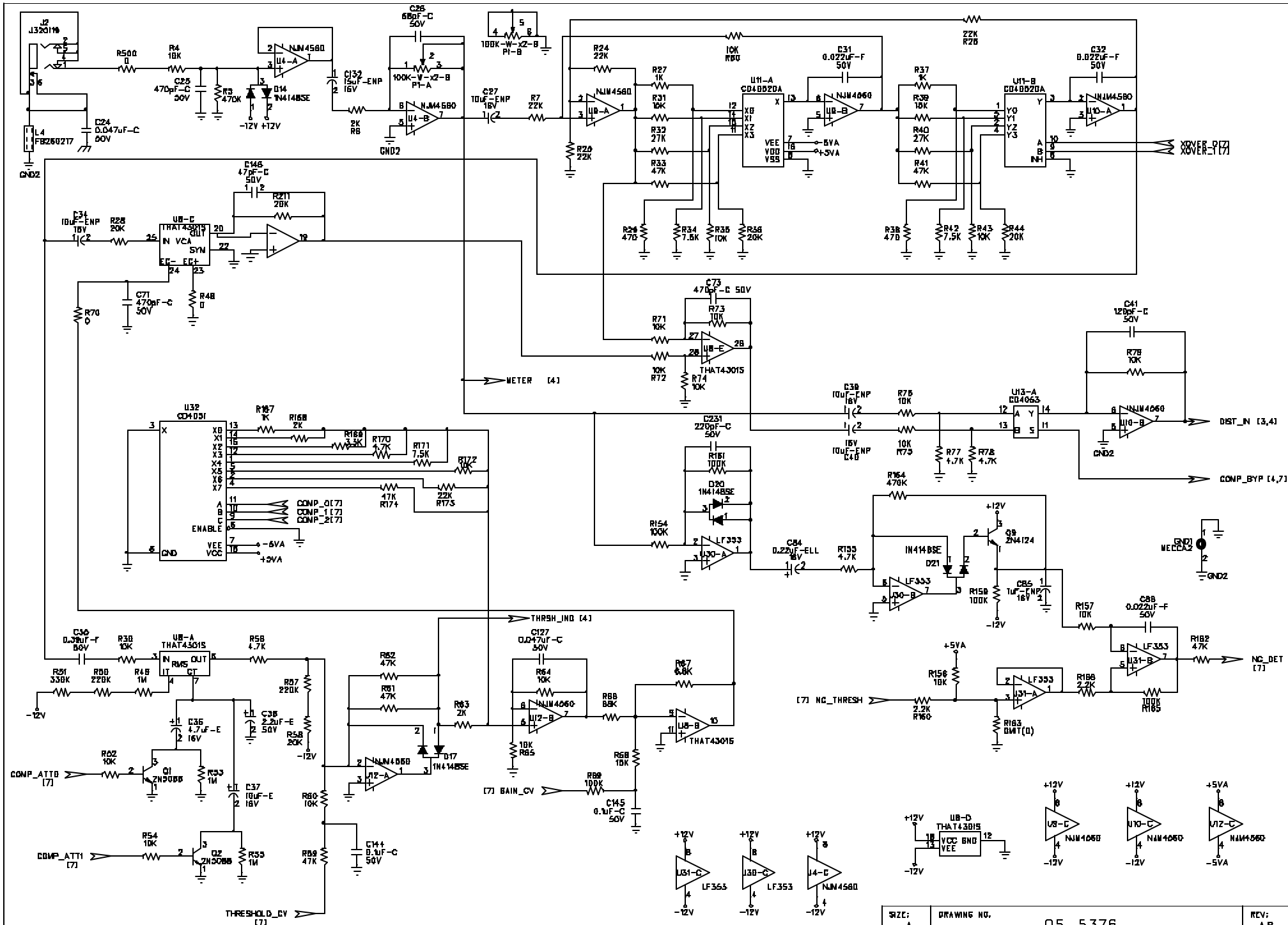
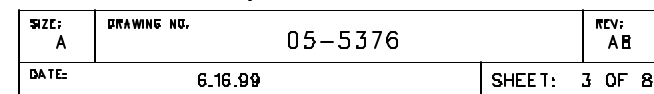
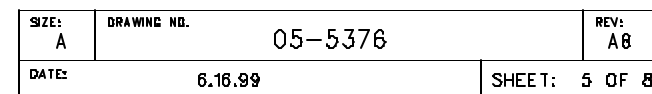
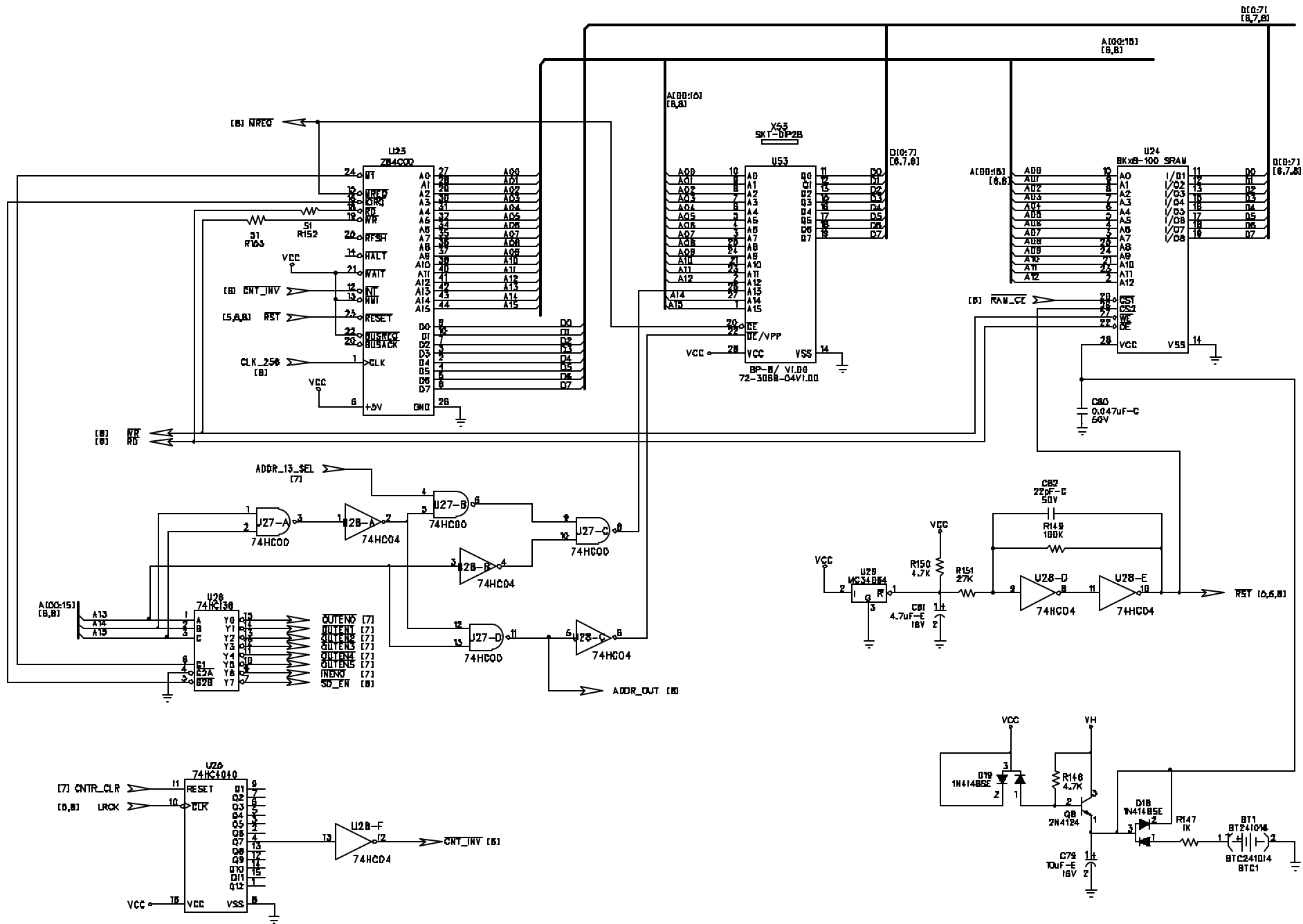


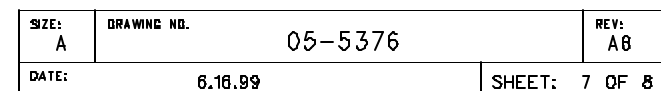


SIZE: A	DRAWING NO. 05-5376	REV: AB
DATE: 6.16.99	SHEET: 2 OF 8	









Bill Of Materials for 055376A8.sch on Wed Jun 16 14:57:38 1999

Qty	Reference	HMG #	Description	AUDIT	Schematic Part	PCB DECAL
1	PCB1	80-5376-A	PCB, BP-8, RAW, 87.58 sq.in., 2 SIDED, .0625	N	80-5376-A	PCBNULL
16	A3-18	NONE	NON-PART, BREAK-OFF	N	BRKOFF	BRKOFF1
1	BT1	24-1016	BATTERY, 3V, LITHIUM	N	BT241016	BT241016
1	BTC1	24-1014	BATTERY CLIP, 3V SIZE	N	BTC241014	BTC241014
2	C104 C215	56-0000	CAP, 0.001uF, FILM, 50V, 5%, RAD	N	C0.001UF50V5%R	RFCC200
3	C44 C118 C129	56-0002	CAP, 0.0022uF, FILM, 50V, 5%, RAD	N	C0.0022UF50V5%R	RFCC200
2	C110 C130	56-0004	CAP, 0.0047uF, FILM, 50V, 5%, RAD	N	C0.0047UF50V5%R	RFCC200
10	C51-58 C87 C114	56-0005	CAP, 0.0068uF, FILM, 50V, 5%, RAD	N	C0.0068UF50V5%R	RFCC200
1	C223	NONE	CAP, OMIT 0.0068uF, FILM, 50V, 5%, RAD	N	C0.0068UF50V5%RO	RFCC200
1	C214	56-0006	CAP, 0.01uF, FILM, 50V, 5%, RAD	N	C0.01UF50V5%R	RFDD200
1	C121	NONE	CAP, OMIT 0.01uF, FILM, 50V, 5%, RAD	N	C0.01UF50V5%RO	RFDD200
7	C31-32 C86 C89-90 C116-117	56-0008	CAP, 0.022uF, FILM, 50V, 5%, RAD	N	C0.022UF50V5%R	RFED200
5	C19 C24 C80 C88 C127	62-3129	CAP, 0.047uF, CER, 50V, 20%, SMT 0805	N	C0.047UC50V20%S	0805
1	C119	NONE	CAP, OMIT 0.047uF, CER, 50V, 20%, SMT 0805	N	C0.047UC50V20%SO	0805
1	C120	NONE	CAP, OMIT 0.15uF, FILM, 50V, 5%, RAD	N	C0.15UF50V5%RO	RFEE200
3	C162 C500-501	62-3068	CAP, 0.1uF, CER, 50V, 20%, RAD	N	C0.1UC50V20%R	RC80B200
83	C48 C74 C106 C122 C124-126 C136-145 C147 C149-161 C163-169 C171-197 C199-210 C216-217 C221 C224-226	62-3139	CAP, 0.1uF, CER, 50V, 20%, SMT 0805	N	C0.1UC50V20%S	0805
2	C113 C170	NONE	CAP, OMIT 0.1uF, CER, 50V, 20%, SMT 0805	N	C0.1UC50V20%SO	0805
2	C105 C108	56-2218	CAP, 0.1uF, FILM, 400V, 5%, RADIAL	N	C0.1UF400V5%R	RFNG400
4	C45 C95-96 C107	56-0012	CAP, 0.1uF, FILM, 50V, 5%, RADIAL	N	C0.1UF50V5%R	RFED200
1	C84	60-0039-01	CAP, 0.22uF, ELEC, LL, 16V, 20%, RAD	N	C0.22UELL16V20%R	RED200P
1	C111	56-0015	CAP, 0.33uF, FILM, 50V, 5%, RAD	N	C0.33UF50V5%R	RFEE200
1	C35	56-0040	CAP, 0.39uF, FILM, 50V, 5%, RAD	N	C0.39UF50V5%R	RFEG200
4	C1 C103 C112 C148	62-3136	CAP, 1000pF, CER, 50V, 20%, SMT 0805	N	C1000PC50V20%S	0805
2	C11 C15	60-0070	CAP, 1000uF, ELEC, 25V, -20%/+80%, RAD	N	C1000UE25V2080%R	RED200P
2	C98 C134	62-0020	CAP, 100pF, CER, 50V, 20%, RAD	N	C100PC50V20%R	RDEA200
8	C3-10	60-1013	CAP, 100uF, ELEC, 50V, -20%/+80%, RAD	N	C100UE50V20/80%R	REJ200P
6	C33 C37 C75 C77-79	60-0049-01	CAP, 10uF, ELEC, 16V, 20%, RAD	N	C10UE16V20%R	RED200P
13	C27 C34 C39-40 C76 C91 C93 C97 C99 C123 C128 C133 C135	60-0051-01	CAP, 10uF, ELECT-NP, 16V, 20%, RAD	N	C10UNPE16V20%R	REE200
1	C69	62-0163	CAP, 10uF, TANT-ELEC, 16V, 20%, RAD	N	C10UT16V20%R	RTF100P
6	C41 C70 C72 C94 C227-228	62-3135	CAP, 120pF, CER, 50V, 5%, SMT 0805	N	C120PC50V5%S	0805
3	C30 C63-64	62-3128	CAP, 15pF, CER, 50V, 5%, SMT 0805	N	C15PC50V5%S	0805
1	C132	60-0053-01	CAP, 15uF, ELECT-NP, 16V, +20%/-80%, RAD	N	C15UNPE16V20%R	REE200
2	C46-47	60-0044-01	CAP, 1uF, ELEC, 50V, 20%, RAD	N	C1UE50V20%R	RED200P
8	C50 C65-68 C85 C229-230	60-0046-01	CAP, 1uF, ELECT-NP, 16V, 20%, RAD	N	C1UNPE16V20%R	REE200
1	C38	60-0400	CAP, 2.2uF, ELECT, 50V, 20%, RAD	N	C2.2UE50V20%R	REE200P
1	C231	62-3138	CAP, 220pF, CER, 50V, 10%, SMT 0805	N	C220PC50V10%S	0805
3	C49 C82 C211	62-3134	CAP, 22pF, CER, 50V, 5%, SMT 0805	N	C22PC50V5%S	0805
1	C2	NONE	CAP, OMIT 330pF, CER, 50V, 10%, SMT 0805	N	C330PC50V10%S-O	0805
6	C20-23 C100-101	60-0324	CAP, 33uF, ELEC, 63V, 20%, RAD	N	C33UE63V20%R	REG200P
2	C36 C81	60-0048-01	CAP, 4.7uF, ELEC, 16V, 20%, RAD	N	C4.7UE16V20%R	RED200P
1	C14	60-0062	CAP, 4700uF, ELEC, 16V, 20%, RAD	N	C4700UE16V20%RH	REU300PHY
11	C25 C59-62 C71 C73 C102 C109 C115 C131	62-3133	CAP, 470pF, CER, 50V, 10%, SMT 0805	N	C470PC50V10%S	0805
2	C12-13	60-0058	CAP, 470uF, ELEC, 25V, 20%, RAD	N	C470UE25V20%R	REM200P

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3	C28-29 C146	62-3132	CAP, 47pF, CER, 50V, 5%, SMT 0805	N	C47PC50V5%S	0805
5	C16-18 C42-43	60-0054-01	CAP, 47uF, ELEC, 16V, 20%, RAD	N	C47UE16V20%R	RED200P
1	C26	62-3137	CAP, 68pF, CER, 50V, 5%, SMT 0805	N	C68PC50V5%S	0805
13	D1-13	70-0000	DIODE, 1N4001, 50V, 1 AMP, RAD	N	D1N4001R	RDB200
13	D14-23 D25-27	70-0113	DIODE, 1N4148SE, SMT SOT-23	N	D1N4148SE-S	SOT-23
1	D24	NONE	DIODE, OMIT 1N4148SE, SMT SOT-23	N	D1N4148SE-S-0	SOT-23
4	L1-2 L19-20	26-0215	FERRITE BEAD, 70ohms @100MHZ, RAD	N	FB260215	RIC200
8	FB1 L4 L12-13 L15-18	26-0217	FERRITE BEAD, 2.5Kohms @70MHZ, SMT 0805	N	FB260217	0805
6	L6-11	26-0219	FERRITE BEAD, 600ohms @100MHZ, SMT 0805	N	FB260219	0805
4	A19-22	NONE	NON-PART, FIDUCIAL	N	FIDUCIAL	FIDUCIAL
1	H1	32-1043	HDR, 5 PIN, 0.156, MALE, RA	N	HDR321043	PA5-156-67-RA
1	H2	32-1045	HDR, 3 PIN, 0.156, MALE, RA	N	HDR321045	PA3-156-67-RA
1	J6	32-0094	JACK, 1/8" PHONE, INSULATED, HZ. MT.	N	J320094	J320094
1	J1	32-0099	JACK, 4PIN DIN, SHIELDED, R/A	N	J320099	J320099
4	J2-5	32-0119	JACK, 1/4 PHONO, FULL THREAD, SLIMLINE	N	J320119	J320119
1	DS11	70-2046	LED, GRN, SHORT PROFILE, DIFFUSED, RAD	N	LEDG702046	RLD100
1	DS4	70-2062	LED, GRN, T1, SMALL DIFFUSED, HAND STUFF	N	LEDG702062	RLB100
1	DS16	70-2043	LED, RED, SHORT PROFILE, DIFFUSED, RAD, HAND STUFF	N	LEDR702043	RLD100
13	DS8-10 DS12-15 DS17-22	70-2045	LED, RED, SHORT PROFILE, DIFFUSED, RAD	N	LEDR702045	RLD100
3	DS1 DS5 DS23	70-2061	LED, RED, T1, SMALL DIFFUSED, HAND STUFF	N	LEDR702061	RLB100
1	DS3	70-2082	LED, RED, T1, ENCAP, R/A	N	LEDR702082	RLB100H
2	DS6-7	70-2129	LED, RED, DUAL 7-SEG, DIP	N	LEDR702129	DISLAY18
1	DS2	70-2068	LED, BI-CLR, RED/GRN, CATHODE COM, T-1	N	LEDR/G702068	LED702068
2	LS1 LS17	28-1014	LED SPACER, 0.187 OD x 0.120 ID x 0.080 L	N	LS281014	PCBNULL
1	LS2	28-1026	LED SPACER, PLASTIC 3-LEAD, 0.080, T1	N	LS281026	PCBNULL
1	GND1	NONE	NON-PART, MECCA GND/PWR TIE POINT, 2 POS	N	MECCA2	MECCA2
5	MP2-6	NONE	NON-PART, .300" PAD, .156" HOLE, PLATED	N	MP300H156	MP300H156
2	SR1-2	28-3323	NUT, HEX, BRASS, 7 x 0.75mm, 2mm THK	N	N283323-NULL	PCBNULL
2	P1 P3	40-2074	POT, 100K, "W", 16mm ROT x2, 15mm D-BOT	N	P100K402074	P16X2-15DB
2	PA1-2	NONE	PAD ARRAY, 1 PIN, 0.047" HOLE	N	PA1-047	PA1-047
1	H4	NONE	PAD ARRAY, 3 PIN, 0.156 SP, 0.067 HOLE	N	PA3-156-67	PA3-156-67
1	H3	NONE	PAD ARRAY, 5 PIN, 0.156 SP, 0.067 HOLE	N	PA5-156-67	PA5-156-67
9	Q8-9 Q14-20	70-1009	XSTR, 2N4124, NPN, RAD	N	Q2N4124	R3XT092
4	Q1-2 Q10-11	70-1007	XSTR, 2N5088, NPN, RAD	N	Q2N5088	R3XT092
2	Q4-5	70-1155	XSTR, 2N6714, NPN, RADIAL	N	Q2N6714	R3XT092
2	Q6-7	70-1156	XSTR, 2N6726, PNP, RAD	N	Q2N6726	R3XT092
1	Q12	NONE	XSTR, OMIT 2N5088, NPN, RAD	N	Q2N5088-0	R3XT092
1	Q13	70-2010	XSTR, PHOTO, LPT80A, VERTICAL	N	QLPT80A-V	QLPT80A-V
17	C198 C222 R45 R48 R70 R97 R196 R213 R217 R220 R224 R227 R233 R261 R340 R343 R500	50-1531	RES, 0 OHM, 5%, 1/10W, SMT 0805	N	R0-0805	0805
6	R163 R252 R272 R331-332 R341	NONE	RES, OMIT 0 OHM, 5%, 1/10W, SMT 0805	N	R0-0805-0	0805
6	R82 R91 R124-127	50-1500	RES, 10 OHM, 5%, 1/10W, SMT 0805	N	R10-0805	0805
12	R8 R17-20 R92 R99 R136-137 R223 R251 R338	50-1515	RES, 100 OHM, 5%, 1/10W, SMT 0805	N	R100-0805	0805
14	R69 R149 R154 R159 R161 R165 R197-198 R206 R208 R210 R216 R230-231	50-1504	RES, 100K OHM, 5%, 1/10W, SMT 0805	N	R100K-0805	0805
2	R214 R236	NONE	RES, OMIT 100K OHM, 5%, 1/10W, SMT 0805	N	R100K-0805-0	0805
61	R4 R22 R30 R35 R43 R52 R54 R60 R64-65 R71-76 R79-81 R89 R106-109 R119	50-1503	RES, 10K OHM, 5%, 1/10W, SMT 0805	N	R10K-0805	0805

	R134-135 R146					
	R156-157 R172					
	R177-178 R180 R189					
	R207 R215 R228 R247					
	R267 R279-283					
	R290-296 R322-329					
	R346					
2	R235 R271	NONE	RES, OMIT 10K OHM, 5%, 1/10W, SMT 0805	N	R10K-0805-0	0805
8	R31 R39 R68	50-1516	RES, 15K OHM, 5%, 1/10W, SMT 0805	N	R15K-0805	0805
	R114-117 R181					
1	R205	NONE	RES, OMIT 15K OHM, 5%, 1/10W, SMT 0805	N	R15K-0805-0	0805
29	R9-16 R27 R37	50-1505	RES, 1K OHM, 5%, 1/10W, SMT 0805	N	R1K-0805	0805
	R87-88 R96 R100-101					
	R121 R142-143 R147					
	R167 R183 R202 R240					
	R242 R246 R254 R260					
	R276 R330					
10	R2 R21 R49 R53 R55	50-1506	RES, 1M OHM, 5%, 1/10W, SMT 0805	N	R1M-0805	0805
	R190 R225 R334 R342					
	R345					
2	R160 R166	50-1529	RES, 2.2K OHM, 5%, 1/10W, SMT 0805	N	R2.2K-0805	0805
9	R218 R302-309	50-1510	RES, 200 OHM, 5%, 1/10W, SMT 0805	N	R200-0805	0805
23	R28 R36 R44 R58	50-1507	RES, 20K OHM, 5%, 1/10W, SMT 0805	N	R20K-0805	0805
	R179 R184 R211 R248					
	R268 R310-321					
	R336-337					
4	R50 R57 R229 R344	50-1514	RES, 220K OHM, 5%, 1/10W, SMT 0805	N	R220K-0805	0805
1	R234	NONE	RES, OMIT 220K OHM, 5%, 1/10W, SMT 0805	N	R220K-0805-0	0805
6	R7 R24-26 R98 R173	50-1522	RES, 22K OHM, 5%, 1/10W, SMT 0805	N	R22K-0805	0805
4	R32 R40 R151 R176	50-1527	RES, 27K OHM, 5%, 1/10W, SMT 0805	N	R27K-0805	0805
20	R6 R63 R85-86 R120	50-1508	RES, 2K OHM, 5%, 1/10W, SMT 0805	N	R2K-0805	0805
	R128-131 R168 R188					
	R195 R241 R245					
	R255-256 R259 R269					
	R274 R278					
2	R90 R239	NONE	RES, OMIT 2K OHM, 5%, 1/10W, SMT 0805	N	R2K-0805-0	0805
16	R94-95 R102-105	50-1525	RES, 3.3K OHM, 5%, 1/10W, SMT 0805	N	R3.3K-0805	0805
	R110-113 R169 R186					
	R193 R203 R263-264					
3	R93 R297 R301	50-1517	RES, 330 OHM, 5%, 1/10W, SMT 0805	N	R330-0805	0805
3	R51 R209 R221	50-1519	RES, 330K OHM, 5%, 1/10W, SMT 0805	N	R330K-0805	0805
11	R122 R132-133	50-1512	RES, 33K OHM, 5%, 1/10W, SMT 0805	N	R33K-0805	0805
	R140-141 R182 R194					
	R226 R262 R335 R339					
20	R1 R56 R77-78 R118	50-1509	RES, 4.7K OHM 5%, 1/10W, SMT 0805	N	R4.7K-0805	0805
	R148 R150 R155 R170					
	R187 R199 R250 R265					
	R270 R284-289					
1	R232	NONE	RES, OMIT 4.7K OHM 5%, 1/10W, SMT 0805	N	R4.7K-0805-0	0805
5	R29 R38 R204 R244	50-1518	RES, 470 OHM, 5%, 1/10W, SMT 0805	N	R470-0805	0805
	R273					
6	R5 R144-145 R164	50-1523	RES, 470K OHM, 5%, 1/10W, SMT 0805	N	R470K-0805	0805
	R200-201					
1	R222	NONE	RES, OMIT 470K OHM, 5%, 1/10W, SMT 0805	N	R470K-0805-0	0805
8	R33 R41 R59 R61-62	50-1502	RES, 47K OHM, 5%, 1/10W, SMT 0805	N	R47K-0805	0805
	R162 R174-175					
1	R238	NONE	RES, OMIT 47K OHM, 5%, 1/10W, SMT 0805	N	R47K-0805-0	0805
7	R83-84 R152-153	50-1524	RES, 51 OHM, 5%, 1/10W, SMT 0805	N	R51-0805	0805
	R298-300					
9	R67 R123 R192 R219	50-1513	RES, 6.8K OHM, 5%, 1/10W, SMT 0805	N	R6.8K-0805	0805

R257-258 R266 R275						
R277						
1	R237	NONE	RES, OMIT 6.8K OHM, 5%, 1/10W, SMT 0805	N	R6.8K-0805-0	0805
2	R243 R249	50-1511	RES, 680 OHM, 5%, 1/10W, SMT 0805	N	R680-0805	0805
1	R66	50-1536	RES, 68K OHM, 5%, 1/10W, SMT 0805	N	R68K-0805	0805
5	R34 R42 R138-139	50-1521	RES, 7.5K OHM, 5%, 1/10W, SMT 0805	N	R7.5K-0805	0805
R171						
2	R23 R191	50-1520	RES, 75K OHM, 5%, 1/10W, SMT 0805	N	R75K-0805	0805
1	SB1	NONE	SOLDER BRIDGE PATTERN	N	SBRIDGE	SBRIDGE
1	X53	70-3161	SOCKET, 28 PIN DIP, 0.600 WIDE	N	SKT-DIP28	SKT-DIP28
1	X18	32-0250	SOCKET, TUBE, 9 PIN	N	SKT-TUBE9	SKT-TUBE9
2	S1-2	44-0032	SWITCH, TACT, TL1103	N	SW440032	SW440032
8	S3-10	44-0083	SWITCH, MOM, MINI, LT TOUCH, HAND INSERT	N	SW440083	SW440085
2	A1-2	NONE	NON-PART, TOOLPIN	N	TOOLPIN	TOOLPIN
2	U5-6	72-1419	IC, DRAM, CMOS, 256K x 16, 70ns, SOJ40-400	N	U256KX16-70DRAMS	SOJ40-400
1	U53	72-3068-04V1.00	IC, 64Kx8 120ns EEPROM, BP-8, V1.00	N	U72-3068-04	DIP28
1	U27	72-5418	IC, 74HC00, QUAD 2-INPUT NAND, SMT S014	N	U74HC00-S	S014
1	U28	72-1086	IC, 74HC04, HEX INVERTER, SMT S014	N	U74HC04-S	S014
1	U26	72-5419	IC, 74HC138, 3 TO 8 LINE DECODER, S016	N	U74HC138-S	S016
1	U45	72-1111	IC, 74HC244, OCTAL BUFFER LINE DRIVER W/3-STATE OUTPUTS, SO20W	N	U74HC244-S	S020W
1	U25	72-1262	IC, 74HC4040, 12-STAGE BINARY RC, SMT	N	U74HC4040-S	S016
6	U46-51	72-1263	IC, 74HC574, F-FLOP, EDG TRIG, 8x, SMT	N	U74HC574-S	S020W
2	U1 U21	70-4014	V-REG, 7805, +5V, 1 AMP, TO-220	N	U7805-V	78XXV
1	U2	70-4013	V-REG, 7812, +12V, 1 AMP, TO-220	N	U7812-V	78XXV
1	U3	70-4017	V-REG, 7912, -12V, 1AMP, TO-220	N	U7912-V	79XXV
1	U22	70-4127	REG, 79L05, 3-TERMINAL NEGATIVE, RADIAL	N	U79L05	79LXX
1	U24	72-3061	IC, SRAM, 8K x 8 100ns, SMT SOP28	N	U8KX8-100SRAM-S	SOP28
2	U32 U41	72-0085	IC, CD4051, ANALOG MUX/DEMUX, S016	N	UCD4051-S	S016
2	U11 U35	72-0079	IC, CD4052DA, ANALOG MULTIPLEXER/DEMULTIPLEXER, S016	N	UCD4052DA-S	S016
1	U13	72-1422	IC, CD4053, TRIPLE 2-1 MUX, SMT S016	N	UCD4053-S	S016
1	U14	72-1438	IC, CS4222, 20-BIT STEREO AUDIO CODEC W/VOL CNTRL, SSOP28	N	UCS4222-S	SSOP28
9	U17 U30-31 U33 U36	72-4032	IC, LF353, DUAL OP-AMP, SMT S08	N	ULF353-S	S08
U38 U40 U43 U54						
1	U37	72-4038	IC, LM1972, uPOT, 2-CHANNEL, AUDIO ATTENUATOR W/MUTE, 78dB, SMT S028W	N	ULM1972-S	S020W
1	U44	72-4034	IC, LM339 QUAD COMPARATOR, SMT-S014	N	ULM339-S	S014
1	U29	70-5004	IC, MC34064, UNDERVOLTAGE SENSING CIRCUIT, TO-226AA	N	UMC34064P	RT0-226AA
11	U4 U9-10 U12 U15	72-4233	IC, NJM4560, DUAL OP-AMP, SMT S08	N	UNJM4560-S	S08
U19-20 U34 U39 U42						
U52						
1	U7	72-5500	IC, SDISCIIR, W/I'S INTERFACE, QFP100-14X20	PT1631	USDISC2R	QFP100-14X20
1	U8	72-4058	IC, THAT4301S, DYNAMIC PROC, DMP-30	N	UTHAT4301-S	DMP-30
1	U23	72-3155-01	IC, Z84C00, CPU, CMOS, SMT	N	UZ84C00-S	QFP10X10-44SP
1	V1	76-0002	TUBE, 12AX7A	N	V12AX7A	TUBE9S
1	W5	36-0022	WIRE, 14.25", 20 AWG, RED, 300V 105C	N	W360022	PCBNULL
4	W1-4	28-0187-A	WASHER, GROUNDING FOR 32-0118/32-0119	PT1361	WA280187A	WA280187A
1	H5	32-1164	WIRE TRAP, 10 POS, 2mm	N	WT321164	WT321164
1	X1	76-0317	XTAL, 20.000MHZ, CAN, LOW PROFILE	N	XTAL-20.000-LP	XTALV