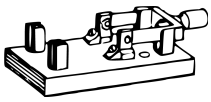
Terrific Timer
Bill of Materials



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Part	Value	Remarks	Qty	Reference	Provided
Standoffs	M3	nylon stands 8mm	**4**		
	M3	nylon nuts	**4**		
Pin header	1 x 3 pin	male vertical	**2**	J5, J7	
	1 x 4 pin	male vertical	**1**	J2	
	1 x 2 pin	male horizontal *(backside)*	**1**	JP4	
	1 x 3 pin	male horizontal *(backside)*	**3**	JP1-JP3	
	2 x 2 pin	male horizontal *(backside)*	**1**	J1	
	2 x 5 pin	male horizontal *(backside)*	**1**	J4	
	2 x 3 pin	male vertical	**1**	J14	
	2 x 5 pin	male vertical	**1**	J3	
Jumper	1 x 2 pin	jumper *(backside)*	**4**	JP1-JP4	
	1 x 2 pin	jumper with pull-tab	**5**	J2, J3, J5, J7, J14	
Socket	1 x 2 pin	female vertical bus	**5**	J9-J13	
	2 x 2 pin	female horizontal bus *(backside)*	**1**	J6	
	2 x 5 pin	female horizontal bus *(backside)*	**1**	J8	
	8 pins	machined pin	**2**	U1, U2	
	14 pins	machined pin	**2**	U3, U4	

Important:

- If a finished 8-bit Workbench™ is available; on a flat table, mount the standoffs and insert the unsoldered pin headers (J1, J4) into the female busses of the Workbench to have them perfectly aligned before soldering them. Do the same with the bottom edge headers (J6, J8) together with a Binary Keyboard (when available).

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Part	Value	Remarks	Qty	Reference	Provided
Resistor [1]	330 Ω	1/4 W - orange, orange, black, black, brown	**1**	R5	
	1 kΩ	1/4 W - brown, black, black, brown, brown	**4**	R1, R2, R6, R7	
	2 kΩ	1/4 W - red, black, black, brown, brown	**1**	R4 *(backside)*	
	4.7 kΩ	1/4 W - yellow, violet, black, brown, brown	**1**	R8	
	1 MΩ	1/4 W - brown, black, black, yellow, brown	**1**	R3	
Resistor Net	1 kΩ	4x resistor, 5 legs	**1**	RN1	
Resistor Var.	1 MΩ	potentiometer 9 mm round side adjust	**1**	RV1	
Capacitor	10 nF	marked with '103'	**2**	C2, C5	
	100 nF	marked with '104'	**5**	C3, C4, C6-C8	
	1 µF	elco radial	**1**	C1	
IC	555	Timer	**2**	U1, U2	
	74LS00	Quad 2-input NAND gate	**2**	U3, U4	
Switch	ON	Push Button	**3**	SW1-SW3	
LED [2]	white	5 mm, round	**2**	D1, D2	
	green	3 mm, round	**1**	D3	
	red	3 mm, round	**1**	D4	
Misc	black	potentiometer dial 9 mm [3]	**1**	RV1	
		Parts	**69**		
		Types	**34**		

Notes:

1) Some provided resistor-values could differ slightly, as could their band colors, this has no effect on the working of the board.

2) When preferred, other LED colors can be used. Make sure to check if the values of the resistors R3, R4, R7 and R8 are correct for the LEDs used (*see* Schematics).

3) The dial can be inserted on either the left (sticks outside the board) or the right (when the space is needed at the left edge of the board) of the potentiometer (RV1).

Important:

- Check the LED (D1-D4) polarity. The long leg is the anode (+) and the short leg the cathode (-). The short leg should go through the square pad and the long leg through the round pad.

- Before applying power, check J1, J4, J6 and J8 for shorts between all side to side pins using a multimeter in continuity mode.