

# **Service** *Manual*

**MODEL: MACRO830/1400/2400**



[www.altoprpaudio.com](http://www.altoprpaudio.com)

Version: 1.0

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# 1. Specification

SEKAKU ELECTRON INDUSTRY CO., LTD.

## Test Result

Model No MACRO 830(Amplifier)		USER OF VP-7724A			
Tester: Z.L.S		Test Date: 2002,11,29			
Test Item	Test Conditions	Spec	Test Result	Remark	
1	Power Source	AC: 115/120/230/240V	AC: V		
2	Rated Output (BRIDGE)	8Ω	600W	W	CLIP ON
		4Ω	850W	W	
3	Rated Output	Load 4Ω (CHA,B)	300W+300W	W+W	INPUT 1KHz (CLIP ON)
		Load 8Ω	N/A	N/A	
4	Signal/Noise	Input 1KHz 6dB Load 4Ω	90dB ↑ 105dB ↑ (A)	dB dB(A)	VR MAX (CLIP ON)
5	Distortion	Input 1KHz 6dB	0.1% ↓ (10W)	%	
6	INPUT SENSITIVITY	BAL	1% ↓ (300W)	%	CHA,CHB
7	FILTER	STEREO	-3.5± 1dB	dB	CHA,CHB
			0/+5 ± 1dB	dB	
8	PUNCTURE VOLTAGE	STEREO IN (30Hz)	-8.5± 1.5dB	dB	FILTER ON
		5mA 5Sec	1800V	1800v	
9	FREQUENCY RESPONSE	Input 6dB , 1KHz Load 4Ω (BAL OR STEREO)	< 28Hz-> 24KHz	Hz	OUTPUT 6.8V(10W)
10					

**SEKAKU ELECTRON INDUSTRY CO., LTD.**  
**Test Result**

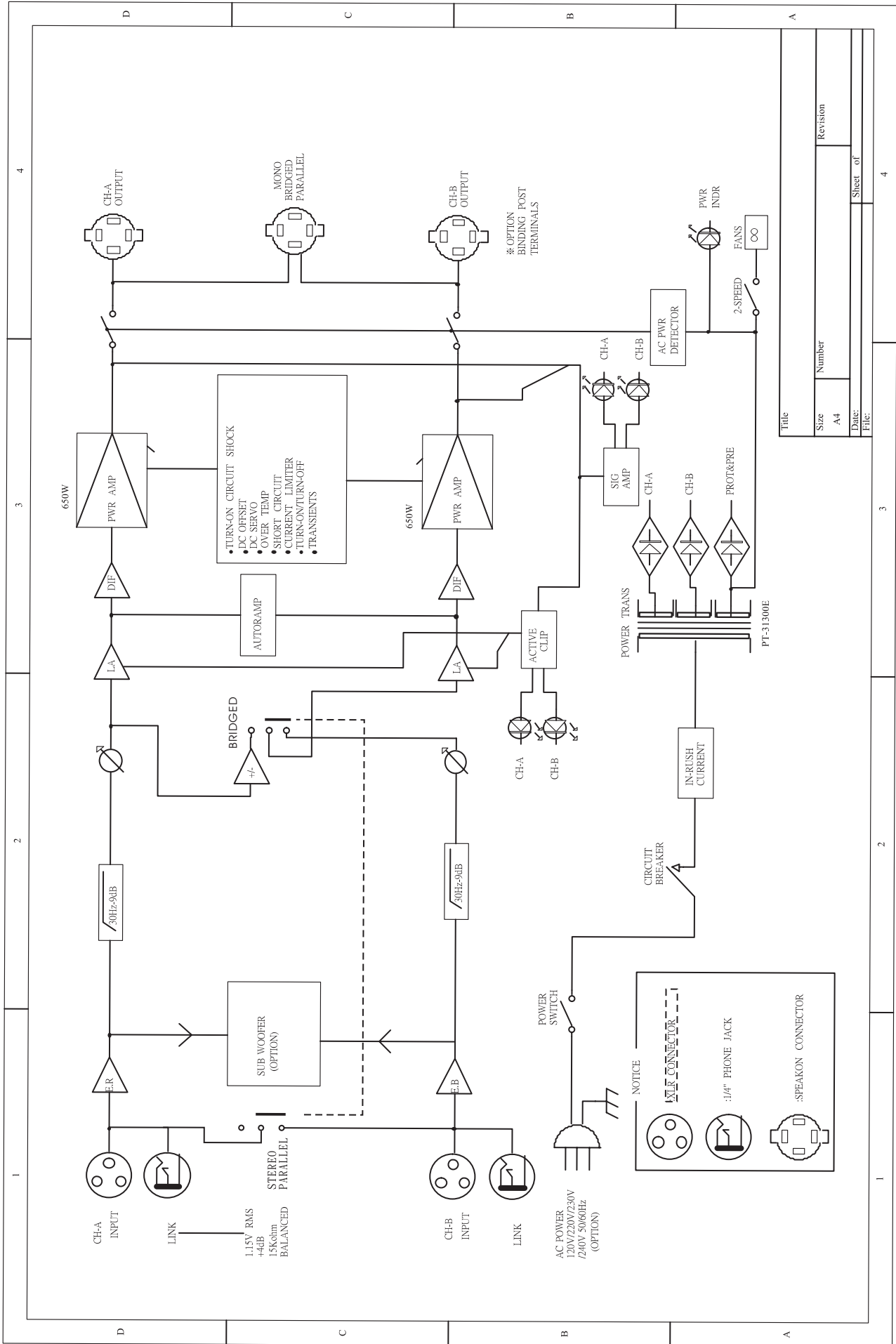
Model No MACRO 1400 (Amplifier)		USER OF VP-7724A			
Tester:Z.L.S		Test Date: 2002,11,29			
Test Item	Test Conditions	Spec	Test Result	Remark	
1	Power Source	AC: 115/120/230/240V	AC: 115V		
2	Rated Output (BRIDGE)	8 Ω	900W	W	CLIP ON
		4 Ω	1400W	W	
3	Rated Output	Load 4 Ω (CHA,B)	450W+450W	W+W	INPUT 1KHz (CLIP ON)
		Load 8 Ω	N/A	N/A	
4	Signal/Noise	Input 1KHz 6dB Load 4 Ω	90dB ↑ 105dB ↑ (A)	dB dB(A)	VR MAX (CLIP ON)
5	Distortion	Input 1KHz 6dB	0.1% ↓ (10W)	%	
6	INPUT SENSITIVITY	BAL	1% ↓ (450W)	%	CHA,CHB
7	FILTER	STEREO	-3.5± 1dB	dB	CHA,CHB
			0/+5 ± 1dB	dB	
8	PUNCTURE VOLTAGE	STEREO IN (30Hz)	-8.5± 1.5dB	dB	FILTER ON
		5mA 5Sec	1800V	1800v	
9	FREQUENCY RESPONSE	Input 6dB , 1KHz Load 4 Ω (BAL OR STEREO)	< 28Hz-> 24KHz	Hz	OUTPUT 6.8V(10W)

**SEKAKU ELECTRON INDUSTRY CO., LTD.**  
**Test Result**

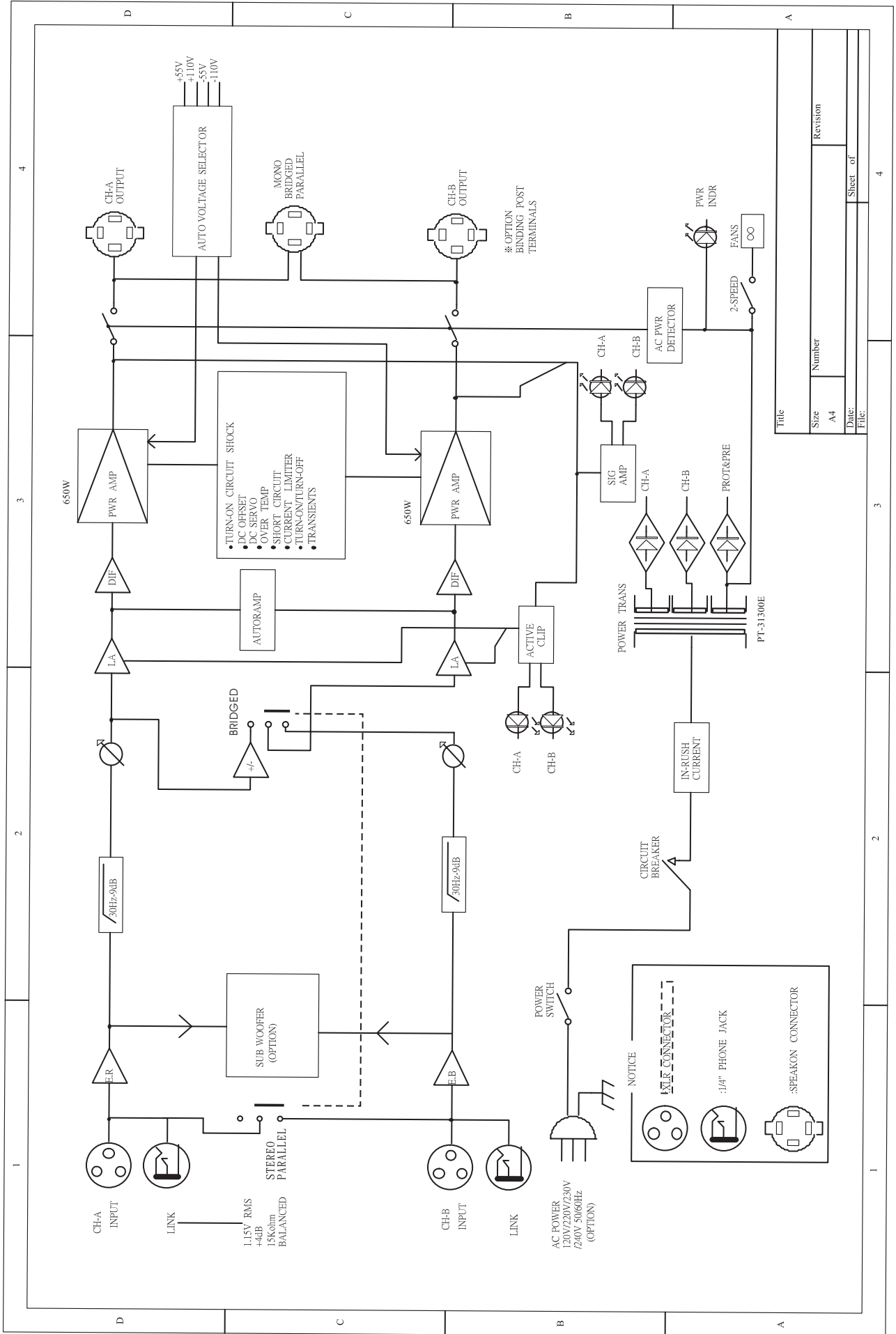
Model No MACRO 2400(Amplifier)		USER OF VP-7724A			
Tester:Z.L.S			Test Date: 2002,11,29		
Test Item		Test Conditions	Spec	Test Result	Remark
1	Power Source		AC: 115/120/230/240V	AC: V	
2	Rated Output (BRIDGE)	8 Ω	1500W	W	CLIP ON
		4 Ω	2400W	W	
3	Rated Output	Load 4 Ω (CHA,B)	750W+750W	W+W	INPUT 1KHz (CLIP ON)
		Load 8 Ω	N/A	N/A	
4	Signal/Noise	Input 1KHz 6dB Load 4 Ω	90dB ↑ 105dB ↑ (A)	dB dB(A)	VR MAX (CLIP ON)
5	Distortion	Input 1KHz 6dB	0.1% ↓ (10W)	%	
6	INPUT SENSITIVITY	BAL	1% ↓ (750W)	%	CHA,CHB
7	FILTER	STEREO	-3.5± 1dB	dB	CHA,CHB
			0/+5 ± 1dB	dB	
8	PUNCTURE VOLTAGE	STEREO IN (30Hz)	-8.5± 1.5dB	dB	FILTER ON
		5mA 5Sec	1800V	1800v	
9	FREQUENCY RESPONSE	Input 6dB , 1KHz Load 4 Ω (BAL OR STEREO)	< 28Hz-> 24KHz	Hz	OUTPUT 6.8V(10W)

# 2. BLOCK DIAGRAM

## MACRO 830/1400 BLOCK DIAGRAM



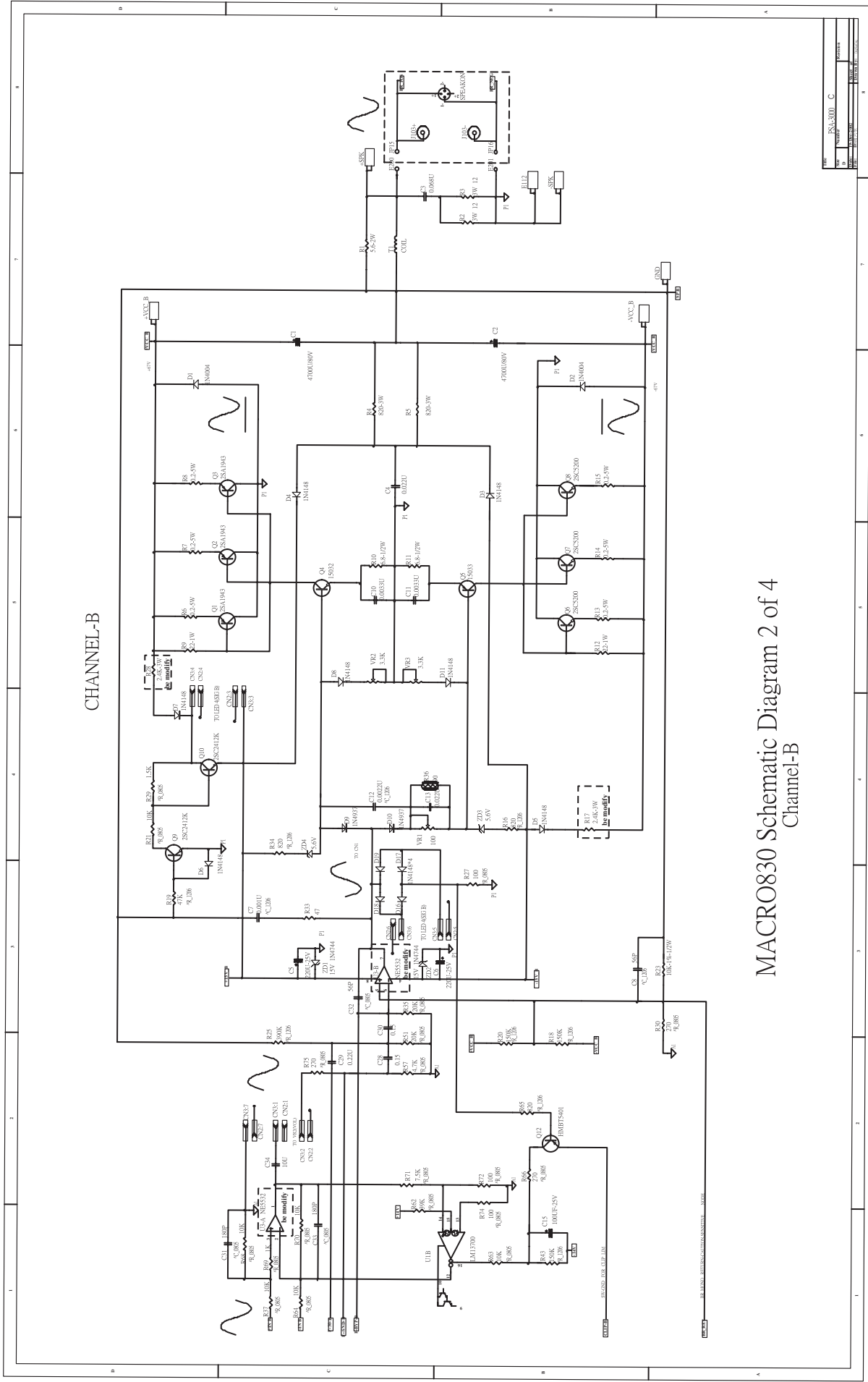
# MACRO 2400 BLOCK DIAGRAM



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File:	4



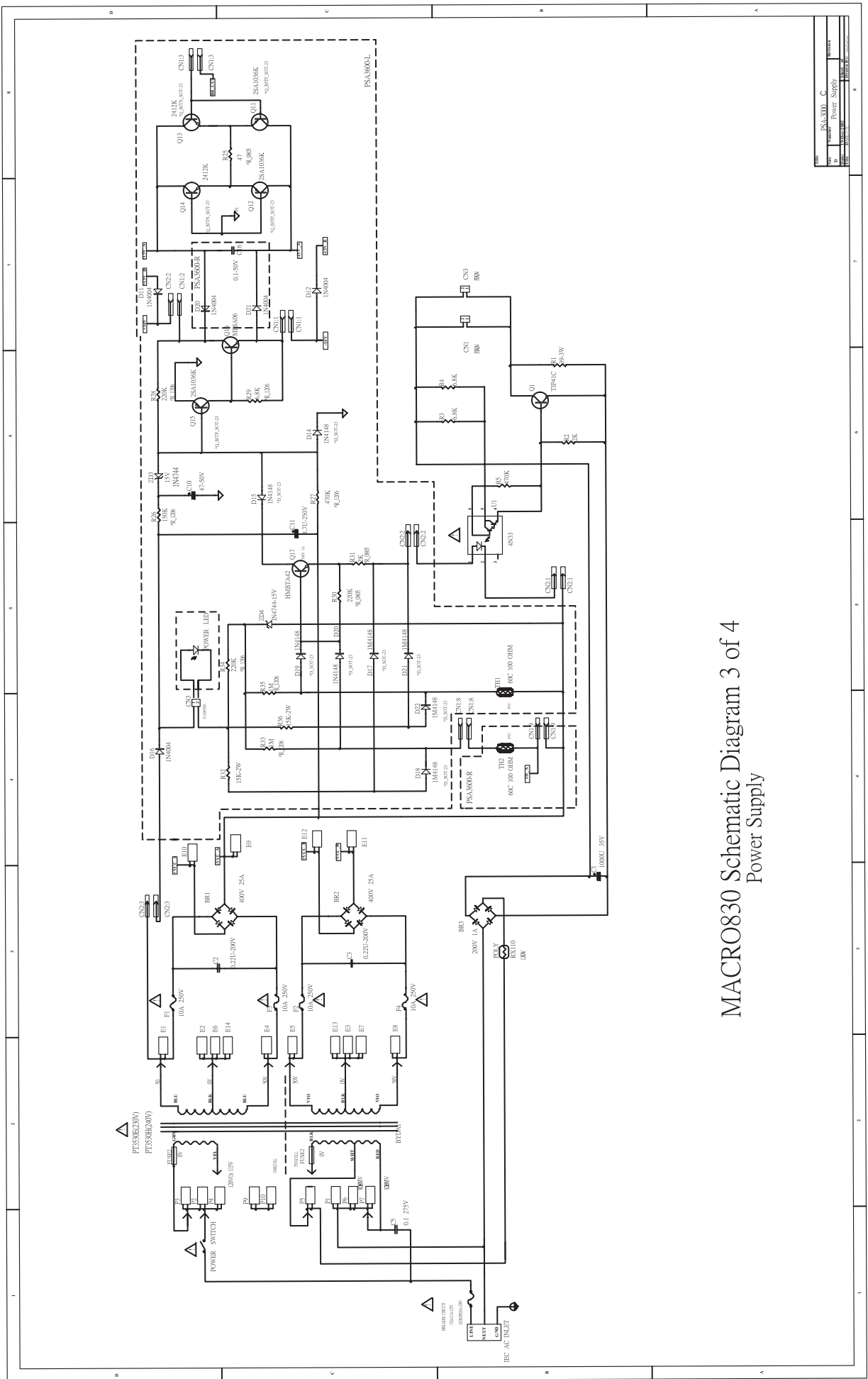




CHANNEL-B

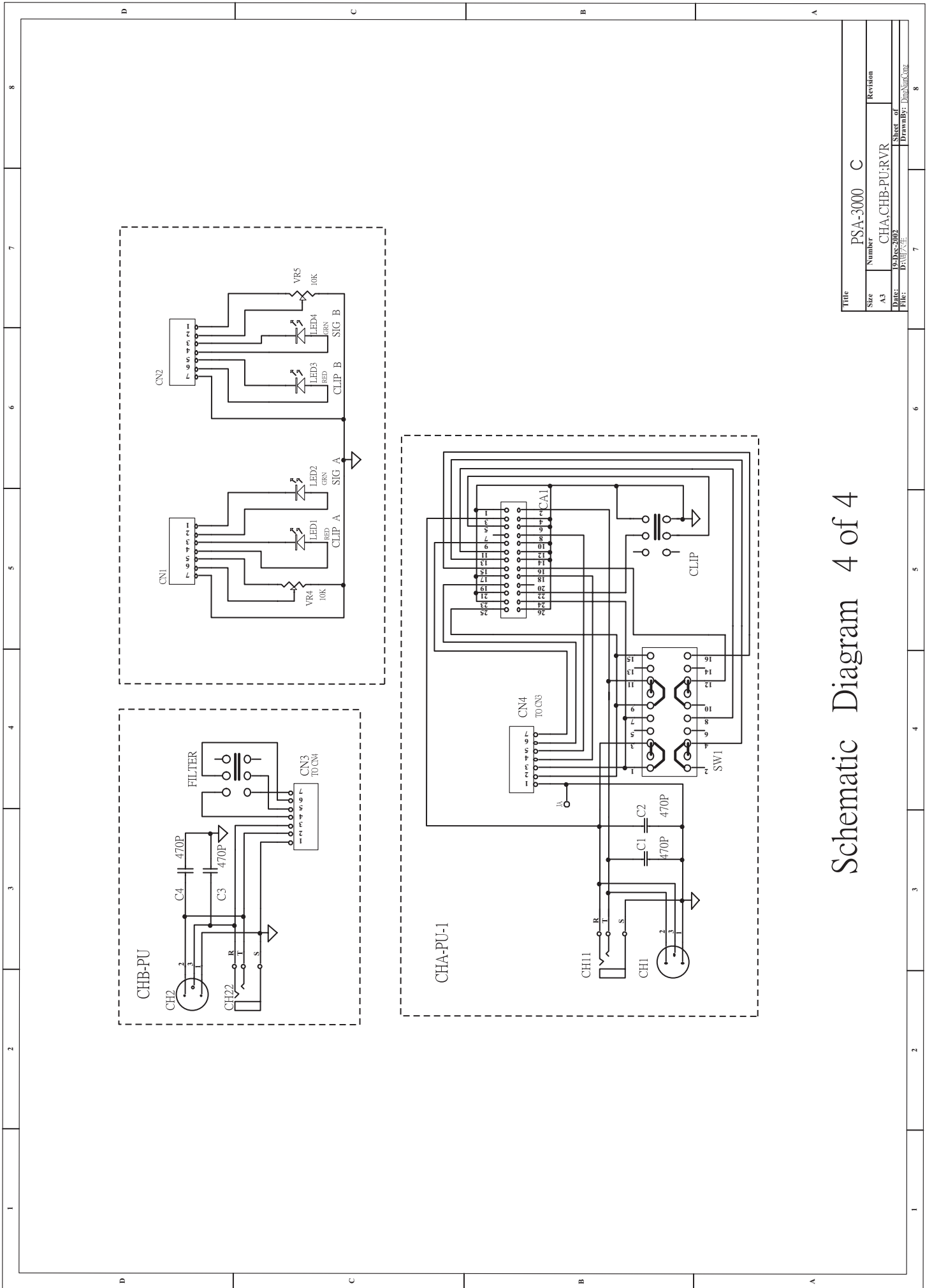
MACRO830 Schematic Diagram 2 of 4  
Channel-B

REV	PSA-300_C
DATE	11/13/03
BY	11/13/03
CHKD	11/13/03
APPD	11/13/03



REV	PSA300L_C
DATE	Power Supply
BY	Power Supply
CHKD	Power Supply

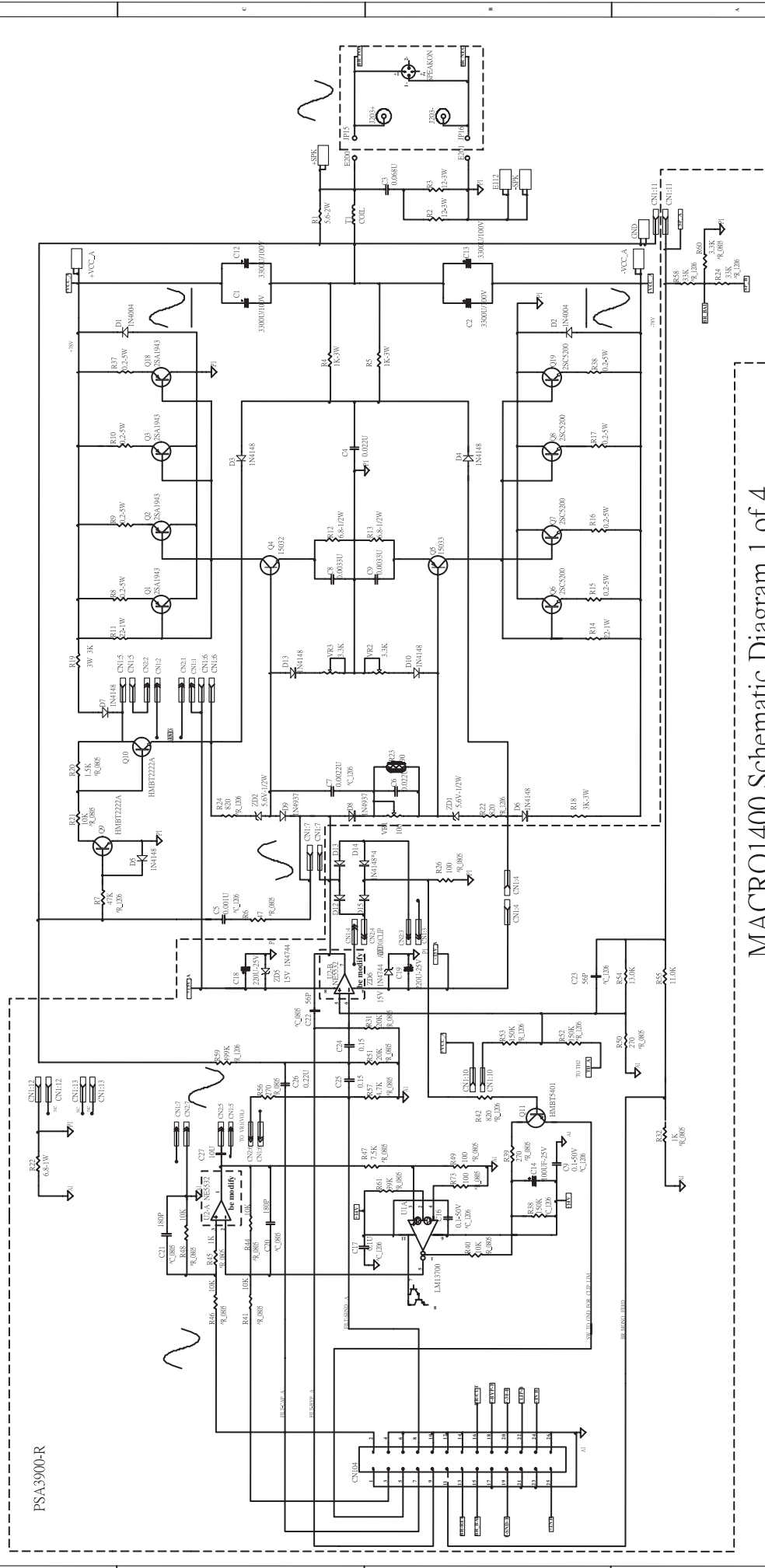
MACRO830 Schematic Diagram 3 of 4  
Power Supply



Schematic Diagram 4 of 4

Title		PSA-3000 C	
Size	Number	Revision	
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Date:	19 Dec 2002	Sheet of	8
File:	D:\11\6\11	Drawn By:	DianaShanCore

CHANNEL-A

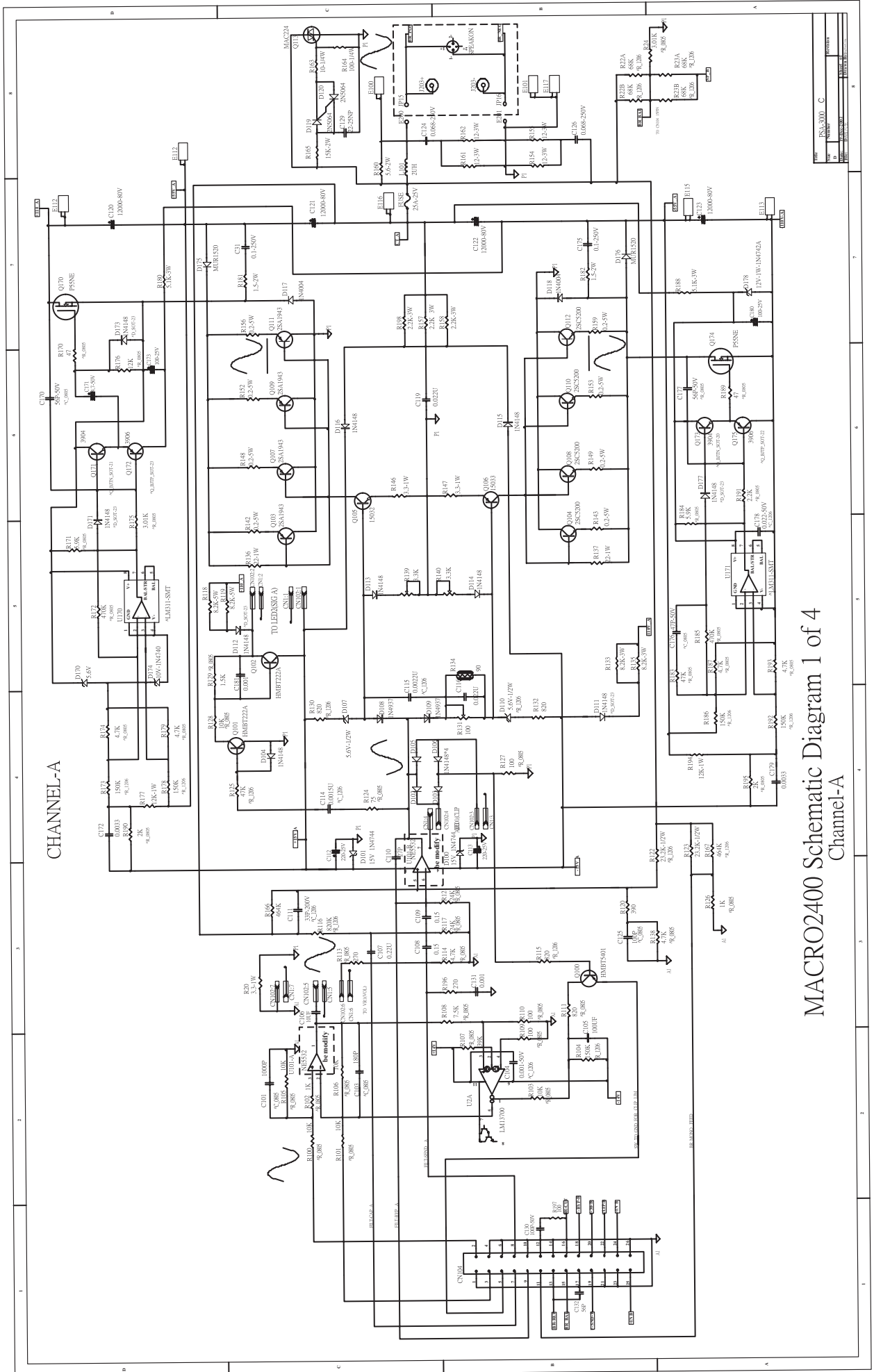


MACRO1400 Schematic Diagram 1 of 4  
Channel-A

Part	PSA-3900-C
Rev	1
Author	W. J. ...
Date	...



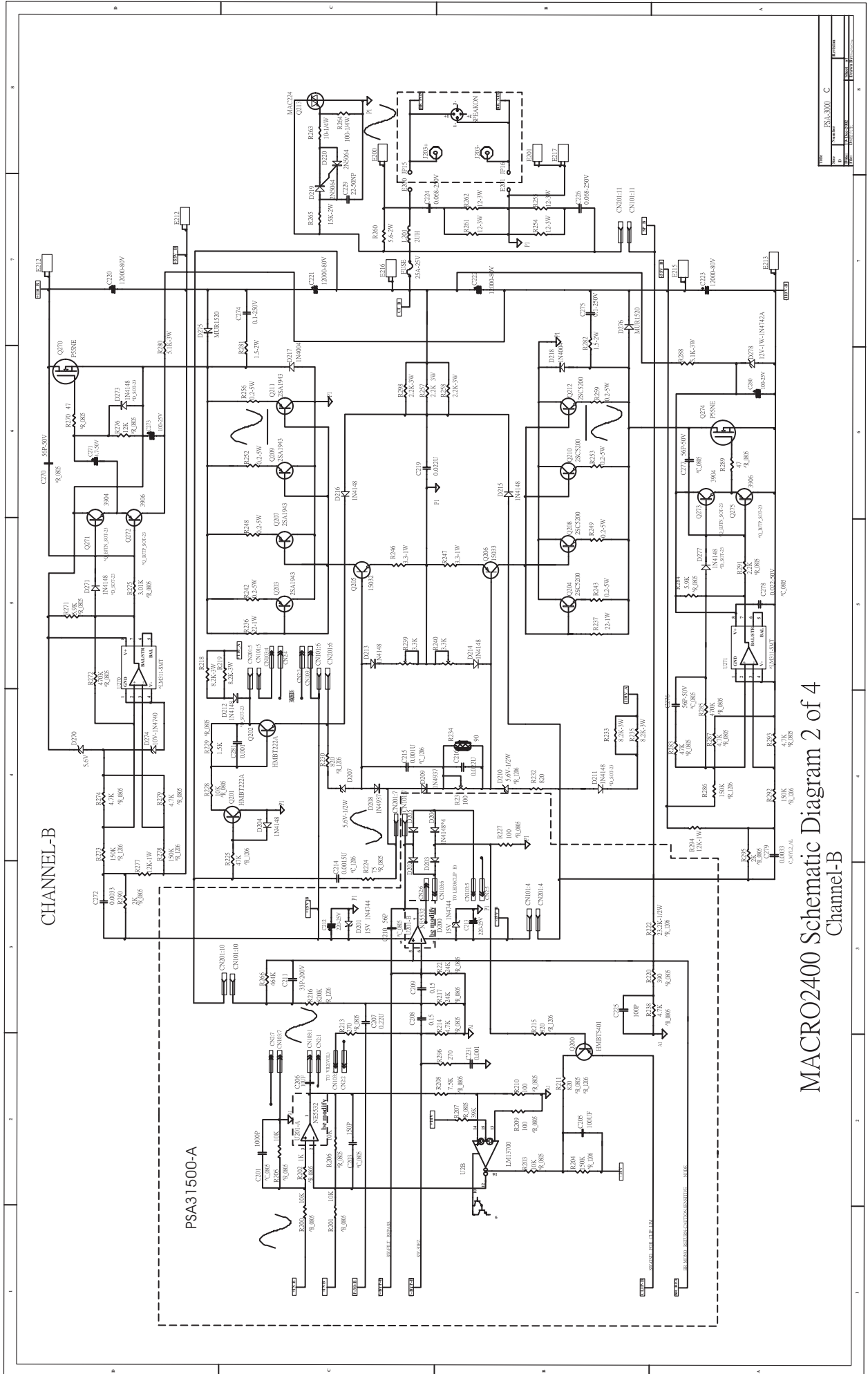




CHANNEL-A

MACRO2400 Schematic Diagram 1 of 4  
Channel-A

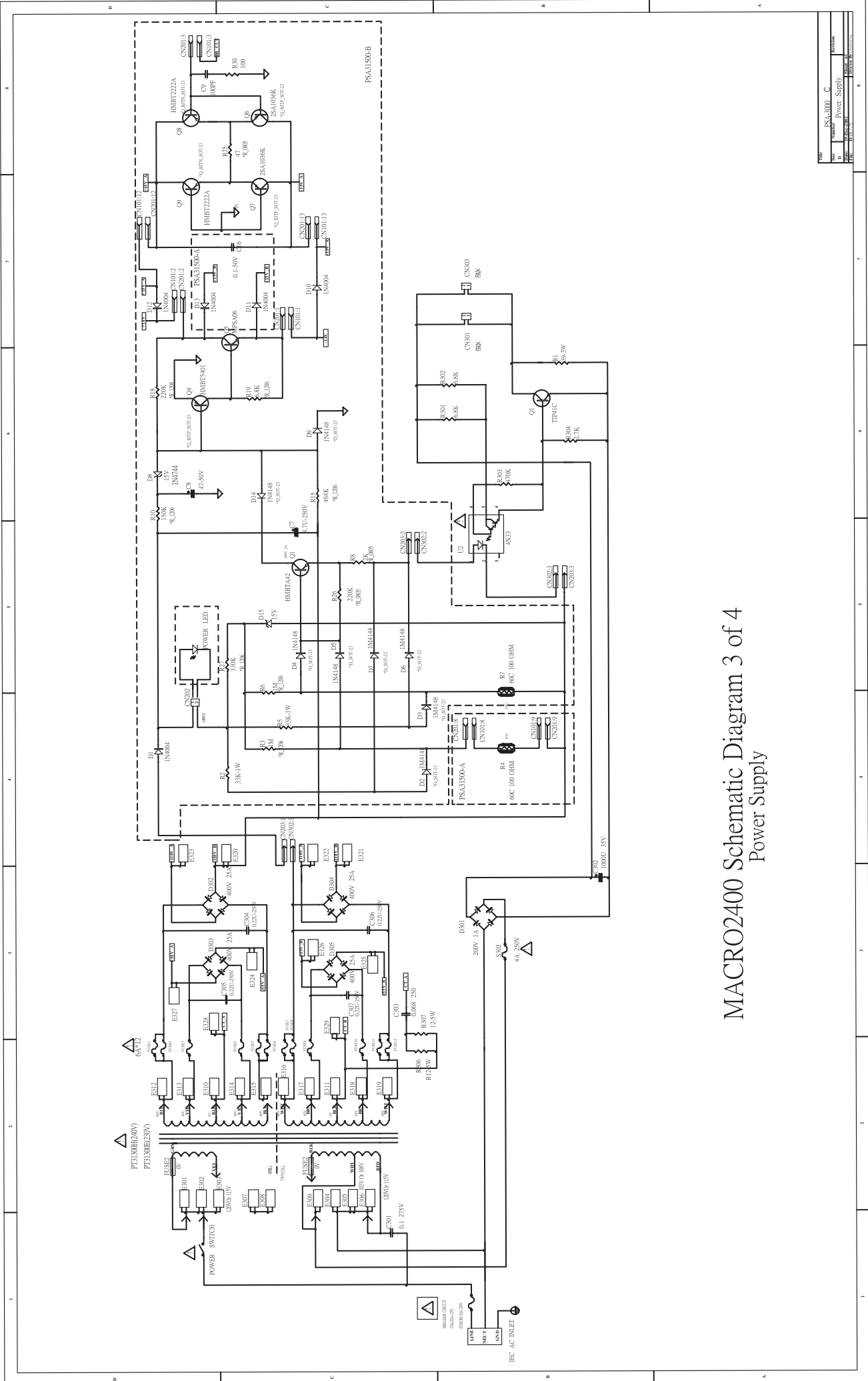
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49	REVISION	
50	REVISION	



MACRO2400 Schematic Diagram 2 of 4  
Channel-B

REV	DATE	BY	CHKD	APPD
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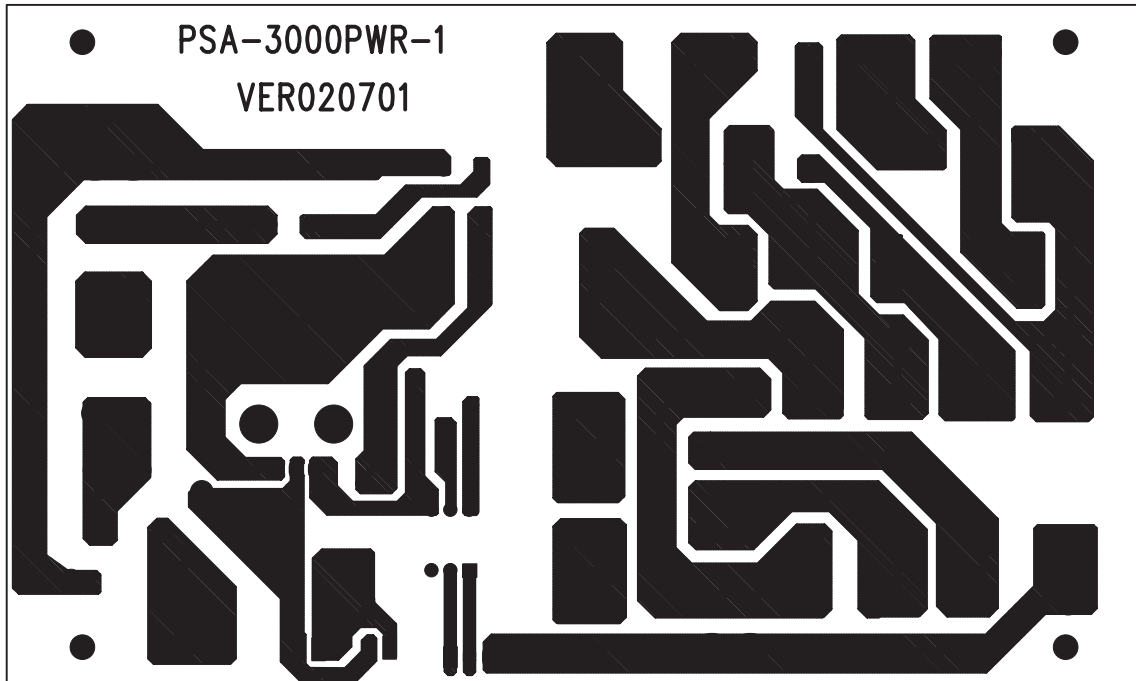
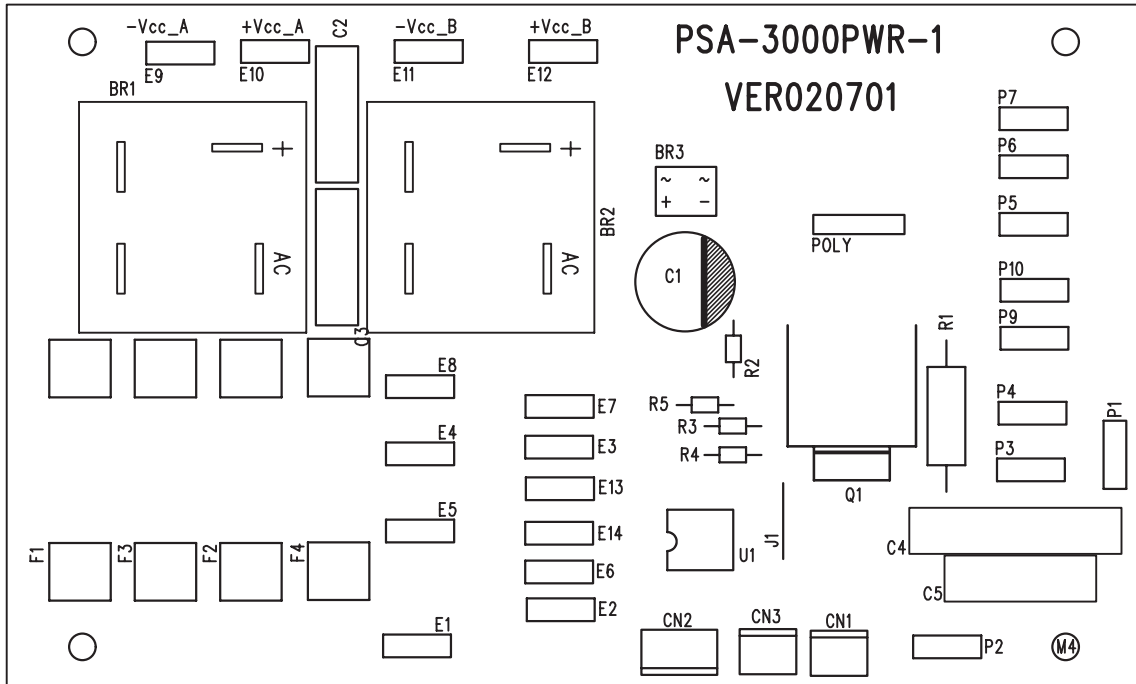
Part	PS-3100-C
Rev	1
Name	Power Supply
Doc No	MACRO2400
Date	08/10/00

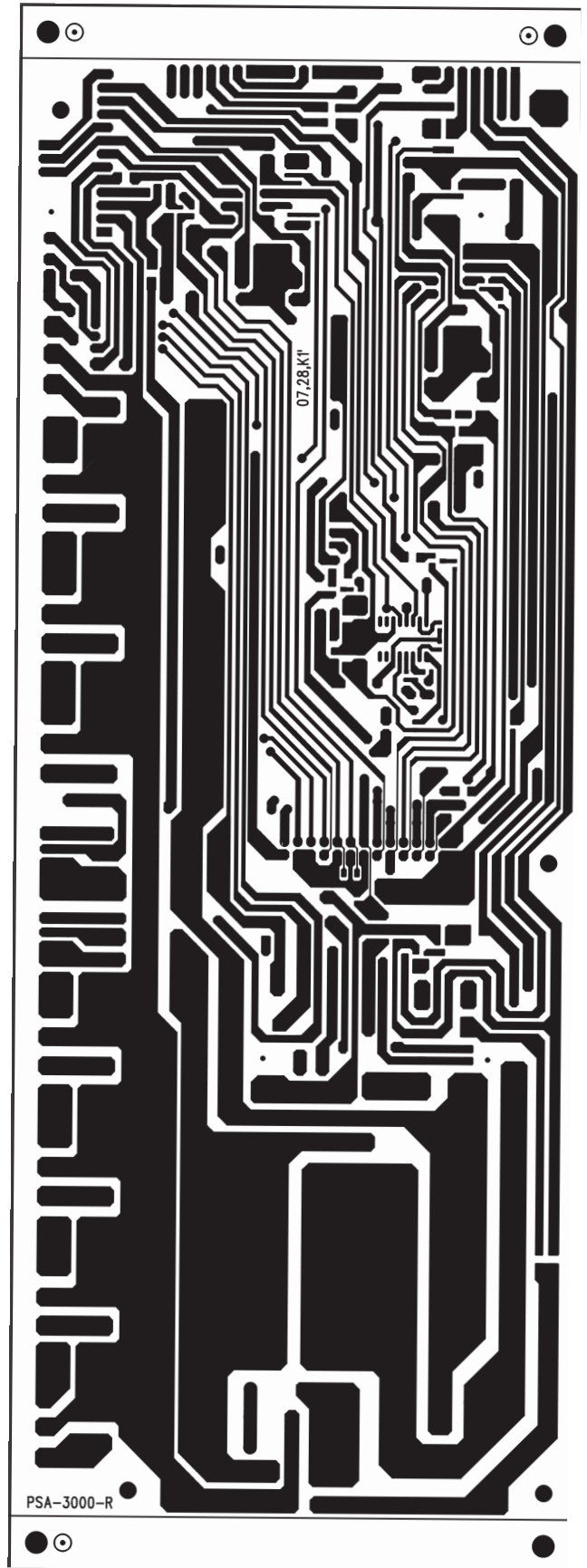
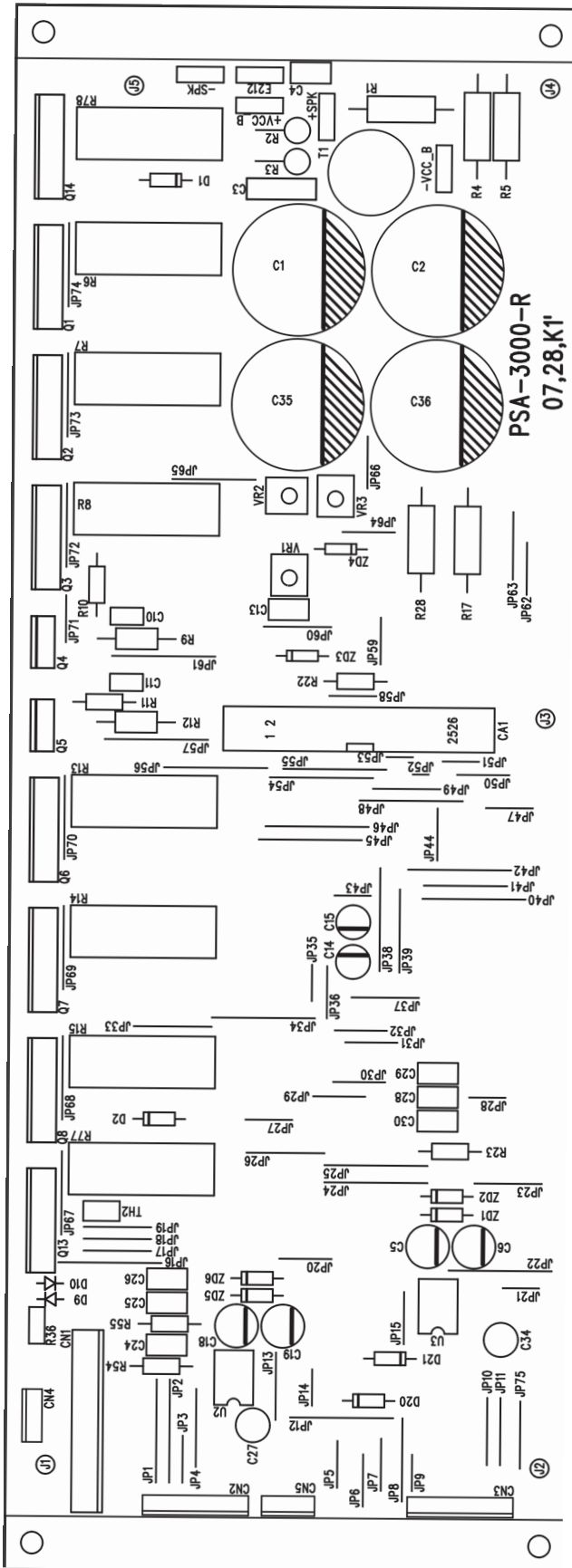
MACRO2400 Schematic Diagram 3 of 4  
Power Supply

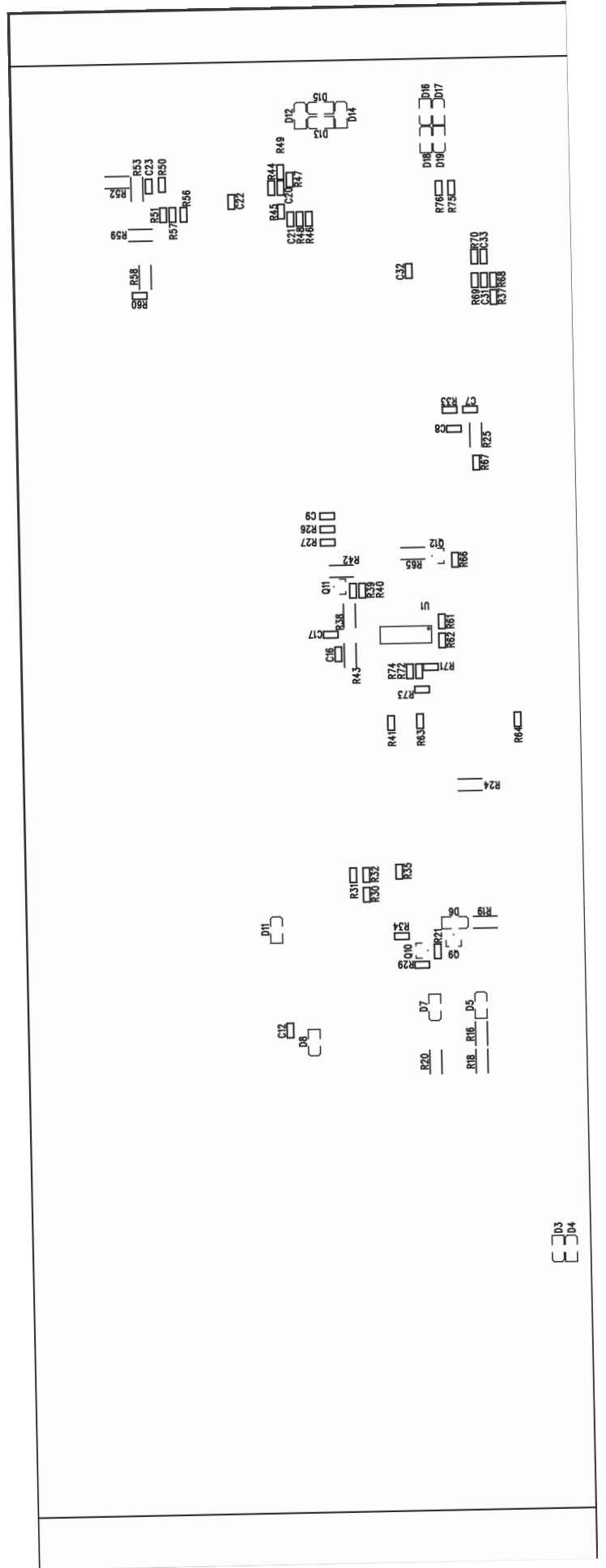
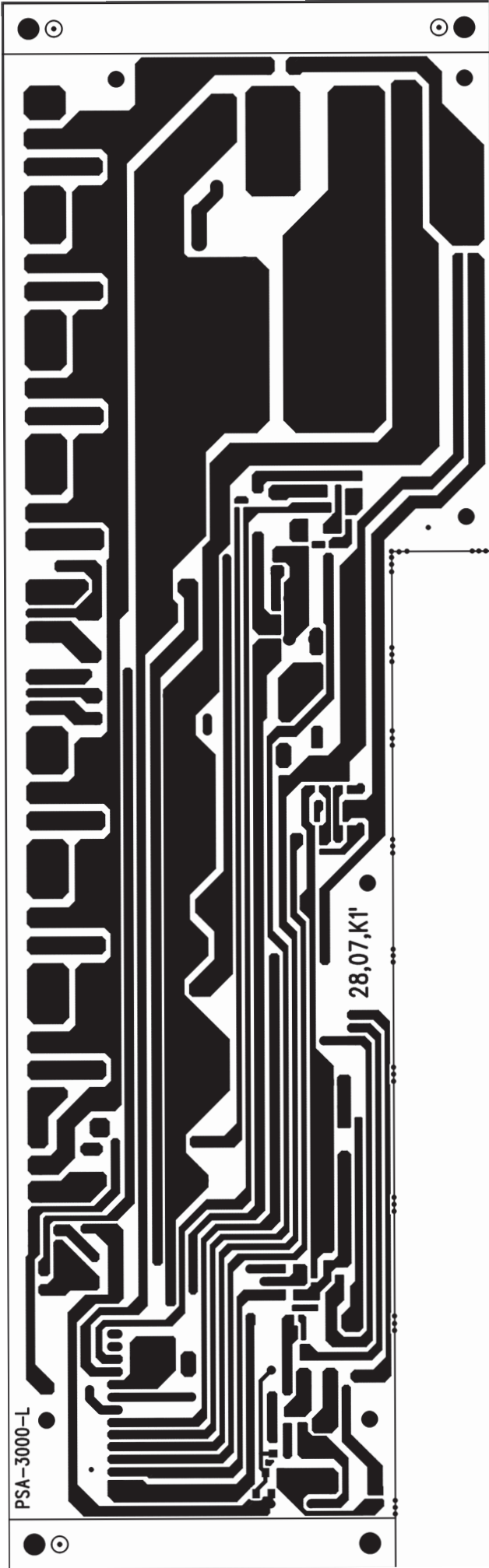
# 4. Printed Circuit Board

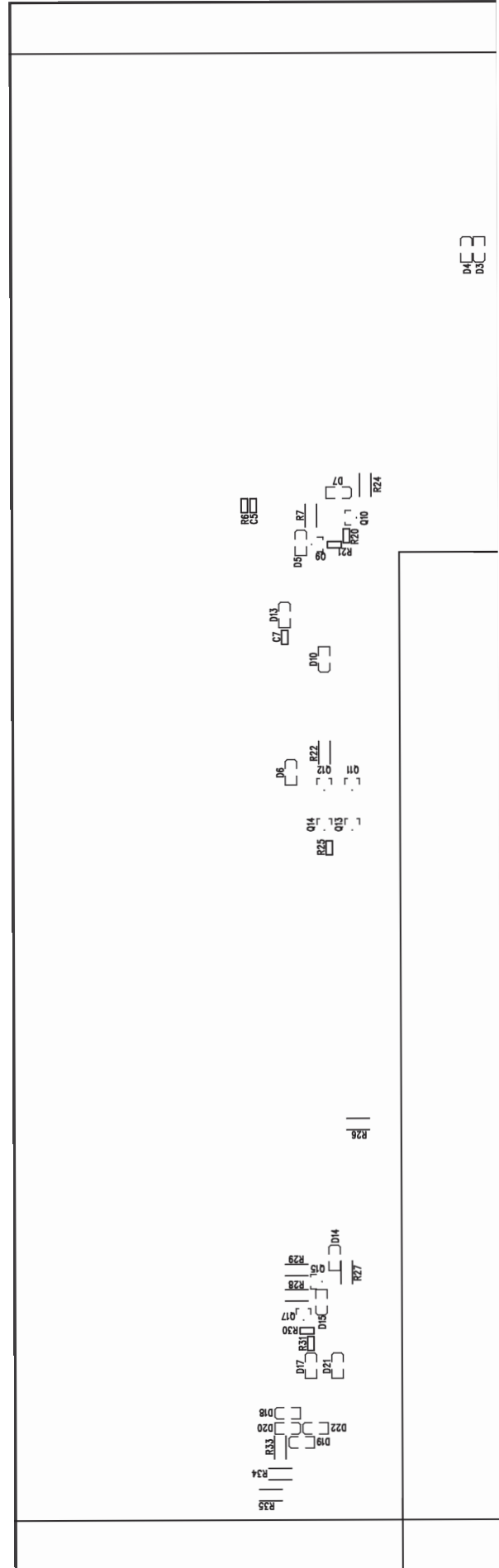
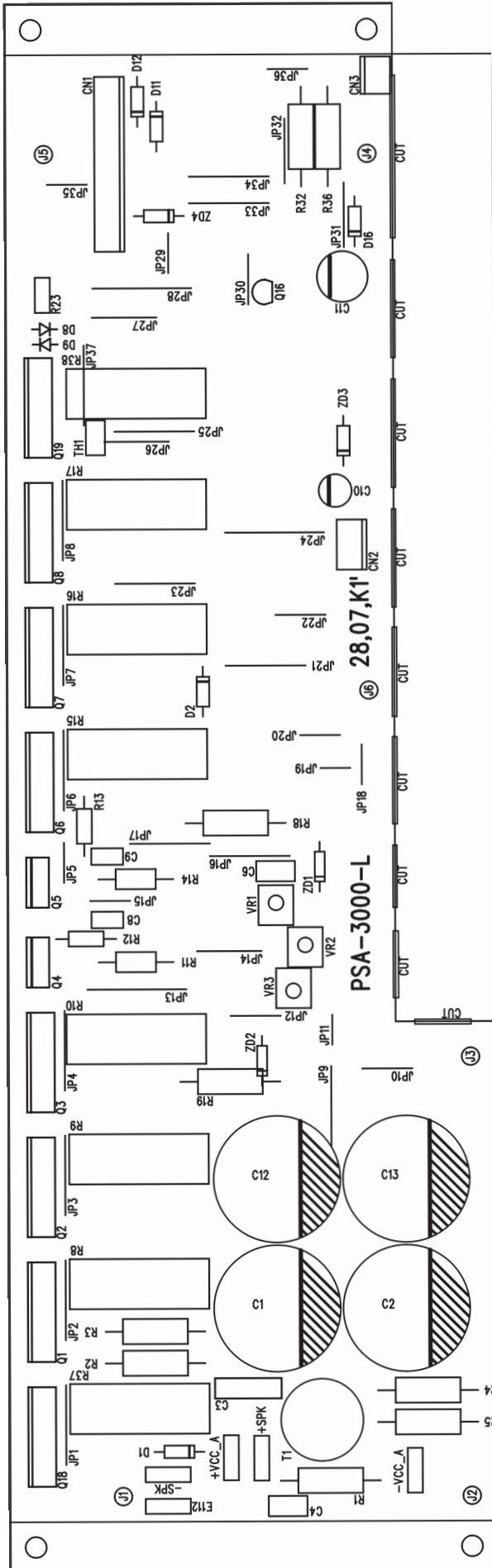
MACRO830/1400

PCB SIZE=(X)150\*(Y)90m/m



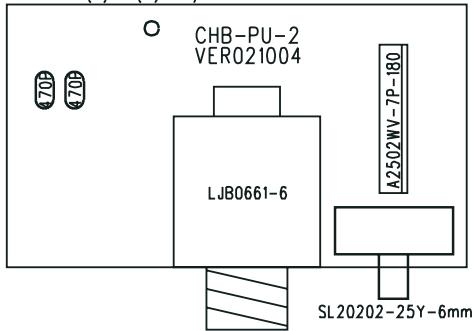




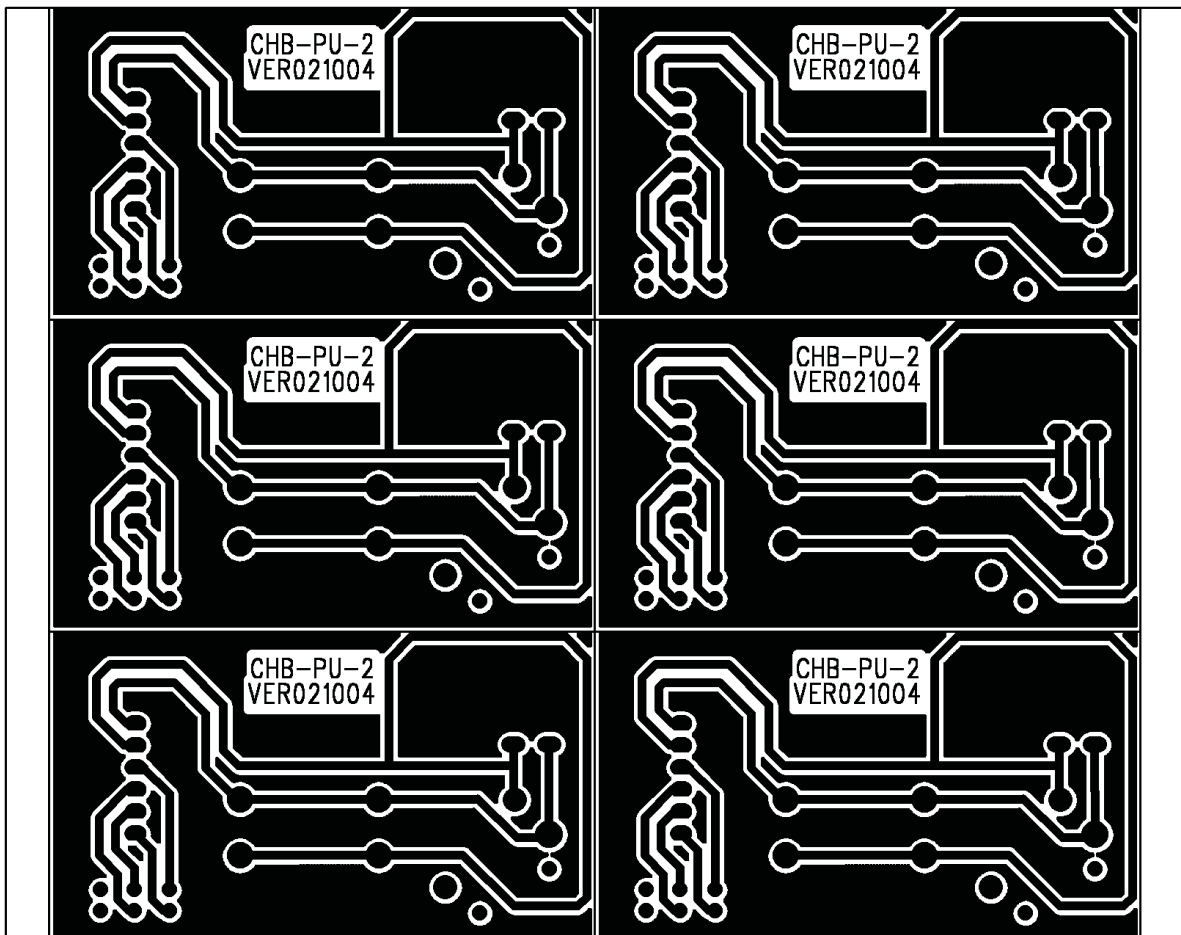
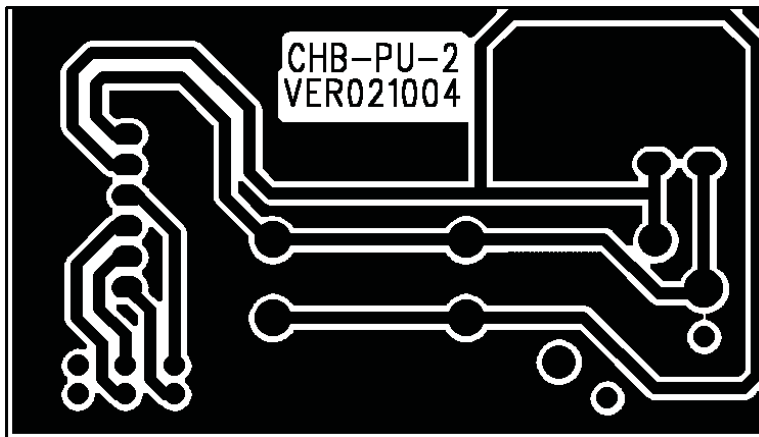
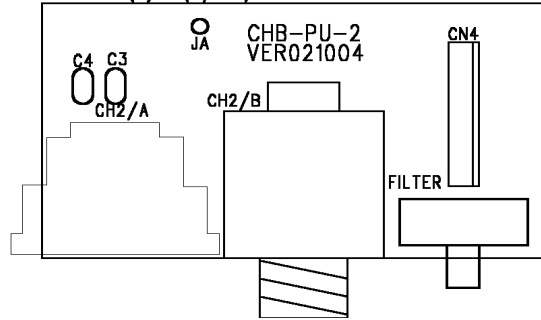


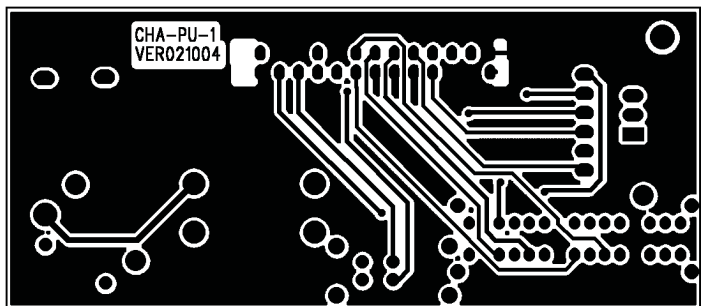
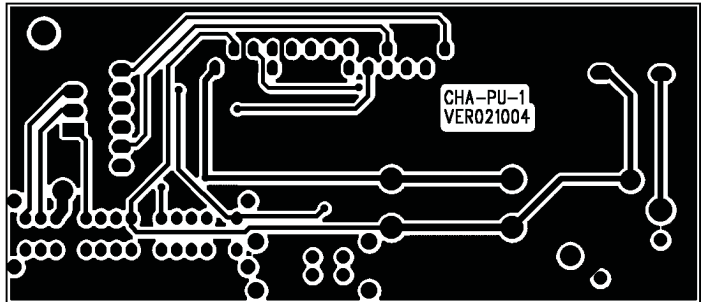
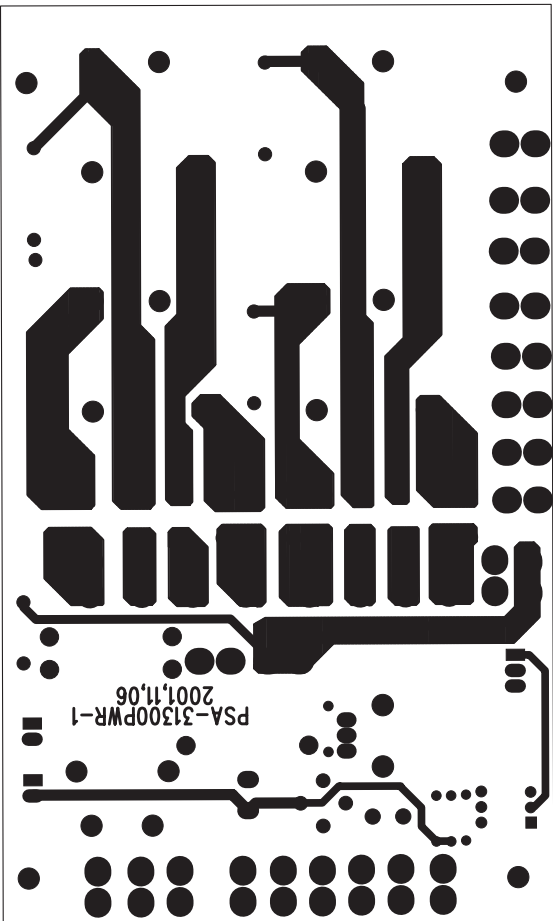
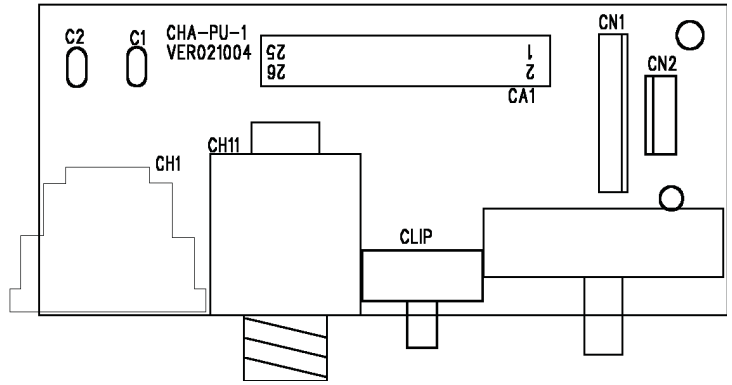
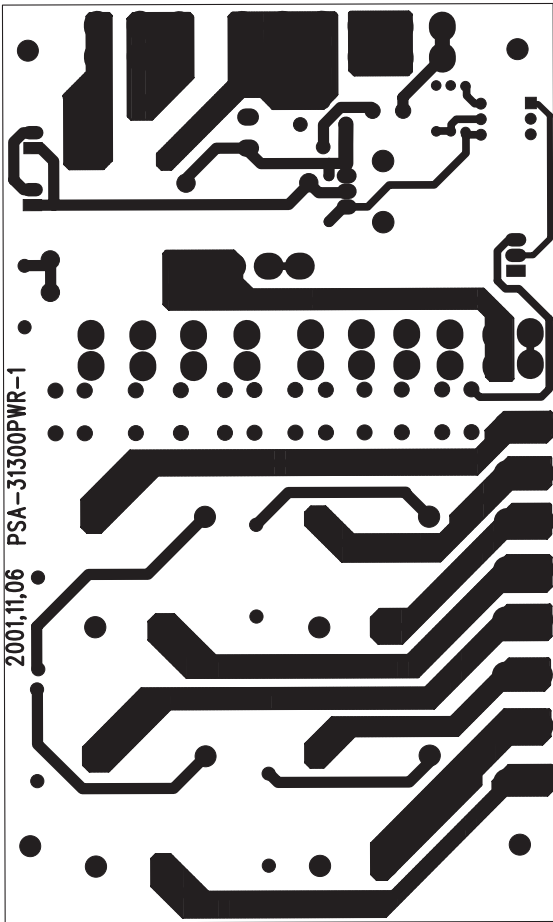
# Macro2400

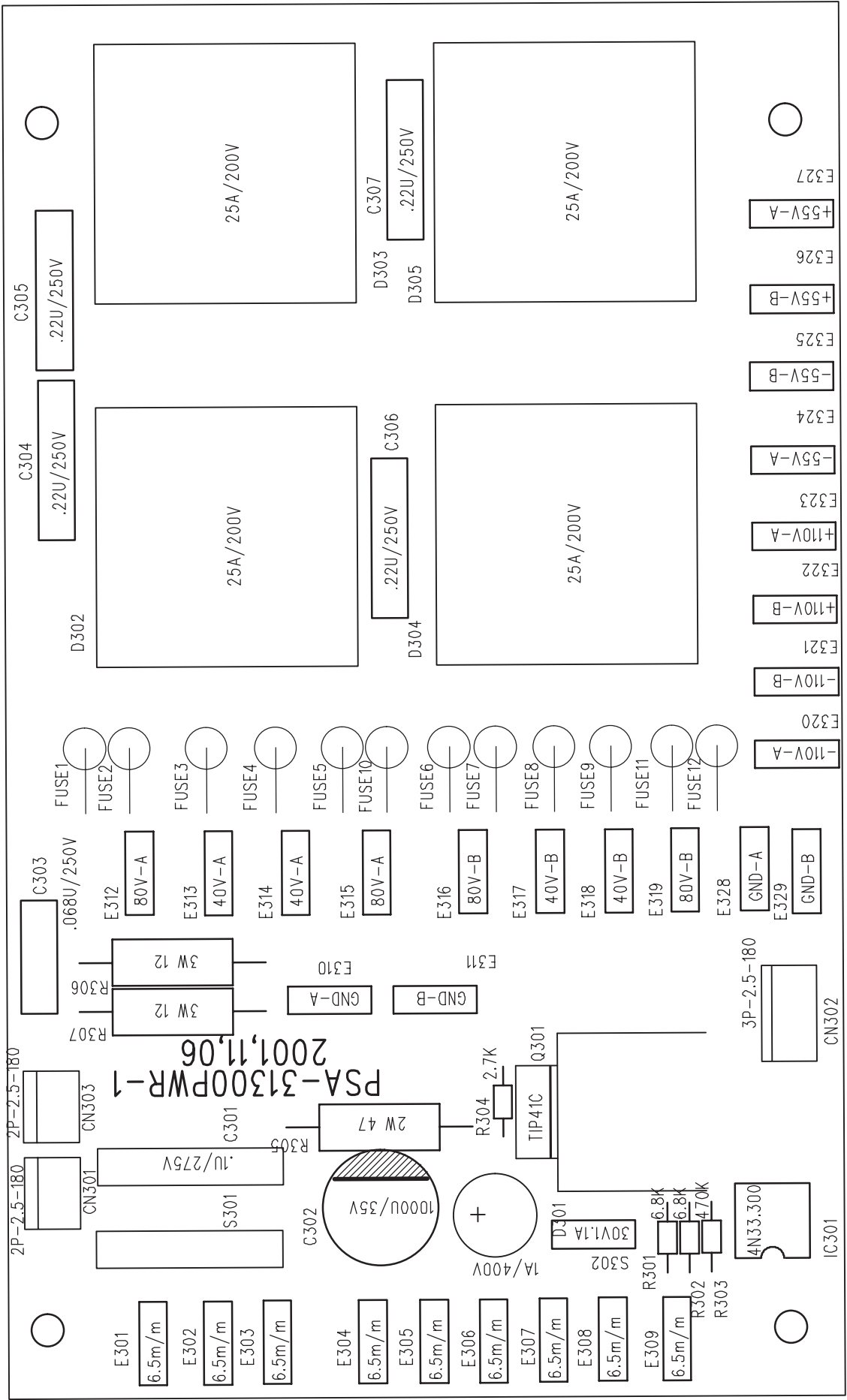
PCB SIZE=(X)63\*(Y)36m/m



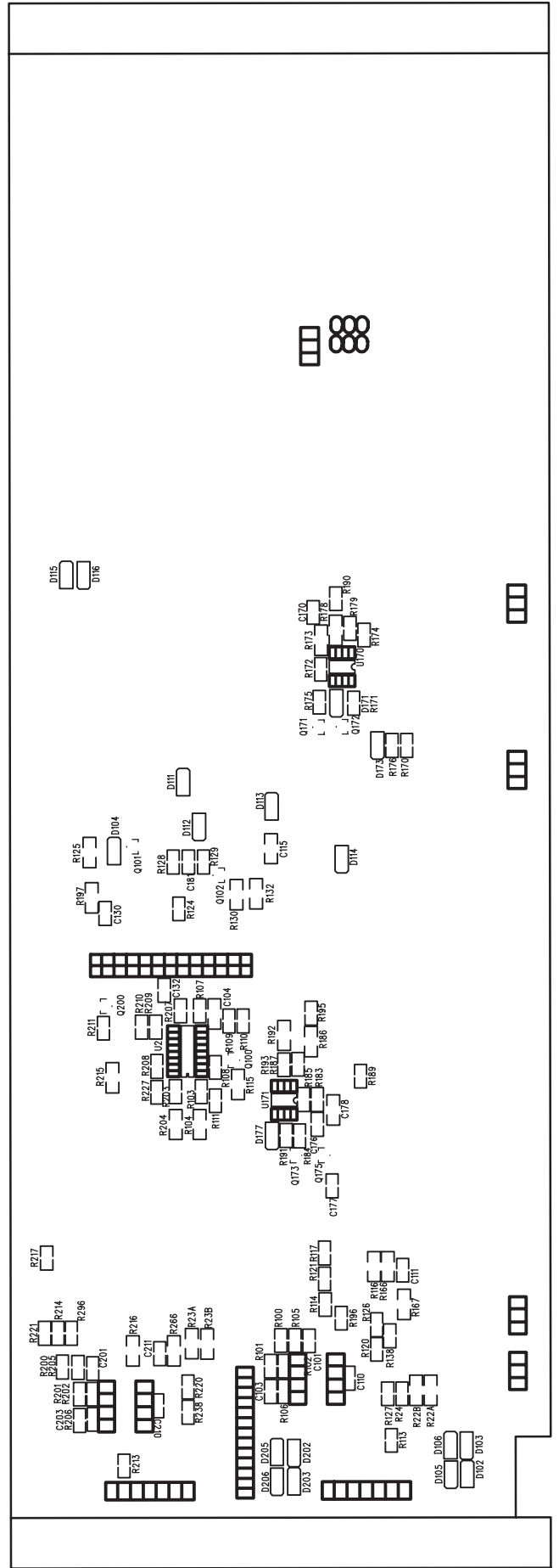
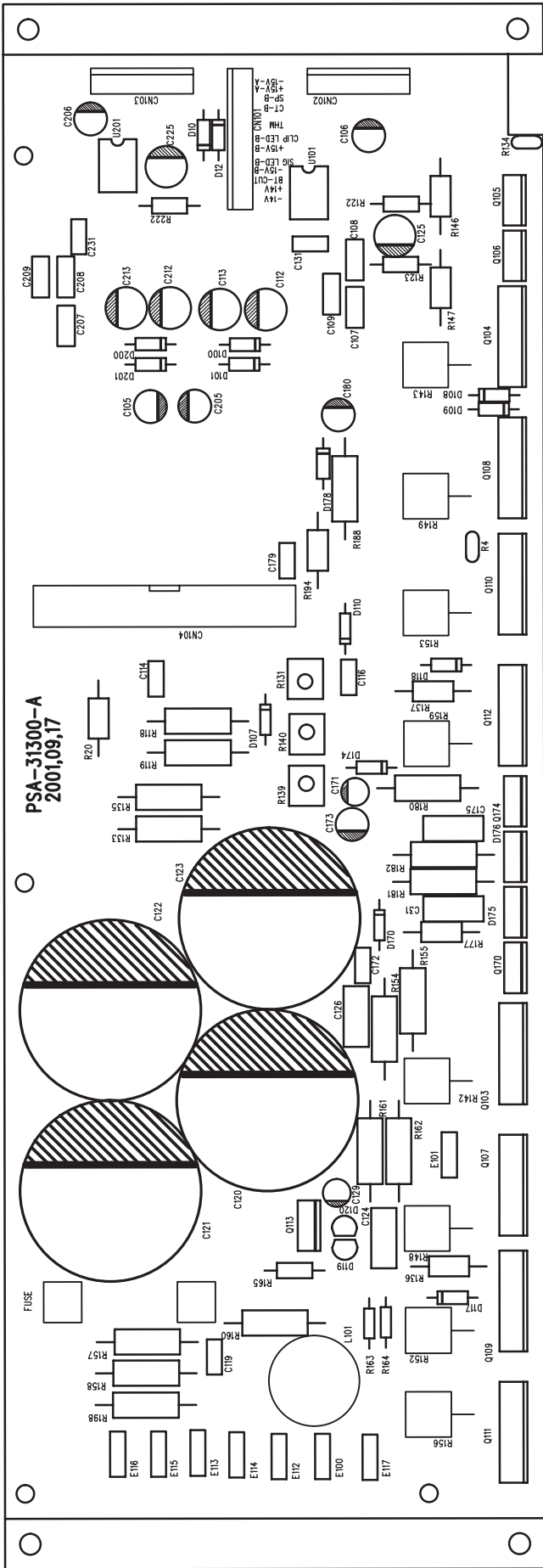
PCB SIZE=(X)63\*(Y)36m/m

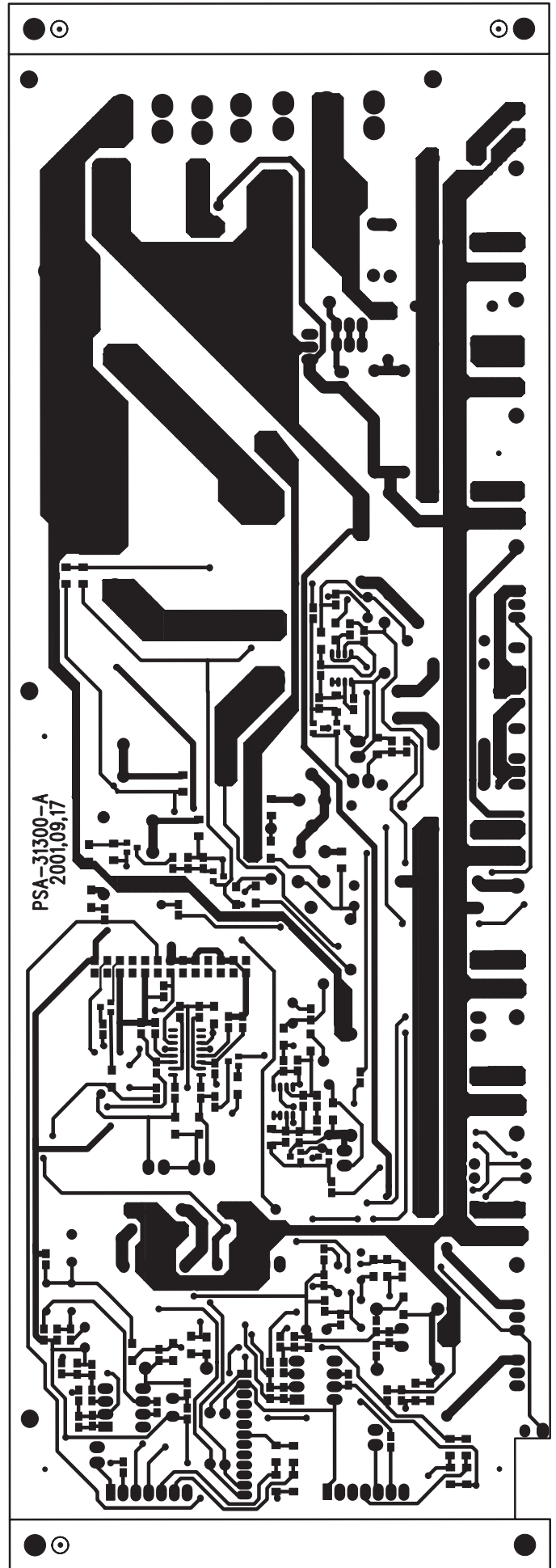
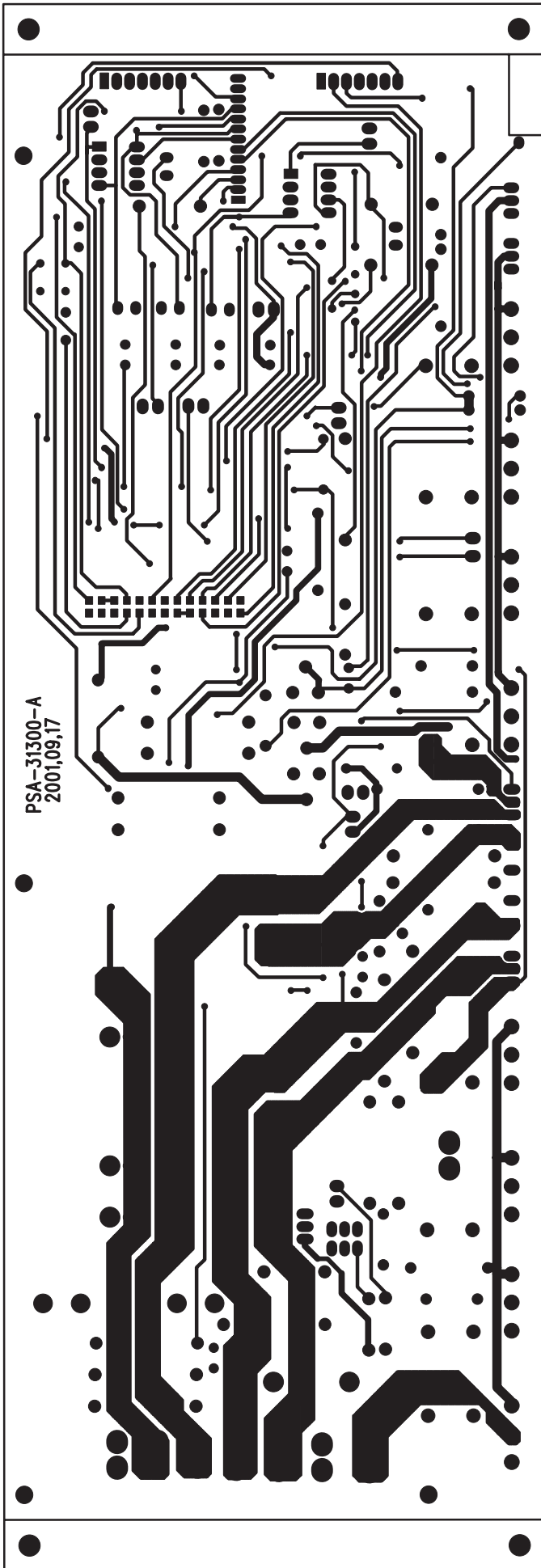


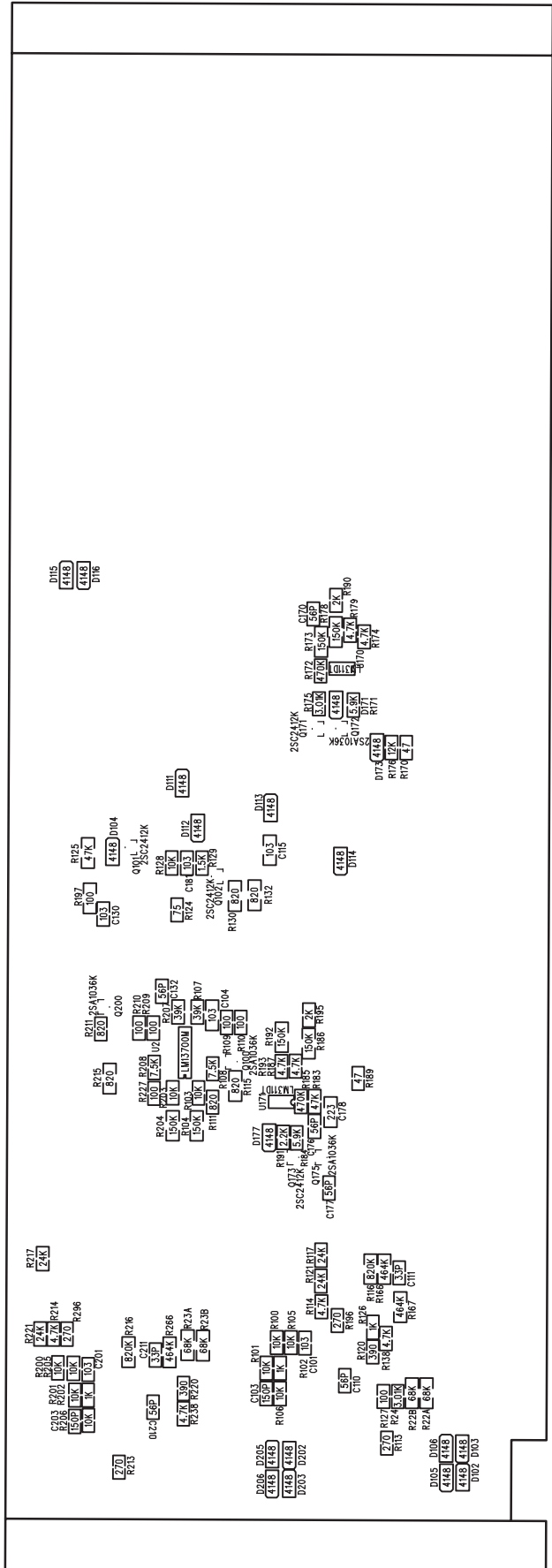
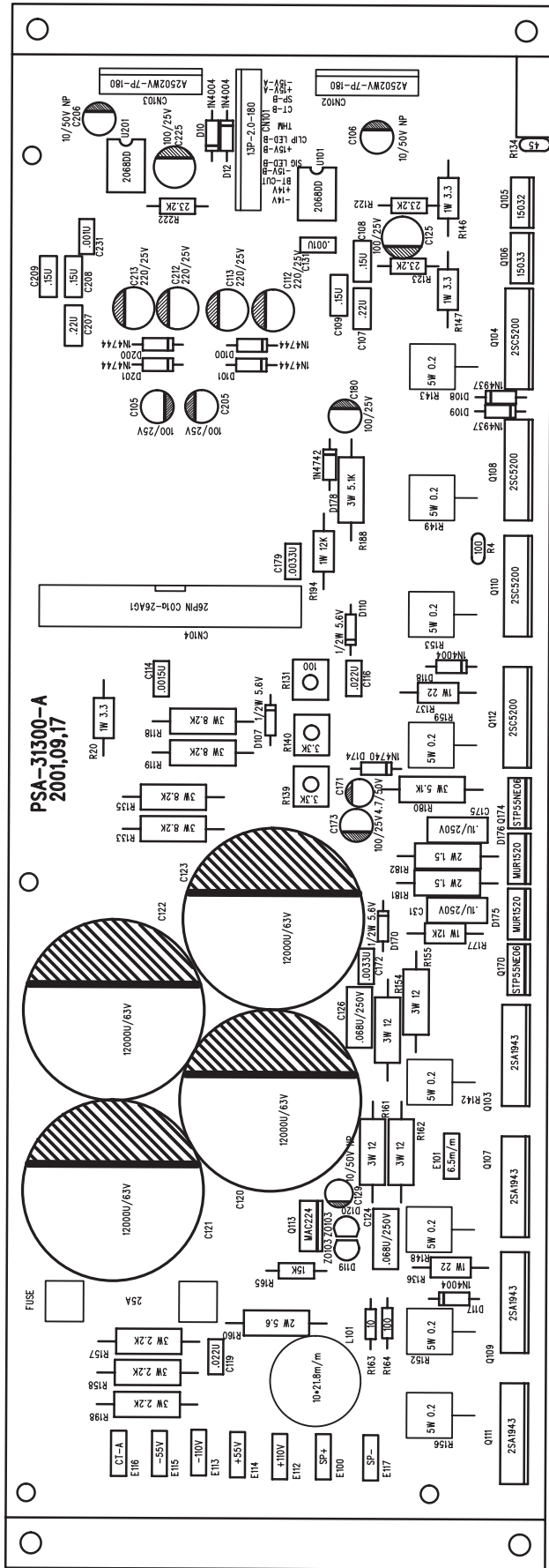


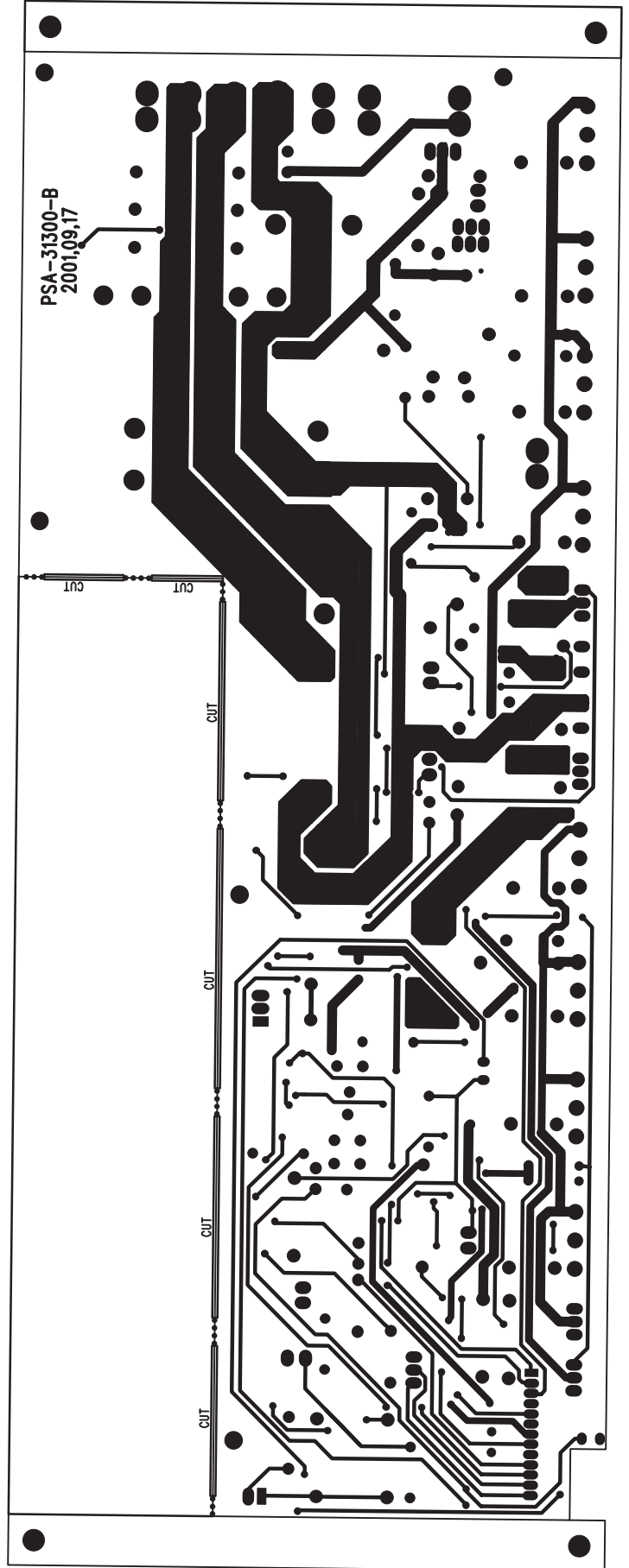
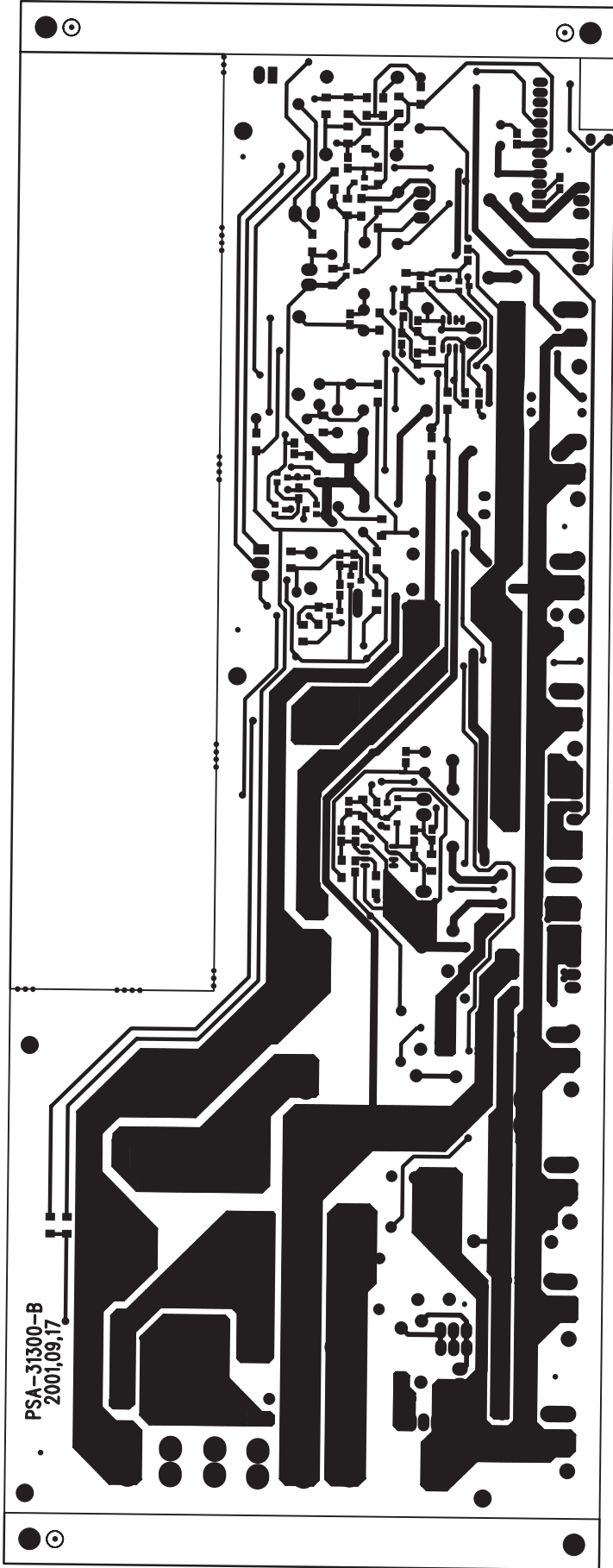






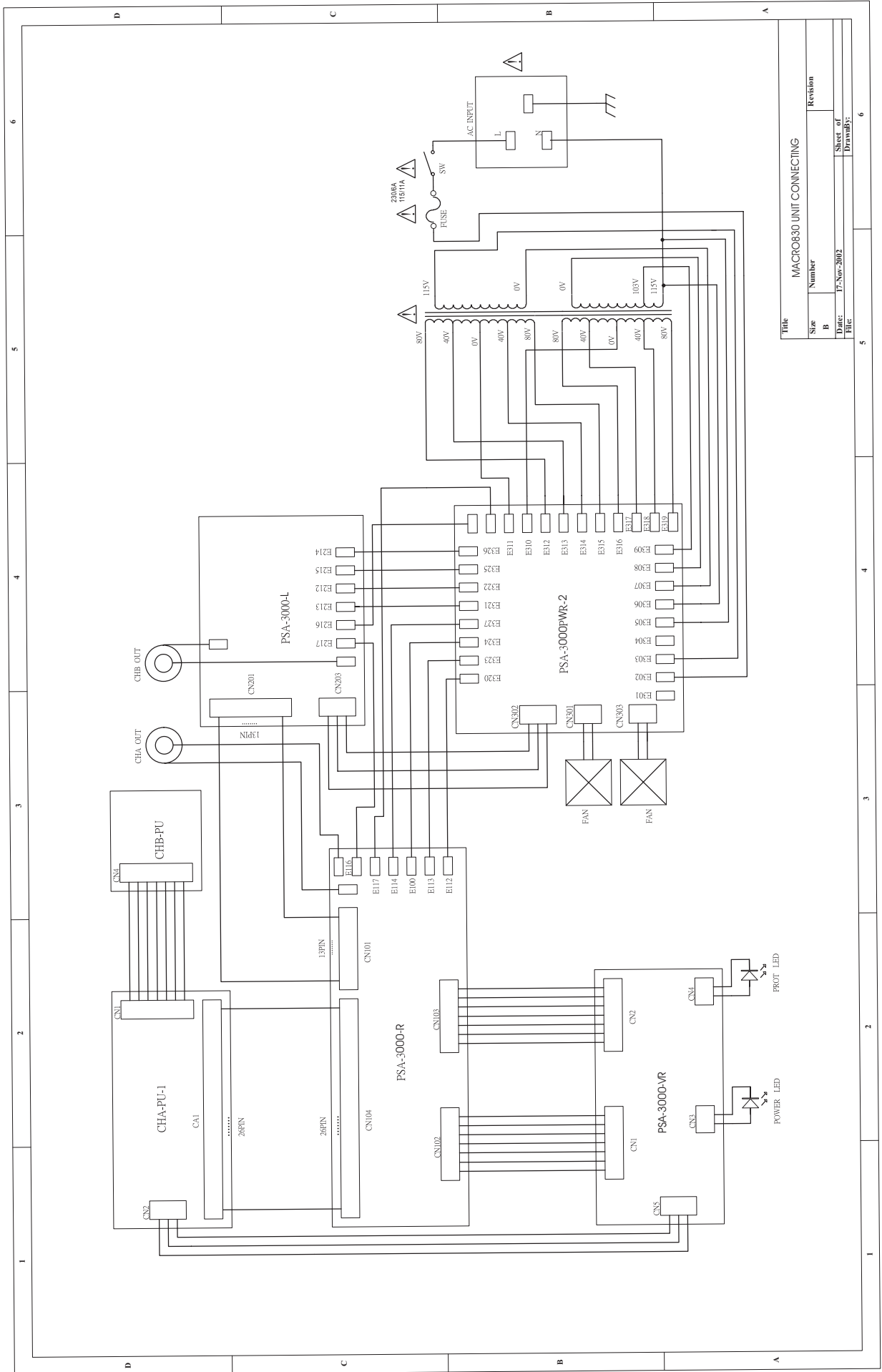






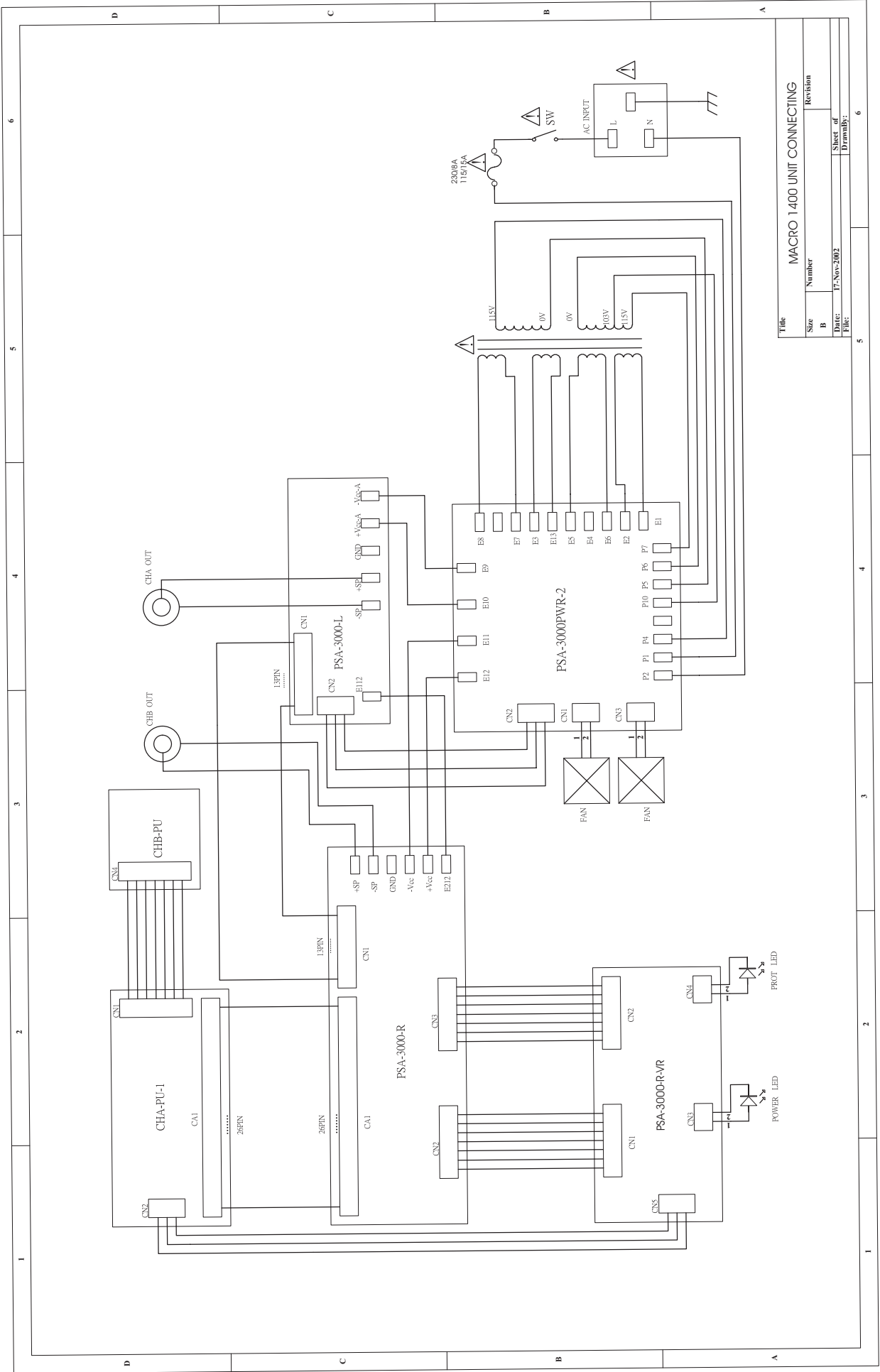
# 5. Wiring Diagram

## MACRO 830 UNIT CONNECTING



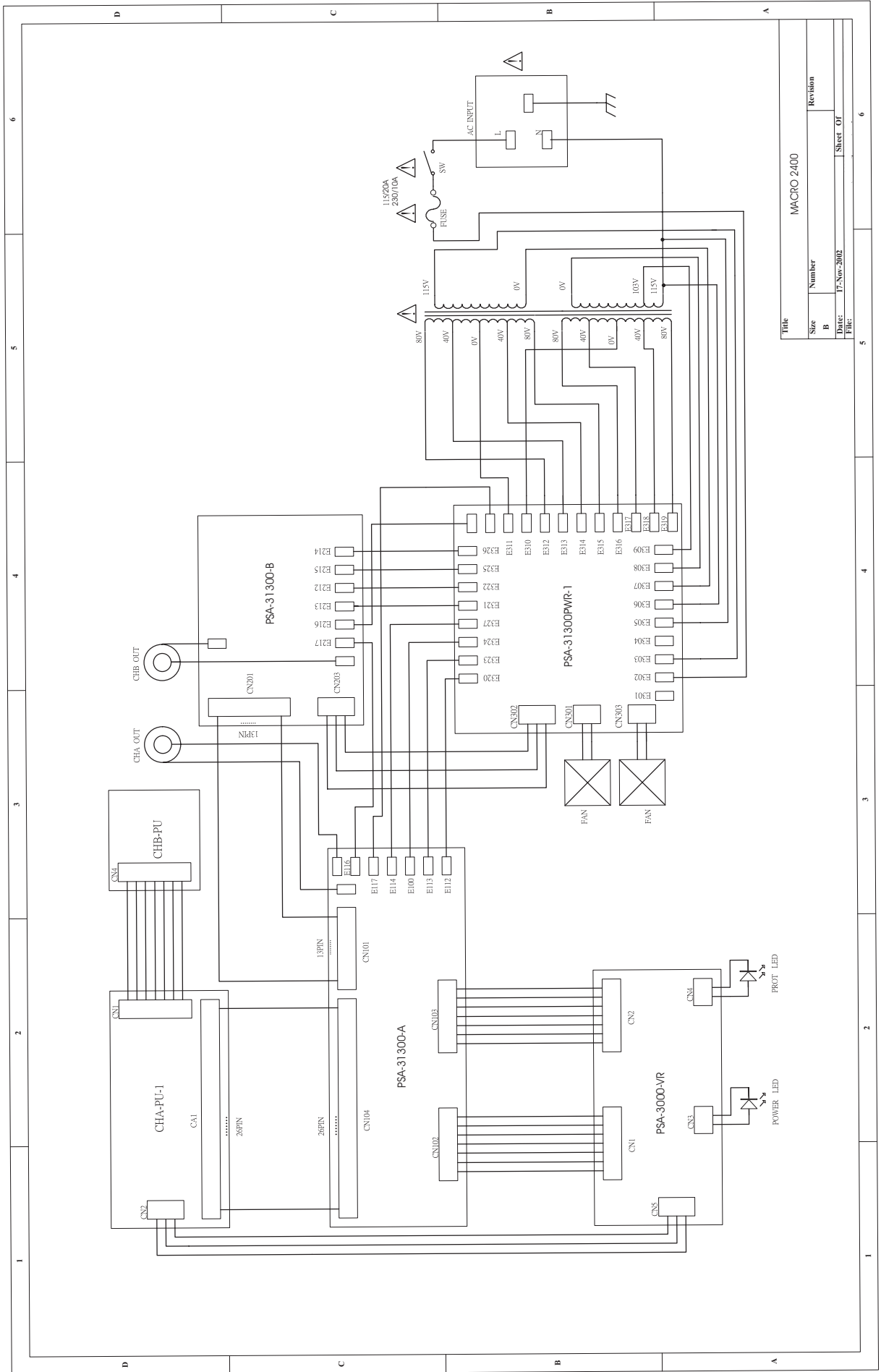
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# MACRO 1400 UNIT CONNECTING



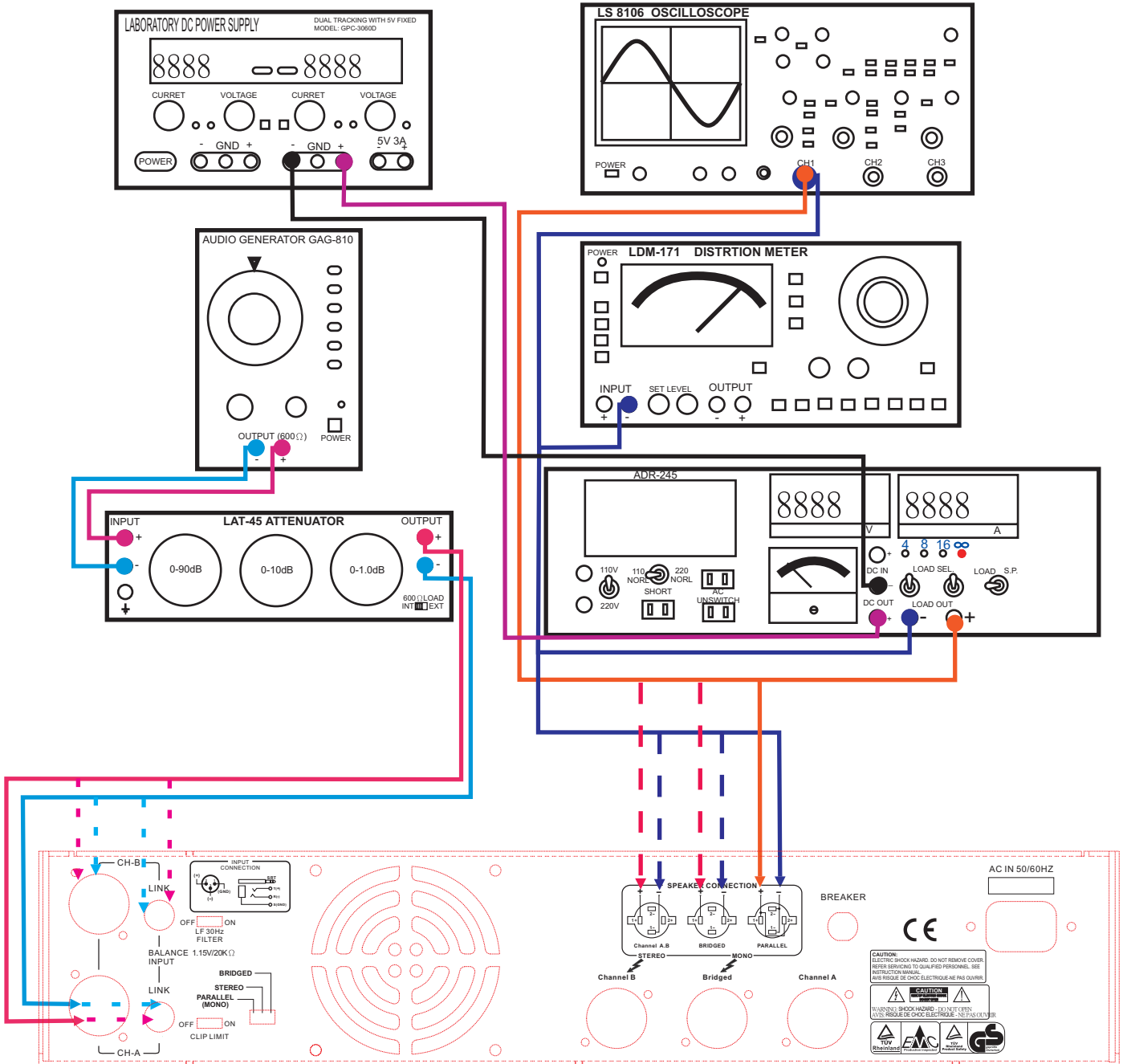
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# MACRO 2400 UNIT CONNECTING



Title		MACRO 2400	
Size	Number	Revision	
B			
Date:	17-Nov-2002	Sheet	Of
File:			

# 6. Test Procedure





# 7. Electrical Parts List

## SECAKU ELECTRON INDUSTRY CO., LTD

### PREPARE PARE DETAIL

NO	PARTE	PARTE NO,	UNIT	QUANTITY AND CONSUMPTION RATE	DATE
0001		HI00031		1.0000	2002/12/18
	R415KKETOF		PCS	1.0000	N
				%	N
0002		TD00038	1		2002/12/18
	transformer		PCS	1.0000	N
	PT-3530E			%	N
0003		HA00861	1		2002/12/18
	power cord Europe3P		PCS	1.0000	N
	LT-312+0.75*3C(H05VV-F) 6FT+LT-501			%	N
0004		HD00041	16		2002/12/18
	glass tube fuse-high-speed		PCS	1.0000	N
	10A 250V $\phi$ 6*32mm UL			%	N
0005		SA00022	1		2002/12/18
	led.		PCS	1.0000	N
	$\phi$ 3 round green high brightness(B3123b)			%	N
0006		MG00020	8		2002/12/18
	plate black screw-flat		PCS	1.0000	N
	M3*8			%	N
0007		MG00025	31		2002/12/18
	plate black screw-shallow container		PCS	1	N
	M3*6			%	N
0008		NI00218	12		2002/12/18
	cable tie		PCS	1.0000	N
	ALT-102SB			%	N
0009		HC00100		1.0000	2002/12/18
			PCS	1.0000	N
	94M-007P1(rubber)			%	N
0010		HI00125	1		2002/12/18
	sliding SW		PCS	1.0000	N
	2digit 6P SL20202-25Y-6mm handle length 6mm			%	N
0011		HC00108	1		2002/12/18
	stereo MIC socket		PCS	1.0000	N
	$\phi$ 6.3 LJB0661-6			%	N
0012		HI00128	1		2002/12/18
	sliding SW		PCS	1.0000	N
	3digit16P SLB-43-10 handle length10mm			%	N
0013		RA00092	6		2002/12/18
	resistor 5W		PCS	1.0000	N
	$\emptyset$ -type			%	N
0014		SB00039	1		2002/12/18
	transistor		PCS	1.0000	N
				%	N
0015		SB00042		1.0000	2002/12/18
	transistor		PCS	1	N
	MJE15032			%	N
0016		SB00044		1.0000	2002/12/18
	transistor		PCS	1	N
	MJE15033			%	N

0017	power transistor 2SC5200	SB00021	PCS	3.0000	2002/12/18	N
0018	power transistor 2SA1943-0	SB00023	PCS	3.0000	2002/12/18	N
0019	led. φ3 round red high brightness	SA00023	PCS	2.0000	2002/12/18	N
0020	potentiometer A10KΩ RV16A-41-15FW-A14-3F1 long bend foot	RC00014	PCS	2.0000	2002/12/18	N
0021	bridge rectification 25A/200V	SA00011	PCS	2	2002/12/18	N
0022	light transistor	SB00015	PCS	1.0000	2002/12/18	N
0001	power SW R415KKETOF	HI00031	PCS	1	2002/12/18	N
0002	t transformer PT-3800E	TD00042	PCS	1	2002/12/18	N
0003	power cord Europe3P LT-312+1.5*3C(H05VV-F) 6FT+LT-501	HA00871	PCS	1	2002/12/18	N
0004	glass tube fuse-high speed 12A 250V φ6*32mm	HD00042	PCS	24	2002/12/18	N
0005	φ3 round green high brightness(B3123b)	SA00022	PCS	1	2002/12/18	N
0006	plate black screw-plat M3*8	MG00020	PCS	16	2002/12/18	N
0007	plate black screw-shallow container M3*6	MG00025	PCS	31	2002/12/18	N
0008	balanced MIC socket 94M-007P1(plastics)	HC00100	PCS	1	2002/12/18	N
0009	stereo MIC socket φ6.3 LJB0661-6	HC00108	PCS	1	2002/12/18	N
0010	sliding SW 2digit6P SL20202-25Y-6mm handle length6mm	HI00125	PCS	1	2002/12/18	N
0011	sliding SW 3digit16P SLB-43-10 handle length10mm	HI00128	PCS	1	2002/12/18	N

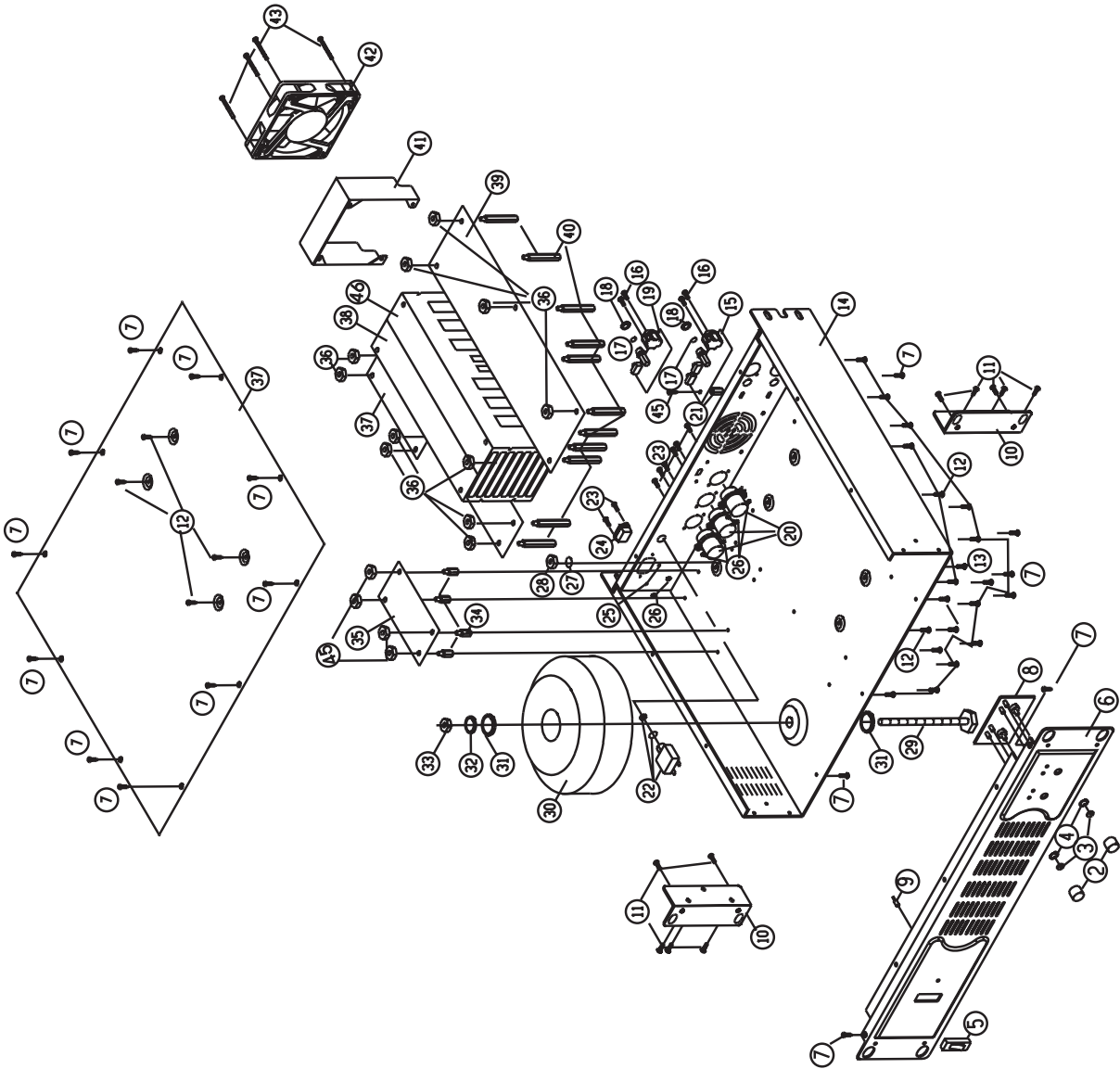
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	resistor 5W	PCS	1		N
	0.2Ω Z type	%		N	
0013-----	SB00039		1	2002/12/18	
	transistor	PCS	1		N
	MPSA06	%		N	
0014-----	SB00042		1	2002/12/18	
	transistor	PCS	1		N
	MJE15032	%		N	
0015-----	SB00044		1	2002/12/18	
		PCS	1.0000		N
	MJE15033	%		N	
0016-----	SB00021		4	2002/12/18	
	power transistor	PCS	1.0000		N
	2SC5200	%		N	
0017-----	SB00023		4	2002/12/18	
	power transistor	PCS	1.0000		N
	2SA1943-0	%		N	
0018-----	SA00023		2	2002/12/18	
	led.	PCS	1.0000		N
	φ 3 round red high brightness	%		N	
0019-----	RC00014		2	2002/12/18	
		PCS	1.0000		N
	A10KΩ RV16A-41-15FW-A14-3F1long bend foot	%		N	
0020-----	SA00011		2	2002/12/18	
	bridge rectification	PCS	1.0000		N
	25A/200V	%		N	
0021-----	SB00015		1	2002/12/18	
	light transistor	PCS	1		N
	4N33.300	%		N	
0001-----	HI00031		1.0000	2002/12/18	
	power SW	PCS	1		N
	R415KKETOF	%		N	
0002-----	TD00040		1	2002/12/18	
	transformer	PCS	1		N
	PT-31300E	%		N	
0003-----	HA00871		1	2002/12/18	
	power cord Europe3P	PCS	1		N
	LT-312+1.5*3C(H05VV-F) 6FT+LT-501	%		N	
0004-----	HD00050		2	2002/12/18	
	glass tube fuse-high speed	PCS	1		N
	250V32mm	%		N	
0005-----	SA00022		1	2002/12/18	
	led.	PCS	1		N
	high brightness(B3123b)	%		N	
0006-----	MG00020		8.0000	2002/12/18	
	plate black screw-plat	PCS	1		N
	M3*8	%		N	
0007-----	MG00025		31.0000	2002/12/18	
	plate black screw-shallow container	PCS	1		N
	M3*6	%		N	
0008-----	HC00100		1.0000	2002/12/18	
	balanced MIC socket	PCS	1		N
	94M-007P1(plastics)	%		N	

┌0009-----	HC00108			1.0000	2002/12/18	
	stereo MIC socket	PCS		1		N
	φ 6.3 LJB0661-6		%		N	
┌0010-----	HI00125			1.0000	2002/12/18	
	sliding SW	PCS		1		N
	2digit6P SL20202-25Y-6mm handle length6mm		%		N	
┌0011-----	HI00128			1.0000	2002/12/18	
	sliding SW	PCS		1		N
				%	N	
┌0012-----	SA00023			2.0000	2002/12/18	
		PCS		1.0000		N
				%	N	
┌0013-----	RC00014			2	2002/12/18	
	potentiometer	PCS	1		N	
	A10KΩ RV16A-41-15FW-A14-3F1long bend foot			%		N
┌0014-----	SB00002			1	2002/12/18	
	dual direction silicon controlling gate fluid	PCS	1		N	
	Z0103A(banding)			%		N
┌0015-----	SB00003			1	2002/12/18	
	dual direction silicon controlling gate fluid	PCS	1		N	
	MAC224/BTA24-600			%		N
┌0016-----	SA00099			2	2002/12/18	
	rectification diode	PCS	1		N	
	MUR1520/STPR1520D			%		N
┌0017-----	SB00010			2	2002/12/18	
	pan effect transistor	PCS	1		N	
	STP55NE06/STP60NF06(TO-220)			%		N
┌0018-----	RA00091			8	2002/12/18	
	resistor 5W	PCS	1		N	
	0.2Ω P-type		%			N
┌0019-----	SB00042			1	2002/12/18	
	transistor	PCS	1		N	
	MJE15032			%		N
┌0020-----	SB00044			1	2002/12/18	
	transistor	PCS		1		N
	MJE15033		%		N	
┌0021-----	SB00021			4	2002/12/18	
	power transistor	PCS		1		N
	2SC5200		%		N	
┌0022-----	SB00023			4	2002/12/18	
	power transistor	PCS		1		N
	2SA1943-O		%		N	
┌0023-----	SA00012			4	2002/12/18	
	bridge rectification	PCS		1		N
	25A/200V BP25-06PWS round foot		%		N	
┌0024-----	SB00015			1	2002/12/18	
	light transistor	PCS		1		N
	4N33.300			%	N	

# 8. Exploded Views

機種: MACRO 830/1400/2400

日期: 20021219



# 9. Exploded Views Part List

## SEKAKU ELECTRON INDUSTRY CO.,LTD.

### MACRO SERIES PART TABLE

No.	Part NO.	Part	Sep.	quantity	quality	remark	NO.	Part NO	Part	Spec.	Quantity	Quality	Remark
1							28	MSTC04	color nut	4m/m	1		ground
2	MMBB12	black aluminum knob fog appearance-spriting	$\phi$ 18.5*12.5 PASO use	2			29	MSCZ40	zinc screw(loop modelPT use)	external hexagon 8*80	1		transformer's accessory
3	RVL001-T1	V.Rnut	7 $\phi$	2	iron color-painting		30	TP3039	loop momel transformer	PT-31300E	1		
4	RVL001-T2	V.Rwasher	7 $\phi$	2	iron color-painting		31	MFSC14	colorwasher	$\phi$ 8* $\phi$ 18*1.5	2		transformer's accessory
5	HSWA24	power SW	R415KKETOF	1			32	MFSS09	spring washer(plating color)	$\phi$ 13.5* $\phi$ 8*2.0t	1		transformer's accessory
6	MFR3109ZZ	the front panel	MACRO830/1400/2400	1			33	MSTZ08	zinc nut	8m/m	1		transformer's accessory
7	MSCB13	pating black screw	shallow container 3*6	31			34	MW1034	copper pillar M3*P0.5	15m/m,the whole length 21m/m	4		
8	NPC373	PCB	VR	1			35	NPC378	PCB	PSA-31300PWR	1		
9	DL05RG	L.E.D high lightness	3m/m ground green B3123b	1			36	MSTC03	colornut	3m/m	11		
10	MAPR63ZZ	L model front panel fixed stand		2			37	NPC379	PCB	PSA-31300-A	1		
11	MSCB37	plating black screw	flat 4*10 screw	6			38	MHLT52	shink socket (L)	6*79*36.5*270(PSA-3000)	2		
12	MSCB02	plating black screw	flat3*8 screw	8			39	NPC380	PCB	PSA-31300-B	1		
13	MSCC52	color screw	flat 4*10	1		ground	40	MW1059	copper pillar 3mm*40	22m/m,whole length28m/m	11		
14	MBT302ZZ	front rear panel(black painting)	PSA-3530	1			41	MAPI51ZZ	baffle(zincc color)	PSA-3000	1		
15	NPC099	PCB	CHA-PU-2	1			42	HEM102	fan	AD0812U-A70GL(TP)	1		
16	MSCB58	plating black screw	plat pill 3*10	4			43	MSCB64	plating black screw	flat $\square$ 4/*35	4		fan
17	HCSM37-1	wooden washer	red $\phi$ 15.3* $\phi$ 11.3*1mm	2			44	MTP301ZZ	top cover(black painting)	PSA-3000	1		
18	HCSM37-2	rubber nut	external hexagon $\phi$ 7/16*G20/15*8	2			45	MSCB28	plating black screw	flat $\square$ 3*4	5		
19	NPC092	PCB	CHB-PU	1			46	MHLT53	heat shink socket(R)	6*79*36.5*270	1		
20	HCSS70	speaker socket(female plug)	SKCB201-4P	3			47						
22	HSWP08	manual reset SW	A0701HM-10A	1		contain accessory	48						
23	MSCB35	plating black screw	shallow container 3*10	8		AC socket	49						
24	HCSA04	AC socket	AC-008	1			50						
25	MFSS03	spring washer	3m/m	2			51						
26	MSTC03	color nut	3m/m	8			52						
27	MFST01	gear washer	external 4M*8	1		ground	53						
							54						