

# QUAD SPATIAL DIRECTOR MODEL 204

## BILL OF MATERIALS REV 1.3

### PCB1

#### SEMICONDUCTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
1N457	D9, D10, D13, D14	4		512-1N457
BAT54S	D11, D12, D15, D16	4		512-BAT54S
TL072	IC26, IC27, IC28, IC29	4		595-TL072CP
TL074	IC25, IC30, IC32	3		595-TL074CN
V2164	IC31, IC33	2		<a href="http://smallbear-electronics.mybigcommerce.com/ic-v2164d/">http://smallbear-electronics.mybigcommerce.com/ic-v2164d/</a>

#### CAPACITORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
0.1uF	F58, F59, F60, F61, F62, F63, F64, F65, F66, F67, F68, F69, F70, F71, F74, F75, F76, F77	18	CERAMIC SMT 0805	GRM21BR71H104KA01L
560pF	C87, C89, C93, C95, C96, C98, C102, C103	8	CERAMIC 5MM LS	810-FK28C0G2A561J
100pF	C83, C84, C85, C86, C88, C90, C91, C92, C97, C99, C100, C101	12	CERAMIC 5MM LS	581-SA102A101J
1uF	C11, C30, C49, C68	4	FILM 5MM LS	80-R82DC4100AA60J

#### RESISTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
470R	R182, R184, R198, R200	4	1/4W 1%	271-470-RC
499R	R202, R203, R214, R218, R223, R224, R234, R236	8	1/4W 1%	271-499-RC
680R	R207, R210, R228, R230	4	1/4W 1%	271-680-RC
7K5	R208, R231	2	1/4W 1%	271-7.5K-RC
30K	R201, R204, R205, R206, R209, R211, R212, R215, R222, R225, R226, R227, R229, R232, R233, R235	16	1/4W 1%	271-30K-RC
100K	R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R183, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R199	48	1/4W 1%	271-100K-RC
10-100K LINEAR	POT1, POT2, POT3, POT4	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>
		4	JOYSTICK	eBay ITEM #252531323690

#### MISC

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
SPDT ON-ON	SW1, SW2, SW3, SW4	4	TOGGLE SWITCH	633-M201201
	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10, J11, J12	12	TINIJAX	502-41
	B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20	20	BANANA JACK BLACK	530-108-0903-1
	PLD1, PLD2	2	PLD 16 PIN (FEMALE)	517-929975-01-08-RK
	PLD3, PLD4, PLD5	3	PLD 4 PIN (FEMALE)	517-929975-01-02-RK
		4	SMALL DAVIES KNOB	5164-1610AA
		4	YELLOW SWITCH CAP	
		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>

### PCB2

#### SEMICONDUCTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
ATTINY84A	IC1, IC7, IC13, IC19	4		556-ATTINY84A-PU
MAX534	IC2, IC8, IC14, IC20	4		700-MAX534ACPE
TL071	IC34	1		595-TL071CP
TL074	IC3, IC5, IC9, IC11, IC15, IC17, IC21, IC23	8		595-TL074CN
V2164	IC4, IC6, IC10, IC12, IC16, IC18, IC22, IC24	8		<a href="http://smallbear-electronics.mybigcommerce.com/ic-v2164d/">http://smallbear-electronics.mybigcommerce.com/ic-v2164d/</a>
L7810	IC35	1		755-BA7810FP-E2
L7905	IC36	1		863-MC79M05CDTRKG
BAT54S	D1, D2, D3, D4, D5, D6, D7, D8	8		512-BAT54S

#### CAPACITORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
47uF	C77, C78, C79, C80, C81, C82	6	ELECTROLYTIC 2MM LS	667-ECA-1VM470
2.2uF	C1, C2, C20, C21, C39, C40, C58, C59	8	CERAMIC 5MM LS	FG28X5R1E225KRT06
0.1uF	F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, F21, F22, F23, F24, F25, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F36, F37, F38, F39, F40, F41, F42, F43, F44, F45, F46, F47, F48, F49, F50, F51, F52, F53, F54, F55, F56, F57, F72, F73	59	CERAMIC SMT 0805	GRM21BR71H104KA01L
560pF	C3, C5, C9, C10, C12, C14, C18, C19, C22, C24, C28, C29, C31, C33, C37, C38, C41, C43, C47, C48, C50, C52, C56, C57, C60, C62, C66, C67, C69, C71, C75, C76	32	CERAMIC 5MM LS	810-FK28C0G2A561J
100pF	C4, C6, C7, C8, C13, C15, C16, C17, C23, C25, C26, C27, C32, C34, C35, C36, C42, C44, C45, C46, C51, C53, C54, C55, C61, C63, C64, C65, C70, C72, C73, C74, C94	33	CERAMIC 5MM LS	581-SA102A101J

#### RESISTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
499R	R13, R14, R22, R24, R26, R27, R35, R37, R50, R51, R59, R61, R63, R64, R72, R74, R87, R88, R96, R98, R100, R101, R109, R111, R124, R125, R133, R135, R137, R138, R146, R148	32	1/4W 1%	271-499-RC
680R	R149, R150, R151, R152, R220	5	1/4W 1%	271-680-RC
7K5	R18, R32, R55, R69, R92, R106, R129, R143	8	1/4W 1%	271-7.5K-RC
10K	R1, R4, R38, R41, R75, R78, R112, R115	8	1/4W 1%	271-10K-RC
30K	R12, R15, R16, R17, R19, R20, R21, R23, R25, R28, R29, R30, R31, R33, R34, R36, R49, R52, R53, R54, R56, R57, R58, R60, R62, R65, R66, R67, R68, R70, R71, R73, R86, R89, R90, R91, R93, R94, R95, R97, R99, R102, R103, R104, R105, R107, R108, R110, R123, R126, R127, R128, R130, R131, R132, R134, R136, R139, R140, R141, R142, R144, R145, R147	64	1/4W 1%	271-30K-RC
47K	R2, R3, R5, R39, R40, R42, R76, R77, R79, R113, R114, R116	12	1/4W 1%	271-47K-RC
100K	R6, R7, R8, R9, R10, R11, R43, R44, R45, R46, R47, R48, R80, R81, R82, R83, R84, R85, R117, R118, R119, R120, R121, R122, R213, R216, R217, R219, R221	29	1/4W 1%	271-100K-RC

#### MISC

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
	BREAKOUT	1	IDC-10 THRUHOLE HEADER	571-5103308-1
	PBD1, PBD2	2	PLD 16 PIN (MALE)	517-929836-01-08-RK
	PBD3, PBD4, PBD5	3	PLD 4 PIN (MALE)	517-929836-01-02-RK
		1	POWER CONNECTOR	587-306-50-010

### BREAKOUT PANEL

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
		4	1/4" MONO JACK	502-112AX
10-50K		4	SIGNLE-TURN TRIMMER	858-25PR50KLF
		1	IDC-10 THRUHOLE HEADER	571-5103308-1
		1	IDC-10 RIBBON CABLE	