Elk Pi hat BOM

#	Designator	Description	Qty (per board)	DNP	C	R	L	Footprint	rating	Dielectric	Manufacturer	Part Number	Manufacturer Lifecycle	Supplier	Supplier Part Number	Comment
								Passive Components								
1	C1_I1, C1_I2, C1_I3, C1_I4, C1_I5, C1_I6	Cap Ceramic 10%	6		750pF			0603	50V	C0G	Samsung	CL10C751JB8NNNC	Volume Production	Digi-Key	1276-2336-6-ND	
2	C2_I1, C2_I2, C2_I3, C2_I4, C2_I5, C2_I6, C5_I1, C5_I2, C5_I3, C5_I4, C5_I5, C5_I6, C8, C9, C11, C13_O1, C13_O2, C13_O3, C25, C26, C27, C28, C29, C30, C32, C33, C35, C37, C42, C43, C45, C46, C47, C48, C49, C50, C51, C52, C53, C60, C63, C69, C73, C88, C89, C96, C97, C98, C99, **C106**	Cap Ceramic 10%	50		100nF			0603	16V	X7R	Samsung	CL10B104KO8NNNC	Volume Production	Digi-Key	1276-1005-1-ND	
3	C62, C65	Cap Ceramic 5%	2		220pF			0603	50V	C0G	Samsung	CL10C221JB8NNNC	Volume Production	Digi-Key	1276-1048-1-ND	
4	C3_I1, C3_I2, C3_I3, C3_I4, C3_I5, C3_I6, C14_O1, C14_O2, C14_O3, C17_O1, C17_O2, C17_O3, C19_O1, C19_O2, C19_O3, C22_O1, C22_O2, C22_O3, C102, C105	Cap Aluminum Electrolytic 20%	20		22uF			Radial, Can - SMD	35V		Nichicon	UUQ1V220MCL1GB	Volume Production	Digi-Key	493-17495-6-ND	Height= 5.40mm Substitute: UWT1V220MCL1GB
5	C4_I1, C4_I2, C4_I3, C4_I4, C4_I5, C4_I6	Cap Ceramic 5%	6		22pF			0603	50V	C0G	Samsung	CL10C220JB8NNNC	Volume Production	Digi-Key	1276-1023-6-ND	
6	C6, C7, C58, C82	Cap Ceramic 10%	4		1uF			0805	16V	X7R	Samsung	CL21B105KAFNNNE	End of Life	Digi-Key	1276-1066-6-ND	
7	C10	Cap Ceramic 10%	1		1.5nF			0603	16V	C0G	Samsung	CL10C152JB8NNNC	Volume Production	Digi-Key	1276-2203-6-ND	
8	C12_O1, C12_O2, C12_O3, C15_O1, C15_O2, C15_O3, C16_O1, C16_O2, C16_O3, C18_O1, C18_O2, C18_O3, C20_O1, C20_O2, C20_O3, C21_O1, C21_O2, C21_O3	Cap Ceramic 10%	18		1nF			0603	16V	C0G	Samsung	CL10C102JB8NNNC	Volume Production	Digi-Key	1276-1091-1-ND	
9	C23, C24	Cap Ceramic 10%	2		16pF			0603	50V	C0G	Samsung	CL10C160JB8NNNC	Volume Production	Digi-Key	1276-2204-1-ND	
10	C31, C34, C36, C38, C39, C40, C41	Capacitor Ceramic 20%	7		10uF			0805	10V	X5R	Samsung	CL21A106MPFNNNE	Volume Production	Digi-Key	1276-1144-6-ND	
11	C44, C67	Cap Ceramic 10%	2		1uF			0603	16V	X7R	Samsung	CL10B105KO8NFNC	Volume Production	Digi-Key	1276-1943-6-ND	
12	C54, C56, C100, C103	Cap Film 10%	4		1µF			2824	50V	PEN	KEMET	LDECE4100KA5N00	Volume Production	Digi-Key	399-6416-1-ND	
13	C55, C57	Cap Aluminum Electrolytic 20%	2		100uF			Radial, Can - SMD	25V		Nichicon	UWT1E101MCL1GS	Volume Production	Digi-Key	493-2190-1-ND	Height = 7.70mm
14	C59, C85	Cap Ceramic 10%	2		10uF			1210	25V	X7R	Samsung	CL32B106KAJNNNE	Volume Production	Digi-Key	1276-1807-6-ND	
15	C61	Capacitor Tantalum 10%	1		100uF			2312	10V		KEMET	T491C107K010AT	Volume Production	Digi-Key	399-8338-1-ND	
16	C64, C66	Cap Ceramic 10%	2		330nF			0603	16V	X7R	Samsung	CL10B334KO8NNNC	Volume Production	Digi-Key	1276-2048-1-ND	
17	C68, C70, C71, C72, C74, C75, C76, C77, C78, C79, C80, C81	Cap Ceramic 5%	12		47pF			0603	50V	C0G	Samsung	CL10C470JB8NNNC	Volume Production	Digi-Key	1276-1037-6-ND	
18	C83	Cap Aluminium Electrolytic 20%	1		47µF			Radial, Can - SMD	10V		Panasonic	EEE1AA470WR	Volume Production	Digi-Key	PCE3875CT-ND	Height: 5.40mm
19	C84, C86	Cap Ceramic 10%	2		4.7uF			0805	16V	X7R	Samsung	CL21B475KOFNFNE	Volume Production	Digi-Key	1276-2970-6-ND	
20	C87	Cap Ceramic 10%	1		22uF			1210	25V	X7R	Samsung	CL32B226KAJNNNE	Volume Production	Digi-Key	1276-3392-6-ND	
21	C90	Cap Ceramic 10%	1		2.2uF			0603	10V	X7R	Samsung	CL10B225KP8NNNC	Volume Production	Digi-Key	1276-1134-6-ND	
22	C91	Generic Capacitor slot	1	DNP				0603								
23	C92, C101, C104	Cap Ceramic ±0.25pF	3		10pF			0603	50V	C0G	Samsung	CL10C100CB8NNNC	Volume Production	Digi-Key	1276-1069-1-ND	
24	C93	Cap Multilayer Ceramic 20%	1		2.2uF			0805	10V	X5R	Taiyo Yuden	LMK212BJ225MG-T	Volume Production	Digi-Key	587-5919-1-ND	
25	C94	Cap Ceramic 20%	1		4.7uF			1206	16V	X5R	KEMET	C1206C105M3RACTU	Volume Production	Digi-Key	399-8148-6-ND	

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26	C95	Cap Ceramic 20%	1		47uF			1210	6.3V	X5R	Samsung	CL32A476MQJNNNE	Volume Production	Digi-Key	1276-3381-6-ND	
27	D1	Standard LED, Dome Lens, Red	1					0603			Kingbright	APTD1608LSURCK	Volume Production	Digi-Key	754-2038-1-ND	
28	D2, D5	Standard LED, Dome Lens, Green	2					0603			Kingbright	APTD1608LCGCK	Volume Production	Digi-Key	754-2037-1-ND	
29	D3	Diodes - General Purpose, Power, Switching 100volt 350mA 4ns	1					SOD-323F			ON Semiconductor	1N914BWS	Volume Production	Digi-Key	1N914BWSCT-ND	
30	D4	Diode Schottky 20V 500mA	1					SOD-123			ON Semiconductor	MBR0520LT1G	Volume Production	Digi-Key	MBR0520LT1GOSCT-ND	
31	D6	TVS DIODE 5VWM 9.2VC DO214AA	1					DO-214AA			Littelfuse Inc.	SMBJ5.0A	Volume Production	Digi-Key	SMBJ5.0ALFCT-ND	
32	F1	PTC Resettable Fuse 2.5A(hold) 5A(trip)	1			100mR		1812	16V		Bourns	MF-MSMF250/16X-2	Volume Production	Digi-Key	MF-MSMF250/16X-2CT-ND	
33	FB1; FB2, FB3, FB4, FB6	Signal Line Ferrite Bead, 0.5OHM1 kOhms @ 100MHz	5					0603			TDK	MMZ1608R102ATA00	Volume Production	Digi-Key	445-1548-1-ND	
34	FB5	Ferrite Bead, 470 Ohms @ 100MHz	1					0603			Murata	BLM18EG471SN1D	Volume Production	Digi-Key	490-3993-1-ND	
35	L1	Shielded Wirewound Inductor 2.7A	1				2.2uH	Non Standard			Taiyo Yuden	NR6020T2R2N	Volume Production	Digi-Key	587-2071-1-ND	
36	L2	INDUCTOR POWER 10UH 1.04A SMD	1				10uh	CR43-100MC			Sumida	CR43NP-100MC	Volume Production	Digi-Key	308-2329-1-ND	
37	R1_I1, R1_I2, R1_I3, R1_I4, R1_I5, R1_I6, R5_I1, R5_I2, R5_I3, R5_I4, R5_I5, R5_I6, R6_I1, R6_I2, R6_I3, R6_I4, R6_I5, R6_I6, R68, R69	Resistor, Ceramic 1%	20			1.5k		0603			Bourns	CR0603-FX-1501ELF	Volume Production	Digi-Key	CR0603-FX-1501ELFCT-ND	
38	R2_I1, R2_I2, R2_I3, R2_I4, R2_I5, R2_I6	Resistor, Ceramic 1%	6			3k		0603			Bourns	CR0603-FX-3001ELF	Volume Production	Digi-Key	CR0603-FX-3001ELFCT-ND	
39	R3_I1, R3_I2, R3_I3, R3_I4, R3_I5, R3_I6, R7_I1, R7_I2, R7_I3, R7_I4, R7_I5, R7_I6, R13_O1, R13_O2, R13_O3, R21_O1, R21_O2, R21_O3	Resistor, Ceramic 1%	18			47R		1206			Bourns	CR1206-FX-47R0ELF	Volume Production	Digi-Key	CR1206-FX-47R0ELFCT-ND	
40	R4_I1, R4_I2, R4_I3, R4_I4, R4_I5, R4_I6, R38, R42, R59, R62, R64, R67, R80, R87, R94, R102, R125, R132	Resistor, Ceramic 1%	18			100k		0603			Bourns	CR0603-FX-1003ELF	Volume Production	Digi-Key	CR0603-FX-1003ELFCT-ND	
41	R8, R53, R135	Resistor, Ceramic 1%	3			560R		0603			Bourns	CR0603-FX-5600ELF	Volume Production	Digi-Key	CR0603-FX-5600ELFCT-ND	
42	R9	Resistor, Ceramic 1%	1			604k		0603			Bourns	CR0603-FX-6043ELF	Volume Production	Mouser	652-CR0603-FX6043ELF	
43	R10_O1, R10_O2, R10_O3, R17_O1, R17_O2, R17_O3, R18_O1, R18_O2, R18_O3, R25_O1, R25_O2, R25_O3	Resistor, Ceramic 1%	12			3.6k		0603			Bourns	CR0603-FX-3601ELF	Volume Production	Digi-Key	CR0603-FX-3601ELFCT-ND	
44	R11_O1, R11_O2, R11_O3, R14_O1, R14_O2, R14_O3, R19_O1, R19_O2, R19_O3, R22_O1, R22_O2, R22_O3	Resistor, Ceramic 1%	12			6.8k		0603			Bourns	CR0603-FX-6801ELF	Volume Production	Digi-Key	CR0603-FX-6801ELFCT-ND	
45	R12_O1, R12_O2, R12_O3, R15_O1, R15_O2, R15_O3, R20_O1, R20_O2, R20_O3, R23_O1, R23_O2, R23_O3	Resistor, Ceramic 1%	12			360R		0603			Bourns	CR0603-FX-3600ELF	End of Life	Digi-Key	CR0603-FX-3600ELFCT-ND	
46	R16_O1, R16_O2, R16_O3, R24_O1, R24_O2, R24_O3, R58, R61, R63, R66, R127, R134	Resistor, Ceramic 1%	12			47k		0603			Bourns	CR0603-FX-4702ELF	Volume Production	Digi-Key	CR0603-FX-4702ELFCT-ND	
47	R26, R32,R33, R34, R106, R126, R133	Resistor, Ceramic 1%	7			0R		0603			Bourns	CR0603-J/-000ELF	Volume Production	Digi-Key	CR0603-J/-000ELFCT-ND	
48	R27, R28, R29, R43, R44, R45, R46, R47, R48, R49, R55, R56, R76, R114, R115, R116, R117, R118, R119, R120	Resistor, Ceramic 1%	20			22R		0603			Samsung	RC1608F220CS	Volume Production	Digi-Key	1276-4511-6-ND	
49	R35, R37, R39, R41, R112	Resistor, Ceramic 1%	5			1k		0603			Bourns	CR0603-FX-1001ELF	Volume Production	Digi-Key	CR0603-FX-1001ELFCT-ND	
50	R50	Potentiometers Dual Unit 10mm, 15A insertion (2mm)	1			10k		Non Standard			Alps Electric	RK10J12E0A0A	Volume Production	Mouser	688-RK10J12E0A0A	
51	R52, R54	Resistor, Ceramic 1%	2			20k		0603			Bourns	CR0603-FX-2002ELF	Volume Production	Digi-Key	CR0603-FX-2002ELFCT-ND	
52	R60, R65, R82, R88, R96, R103, R122, R129	Resistor, Ceramic 1%	8			47R		0603			Bourns	CR0603-FX-47R0ELF	Volume Production	Digi-Key	CR0603-FX-47R0ELFCT-ND	

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53	R70	Resistor, Ceramic 1%	1			470		0603			Bourns	CR0603-FX-4700ELF	Volume Production	Digi-Key	CR0603-FX-4700ELFCT-ND	
54	R71	Resistor, Ceramic 1%	1			220R		0603			Bourns	CR0603-FX-2200ELF	Volume Production	Digi-Key	CR0603-FX-2200ELFCT-ND	
55	R72, R75	Resistor, Ceramic 1%	2			51R		0603			Bourns	CR0603-FX-51R0ELF	Volume Production	Digi-Key	CR0603-FX-51R0ELFCT-ND	
56	R31, R73, R74, R110	Resistor, Ceramic 1%	4	DNP		0R		0603			Bourns	CR0603-J/-000ELF	Volume Production	Digi-Key	CR0603-J/-000ELFCT-ND	
57	R77, R30, R36, R40, R51, R57, R113, R136, R137	Resistor, Ceramic 1%	9			10k		0603			Bourns	CR0603-FX-1002ELF	Volume Production	Digi-Key	CR0603-FX-1002ELFCT-ND	
58	R78, R85, R92, R99	Resistor, Ceramic 1%	4			150k		0603			Bourns	CR0603-FX-1503ELF	Volume Production	Digi-Key	CR0603-FX-1503ELFCT-ND	
59	R79, R81, R83, R84, R86, R89, R90, R91, R93, R95, R97, R98, R100, R101, R104, R105	Resistor, Ceramic 1%	16			49.9k		0603			Bourns	CR0603-FX-4992ELF	Volume Production	Digi-Key	CR0603-FX-4992ELFCT-ND	
60	R107	Resistor, Ceramic 1%	1			15k		0603			Bourns	CR0603-FX-1502ELF	Volume Production	Digi-Key	CR0603-FX-1502ELFCT-ND	
61	R108	Resistor, Ceramic 0.1%	1			2.32k		0603			Panasonic	ERA-3AEB2321V	Volume Production	Digi-Key	P2.32KDBCT-ND	
62	R109	Resistor, Ceramic 1%	1			4.7k		0603			Bourns	CR0603-FX-4701ELF	Volume Production	Digi-Key	CR0603-FX-4701ELFCT-ND	
63	R111	Resistor, Ceramic 1%	1			102k		0603			Bourns	CR0603-FX-1023ELF	End of Life	Digi-Key	CR0603-FX-1023ELFCT-ND	
64	R123, R124, R130, R131	Resistor, Ceramic 1%	4			2M		0603			Panasonic	ERJ-3EKF2004V	Volume Production	Digi-Key	P2.00MHCT-ND	
65	X1	Crystal 27.0000MHZ 10pF	1					4-SMD, No Lead			TXC	7M-27.000MEEQ-T	Volume Production	Digi-Key	887-1328-2-ND	Size: 3.2mm x 2.5mm
								Active Components								
66	T1, T2	Transistor NPN 40V 0.2A	2					SOT-23-3			ON Semiconductor	MMBT3904LT1G	Volume Production	Digi-Key	MMBT3904LT1GOSCT-ND	
67	U1_I1, U1_I2, U1_I3, U1_I4, U1_I5, U1_I6, U6_O1, U6_O2, U6_O3, U28	Opamp Audio 2 circuit	10					8-SOIC			Texas Instruments	OPA2134UA/2K5	Volume Production	Digi-Key	296-22024-1-ND	
68	U2	ADC 10BIT SAR	1					8VSSOP			Texas Instruments	ADS7041IDCUT	Volume Production	Digi-Key	296-39577-1-ND	
69	U3, U8	Opamp General Purpose 1 Circuit Rail-to-Rail	2					SOT-23-5			Texas Instruments	OPA314AIDBVT	Volume Production	Digi-Key	296-39122-1-ND	
70	U4	MUX/DEMUX 1X16	1					24-TSSOP			NXP Semiconductors	74HC4067PW,112	Volume Production	Digi-Key	1727-3311-ND	
71	U5, U13, U15, U16, U18	Shift Shift Register 1 Element 8 Bit	5					16-TSSOP			Nexperia	74HC595PW-Q100, 118	Unknown	Digi-Key	1727-1012-1-ND	
72	U7	CLK Generator 200MHZ	1					10MSOP			Silicon Labs	SI5351A-B-GT	Volume Production	Digi-Key	336-2399-5-ND	
73	U9	CPLD CoolRunner II 64MC 6.7NS	1					44VQFP			Xilinx	XC2C64A-7VQG44C	Volume Production	Digi-Key	122-1410-ND	
74	U10	Linear Voltage Regulator IC 1 Output 150mA	1					SOT-23-5			TI National Semiconductor	LP3990MF-1.8/NOPB	Volume Production	Digi-Key	LP3990MF-1.8/NOPBCT-ND	
75	U11	Buffer, Non-Inverting 4 Element 1 Bit per Element 3-State Output	1					14-SOIC			Texas Instruments	SN74HCT125DR	Volume Production	Digi-Key	296-1206-1-ND	
76	U12, U14, U17, U19	Shift Register Single 8-Bit Serial/Parallel to Serial 16-Pin	4					16-TSSOP			Nexperia	74HC165PW,112	Unknown	Digi-Key	1727-3245-ND	
77	U20	Amplifier IC Headphones, 2-Channel (Stereo) Class AB	1					8-SOIC			Texas Instruments	TPA6111A2DR	Volume Production	Digi-Key	296-10846-1-ND	
78	U21	Opamp General Purpose 2 Circuit Rail-to-Rail	1					8-VSSOP			Texas Instruments	OPA2171AIDCUT	Volume Production	Digi-Key	296-29514-1-ND	

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79	U22	Optoisolator Darlington with Base Output 5000Vrms 1 Channel	1					8-SMD			Isocom	6N139SMT/R	Volume Production	Digi-Key	6N139SMCT-ND	
80	U23, U24	Opamp General Purpose 4 Circuit Rail-to-Rail	2					14-TSSOP			Texas Instruments	OPA4171AIPWR	Volume Production	Digi-Key	296-29651-1-ND	
81	U25	Buck Switching Regulator IC Positive Adjustable 0.8V 1 Output 1.5A	1					6-VDFN Exposed Pad			STMicroelectronics	ST1S06APUR	Volume Production	Digi-Key	497-6309-1-ND	
82	U26	Boost, Flyback, SEPIC Switching Regulator IC Positive Adjustable 2.45V 1 Output 1A (Switch)	1					TSOT-23-5			Analog Devices / Linear Technology	LT1930AES5#TRMPBF	Volume Production	Digi-Key	LT1930AES5#TRMPBFCT-ND	
83	U27	Linear Voltage Regulator IC 1 Output 250mA	1					8-SO			STMicroelectronics	L4931CD120-TR	Volume Production	Digi-Key	497-7761-1-ND	
84	U29	Inverter IC 2 Channel Schmitt Trigger	1					SC-88/SC70-6/SOT-363			ON Semiconductor	NL27WZ14DFT2G	Volume Production	Digi-Key	NL27WZ14DFT2GOSCT-ND	
85	IC1	6-In/8-Out Audio Codec With Differential Input/Output	1					64HTQFP			Texas Instruments	PCM3168APAPR	Volume Production	Digi-Key	296-31710-1-ND	
	Headers and connectors															
86	J1	CONN HEADER VERT 6POS 2.54 MM	1	DNP				1X6			Amphenol FCI	68000-406HLF	Volume Production	Digi-Key	609-3263-ND	
87	J2, J6	CONN RCPT 26POS 2.54MM	2					2X13			Harwin	M20-7831346	Volume Production	Digi-Key	952-2548-ND	
88	J3, J4	CONN RCPT 40POS 2.54MM	2					2X20			Harwin	M20-7832046	Volume Production	Digi-Key	952-2150-ND	
89	J5	STEREO JACK, IP67, 3.5, 5 CONDUC	1					Non Standard			CUI	SJ-3541AS-SMT-TR-67	Volume Production	Mouser	490-SJ-3541ASSMTTR67	
90	J13	CONN JACK STEREO 3.5MM R/A	1					Non Standsrd			Switchcraft	35RAPC4BH3		Mouser	490-SJ-3541ASSMTTR67	
91	J7, J8, J10, J11, J14	CONN HEADER VERT 6POS 2.54 MM	5					2X3			Harwin	M20-9980346	Volume Production	Digi-Key	952-2121-ND	
92	J9	RASPBERRY PI GPIO TALL HEADER	1								Adafruit	PRT-14017	Volume Production	Digi-Key	1568-1462-ND	Alternative: here
93	J12	CONN HEADER VERT 2POS 2.54 MM	1	DNP				2X1								
94	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10	PLATE, DIAL, 2.188IN DIA; Label Type: Dia; Label Size: 2.3/16";	10	DNP				PCB-160ru2rcn7fnmbmh			Keystone Electronics	5000	Volume Production	Digi-Key	36-5000-ND	
			434													

	Hardware Accessories															
		18 mm m-f spacer	4	DNB							RAF Electronic Hardware	M2113-2545-AL		Mouser	761-M2113-2545-AL	19 mm here
		Standoffs & Spacers 5mm METRIC STANDOFF	4	DNB							RAF Electronic Hardware	M1252-2545-AL		Mouser	761-M1252-2545-AL	
		Headers & Wire Housings .100" Multi Position Shunt	5	DNB								MNT-102-BK-T		Mouser	200-MNT102BKT	