nonlinearcircuits

Router Build & BOM

The Router was developed to use in the cellF neural synthesizer at MoNA's Mofo exhibition in Jan 2017. As cellF would be left running for 6-8 hours per day, we wanted a module to periodically switch around the CV signals to create new patches.

The Router pots can be used as switches, 0 is off and 10 is on. At these settings the switches will ignore incoming CV or gate signals. For the switching to be controlled by CV or gates, set the pots to an appropriate turn-on point.

Some notes:

Input 1 is internally connected to the switches on jacks 2, 3 & 4.
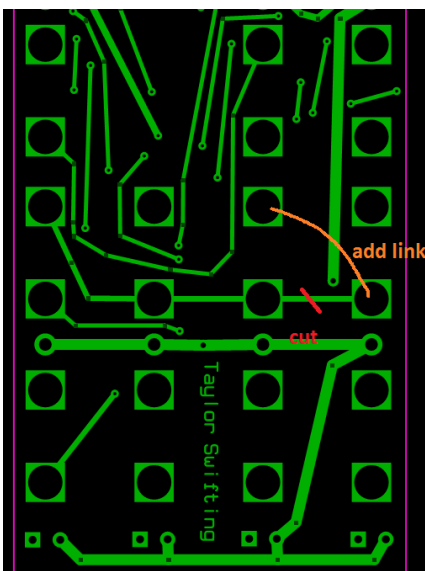
CV 1&2 is internally connected to the switch on the CV 3&4 jack.

The signals to the OUT ALL jack are summed together, as more than one signal can be on at a time; this is the safest way to merge them.
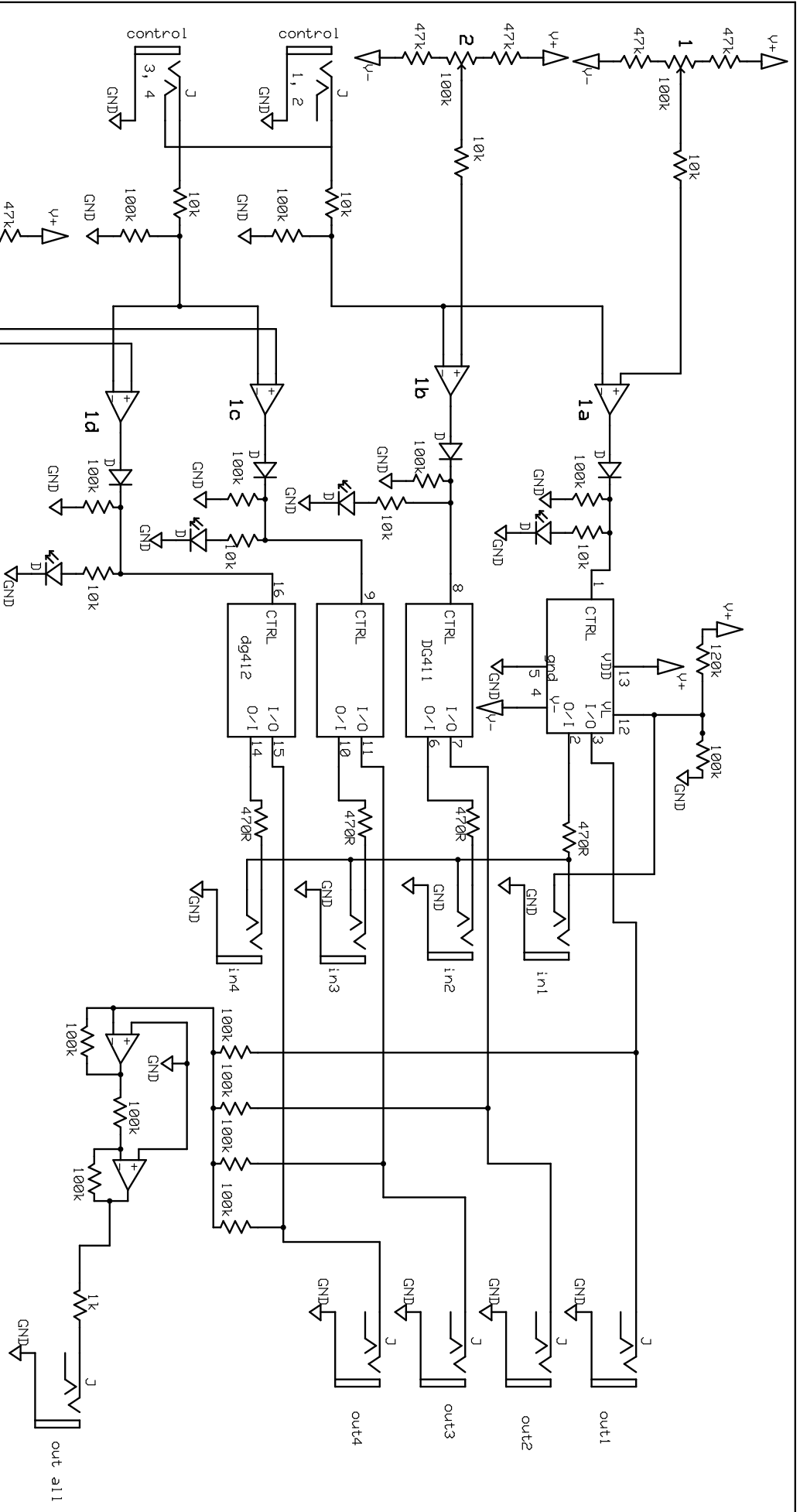
The Router can deliver 1 into 4, 4 into 4 and 4 into 1 at the same time, 2x 2 into 2 and, with a simple mod the PCB, 2x 1 into 2 (see notes after BOM)

component	quantity	notes
100k pot	4	Tayda A-1848
3.5mm jack	11	Kobiconn type
LED	4	**3mm** size, superbright
eurorack 10 pin power connector	1	
LL4148 diode	4	SOD-80
TL072	1	SOIC
TL074	1	SOIC
DG412 or similar	1	SOIC
10uF	2	thru hole 2mm lead spacing
100nF	2	0805
10Ω	2	thru hole
470Ω	4	0805
1k	1	0805
10k	10	0805
47k	8	0805
100k	14	0805
120k	1	0805

Mod for 2x 1 into 2 function (bottom of PCB):

V+
47k
1
47k
V−
100k
10k

V+
47k
2
47k
V−
100k
10k

control
J 1, 2
GND
10k
100k
GND

control
J 3, 4
GND
10k
100k
GND

V+
47k
4
47k
V−
100k
10k

V+
47k
3
47k
V−
100k
10k

1a
D
100k
10k
GND
D
GND

1b
D
100k
10k
GND
D
GND

1c
D
100k
10k
GND
D
GND

1d
D
100k
10k
GND
D
GND

dg412
CTRL 16
I/O 0/1
15 14
470R

CTRL 9
I/O 0/1
10 11
470R

DG411
CTRL 8
I/O 0/1
7 6
470R

CTRL 1
I/O 0/1
2 3
470R

VDD 13
gnd V− 5 4
VL 12
V+
120k
100k
GND
V+
GND V−

GND
in4
GND
in3
GND
in2
GND
in1

100k
100k
100k
100k
GND

100k
100k
GND

1k
GND
J
out all

GND J
out4
GND J
out3
GND J
out2
GND J
out1