

Wharfedale

Pro

Service Manual : Mp2800

Mp2800

Professional Amplifier

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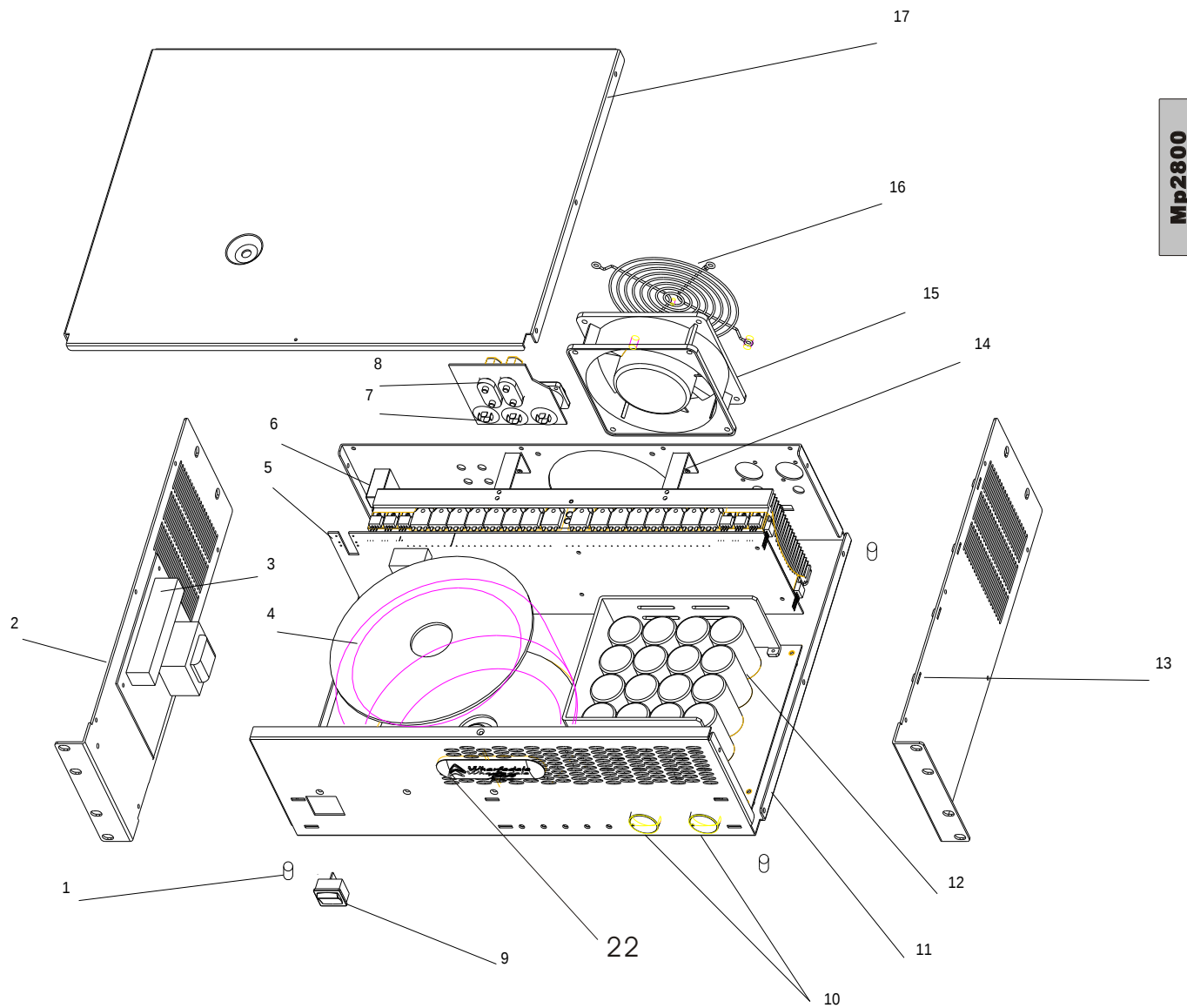
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1.SPECIFICATIONS

Output handling	
stereo 2ohm	1400W*2
stereo 4ohm	100W*2
stereo 8ohm	600W*2
bridged mono 4ohm	2800W
bridged mono 8ohm	2000w
Distortion	<0.05%
Frequence Response	20Hz-20kHz
Input sensitivity	0.775V
Signal to Noise Ratio	>=100dB
VOTAGE GAIN	38dB

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2.ASSEMBLY SKETCH

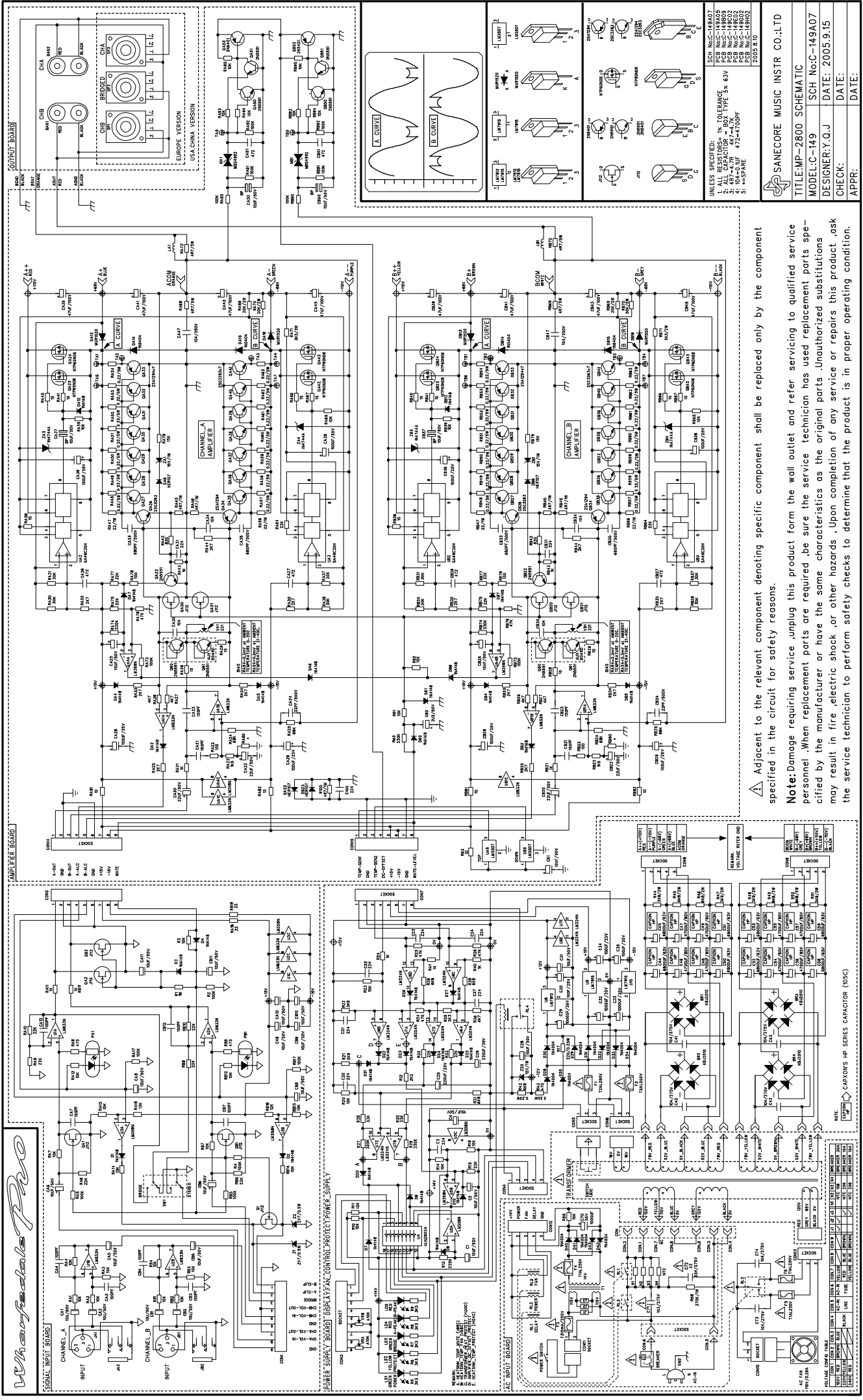


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3.ASSEMBLY PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	226-0200031711	RUBBER FOOT	20*3*17.3T	4
2	319-1149000000	LEFT PANEL	GREY	1
3	088-1001491400	AC INPUT PCB	MP2800	1
4	022-2000042251	POWER TRANSFORMER	110/220V	1
	031-3139913102	TEMPERATURE FUSE	130°C	1
5	088-1001491000	LOAD AMPLIFIER PCB	MP2800	1
6	079-0134000000	OVER LOADING PROTECTOR	RFLD 15A	1
7	046-0300000100	DOUBLE RING TERMINAL	NL-4MP	3
8	046-0200000000	TERMINAL	B2029002	2
9	041-2053000000	POWER SWITCH	BR-22C-11L	1
10	213-1026000001	ADJUST KNOB	BLACK/WHITE	2
11	309-1149000000	MAIN FRAME(CN)	GREY	1
12	088-1001490400	LOAD POWER PCB	MP2800	1
13	319-1149000001	RIGHT PANEL	GREY	1
14	305-1149000000	BRACKET RADIATOR	STEEL T1.5	1
15	083-0010000000	FAN	AC SP100A 1123XST	1
16	310-1025000001	fan grill	FG-12	1
17	401-1025000001	TOP FOAM MAT	C02515F	1
18	055-3702350011	GROUP WIRE	3.96PH 3PIN L=350mm 18#	1
19	060-4120220512	WIRE	WHITE 1617AWG12,L=220mm	1
20	060-4180200018	WIRE	1617#18,L=200mm	1
21	062-5318044330	POWER CABLE	BLACK(CHINA)	1
22	217-1147000001	LOGO	55*36	1
23	231-3180037602	RUBBER MAT	D180*D37.2*6.0T	2
24	302-1149000000	TOP COVER	GREY	1
25	307-1500000081	COPER POST	M5*8 BRASS	4
26	307-2300500081	COPER POST	M3*5.0*8	4
27	401-1025000002	BOTTOM FOAM MAT	C02516F	1
28	409-1149000000	CARTON	22.188*18.563*9.188	1
29	500-3050240800A	NUT	M3 BZn	4
30	500-4070320800A	NUT	M4	5
31	524-3022080811A	SCREWS	SK(+)3*8 MC H BZn	7
32	526-3022100811A	SCREWS	SB(+)3*10 MC H BZn	6
33	527-3014080811A	SCREWS	SP(+)3*8 DT H BZn	7
34	527-4022080811A	SCREWS	SP(+)4*8 MC H BZn	24
35	527-4022160811A	SCREWS	SP(+)4*16 MC H BZn	9
36	535-3031060801A	SCREWS	MPW(+)3*6 BZn D	5
37	537-3001080801A	SCREWS	MP(+)3*8 BZn D	4
38	537-5001080301A	SCREWS	MP(+)5*8 NI D	4
39	537-8000135801A	SCREWS	MP(+)8*35 φ 16D	2

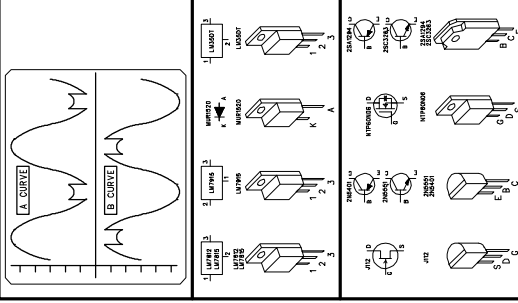
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SANSCORE MUSIC INSTR CO. LTD
TITLE: MP-2800 SCHEMATIC
MODEL: C-149
DESIGNER: Y.Q.J
CHECK: DATE:
APPR: DATE:

UNLESS SPECIFIED:
1. ALL RESISTORS: 1% TOLERANCE
2. ALL CAPACITORS: 5% TOLERANCE
3. ALL DIODES: 1N4148
4. ALL TRANSISTORS: 2N3904
5. ALL ICs: 74LS00
6. ALL RELAYS: 12VDC
7. ALL SWITCHES: 12VDC
8. ALL CONNECTORS: 12VDC
9. ALL CABLES: 12VDC
10. ALL WIRING: 12VDC



Adjacent to the relevant component denoting specific component shall be replaced only by the component specified in the circuit for safety reasons.

Note: Damage requiring service, unplug this product from the wall outlet and refer servicing to qualified service personnel. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

5.ELECTRONIC PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	PLACE	QUA
	088-1001490400	LOAD POWER PCB	MP2800		1
1	001-0000103050	RESISTOR	0ohm 1/8W 5%	JUMP	1
2	001-1002203010	RESISTOR	1K 1/8W F	R24.40.41	3
3	001-1003203010	RESISTOR	10K 1/8W F	R10.11.14.16.23.20	6
4	001-2201205010	RESISTOR	220ohm 1/4W F	R17	1
5	001-2202203010	RESISTOR	2.2K 1/8W F	R12	1
6	001-2204203010	RESISTOR	220K 1/8W 1%	R13	1
7	001-3302203010	RESISTOR	3.3K 1/8W 5%	R5-9.35	6
8	001-3303203010	RESISTOR	33K 1/8W F	R30.28	2
9	001-3304203010	RESISTOR	330K 1/8W F	R27.29	2
10	001-3902203010	RESISTOR	3.9K 1/8W F	R21.22	2
11	001-3902208050	RESISTOR	3.9K 2W	R44.47.48.51	4
12	001-4701203010	RESISTOR	470ohm 1/8W F	R34	1
13	001-4701205010	RESISTOR	470ohm 1/4W F	R43	1
14	001-4702203010	RESISTOR	4.7K 1/8W F	R36	1
15	001-4703203010	RESISTOR	47K 1/8W F	R25.26	2
16	001-6802203010	RESISTOR	6.8K 1/8W F	R31.38.39	3
17	001-6802205010	RESISTOR	6.8K 1/4W F	R42	1
18	001-6802308050	RESISTOR	6.8K 2W J	R45.46.49.50	4
19	006-1004051163	CAPACITOR	SM10 μ F 50V 20%	C1.2.4.28.31	5
20	006-1011061143	CAPACITOR	SM 100uF 25V 10%	C30.34.35	3
21	006-1024132053	CAPACITOR	SM 1000uF 35V 20%	C29.32.33	3
22	006-2214081443	CAPACITOR	220 μ F 25V	C25.26	2
23	006-4724305171	CAPACITOR	4700UF/80V 30*51mm	C46-49.54.-57	8
24	006-6824305171	CAPACITOR	6800UF/63V 30X51mm	C44.45.50-53.58.59	8
25	008-1004027505	SAFETY CAPACITOR	0.1UF/275V	C40-43	4
26	013-2240110501	CAPACITOR	0.22U-50V-5%	C3.20-24.27	7
27	017-0190000000	IC	NJM7815FA	U9	1
28	017-1040000000	IC	LM324N	U6.7	2
29	017-1120000000	IC	LM358N	U5	1
30	017-1240000000	IC	LM7812CAT(1A) TO-220	U8	1
31	017-1310000000	IC	ULN2803A	U4	1
32	017-1830000000	IC	KIA7915	U10	1
33	019-0511122000	LED	RED 333HD/E-A	LD4.5	2
34	019-0522122000	LED	GREEN 333GD/E-A	LD1.3	2
35	019-0533122000	LED	YELLOW	LD2	1
36	020-1032420411	POTENTIOMER	VA1-A103-PO-KB150D065	VRA.B	2
37	024-1120101011	RELAY	HJR1-2C-12VDC	RL4	1
38	031-2200507122	FUSE	TSD 2A/250V	F1.2	2

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5.ELECTRONIC PARTS LIST

39	034-1119992508	BRIDGE	RBV2510	BR1-4	4
40	047-1300000000	TERMINAL COVER	110*17*21 9PIN	CON	1
41	047-1400000000	TERMINAL COVER	50*17*21 5PIN	CON8.9	2
42	050-0111070211	FUSE HOLDER	HF-003/B 5*20mm UL	F1.2	2
43	053-1001491604	PCB	208*185*1.6mm		1
44	056-0103003300	CONNECTOR	3PIN 3.96PH	CON6	1
45	056-3105223300	CONNECTOR	2503-05-WF 2.5mm*5pin	CON4	1
46	056-4103221100	CONNECTOR	DJ2802-3P	CON5	1
47	056-4108000000	CONNECTOR	XH-8P	CON7	1
48	056-4109991160	CONNECTOR	DJ2802-9P	CON3	1
49	067-1104148000	DIODE	IN4148	D7-10.20-27	12
50	067-2204004000	DIODE	IN4004	D28-35	8
51	067-3304742000	DIODE	IN4742 12V 1W	Z20	1
52	306-1149000001	RADIATOR	AL T3.0,MP2800		1
53	306-1149000003	RADIATOR			3
54	513-3005050800A	WASHER	φ 3.2*φ 5*0.5 BZn		4
55	517-3000000800A	SPRING WASHER	M3 BZn		4
56	537-3001080801A	SCREWS	MP(+)*3*8 BZn D		5
57	537-3001120801A	SCREWS	MP(+)*3*12 BZn D		4
	088-1001491000	LOAD AMPLIFIER PCB	MP2800		1
1	001-0000205010	RESISITOR	0ohm 1/4W 1%	JUMP1-18	18
2	001-0229510050	RESISITOR	0.22ohm 5W J	RA48-63/RB48-63	28
3	001-1000205010	RESISITOR	10ohm 1/4W F	RA/RB 21.43	18
4	001-1001205010	RESISITOR	100ohm 1/4W F	RA/RB 22.78	4
5	001-1002205010	RESISITOR	1K 1/4W F	RA/RB28.29.38.40.41.66.67.81	82 4
6	001-1003205010	RESISITOR	10K 1/4W F	RA/RB 39.65.93-95	12
7	001-1004205010	RESISITOR	100K 1/4W F	RA/RB 73.90-92	8
8	001-1502205010	RESISITOR	1.5K 1/4W F	RA/RB 23	2
9	001-1503205010	RESISITOR	15K 1/4W F	RA79,RB79	2
10	001-2002080000	RESISITOR	20K/2W	RA69.70/RB69.70	4
11	001-2200107050	RESISITOR	22ohm /1W J	RA47.56/RB47.56	4
12	001-2203205010	RESISITOR	22K 1/4W F	RA/RB 64.75.77	6
13	001-2702205010	RESISITOR	2.7K 1/4W F	RA/RB 20.32-35.44	12
14	001-3003205010	RESISITOR	30K 1/4W 1%	RA/RB 30.31.36.37	8
15	001-3302308050	RESISITOR	3.3K 2W J	RA71/RB71	2
16	001-3304205010	RESISITOR	330K 1/4W F	RA74 RB74.R60	3
17	001-4702205010	RESISITOR	4.7K 1/4W F	RA/RB 26.27	4
18	001-4703205010	RESISITOR	47K 1/4W F	RA/RB 76	2
19	001-4709107050	RESISITOR	4.7ohm 1W J	R100,RA45.46RB45.46	5
20	001-4709510100	RESISITOR	4.7ohm 5W 10%	RA68.72/RB68.72	4
21	001-6803205010	RESISITOR	68K 1/4W F	RA/RB 24.25	4

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5.ELECTRONIC PARTS LIST

22	001-8201205010	RESISITOR	820ohm 1/4W 1%	RA/RB 42	2
23	005-2001306101	ADJUST RESISITOR	PA0631-HA1-B201	VRA1,VRB1	2
24	006-1004051162	CAPACITOR	10UF/50V	CA37.CB50.CA37.CB50	4
25	006-1004051163	CAPACITOR	SM10 μ F 50V 20%	CA25.CB25.C61	3
26	006-1011061143	CAPACITOR	SM 100uF 25V 10%	CA36.28.29.38,CB36.28.29.38	8
27	006-2201051163	CAPACITOR	SM 22uF 50V 10%	CA20.22.CB20.22	4
28	006-2294051163	CAPACITOR	SM CD11-2.2U50V5*11	C60	1
29	006-4704101392	CAPACITOR	47 UF/100V 10*12.5	CA39.41.43.45,CB39.41.43.45	8
30	008-1501010014	CAPACITOR	150P-100V-J	CA21.CB21.CA23.CB23	4
31	008-2201050004	CAPACITOR	22P/500V 10%	CA24.CB24	2
32	008-6801079500	CAPACITOR	680PF/500V	CA33.35,CB33.35	4
33	013-1040210801	CAPACITOR	104/63V	CA30.34,CB30.34	4
34	013-2240110501	CAPACITOR	0.22U-50V-5%	CA31.CB31.C100	3
35	013-4720211001	CAPACITOR	4.7n 63V	CA26.27.51,CB26.27.51	6
36	014-1040400004	CAPACITOR	0.1UF/250V J	CA47.CB47	2
37	017-1030000000	IC	LM833N	UA1,UB1	2
38	017-1120000000	IC	LM358N	UA4	1
39	017-1230000000	IC	LM35DT (MP2800)	UA5,UB5	2
40	017-3620000000	IC	SA49C30H	UA2.3,UB2.3	4
41	018-0101294116	AUDION	2SA1294 TO-3P	QA/QB 27-34	16
42	018-0303263116	AUDION	2SC3263 TO-3P	QA/QB 26.35.36.37.38.38.40.41	16
43	018-2800112115	FIELD EFFECT TRANSISTOR	J112 TO-92	QA20.21,QB20.21	4
44	018-2905401115	AUDION	2N5401 TO-92	QA52,QB52	2
45	018-2905551115	AUDION	2N5551 TO-92	QA22.50.51,QB22.50.51	6
46	018-3304992115	TRANSISTOR	MPS 4992 TO-92	MA1,MB1	2
47	018-3800060125	FIELD EFFECT TRANSISTOR	NTP60N06 (MP2800)	QA23.24.42.43,QB23.24.42.43	8
48	019-0010000152	DIODE	MUR1520	DA13.16,DB13.16	4
49	023-0120120021	LOOP	ø2mm 25mm*20mm	LA1,LB1	2
50	046-1110000000	GOLD TERMINAL	TEST-7CN	TA/TB 1-5	10
51	046-1160000000	Y TERMINAL	SV35-4 T1.0mm		11
52	053-1001491610	PCB	400*100*1.6T		1
53	055-0308400333	GROUP WIRE	8P PH=2.54mm 400mm	CON15	1
54	056-4109991160	CONNECTOR	DJ2802-9P	CON14	1
55	060-0140300012	WIRE	RED 1015 #14 L=300mm	A++..AOUT	2
56	060-0140300312	WIRE	BLUE 1015#14 L=300mm	A+	1
57	060-0140300412	WIRE	BLACK 1015 #14 L=300mm	B--.AGND.BGND	3
58	060-0140300612	WIRE	GREY 1015#14 L=300mm	B-	1
59	060-0140301312	WIRE	ORANGE 1015#14 L=300mm	ACOM	1
60	060-0140500112	WIRE	BROWN 1015#14 L=500mm	B+	1
61	060-0140500212	WIRE	GREEN 1015#14 L=500mm	A-	1

5.ELECTRONIC PARTS LIST

62	060-0140500512	WIRE	WHITE 1015#14 L=500mm	BCOM	1
63	060-0140500712	WIRE	YELLOW 1015#14 L=500mm	B++	1
64	060-0140500812	WIRE	PURPLE 1015#14 L=500mm	A--	1
65	060-0140501312	WIRE	ORANGE 1015#14 L=500mm	BOUT	1
66	067-1104148000	DIODE	IN4148	DA/DB2.4-7.12,D60.61	14
67	067-2200107000	DIODE	HER107	DA9.23,DB9.23	4
68	067-2205404000	DIODE	IN5404	DA14.15,DB14.15	4
69	067-3304744000	MANOSTAT	IN4744A 15V-1W	ZA1.3.4,ZB1.3.4	6
70	277-0010000000	CRISTAL MAT	TW-1 UA/UB	DA/DB13.16,QA/QB23.24,42.43	13
71	306-1149000000	RADIATOR	MP2800		1
72	307-1400800081	COPPER POST	M4*L8		2
73	307-2300500081	COPPER POST	M3*5.0*8		4
74	324-0180130100	MACA	TO-220 18*13mm UA/UB	DA/DB13.16,QA/QB23.24,42.43	13
75	513-3005050800A	WASHER	3.2*5*0.5T BZn		46
76	517-3000000800A	SPRING WASHER	M3 BZn		46
77	525-4032081311A	SCREWS	SPW(+)4*8 DC H NI		2
78	537-3001080801A	SCREWS	MP(+)3*8 BZn D		6
79	537-3001120801A	SCREWS	MP(+)3*12 BZn D		46
	088-1001491300	LOAD SIGNAL PCB	MP2800		1
1	001-1002203010	RESISTOR	1K 1/8W F	RA11.RB11	2
2	001-1003203010	RESISTOR	10K 1/8W F	RA/RB 1-4.7.12.14.15,R3	17
3	001-1004203010	RESISTOR	100K 1/8W F	R2.4.RA5.17,RB5.17	6
4	001-1005205010	RESISTOR	1M 1/4W F	R1	1
5	001-1303203010	RESISTOR	13K 1/8W F	RA16.RB16	2
6	001-2200203010	RESISTOR	22ohm 1/8W F	RA18.RB18	2
7	001-2203203010	RESISTOR	22K 1/8W F	RA/RB 6.9.10	6
8	001-4701203010	RESISTOR	470ohm 1/8W F	RA8.RB8	2
9	004-6609000000	OPTICAL RESISTOR	3-11K	PA1.2	2
10	006-1004051163	CAPACITOR	SM10 μ F 50V 20%	CA/CB 1.2.5.6.8-11	16
11	008-1001005004	CAPACITOR	100P-50V-J	CA/CB 3.4.7.12	8
12	017-1030000000	IC	LM833N	U1.2	2
13	017-1120000000	IC	LM358N	U3	1
14	018-280011211F	FIELD EFFECT TRANSISTOR	J112 TO-92	Q1.QA1.2,QB1.2	5
15	019-0365032000	LED	BLUE	PA1.2	2
16	048-1700000000	CONNECTOR	NYS139 K3Y1	JA1.JB1	2
17	049-2102224111	PHONE SOCKET	JY6351-02-250	JA2,JB2	2
18	053-1001491613	PCB	87*71*1.6mm		1
19	055-0309350333	GROUP WIRE	9P PH=2.54 350mm	CON2	1
20	055-0309550333	GROUP WIRE	9P PH=2.54 550mm	CON1	1
21	067-1104148000	DIODE	IN4148	D1-4	4

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5.ELECTRONIC PARTS LIST

22	067-3305223000	MANOSTAT	2.7V 1/2W	Z1.2	2
23	089-0500000012	MOVE SWITCH	SS-22F20-G12	SW1	1
	088-1001491400	AC INPUT PCB	MP2800		1
1	001-1003205010	RESISTOR	10K 1/4W F	R55	1
2	001-2701107050	RESISTOR	270K 1W 5%	R56	1
3	004-3319010000	NTC RESISTOR	SCK20200	N1-4	4
4	006-1024132053	CAPACITOR	SM 1000uF 35V 20%	C70	1
5	008-1003027505	SAFETY CAPACITOR	MKT 10NF/275V 10% AC	C71	1
6	008-1004027505	SAFETY CAPACITOR	0.1UF/275V	C73.74	2
7	008-3304025005	CAPACITOR	MKP334/275VAC 20%	C72	1
8	022-1066041251	TRANSFORMER	MP2800	T1	1
9	024-1120101012	RELAY	MIH-SH-112L	RL2	1
10	024-2123001023	RELAY	GU-SH-112DM	RL1.3	2
11	031-2200504122	FUSE	1A 250V 5*20 UL	F4-6	3
12	031-2200525121	FUSE	T315MA 50T0315H	F3	1
13	050-0411120022	FUSE HOLDER	22×10×12	F3-6	4
14	053-1001491614	PCB	140*100*1.6mm		1
15	055-0305300333	GROUP WIRE	5P ph=2.54 300mm	CON12	1
16	056-0102224400	CONNECTOR	JS3962-2P-WAFER	CON10.11	2
17	056-0103224400	CONNECTOR	JS3962-WS-3P	CON13	1
18	067-2204004000	DIODE	IN4004	D40-43	4
	088-1001493600	LOAD OTHER PCB	MP2800		1
1	018-2905551115	AUDION	2N5551 TO-92		2
2	053-1149001610	PCB	40*8*1.6mm		1
3	221-1077000051	LED HOLDER	BLACK LEDH-6.5		2
	088-1001493800	LOAD OUTPUT PCB	MP2800		1
2	053-1001491637	PCB	82*80*1.6mm		1

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