

Bill of Materials for Four-Lane Electronic Lane Judge

Qty	References (rev A)	Part /Value	Description	Digi-Key P/N	Cost ea	Ext. Cost
1	N/A	N/A	Blank Circuit Card or "Perf" board			
A/R	N/A	N/A	Solder, Non acid (electrical) 60/40			
1	C2	.01uF 100V	Capacitor, Disc	399-2117-ND	0.17	0.17
7	C1,C3,C4,C5,C6,C7,C8	.1uF 50V	Capacitor, Disc	BC1101CT-ND	0.19	0.91
2	C9	10uF 16V	Capacitor, Tantalum	478-1673-1-ND	0.63	1.26
1	R36	47 ohms	Resistor, Carbon Film 1/4W	47QBK-ND	0.28	0.28
2	R1,R30	1K	Resistor, Carbon Film 1/4W	1.0KQBK-ND	0.28	0.56
4	R31,R32,R33,R34	1M	Resistor, Carbon Film 1/4W	1.0MQBK-ND	0.28	1.12
1	R35	5.1K	Resistor, Carbon Film 1/4W	5.1KQBK-ND	0.28	0.28
4 †	RN1 – RN4 (R2 – R29)	220 Ohms	Resistor Network Isolated	4116R-1-221-ND	0.60	2.40
4	U11, U12, U13, U14	4511	7-Segment LED driver, 16 pin DIP	CD4511BCN-ND	0.77	3.08
1	U21	LM555	IC, Timer, 8 pin DIP	LM555CNNS-ND	0.80	0.80
1	U20	74HC14	IC, Hex Schmidt trigger	MM74HC14N-ND	0.50	0.50
2	U1,U2	74HC00	IC, Quad 2-input NAND	MM74HC00N-ND	0.39	0.78
1	U9	74HC02	IC, Quad 2-Input NOR	MM74HC02N-ND	0.42	0.42
3	U3, U4, U5	74HC04	IC, Hex inverter	MM74HC04N-ND	0.50	1.50
1	U10	74HC20	IC, Dual 4-Input AND	296-12892-5-ND	0.40	0.40
4	U15, U16, U17, U18	74HC74	IC, Flip-Flop, D	MM74HC74AN-ND	0.48	1.92
4	U6, U7, U8, U19	74HC93	IC, Counter Decade	296-9243-2-ND	0.41	1.64
4	D1, D2, D3, D4	LN518RK (Panasonic)	LED, 7 Seg. Com. Cathode	P415-ND	3.16	12.64
1	P1	DE-9S, 177-009-212-171	9 Contact D-sub Socket	309F-ND	5.48	5.48
A/R	P2	RESET Connector	Header, 3 Pin, (Optional)	277-1441-ND	0.61	0.61
A/R	P3	BATTERY Connector	Header, 2 Pin, (Optional)	277-1442-ND	0.72	0.72
1	J1	DE-9P	9 Contact D-sub, Plug	1109M-ND	2.09	2.09
A/R	J2	RESET Cable Plug	Plug, 3 Contact, (Optional)	277-1161-ND	1.63	1.63
A/R	J3	BATT Cable Plug	Plug, 2 Contact, (Optional)	277-1162-ND	2.41	2.41
1	S1	SPST	Switch, NO, Momentary	CKN1121-ND	5.37	5.37
1	U?	LM2940CT-5.0	5 volt regulator LDO	LM2940CT-5.0-ND	1.80	1.80
A/R	J1X	N/A	Backshell, 9 Position D-sub, Black	972-09B-ND	2.64	2.64
						53.41

A/R = As Required. The quantities or need for this part may vary depending on your implementation.

† These resistor networks may be replaced with 28 discrete resistors. These are Digikey part number [220KQBK-ND](#) at .28 each. The parts listed here are based on catalog part numbers from Digi-Key corp, www.digikey.com 1-800-3444539. The part numbers are linked to the Digikey web site.