

**MULTIPLE ARBITRARY FUNCTION GENERATOR MODEL 248-1602**

**BILL OF MATERIALS REV 2.0**

**PCB1**

**SEMICONDUCTORS**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
2N3904	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10	10		610-2N3904
1N457	D1-D20	20		512-1N457
LM1117-3.3V	IC4	1		926-LM1117IDT3.3NOPB
uA7810	IC5	1		595-UA78M10CKVURG3
HC165	IC11, IC12, IC13, IC14, IC15, IC16, IC17	7		595-SN74HC165N
HC595	IC32, IC33, IC34, IC35	4		595-SN74HC595N
TL072	IC18, IC20	2		595-TL072CP
TL074	IC19, IC21	2		595-TL074CN
CD4051	IC24	1		595-CD4051BE
	LED39, LED46	2	GREEN 3MM LED	604-WP710A10SGD5V
	LED36, LED45	2	YELLOW 3MM LED	604-WP710A10YD5V
	ALL OTHER LEDS	43	RED 3MM LED	604-WP710A10ID5V

**CAPACITORS**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
15uF	C8, C11	2	ELECTROLYTIC 2MM LS	598-156PUM035M
0.1uF	C9, C10, C12, C13, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C57, C58, C59, C60, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C81, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C104, C105, C106, C107	56	CERAMIC 5MM LS	581-SA105E104M
47nF	C56, C61	2	CERAMIC 5MM LS	581-SA105C473K

**RESISTORS**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
100R	R46, R86	2	1% 1/4W	271-100-RC
220R	R48, R88	2	1% 1/4W	271-220-RC
330R	R39, R79, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R188, R189, R191, R193, R194, R195, R196, R197, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R212, R213, R214, R215, R216, R217, R218, R219, R222	45	1% 1/4W	271-330-RC
1K	R35, R36, R37, R40, R41, R42, R44, R47, R75, R76, R77, R80, R81, R82, R84, R87	16	1% 1/4W	271-1K-RC
2K2	R38, R63, R72, R78, R103, R112	6	1% 1/4W	271-2.2K-RC
4K7	R34, R61, R69, R74, R101, R109	6	1% 1/4W	271-4.7K-RC
10K	R49, R62, R67, R68, R70, R71, R89, R102, R107, R108, R110, R111, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R147, R148, R149, R150, R151, R190, R192, R198, R199, R210, R211, R220, R221	56	1% 1/4W	271-10K-RC
20K	R50, R90	2	1% 1/4W	271-20K-RC
22K	R64, R73, R104, R113, R152, R153, R156, R157	8	1% 1/4W	271-22K-RC
47K	R60, R66, R100, R106, R145, R146, R154, R155	8	1% 1/4W	271-47K-RC
100K	R51, R52, R53, R54, R55, R56, R57, R59, R91, R92, R93, R94, R95, R96, R97, R99	16	1% 1/4W	271-100K-RC
150K	R45, R58, R85, R98	4	1% 1/4W	271-150K-RC
392K	R43, R83	2	1% 1/4W	271-392K-RC
4M7	R65, R105	2	5% 1/4W	291-4.7M-RC
2K	TR1, TR2	2	SINGLE TURN TRIMMER	858-25PR2KLF
10-100K LINEAR		4	16MM ANGLED	<a href="http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-right-angle-pc-mount/">http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-right-angle-pc-mount/</a>
10-100K LINEAR		2	9MM	<a href="http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-right-angle-pc-mount/">http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-right-angle-pc-mount/</a>
50K LINEAR		32	45MM TRAVEL ALPS SLIDE	FARNELL/NEWARK: RS4511150K

**MISC**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
PLD-18	PLD1	1	PLD 18 PIN (FEMALE)	517-929975-01-09-RK
PLD-20	PLD2	1	PLD 20 PIN (FEMALE)	<del>579-25AA512-1/P</del> 517-929975-01-10-RK
PLD-16	PLD3, PLD4, PLD5	3	PLD 16 PIN (FEMALE)	517-929975-01-08-RK
		8	BANANA JACK BLACK	530-108-0903-1
		12	10 BANANA JACK RED	530-108-0902-1
		2	BANANA JACK VIOLET	530-108-0912-1
		4	BANANA JACK BLUE	530-108-0910-1
SPDT (ON)-ON	SW2, SW5, SW6, SW8, SW11, SW12, SW15, SW17, SW20, SW22, SW24, SW25, SW27, SW30, SW32, SW35	16	TOGGLE SWITCH	633-M201501
SPDT (ON)-OFF-(ON)	SW3, SW9, SW13, SW14, SW16, SW18, SW19, SW21, SW23, SW26, SW28, SW29, SW31, SW33, SW34	15	TOGGLE SWITCH	633-M201801
SPDT ON-OFF-(ON)	SW4, SW10	2	TOGGLE SWITCH	633-M201901
SPDT ON-ON	SW1, SW7	2	TOGGLE SWITCH	633-M201201
		13	RED SWITCH CAP	<a href="https://www.samodular.com/product/switch-caps/">https://www.samodular.com/product/switch-caps/</a>
		2	YELLOW SWITCH CAP	
		48	BLUE SWITCH CAP	
		3	BLACK SWITCH CAP	
		3	WHITE SWITCH CAP	
		6	4 15MM MF STANDOFF FF	534-24395
		4	NUT FOR 16MM POT	<a href="http://smallbear-electronics.mybigcommerce.com/nut-for-alpha-16mm-potentiometers">http://smallbear-electronics.mybigcommerce.com/nut-for-alpha-16mm-potentiometers</a>
			ROGANS KNOBS	<a href="https://www.samodular.com/product/rogan-knob-sets-buchla-modules/">https://www.samodular.com/product/rogan-knob-sets-buchla-modules/</a>