

## APPENDIX A: BILL OF MATERIALS

Item	Qty	Description	Reference Designator	Manufacturer	Part Number
1	3	0.00 1/4W 5%	R137, R142-143	YAGEO	0.0QBK-ND
2	1	3.3V-OCTAL-BUFFER	U32	TI	SN74LVT244BDW
3	1	HEX-INVER-SCHMITT-TRIGGER	U24	TI	74LVC14AD
4	1	3.3V-OCTAL-BUFFER	U27	IDT	IDT74FCT3244APY
5	1	3.3V 1-10 CLOCK DRIVER	U29	IDT	IDT74FCT3807AQ
6	1	USB-TX/RX MICROCONTROLLER	U13	CYPRESS	CY7C64603-128NC
7	1	NPN TRANSISTOR 200MA	Q3	FAIRCHILD	MMBT4401
8	1	128K X 8 SRAM	U16	CYPRESS	CY7C1019BV33-12VC
9	1	12.0MHZ CRYSTAL	Y1	DIG01	300-6027-ND
10	1	XILINX-SPARTAN2-FPGA	U19	XILINX	XC2S200-6FG256C
11	8	SINGLE-2-INPUT-NAND	U5-6, U15, U26, U35-U38	TI	SN74AHC1G00DBVR
12	1	N-CHANNEL-MOSFET	Q2	FAIRCHILD	FDS6982
13	1	POWER MOSFET	Q1	IR	IRFR024
14	1	12.288MHZ OSCILLATOR	U9	DIG01	SG-8002CA-PCC-ND
15	1	2N7002	Q5	FAIRCHILD	2N7002
16	1	MMBT3904	Q4	FAIR CHILD	MMBT3904
17	2	256Kx16 SRAM	U20, U21	GSI TECHNOLOGY	GS74116TP-10
18	1	FLASH MEMORY	U4	STMICRO	DSM2150F5V
19	1	32K EEPROM	U14	MICROCHIP	24LC32A-I/SN
20	1	83.33MHZ OSCILLATOR	U28	DIG01	SG-8002CA-PCC-ND
21	1	FLASH MEMORY	U22	ST MICRO	DSM2150F5V
22	38	0.01uF 100V 10% CERM	C46-47, C52-53, C58-59, C64-65, C74-81, C94-97, C121-128, C136-142, C156-157, C161	AVX	12061C103KAT050M
23	2	1000pF 50V 5% CERM	C84-85	AVX	12065A102JAT2A
24	1	150pF 50V 5% CERM	C13	AVX	12065A151JAT2A
25	2	2200pF 50V 5% NPO	C19, C41	AVX	12065A222JAT2A
26	1	0.1uF 50V 20% CERM	C16	AVX	12065E104MAT2A
27	1	VOLTAGE-SUPERVISOR	U25	ANALOG	ADM708SAR
28	1	2.5V-1.0AMP REGULATOR	VR1	ANALOG	ADP3338AKC-2.5
29	1	5V-1.5A REGULATOR	VR2	ANALOG	ADP3339AKC-5-REEL
30	3	DUAL AUDIO OP AMP	U10-12	ANALOG	SSM2275S
31	2	ADSP-TS101SKB2180	U1-2	ADI	ADSP-TS101SKB2180
32	1	STERO-DAC	U8	ADI	AD1854JRS
33	1	STERO-ADC	U7	ADI	AD1871YRS
34	1	SWITCHED-VOLT-CONVERTER	U30	ADI	ADM660AR
35	1	SINGLE-PHASE-CORE-CONTROL	U31	ADI	ADP3170

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36	1	4.7uF 25V 10% TANT	CT10	AVX	TAJC475K025R
37	1	PWR 2.5MM_JACK	P14	SWITCHCRAFT	SC1152-ND12
38	1	USB 4PIN	P4	MILL-MAX	897-30-004-90-000000
39	4	LNKPRT 12X2	P7-10	HONDA (TSUSHINK)	RMCA-EA26LMY-0M03-A
40	7	SPST-MOMENTARY 6MM	SW1-6, SW9	PANASONIC	EVQ-PAD04M
41	1	DIP12	SW7	DIGI-KEY	CKN3063-ND
42	1	IDC 7X2	P1	MOLEX	70247-1401
43	1	168PIN DIMM	U3	MOLEX	71251-0012
44	1	7A FAST-ACTING	F1	DIG01	283-2438-2-ND
45	13	0.00 1/8W 5%	R19, R23, R34, R49-51, R54-55, R131, R133-134, R141	YAGEO	0.0ECT-ND
46	1	220uF 10V 20% ELEC	CT14	SPRAGUE	293D227X9010E2T
47	5	AMBER-SMT GULL-WING	LED1, LED4-7	PANASONIC	LN1461C-TR
48	2	330pF 50V 5% NPO	C20, C26	AVX	08055A331JAT
49	4	0.01uF 100V 10% CERM	C10, C165, C167, C168	AVX	08051C103KAT2A
50	86	0.1uF 50V 10% CERM	C1, C9, C17, C42-45, C48-51, C54-57, C60-63, C66-73, C82-83, C86-93, C98-120, C129-135, C143-155, C158-160, 162, C172, C173	AVX	08055C104KAT
51	9	0.001uF 50V 5% NPO	C4-6, C12, C28, C30, C32-33, C164	AVX	08055A102JAT2A
52	3	10uF 16V 10% TANT	CT9, CT24-25	SPRAGUE	293D106X9025C2T
53	35	10K 100MW 5%	R8-10, R13, R15, R30, R32, R36, R45-47, R52, R53, R56, 58-59, R61, R63, R64, R67, R73-81, R83, R93, R97, R99, R151, R152	AVX	CR21-103J-T
54	12	33 100MW 5%	R22, R66, R68-71, R98, R130, R135, R138-140	AVX	CR21-330JTR
55	5	4.7K 100MW 5%	R28-29, R31, R35, R20	AVX	CR21-4701F-T
56	1	1M 100MW 5%	R7	AVX	CR21-1004F-T
57	1	1.5K 100MW 5%	R16	AVX	CR21-1501F-T
58	1	22uF 16V 10% TANT	CT26	DIG01	PCT3226CT-ND
59	1	2.00K 1/8W 1%	R2	DALE	CRCW1206-2001FRT1
60	2	49.9K 1/8W 1%	R102, R128	AVX	CR32-4992F-T
61	2	2.21K 1/8W 1%	R4-5	AVX	CR32-2211F-T
62	11	100pF 100V 5% NPO	C11, C18, C22-23, C27, C31, C34-35, C40, C166, C169	AVX	12061A101JAT2A

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63	3	10uF 16V 10% TANT	CT15-17	AVX	TAJB106K016R
64	6	100 100MW 5%	R33, R44, R57, R60, R62, R65	AVX	CR21-101J-T
65	2	220pf 50V 10% NPO	C24, C29	AVX	12061A221JAT2A
66	4	1000 100MHZ 1.5A 0.06 CHOKE	L1-L4	MURATA	PLM250S40T1
67	3	SILICON RECTIFIER	D1-D3	GENERALSEMI	S2A
68	3	600 100MHZ 500MA 0.70 BEAD	FER1-3	DIGIKEY	240-1019-1-ND
69	4	237 1/8W 1%	R114, R116, R118, R121	KOA	P11.0FCT-ND
70	2	750K 1/8W 1%	R115, R117	KOA	RK73H2BT7503F
71	8	5.76K 1/8W 1%	R103, R119-120, R122-126	DALE	CRCW12065761FRT1
72	2	3.01K 1/8W 1%	R82, R85	KOA	RK73H2BT3011F
73	2	11.0K 1/8W 1%	R101, R129	DALE	CRCW12061102FTR1
74	4	120PF 50V 5%	C36-39	PHILLIPS	1206CG121J9B200
75	4	1UF 16V 10%	C2-3, C15, C163	MURATA	GRM40X7R105K016AL
76	1	1.0K 1/8W 1%	R89	AVX	CR32-1001F-T
77	2	30PF 100V 5%	C7-8	AVX	12061A300JAT2A
78	4	10 100MW 5%	R25, R72, R149, R150	DALE	CRCW0805-10R0FRT1
79	2	680PF 50V 1% NPO	C21, C25	AVX	08055A681FAT2A
80	2	2.74K 1/8W 1%	R108, R113	PANASONIC	ERJ-8ENF2741V
81	4	5.49K 1/8W 1%	R104-105, R109-110	PANASONIC	ERJ-8ENF5491V
82	2	3.32K 1/8W 1%	R106, R111	PANASONIC	ERJ-8ENF3321V
83	3	1.65K 1/8W 1%	R1, R107, R112	PANASONIC	ERJ-8ENF1651V
84	2	10UF 16V 20% ELEC	CT11-12	DIG01	PCE3062TR-ND
85	2	68UF 25V 20% ELEC	CT13, CT18	PANASONIC	EEV-FC1E680P
86	1	1800UF 10V 20%	CT19	RUBYCON	10MBZ1800M
87	1	2.2UH X 20%	L5	COOPER ELE TEHC	UP2C-2R2
88	2	1800UF 6.3V 20%	CT20-21	RUBYCON	6.3MBZ1800M
89	4	10K 31MW 5%	RN2, RN4, RN5, RN7	CTS	746X101103J
90	1	3.9NF 50V 5%	C14	PANASONIC	ECH-U1C392JB5
91	1	3.6K 1/8W 1%	R86	PHYCOMP	311-3.60KFTR-ND
92	1	26.7K 1/8W 1%	R92	PHYCOMP	311-26.7KFTR-ND
93	1	.008 1W 5%	R90	PANASONIC	P8.0TTR-ND
94	1	12.1K 1/8W 1%	R91	PHYCOMP	311-12.1KFTR-ND
95	3	10K 50MW 5%	RN1, RN3, RN6	CTS	RT130B7
96	4	0.00 100MW 5%	R144, R147, R148, R153	PAN	ERJ-6GE10R00V
97	4	10UH X 10%	L1-L4	PANASONIC	ELJ-FC100KF
98	2	3.32K 100MW 1%	R11, R12	DIG01	P3.32KCCTR-ND
99	3	1K 1/8W 5%	R14, R21, R24	AVX	CR32-102J-T
100	1	10K 1/8W 5%	R17	DALE	CRCW1206-1002FRT1
101	3	100K 1/8W 5%	R94, R96, R136	AVX	CR1206-1003FTR1
102	1	20.0K 1/8W 1%	R84	DALE	CRCW1206-2002FRT1
103	2	220 1/8W 5%	R87-88	AVX	CR32-221J-T
104	2	22 1/8W 5%	R3, R6	AVX	CR32-220J-T

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105	8	270 1/8W 5%	R18, R37-40, R42-43, R48	AVX	CR32-271J-T
106	1	680 1/8W 5%	R41	AVX	CR32-681J-T
107	3	RED-SMT GULL-WING	LED2, LED8, LED9	PANASONIC	LN1261C
108	1	GREEN-SMT GULL-WING	LED3	PANASONIC	LN1361C
109	2	604 1/8W 1%	R100, R127	PANASONIC	ERJ-8ENF6040V
110	10	1uF 25V 20%	CT1-8, CT22-23	PANASONIC	ECS-T1EY105R
111	2	QUICKSWITCH-257	U17-18	ANALOG DEV.	ADG774ABRQ
112	1	IDC 7X2	P5	BERG	54102-T08-07
113	2	3.5MM STEREO_JACK	P2-3	Shogyo	SJ-0359AM-5
114	1	32MB SDRAM	U3	Viking	PE464U4-CL2