

HERTZ

- SERVICE MANUAL -

EP 1 D

Issued in May 2008

HERTZ

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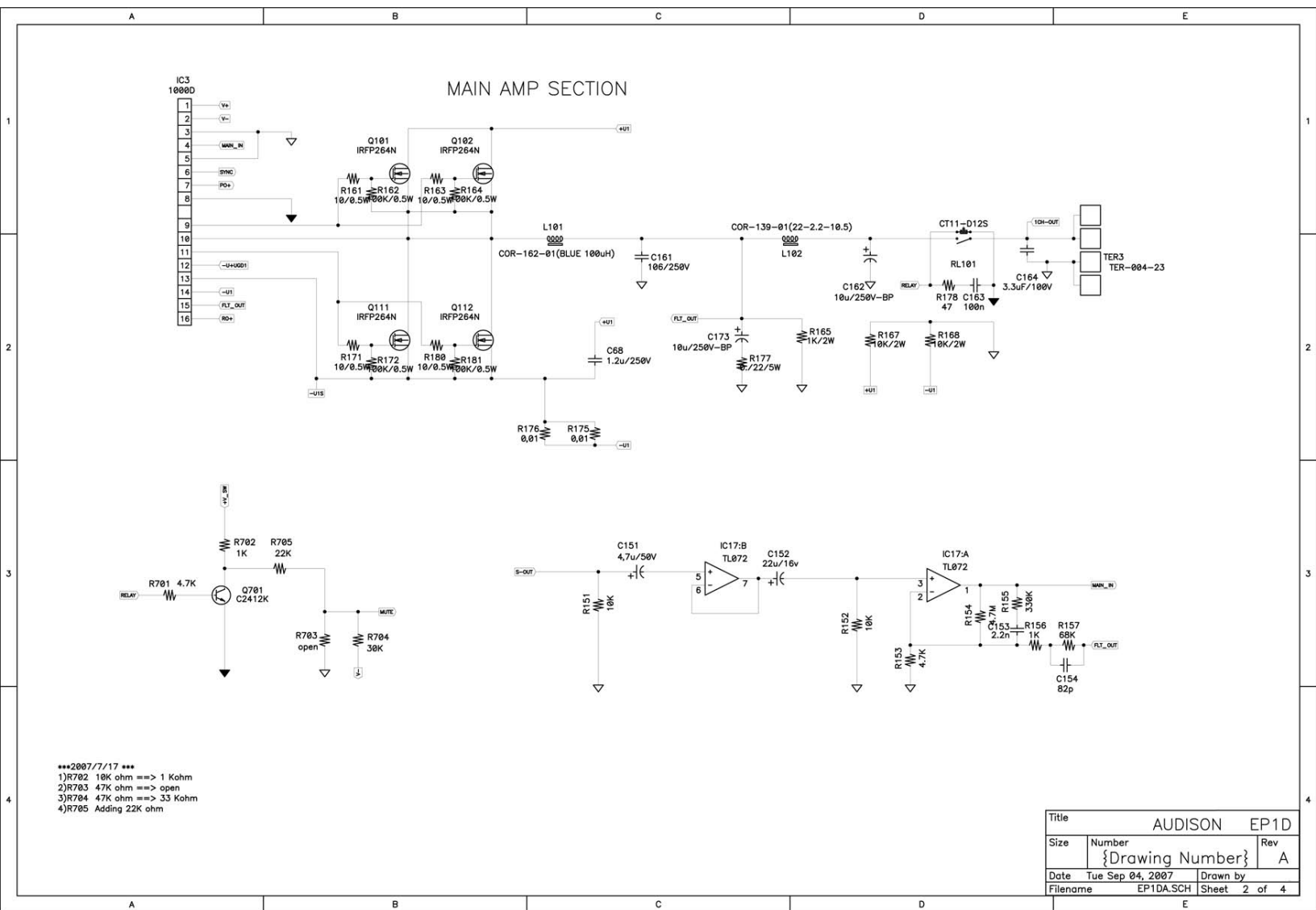
PART 1: ELECTRONIC PART

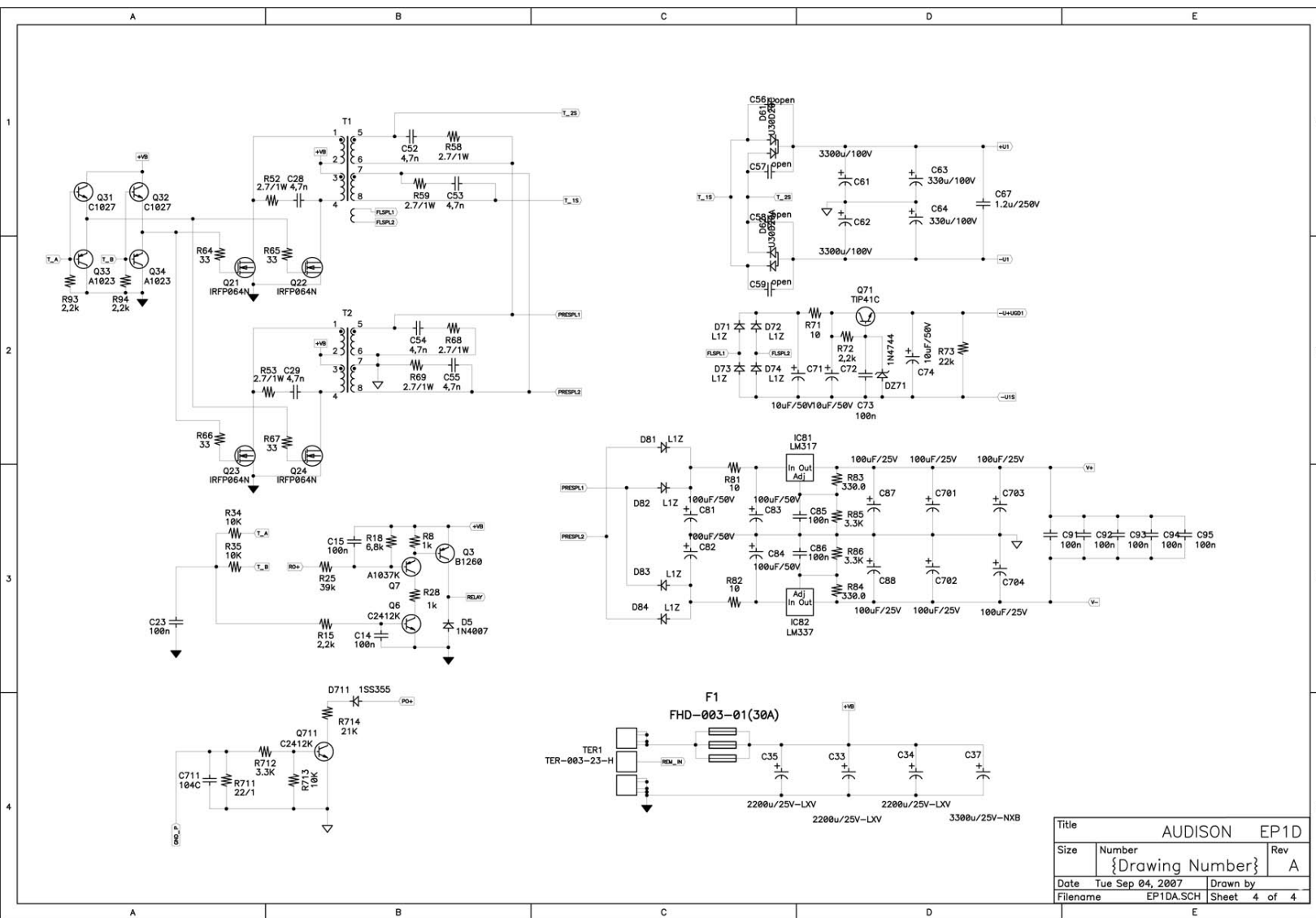
Section A: PCB REV01

Electronic diagram
Components layout
PCB parts list

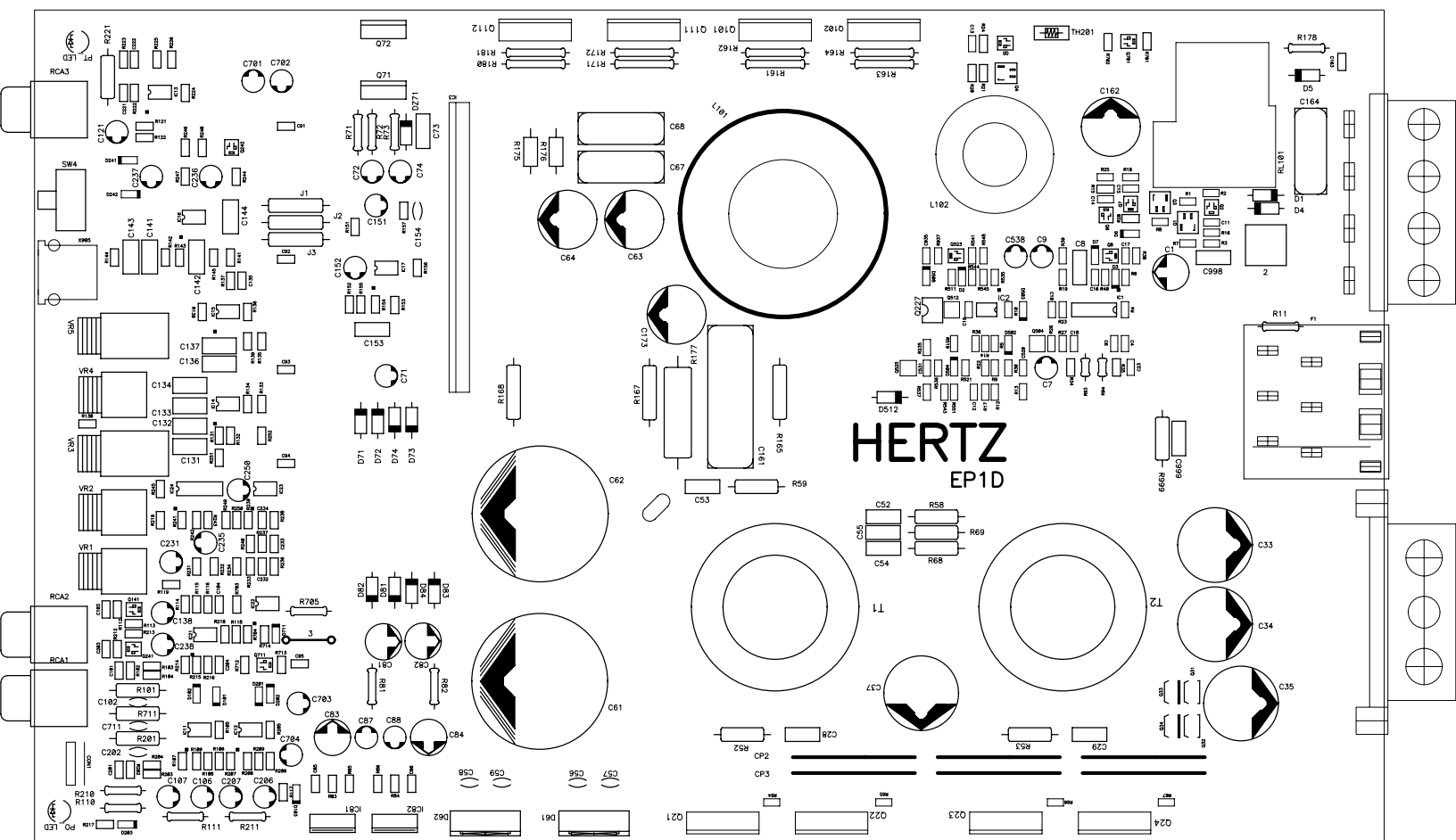
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Title		AUDISON EP1D	
Size	Number	Rev	
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PART LIST

NO	CODE	ITEM	SPEC	Q'TY	LOCATION
1	APBK-0005-00	PCB SUPPORT	l=1.0(Sn)	1.0000	
2	BART-296-02	COPPER TRACE	1.6t 96mm1-0-1-0-1-0-1	2.0000	CP2,CP3
3	CCEF-104FZ-T	CERAMIC CAPACITOR	0.1uF/50V 5% FZ *5TAPPING	3.0000	C102,C202,C711
4	CCEF-820SL-T	CERAMIC CAPACITOR	82pF/50V 5% SL *5TAPPING	1.0000	C154
5	CCHF-2012-100J	CHIP CERAMIC	2012-10pF/50V 5%	1.0000	C135
6	CCHF-2012-101J	CHIP CERAMIC CAP	2012-100pF/50V 5%	1.0000	C201
7	CCHF-2012-102J	CHIP CERAMIC CAP	2012-1000pF/50V 5%	1.0000	C32
8	CCHF-2012-102J	CHIP CERAMIC CAP	2012-1000pF/50V 5%	1.0000	C19
9	CCHF-2012-103J	CHIP CERAMIC	2012-10nF/50V 5%	1.0000	C935
10	CCHF-2012-104J	CHIP CERAMIC CAP	2012-0.1uF/50V 5%	6.0000	C2,C22,C24,C27,C47,C118
11	CCHF-2012-104J	CHIP CERAMIC CAP	2012-0.1uF/50V 5%	23.0000	C4,C6,C10,C11,C12,C13,C14,C15,C18,C23,C85,C86,C91,C92,C93C94,C95,C104,C163,C204,C222,C520,C531
12	CCHF-2012-220J	CHIP CERAMIC	2012-22pF/50V 5%	1.0000	C40
13	CCHF-2012-220J	CHIP CERAMIC	2012-22pF/50V 5%	3.0000	C103,C203,C232
14	CCHF-2012-221J	CHIP CERAMIC CAP	2012-220pF/50V 5%	2.0000	C16,C234
15	CCHF-2012-222J	CHIP CERAMIC CAP	2012-2200pF/50V 5%	2.0000	C31,C39
16	CCHF-2012-271J	CHIP CERAMIC CAP	2012-270pF/50V 5%	1.0000	C41
17	CCHF-2012-334J	CHIP CERAMIC CAP	2012-0.33uF/50V 5%	1.0000	C233
18	CCHF-2012-471J	CHIP CERAMIC CAP	2012-470pF/50V 5%	2.0000	C101,C221
19	CCHF-2012-820J	CHIP CERAMIC CAP	2012-82pF/50V 5%	1.0000	C17
20	CEAC-220A0511T2	ELECTROLYTIC AL. CAP	22uF/16V 5x11+85 2.5mm TAPPING	1.0000	C152
21	CEAD-101A0511T2	ELECTROLYTIC AL. CAP	100uF/25V +85 5 x 11SD/2.5 mm TAPPING	6.0000	C87,C88,C701,C702,C703,C704
22	CEAD-222L1625T7	ELECTROLYTIC AL. CAP	2200uF/25V 16x25+105 LXV 7.5mm (WB)	3.0000	C33,C34,C35
23	CEAD-332B1631T7	ELECTROLYTIC AL. CAP	3300uF/25V 16x31+105 NXB 7mm TAPPING(WB)	1.0000	C37
24	CEAD-470A0511T2	ELECTROLYTIC AL. CAP	47uF/25V +85 5x11SD 2.5mm TAPPING	1.0000	C7
25	CEAE-221A0812T5	ELECTROLYTIC AL. CAP	220uF/35V +85 8x11.55 mm TAPPING	1.0000	C1
26	CEAF-100A0511T2	ELECTROLYTIC AL. CAP	10uF/50V +85 5x11SD/2.5 mm TAPPING	10.0000	C71,C72,C74,C106,C107,C138,C206,C207,C238,C538
27	CEAF-101A0812T5	ELECTROLYTIC AL.CAP	100uF/50V +85 8x11.5SD/5mm TAPPING	4.0000	C81,C82,C83,C84
28	CEAF-2R2A0511T2	ELECTROLYTIC AL.CAP	2.2uF/50V +85 5x11SD/2.5mm TAPPING	1.0000	C9
29	CEAF-4R7A0511T2	ELECTROLYTIC AL. CAP	4.7uF/50V +85 5x11SD 2.5mm TAPPING	7.0000	C121,C151,C231,C235,C236,C237,C250
30	CEAI-331A1325T5	ELECTROLYTIC AL. CAP	330uF/100V 12.5x25+85 5mm TAPPING	2.0000	C63,C64
31	CEAI-332A3530B	ELECTROLYTIC AL. CAP	3300uF/100V 35x30+85 BULK SMH	2.0000	C61,C62
32	CEAM-100N1220T5	ELECTRONIC AL. CAP	10uF/250V NP 12.5x20NP 5mm TAPPING	2.0000	C162,C173
33	CESC-MV100D55	ELECTROLYTIC SMD CAP	10uF/16V MVK-D554x5	3.0000	C3,C43,C51

PART LIST

NO	CODE	ITEM	SPEC		Q'TY	LOCATION
34	CESC-MV220E55	ELECTROLYTIC SMD CAP	22uF/16V MVK-E55	5x5	3.0000	C45,C115,C116
35	CESD-MV100E55	ELECTROLYTIC SMD CAP	10uF/25V MVK-E55	5x5	1.0000	C117
36	CMFG-102-2572-T	MPF CAPACITOR	0.001uF/63V 5%	TAPPING 7.2x6.5x2.5	1.0000	C20
37	CMFG-104-2572-T	MPF CAPACITOR	0.1uF/63V 5%	TAPPING 7.2x6.5x2.5	3.0000	C73,C998,C999
38	CMFG-154-3572-T	MPF CAPACITOR	0.15uF/63V 5%	TAPPING 7.2x6.5x3.5	1.0000	C136
39	CMFG-222-2572-T	MPF CAPACITOR	0.0022uF/63V 5%	TAPPING 7.2x6.5x2.5	1.0000	C153
40	CMFG-272-2572-T	MPF CAPACITOR	0.0027uF/63V 5%	TAPPING 7.2x6.5x2.5	1.0000	C8
41	CMFG-273-2572-T	MPF CAPACITOR	0.027uF/63V 5%	TAPPING 7.2x6.5x2.5	2.0000	C143,C144
42	CMFG-334-4572-T	MPF CAPACITOR	0.33uF/63V 5%	TAPPING 7.2x6.5x4.5	4.0000	C131,C132,C133,C134
43	CMFG-472-2572-T	MPF CAPACITOR	0.0047uF/63V 5%	TAPPING 7.2x6.5x2.5	6.0000	C28,C29,C52,C53,C54,C55
44	CMFG-683-2572-T	MPF CAPACITOR	0.068uF/63V 5%	TAPPING 7.2x6.5x2.5	1.0000	C137
45	CMFG-823-2572-T	MPF CAPACITOR	0.082uF/63V 5%	TAPPING 7.2x6.5x2.5	2.0000	C141,C142
46	CMFI-335-71714B	MPF CAPACITOR	3.3 uF/100V 5%	BULK 17x14x7	1.0000	C164
47	CMFM-106-103120	MPF CAPACITOR	10 uF/250V 5%	BULK 31x20x10	1.0000	C161
48	CMFM-125-71714B	MPF CAPACITOR	1.2 uF/250V 5%	BULK 17x14x7	2.0000	C67,C68
49	COIL-COR139-01	RING CHOKE COIL	*22-2.2x10.5T		1.0000	L102
50	COIL-COR162-01	RING CHOKE COIL	K1138x2 (BLUE)	100UH	1.0000	L101
51	CORE-RING-36	CORE RING	*36x3T		2.0000	T1,T2
52	CORE-RING-40	CORE RING	*40x3T		1.0000	L101
53	DIODE-1N4007	DIODE	1N4007		3.0000	D1,D4,D5
54	DIODE-1N4744	ZENER DIODE	1N4744 15V 1W		1.0000	DZ71
55	DIODE-1N4746	ZENER DIODE	1N4746 18V 1W		1.0000	D512
56	DIODE-1N5227	ZENER DIODE	1N5227 3.6V/0.5W		1.0000	D102
57	DIODE-1SS355	CHIP DIODE	1SS355TE-17		3.0000	D15,D18,D101
58	DIODE-1SS355	CHIP DIODE	1SS355TE-17		17.0000	D2,D3,D6,D7,D101,D102,D103,D201,D202,D203,D241,D242,D502 D503,D504,D508,D711
59	DIODE-EL1Z	FAST RECOVERY	EL1Z TAPPING		8.0000	D71,D72,D73,D74,D81,D82,D83,D84
60	DIODE-ES1G	CHIP DIODE	EFM106 (LRC)		1.0000	D17
61	DIODE-MBR0520L	CHIP DIODE	MBR0520L		2.0000	D24,D25
62	DIODE-U30D20A	FAST RECOVERY	U30D20A		1.0000	D62
63	DIODE-U30D20C	FAST RECOVERY	U30D20C		1.0000	D61
64	FET-IRFP064N	FET	IRFP064N		4.0000	Q21,Q22,Q23,Q24
65	FET-IRFP264N	FET	IRFP264N		4.0000	Q101,Q102,Q111,Q112
66	FHD-003-01	FUSE HOLDER	DFK-08053		1.0000	F1

PART LIST

NO	CODE	ITEM	SPEC	Q'TY	LOCATION
67	FUSE-40A-10021	AUTO FUSE	40A PAT10021	3.0000	F1
68	IC-IR2184SPBF	CHIP IC	IR2184SPBF SOP-8	1.0000	IC5
69	IC-LM317T	REGULATOR IC	LM317T	1.0000	IC81
70	IC-LM337T	REGULATOR IC	LM337T (TO220)	1.0000	IC82
71	IC-LM393	CHIP IC	LM393M(SO-8)	1.0000	IC3
72	IC-LM393	CHIP IC	LM393M(SO-8)	1.0000	IC2
73	IC-NJM13600M	CHIP IC-DMP16(SOP16)	NJM13600M	1.0000	IC24
74	IC-SG3525AP	CHIP IC	SG3525AP (SOP-16)	1.0000	IC1
75	IC-TL072D	CHIP IC	TL072D (SOP-8) TL072CD	10.0000	IC11,IC12,IC13,IC14,IC15,IC16,IC17,IC21,IC22,IC23
76	LED-BLUE*3	LED	FG-451013V-FE(BLUE) *3mm BLUE	1.0000	PO_LED
77	LED-ORANGE*3	LED	ORANGE LED *3 *3mm LED	1.0000	PT_LED
78	PAD-MICA-2R25	MICA	1"x2.25"x0.003" 25.4mmx57.2mmx0.07t	4.0000	Q111-Q112 / Q21-Q22 / Q23-Q24 / Q101-Q102
79	PAD-MICA-3R0	MICA	1"x3"x0.003" 25.4mmx76.2mmx0.07t	1.0000	Q81-Q82-D61-D62
80	PCB-PDC008-11	DIGITAL PCB	110*189.75 (BLUE)	1.0000	
81	PCB-PMC425-12	MAIN PCB	298x204x1.6t FR4 1oZ BLUE	1.0000	
82	PHAU03-100-08A	PIN HEADER	PHAU03-100-08A	2.0000	
83	PHOTO-KPC117	PHOTO COUPLE	KPC117	2.0000	IC6,IC7
84	PHOTO-KPC117	PHOTO COUPLE	KPC117	1.0000	Q227
85	RCA2-004-02	2P RCA JACK	JE0200591N-RW NI-PLAT/UP-RED/DOWN-WHITE	1.0000	RCA3
86	RCA4-004-02	4P RCA JACK	RED,WHITE NI-PLAT/UP-RED/DOWN-WHITE	1.0000	RCA1-RCA2
87	RELAY-CT11D12S	RELAY	CT11-D12S RA-A12S	1.0000	RL101
88	RES1/2W-100M	RESISTOR	RES 1/2W MINI 10 ohm	4.0000	R161,R163,R171,R180
89	RES1/2W-104M	RESISTOR	RES 1/2W MINI100Kohm	4.0000	R162,R164,R172,R181
90	RES1/2W-560M	RESISTOR	RES 1/2W MINI 56ohm	1.0000	R11
91	RES1/4-000	RESISTOR	RES 1/4W 0 ohm	3.0000	J1,J2,J3
92	RES1/4-100	RESISTOR	RES 1/4W 10 ohm	3.0000	R71,R81,R82
93	RES1/4-222	RESISTOR	RES 1/4W 2.2K ohm	1.0000	R72
94	RES1/4-223	RESISTOR	RES 1/4W 22K ohm	2.0000	R73,R705
95	RES1/4-470	RESISTOR	RES 1/4W 47 ohm	1.0000	R178
96	RES1/4-562	RESISTOR	RES 1/4W 5.6K ohm	2.0000	R110,R210
97	RES1/8-222	RESISTOR	RES 1/8W 2.2K ohm	2.0000	R93,R94
98	RES1W-102M	RESISTOR	RES 1W MINI 1K ohm	1.0000	R999
99	RES1W-220M	RESISTOR	RES 1W MINI 22 ohm	1.0000	R711
100	RES1W-2R7M	RESISTOR	RES 1W MINI 2.7 ohm	6.0000	R52,R53,R58,R59,R68,R69

PART LIST

NO	CODE	ITEM	SPEC	Q'TY	LOCATION
101	RES1W-470M	RESISTOR	RES 1W MINI 47 ohm	3.0000	R101,R201,R221
102	RES2012-000	CHIP RESISTOR	CHIP2012-0 ohm	1.0000	R231
103	RES2012-1002	CHIP RESISTOR	CHIP2012-10.0Kohm 1% RESISTOR	1.0000	R94
104	RES2012-101	CHIP RESISTOR	CHIP2012-100 ohm	1.0000	R150
105	RES2012-101	CHIP RESISTOR	CHIP2012-100 ohm	5.0000	R13,R22,R23,R103,R203
106	RES2012-102	CHIP RESISTOR	CHIP2012-1K ohm	4.0000	R63,R78,R83,R153
107	RES2012-102	CHIP RESISTOR	CHIP2012-1K ohm	12.0000	R1,R8,R16,R28,R118,R119,R135,R156,R218,R511,R537,R702
108	RES2012-103	CHIP RESISTOR	CHIP2012-10K ohm	1.0000	R56
109	RES2012-103	CHIP RESISTOR	CHIP2012-10K ohm	23.0000	R4,R6,R12,R34,R35,R116,R130,R141,R151,R152,R216,R236,R237 R238,R239,R240,R243,R244,R248,R249,R250,R551,R713
110	RES2012-104	CHIP RESISTOR	CHIP2012-100K ohm	1.0000	R149
111	RES2012-104	CHIP RESISTOR	CHIP2012-100K ohm	5.0000	R9,R17,R30,R521,R937
112	RES2012-105	CHIP RESISTOR	CHIP2012-1M ohm	1.0000	R151
113	RES2012-105	CHIP RESISTOR	CHIP2012-1M ohm	2.0000	R14,R545
114	RES2012-123	CHIP RESISTOR	CHIP2012-12K ohm	2.0000	R132,R233
115	RES2012-1272	CHIP RESISTOR	CHIP2012-12.7Kohm 1% RESISTOR	1.0000	R88
116	RES2012-132	CHIP RESISTOR	CHIP2012-1.3K ohm	1.0000	R219
117	RES2012-133	CHIP RESISTOR	CHIP2012-13K ohm	1.0000	R3
118	RES2012-1361	CHIP RESISTOR	CHIP2012-1.36Kohm 1% RESISTOR	1.0000	R136
119	RES2012-1502	CHIP RESISTOR	CHIP2012-15.0Kohm 1% RESISTOR	2.0000	R117,R217
120	RES2012-151	CHIP RESISTOR	CHIP2012-150 ohm	1.0000	R541
121	RES2012-153	CHIP RESISTOR	CHIP2012-15K ohm	7.0000	R102,R137,R202,R222,R232,R245,R246
122	RES2012-154	CHIP RESISTOR	CHIP2012-150K ohm	1.0000	R247
123	RES2012-202	CHIP RESISTOR	CHIP2012-2K ohm	1.0000	R95
124	RES2012-203	CHIP RESISTOR	CHIP2012-20K ohm	1.0000	R60
125	RES2012-213	CHIP RESISTOR	CHIP2012-21Kohm	1.0000	R714
126	RES2012-221	CHIP RESISTOR	CHIP2012-220 ohm	1.0000	R38
127	RES2012-222	CHIP RESISTOR	CHIP2012-2.2K ohm	4.0000	R15,R26,R27,R39
128	RES2012-223	CHIP RESISTOR	CHIP2012-22K ohm	1.0000	R154
129	RES2012-223	CHIP RESISTOR	CHIP2012-22K ohm	8.0000	R108,R109,R112,R134,R208,R209,R212,R543
130	RES2012-224	CHIP RESISTOR	CHIP2012-220K ohm	3.0000	R114,R214,R544
131	RES2012-2492	CHIP RESISTOR	CHIP2012-24.9Kohm 1% RESISTOR	1.0000	R93
132	RES2012-272	CHIP RESISTOR	CHIP2012-2.7K ohm	2.0000	R79,R81
133	RES2012-272	CHIP RESISTOR	CHIP2012-2.7K ohm	1.0000	R234

PART LIST

NO	CODE	ITEM	SPEC	Q'TY	LOCATION
134	RES2012-275	CHIP RESISTOR	CHIP2012-2.7M ohm	1.0000	R5
135	RES2012-302	CHIP RESISTOR	CHIP2012-3K ohm	2.0000	R2,R535
136	RES2012-303	CHIP RESISTOR	CHIP2012-30K ohm	1.0000	R704
137	RES2012-330	CHIP RESISTOR	CHIP2012-33 ohm	4.0000	R64,R65,R66,R67
138	RES2012-3300	CHIP RESISTOR	CHIP2012-330.0ohm 1% RESISTOR	2.0000	R83,R84
139	RES2012-331	CHIP RESISTOR	CHIP2012-330 ohm	2.0000	R62,R80
140	RES2012-331	CHIP RESISTOR	CHIP2012-330 ohm	1.0000	R536
141	RES2012-332	CHIP RESISTOR	CHIP2012-3.3K ohm	5.0000	R20,R85,R86,R138,R712
142	RES2012-334	CHIP RESISTOR	CHIP2012-330K ohm	2.0000	R139,R155
143	RES2012-393	CHIP RESISTOR	CHIP2012-39K ohm	2.0000	R25,R36
144	RES2012-432	CHIP RESISTOR	CHIP2012-4.3K ohm	2.0000	R142,R143
145	RES2012-472	CHIP RESISTOR	CHIP2012-4.7K ohm	18.0000	R10,R21,R24,R104,R105,R106,R107,R153,R204,R205,R206,R207 R223,R224,R225,R226,R519,R701
146	RES2012-473	CHIP RESISTOR	CHIP2012-47K ohm	1.0000	R148
147	RES2012-473	CHIP RESISTOR	CHIP2012-47K ohm	2.0000	R121,R122
148	RES2012-474	CHIP RESISTOR	CHIP2012-470K ohm	1.0000	R548
149	RES2012-475	CHIP RESISTOR	CHIP2012-4.7M ohm	1.0000	R61
150	RES2012-475	CHIP RESISTOR	CHIP2012-4.7M ohm	1.0000	R154
151	RES2012-5101	CHIP RESISTOR	CHIP2012-5.10Kohm 1% RESISTOR	1.0000	R49
152	RES2012-511	CHIP RESISTOR	CHIP2012-510 ohm	2.0000	R241,R242
153	RES2012-512	CHIP RESISTOR	CHIP2012-5.1K ohm	2.0000	R54,R85
154	RES2012-562	CHIP RESISTOR	CHIP2012-5.6K ohm	6.0000	R113,R131,R133,R144,R145,R213
155	RES2012-563	CHIP RESISTOR	CHIP2012-56K ohm	2.0000	R251,R252
156	RES2012-623	CHIP RESISTOR	CHIP2012-62K ohm	1.0000	R7
157	RES2012-681	CHIP RESISTOR	CHIP2012-680 ohm	2.0000	R115,R215
158	RES2012-682	CHIP RESISTOR	CHIP2012-6.8K ohm	1.0000	R152
159	RES2012-682	CHIP RESISTOR	CHIP2012-6.8K ohm	3.0000	R18,R40,R235
160	RES2012-683	CHIP RESISTOR	CHIP2012-68K ohm	1.0000	R157
161	RES2012-7501	CHIP RESISTOR	CHIP2012-7.50Kohm 1% RESISTOR	1.0000	R87
162	RES2012-7501	CHIP RESISTOR	CHIP2012-7.50Kohm 1% RESISTOR	1.0000	R19
163	RES2012-751	CHIP RESISTOR	CHIP2012-750 ohm	1.0000	R84
164	RES2W-102M	RESISTOR	RES 2W MINI 1K ohm	1.0000	R165
165	RES2W-103M	RESISTOR	RES 2W MINI 10Kohm	2.0000	R167,R168
166	RES5W-R01	SHUNT RESISTOR	RES 5W 0.01 ohm 10mm	2.0000	R175,R176

PART LIST

NO	CODE	ITEM	SPEC	Q'TY	LOCATION
167	RES5W-R22WIRE	RESISTOR	RES 5W 0.22 ohm 6mm WIRE	1.0000	R177
168	SWL-2C2P-05	SLIDE SWITCH	SK-22H02-G-G 9mm	1.0000	SW4
169	TEL-JACK-005	PHONE JACK	623PB-6-BLACK	1.0000	X905
170	TER-003-31	3P TERMINAL	WB03-22D(JSZ3A-29) DOWN/Wrench/Ni/BLACK	1.0000	
171	TER-004-31	4P TERMINAL	WB04-23D(JSZ4A-23) DOWN/Wrench/Ni/BLACK	1.0000	
172	TH-L-100K	THEMISTOR	100K LUG LEAD L=0.6mm	1.0000	TH201
173	TR-2SA1037K	CHIP TRANSISTOR	2SA1037K	2.0000	Q15,Q17
174	TR-2SA1037K	CHIP TRANSISTOR	2SA1037K	4.0000	Q7,Q8,Q523,Q525
175	TR-2SB1260	CHIP TRANSISTOR	2SB1260	3.0000	Q1,Q3,Q4
176	TR-2SC2412K	CHIP TRANSISTOR	2SC2412K	5.0000	Q13,Q14,Q20,Q25,Q26
177	TR-2SC2412K	CHIP TRANSISTOR	2SC2412K	10.0000	Q2,Q5,Q6,Q141,Q241,Q242,Q504,Q512,Q701,Q711
178	TRANS-PTS349-01	POWER TRANS	*36-1x16*5T-1x6*14T	1.0000	T2
179	TRANS-PTS350-01	POWER TRANS	*36-1x16*5T-1x6*14T 3차 1x1*9T	1.0000	T1
180	TR-KTA1023-T	TRANSISTOR	KTA1023 TAPPING	2.0000	Q33,Q34
181	TR-KTC1027-T	TRANSISTOR	KTC1027 TAPPING	2.0000	Q31,Q32
182	TR-MMBTA92	CHIP TRANSISTOR	MMBTA92 KST92 MTF	1.0000	Q19
183	TR-TIP41C	TRANSISTOR	TIP41C	1.0000	Q71
184	VR09-2017	MAIN VOLUME	15RS 15C 500Kohm 2 RV095 GB Co KNOB	1.0000	VR2
185	VR09-2070	MAIN VOLUME	15RS 15B 20Kohm 2 RV095GB Co KNOB	2.0000	VR1,VR4
186	VR09-4013	MAIN VOLUME	15RS 15C 50K ohm 4 RV095 4GB-1 CO KNOB	2.0000	VR3,VR5
187	WAFER-S4B-XH-A	WAFER	S4B-XH-A 2.5mm 4P ANGLE WHITE	1.0000	CON1
188	WIRE-CON-004-18	MINI CONNECTOR	CON-004-18 #24 4P 150mm	1.0000	CON1