

**281 FG PROJECT BOM V3****RESISTORS**

<b>VALUE</b>	<b>DES</b>	<b>QTY</b>	<b>NOTES:</b>
1K	R7 (1%), R8 (1%), R29, R47	4	R7, R8: FOR 12V OPERATION USE 1.2/1.5K HERE
10K	R19, R28	2	
100K	R30, R31*, R35, R37, R41	5	R31: CHOOSE FOR LED DRIVE RANGE
1M	R24	1	
12K	R27	1	CHANGED FROM 22K
1.5K	R33*	1	CHANGE TO SUIT LED/POWER USED
15K	R39	1	
20K(1%)	R26	1	
2.2K	R44, R46	2	
220K	R43	1	
2.7K	R40	1	CHANGED FROM 4.7K TO ALLOW 5V TRIGGER PULSES/GATES
470R	R32	1	
4.7K	R10, R15, R16, R18, R22	5	
47K	R1, R4, R11, R21, R23, R36, R38*, R42, R48* 10		R38: "A" BOARD ONLY; R48: "B" BOARD ONLY
470K	R20	1	
4.7M	R12, R34	2	
49.9K(1%)	R2, R3, R5, R6, R25	5	
5.6K	R9	1	
56K	R45	1	
680R	R13, R14, R17	3	
10-50K LIN	VR1, VR2	2	
20-50K TRIMPOT	VR3	1	
50-100K LIN	VR4	1	

\*NOTE: R43-47; VR4: "PEAK" CIRCUITRY [BUILD ONCE PER PAIR]

**CAPACITORS**

<b>VALUE</b>	<b>DES</b>	<b>QTY</b>	<b>NOTES:</b>
.1uF	C1	1	USE HI QUALITY; VALUE IS FLEXIBLE .1-.18uF [ORIGINAL]
.047uF	C2	1	
1.8nF	C3	1	VALUE IS SOMEWHAT FLEXIBLE HERE, COULD BE SLIGHTLY HIGHER
47uf	C4	1	ELECTROLYTIC, 16V; ONCE PER PAIR IS RECOMMENDED
10uF	C5, C6	2	ELECTROLYTIC, 25V
.1uF	"C"	6	CERAMIC

**SEMICONDUCTORS**

<b>VALUE</b>	<b>DES</b>	<b>QTY</b>	<b>NOTES:</b>
CD4016B	IC1	1	USE BUFFERED
CA3080	IC2	1	
TL064	IC3	1	
CD4001B	IC4	1	USE BUFFERED

## Sheet1

L7810	IC5	1	ONCE PER MULTIPLE GENERATORS
MPF-102	Q3	1	GEN PURP N CHAN. JFET; OTHERS MAY WORK
2N3906	Q1,Q2,Q5*,Q6*	4	Q5, Q6: PEAK CIRCUITRY [BUILD ONCE PER PAIR]
2N3904	Q4	1	
1N914/4148	D2-D11*	9	D11 OPTIONAL; INSTALL FOR 'GATE PRIORITY' IN CYCLE MODE
1N4740/5240	D1	1	10V ZENER

OTHER

### DES

### QTY NOTES:

N/A	LV+; LV-	2	INSTALL LINK, BEAD, OR LOW OHM RESISTOR
3-POS TOGGLE	MODE SWITCH	1	ON-OFF-ON TYPE SPDT
SPST TOGGLE	QUADRATURE MODE SWITCH	1	1 PER PAIR