1.	SCA C84 Bill of Material								Rev 1.9.1	
2			Value	Marking	Description	Mfg	Mfg Part Number		Cat Number	
1			100pF	101J	C0G Ceramic	Kemet	C315C101J2G5TA			
4 4 CPU	2 8	C1, C2, C3, C14, C15, C16, C18, C24	470pF	471J	C0G Ceramic	Kemet	C315C471J1G5TA	Digi-Key	399-4182-ND	
Control	3 12	C19, C21, C26, C28, C32, C36, C41 - C46	0.1uF	104K	X7R Ceramic	Kemet	C320C104K5R5TA	Mouser	80-C320C104K5R	
2 C.CCT	4 4	C10, C11, C12, C13	470nF	474	Polyester Film	Panasonic	ECQ-V1H474JL	Digi-Key	P4671-ND	
7 2 (CSA CSF) 22,FSSV 22,FSSV 22,FSSV Aluminum Electrolytic Panasonic ELV,FC1/220 Dig-Kny P1/23-ND 99-970-ND	5 2	C5,C6	1uF/63V	1uF 63V	Polypropylene	BC	2222 416 71005	Digi-Key	BC2076-ND	
7 2 (CSA CSF) 22,FSSV 22,FSSV 22,FSSV Aluminum Electrolytic Panasonic ELV,FC1/220 Dig-Kny P1/23-ND 99-970-ND	6 2	C4,C7	4.7uF/63V NP	4.7uF 63V NP		Nichicon	UVP1J4R7MED	Mouser	647-UVP1J4R7MED	
8 2 CSL CSS	7 2	C33, C37	22uF/35V	22uF 35V	Aluminum Electrolytic		EEU-FC1V220	Digi-Key	P11230-ND	
10 1 2 C.03 (C.22 C.27, C.29 100) F/35V 100) F/35V Aluminum Electrolytic Parasseric ELL-PC-1/101 Dig-Rey P10024-ND 100) F/35V 1000/F/35V Aluminum Electrolytic Parasseric ELL-PC-1/101 Dig-Rey P10024-ND Dig-Rey Dig-R	3 2	C34, C38	22uF/35V	226 35	Tantalum	Kemet	T356K226K035AT			
10 1 20,002, CZC, CZP 100,FASY 100	9 2	C23, C30	47uF/25V NP	47uF 25V	Non-Polarized Electrolytic	Nichicon	UVP1E470MED	Mouser	647-UVP1E470MED	
12 2 C39, C40	10 4	C20, C22, C27, C29	100uF/35V	100uF 35V				Diai-Kev	P10294-ND	
12 2 CM1, CSS	11 2			100uF 63V						
CONNY New										
15 10 ONNE NAME					,					
15 19 01 - 010 114002										
18			1N4002	1N4002						
Storting Jumpures Sullims STC025YAN Digit-Rey S0000-ND Digit-Rey Medical-Ref Micro Storting S			1111002	1141002						
18		01, 02								
19 2 1.1 1.2 1.0 1		13								
10.00000000000000000000000000000000000			1000uH	102						
21 2 0.1.02	19 2	,	iuuuuH	IUZJ						
22 2 03, 07 BC560 BC560 BC560 PNP Bjorlar Fairchild BC550 Mouse S12-BC550	20 0	, (1)	MATACALIZ	MATAGALIZ						
23 2 0.4, 0.6 0.550 0.550 0.550 0.575					•					
24 2 05.09										
25 2 08, 010 MJET12 MOJET2 MOJET2 MOJET Fairchild MJET12 MOJET M										
26 1 011 MPSA06 MPSA		,								
27		,								
28 2 1 12 12 13 14 15 16 16 16 16 16 16 16	26 1				NPN Bipolar	Fairchild				
29 1 R19	27 1		MPSA56	MPSA56	PNP Bipolar	Fairchild	MPSA56	Mouser	512-MPSA56	
Section Sect	28 2	(L3, L4)	0	Black	Zero Ohm Jumper	Yageo	ZOR-25-B	Digi-Key	0.0QBK-ND	
1	29 1	R19	1R0	Brown-Black-Gold-Gold	Carbon Film Resistor 1/4W	Yageo	CFR-25JB-1R0	Digi-Key	1.0QBK-ND	
1821 R21	30 5	R20, R46, R47, R58, R59	1R8	Brown-Gray-Gold-Gold	Carbon Film Resistor 1/4W	Yageo	CFR-25JB-1R8	Digi-Key	1.8QBK-ND	
Separate	31 1	R21	3R3	Orange-Orange-Gold-Gold	Carbon Film Resistor 1/4W		CFR-25JB-3R3	Digi-Key	3.3QBK-ND	
18	32 1	R10	5R6		Carbon Film Resistor 1/4W		CFR-25JB-5R6			
1										
Ref.										
R13										
1										
38 2 R43, R55 100 Brown-Black-Black-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100R Digi-Key 100XBK 105 Brown-Black-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-108R Digi-Key 105XBK 105 R74										
1										
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1 R71										
1 R16		,								
1 R17 R17 R18 R1										
1 R18										
R24										
1										
47 1 R5 MER-25FBF-1K50 Digi-Key 1.50KXBK 48 3 R35, R36, R38 2K49 Red-Yellow-White-Brown-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-2K49 Digi-Key 2.49KXBK 49 4 R44, R45, R56, R57 4K75 Yellow-Violet-Green-Brown-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-4K75 Digi-Key 2.49KXBK 50 11 R26, R27, R29, R30, R40, R41, R50, R52, R53, R62, R72 10K0 Brown-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-4K70 Digi-Key 4.75KXBK 51 2 R63, R67 15K Brown-Green-Orange-Gold Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 15KQBK-ND 52 4 R39, R49, R54, R61 20K0 Red-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 20.0KXBK 54 6 R6, R7, R31, R32, R33, R34 100K Brown-Black-Black-Pellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 20.0KXBK										
48 3 R35, R36, R38										
49 4 R44, R45, R56, R57 4K75 Yellow-Violet-Green-Brown-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-4K75 Digi-Key 4.75KXBK 50 11 R26, R27, R29, R30, R40, R41, R50, R52, R53, R62, R72 10K0 Brown-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 10.0KXBK 51 2 R63, R67 52 4 R39, R49, R54, R61 53 3 R8, R9, R73 54 100K Brown-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-20K0 Digi-Key 20.0KXBK 54 6 R6, R7, R31, R32, R33, R34 55 100K Brown-Black-Black-Orange-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 10.0KXBK 55 2 R22, R23 55 11K00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 10.0KXBK 56 2 R22, R23 57 12 R3, R4 58 15K0 Brown-Black-Black-Ped-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 10.0KXBK 58 12 R22, R23 58 1K00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-10K0 Digi-Key 10.0MXBK 59 12 R22, R23 59 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 58 6K65 59 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K5B-B-B Mouser 66-RC55LF-D-1 58 2 R42, R51 59 1K58 5										
11 R26, R27, R29, R30, R40, R41, R50, R52, R53, R62, R72 10K0 Brown-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo CFR-25JB-15K Digi-Key 15KOBK-ND										
51 2 R63, R67 15K Brown-Green-Orange-Gold Metal Film Resistor 1/4W Yageo CFR-25JB-15K Digi-Key 15KQBK-ND 52 4 R39, R49, R54, R61 20K0 Red-Black-Black-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-20K0 Digi-Key 20.0KXBK 53 3 R8, R9, R73 100K Brown-Black-Black-Orange-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 20.0KXBK 54 6 R6, R7, R31, R32, R33, R34 1M00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 100KXBK 55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 100KXBK 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser						Yageo		Digi-Key	4.75KXBK	
52 4 R39, R49, R54, R61 20K0 Red-Black-Black-Red-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-20K0 Digi-Key 20.0KXBK 53 3 R8, R9, R73 100K Brown-Black-Black-Orange-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 100KXBK 54 6 R6, R7, R31, R32, R33, R34 1M00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 100KXBK 55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-4K65-B-B Mouser 66-RC55LF-D-6 58 2 R42, R51 475K 55D 475K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-475K-B-B Mo										
53 3 R8, R9, R73 100K Brown-Black-Black-Orange-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-100K Digi-Key 100KXBK 54 6 R6, R7, R31, R32, R33, R34 1M00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-1M00 Digi-Key 1.00MXBK 55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 58 2 R42, R51 475K 55D 475K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-475K-B-B Mouser 66-RC55LF-D-1 59 2 R64, R68 1K 3296Y-1-102LF Trimmer Potentiometer Bourns 3296Y-1-102LF Digi-Key <td< td=""><td>51 2</td><td>R63, R67</td><td>15K</td><td>Brown-Green-Orange-Gold</td><td>Metal Film Resistor 1/4W</td><td>Yageo</td><td>CFR-25JB-15K</td><td></td><td></td></td<>	51 2	R63, R67	15K	Brown-Green-Orange-Gold	Metal Film Resistor 1/4W	Yageo	CFR-25JB-15K			
54 6 R6, R7, R31, R32, R33, R34 1M00 Brown-Black-Black-Yellow-Brown Metal Film Resistor 1/4W Yageo MFR-25FBF-1M00 Digi-Key 1.00MXBK 55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 58 2 R42, R51 475K 55D 475K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-475K-B-B Mouser 66-RC55LF-D-6 59 2 R64, R68 1K 3296Y-1-102LF Trimmer Potentiometer Bourns 3296Y-1-102LF Digi-Key 3296Y-1-102LF 60 1 R37 10K 91A1A-B24-D15L Panel Mount Potentiometer Bourns 91A1A-B24-D15L Digi-Key 91A1A-B24-D15L </td <td>52 4</td> <td>R39, R49, R54, R61</td> <td>20K0</td> <td>Red-Black-Black-Red-Brown</td> <td>Metal Film Resistor 1/4W</td> <td></td> <td></td> <td>Digi-Key</td> <td>20.0KXBK</td>	52 4	R39, R49, R54, R61	20K0	Red-Black-Black-Red-Brown	Metal Film Resistor 1/4W			Digi-Key	20.0KXBK	
55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-6K65-B-B Mouser 66-RC55LF-D-6K65-B-B			100K		Metal Film Resistor 1/4W	Yageo				
55 2 R22, R23 1K00 55D 1K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1 56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1 57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-6K65-B-B Mouser 66-RC55LF-D-6K65-B-B Mouser 66-RC55LF-D-4K-B-B Mouser 66-RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1K-B-B Mouser 66-RC55LF-D-1K-B-B M	54 6	R6, R7, R31, R32, R33, R34	1M00	Brown-Black-Black-Yellow-Brown	Metal Film Resistor 1/4W	Yageo	MFR-25FBF-1M00	Digi-Key	1.00MXBK	
56 2 R25, R28 1K58 55D 1K58 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1K58-B-B Mouser 66-RC55LF-D-1K5B-B-B Mouser 66-RC55LF-D-1K5B-B Mouser 66-RC55LF-D-1K5B-B Mouser 66-RC55LF-D-1K5B-B Mouser	55 2	R22, R23	1K00	55D 1K B	Metal Film Resistor 1/4W 0.1%		RC55LF-D-1K-B-B			
57 2 R3, R4 6K65 55D 6K65 B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-6K65-B-B Mouser 66-RC55LF-D-6K65-B-B Mouser			1K58					Mouser	66-RC55LF-D-1.58K	
58 2 R42, R51 475K 55D 475K B Metal Film Resistor 1/4W 0.1% IRC RC55LF-D-475K-B-B Mouser 66-RC55LF-D-45K-B-B Mouser 66-RC55LF-D-45K-B-B Mouser 66-RC55LF-D-475K-B-B Mouser 826Y-102LF-N 926Y-102LF-N 926Y-102LF-N 9161-Key 9161-Key 9161-Key 91A1A-B24-D15L 91A									66-RC55LF-D-6.65K	
59 2 R64, R68 1K 3296Y-1-102LF Trimmer Potentiometer Bourns 3296Y-1-102LF Digi-Key 3296Y-102LF-N 60 1 R37 10K 91A1A-B24-D15L Panel Mount Potentiometer Bourns 91A1A-B24-D15L Digi-Key 91A1A-B24-D15 61 1 SW1 71BDF30-02-1-AJS Rotary Switch Grayhill 71BDF30-02-1-AJS Grayhill 71BDF30-02-1-AJS Grayhill 71BDF30-02-1-AJS Grayhill 71BDF30-02-1-AJS Grayhill F-Switch 100AWSP1T2B4M7RE Digi-Key EG2435-ND										
60 1 R37 10K 91A1A-B24-D15L Panel Mount Potentiometer Bourns 91A1A-B24-D15L Digi-Key 91A1A-B24-D15E 61 1 SW1 71BDF30-02-1-AJS Rotary Switch Grayhill 71BDF30-02-1-AJS										
61 1 SW1 71BDF30-02-1-AJS Rotary Switch Grayhill 71BDF30-02-1-AJS 71BDF30-02-1-AJS 71BDF30-02-1-AJS 71BDF30-02-1-AJS 71BDF30-02-1-AJS 71BDF30-02-1-AJS 71BDF30-02-										
62 1 SW2 100A WSP1 SPDT Switch E-Switch 100AWSP1T2B4M7RE Digi-Key EG2435-ND			1010							
		SW3		100A W DP1	DPDT Switch	E-Switch				

64	3	U1, U2, U3		OPA2604AP	Dual CMOS Op Amp	Burr-Brown	OPA2604AP	Digi-Key OPA2604AP-ND
65	1	U6		LM317T	Voltage Regulator, Pos	National	LM317T	Digi-Key LM317TNS-ND
66	1	U5		LM337T	Voltage Regulator, Neg	National	LM337T	Digi-Key LM337TNS-ND
67	2				Heatsink	Aavid	577202B00000	Digi-Key HS107-ND
68	2				Fluted Knob	Cosmo	39-7747-001-00-3-10	Cosmo 39-7747-001-00-3-10
69	4		M2.5 x 6		Pan head machine screw, black			Olander .25S6PPMZB
70	2		#4-40 x 1/4"		Pan head machine screw			Olander 4C25PPMZR
71	2		#4-40		Kepps nut		4CKNTZR	Olander 4CKNTZR
72	1				PCB	SCA		SCA