

Commemorative Nixie Clock Logic PCB BOM

12-20-01

Item	QTY	LOC	Description	Part Number
1	1	T1	Transformer, HV	Included
2	1	Q1	Transistor, 2SC9015 NPN	Included
3	1	Q2	Transistor, 2SD794 NPN	Included
4	1	R1	Resistor, variable 100 ohm	Included
5	1	C3	Capacitor, .01uf 100v radial	Included
6	1	C4	Capacitor, .01uf 100v disc	Included
7	1	C5	Capacitor, .068uf 100v radial	Included
8	4	D1,D3-D5	Diode, switching 1N4148	625-1N4148
9	1	D2	Diode, rectifier 1N4007	625-1N4007
10	1	D7	Diode, Zener 1N4735A	78-1N4735A
11	1	D6	Diode, Germanium 1N270	Included
12	1	Y1	Crystal, 32768hz tuning fork	520-TFC3X8
13	3	SW1-SW3	Switch, Reed, miniature (Digikey HE500-ND)	
14	1	F1	Fuse, Pico 1amp	5761-51001
15	2	Header	Header, 40p RA tin	571-41033230
16	1	C1	Capacitor, 100uf 16V radial	140-XRL16V100
17	1	C2	Capacitor, 2.2uf 450V radial	140-XAL450V2.2
18	1	C10	Capacitor, 10uf 16V radial	140-XRL16V10
19	1	C6	Capacitor, 470pf 100V radial	80-C315C471J1G
20	1	C8	Capacitor, 22pf 100V radial	80-C315C220J1G
21	1	C9	Capacitor, trimmer 9-50pf	24AA024
22	1	C7	Capacitor, .01uf 100V radial	80-C317C103K1R
23	4	C11-C14	Capacitor, .1uf 50V radial	80-C322C104K5R
24	1	R2	Resistor, 68 ohm 1/4 watt MF	271-68
25	1	R3	Resistor, 20 ohm 1/4 watt MF	271-20
26	2	R4,R11	Resistor, 1k ohm 1/4 watt MF	271-1K
27	1	R5	Resistor, 1meg 1/4 watt MF	271-1.0M
28	2	R6,R9	Resistor, 100k 1/4 watt MF	271-100K
29	1	R7	Resistor, 10k 1/4 watt MF	271-10K
30	1	R8	Resistor, 330k 1/4 watt MF	271-330K
31	1	R10	Resistor, 10meg 1/4 watt CF	291-10M
32	1	U1	IC, Flip flop 4013	511-4013
33	5	U2-U6	IC, Counter 4017	511-4017
34	1	U7	IC, Oscillator 4060	511-4060
35	1	PS	12v 1.25amp wall adapter: switchmode type (DigiKey P/N T923-P5P-ND)	

MISC:

2 five inch lengths of .032" Steel wire, bent to form colon supports,
covered with 4" of teflon 18ga tubing. Available from local model R/C shop.

Note: Clock backup battery power can be 3 AAA batteries (4.5v) in series.
Three AAA cell holder: (DigiKey 2480K-ND)

All part numbers listed are Mouser Electronics (except #13, 35, & battery holder)

Mouser Electronics order # 1-800-346-6873
DigiKey Order # 1-800-344-4539

Commemorative Nixie Tube Display PCB BOM

10-20-00

Item	QTY	LOC	Description	Part Number
1	6	R1-R6	Resistor, 47k ohm 1/2 watt MF	273-47k
2	4	R50-R53	Resistor, 470k ohm 1/8 watt MF	270-470k
3	43	R7-R49	Resistor, 33k ohm 1/8 watt MF	270-33k
4	43	Q1-Q43	Transistor, MPSA42 TO-92 NPN	610-MPSA42
5	6	XP1-XP6	RTS-18 Sockets for National NL-840 Nixie Tubes Sphere Research in Kenowa, BC Canada	
6	6	LP1-LP6	National NL-840 Nixie Tubes	
7	4	LP7-LP10	NE-2 Neon Lamp, type T2 .3ma	606-A9A

All parts numbers (except 5 & 6) are through Mouser Electronics at 1-800-346-6873

Commemorative Nixie Clock Logic PCB revision A notes: 02-23-02

- Oscillator Transistor Q1 (2SC9015) supercedes the 2N4401 previously used. The transistors have a pin assignment difference, affecting how the 2SC9015 transistor is installed into the pcb.

The pcb layout for Q1, starting at the square pad is BCE. The 2SC9015 is arranged as CBE.

When installing the transistor into the pcb, place a short length of tubing onto the center pin of the transistor, and bend the lead so that it inserts into the square pad. At the same time, bend the lead that would have inserted into the square pad hole, and insert it into the center round hole.
- Output transistor Q2 (2SD794 supercedes the transistor previously used. No pin swapping is necessary. The 2D794 must be installed into the board so that the exposed metal side faces down (towards C5). The board silkscreen showing Q2 facing up is incorrect.
- An artwork error exists on the board revision A. The schematic drawing has been marked to indicate the error, and the board has been modified between C10 and U2 to correct the error.

No further modifications are necessary. This change information was provided for your reference only.