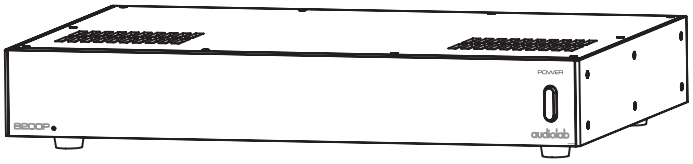
Service Manual

Electronics

8200P



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audiolab

Rev	Date	Update Content
V01	2011.06.14	First Version

CONTENT

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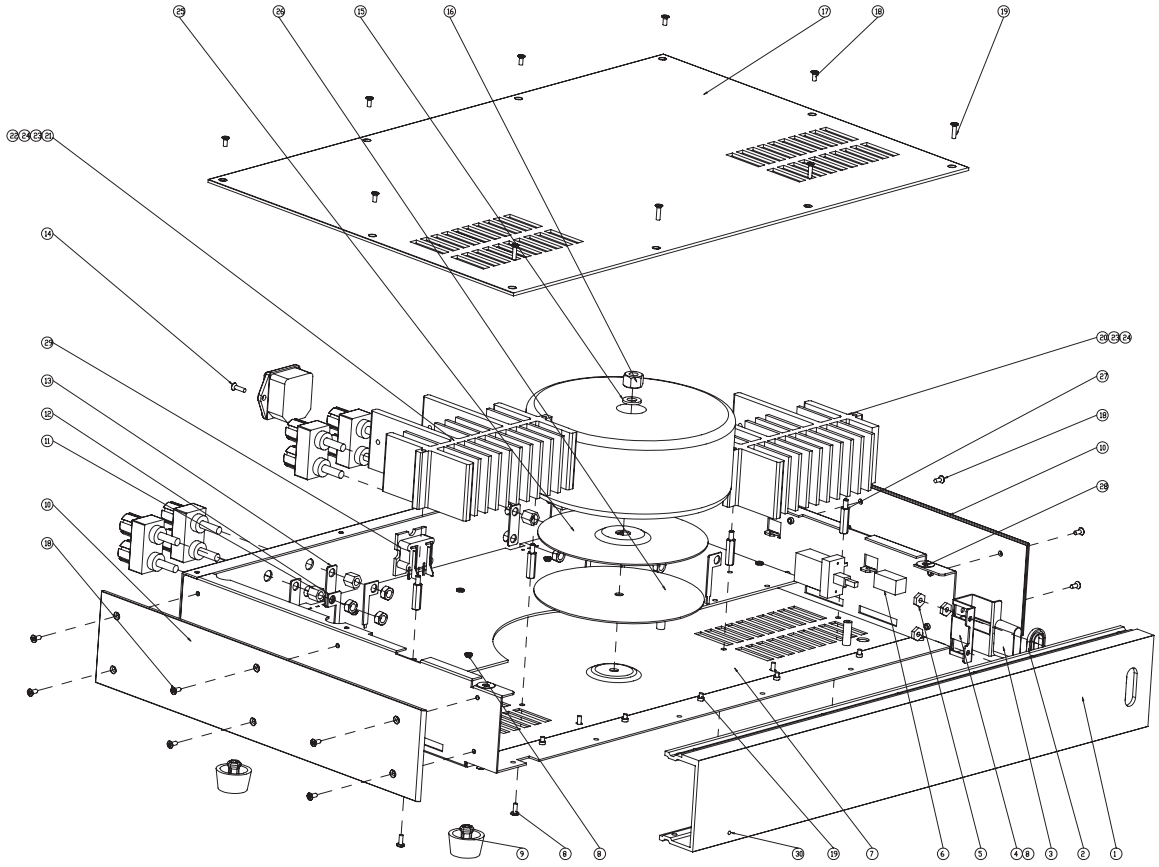
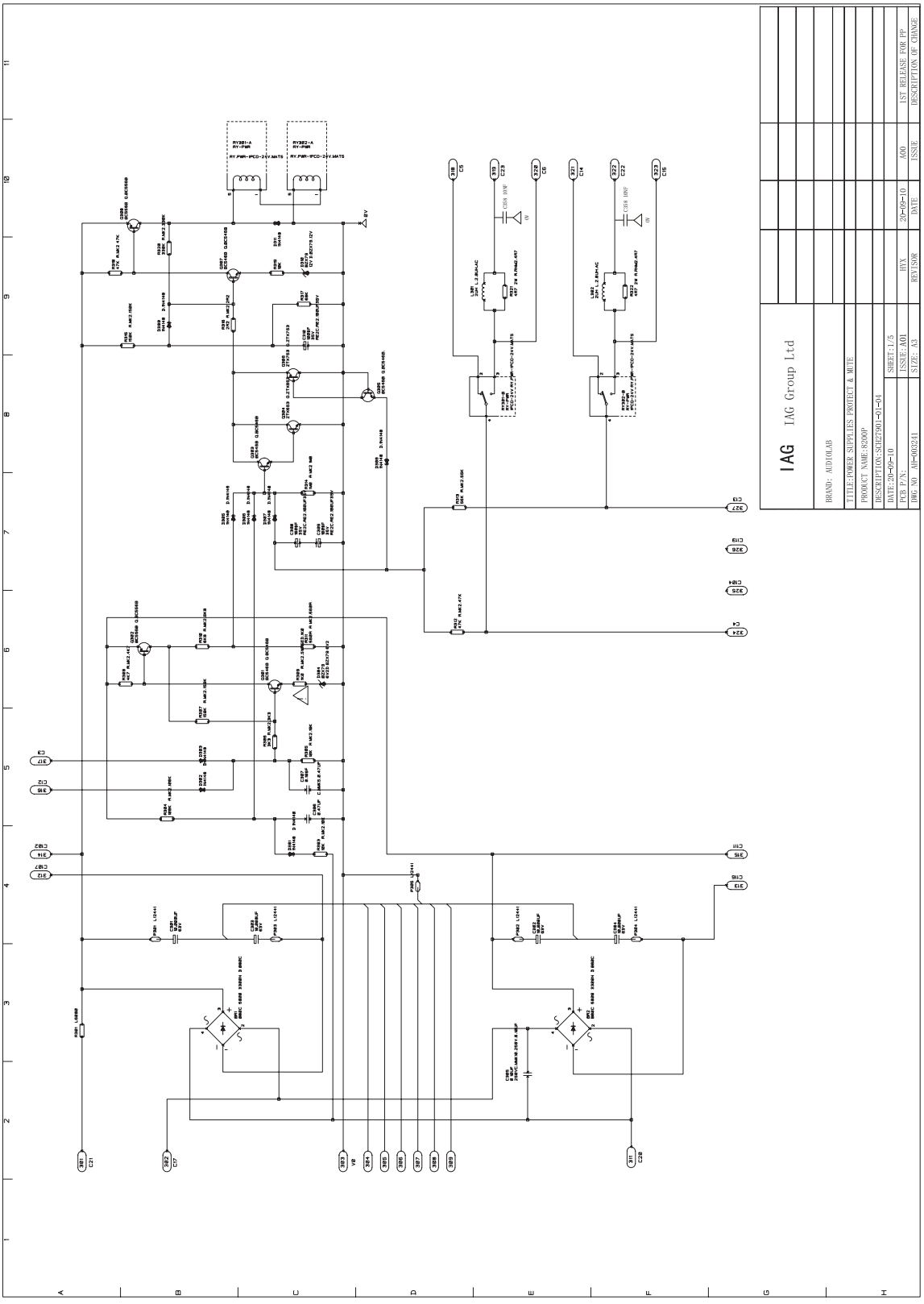
For further service information, parts lists and updates, please contact our web-site at www.international audio group.com .

Rated Output Power	100W (20dBW) /Channel into 8 both channels driven
Inputs Sensitivity	1V rms for 100W into 8
	Input Impedance: 50k
Load	Connected in parallel with INPUT
Gain	29.0 dB at1kHz
Signal To Noise Ratio(IHF, rel. 0.dBW)	Better than 95 dB
Frequency Response	20 Hz-20 kHz ±0.3 dB
	0.1Hz-75 kHz -3 dB.
Total Harmonic Distortion&Noise	Less than 0.05%
Channel Balance	Within 1 dB
Polarity (Phase)	Non-Inverting
Muting	Muting controlled automatically
Operating Temperature Range	10-35 °C
Power Requirements(Depending on Region)	50-60Hz 100V, 110-120V, and 220-230V models available
	Maximum Power Consumption:500 VA
Dimensions (W×H×D)	444×78×326mm
Weight	Net: 8.4 kg Shipping: 9.8 kg

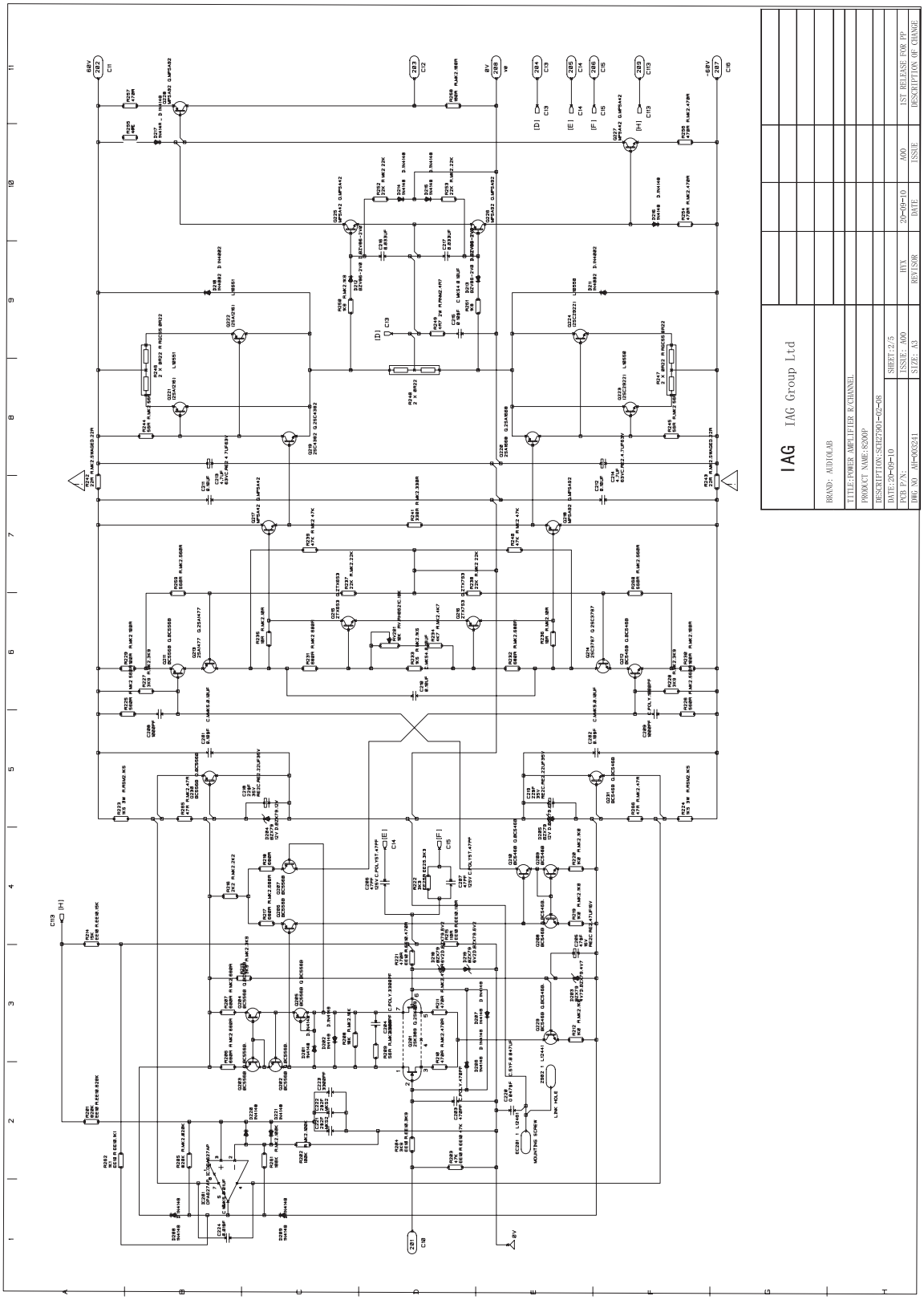
ASSEMBLY SKETCH



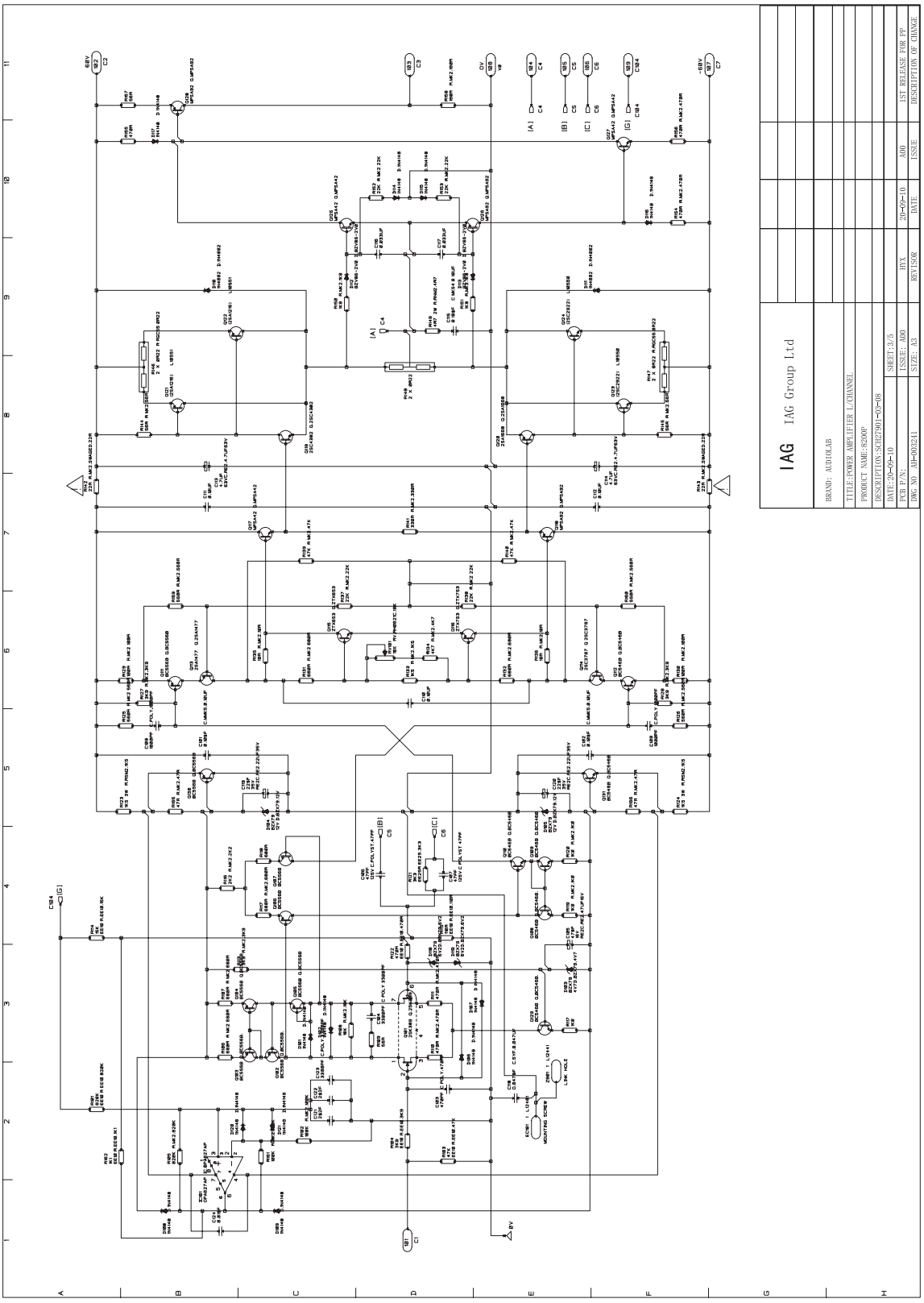
8200P-Mainboard-P1/5



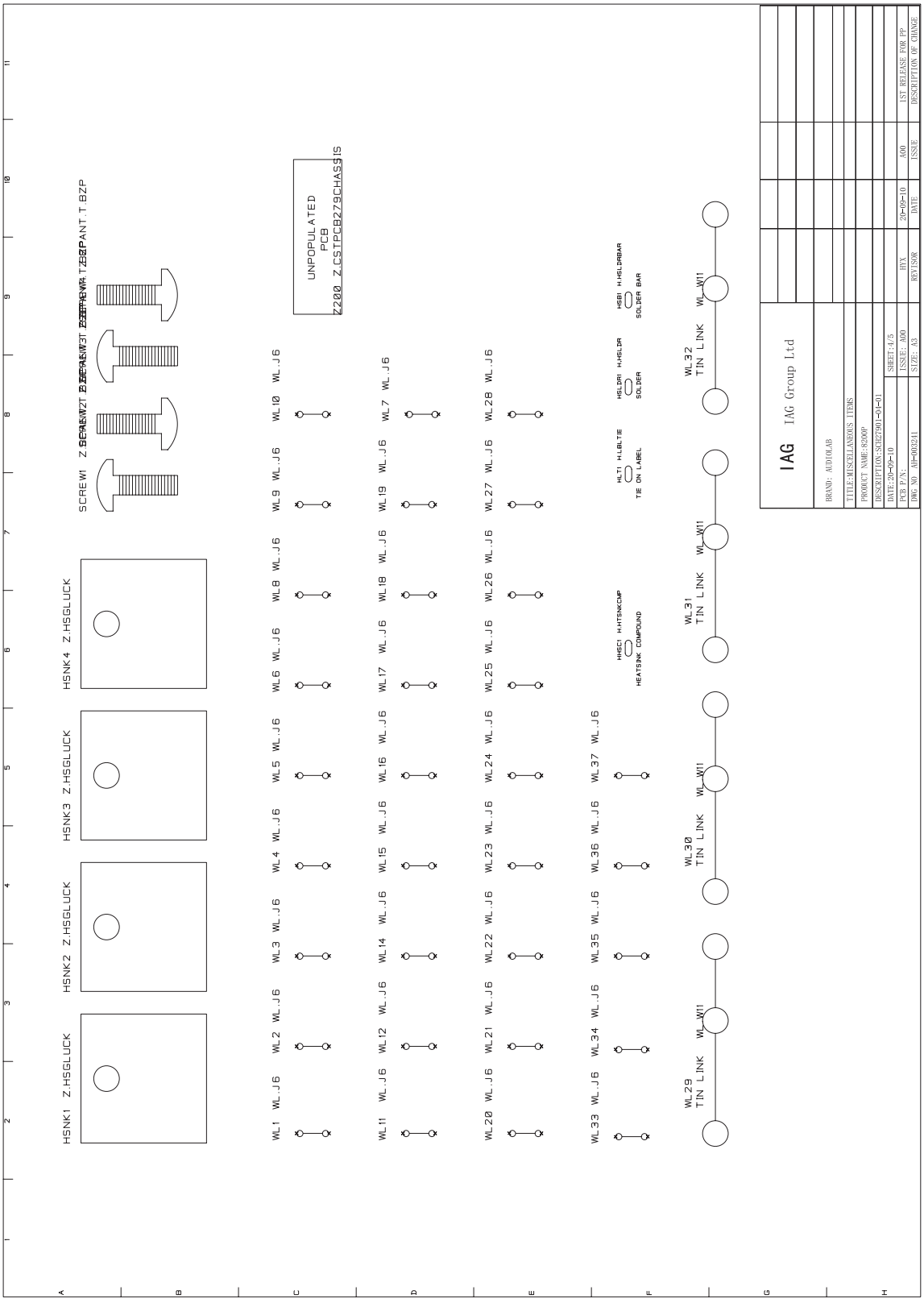
8200P-Mainboard-P2/5



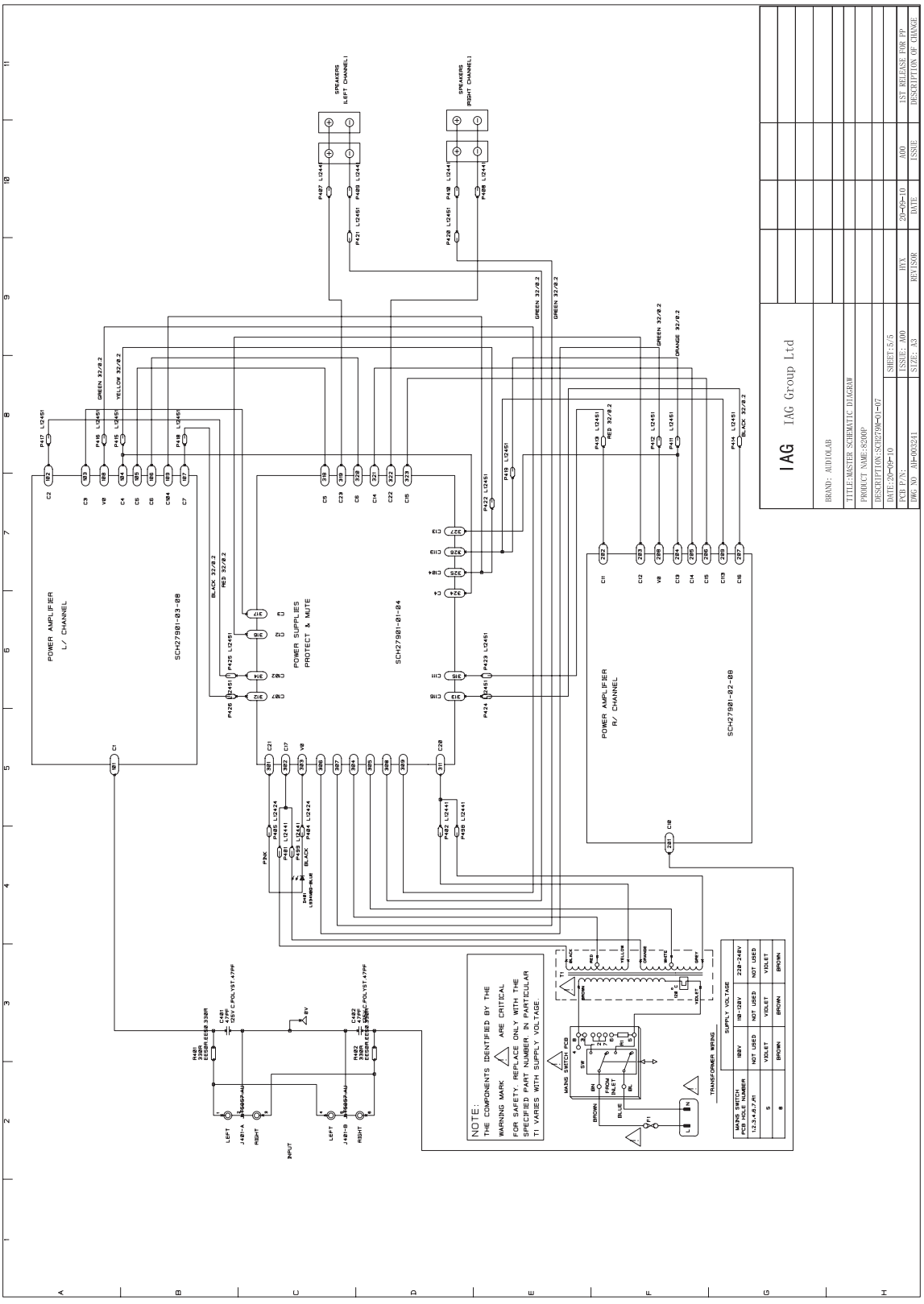
8200P-Mainboard-P3/5



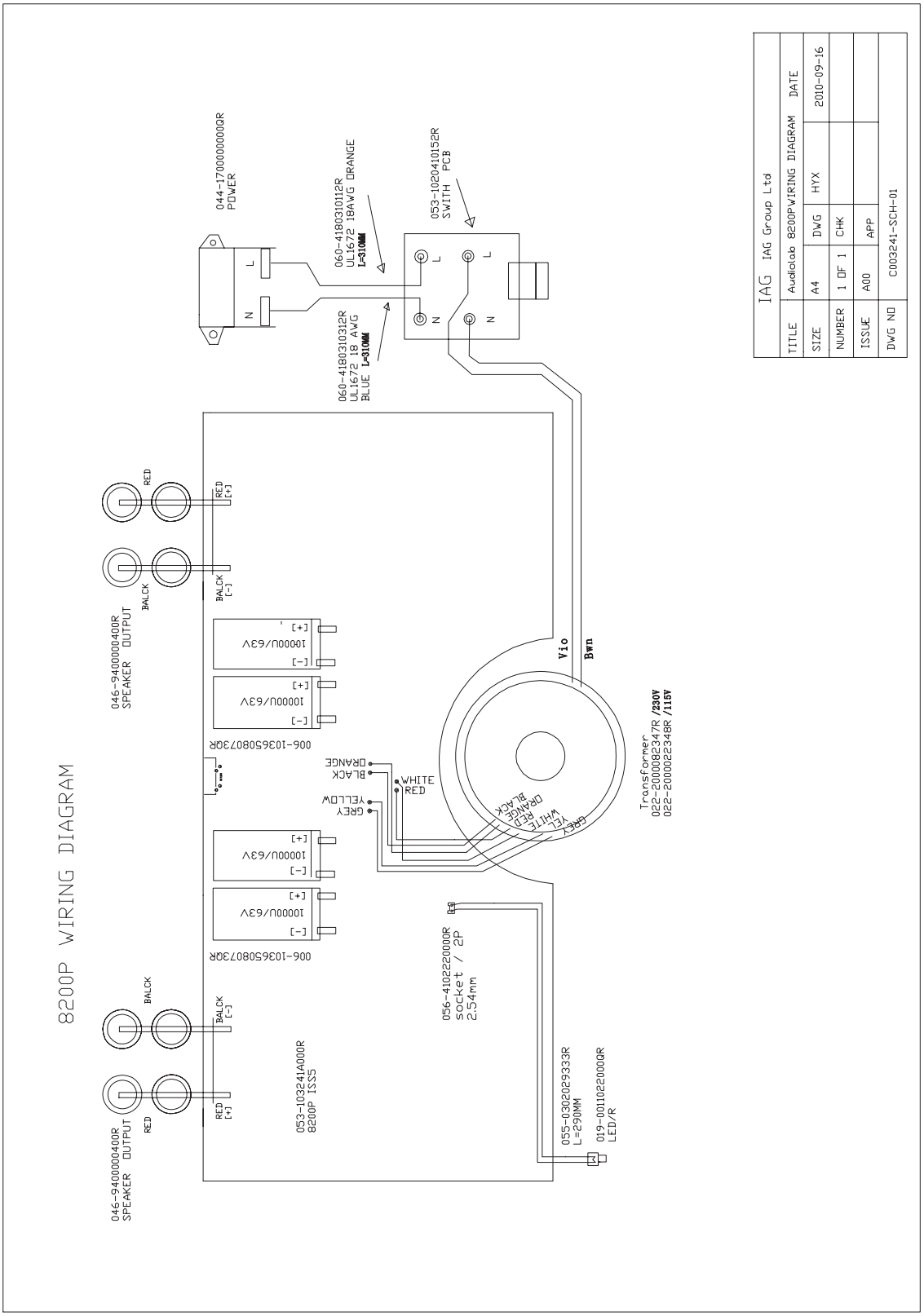
8200P-Mainboard-P4/5



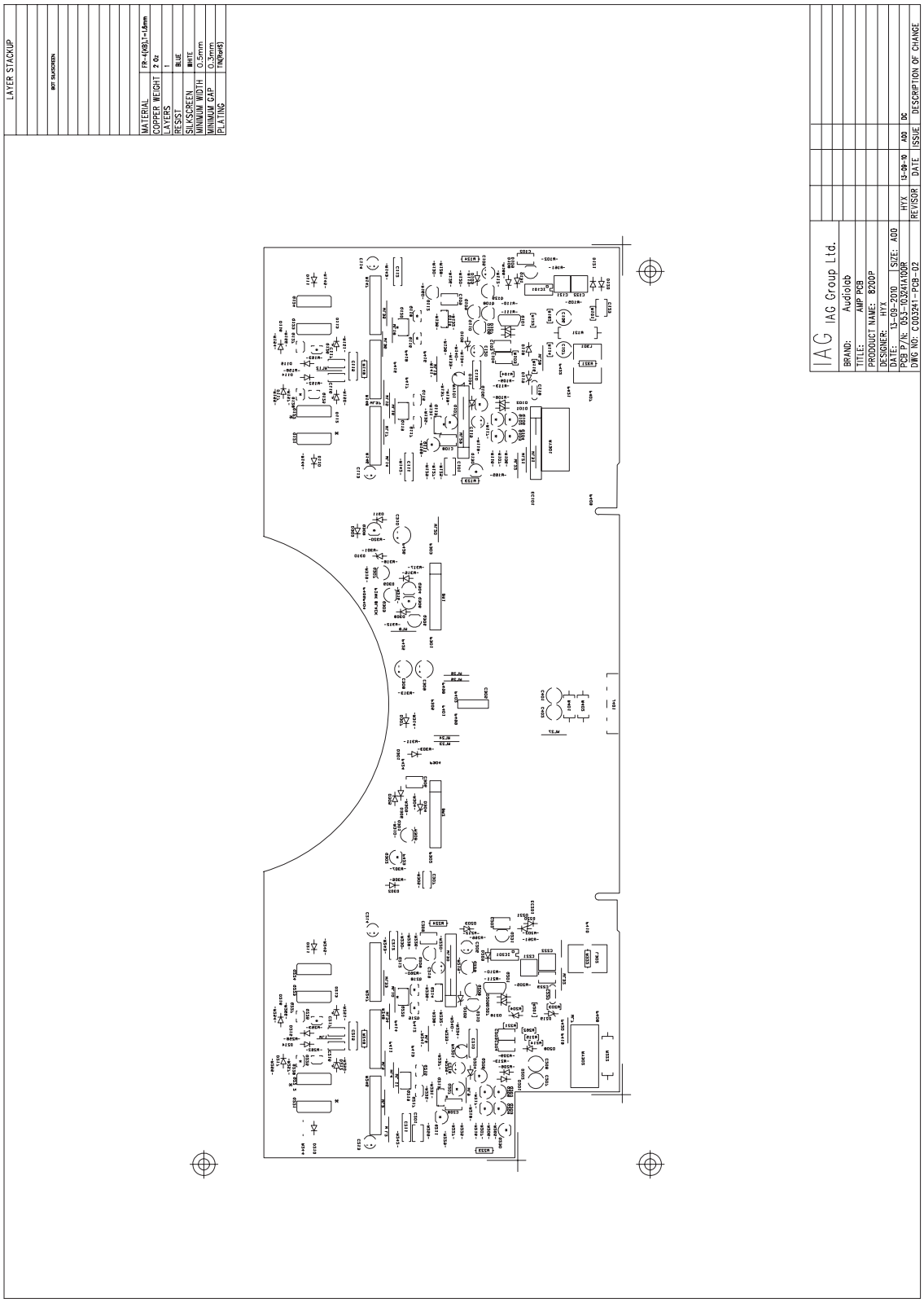
8200P-Mainboard-P5/5



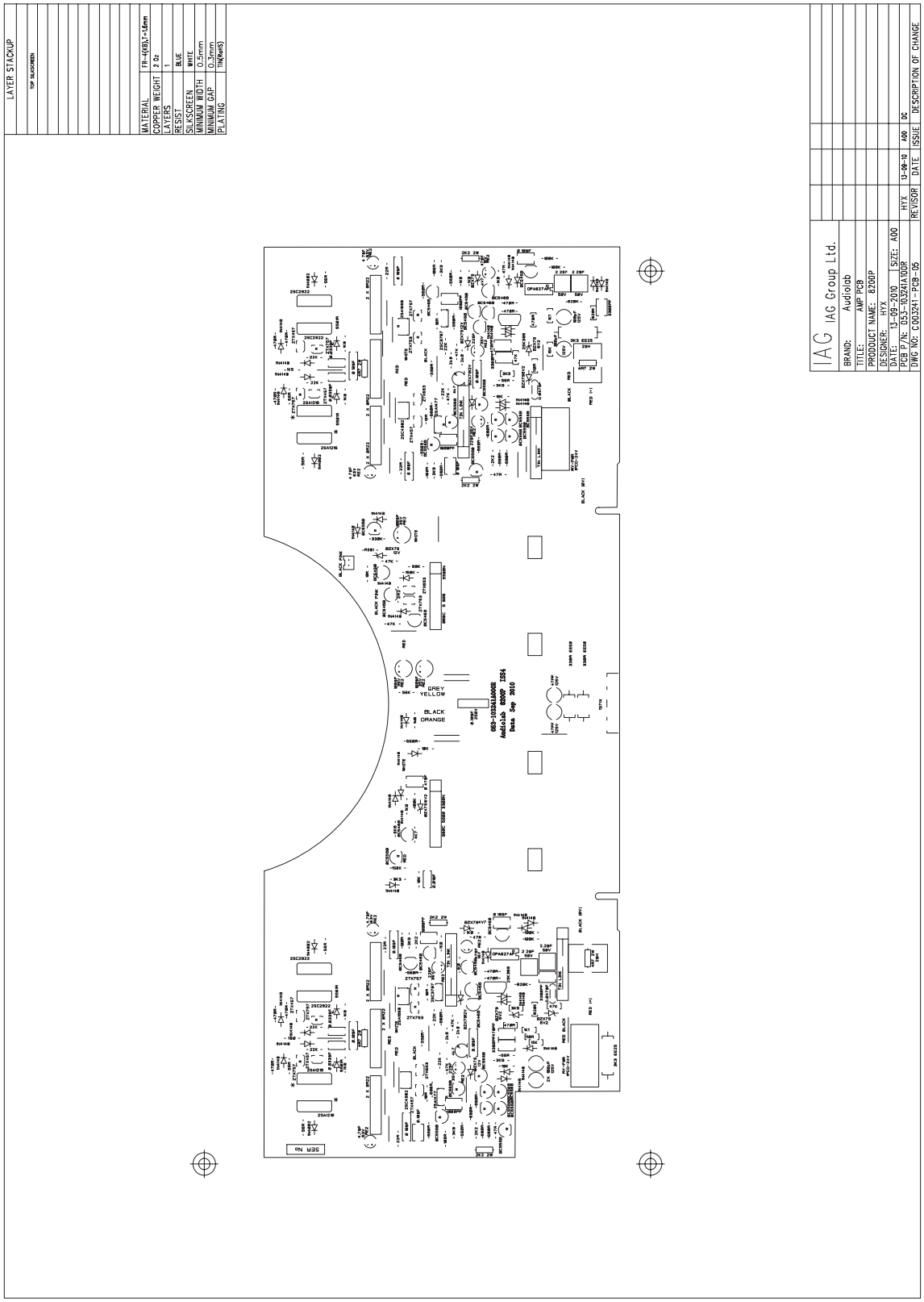
8200P-Wiring Diagram-P1/1



8200P-MainBoard-Top Silkscreeen-P1/2



8200P-MainBoard-Bottom Silkscreeen-P2/2



8200P -Bias Procedure And Ageing test step-P1/1

Audiolab 8200P Bias Procedure

This procedure must only be carried out after the unit has passed a full functional test .

1.Connect the unit to be biased to mains and switch on. The mains voltage should be set to 230VAC ± 2% or 120VAC ± 2% while the test is done.

2.Wait for the unit to power up.

3.Set bias as shown in table below.

4.The test continues until the bias is steady at the final value in the table.

For 8200M bias is measured across R148 (left channel) and R248 (right channel).

All settings are mV dc.

Remarks：Also the test continues unil the bias is steady at the final value in the table.

Product	Initial setting	After 15 mins	After 30 mins
8200P	60 –65	24 – 25	21.5 – 22.5

8200P Ageing test step

Ageing test step	**Equipment andTools**
Test condition: Vin = 1V, 1kHZ sine wave(Load: 8ohm) 1/8 Output Power	Anti-ESD bell
1: Equipment and Set up 1):Set the "RECORD" and "INPUT" knob to CD. "GAIN" set to 0dB position. Volume set to Max.	Step transformer for AC mains
2: Ageing test 1):Power ON the unit the "ON" LED will lit and the "PROTECT" LED also lit but will OFF after 5-10 second.	Mulitimeter
2):Add 5% of AC input for the test.	
3:Soak test with the condition above with 48 hours.	
4. Check all the parameter within the spec.	
Notes: 1.If the Bias Okay, switch off the unit and put "PASSED" mark on the unit.	

unit rated voltage	variac voltage
AC240V	AC250V±2%
AC220、230V	AC240V±2%
AC110V	AC120V±2%
AC100V	AC110V±2%

8200P-Assembly Bom-P1/2

R/N	P/N	PART NAME	DESCRIPTION	QTY
1	300-1032410000R	Front Panel	finish and anodized aluminium	1
2	215-1027410001R	Button Cap	painted	1
3	215-1027410000R	Power Button	painted	1
4	305-1027410002R	Mains Switch Bracket	painted	1
5	500-3050240300AR	Nut	M3 Ni	11
6	263-0020100102R	EVA	20*10*10mm EVA	1
7	309-1032410000R	Chassis	painted and silkscreen	1
8	588-3000066037R	Screw	M3*6	25
9	226-0230191911R	Foot	black	4
10	319-1027410001R	Side Panel	sand blast and anodized	2
11	307-1050800081R	Nut	gold plated	4
12	331-1031410001R	PCB Terminal Connector	gold plated	4
13	331-1031410000R	Terminal Connector	gold plated	4
14	537-3002000306R	Screw	M3*10	2
15	513-6412150780R	Washer	Φ6.4XΦ12X1.5 NI	1
16	500-6000000300R	Nut	M6	1
17	302-1032410000R	Top Cover	sand blast and anodized aluminium	1
18	534-3002061006R	Screw	M3*6	18
19	534-3002100606R	Screw	M3*10	11
20	306-1003770012R	Main Radiator(Machning ed)	anodized	1
21	306-1003770013R	Main Radiator	anodized	1
22	306-1003770001QR	Radiator(1)	anodized	1
23	306-1003770002QR	Radiator(2)	anodized	2
24	306-1003770003QR	Radiator(3)	anodized	4
25	308-1031410000R	Transformer Insulation Board	black painted	1
26	231-2136000102R	Rubber Washer	Φ136*Φ10*1	2
27	348-1300300230R	Copper Post	nickel plated	2
28	231-2013005012R	PVC Washer	Φ12.5*Φ4.5*0.1mm	2
29	588-3000106037R	Screw	M3*10	1
30	223-0700220311R	Insulation Post	φ7.5*3.1mm,NYLON66(UL)	1

8200P-Assembly Bom-P2/2

Remark:Colour Difference Table

R/N	P/N	PART NAME	DESCRIPTION	QTY
1	300-1032410000R	front panel	screened, light grey(silver anodized)	1
	300-1032420000R		screened, light grey(black anodized)	1
2	215-1027410001R	button cap	silver painted,ABS757#	1
	215-1027420001R		black painted,ABS757#	1
3	215-1027410000R	power button	silver painted,ABS757#	1
	215-1027420000R		black painted,ABS757#	1
7	309-1032410000R	chassis	silver painted	1
	309-1032410001R		black painted	1
10	319-1027410001R	side panel	sand blasting,anodized silver	2
	319-1027420001R		sand blasting,anodized black	2
17	302-1032410000R	top cover	sand blasting,anodized silver	1
	302-1032410001R		sand blasting,anodized black	1
18	534-3002061006R	screw	M3*6Nl	20
	534-3002060906R		M3*6black	20
19	534-3002100606R	screw	M3*10Nl	11
	534-3002100906R		M3*10black	11
29	588-3000106037R	screw	M3*10Nl	1
	527-3012100806R		M3*10black	1

8200P-Electronic Bom-P1/5

R/N	P/N	PART NAME	DISCRIPTION	QTY	LOCATION
1	046-9400000400R	909 Terminal	red/black	4	
2	062-5118000201R	Mains Cable	2 meter American	1	
3	041-1376000000QR	Mains Switch	SWITCH MAINS 2 P SDDSA 3289A	1	
4	071-1100000000R	Tie Wrap	100MM YJ-100	20	
5	044-1700000000QR	Mains Inlet	MAINS INLET 2 POLE 2 FUSE LOCS	1	
6	742-3501000000R	Heat Sink	Φ35 black	0.1	
7	060-4180310312R	Double Insulated Wire	UL1672 18 AWG blue L=310MM	1	
8	060-4180310112R	Double Insulated Wire	UL1672 18AWG brown L=310MM	1	
9	053-1020410152R	Mains Switch PCB	single layer PCB MAINS SWITCH 200 SERIES	1	
10	022-2000022348R	Transformer	115V 50/60HZ Noratel TI-103410 500AV D=139 Iss 1 SW/120ºC	1	
11	031-2200813121HR	Fuse Tube	T5A/250V 213 5*20MM LITTELFUSE	2	
12	008-1003025005R	Cap	MKT 10NF/250V 10%	2	
13	053-1374001104QR	Mains Switch PCB	PCB MAINS SWITCH 200 SERIES	1	
14	019-0011022000QR	LED	LED RED	1	
15	742-0301000000R	Heat Sink	Φ3 /BLK	0.2	
16	742-1001000000R	Heat Sink	Φ10 / BLK	0.2	
17	742-0501000000R	Heat Sink	Φ5/ BLK	0.05	
18	742-1001000000R	Heat Sink	Φ10/ BLK	0.2	
19	055-0302029333R	Flat Wire	2P L=290MM UL1007 24#	1	
20	088-1032410000R	8200P AMP (Stereo)	8200P PCBA	1	
21	053-103241A000R	8200P AMP ISS5	single layer FR-4 KB 20Z blue /osp 414.5*162*1.6MM	1	
22	001-6801205010QR	Resistor	680R 1/4W 1%	12	R106.107.117.118.131.132 .206.207.217.218.231.232
23	001-2202205010QR	Resistor	2K2 1/4W 1%	2	R116.226
24	001-5601205010QR	Resistor	560R 1/4W 1%	9	R125.126.159.160.225.226 .259.260.311
25	001-3301205010QR	Resistor	330R 1/4W 1%	2	R141.241
26	001-2203205010QR	Resistor	22K 1/4W 1%	8	R137.138.152.153.237.238 .252.253

8200P-Electronic Bom-P2/5

R/N	P/N	PART NAME	DISCRIPTION	QTY	LOCATION
27	001-1000205010QR	Resistor	10R 1/4W 1%	4	R135.136.235.236
28	001-1803205010QR	Resistor	18K 1/4W 1%	2	R108.208
29	001-1802205010QR	Resistor	1K8 1/4W 1%	4	R150.151.250.251
30	001-1004205010QR	Resistor	100K 1/4W 1%	5	R102.161.202.261.304
31	001-1005205010QR	Resistor	1M 1/4W 1%	1	R314
32	001-1504205010QR	Resistor	150K 1/4W 1%	2	R307.315
33	001-6803205010QR	Resistor	68K 1/4W 1%	1	R317
34	001-1003205010QR	Resistor	10K 1/4W 1%	3	R303.305.319
35	001-3304205010QR	Resistor	330K 1/4W 1%	1	R320
36	001-5603205010QR	Resistor	56K 1/4W 1%	1	R313
37	001-1001205010QR	Resistor	100R 1/4W 1%	4	R129.130.229.230
38	001-4700205010QR	Resistor	47R 1/4W 1%	4	R165.166.265.266
39	001-3302205010QR	Resistor	3K3 1/4W 1%	1	R306
40	001-3902205010QR	Resistor	3K9 1/4W 1%	6	R113.127.128.213.227.228
41	001-4703205010QR	Resistor	47K 1/4W 1%	6	R139.140.239.240.312.318
42	001-8204205010QR	Resistor	820K 1/4W 1%	2	R105.205
43	001-6802205010QR	Resistor	6K8 1/4W 1%	1	R310
44	001-5600205010QR	Resistor	56R 1/4W 1%	8	R144.145.109.209.244.245 .157.257
45	001-4701205010QR	Resistor	470R 1/4W 1%	10	R110.111.154-156.210.211.254-256
46	001-1801205010QR	Resistor	180R 1/4W 1%	2	R158.258
47	001-1002205010QR	Resistor	1K 1/4W 1%	6	R112.119.120.212.219.220
48	001-1002205014QR	Resistor	1K 1/4W 1%	1	R309
49	001-2209205010QR	Resistor	2R2 1/4W 1%	1	R316
50	001-2200205010QR	Resistor	22R 1/4W 1%	4	R142.143.242.243
51	001-0470308050R	Resistor	4.7Ω 2W J	4	R149.249.321.322
52	001-0000105050QR	Resistor	0R 1/4W 5%	32	WL1-28.33-36
53	001-1101405010QR	Resistor	110R 1/4W 1%	2	R115.215
54	001-3301409010QR	Resistor	330R 1W 1%	2	R401.402
55	001-4701405010QR	Resistor	470R 1/4W 1%	2	R122.221
56	001-1102405010QR	Resistor	1k1 1/4W 1%	2	R162.262
57	001-3902405010QR	Resistor	3k9 1/4W 1%	2	R104.204
58	001-1503405010QR	Resistor	15k 1/4W 1%	2	R114.214
59	001-4703405010QR	Resistor	47k 1/4W 1%	2	R103.203
60	001-8204405010QR	Resistor	820k 1/4W 1%	2	R101.201
61	001-1502109050QR	Cap	1K5 3W 5%	4	R123.124.223.224
62	016-1041110001HR	Cap	0.1UF/100V 10% MKS4 10PCM WIMA WIMA	8	C110-112.115.210.211.212.215
63	016-1021132201QR	Cap	FKP2 1000PF/100V 2.5% WIMA PCM5	4	C108.109.208.209
64	016-4710832201R	Electrolytic Cap	470pF 63V 2.5%	2	C103.203
65	006-4794051173HR	Electrolytic Cap	ELNA 4U7 20% 63V RE3-63V4.7ME3 5*11mm	4	C113.114.213.214

8200P-Electronic Bom-P3/5

R/N	P/N	PART NAME	DISCRIPTION	QTY	LOCATION
66	006-1036508073QR	Cap	10000U/63V +50/-20% Φ35*80	4	PCB
67	013-2250120505QR	Cap	2U2 10% 50V MSK2 WIMA	4	C121.122.221.222
68	008-4703002517QR	Transistor	0U047 +80/-20% 25V 5YF	2	C118.220
69	018-3200653115R	Transistor	ZTX653 TO-92	3	Q115.215.304
70	018-3200753115R	Transistor	ZTX753 TO-92	3	Q116.216.306
71	018-0101477113QR	Transistor	2SA1477 PNP TO-126ML SANYO	2	Q113.213
72	018-0303787113QR	Transistor	2SC3787 NPN TP-126ML SANYO	2	Q114.214
73	018-0101668111QR	Transistor	TRAN 2SA1668 PNP TO-220F SANKEN	2	Q120.220
74	018-0304382111QR	Transistor	2SC4382 NPN TO-220F SANKEN	2	Q119.219
75	018-2700042115QR	Transistor	TRAN ZTX457 NPN TO-92	6	Q117.125.127.217.225.227
76	018-2700092115QR	Transistor	TRAN ZTX757 PNP E-Line	6	Q118.126.128.218.226.228
77	018-0302922110QR	Transistor	TRAN 2SC2922 NPN MT-200 SANKEN	4	Q123.124.223.224
78	018-0101216110QR	Zener Diode	TRAN 2SA1216 PNP MT-200 SANKEN	4	Q121.122.221.222
79	067-3300086000QR	Diode	DIODE BZV86-2V0 STABLSTOR	4	D112.113.212.213
80	067-1104148000R	Diode	IN4148	33	D214-217.220.221.301-303.305-309.311 D101.102.106~109.114~117.
81	067-2204002000R	Zener Diode	IN4002	4	D110.111.210.211
82	067-3379479000QR	Zener Diode	DIODE BZX79C 4V7 ZENER	2	D103.203
83	067-3307912000QR	Zener Diode	DIODE BZX79C 12V ZENER	5	D104.105.204.205.310
84	067-3379629000QR	Inductor	DIODE BZX79C 6V2 ZENER	5	D118.119.218.219.304
85	080-0315000010QR	IC	1.5UH	2	L301.302
86	017-4570000000QR	Socket	OPA134PA DIP08 BB	2	IC101.201
87	051-1004114034QR	Tie Wrap	4W T5857-AABE	1	J401
88	071-2480000000QR	Resistor	YJ-330	2	
89	001-3303205010R	Resistor	33K 1/4W F	1	R301
90	001-2002205010QR	Cap	2K 1/4W 1%	4	R133.134.233.234
91	836-4700012505QR	Cap	47P 10% 125V POLYSTYRENE	2	C401.402

8200P-Electronic Bom-P4/5

R/N	P/N	PART NAME	DISCRIPTION	QTY	LOCATION
92	013-1010310507R	Potentiometer	100pF 100V 5%	4	C106.107.206.207
93	020-5022121317R	Insulation	5K 25% BOURNS 3329H-1-502LF	2	RV101.201
94	324-0380250101QR	Effect Transistor	38*25MM	8	Q121.122.221.222,Q123.124.223.224
95	018-0500369115R	12 AWG WIRE	2SK369GR TO-92 TOSHIBA ("matched pairs")	4	Q101.Q201
96	060-4181450012QR	12 AWG WIRE	red L=145MM	1	
97	060-4181840412QR	12 AWG WIRE	black L=184MM	2	
98	060-4181740512QR	12 AWG WIRE	white L=174MM	1	
99	060-4181740012QR	12 AWG WIRE	red L=174MM	1	
100	060-4181450512QR	12 AWG WIRE	white L=145MM	1	
101	060-4181210012QR	12 AWG WIRE	red L=121MM	2	
102	001-4702205010QR	Resistor	4K7 1/4W 1%	3	R134.234.308
103	009-1031008110QR	Cap	10NF/100V 20%	3	IC PIN4&7
104	060-0120240412R	WIRE	12# BLK L=237MM	2	
105	016-3320800001R	Cap	3300P 5% 63V FKP2 WIMA PH5MM	4	C104.123,204,223
106	024-2030071054HR	Relay	JW1FSN-DC24V AJW4212 NAIS	2	RY301.302
107	016-4740810001R	Cap	0U47 10% 63V MKS2 WIMA PH5MM	1	C306
108	016-1041300001R	Cap	0.10uf 250v 5% PH=10MM WIMA	1	C305
109	016-3331100001R	Cap	0U033 5% 100V MKS2 WIMA PH5MM	4	C116.117.216.217
110	016-1041100001R	Cap	0U1 5% 100V MKS2 wima ph5mm	5	C101,102,201,202,307
111	006-2204051153HR	Electrolytic Cap	ELNA 22U 20% 35V RE3-35V220ME3 5*11mm	4	C119,120,218,219
112	006-4704051133HR	Electrolytic Cap	ELNA 47U 20% 16V RE3-16V470ME3 5*11mm	2	C105,205
113	006-1014162552QR	Electrolytic Cap	ELNA RE3-35V-101M F3 100UF 35V	3	C308,309,310
114	056-4102220000R	Conector	JS-1001-02	1	J1
115	086-0400000000R	Conector	GND PC205	2	
116	071-1100000000R	Tie Wrap	100MM YJ-100	12	
117	331-1031410001R	Connector Socket B	gilding	4	WL29.30.31.32
118	306-1003770013R	Heat Sink	anodized,black	1	
119	306-1003770012R	Heat Sink	anodized,black	1	

8200P-Electronic Bom-P5/5

R/N	P/N	PART NAME	DISCRIPTION	QTY	LOCATION
120	306-1003770001QR	Heat Sink1	anodized	1	
121	306-1003770002QR	Heat Sink2	anodized	2	
122	306-1003770003QR	Heat Sink3	anodized	4	
123	306-1027410005R	Heat Sink5	anodized,black	4	
124	306-1027410003R	Heat Sink	anodized,black	2	
125	812-1376000001R	Connector Socket 1	gilding	4	
126	812-1376000004R	Connector Socket 4	gilding	1	
127	588-3000066037R	Screw	M3*6	12	
128	588-3000256037R	Screw	M3*25	8	
129	513-3007050080R	Wahser	φ3*φ7*0.5 Zn	8	
130	517-3008080130AR	Wahser M3 Ob	Φ3.1*Φ4.7*0.8	8	
131	500-3050240300AR	Nut	M3 NI	8	
132	018-1400556115-1R	Transistor	BC556B PNP TO-92 Fairchild	18	Q102-107.111.130.202-207.211.230.302.308
133	001-2208920100QR	Resistor	0R22 7W+7W 10%	6	R148.284.R146-147.246-247
134	018-1400546115-1R	Transistor	BC546BRL1G TO-92 ON	16	301.307.Q108-110.112.129.131.208-210.212.231.229.303.305
135	001-3002207010R	Resistor	H-FM 2WS 3K3 ±1% SIZE 11*4.5*0.8MM	2	R121.222
136	034-1115003307-1R	Rectifier	DIODE B80C5000A BRIDGE 80V/5A DIOTEC	2	BR1.2

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