nonlinearcircuits

seqmix1050

build & BOM guide vers.1

Component	**Quantity**	**Notes**
DG442 or DG212	2	SOIC - 0.050 pitch - **see section below re: equivalents. Make sure it can handle +/-12V**
4017	1	SOIC - 0.050 pitch CMOS
4071	3	SOIC - 0.050 pitch CMOS
4081	1	SOIC - 0.050 pitch CMOS
TL074	1	SOIC - 0.050 pitch CMOS
TL072	2	SOIC - 0.050 pitch CMOS
1N4148 diode	6	any general purpose diode okay
5mm LED	8	must be super- or ultra-bright
10uF electrolytic cap	2	2mm lead spacing, must be 25V or higher rating
104 (100nF) cap	9	0805
103 (10n)	1	0805
10R	2	thru-hole
1k	7	0805
10k	11	0805
100k	32	0805
100k*	1	0805 ONLY use for some versions of analogue switch
120k*	1	0805 ONLY use for some versions of analogue switch
100k pot	8	
jacks	15	 Kobiconn style
SPDT on-on toggle switch	1	
DPDT on-on toggle switch	1	
Eurorack 10 pin power connector	1	

ICs

Many analogue switch ICs will work, you want ones that are normally off:

truth table	
LOGIC	
0	off
1	on

Often these ICs end in a '2', so DG442 and DG212 will work, for others check they can handle +/-12V power supplies. UPDATE: some new versions of Vishay DG442 are only rated for +/-8V, do not use these.

Some earlier versions require a voltage offset on pin12, the spaces for these resistors are on the PCB marked 100k* and 120k*. New versions do not require these resistors, so check the datasheet for your IC, if pin 12 is marked 'NC' you do not have to install these resistors.

TL084 will work instead of TL074.

TL082 or LF353 will work instead of TL072.

BUILDING

If you are at a WAMOD workshop, your PCB will have solder-paste stencilled onto the pads. Use tweezers to place the surface mount components onto their correct pads. Do not solder anything yet; the board will be cooked in a reflow oven. Do not install any thru-hole components until after the reflow oven (such as diodes and electrolytic capacitors).

Some of the surface mount resistors and capacitors are not labelled, check the quantity and compare to the parts list (BOM) on page 1 to work out what the components are.

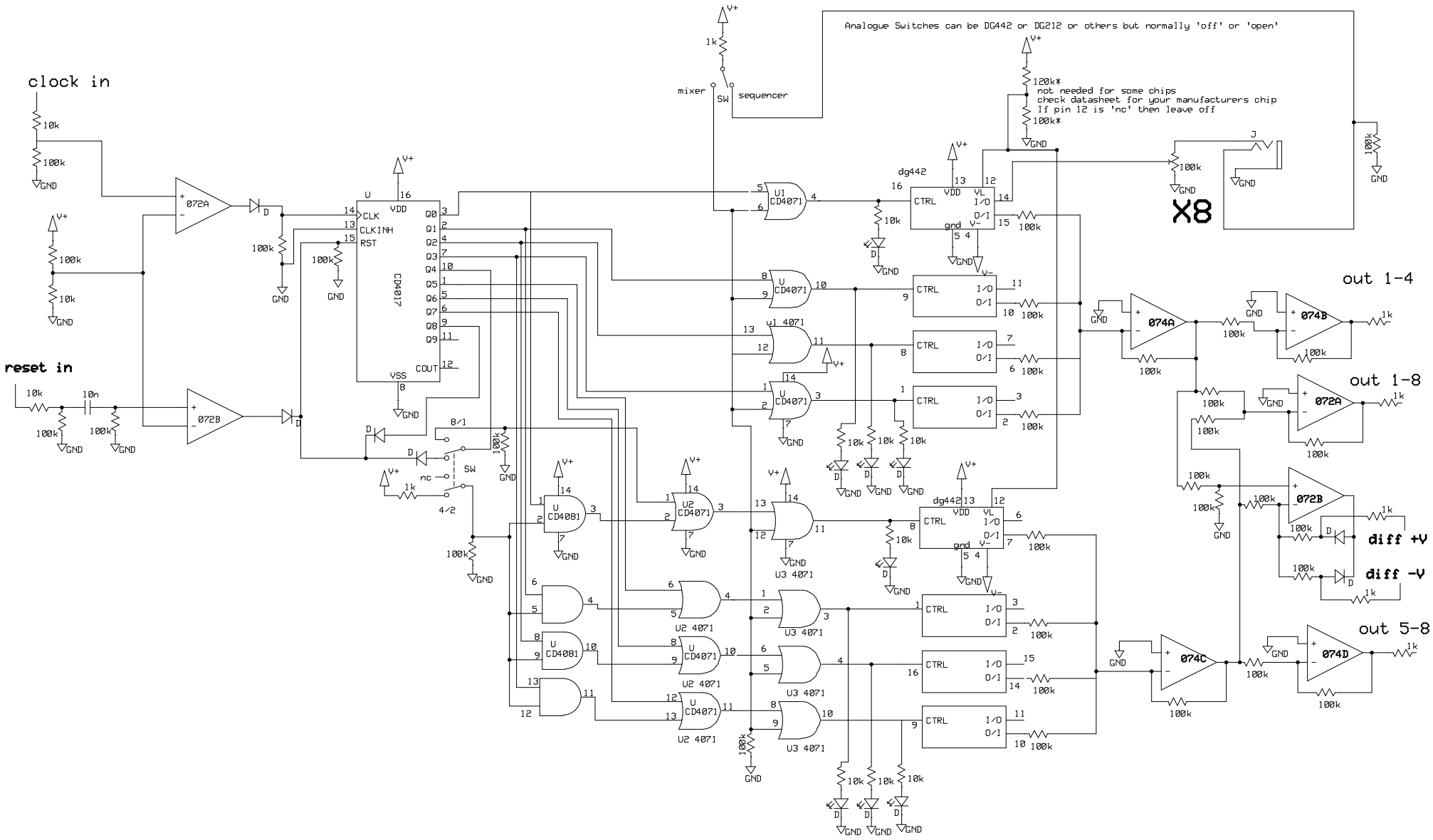
Place the ICs so the label on the IC is in the same orientation of the writing for the IC on the PCB. Be careful not to mix 4017 (1 piece, 16 pins) and 4071 (3 pieces, 14 pins), not to mention 4081 (1 piece, 14 pins).

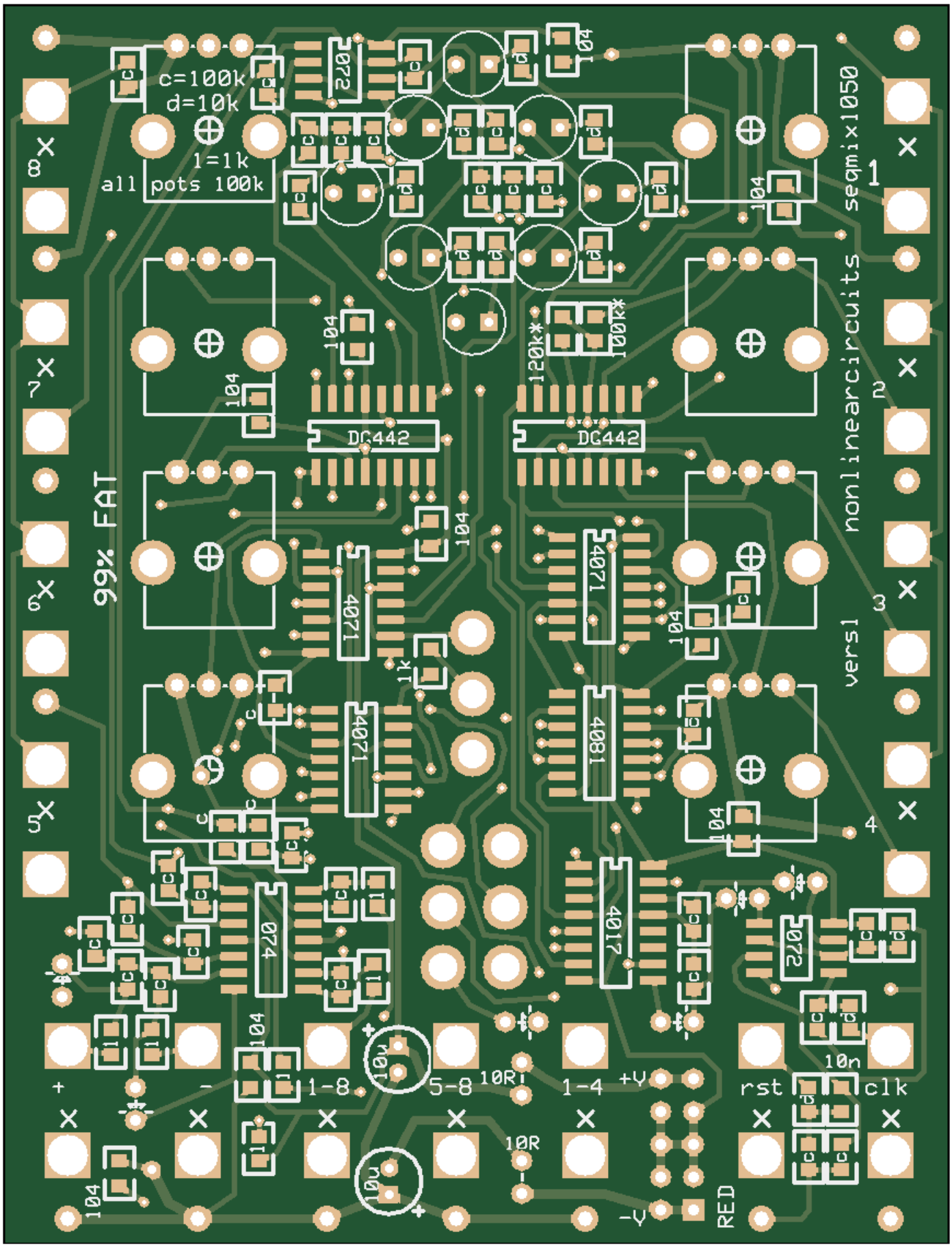
After all the smd and thru-hole components are installed, attach the jacks to the panel. Check which way they go according to the holes for the ground pins on the PCB.

Place the pots, LEDs and switches on the PCB, do not solder them. Mount the PCB onto the panel, ensure all the tabs go thru their correct holes and nothing is bent over.

Ensure everything is straight and start soldering. Because of the height of the switches, you may not be able to place the nuts on the pots.it is not a big deal as there are enough sockets to hold the PCB firmly to the panel. Be sure the pots are straight before soldering them and make sure you solder up the side tabs on the pots.

Do not overtighten the nuts on the 2 switches, finger-tight and then 1/8 or less of a turn is enough. If they are over-tightened the body will separate from the shaft.


clock in
reset in
Analogue Switches can be DG442 or DG212 or others but normally 'off' or 'open'
120k*
not needed for some chips
check datasheet for your manufacturers chip
If pin 12 is 'nc' then leave off
100k*
mixer
SW
sequencer
1k
X8
out 1-4
out 1-8
out 5-8
diff +V
diff -V
8/1
4/2
nc
SW
CD4017
dg442
072A
072B
074A
074B
074C
074D
U1 CD4071
U CD4081
U2 CD4071
U3 4071
LEDs must be super- or ultra- bright
nonlinearcircuits
MixSeq vers1
andrewF
Rev 1.0
21/11/2015
Page # or name


c=100k
d=10k
1=1k
all pots 100k
99% FAT
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versl
DG442
DG442
4071
4071
4071
4081
4017
074
072
072
1-8
5-8
10R
1-4
+V
-V
rst
clk
10n
10u
10u
10R
RED
104
1k
120k*
100R*