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# SERVICE MANUAL



## POWERED SUBWOOFER

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**PARTS LIST****PRE AMP SECTION  
PRINTED CIRCUIT BOARD ASSEMBLY**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
12	150F-101K-5-IEA	CC 50V 100P 10% RL 5X3	C1,2,3,6,7,8,9,10,20,33,36,81
3	150F-104M-N-FD	CC 50V 0.1U 20% RLF	C25,37,38
1	153H-104K-5-QUA	CM 100V 0.1U 10% RL 9x11 CENTRALAB	C42
2	153I-224J-9-NL	CM 63V 0.22U 5% RB 7.5x 6.5	C26,41
5	153I-683K-9-NL	CM 63V 0.068U 10% RB 7. 5x6.5	C27,34,35, 39,40
4	153I-684K-5-IN	CM 63V 0.68U 10% RL 5X7.5	C43,44,45,46
4	153I-823J-9-NL	CM 63V 0.082U 5% RB 7.5X6.5	C14,15,17, 18
1	157D-107M-5-KW	CE 16V 100U 20% RL 6x12	C23
2	157D-476M-5-IU	CE 16V 47U 20% RL 5x11	C24,2A
1	157D-477M-5-OVK	CE 16V 470U 20% RL 8X11.5 ELNA	C22
1	157E-106M-5-IU	CE 25V 10U 20% RL 5x11	C21
4	157F-225M-5-IU	CE 50V 2.2U 20% RL 5x11	C11,13,16,19
4	4701-102J-2	RCF 1/8W 1K 5% AT	R4,14,87,89
12	4701-103J-2	RCF 1/8W 10K 5% AT	R2, 6, 9, 12, 16, 19, 23, 27, 28, 77, 78, 86
8	4701-104J-2	RCF 1/8W 100K 5% AT	R65,66,69,70,140,141,142,143
3	4701-123J-2	RCF 1/8W 12K 5% AT	R54,60,73
2	4701-125J-C	RCF 1/8W 1.2M 5% ATS	R75,80
2	4701-153J-2	RCF 1/8W 15K 5% AT	R59,139
4	4701-163J-2	RCF 1/8W 16K 5% AT	R57,58,62,64
4	4701-202J-2	RCF 1/8W 2K 5% AT	R1,5,11,15
2	4701-203J-2	RCF 1/8W 20K 5% AT	R10,20
4	4701-222J-2	RCF 1/8W 2.2K 5% AT	R21,22,83,84
6	4701-223J-2	RCF 1/8W 22K 5% AT	R3,7,13,17, 55,61
1	4701-225J-2	RCF 1/8W 2.2M 5% AT	R81
1	4701-273J-2	RCF 1/8W 27K 5% AT	R71
2	4701-303J-2	RCF 1/8W 30K 5% AT	R8,18
1	4701-332J-2	RCF 1/8W 3.3K 5% AT	R25
1	4701-333J-2	RCF 1/8W 33K 5% AT	R72
1	4701-334J-2	RCF 1/8W 330K 5% AT	R26
1	4701-392J-2	RCF 1/8W 3.9K 5% AT	R24
2	4701-471J-2	RCF 1/8W 470R 5% AT	R79,90
2	4701-472J-2	RCF 1/8W 4.7K 5% AT	R85,88
1	4701-563J-2	RCF 1/8W 56K 5% AT	R76
1	4701-683J-2	RCF 1/8W 68K 5% AT	R82
3	4701-752J-2	RCF 1/8W 7.5K 5% AT	R56,63,68

**POWERED SUBWOOFER**
**PARTS LIST**
**PRE AMP SECTION  
 PRINTED CIRCUIT BOARD ASSEMBLY  
 (CONTINUED)**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
1	4701-753J-2	RCF 1/8W 75K 5% AT	R74
1	4701-822J-2	RCF 1/8W 8.2K 5% AT	R67
1	2101-9790-0	4RCA JACK HSP-204V-03 GP	RCA1
10	3131-6140-0	IC BA4560 ROHM	U1,2,3,4,5,6,7,8,9,15
1	3700-4536-RG	L-115W EGW/209EGW RED/GR ELE-LED02	LED1
1	4750-5520-0	VR 20KAX1 VR16N20K15A20K L=15MM	VR1
1	4751-0056-0	VR 50KBX2 VR16G20K15B50K L=15MM ALPHA	VR3
1	4751-0066-0	VR 100KBX4 10% ALPHA	VR2
1	4837-3V36-2	DZ 1/2W +-5% 3.3V TEMIC AT	Z1
2	4837-5V16-2	DZ 1/2W 5.1V "TEMIC" AT	Z2,3
10	4840-8060-2	DIODE 1N4148 NS	D1,2,3,4,5,6,7,8,9,20
3	4860-2250-5	TR 9012H MICRO	Q3,4,7
4	4860-8720-5	TR 9013H SAMSUNG	Q1,2,5,6
4	5200-3281-0-06	SW COMAX SK-22D01-SG6-T-NS-IK	SW1,2,3,4
1	7010-2221-0	3 PIN SHIELD WIRE ASSY L=130MM	CN1A
1	7010-2222-0	3 PIN FLAT CABLE ASSY L=100MM	CN2A
2	7011-4570-0	AMP108U AWG26 180MM BRWN NALX2 1-51-274	CN5,6
1	7012-6517-0	CONN WIRE UL1007 #20 L=170MM 3PIN	CN7
1	1725-653A-0000	PCB PRE PSW2500 D/S FR4 94V0 REV:B	

**POWER AMP SECTION  
 PRINTED CIRCUIT BOARD ASSEMBLY**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
4	150F-101K-5-IEA	CC 50V 100P 10% RL 5X3	C39,40,64,65
2	150F-104M-N-FD	CC 50V 0.1U 20% RLF	C53,54
1	150F-334M-N-JJA	CC 50V 0.33U 20% RLF MO NO	C36
1	150F-470K-5-GGA	CC 50V 47P 10% RL MONO	C38
2	150F-471K-5-IEA	CC 50V 470P 10% RL 5x3	C32,33
2	150F-681J-5-OI	CC 50V 680P 5% RL 8X5	C42,43
1	153H-102K-5-INA	CM 100V 0.001U 10% RL 5x7.5	C37
5	153H-104K-5-QUA	CM 100V 0.1U 10% RL 9x11 CENTRALAB	C57,58,61,62,68
1	153I-105K-9-NL	CM 63V 1U 10% RB 7.5x6.5	C31

**PARTS LIST**

**POWER AMP SECTION  
PRINTED CIRCUIT BOARD ASSEMBLY  
(CONTINUED)**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
1	153I-224K-9-NOA	CM 63V 0.22U 10% RB 7.5X8	C47
2	157D-227M-5-KW	CE 16V 220U 20% RL 6x12	C55,56
1	157D-476M-5-IU	CE 16V 47U 20% RL 5x11	C50
2	157F-105M-5-IU	CE 50V 1U 20% RL 5x11	C34,48
2	157F-225M-5-IU	CE 50V 2.2U 20% RL 5x11	C41,66
1	157F-474M-5-IU	CE 50V 0.47U 20% RL 5x11	C51
2	157I-107M-5-SX	CE 63V 100U 20% RL 10x12.5	C44,45
1	157I-476M-5-OV	CE 63V 47U 20% RL 8x11.5	C52
1	157Q-476M-5-LUA	CE 35V 47U 20% RL 6.5X11 ELNA	C49
2	8910-0492-0	CE 63V 12000uF 20% RL 35X45	C59,60
10	4701-101J-2	RCF 1/8W 100R 5% AT	R81, 83, 110, 111, 114, 115, 116, 117, 120, 121
2	4701-102J-2	RCF 1/8W 1K 5% AT	R145,146
9	4701-103J-2	RCF 1/8W 10K 5% AT	R85,87,88,89,92,99,100,101,137
4	4701-104J-2	RCF 1/8W 100K 5% AT	R80,96,131, 132
2	4701-123J-2	RCF 1/8W 12K 5% AT	R95,109
3	4701-153J-2	RCF 1/8W 15K 5% AT	R82,104,105
1	4701-154J-2	RCF 1/8W 150K 5% AT	R90
2	4701-183J-2	RCF 1/8W 18K 5% AT	R134,135
2	4701-202J-2	RCF 1/8W 2K 5% AT	R98,147
2	4701-203J-2	RCF 1/8W 20K 5% AT	R84,93
2	4701-272J-1	RCF 1/8W 2.7K 5% AL	R87,108
2	4701-333J-2	RCF 1/8W 33K 5% AT	R136,138
1	4701-334J-1	RCF 1/8W 330K 5% AL	R102
2	4701-391J-2	RCF 1/8W 390R 5% AT	R106,107
1	4701-514J-2	RCF 1/8W 510K 5% AT	R91
2	4701-562J-2	RCF 1/8W 5.6K 5% AT	R124,126
4	4701-563J-2	RCF 1/8W 56K 5% AT	R129,130,133,139
1	4701-682J-2	RCF 1/8W 6.8K 5% AT	R103
1	4701-913J-2	RCF 1/8W 91K 5% AT	R94
1	4707-152J-2	RCF 1/2W 1.5K 5% AT	R140
1	4711-105A-2	RMF 1/8W 1M 1% AT	R86
1	4711-273A-2	RMF 1/8W 27K 1% AT	R97
4	4718-100J-C-X	RMF 1W 10R 5% ATS METAL OXIDE	R112,113,127,128
4	4719-222J-1-X	RMF 2W 2.2K 5% AL METAL OXIDE	R141,142,148,149

**POWERED SUBWOOFER**
**PARTS LIST**
**POWER AMP SECTION  
 PRINTED CIRCUIT BOARD ASSEMBLY  
 (CONTINUED)**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
4	474B-0R1J-1	RWR 5W 0.1 5% AL	R118,119,122,123
2	474B-271J-1	PWR 5W 270R 5% AL	R143,144
1	3130-3020-0	IC LM7915CT REGULATOR	U15
1	3130-3030-0	IC LM7815CT REGLATOR	U14
1	3130-3550-0	IC TA7317P	U13
1	3130-4080-0	IC TL072CP DUAL FET OP AMP TI	U12
1	3130-9150-0	IC LM3080N OTA NATIONAL	U9
2	3131-7220-0	IC TL062 LOW POWER JFET	U10,11
1	485D-1390-5	TR BD139-10 HFE63-160	Q14
1	4860-1430-5	TR BD140-10 HFE 63-160	Q15
1	4860-2390-5	TR 2N3906 NS	Q9
2	4860-8890-0	TR MPS A06 VCE 80V NS	Q12,13
2	4860-8910-0	TR MPS A56 VCE 80V NS	Q11,20
2	4840-0010-2	DIODE 1N4001 ELE-DO002	D9,10
8	4840-8060-2	DIODE 1N4148 NS	D3,4,5,6,7,8,12,13
3	4132-1551-0	TERMINAL OUT PUT	SPK+,SPK,R.GND-
1	4500-8090-1	RELAY RUUH-SH-124D 15A GOOD SKY	RLY1
1	4756-2036-3-15	SVR B20K H3 VZ067TL7B 6.3X 6.8 HDK	TP1
1	4840-0720-0	BRIDGE 8A BR84 RECTRON	D11
1	1806-2393-0	TT-9904 LE 1012A 1X12TX6 MM SPRING COIL	L1
3	2101-1231-0	SPADE TERMINAL 6.3X0.8 STRAIGHT	AC1,2,VO
1	2101-9140-0	WAFER JM24182-3P	CN3
2	2607-3009-0550	SPRING WASHER M3X0.9X5.5 MM ZNC	U14,15
2	2954-2606-0000	SCREWS BT 2.6X6	U14,15
1	2954-3008-3000	T3X8MM SELF TAPPING	U14
2	5400-9130-0	HEAT SINK FOR 7805 2438- 17	U14,15
1	7012-6518-0	CONN WIRE UL1007 #18 BK W/SPADE	R.GND
1	8910-0196-0	THERMISTOR NTH4G 10K 1% MURATA	TH1
1	AI-25654A-01-S	FC8D0C POWER AMP (AI)	
29	635N-0001-0	WJ #23 AT FOR AI MACHINE	JP37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65
1	1725-654A-0000	PCB POWER AMP PSW2500 S/S P/P 94V0 REV:B	

**PARTS LIST**

**VOLT SELECTOR SECTION  
PRINTED CIRCUIT BOARD ASSEMBLY**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
1	153Z-103M-5-7T	CM 275V 0.01UF 20% RL 18X10.5	C60,70
1	5200-3627-0	SL14-22AH (1A) SW 2P2T AC SELECTOR	SW2
1	635N-0001-0	WJ #23 AT FOR AI MACHINE	JP61
1	1723-780A-0000	PCB VOLT SELECTOR REV:C FC310C	

**PRE AMP&POWER AMP ASSEMBLY**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
4	2640-4070-1500	T-NUT M4 JIC003-00	
1	3000-7317-0	MODEL LABEL FOR 8900-6140-0	
1	3300-6560-0	WH122*55.8*6 4M5 76.5	
1	3800-5150-0	VC50.5KSV3.2*0.45*42	
1	4134-4071-0	TML 0.5*205*110REV 90DEG JD8003	
4	2901-6014-4000	FLAT COUNTER SINK HEAD	
4	4153-9413-0	SUBWOOFER FOOT 8100B PART A (BK)	
4	4153-9421-0	SUBWOOFER FOOT PSW2000 PART B	
1	145A-6512-2	M.BOX FOR PSW2010	
6	2900-4015-3000	MA SCREW 4*15 6.8MM BK/R JG1856-01	
8	2910-4020-3000	SCREW T4.0X20MM TAPPING	
2	3000-4447-0	LABEL, BARCODE BLANK	
1	3000-6333-0	BARCODE S/N LABEL SP8387	
1	3000-7328-0	UPC LABEL FOR PSW2010 BLACK (US)	
1	3000-8902-0	MADE IN CHINA LABEL	
4	4153-3341-0	NITRILE RUBBER GASKET 15*1.5	
1	4154-2241-0	TEMPERED GLASS TINTED BS6206-1981	
1	4301-5219-0	MANUAL FOR PSW2010	
1	4301-6037-1	W.CARD FOR KEF (1 YEAR)	
	7012-0390-0	#18AWG TWIN RED #205*2 & RED/BK	

**10" SPEAKER ASSEMBLY**

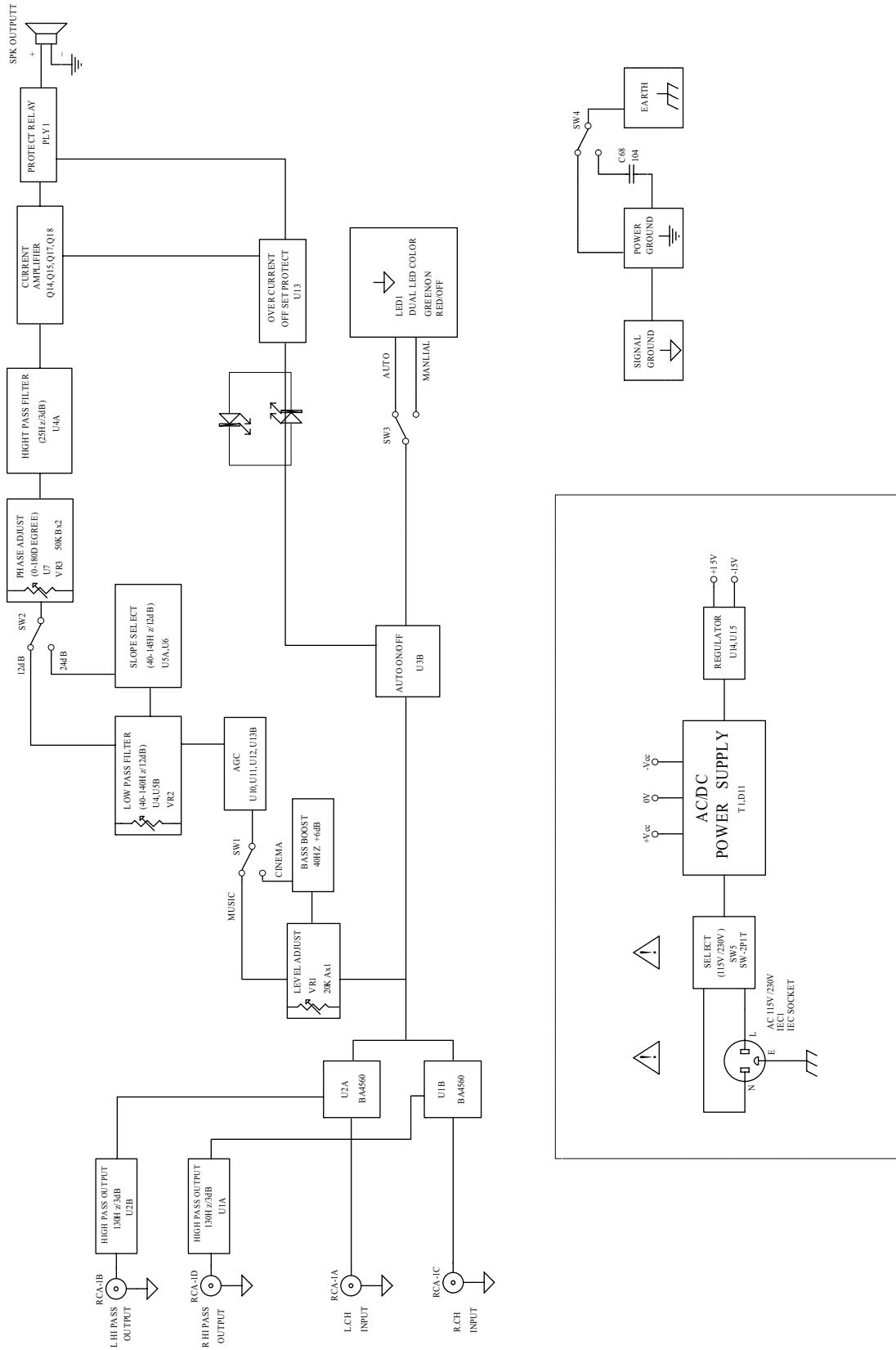
<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
1	8900-6140-0	10" WF FOR FC8D0C-EU/UK/ US	

**PARTS LIST**

**POWER CORD CABLE ASSEMBLY**

<b>QTY</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>
1	7011-6210-0	SJT #18 /3C 2M BLK POWER	*US
1			*UK
1			*EU
1			*KR

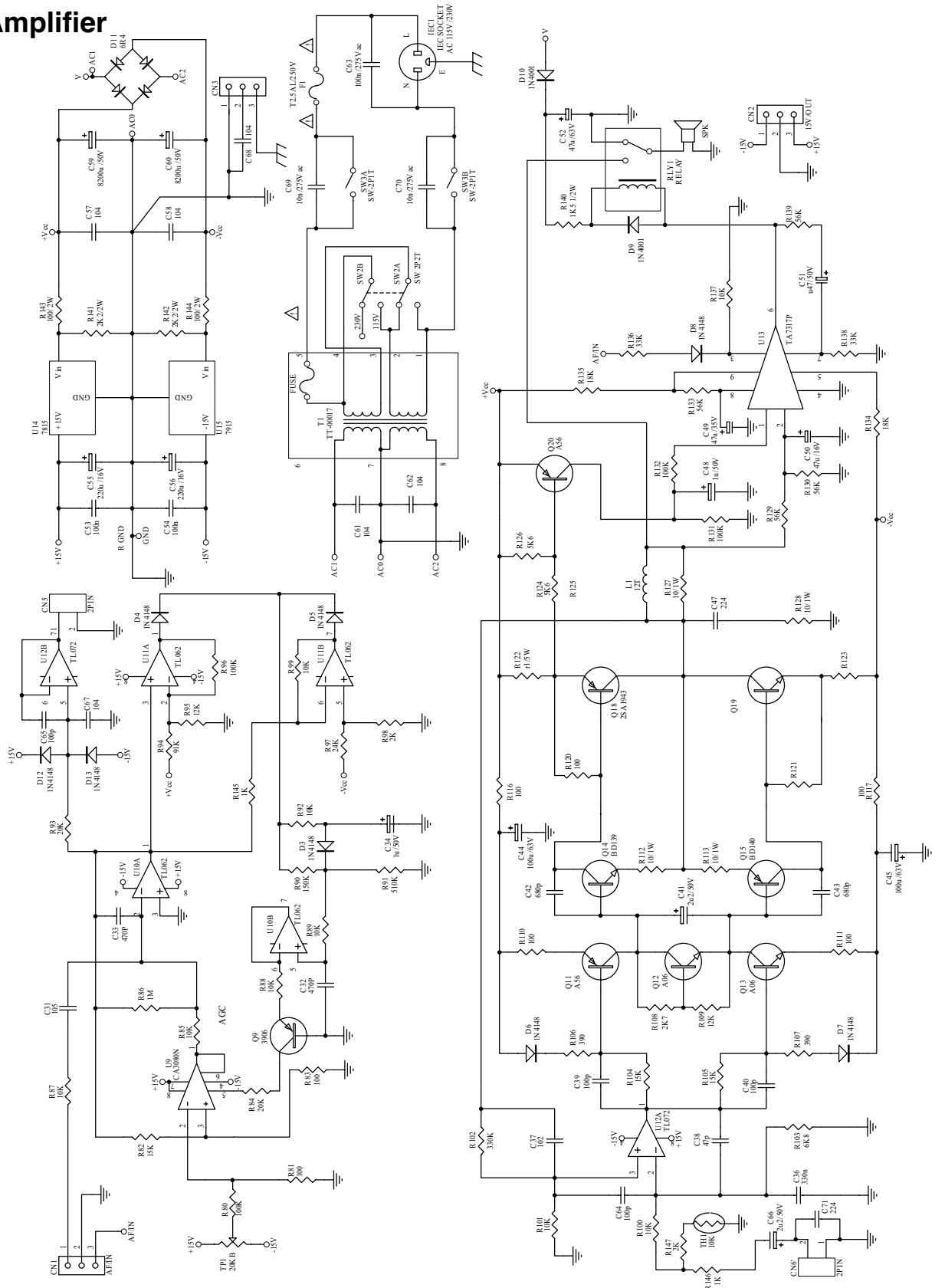
**BLOCK DIAGRAM**





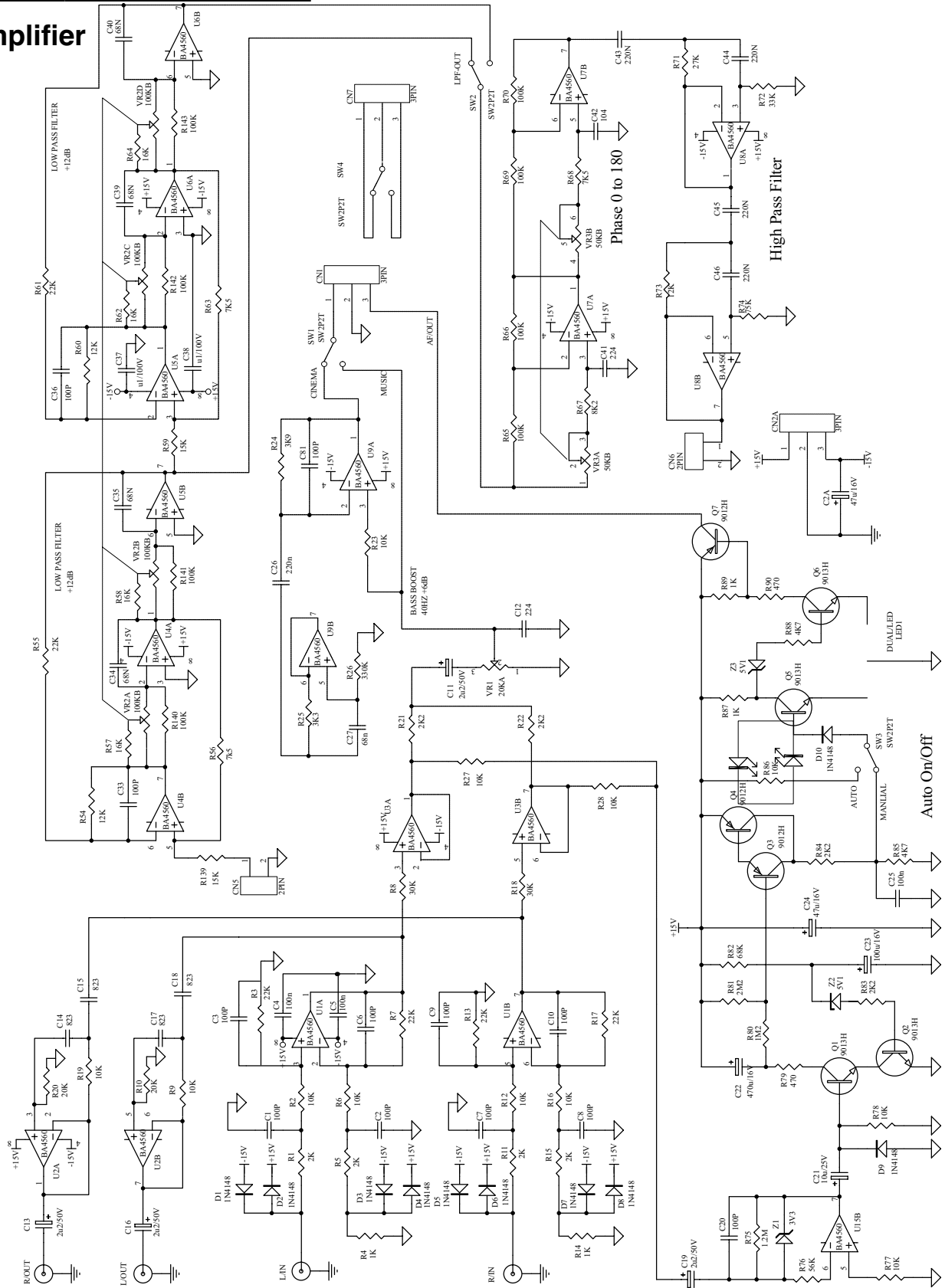
# SCHEMATIC DIAGRAM

## Power Amplifier



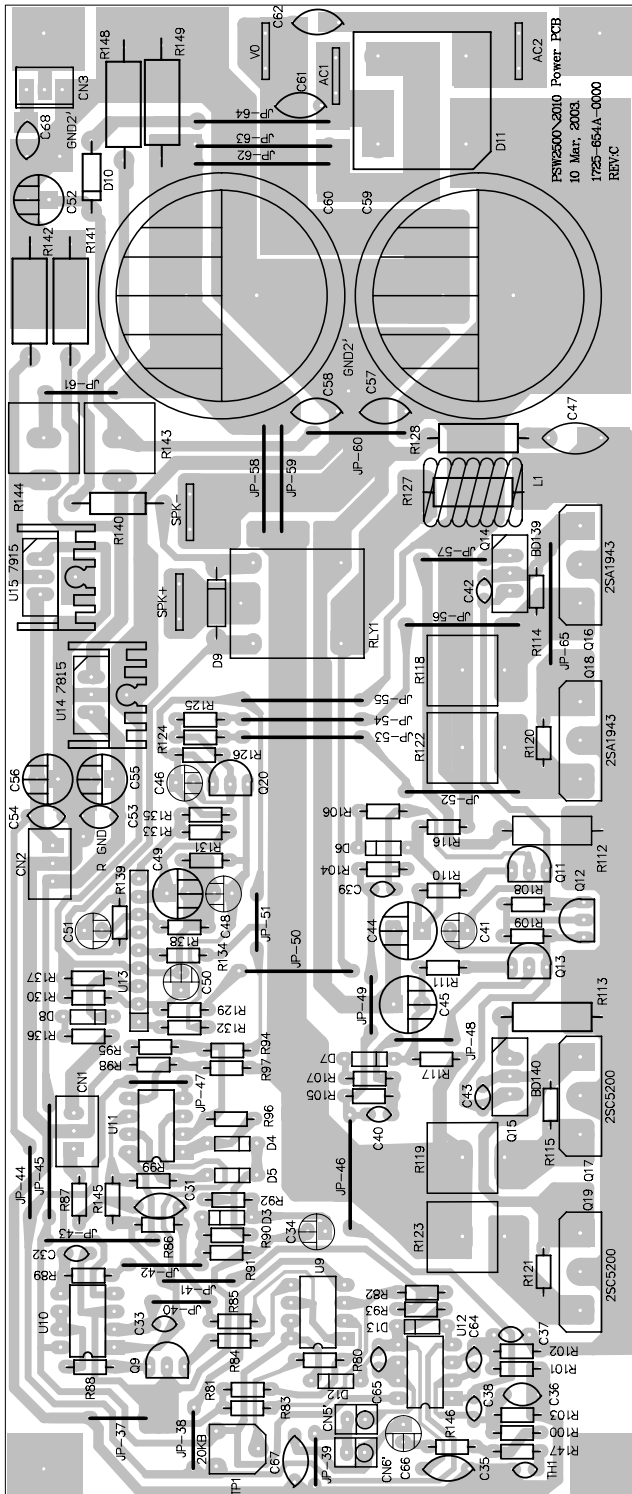
# SCHEMATIC DIAGRAM

## Pre Amplifier

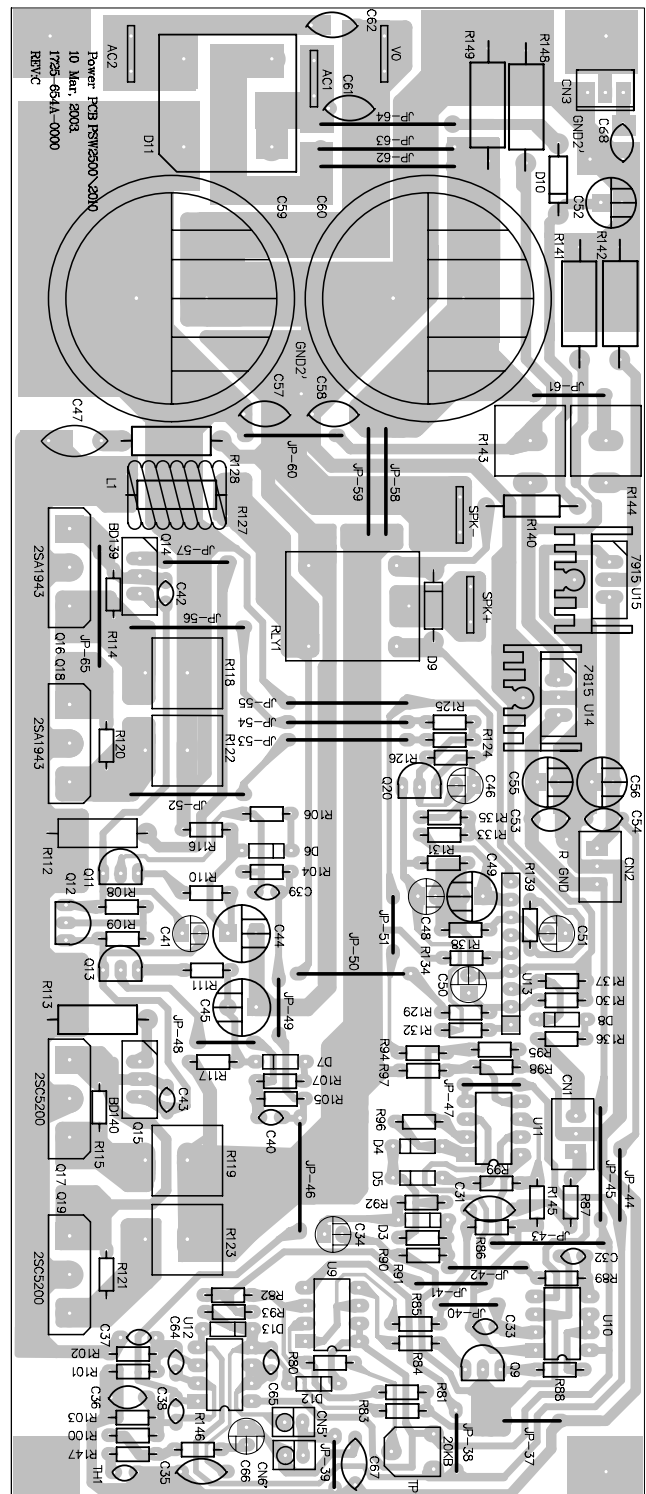


**POWERED SUBWOOFER**

**PCB LAYOUT**



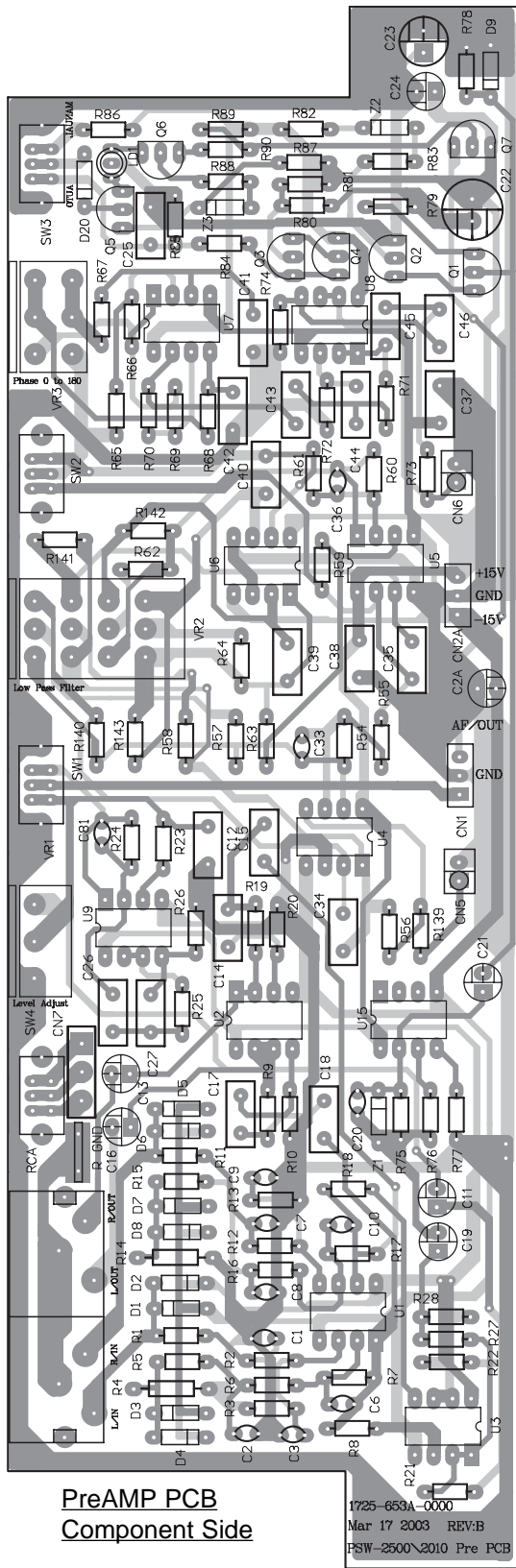
Power PCB Component Side



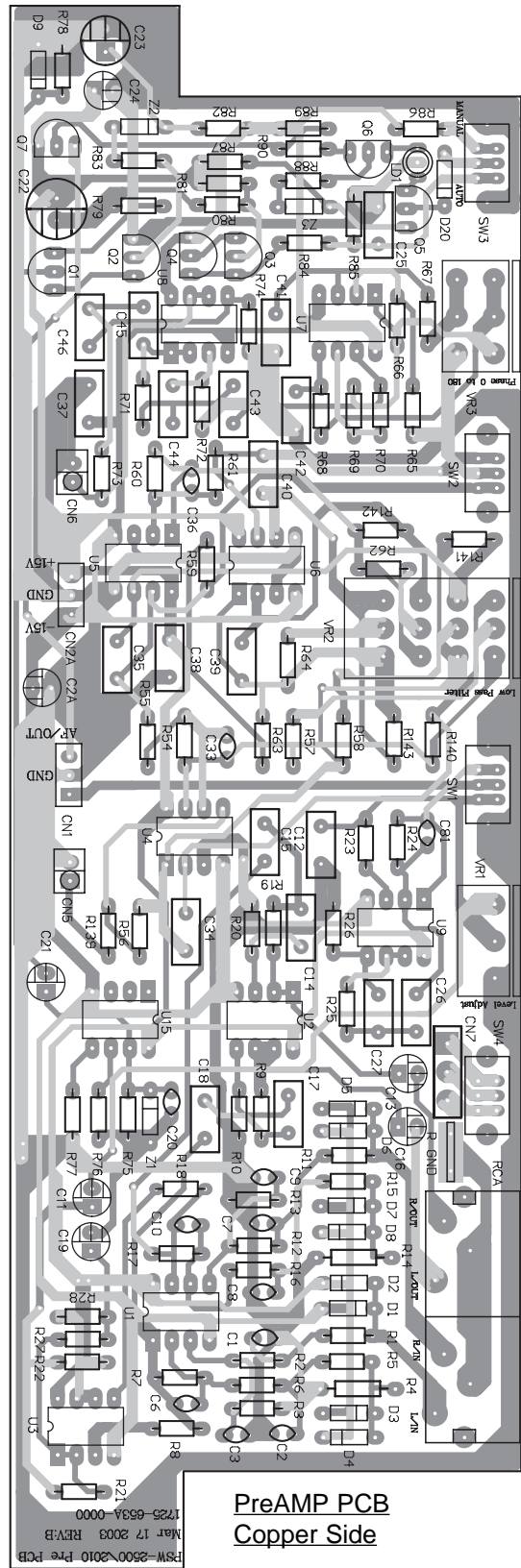
Power PCB Copper Side

**POWERED SUBWOOFER**

**PCB LAYOUT**



**PreAMP PCB  
Component Side**



**PreAMP PCB  
Copper Side**