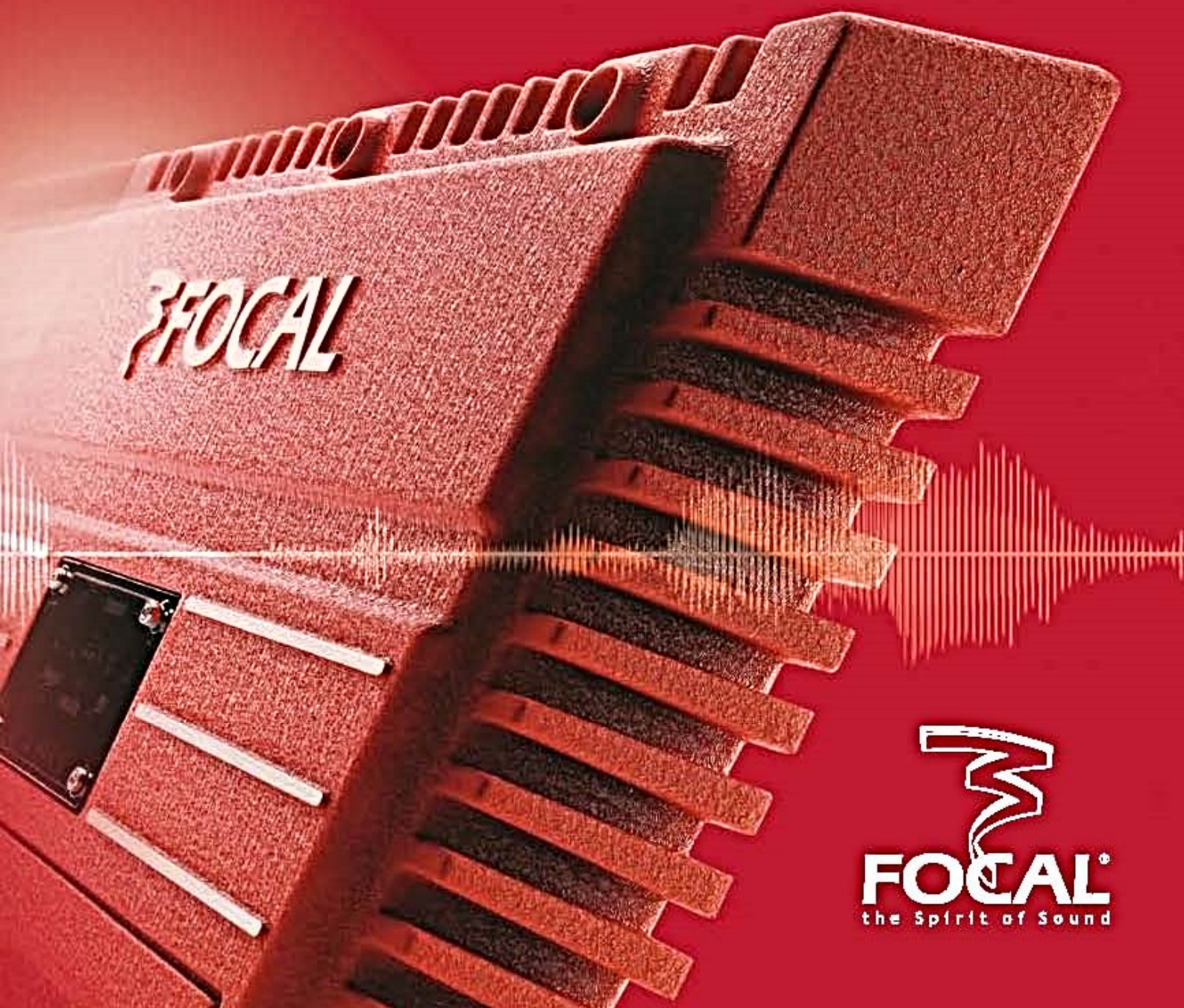


SOLID AMPLIFIERS

Service Manual - May 2008

SOLID 4 Amplifier

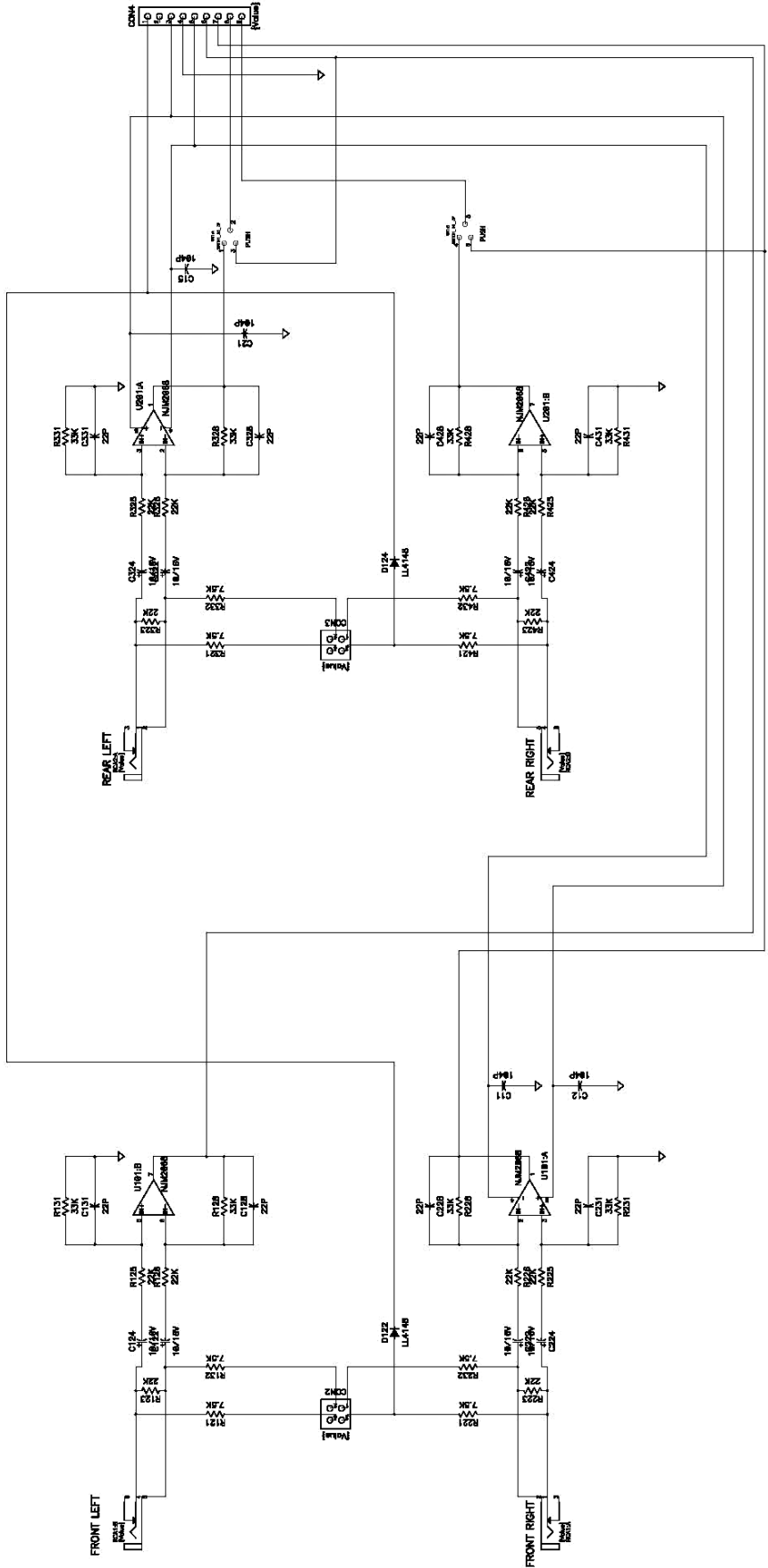



FOCAL[®]
the Spirit of Sound

Summary



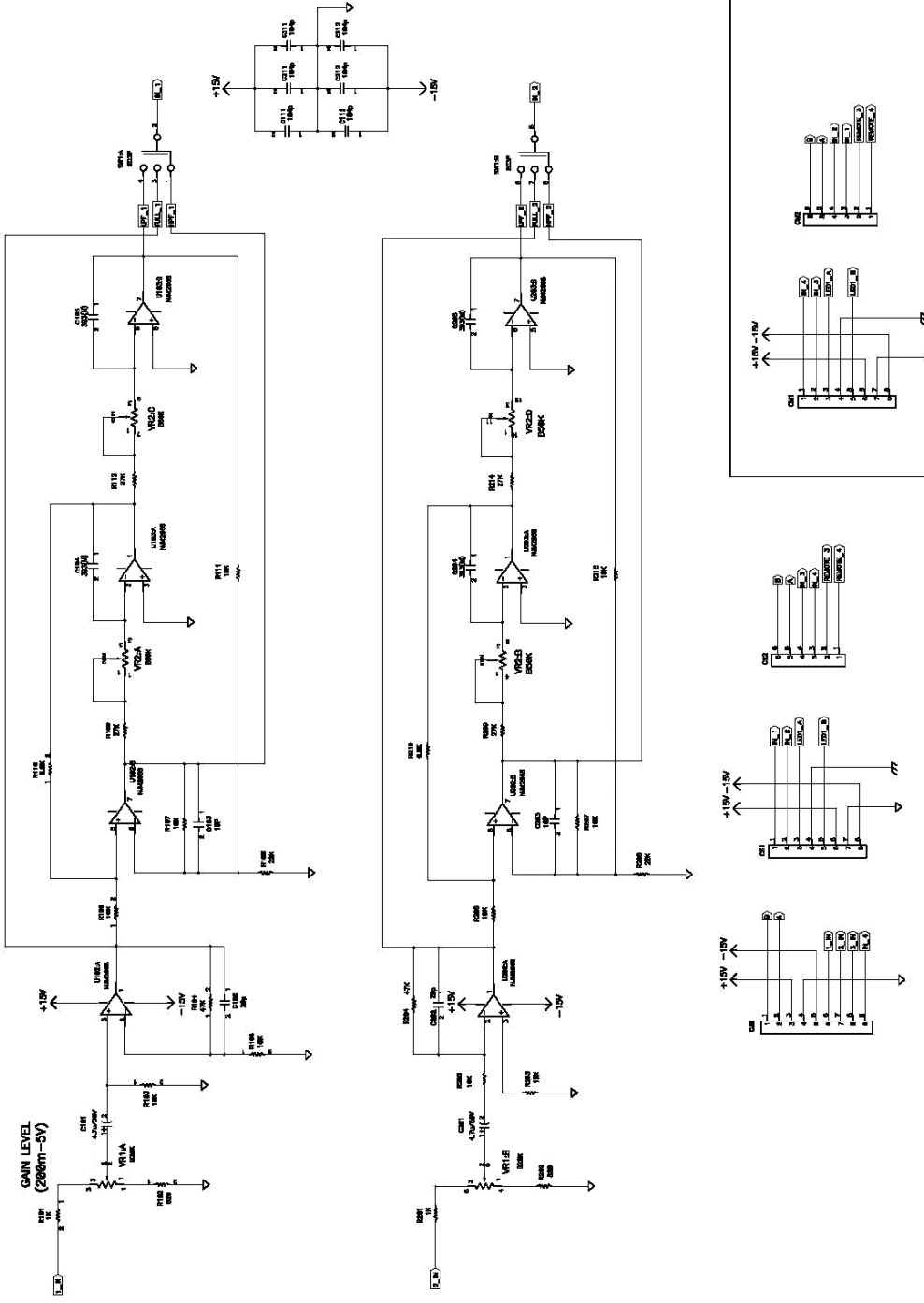
	page
Circuit diagram	3 to 8
Components layout	9 to 11
Parts list	12 to 16
List of spare parts	18



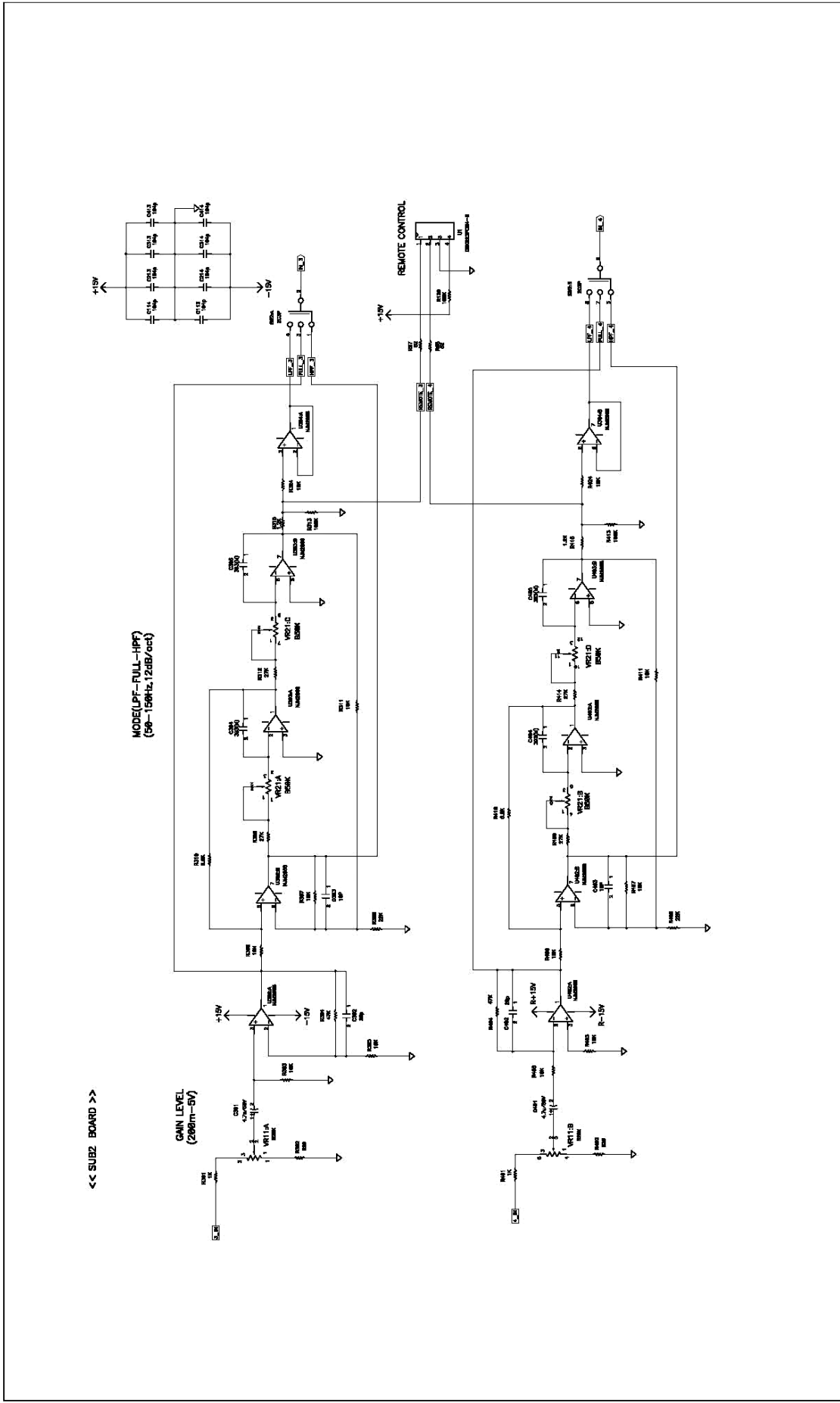
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Size	Number	Rev	
Date	2008.03.25	Drawn by	
Filename	Sheet	1	of 1

<< SUB2 BOARD >>

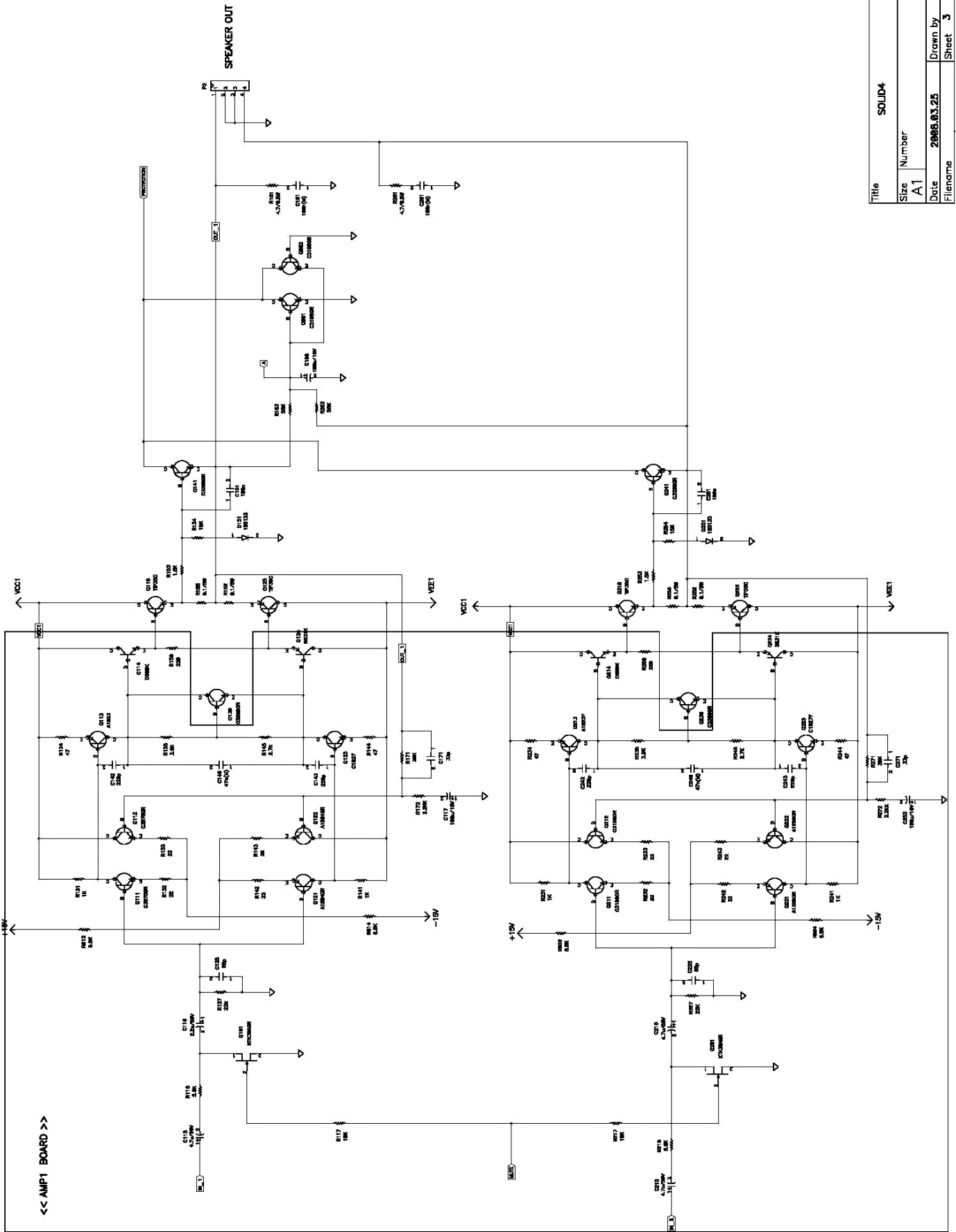
MODE(LPF—FULL—HPF)
(59—159Hz,12dB/oct)



Title	SOLID4		
Size	Number	Rev	01
Date	2006.03.25	Drawn by	
Filename		Sheet	1 of 5

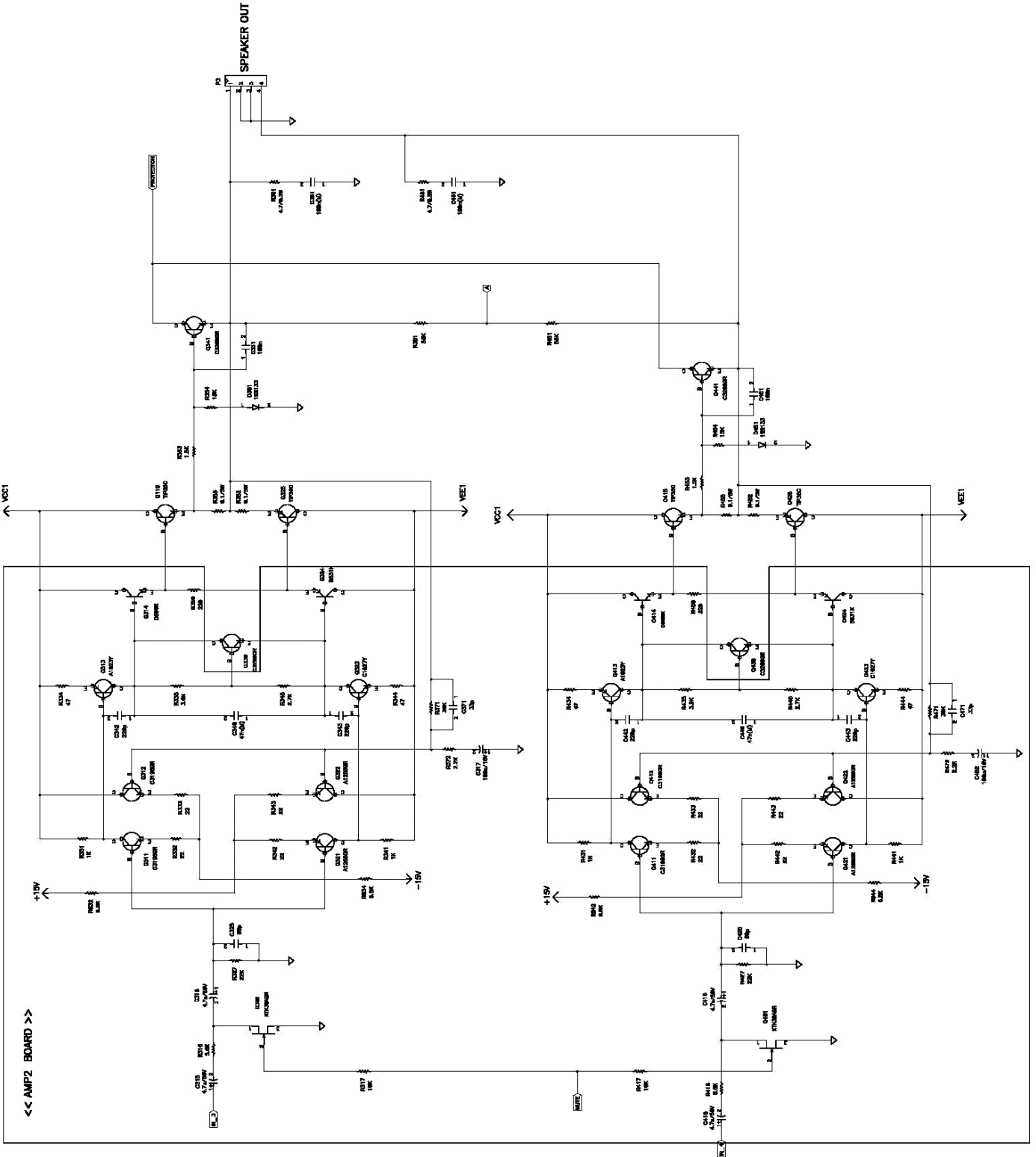


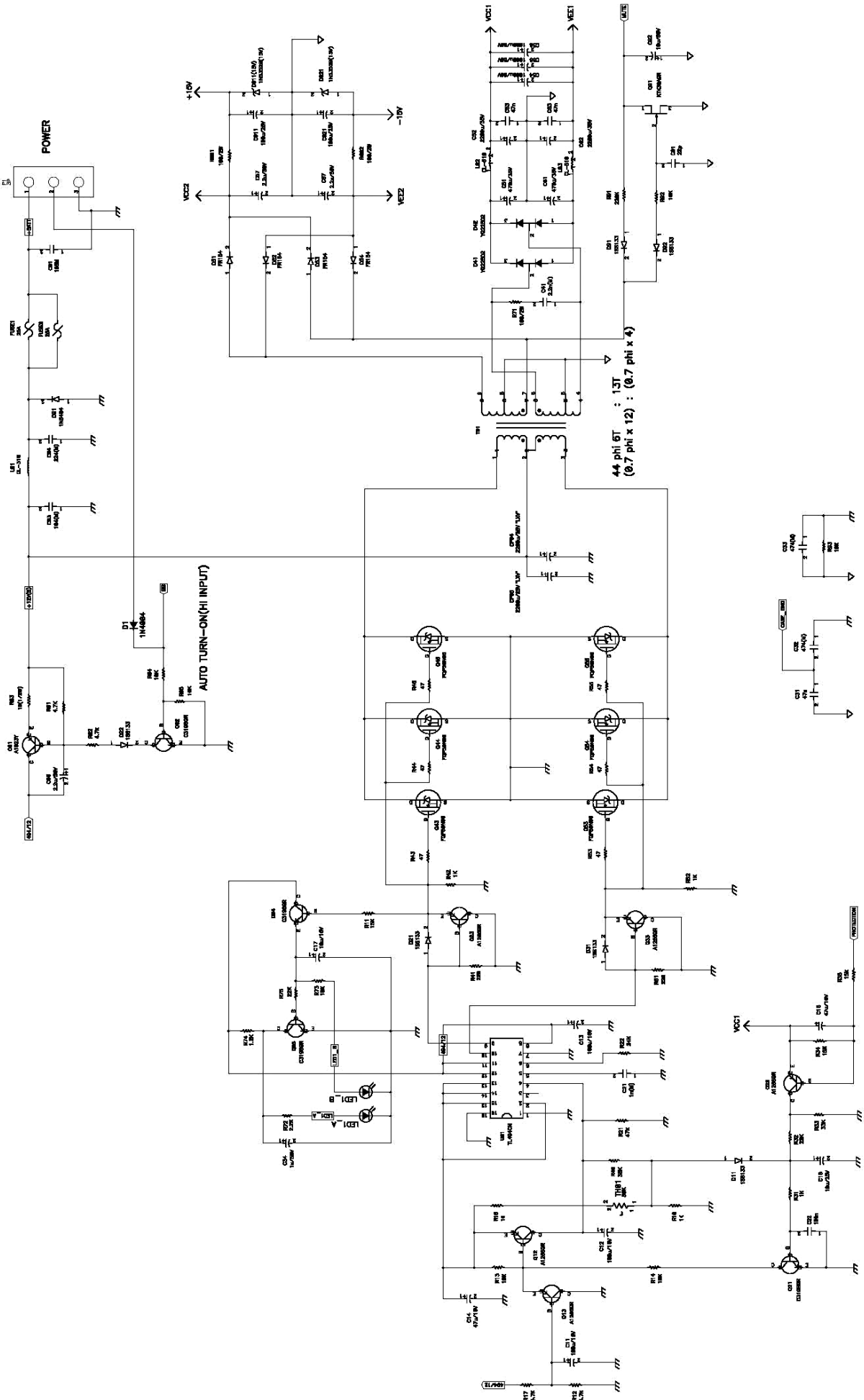
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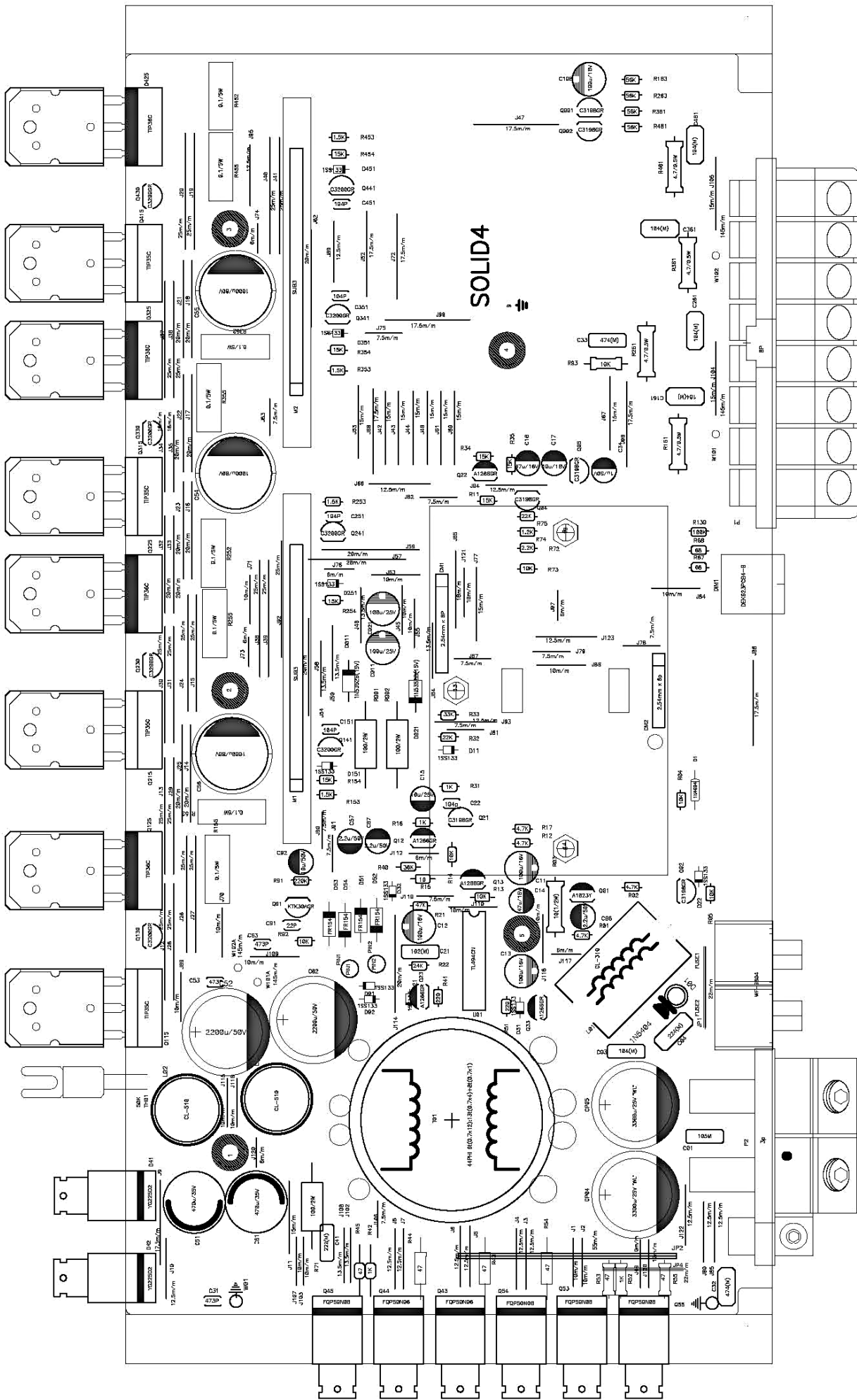
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Filename		Sheet	3 of 5

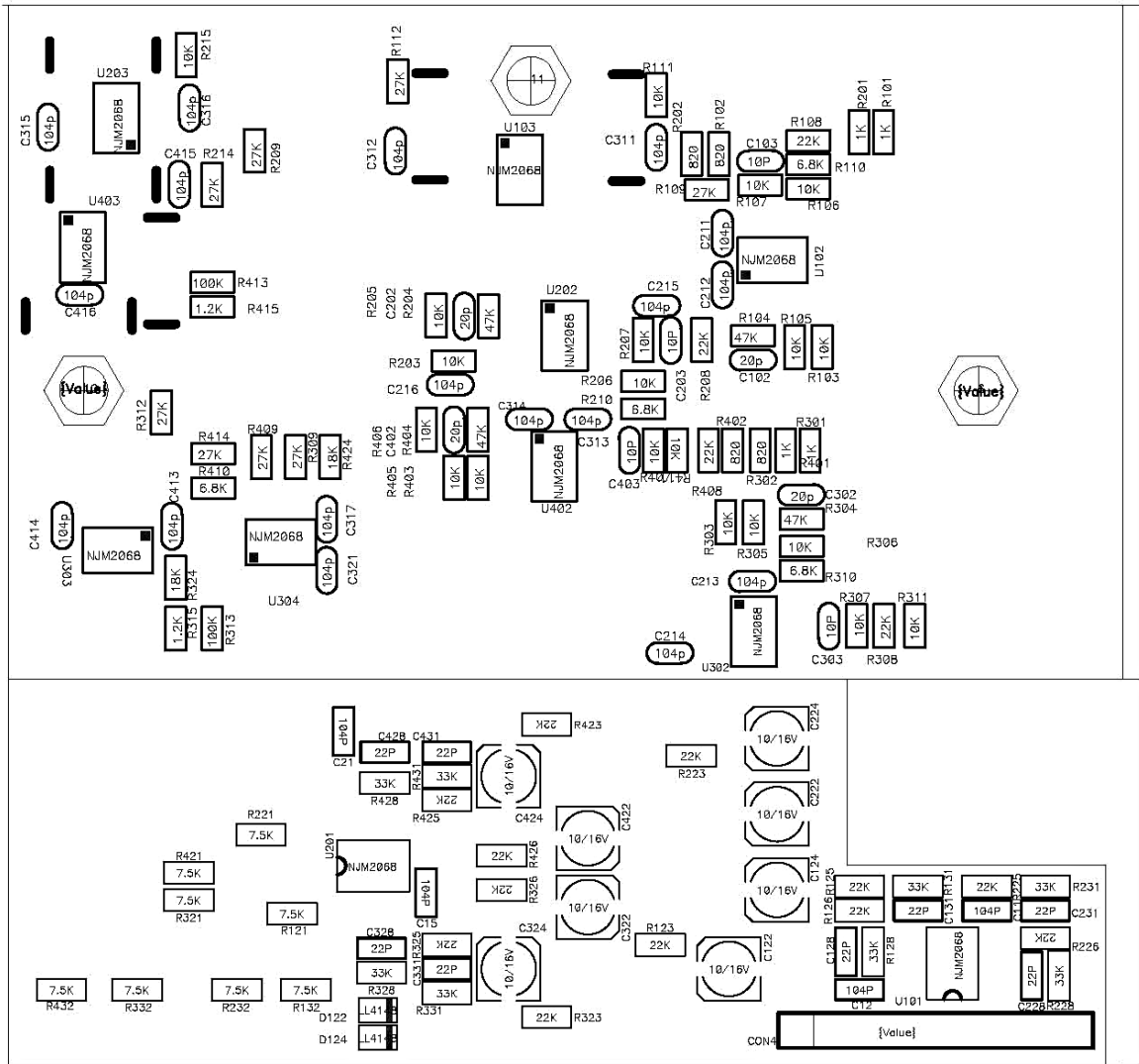
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Filename		Sheet	4 of 5

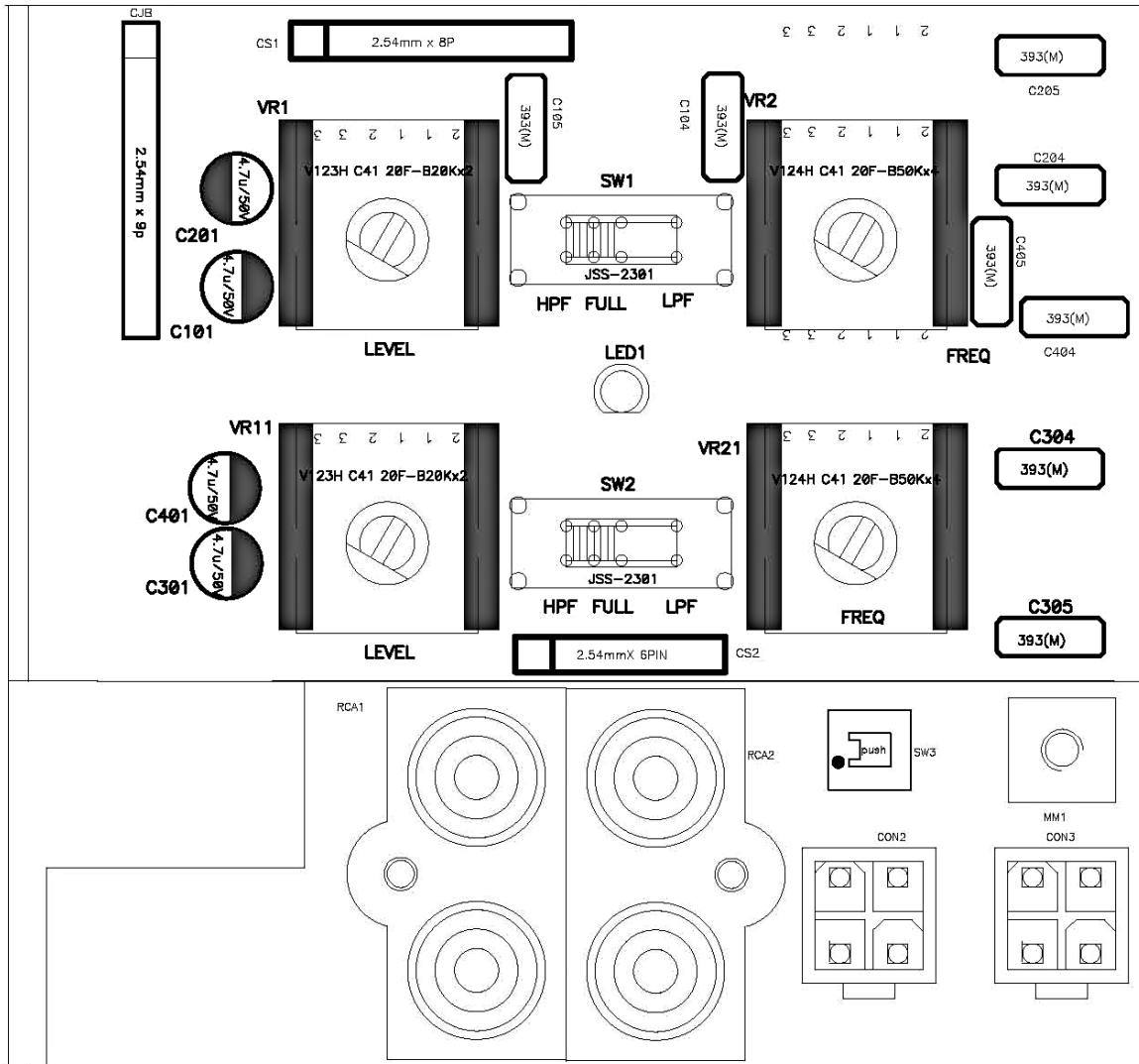




Title		SOLID4	
Size	Number	Rev	
A1		01	
Date	2008.03.25	Drawn by	
Filename		Sheet	5 of 5







CUSTOMER: FOCAL		MODEL: SOLID 4 BLACK			
No	Material#	Material Name	Specifications	#of use	REFERENCE DESIGN NO
MAIN PCB AI PART					
1	4,1	36.1.SOLID411121	PCB		
2	4,1	36.1.SOLID411111	P.C.B	FR-1 单面板(10z 1.6T) "BLUE"134x263m/m	1
3	4,1	05.111.05YA1023	AUDION	SMALL SIGNAL PNPKTA1023Y	1 Q01
4	4,1	05.811.03GRA1266	AUDION	SMALL SIGNAL PNPKTA1266GR	5 Q12,13,22,23,33
5	4,1	05.811.03GRC3198	AUDION	SMALL SIGNAL NPNKTC3198GR	6 Q001,02,002,04,05,21
6	4,1	05.811.03GRC3200	AUDION	SMALL SIGNAL NPNKTC3200GR	4 Q141,241,341,441
7	4,1	04.111.31IN4148L	DIODE	SWITCHING1SS133	11 D11,21,22,31,32,91,92,151,251,351,451
8	4,1	04.111.31FR154	DIODE	RECTIFIERFR154	4 D51,52,53,54
9	4,1	04.111.31IN4004	DIODE	RECOVERY DIODE1N4004	1 D1
10	4,1	04.113.31IN4744A	DIODE	ZENER DIODE (1W 15V)1N4744	2 D011,021
11	4,1	01.1104.0940100	CARBON FILM RESISTOR	CARBON FILM 1/8W J10 OHM	1 R15
12	4,1	01.1104.0940470	CARBON FILM RESISTOR	CARBON FILM 1/8W J47 OHM	1 R45
13	4,1	01.1104.0940680	CARBON FILM RESISTOR	CARBON FILM 1/8W J68 OHM	2 R67,68
14	4,1	01.1104.0940221	CARBON FILM RESISTOR	CARBON FILM 1/8W220	2 R41,51
15	4,1	01.1104.0940102	CARBON FILM RESISTOR	CARBON FILM 1/8W J1K OHM	3 R16,31,42
16	4,1	01.1104.0940122	CARBON FILM RESISTOR	CARBON FILM 1/8W J1.2K OHM	1 R74
17	4,1	01.1104.0940152	CARBON FILM RESISTOR	CARBON FILM 1/8W J1.5K OHM	4 R153,253,353,453
18	4,1	01.1104.0940222	CARBON FILM RESISTOR	CARBON FILM 1/8W2.2K	1 R72
19	4,1	01.1104.0940472	CARBON FILM RESISTOR	CARBON FILM 1/8W4.7K	4 R01,02,12,17
20	4,1	01.1104.0940103	CARBON FILM RESISTOR	CARBON FILM 1/8W10K	6 R04,05,13,14,73,92
21	4,1	01.1104.0940153	CARBON FILM RESISTOR	CARBON FILM 1/8W15K	7 R11,34,35,154,254,354,454
22	4,1	01.1104.0940223	CARBON FILM RESISTOR	CARBON FILM 1/8W22K	2 R32,75
23	4,1	01.1104.0940243	CARBON FILM RESISTOR	CARBON FILM 1/8W24K	1 R22
24	4,1	01.1104.0940473	CARBON FILM RESISTOR	CARBON FILM 1/8W J47K OHM	1 R21
25	4,1	01.1104.0940333	CARBON FILM RESISTOR	CARBON FILM 1/8W33K	1 R33
26	4,1	01.1104.0940363	CARBON FILM RESISTOR	CARBON FILM 1/8W36K	1 R40
27	4,1	01.1104.0940563	CARBON FILM RESISTOR	CARBON FILM 1/8W J56K OHM	4 R163,263,381,481
28	4,1	01.1104.0940104	CARBON FILM RESISTOR	CARBON FILM 1/8W J100K OHM	1 R130
29	4,1	01.1104.0940224	CARBON FILM RESISTOR	CARBON FILM 1/8W J220K OHM	1 R91
30	4,1	01.1104.0140470	CARBON FILM RESISTOR	CARBON FILM 1/4WJ47	5 R43,44,53,54,55
31	4,1	01.1104.0140102	CARBON FILM RESISTOR	CARBON FILM 1/4WJ1K	1 R52
32	4,1	01.1104.0140103	CARBON FILM RESISTOR	CARBON FILM 1/4WJ10K	1 R93
33	4,1	01.1101.02204R7	CARBON FILM RESISTOR	METAL FILM 1/2WJ4.7/0.5W	4 R161,261,361,461
34	4,1	01.1101.0220100	CARBON FILM RESISTOR	METAL FILM 1/2WJ10/0.5W	1 R03
35	4,1	03.1103.0811050310501R02	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*11mm/1/50V	1 C34
36	4,1	03.1103.0811050310502R22	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*11mm/2.2/50V	3 C06,57,67
37	4,1	03.1103.0811050310161002	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "SHL"10uF/16V	1 C17
38	4,1	03.1103.0805040310251002	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*4mm/10/25V	1 C15
39	4,1	03.1103.0811050310501002	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*11mm/10/50V	1 C92
40	4,1	03.1103.0811050310164702	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*11mm/47/16V	2 C14,16
41	4,1	03.1103.0811050310161012	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,5*11mm/100/16V	4 C11,12,13,108
42	4,1	03.1103.0811050330251012	ELECTROLYTIC CAPACITOR	ELECTROLYTIC "MHA" ,6*12mm/100/25V	2 C011,021
43	4,1	03.1104.061001022	MYLAR CAPACITOR	MYLAR,100V 5%102(M)	1 C21
44	4,1	03.1104.061002222	MYLAR CAPACITOR	MYLAR,100V 5%222(M)	1 C41
45	4,1	03.1104.061001042	MYLAR CAPACITOR	MYLAR,100V 5%,BOX or TL104(M)	4 C161,261,361,461
46	4,1	03.1101.061004742	MYLAR CAPACITOR	MYLAR,100V 5%474(M)	2 C32,33
47	4,1	03.1101.060631052	MYLAR CAPACITOR	MYLAR,63V 5%,BOX or TL105(M)	1 C01
48	4,1	03.1102.060502202	CERAMIC CAPACITOR	DISK TYPE, CERAMIC, 50V"NPO"22P	1 C91
49	4,1	03.1102.070504732	CERAMIC CAPACITOR	DISK TYPE, CERAMIC, 50V473P	3 C31,53,63
50	4,1	03.1111.070501042	CERAMIC CAPACITOR	DISK TYPE, CERAMIC, 50V104P	5 C22,151,251,351,451
51	4,1	16.11.0R70006	JUMPER WIRE	0 OHM JUMPER6m/m	7 J73,74,76,97,112,117,120
52	4,1	16.11.0R707R5	JUMPER WIRE	0 OHM JUMPER7.5m/m	11 J75,78,79,81,82,83,87,90,91,106,119
53	4,1	16.11.0R70010	JUMPER WIRE	0 OHM JUMPER10m/m	20 J1,2,45,49,55,63,69,70,71,84,86,100,103,107,109,110,115,116,118,121
54	4,1	16.11.0R712R5	JUMPER WIRE	0 OHM JUMPER12.5m/m	16 J3,4,5,6,7,8,10,66,80,85,89,93,94,95,122,123
55	4,1	16.11.0R713R5	JUMPER WIRE	0 OHM JUMPER13.5m/m	6 J46,50,54,64,102,108
56	4,1	16.11.0R70015	JUMPER WIRE	0 OHM JUMPER15m/m	12 J11,42,43,44,48,53,60,61,67,77,104,105
57	4,1	16.11.0R717R5	JUMPER WIRE	0 OHM JUMPER17.5m/m	8 J9,47,52,68,72,88,98,99
58	4,1	16.11.0R70018	JUMPER WIRE	0 OHM JUMPER18m/m	3 J34,35,65
59	4,1	16.11.0R70020	JUMPER WIRE	0 OHM JUMPER20m/m	16 J14,16,17,18,21,22,23,25,32,33,57,58,59,62,113,114
60	4,1	16.11.0R70025	JUMPER WIRE	0 OHM JUMPER25m/m	19 J12,13,15,19,20,24,26,27,28,29,30,31,36,37,38,39,40,41,92

CUSTOMER: FOCAL		MODEL: SOLID 4 BLACK			
No	Material#	Material Name	Specifications	#of use	REFERENCE DESIGN NO
MAIN PCB MI PART					
61	4,1	36.1.SOLID411131			
62	4,1	36.1.SOLID411121	PCB	1	
63	4,1	03.1101.060632242	MYLAR CAPACITOR	MYLAR,63V 5%, BOX or TL224(M)	1 C04
64	4,1	03.1104.061001042	MYLAR CAPACITOR	MYLAR,100V 5%, BOX or TL104(M)	1 C03
65	4,1	05.114.032SK30ATM	FET	N-CH JFETTK30AGR	1 Q91
66	4,1	06.11.208TL494CN	IC	PWMTL494CN	1 U01
67	4,1	05.114.01FQP50N06	FET	N-CH MOSFET FQP50N06	6 Q43,44,45,53,54,55
68	4,1	05.811.13GRC3200	AUDION	SMALL SIGNAL NPNKTC3200GR	4 Q130,230,330,430
69	4,1	05.811.02YTIP35C	AUDION	AUDIO POWER NPN, TO-3P TIP35C	4 Q115,215,315,415
70	4,1	05.811.02YTIP36C	AUDION	AUDIO POWER PNP, TO-3P TIP36C	4 Q125,225,325,425
71	4,1	04.111.31IN5404	DIODE	RECTIFIER IN5404	1 D01
72	4,1	04.815.33YG225D2	DIODE	FAST RECOVERY, TO-220YG225D2	2 D41,42
73	4,1	01.1101.0420101	METAL FILM RESISTOR	2W J "BODY 11m/m"100 OHM	3 R71,001,002
74	4,1	01.1102.0780R10	CEMENT RESISTOR	MPA, 5WJ0,1"2 OHM	8 R152,155,252,255,352,355,452,455
75	4,1	02.111.5032	THERMISTOR	DISK TYPE, NTC 50KFTD5-350	1 TH01
76	4,1	03.8103.082518042025332102	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"LV", 18"25m/m3300/25V	2 CP04,05
77	4,1	03.8103.082516041035222101	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"MHASD", 16"25m/m2200/35V	2 C52,62
78	4,1	03.1103.0825180410801021	ELECTROLYTIC CAPACITOR	ELECTROLYTIC ,18"25m/m1000/80V	3 C54,55,56
79	4,1	03.1103.0819120330504712	ELECTROLYTIC CAPACITOR	ELECTROLYTIC ,12"19m/m470/50V	2 C51,61
80	4,1	08.12.GTO755R60	INDUCTOR	BAR CORECL-310	1 L01
81	4,1	08.13.GTO601R10	INDUCTOR	CHOCK CORECL-510	2 L02,03
82	4,1	07.82.SOLID40	TRANSFORMER	44PHI,MAGNETICS 6t(0.7x9):13t(0.7x4)+8t(0.7x1)	1 T01
83	4,1	23.11.062R50	6P HEADER	6P, 2.54mm	1 CM2
84	4,1	23.11.082R50	8P HEADER	8P, 2.54mm	1 CM1
85	4,1	50.13.ZX2500R110	COPPER JUMPER WIRE	NI-PLATE22m/m	2 JP1,4
86	4,1	50.13.ZX2500R114	COPPER JUMPER WIRE	NI-PLATE55m/m	1 JP2
87	4,1	17.11.220602008	GROUND WIRE	1007,AWG#24, 3.2PHI RING LUG60m/m	3 WD1, 02, 束导线
88	4,1	27.131.04015014010221	REM	4P BLACKDEK623PCB4-B	1 DIM1
89	4,1	48.152.200060R50	PAPER PAD	200.0*6.0*0.5t	0.7 垫功率管使用
90	4,1	48.152.2000070R50	PAPER PAD	200.0*7.0*0.5t	0.5 垫场效应管, 二极管使用
91	4,1	17.12.122801000	LEAD	AWG#12, GRAY, BLACK 280m/m	2 W101 to W101A, W102to102A
92	4,1	48.152.0500200010	PAPER PAD	单面背胶50"20"1.0t	1 贴在C55, 56
MAIN PCB RETOUCH PART					
93	4,1	27.112.03045030110220	POWER TERMINAL	3P POWER	1 P1
94	4,1	27.112.08076025110220	OUTPUT TERMINAL	GOLD PLATED 8P,SPEAKER8P	1 P2
95	4,1	25.141.002101902520	FUSE HOLDER	2P WF-9604 25A	1 FUSE1,2
(SUB1) SMT PART					
96	4,1	36.1.SOLID420622	PCB		
97	4,1	36.1.SOLID420612	PCB	GLASS EPOXY,FR-4 DOUBLE LAYER,1.6V1Oz 80z26m/m	1 INPUT SUB
98	4,1	06.82.203NJM2068M	IC	DUAL OP AMP,SSOP-08 NJM2068M	2 U101,201
99	4,1	04.121.24IN4148L	DIODE	SWITCHING SIGNAL MELFL4148	2 D122,124
100	4,1	03.1203.08101610022	CHIP ELECTROLYTIC CAPACITOR	SMD ELECTROLYTIC"MVG"10/16V"4PHI"	8 C122,124,222,224,322,324,422,424
101	4,1	01.1211.0900752	CHIP RESISTOR	SMD0805 J 7.5K OHM	8 R121,132,221,232,321,332,421,432
102	4,1	01.1211.0900223	CHIP RESISTOR	SMD"0805"22K	12 R123,125,126,223,225,226,323,325,,326,423,425,426,
103	4,1	01.1211.0900333	CHIP RESISTOR	SMD"0805"33K	8 R128,131,228,231,328,331,428,431
104	4,1	03.1202.060502204	CHIP CAPACITOR	SMD"0805" CERAMIC , 50V"NP0"22P	8 C128,131,228,231,328,331,428,431
105	4,1	03.1202.070501044	CHIP CAPACITOR	SMD"0805" CERAMIC , 50V104P	4 C11,12,15,21
SUB1 RETOUCH PART					
106	4,1	36.1.SOLID420632	PCB		
107	4,1	36.1.SOLID420622	PCB		
108	4,1	50.15.SOLID10	BRACKET	MOUNT AE CHECK	1 MM1
109	4,1	26.141.211121	LOW LEVEL TERMINAL	GOLD PLATED,2P 2P	1 RCA1
110	4,1	26.141.211111	LOW LEVEL TERMINAL	GOLD PLATED,2P 2P	1 RCA2
111	4,1	21.112.044R200	HIGH LEVEL TERMINAL	HI-INPUT,2X2P CHD1140-04	2 CON2,3
112	4,1	29.122.13R50	SWITCH	SLIDE SW立式柄长3.5MM	1 SW3
113	4,1	18.1090.2410060	WIRE	2464 AWG#24,9P 100m/m	1 CON1-CJB
(SUB2) SMT PART					
114	4,1	36.1.SOLID420623	PCB		
115	4,1	36.1.SOLID420613	PCB	GLASS EPOXY,FR-4 DOUBLE LAYER,1.6V1Oz 76x49m/m	1 PRE AMP SUB
116	4,1	06.82.203NJM2068M	IC	DUAL OP AMP,SSOP-08 NJM2068M	9 U102,103,202,203,302,303,304,402,403
117	4,1	01.1219.1500821	CHIP RESISTOR	SMD"0603" 1/16WJ 820	4 R102,202,302,402
118	4,1	01.1219.1500102	CHIP RESISTOR	SMD"0603" 1/16WJ 1K	4 R101,201,301,401
119	4,1	01.1219.1500122	CHIP RESISTOR	SMD"0603" 1/16WJ 1K2	2 R315,415
120	4,1	01.1219.1500682	CHIP RESISTOR	SMD"0603" 1/16WJ 6.8K	4 R110,210,310,410
121	4,1	01.1219.1500103	CHIP RESISTOR	SMD"0603" 1/16WJ 10K	18 R103,105,106,107,111,203,206,207,215,303,305,306,307,311,403,406,407,411
122	4,1	01.1220.1508251	CHIP RESISTOR	SMD"0603" 1/16W F 8K25 ±1%	2 R205,405
123	4,1	01.1219.1500183	CHIP RESISTOR	SMD"0603" 1/16WJ 18K	2 R324,424
124	4,1	01.1219.1500223	CHIP RESISTOR	SMD"0603" 1/16WJ 22K	4 R108,208,308,408
125	4,1	01.1219.1500273	CHIP RESISTOR	SMD"0603" 1/16WJ 27K	8 R109,112,209,214,309,312,409,414
126	4,1	01.1219.1500104	CHIP RESISTOR	SMD"0603" 1/16WJ 100K	2 R313,413
127	4,1	01.1220.1304702	CHIP RESISTOR	SMD"0603" 1/16WJ 47K ±1%	4 R104,304,204,404
128	4,1	03.1202.060501007	CHIP CERAMIC CAPACITOR	SMD"0603" CERAMIC , 50V"NP0" 10P	4 C103,203,303,403
129	4,1	03.1202.060502007	CHIP CERAMIC CAPACITOR	SMD"0603" CERAMIC , 50V"NP0" 20P	4 C102,202,302,402
130	4,1	03.1202.070501047	CHIP CERAMIC CAPACITOR	SMD"0603" CERAMIC , 50V 104P	18 C211,212,213,214,215,216,311,312,313,314,315,316,317,321,413,414,415,416
(SUB2) AI PART					
131	4,1	03.1103.0805040310504R72	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"DSA/SE"4.7/50V	4 C102,201,301,401
132	4,1	03.1108.061003932	METAL CAPACITOR	MYLAR,100V 5% 393M	8 C104,105,204,205,304,305,404,405

CUSTOMER: FOCAL		MODEL: SOLID 4 BLACK			
No	Material#	Material Name	Specifications	#of use	REFERENCE DESIGN NO
(SUB2) MI PART					
133	4,1	36.1.SOLID420633	SUB2		
134	4,1	36.1.SOLID420623	PCB		1
135	4,1	10.132.2032142011	POT	20KbX2,41-CLICK V123H C41 20F-B20Kx2	2 VR1,11
136	4,1	10.132.5032094011	POT	50KbX4,41-CLICK V124H C41 20F-B50Kx4	2 VR2,21
137	4,1	29.112.30140	SWITCH	SLIDE SW立式 柄长14MM 2	2 SW1,2
138	4,1	04.112.33L-319VE4VWV	LED	2COLIR(white & RED)?(AE CHECK)	1 LED1
139	4,1	22.111.062R501	PIN	STRAIGHT TYPE,6P 6P(AE CHECK)	1 CS2
140	4,1	22.111.082R501	PIN	STRAIGHT TYPE,8P 8P(AE CHECK)	1 CS1
(SUB2) RETOUCH PART					
141	4,1	21.111.092R590	PIN HEADER	STRAIGHT TYPE WAFER,9P	1 CJB
(SUB3) SMT PART					
142	4,1	36.1.SOLID410621	PCB		
143	4,1	36.1.SOLID410611	AMP PCB	FR-1 SINGLE LAYER,1.6t/1Oz 28x72m/m	1 MAIN AMP SUB
144	4,1	05.821.12GRA1504	CHIP AUDION	SMALL SIGNAL PNP,SOT-23 KTA1504GR	4 Q121,122,221,222
145	4,1	05.821.12GRKTC3875	CHIP AUDION	SMALL SIGNAL NPN,SOT-23 KTC3875GR	4 Q111,112,211,212
146	4,1	01.1214.0900000	CHIP RESISTOR	SMD"0805" 1/8WJ 0	23 R00,01,02,03,04,05,06,07,08,09,10,013,11,12,13,14,15,16,17,18,19,20,21,
147	4,1	01.1211.0900220	CHIP RESISTOR	SMD"0805" 1/8WJ 22	8 R132,133,142,143,232,233,242,243
148	4,1	01.1211.0900470	CHIP RESISTOR	SMD"0805" 1/8WJ 47	4 R134,144,234,244
149	4,1	01.1211.0900221	CHIP RESISTOR	SMD"0805" 1/8WJ 220	2 R150,250
150	4,1	01.1211.0900102	CHIP RESISTOR	SMD"0805" 1/8WJ 1K	4 R131,141,231,241
151	4,1	01.1211.0900222	CHIP RESISTOR	SMD"0805" 1/8WJ 2.2K	2 R172,272
152	4,1	01.1211.0900272	CHIP RESISTOR	SMD"0805" 1/8WJ 2.7K	2 R145,245
153	4,1	01.1211.0900392	CHIP RESISTOR	SMD"0805" 1/8WJ 3.9K	2 R135,235
154	4,1	01.1211.0900562	CHIP RESISTOR	SMD"0805" 1/8WJ 5.6K	2 R116,216
155	4,1	01.1211.0900682	CHIP RESISTOR	SMD"0805" 1/8WJ 6.8K	4 R012,014,022,024
156	4,1	01.1211.0900103	CHIP RESISTOR	SMD"0805" 1/8WJ 10K	2 R117,217
157	4,1	01.1211.0900223	CHIP RESISTOR	SMD"0805" 1/8WJ 22K	2 R127,227
158	4,1	01.1211.0900303	CHIP RESISTOR	SMD"0805" 1/8WJ 30K	2 R171,271
159	4,1	03.1202.060503304	CHIP CERAMIC CAPACITOR	SMD"0805" CERAMIC , 50V"NPO" 33P	2 C171,271
160	4,1	03.1202.060506804	CHIP CERAMIC CAPACITOR	SMD"0805" CERAMIC , 50V"NPO" 68P	2 C125,225
161	4,1	03.1202.060502214	CHIP CERAMIC CAPACITOR	SMD"0805" CERAMIC , 50V"NPO" 220P	4 C142,143,242,243
162	4,1	03.1202.060504734	CHIP CERAMIC CAPACITOR	SMD"0805" MYLAR , 50V 473(M)	2 C140,240
(SUB3) AI PART					
163	4,1	05.111.05YA1023	AUDION	SMALL SIGNAL PNPKTA1023Y	2 Q113,213
164	4,1	05.111.05YC1027	AUDION	SMALL SIGNAL PNP,TO-92LKTC1027Y	2 Q123,223
165	4,1	16.11.0R70020	JUMPER WIRE	0 OHM JUMPER 20m/m	1 J1
166	4,1	16.11.0R70025	JUMPER WIRE	0 OHM JUMPER 25m/m	1 J3
167	4,1	03.1103.0805040310502R22	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"MHA" 2.2/50V	2 C116,216
168	4,1	03.1103.0805040310504R72	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"MHA" 4.7/50V	2 C115,215
169	4,1	03.1103.0805060310161012	ELECTROLYTIC CAPACITOR	ELECTROLYTIC"MHA" 100/16V	2 C117,217
(SUB3) MI PART					
170	4,1	36.1.SOLID410631	PCB		
171	4,1	36.1.SOLID410621	PCB		1
172	4,1	05.114.032SK30ATM	FET	N-CH JFET,TO-92 KTK30AGR	4 Q101,201
173	4,1	05.811.07YB631K	AUDION	DRIVE PNP,TO-126 KTB631K	2 Q124,224
174	4,1	05.811.07YD600K	AUDION	DRIVE NPN,TO-126 KTD600K	2 Q114,214
175	4,1	16.11.0R70010	JUMPER WIRE	0 OHM JUMPER 10m/m	1 J2
(SUB3) RETOUCH PART					
176	4,1	22.121.202R500	PIN	2.54m/m PITCH 20P	2 CMM1

CUSTOMER: FOCAL		MODEL: SOLID 4 BLACK			
No	Material#	Material Name	Specification	#of Use	REFERENCE DESIGN NO
186	1	99.1SOLID4B			
PCB					
187	2,1	36.1.SOLID411131	MAIN BOARD	1	
188	2,1	36.1.SOLID420632	SUB1	1	
189	2,1	36.1.SOLID420633	SUB2	1	
190	2,1	36.1.SOLID410631	SUB3	2	
191	3,1	99.1SOLIDRCU	REMOTE CONTROL	1	
ASSEMBLY PART					
192	4,1	41.1.SOLID4B70	HEAT SINK	AL/Die-Casting L=300.0mm	1 BLACK SPRAY
193	4,1	41.1.SOLID1B71	TOP COVER	AL/Die-Casting L=252.0mm	1 BLACK SPRAY
194	4,1	43.11.SOLID10	ACRYL	ACRYL 3.7t	1 SMOKE COLOR
195	4,1	44.11.SOLID4B70	FRONT PANEL	SECC, 1.0t	1 BLACK SPRAY / SILVER SILK
196	4,1	42.1.SOLID1B70	BOTTOM COVER	SECC, 1.0t	1 BLACK POWER SPRAY
197	4,1	44.11.SOLID471	FUNCTION TOP COVER	SECC, 0.5t	1 BLACK SPRAY / SILVER SILK
198	4,1	53.14.030001500371	CLAMP	SPCC 30.0x15.0x3.0t	1 带纸垫48.152.0280130011
199	4,1	53.14.046001500371	CLAMP	SPCC 46.0x15.0x3.0t	4 带纸垫48.152.0450140011
200	4,1	53.15.24R500190R60	CLAMP	SUS301 ,L=24.5mm	3
201	4,1	48.171.0120070R30	FELT	FELT 12.0x7.0x0.3t	2
202	4,1	35.1.SOLID30	KNOB	ABSXR401	4 VOLUME
203	4,1	33.15.2R5006R201	PAD	P.C 0.2t	4 TOP WINDOW
204	4,1	48.142.145023R201	SILICON PAD	SP1000 145.0x23.0x0.2t	1
205	4,1	48.142.050023R201	SILICON PAD	SP1000 50.0x23.0x0.2t	1
206	4,1	48.142.080023R201	SILICON PAD	SP1000 80.0x23.0x0.2t	1
207	4,1	48.132.0100100020	RUBBER PAD	RUBBER,10.0x10.0x2.0t	4
208	4,1	31.13.0263R00800	SCREW	STT2 PH 3x8 BK	1 FUSE(1)
209	4,1	31.13.0563R00800	SCREW	STT2 BH 3x8 BK	4 RCA(2),TERMINAL(2)
210	4,1	31.11.0513R00600	SCREW	SMB 3x6 BK	1 PCB SUPPORT(1)
211	4,1	31.11.0513R00610	SCREW	SMB 3x6 NI-P	7 PCB(7),
212	4,1	31.11.0413R00600	SCREW	SMF 3x6 BK	5 BOTTOM COVER (5)
213	4,1	31.11.0213R00610	SCREW	SMP 3x6 NI-P	12 锁铜柱(6):"L"CLIP(6)
214	4,1	31.13.0563R00610	SCREW	STT2 BH 3x6 NI-P	1 用于热敏电阻(1)
215	4,1	31.11.0564R01411	SCREW	SMB 4X14 NI-P LOCK HEAD	5 TR BRACKET
216	4,1	31.11.0863R00810	SCREW	SML 3x8 NI-P	4 TOP WINDOW+ TOP PANEL+HEATSINK
217	4,1	48.152.2600200010	PAPER PAD	单面背胶260*20*1.0	1
218	4,1	48.152.0800060R50	PAPER PAD	80*6*0.5t	2
219	4,1	48.152.1200060R50	PAPER PAD	120*6*0.5t	3
220	4,1	48.132.0126R60020	RUBBER PAD	RUBBER PHI12.0xPHI6.6x2.0T	5 ACCESSORY
221	4,1	34.19.0142R40054	ALUMINIUM POST	H5,L=14MM,M3 本色铝	3
PACKING					
222	4,1	55.11.450300R0321	PLASTIC BAG	VINYL, 450x300x0.03T开通气孔	1 SET/包装产品
223	4,1	56.11.SOLID10	BRAND LABEL		1
224	4,1	56.18.SOL4N1	CARTON LABEL		1/2
225	4,1	56.18.SOL4N0	GIFT BOX LABEL		2
226	4,1	56.13.SOLID41	SERIAL NUMBER LABEL		1
227	4,1	89.11.0250052	LABEL		1 打印56.13.SOLID21
228	4,1	55.11.350120R0321	PLASTIC BAG		1
229	4,1	57.12.SOLID10	EPS	EPS, 246.0x93.0x90.0 / :50	2
230	4,1	59.11.SOLID4	GIFT BOX LABEL	SW#1(B TYPE) 414*251*98	1 装功放使用
231	4,1	58.11.SOLID40	MASTER CARTON	DW#2, 422*413*276	1/4 装礼盒使用
232	4,1	38.11.SOLID10	USER MANUAL	ART PAPER	1 系列机种共用
233	4,1	39.103.0001	DRYER	3g	1
234	4,1	80.19.SOLID0	RUBBER BAND		1
ACCESSORY					
235	4,1	24.11.002590	FUSE	FUSE AUTO FUSE : 25A	2 ACCESSORY
236	4,1	65.1.022	WRENCH	HEXA 2.0 mm (NI-P)	1 ACCESSORY
237	4,1	65.1.032	WRENCH	HEXA 3.0 mm (NI-P)	1 ACCESSORY
238	4,1	65.1.042	WRENCH	HEXA 4.0 mm (NI-P)	1 ACCESSORY
239	4,1	65.1.052	WRENCH	HEXA 5.0 mm (NI-P)	1 ACCESSORY
240	4,1	31.13.0856R05210	SCREW	STT1 LH 6x52 NI-P	5 ACCESSORY
241	4,1	31.13.0223R01600	SCREW	STT1 PH 3x16 BK	2 REMOTE ACCESSORY
242	4,1	55.11.120080R0331	PLASTIC BAG	VINYL, 120.0x80.0x0.3t不开通气孔	1 附件包/ACCY
243	4,1	18.1042.2029010	HIGH LEVEL WIRE	1015 AWG20# 290MM 一端带插头	2

CUSTOMER: FOCAL		MODEL: SOLID 4 BLACK				
NO		Material#	Material Name	Specifications	#of use	REFERENCE DESIGN NO
248	1,1	99.1SOLIDRCU				
REMOTE CONTROL PART						
249	4,1	36.1.SOLID111430				
250	4,1	36.1.SOLID111410	PCB	32*36MM FR-1 1.6MM	1	
251	4,1	10.131.2031152081	POT	B20K±10% 中间带1个卡点	1	VR1
252	4,1	27.131.04015014010221	REM	GOLD PLATED,4P,BLACKDEK623PCB 4-B	1	4P
RETOUCH PART						
253	4,1	04.112.33L-314WW	LED	2PIN white	1	LED1
ASSEMBLY PART						
254	4,1	35.1.PA27530	VOLUME KNOB	REM KNOB BK	1	
255	4,1	41.1.SOLID70	REMOTE TOP COVER	REM TOP COVER BK	1	
256	4,1	42.1.SOLID70	REMOTE BOTTOM COVER	REM BOTTOM COVER BK	1	
257	4,1	31.13.0242R60400	SCREW	BLACK 2.6×4mm	4	
PACKING						
258	4,1	18.1041.2650030	WIRE	L=5M, 两端带水晶头	1	



LIST OF SPARE PARTS

SOLID4		
REFERENCE DESIGN NO	DESCRIPTION	REFERENCE
Q43;44;45;53;54;55	FET TRANSISTOR	FQP50N06
U01	INTEGRATED CIRCUIT	TL494CN
D41;42	DIODE	YG225D2
Q115;215;315;415	TRANSISTOR	TIP35C
Q125;225;325;425	TRANSISTOR	TIP36C
Q124;224	TRANSISTOR	2SB631K
Q114;214	TRANSISTOR	KTD600K
	REMOTE CONTROL	



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