

BINDUBBA 1
4 STAGE SEQUENCER
BUILD NOTES
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Links

There are many short jumpers on the PCB. There is one underneath each 4052 IC (U3-6), it is important to install these **before** installing the chips

CV outputs

Designator on PCB	Sequence order	IC/section	connector	Connector Pinout pin 1 (square) to jack	Connector Pinout pin 2 to jack
h	1234	U6/B	P4	Cv out	Inverted cv out
i	2341	U3/A	P7	Inverted cv out	Cv out
j	3412	U5/B	P11	Inverted cv out	Cv out
k	4123	U4/A	P8	Inverted cv out	Cv out
l	4321	U4/B	P10	Inverted cv out	Cv out
m	3214	U5/A	P6	Inverted cv out	Cv out
n	2143	U3/B	P9	Inverted cv out	Cv out
o	1432	U6/A	P5	Cv out	Inverted cv out

The **mix** inputs are marked on the PCB as per the above designators (h, j, k, etc). These can be connected to panel jacks, via pots wired as a voltage dividers if desired.

Gate Outputs

Designator on PCB pad - connect to jack	Count from 4024	LED connector
a	/2	P14
b	/4	P20
c	/8	P19
d	/16	P18
e	/32	P17
f	/64	P16
g	/128	P15

These are optional LED and gate buffer circuits. If no LED is required a link will need to be inserted in place of the connector.

On the PCB, there is an 'A' next to the hole to be connected to the LED's anode pin. The other hole is of course to the cathode.

All transistors are NPN, ostensibly 2N3904 but any general purpose type will do. Check the pinout is correct for whatever transistor you are using. On the PCB, you can see 'e b c' indicating how the transistors should be installed.

The resistors for the buffer circuit are up to you. I chose 1k and 2k2, which give a 6V gate signal when using a 12V PSU and a blue LED which has a 3V voltage drop. ie:

$$(12V - 3V)(2k2)/(1k + 2k2) = 6.2V$$

Other LEDs have a lower 'on' voltage, so you may want to adjust these resistors to get the gate voltage you desire.

If you don't want gates and LEDs, leave out the transistors and associated components, it will not affect the main circuit.

'Song Sequencing'

Around the 4024 chip, you can find pads marked Q3, Q4, Q5, Q6, Q7. These can be connected to rotary or other switches to control the enable inputs of the 4052 chips. When the Q outputs are high, the 4052 chip it is controlling will be turned off.

There are no pads for Q1 and Q2, if you really want to include these you could connect a wire to R82 (where it connects to U3 pin 10) for Q1 and for Q2 connect to the link next to R1, between U1 and U5.

The pads for the enable inputs are marked :

U3	en i, n (sequences starting on 2)
U4	en k, l (sequences starting on 4)
U5	en m, j (sequences starting on 3)
U6	en o, h (sequences starting on 1)

None of the Q3-Q7 pads and the 'en' pads should be connected to jacks. They are intended only for internal signal routing.

If you do not wish to include this function. Do not connect anything to the Q_ and 'en' pads. R86, R87, R88 & R89 can be replaced with jumpers.

Other Connectors

Designator	# of pins	Function	Connection
P1	4	Set voltage levels	Connect to wipers of four 50k-100k pots, wired between +12V and ground. These are used to set up your sequence pattern
P2	4	Clock and reset inputs	Pins 1 (square) & 2 are for gate inputs. One can connect to a jack, the other (optional) to a normally off momentary switch wired to +12V. Pins 3 & 4 are for the clock inputs, again one to a jack to receive an external clock signal, the other to a mom switch as done for reset (optional).
P3	2	staircase	Pin 1 (square) : inverted stair out pin 2 : staircase out connect to jacks
P12	3	Power supply	Pin1 : -12V pin 2 : ground pin 3 : +12V
P13	3	+V and Gnd for pots and panel ground connections	Pin1 : +12V pins 2, 3 : ground

Resistors

10R	R78, R79
1K	R14, R29, R31, R33, R53, R54, R55, R56, R57, R58, R59, R63, R69, R70, R74, R75, R76, R77, R83, R99, R100, R105, R108, R112, R116
2K2	R85, R102, R103, R106, R109, R114, R117
15K	R7, R10, R22, R80, R81
100K	EVERYTHING ELSE
200K	R2, R5, R8, R12, R16, R23, R25

Caps

10n	C1
100n	C2, C3, C4, C5, C6, C7, C8, C9
10u	C10, C11, C12

