

Service
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Service Manual

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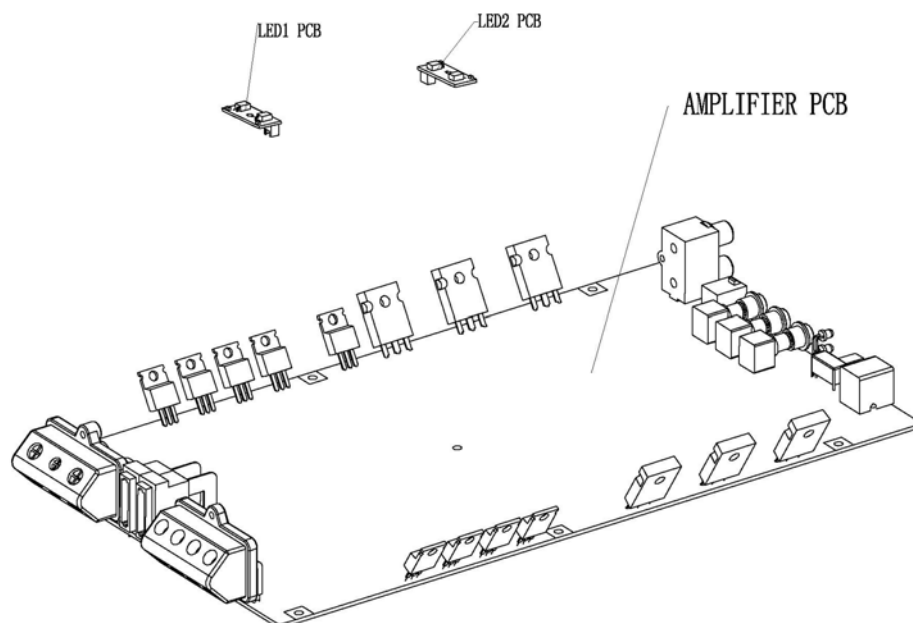
**CLASS 1
LASER PRODUCT**

Version 1.1



PHILIPS

PCBS LOCATION



VERSION VARIATIONS:

Type/versions		CMP100									
Board in used	Service policy										
AMPLIFIER BOARD											
LED1 BOARD											
LED2 BOARD											
Type/versions		CMP100									
Feature difference	Type/Versions										
LINE OUT											
SUBWOOFER OUT											
DIGITAL BOARD											
VOLTAGE SELECTOR											

*TIPS: C --Component Lever Repair

M-- Module Lever Repair

x--Used

SPECIFICATIONS

AMPLIFIER

Output power.....	250W RMS/400W music power
Signal-to-noise ratio.....	≥ 85 dBA (IEC)
Frequency response.....	10Hz–320 ($\pm 10\%$)
Impedance loudspeakers.....	4 Ω
Impedance headphones.....	16 Ω

SERVICE AIDS



WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD



Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used

Safety components are marked by the symbol .

**CLASS 1
LASER PRODUCT**

INFORMATION ABOUT LEAD-FREE SOLDERING

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION:

Regardless of special logo (not always indicated) one must treat all sets from 1 Jan 2005 onwards, according next rules:



- On our website www.atyourservice.ce.Philips.com you find more information to:

- * BGA-de-/soldering (+ baking instructions)
- * Heating-profiles of BGAs and other ICs used in Philips-sets
- * Lead free

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

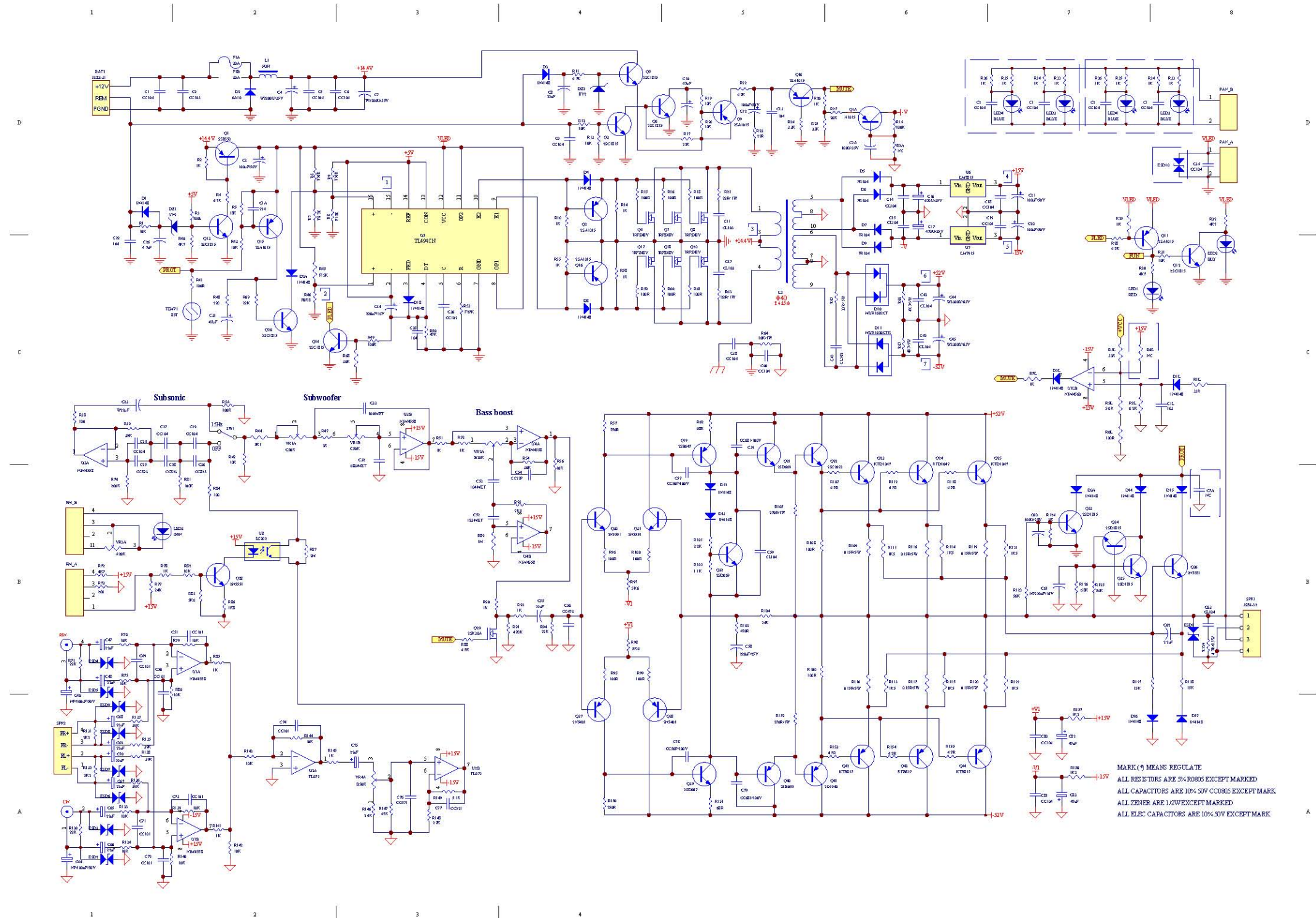
SERVICE INSTRUCTION

Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

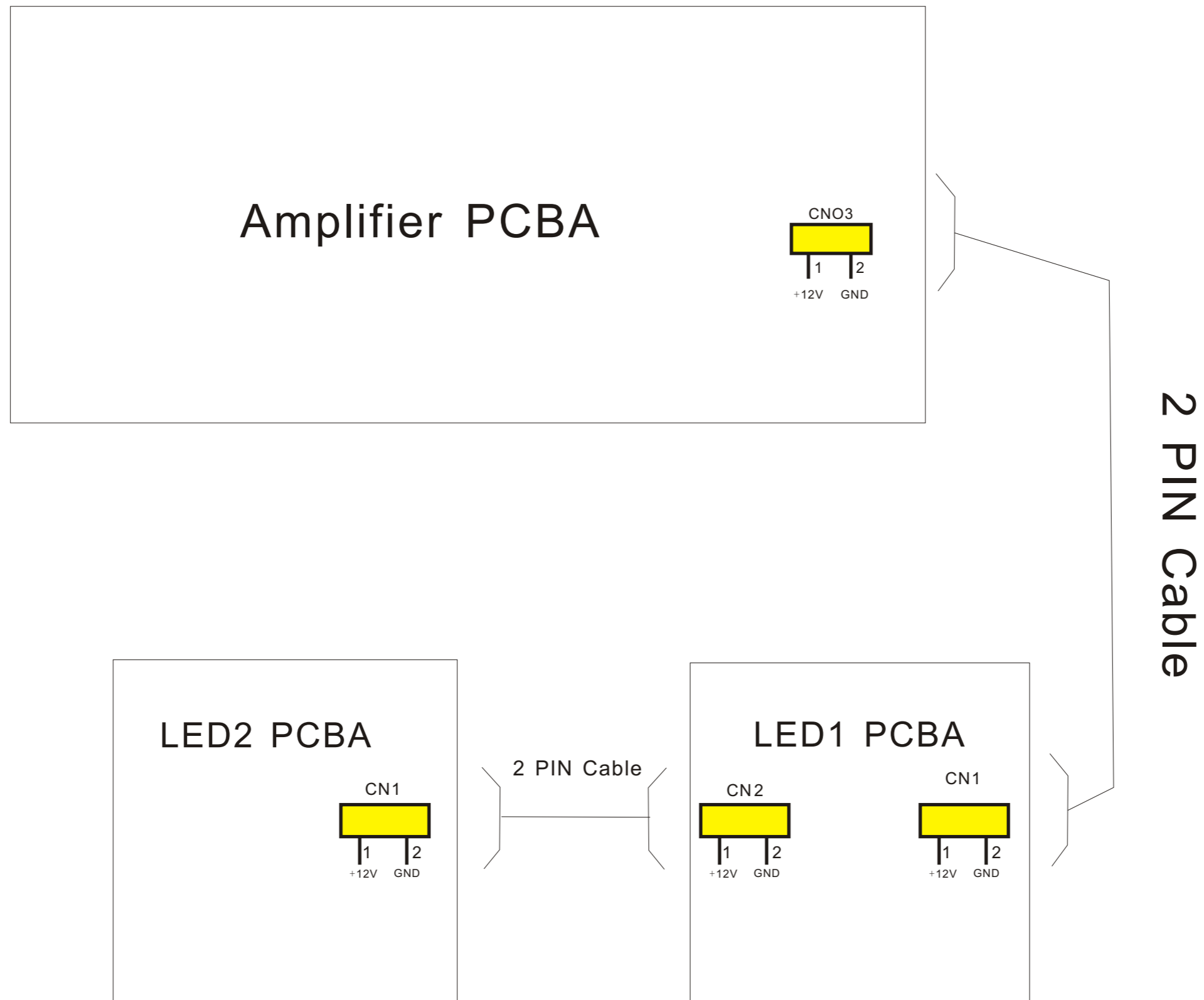
- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):
 1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
 2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be larger than 4.5 Mohm (For U.S. it should be between 4.2 Mohm and 12 Mohm).
 4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

CMP100/55 Circuit Diagram

1 Block Diagram

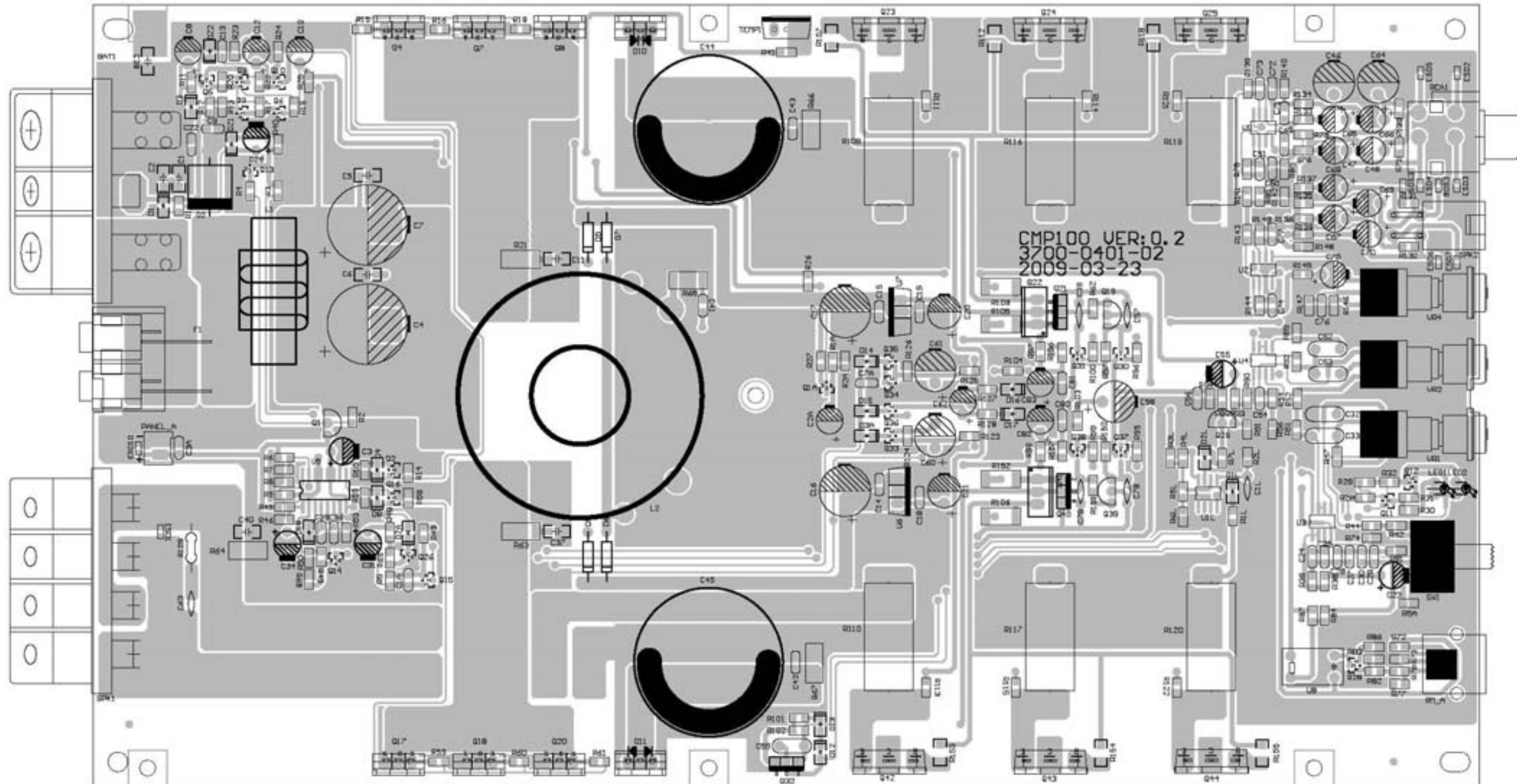


2 Wiring Diagram

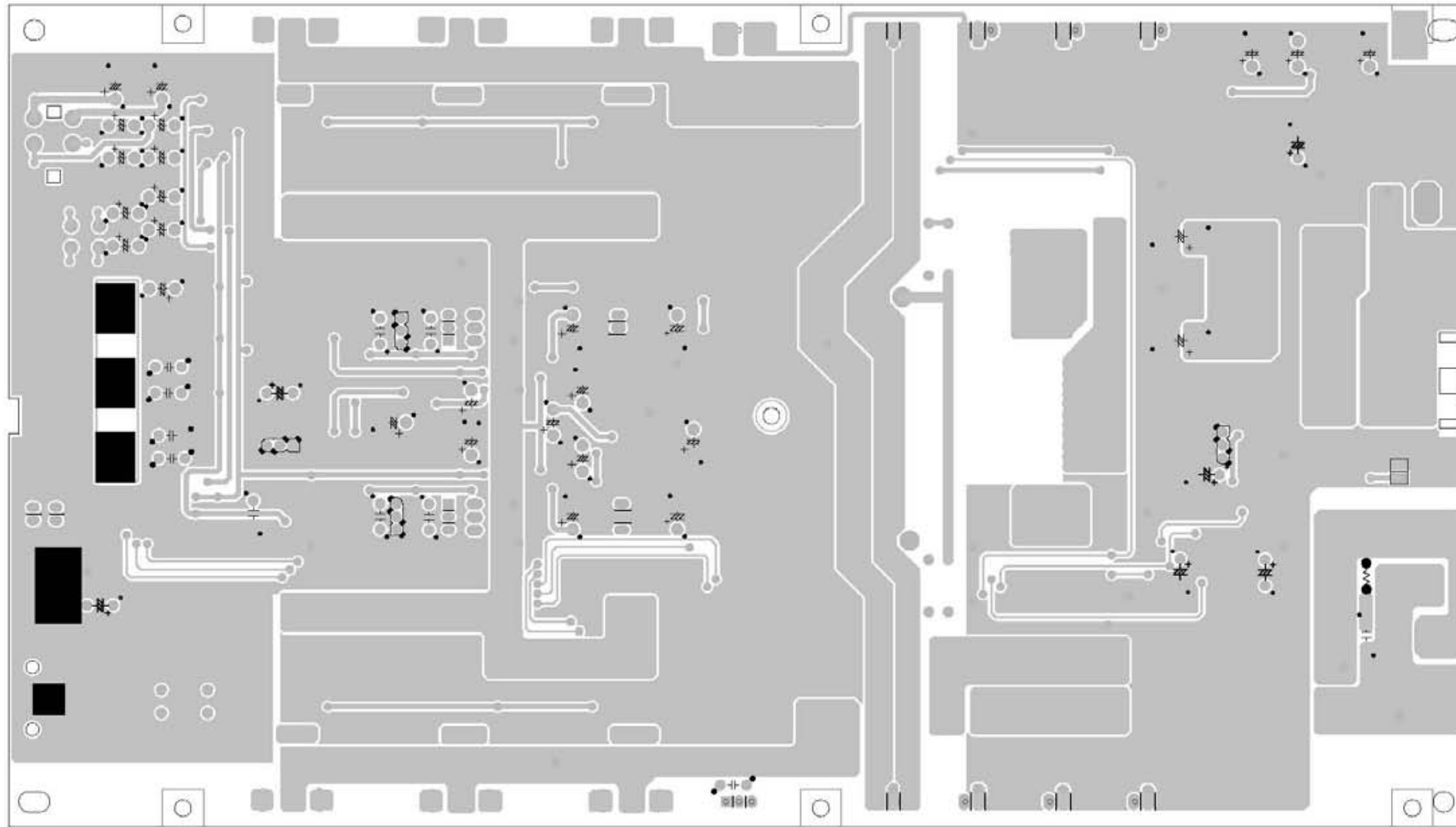


CMP100/55 PCB LAYOUT

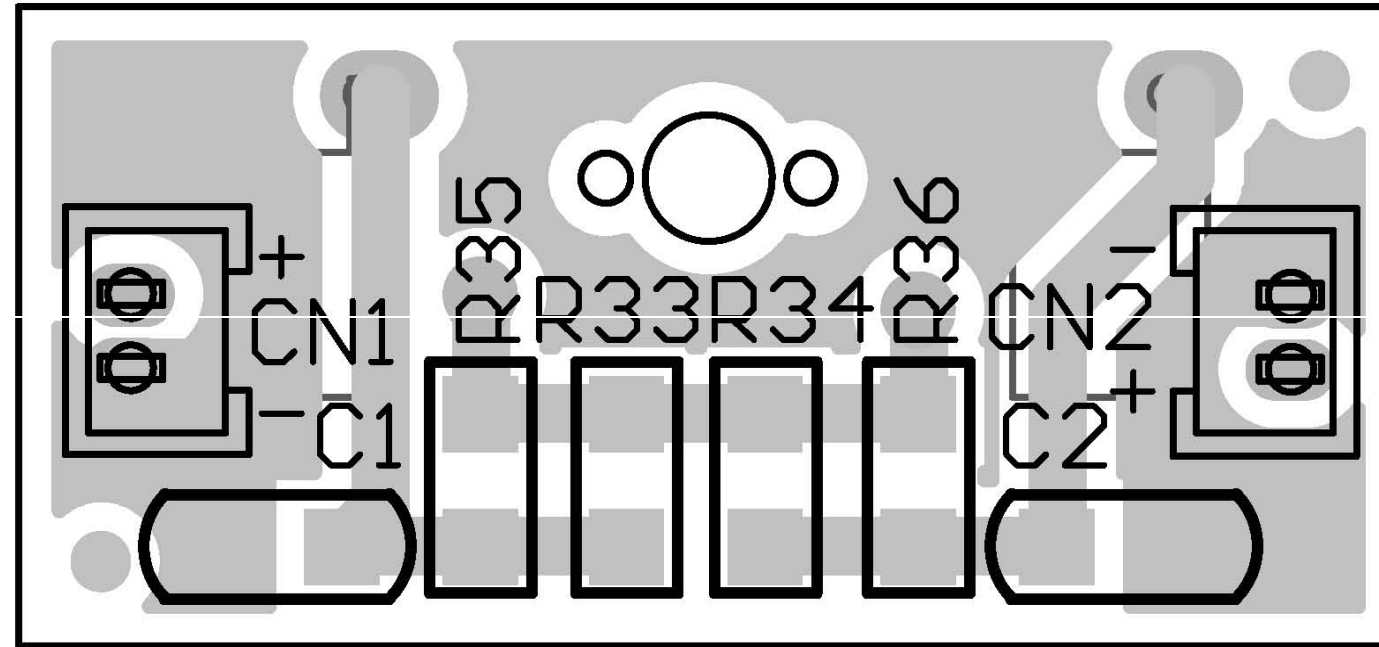
1 Amplifier PCB top layout



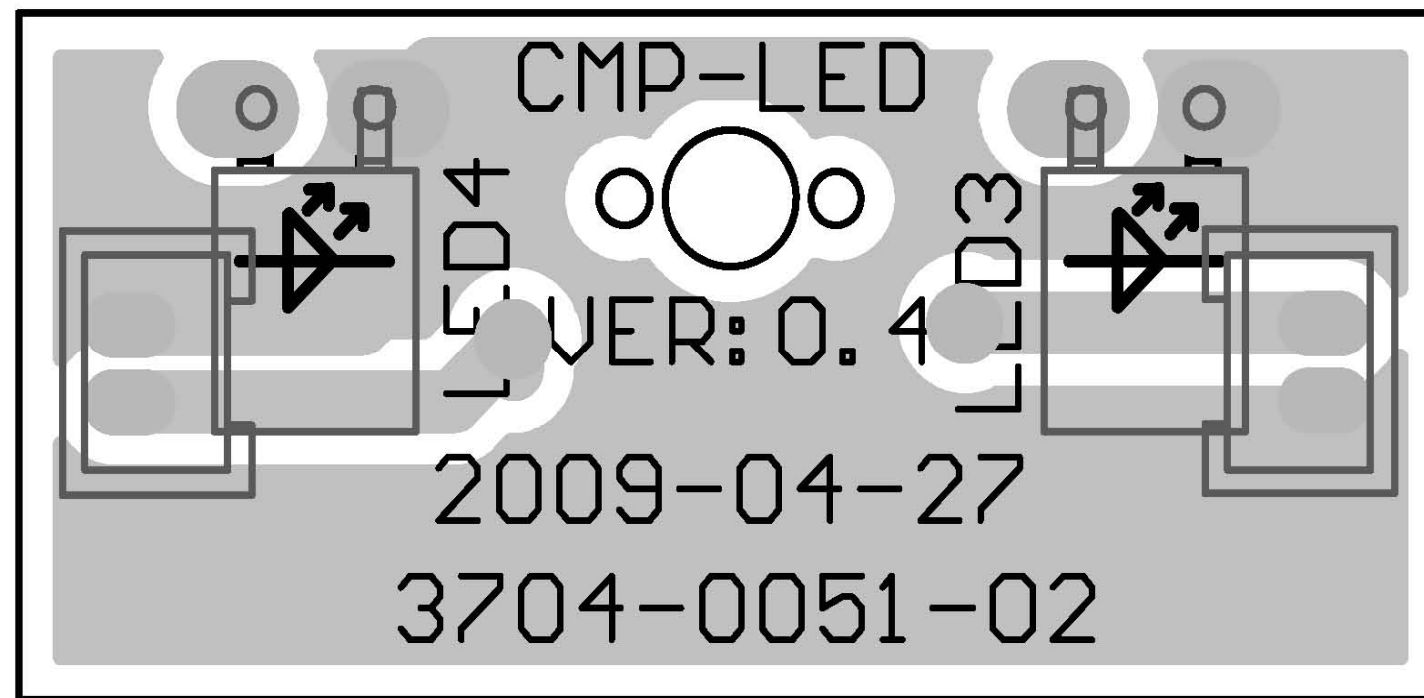
2 Amplifier PCB bottom layout



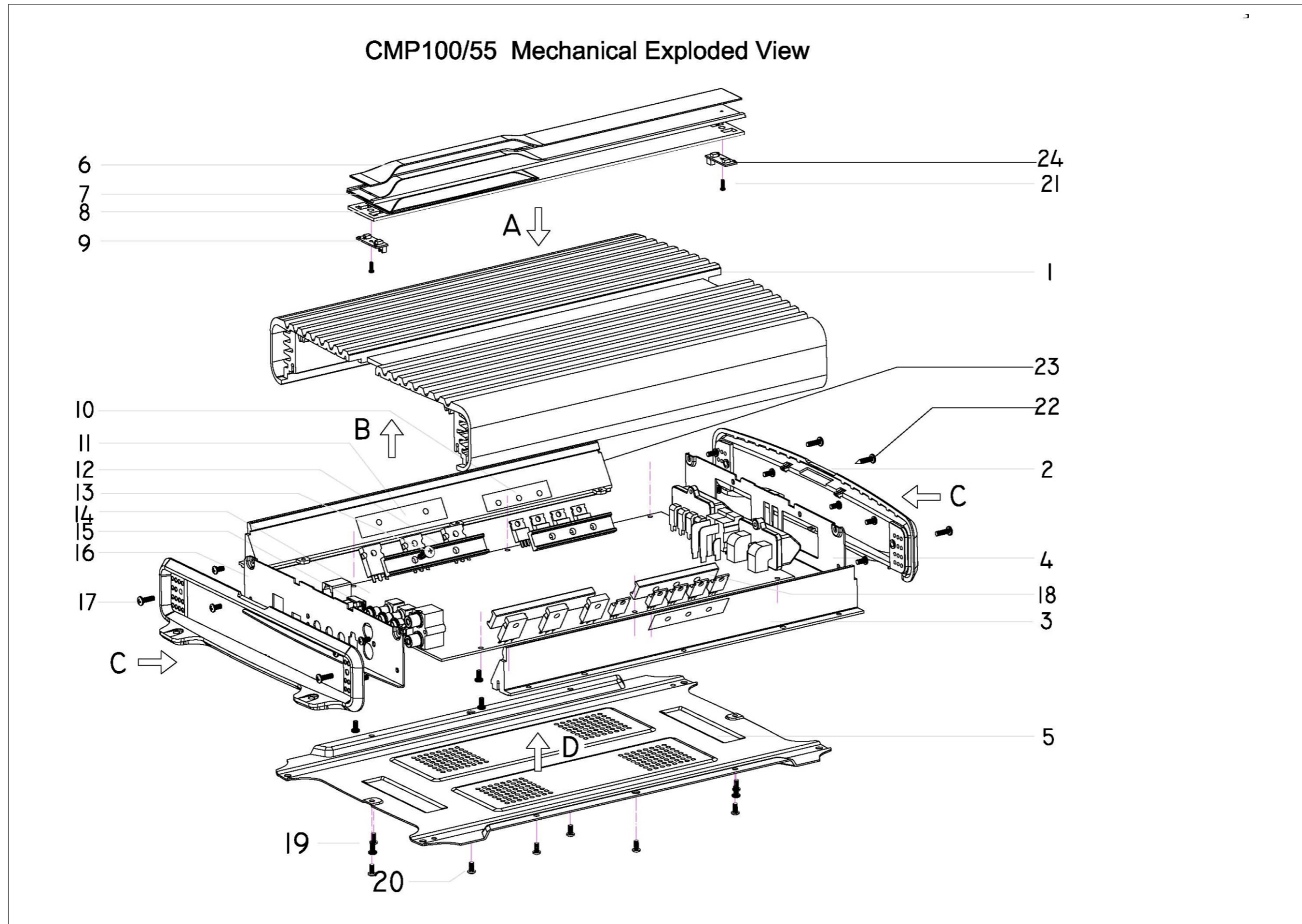
3 LED PCB top layout



4 LED PCB bottom layout



Mechanical exploded view



ELECTRICAL PARTS LIET

Loc.	12NC	Description
<i>LED1 PCB ASS'Y</i>		
C1	996510028386	CAP. 104/100V 0805 X7R 10%
C2	996510028386	CAP. 104/100V 0805 X7R 10%
CN1	996510028388	CONNECT 2P 1.25MM
CN2	996510028388	CONNECT 2P 1.25MM
LED3	996510028401	LED 2P WHITE/BLUE
LED4	996510028401	LED 2P WHITE/BLUE
<i>LED2 PCB ASS'Y</i>		
CN1	996510028388	CONNECT 2P 1.25MM
CN2	996510028388	CONNECT 2P 1.25MM
LED3	996510028401	LED 2P WHITE/BLUE
LED4	996510028401	LED 2P WHITE/BLUE
<i>AMPLIFIER ASS'Y</i>		
ACS	996510028389	AC SOCKET 4P
BAT1	996510028373	CONNECT 3P
D10	996510028418	RECTIFIER UF1602CT 16/200V
D11	996510028365	RECTIFIER MUR1620CTA 16A/200V
D2	996510028425	DIODE 6A10 1000V
D5	996510028396	DIODE FR104 1A 400V
D6	996510028396	DIODE FR104 1A 400V
D7	996510028396	DIODE FR104 1A 400V
D9	996510028396	DIODE FR104 1A 400V
DZ1	996510028383	VOLTAGE REGULATOR DIODE
DZ2	996510028375	VOLTAGE REGULATOR DIODE
ESD1	996510028398	ESD DIODE 15KV 0603
ESD2	996510028398	ESD DIODE 15KV 0603
ESD3	996510028398	ESD DIODE 15KV 0603
ESD4	996510028398	ESD DIODE 15KV 0603
ESD5	996510028398	ESD DIODE 15KV 0603
ESD6	996510028398	ESD DIODE 15KV 0603
ESD7	996510028398	ESD DIODE 15KV 0603
ESD8	996510028398	ESD DIODE 15KV 0603
ESD9	996510028398	ESD DIODE 15KV 0603
F1	996510028394	FUSE 30A/32V
L1	996510028416	INDUCTOR 5uH 23 1.2*3
L2	996510028391	TRANSFORMER
LED1	996510028366	LED D3.0 RED
LED2	996510028378	LED D3.0 BLUE
PANELA	996510028374	CONNECT 2P
Q1	996510028405	SS8550 PNP TO-92

ELECTRICAL PARTS LIST

Loc.	12NC	Description
<i>AMPLIFIER PCB ASS'Y</i>		
Q10	996510028382	2SA1015 SOT-23 PNP
Q11	996510028382	2SA1015 SOT-23 PNP
Q12	996510028397	2SC1815 SOT-23 NPN
Q13	996510028397	2SC1815 SOT-23 NPN
Q14	996510028397	2SC1815 SOT-23 NPN
Q15	996510028382	2SA1015 SOT-23 PNP
Q16	996510028382	2SA1015 SOT-23 PNP
Q17	996510028414	MOS TL494B
Q18	996510028414	MOS TL494B
Q19	996510028385	2SB647 1A 120V 0.9W PNP
Q1A	996510028382	2SA1015 SOT-23 PNP
Q2	996510028382	2SA1015 SOT-23 PNP
Q20	996510028414	MOS TL494B
Q21	996510028364	2SD669A NPN TO-126
Q22	996510028363	TRANSISTOR C2073 NPN
Q23	996510028412	KTD1047 NPN TO-3P
Q24	996510028412	KTD1047 NPN TO-3P
Q25	996510028412	KTD1047 NPN TO-3P
Q26	996510028397	2SC1815 SOT-23 NPN
Q29	996510028419	MOS 2SK117BL
Q3	996510028397	2SC1815 SOT-23 NPN
Q32	996510028364	2SD669A NPN TO-126
Q34	996510028397	2SC1815 SOT-23 NPN
Q35	996510028397	2SC1815 SOT-23 NPN
Q37	996510028372	MMBT5401LT1 PNP SOT-23
Q38	996510028372	MMBT5401LT1 PNP SOT-23
Q39	996510028422	2SD667AC 1A 120V 0.9W NPN
Q4	996510028414	MOS TL494B
Q40	996510028423	2SB649A 1.5A 180V 20W PNP
Q41	996510028417	TRANSISTOR A940 PNP
Q42	996510028409	KT817 PNP TO-3P
Q43	996510028409	KT817 PNP TO-3P
Q44	996510028409	KT817 PNP TO-3P
Q5	996510028397	2SC1815 SOT-23 NPN
Q6	996510028397	2SC1815 SOT-23 NPN
Q7	996510028414	MOS TL494B
Q8	996510028414	MOS TL494B
Q9	996510028382	2SA1015 SOT-23 PNP
RCA1	996510028368	RCA AV2-8.4-38
RMA	996510028421	TEL. JACK 6P4C RJ11
SPK1	996510028371	SPK JACK
SW1	996510028367	SWITCH 2P2T
TEMP1	996510028377	TEMP SWITCH
U1	996510028411	IC NJM4558 SO-8
U1L	996510028402	IC 4560 SOP-8

ELECTRICAL PARTS LIST

Loc.	12NC	Description
<i>AMPLIFIER PCB ASS'Y</i>		
U2	996510028395	IC TL072 SO-8
U3	996510028411	IC NJM4558 SO-8
U4	996510028411	IC NJM4558 SO-8
U5	996510028361	IC TL494B SO-16
U6	996510028384	IC KA7815E TO-220
U7	996510028362	IC KA7915 TO-220
U8	996510028415	OPTICAL COUPLER LCR-0202
VR1	996510028413	POTENTIOMETER C50K L15 10%
VR2	996510028406	POTENTIOMETER B20K
VR4	996510028359	POTENTIOMETER B50K 10%
D	996510028387	CONTROL BOARD
JK1	996510028421	TEL. JACK 6P4C RJ11
LED1	996510028393	LED D3 GREEN
TELCBL	996510028403	4P TEL. CABLE 6M
VR1	996510028379	POTENTIOMETER A20K L15
5	996510028408	END PLATE
2	996510028404	BOX REAR COVER
G	996510028399	KNOB 11.7*D11MM
15	996510028407	KNOB D10.5*9MM
16	996510028392	BOX HOUSING
8	996510028381	BACKLIGHT MODULE