

Structure							
Ref	Item	Description	Qty	UOM	Manufacturer	Manf Part No	
C1	10075/104	C, Cer. Chip, X7R, 100nF, 50V, 10%, 0603		1	Each	Panasonic	ECJ1VB1H104K
C2	11648/103	C, Cer. Chip, X7R, 10nF, 16V, 10%, 0402		1	Each	Generic	
C3	11776/105	C, Cer. Chip, X5R, 1uF, 16V, 10%, 0603		1	Each	Panasonic	ECJ-1VB1C105K
C4	10680/476	C, Elec., Al., 47uF, 35V, 20%, SMT		1	Each	Panasonic	EEVFK1V470P
C5	10680/476	C, Elec., Al., 47uF, 35V, 20%, SMT		1	Each	Panasonic	EEVFK1V470P
C6	11776/105	C, Cer. Chip, X5R, 1uF, 16V, 10%, 0603		1	Each	Panasonic	ECJ-1VB1C105K
C7	10075/104	C, Cer. Chip, X7R, 100nF, 50V, 10%, 0603		1	Each	Panasonic	ECJ1VB1H104K
C8	10776/107C	C, Elec., Tant., Low ESR, 100uF, 10V, 20%, 6032M		1	Each	AVX	TPSC107M010_0100
C9	11654/106	C, Cer. Chip, X5R/X7R, 10uF, 16V, 10%, 1206		1	Each	Generic	
C10	11654/225	C, Cer. Chip, X5R/X7R, 2u2F, 16V, 10%, 1206		1	Each	Generic	
C11	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C12	11776/105	C, Cer. Chip, X5R, 1uF, 16V, 10%, 0603		1	Each	Panasonic	ECJ-1VB1C105K
C13	11776/105	C, Cer. Chip, X5R, 1uF, 16V, 10%, 0603		1	Each	Panasonic	ECJ-1VB1C105K
C14	11776/105	C, Cer. Chip, X5R, 1uF, 16V, 10%, 0603		1	Each	Panasonic	ECJ-1VB1C105K
C15	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C16	11648/103	C, Cer. Chip, X7R, 10nF, 16V, 10%, 0402		1	Each	Generic	
C17	11654/106	C, Cer. Chip, X5R/X7R, 10uF, 16V, 10%, 1206		1	Each	Generic	
C18	11643/270	C, Cer. Chip, C0G, 27pF, 50V, 5%, 0402		1	Each	Generic	
C19	11643/270	C, Cer. Chip, C0G, 27pF, 50V, 5%, 0402		1	Each	Generic	
C20	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C21	11645/332	C, Cer. Chip, X7R, 3n3F, 50V, 10%, 0402		1	Each	Generic	
C22	11643/151	C, Cer. Chip, C0G, 150pF, 50V, 5%, 0402		1	Each	Generic	
C23	11645/332	C, Cer. Chip, X7R, 3n3F, 50V, 10%, 0402		1	Each	Generic	
C24	11643/151	C, Cer. Chip, C0G, 150pF, 50V, 5%, 0402		1	Each	Generic	
C25	10082/473	C, Cer. Chip, X7R, 47nF, 16V, 10%, 0603		1	Each	Generic	
C26	11764/107B	C, Elec., Tant., Standard, 100uF, 6V, 20%, 3528M		1	Each	Generic	
C27	11648/103	C, Cer. Chip, X7R, 10nF, 16V, 10%, 0402		1	Each	Generic	
C28	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C29	11643/121	C, Cer. Chip, C0G, 120pF, 50V, 5%, 0402		1	Each	Generic	
C30	11643/330	C, Cer. Chip, C0G, 33pF, 50V, 5%, 0402		1	Each	Generic	
C31	10080/102	C, Cer. Chip, C0G, 1nF, 50V, 5%, 0603		1	Each	Generic	
C32	11643/8R2	C, Cer. Chip, C0G, 8p2F, 50V, 5%, 0402		1	Each	Generic	
C34	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C35	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C36	11845/101	C, Cer. Chip, C0G, 100pF, 50V, 2%, 0603		1	Each	Generic	
C37	11845/101	C, Cer. Chip, C0G, 100pF, 50V, 2%, 0603		1	Each	Generic	
C38	11654/106	C, Cer. Chip, X5R/X7R, 10uF, 16V, 10%, 1206		1	Each	Generic	
C39	10082/104	C, Cer. Chip, X7R, 100nF, 16V, 10%, 0603		1	Each	Generic	
C40	11845/101	C, Cer. Chip, C0G, 100pF, 50V, 2%, 0603		1	Each	Generic	
C41	11845/101	C, Cer. Chip, C0G, 100pF, 50V, 2%, 0603		1	Each	Generic	
C42	11643/221	C, Cer. Chip, C0G, 220pF, 50V, 5%, 0402		1	Each	Generic	
C43	11643/221	C, Cer. Chip, C0G, 220pF, 50V, 5%, 0402		1	Each	Generic	
C44	11845/471	C, Cer. Chip, C0G, 470pF, 50V, 2%, 0603		1	Each	Generic	
C45	11845/471	C, Cer. Chip, C0G, 470pF, 50V, 2%, 0603		1	Each	Generic	
C46	11845/471	C, Cer. Chip, C0G, 470pF, 50V, 2%, 0603		1	Each	Generic	
C47	11845/471	C, Cer. Chip, C0G, 470pF, 50V, 2%, 0603		1	Each	Generic	

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C48	11845/471	C, Cer. Chip, COG, 470pF, 50V, 2%, 0603	1	Each	Generic	
C49	11845/471	C, Cer. Chip, COG, 470pF, 50V, 2%, 0603	1	Each	Generic	
C50	10080/102	C, Cer. Chip, COG, 1nF, 50V, 5%, 0603	1	Each	Generic	
D1	10015	D, Switching, BAS16, SOT-23	1	Each	ON Semiconductor	BAS16LT1
D2	10015	D, Switching, BAS16, SOT-23	1	Each	ON Semiconductor	BAS16LT1
D3	11844	D, Schottky, MBR5130, 30V, 1A, SMB	1	Each	ON Semiconductor	MBR5130T3G
D4	11766	D, Varactor, SMV1255, SC-79	1	Each	Skyworks	SMV1255-079
D5	10009	D, Schottky, BAT54, SOT-23	1	Each	ON Semiconductor	BAT54LT1
E1	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E2	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E3	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E4	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E5	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E6	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E7	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E8	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E9	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E10	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E11	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
E12	11818/101	E, TVS, 12WV, 100pF, 0402	1	Each	SFI	SFI0402-120E101NP
L1	11665/101	L, Fixed, Ferrite Bead, 3A, 1206	1	Each	Steward	HI1206N101R-00
L2	11842/220	L, Fixed, Ferrite, 22uH, 830mA, 20%, MSS6132	1	Each	Coilcraft	MSS6132-223ML
L3	11663/601	L, Fixed, Ferrite Bead, 500mA, 0805	1	Each	Steward	HZ0805E601R-00
L5	10065/680	L, Fixed, Ceramic, 68nH, 5%, 0805	1	Each	Coilcraft	0805CS680XJB
L6	11663/601	L, Fixed, Ferrite Bead, 500mA, 0805	1	Each	Steward	HZ0805E601R-00
PCB1		PCB, Hero Main	1	Each	Kensington	Ionocom 05120801-0006-02
Q1	11091	Q, FET Enh N Chan, 2N7002, 60V, 115mA, SOT-23	1	Each	ON Semiconductor	2N7002LT1
Q2	11667	Q, Gen. Purpose, Darlington NPN, 2SD2142K, SMT3	1	Each	Rohm	2SD2142K
R1	11650/104	R, Chip, 100k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R2	11699/374R	R, Chip, 374R Ohms, 100mW, 1%, 0603	1	Each	Generic	
R3	11699/1962	R, Chip, 19k6 Ohms, 100mW, 1%, 0603	1	Each	Generic	
R4	11697/4701	R, Chip, 4k7 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R5	11697/4702	R, Chip, 47k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R6	11699/127R	R, Chip, 127R Ohms, 100mW, 1%, 0603	1	Each	Generic	
R7	11699/1002	R, Chip, 10k Ohms, 100mW, 1%, 0603	1	Each	Generic	
R8	11691/140	R, Varistor 14V, 0805	1	Each	BC Components	2322-574-1003
R9	10083/000	R, Chip, 0R0 Ohms, 100mW, 5%, 0603	1	Each	Generic	
R10	11697/4701	R, Chip, 4k7 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R11	11697/4702	R, Chip, 47k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R12	11697/4702	R, Chip, 47k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R13	11697/4701	R, Chip, 4k7 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R14	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R15	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R16	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R17	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R18	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R19	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R20	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R21	11650/222	R, Chip, 2k2 Ohms, 62mW, 5%, 0402	1	Each	Generic	

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R22	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R23	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R24	11650/301	R, Chip, 300R Ohms, 62mW, 5%, 0402	1	Each	Generic	
R25	11650/104	R, Chip, 100k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R26	11650/332	R, Chip, 3k3 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R27	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R28	11650/223	R, Chip, 22k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R29	11669/203	R, Network, 20k Ohms, 62mW, 5%, MNR18	1	Each	Rohm	MNR18E0APJ203
R30	11669/103	R, Network, 10k Ohms, 62mW, 5%, MNR18	1	Each	Rohm	MNR18E0APJ103
R31	11650/103	R, Chip, 10k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R32	11650/104	R, Chip, 100k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R33	11697/1003	R, Chip, 100k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R34	11697/2802	R, Chip, 28k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R35	11697/2802	R, Chip, 28k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R36	11650/823	R, Chip, 82k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R37	11650/103	R, Chip, 10k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R38	11650/332	R, Chip, 3k3 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R39	11697/1402	R, Chip, 14k Ohms, 62mW, 1%, 0402	1	Each	Generic	
R40	11697/39R2	R, Chip, 39R2 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R41	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R42	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R43	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R44	11650/273	R, Chip, 27k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R45	11650/273	R, Chip, 27k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R46	11650/273	R, Chip, 27k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R47	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R48	11697/5900	R, Chip, 590R Ohms, 62mW, 1%, 0402	1	Each	Generic	
R49	11697/5362	R, Chip, 53k6 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R50	11697/5900	R, Chip, 590R Ohms, 62mW, 1%, 0402	1	Each	Generic	
R51	11697/5362	R, Chip, 53k6 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R52	11697/5900	R, Chip, 590R Ohms, 62mW, 1%, 0402	1	Each	Generic	
R53	11697/5362	R, Chip, 53k6 Ohms, 62mW, 1%, 0402	1	Each	Generic	
R54	11650/101	R, Chip, 100R Ohms, 62mW, 5%, 0402	1	Each	Generic	
R55	11650/103	R, Chip, 10k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R56	11650/101	R, Chip, 100R Ohms, 62mW, 5%, 0402	1	Each	Generic	
R57	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R58	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R59	11650/102	R, Chip, 1k0 Ohms, 62mW, 5%, 0402	1	Each	Generic	
R60	11650/473	R, Chip, 47k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R61	11650/104	R, Chip, 100k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R62	11650/104	R, Chip, 100k Ohms, 62mW, 5%, 0402	1	Each	Generic	
R100	10087/000	R, Chip, 0R0 Ohms, 125mW, 5%, 0805	1	Each	Generic	
S1	11851	S, Slide, SPDT	1	Each	Switchtech	1270
S2	11858	S, Tact, SPNO	1	Each	Switchtech	1207SEM
S3	11858	S, Tact, SPNO	1	Each	Switchtech	1207SEM
S4	11858	S, Tact, SPNO	1	Each	Switchtech	1207SEM
U1	11838	U, Power Supply, CS51414, Switched Mode, SOIC	1	Each	ON Semiconductor	CS51414EDR8G
U2	11689	U, Power Supply, LT1761, LDO, Adjustable, SOT-23-5	1	Each	Linear Tech.	LT1761ES5-BYP
U3	11682	U, Linear, LMV822, RRO Op-Amp, MSOP	1	Each	Nat Semi	LMV822MM

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U4	11836	U, Microcontroller, MSP430F133, QFN	1	Each	Texas Inst.	MSP430F133IRTD
U5	11870	U, RF, BH1418FV, FM Transmitter, SSOP	1	Each	Rohm	BH1418FV
U6	11101	U, Linear, LMC7221, Comparator, SOT-23-5	1	Each	Nat Semi	LMC7221BIM5
U7		U, Apple Authentication, QFN	1	Each	Apple	(Apple TBD)
U8	11832	U, Linear, LMV824, RRO Op-Amp, TSSOP	1	Each	Nat Semi	LMV824MTX
Y1	11873/8004	Y, Ceramic, 8MHz, 5000ppm, With Caps, 3213M	1	Each	Murata	CSTCE8M00G
Y2	11684/7604	Y, Quartz, 7M6Hz, 50ppm, 20pF, SMT HC49US	1	Each	Abracon	ABLS2-7.60MHz-20-120-B
Y3	11687	Y, Quartz, 32k768Hz, 20ppm, Tuning Fork, Cyl. 2x6	1	Each	Citizen	CFS206-32.768KDZF
ASS1		ASS, Hero Main PCA		Associated	Kensington	Ionocom 05120801-0007-02
CCT1		CCT, Hero Main		Associated	Kensington	Ionocom 05120801-0003-02

Alternatives					
Item	Alt Item	Description		Manufacturer	Manf Part No
10009		D, Schottky, BAT54, SOT-23		ON Semiconductor	BAT54LT1
	10011	D, Schottky, BAT54, SOT-23		Fairchild	BAT54
	10013	D, Schottky, BAT54, SOT-23		Philips	BAT54
	10144	D, Schottky, BAT54, SOT-23		Zetex	BAT54
10015		D, Switching, BAS16, SOT-23		ON Semiconductor	BAS16LT1
	10017	D, Switching, BAS16, SOT-23		Fairchild	BAS16
	10019	D, Switching, BAS16, SOT-23		Philips	BAS16
	10149	D, Switching, BAS16, SOT-23		Diodes Inc	BAS16
11091		Q, FET Enh N Chan, 2N7002, 60V, 115mA, SOT-23		ON Semiconductor	2N7002LT1
	11093	Q, FET Enh N Chan, 2N7002, 60V, 115mA, SOT-23		Fairchild	2N7002
	11095	Q, FET Enh N Chan, 2N7002, 60V, 115mA, SOT-23		Diodes Inc	2N7002
11101		U, Linear, LMC7221, Comparator, SOT-23-5		Nat Semi	LMC7221BIM5
	11847	U, Linear, MIC7221, Comparator, SOT-22-5		Micrel	MIC7221YM5
10075/104		C, Cer. Chip, X7R, 100nF, 50V, 10%, 0603		Panasonic	ECJ1VB1H104K
	10161/104	C, Cer. Chip, X7R, 100nF, 50V, 10%, 0603		Kemet	C0603C104K5RAC
11667		Q, Gen. Purpose, Darlington NPN, 2SD2142K, SMT3		Rohm	2SD2142K
	11774	Q, Gen. Purpose, Darlington NPN, MMBT6427, SOT-23		ON Semiconductor	MMBT6427LT1
11682		U, Linear, LMV822, RRO Op-Amp, MSOP		Nat Semi	LMV822MM
	11778	U, Linear, LMV822, RRO Op-Amp, MSOP		Texas Inst.	LMV822DGK
11818/101		E, TVS, 12WV, 100pF, 0402		SFI	SFI0402-120E101NP
	11875/470	E, Varistor, 16WV, 47pF, 0402		Panasonic	EZJ-Z0V270EA
11654/225		C, Cer. Chip, X5R/X7R, 2u2F, 16V, 10%, 1206		Generic	
	11700/225	C, Cer. Chip, X7R, 2u2F, 25V, 10%, 1206		Murata	GRM31MR71E225KA93L
11832		U, Linear, LMV824, RRO Op-Amp, TSSOP		Nat Semi	LMV824MTX
	11833	U, Linear, LMV824, RRO Op-Amp, TSSOP		Texas Inst.	LMV824PW
11838		U, Power Supply, CS51414, Switched Mode, SOIC		ON Semiconductor	CS51414EDR8G
	11840	U, Power Supply, LT1376, Switched Mode, SOIC		Linear Tech.	LT1376IS8#PBF
10776/107C		C, Elec., Tant., Low ESR, 100uF, 10V, 20%, 6032M		AVX	TPSC107M010_0100
	11513/107C	C, Elec., Tant., Low ESR, 100uF, 10V, 10%, 6032M		AVX	TPSC107K010_0100
11851		S, Slide, SPDT		Switchtech	1270
	11853	S, Slide, SPDT		Switronic	IS-1270
	11855	S, Slide, SPDT		ALPS	SSSS710603

11858		S, Tact, SPNO			Switchtech	1207SEM
	11860	S, Tact, SPNO			Switchtech	1189UE
	11862	S, Tact, SPNO			Switronic	IT-1189UE
	11864	S, Tact, SPNO			Panasonic	EVQ-PUL02K