LED	2	not for display, so any colour	220k	2	0805
10k trimpot	1	10-turn is nice	300k	1	0805
20pF	1	0805	3M (2M2 or 4M7 okay)	1	0805, for fine tune
150pF	4	0805	RL	4	0805, choose resistor to suit LED brightness, mine uses 470R
1nF	4	0805	Eurorack 10 pin power connector	1	Tayda: A-198
100nF	5	0805	10 Pin 2.54mm Single Row Pin Header Strip	3	Tayda: A-197
10µF	5	0805	10 Pin 2.54mm Single Row Female Pin Header	3	Tayda: A-1306
1k tempco	1	thru-hole. Use a regular 1k if you don't need precise 1V/oct	100k pot 9mm	6	Tayda: A-1848
220R	8	0805	3.5mm socket	8	Tayda: A-865
1k (marked '1' or 1k)	5	0805	SPDT on-on toggle switch	1	Tayda: A-4567
2k2	1	0805	2 pin bipolar LED (5mm)	4	Can use regular LEDs if you wish



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QUO

BCM857

BC847

DG411

VERS4

RED

c=100k d=10k l=1k

100n

10v

10v

+V

NL2 NL1 CV FIM COA -V +V GND

1V0 SYN SW

SIG

L370 L180 L90 L0

j112

j112

j112

j112

j112

j112

10v

10v

10v

10v

10v

10v

100n

10v

100n

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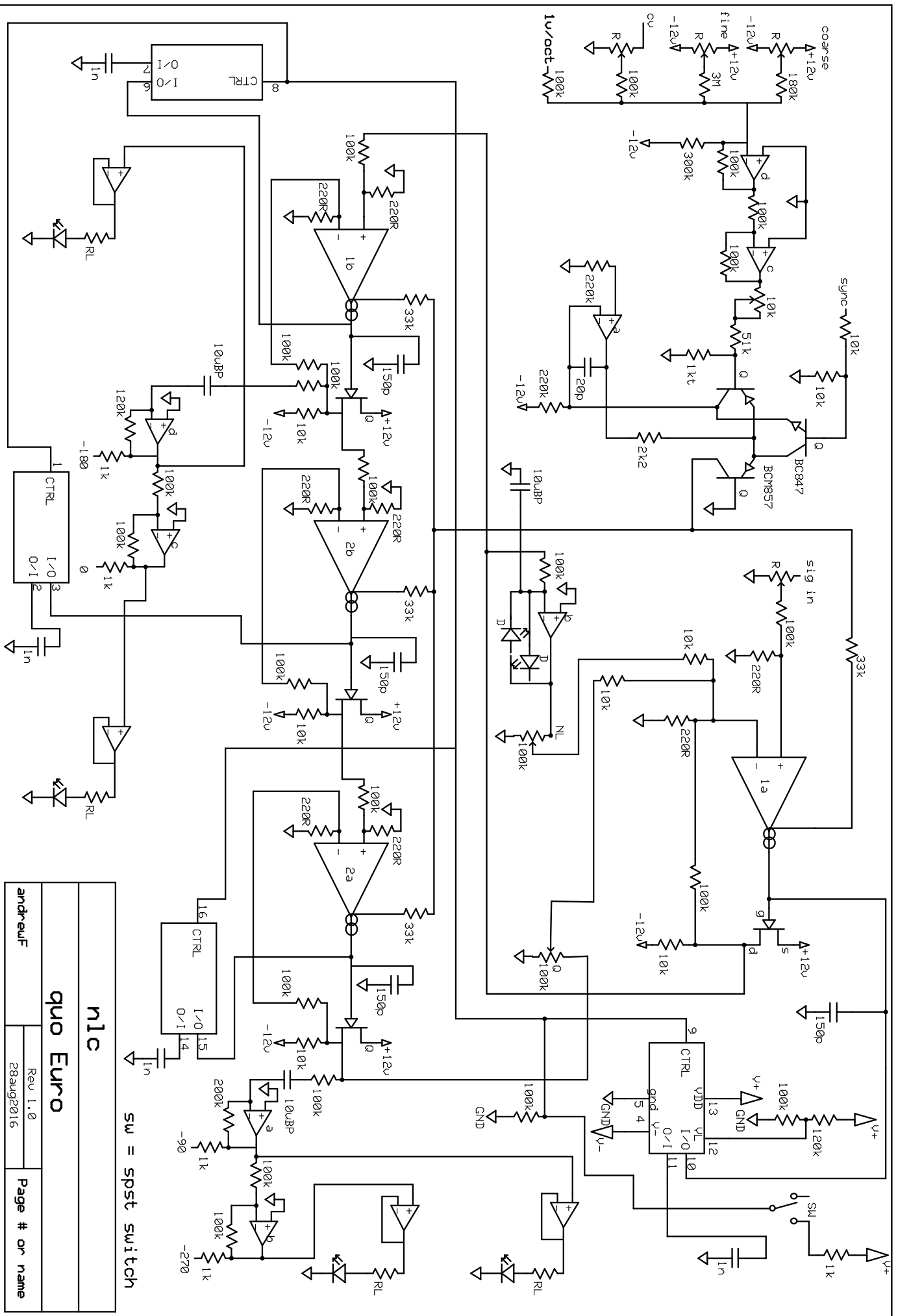
10v

10v

10v

10v

10v



n1c

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Rev 1.0
28aug2016
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sw = spst switch

Setup:

The trimpot is used to tune for 1V/oct, turn up the Q pot, get the circuit oscillating and tune it as per any regular analogue VCO.

Use as a VCF

Keep the nonlin Q pot at zero.

Patch in an audio signal and adjust the Coarse freq pot and Q pot to use as a filter. Keep the switch on Hi, add CV as you like. Once sounding good, try tweaking the nonlin Q pot and see what you get.

Use as a Quadrature Oscillator

Keep the nonlin Q pot at zero. Turn up the Q pot until the module starts to self-oscillate (around 8-9).

Adjust the frequency with the freq pots. When the switch is Hi the range is at audio rates, set the switch to Low for LFO rates.

When using the module as an oscillator, the nonlin Q pot can be used to adjust the amplitude of the output signals.

Don't forget to play with the sync input; it is more like a freeze function.