

Service
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Service Manual

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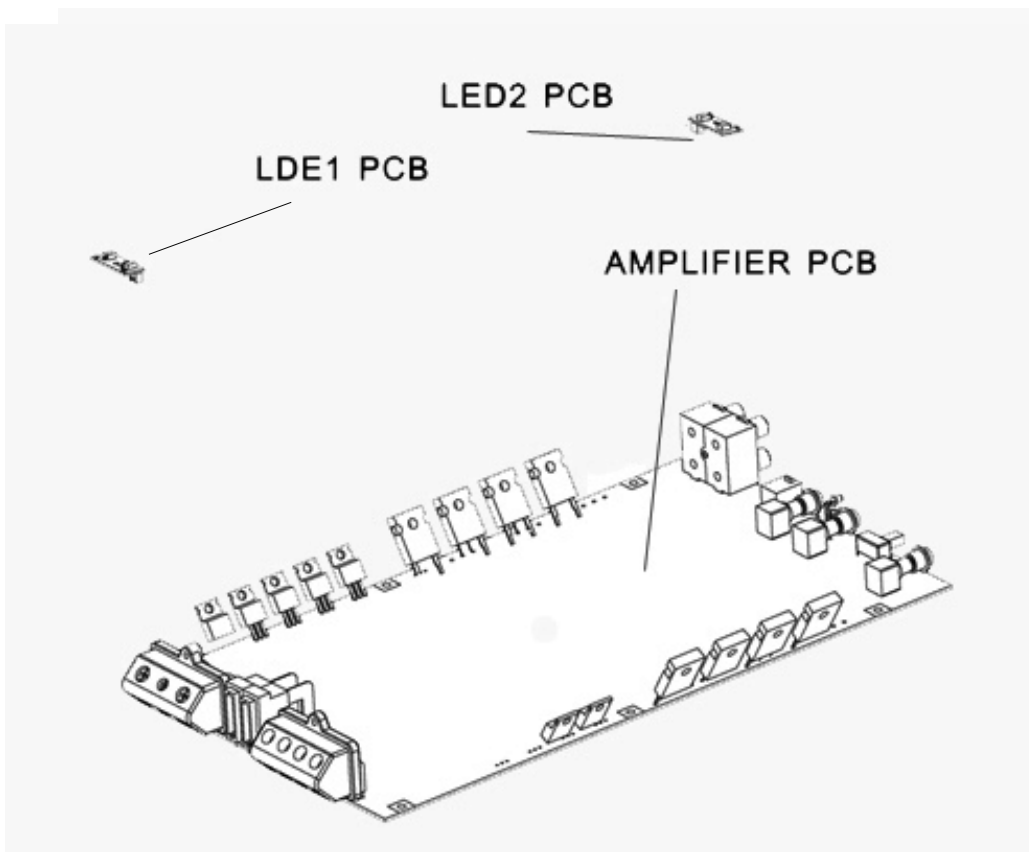


Version 1.1



PHILIPS

PCBS LOCATION



VERSION VARIATIONS:

Type/versions		CMP200									
		/51	/55								
Board in used	Service policy										
AMPLIFIER BOARD		C	C								
LED1 BOARD		C	C								
LED2 BOARD		C	C								
Type/versions		CMP200									
		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

GB 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



GB

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 Δ .

**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".

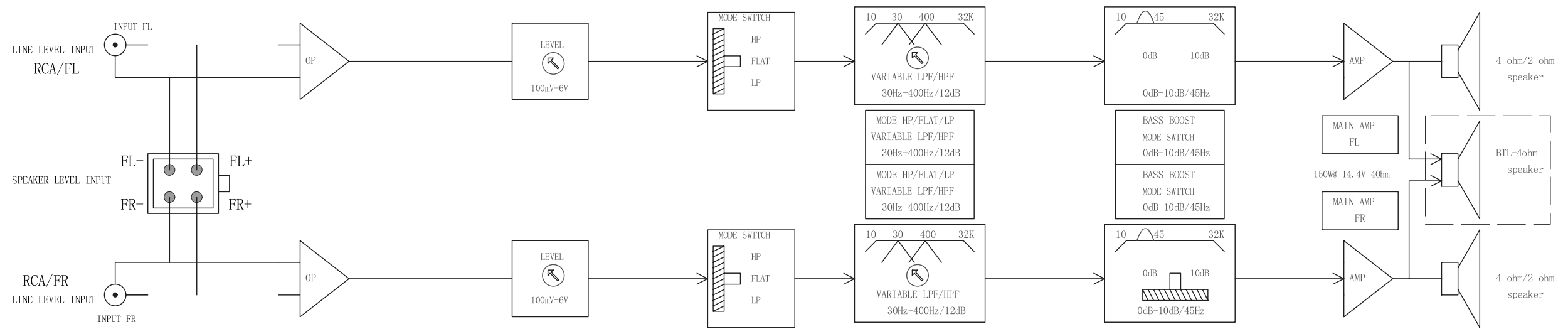
For additional questions please contact your local repair-helpdesk.

SERVICE INSTRUCTION

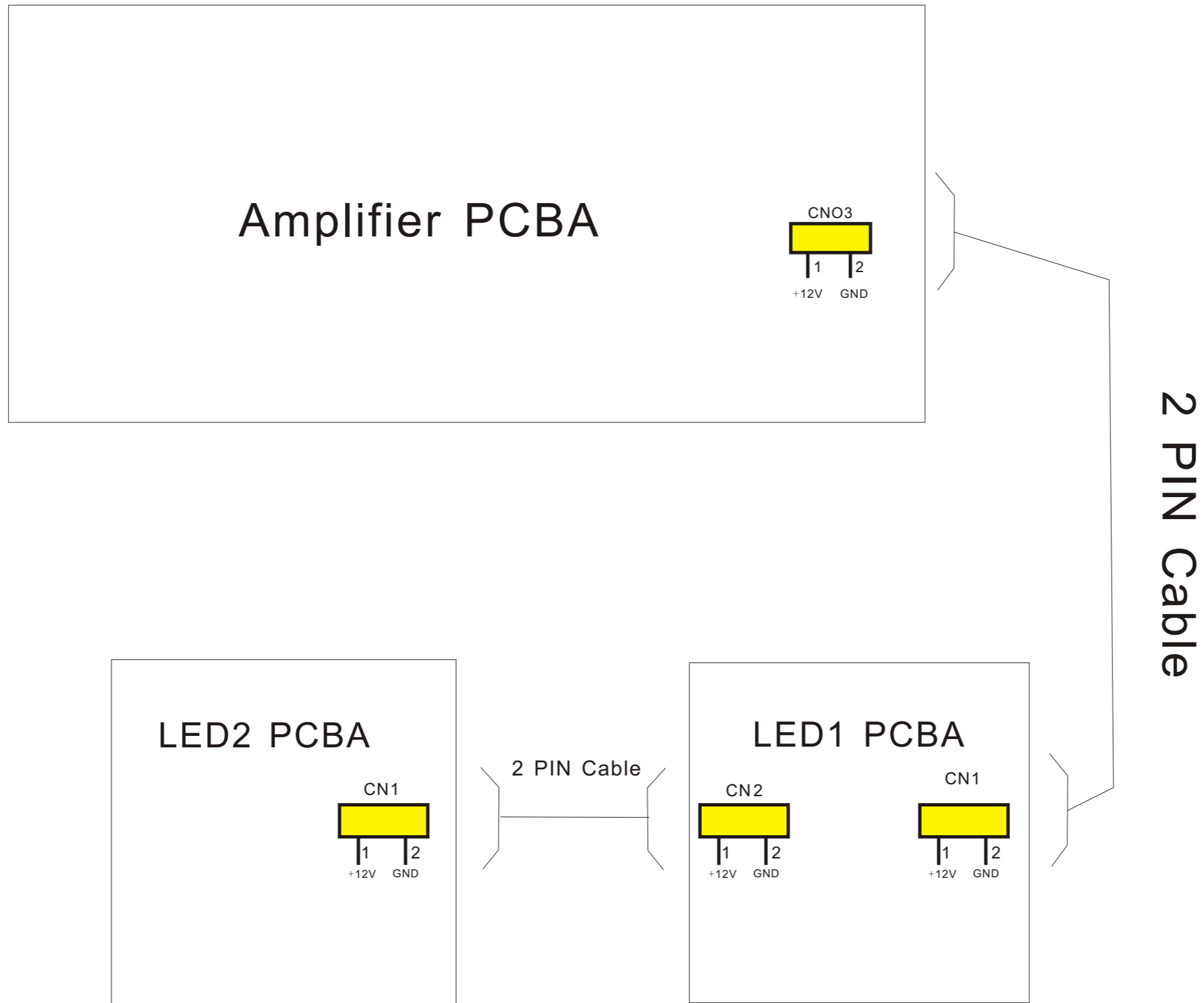
Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- 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.

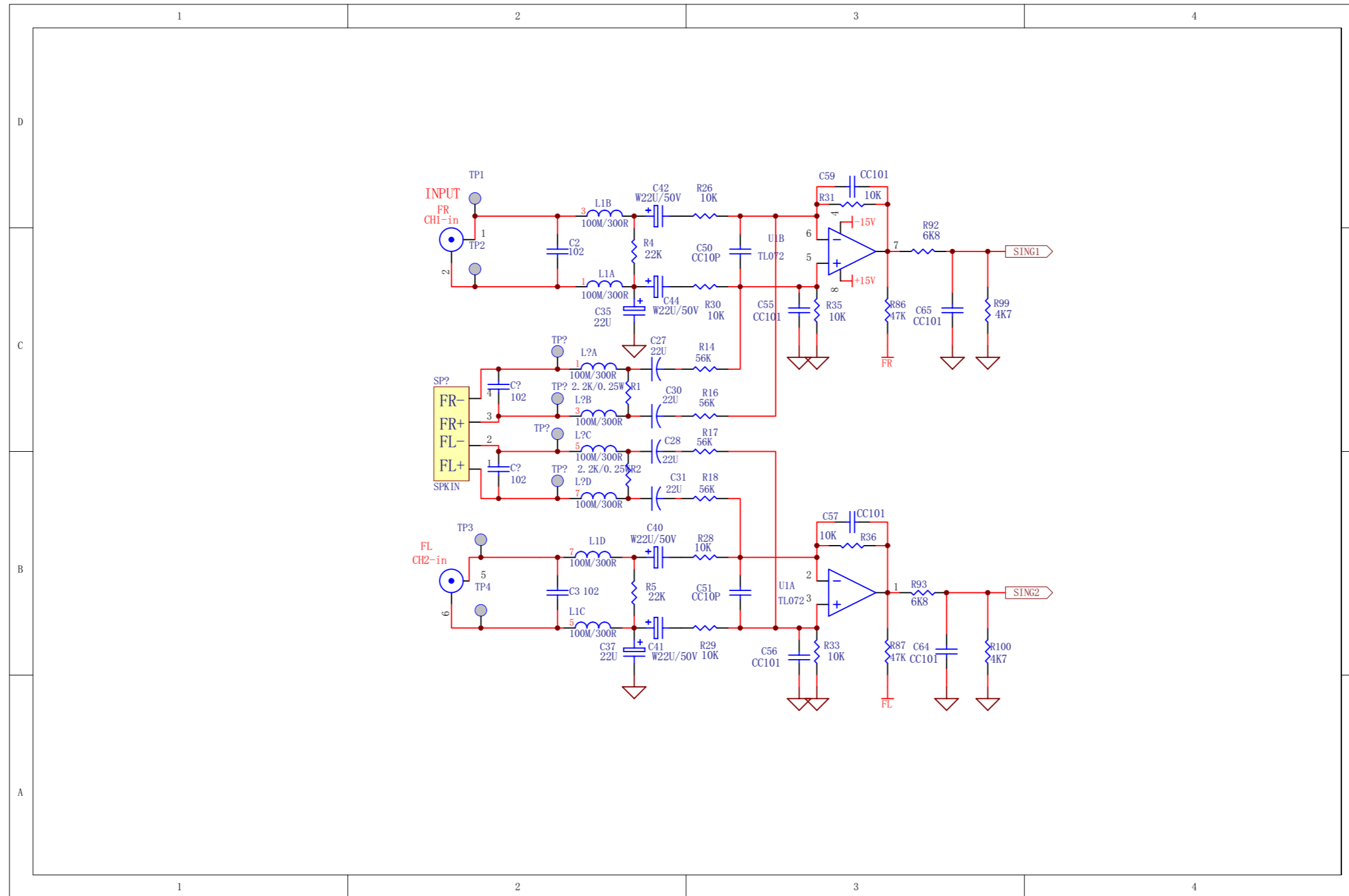
Set Block Diagram



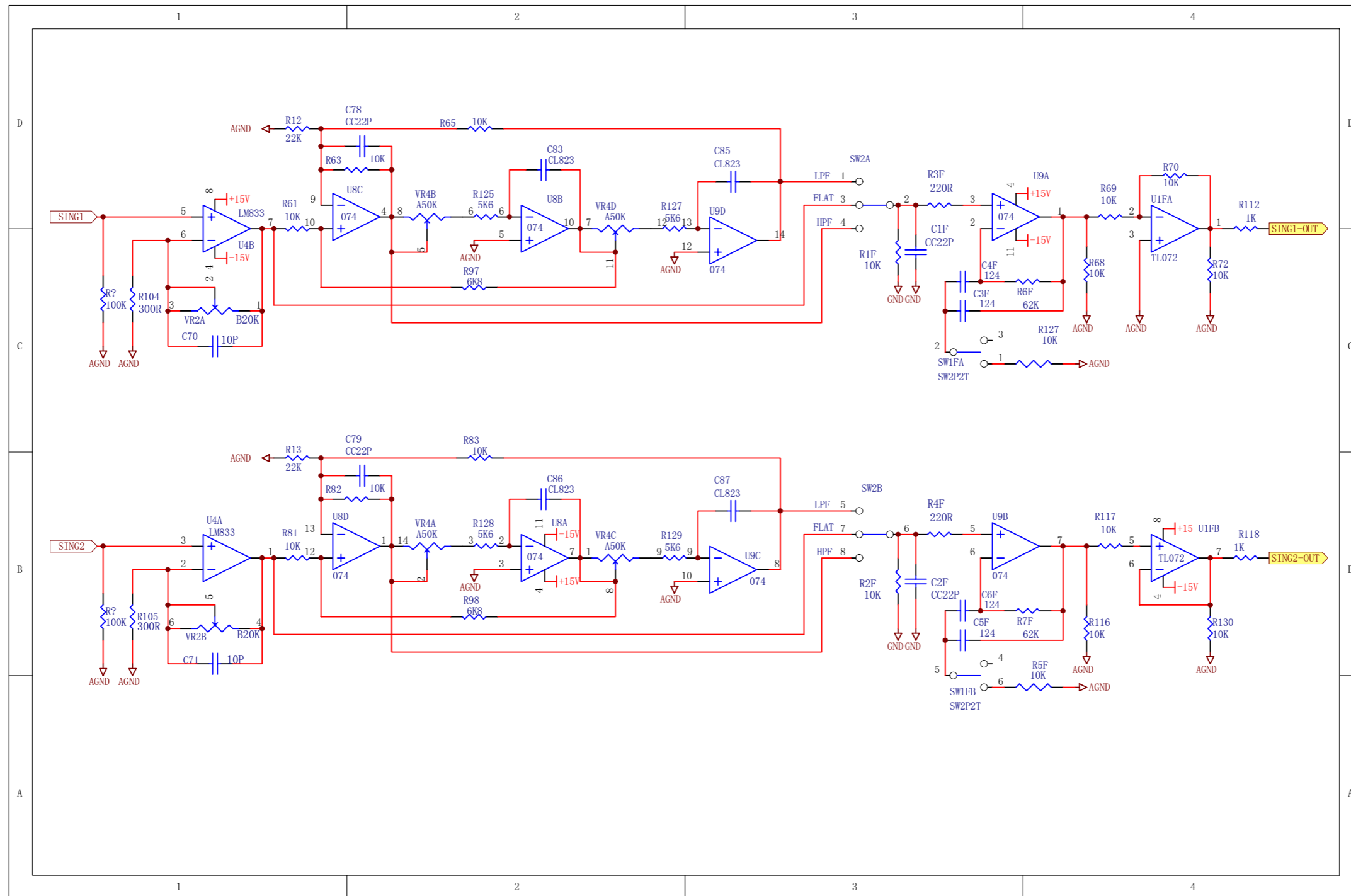
Wiring Diagram



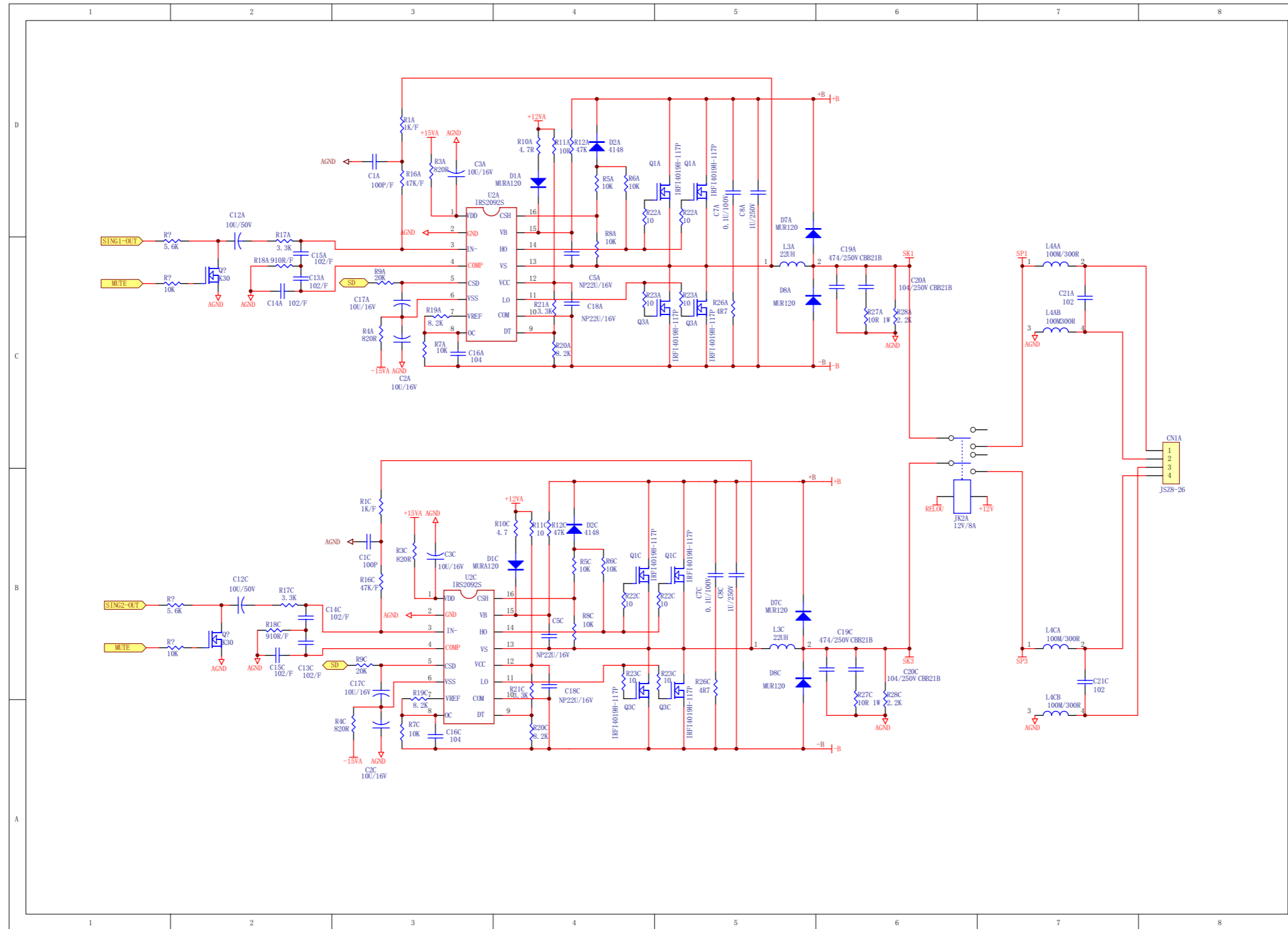
Input



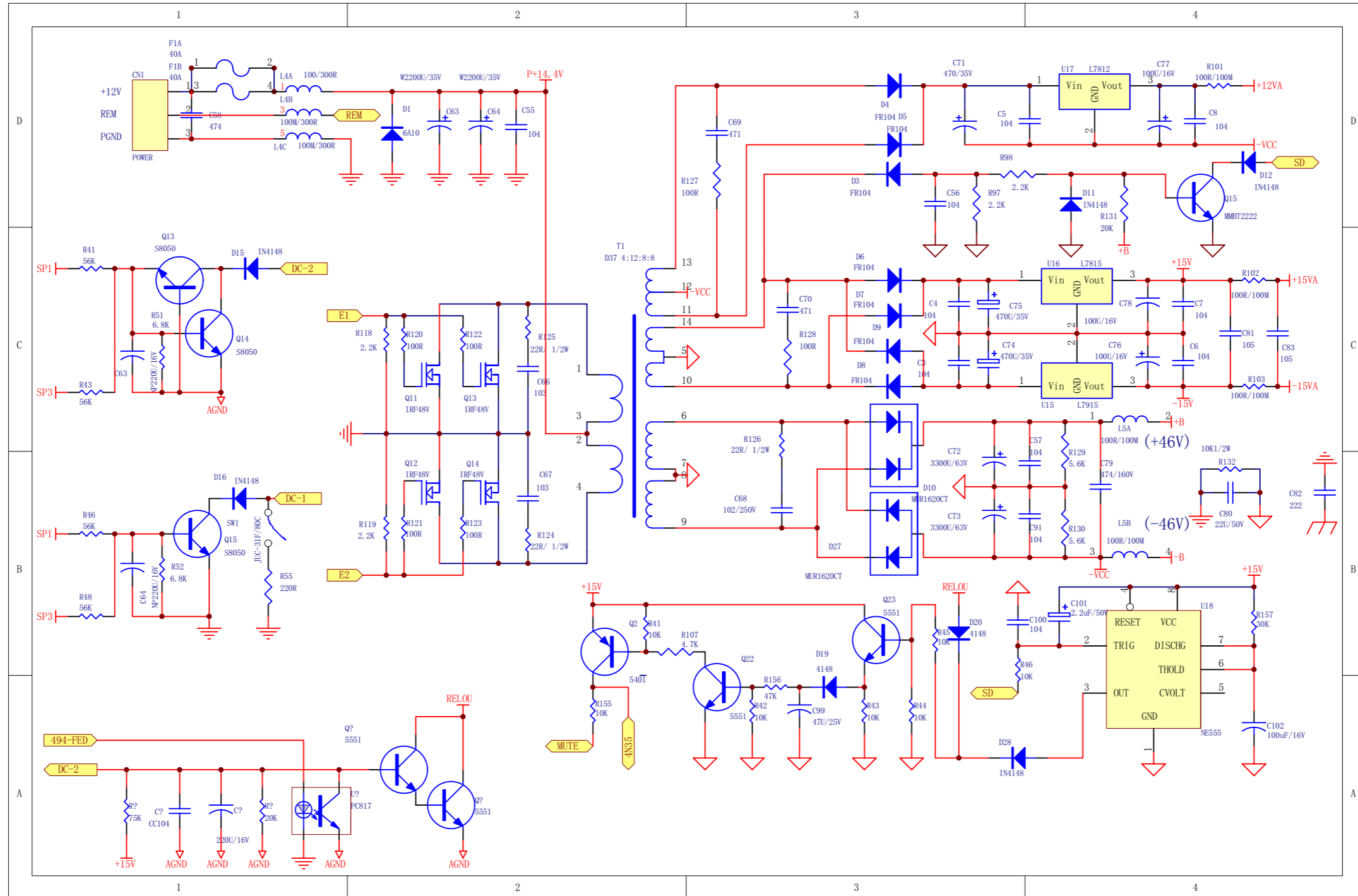
1-Channels



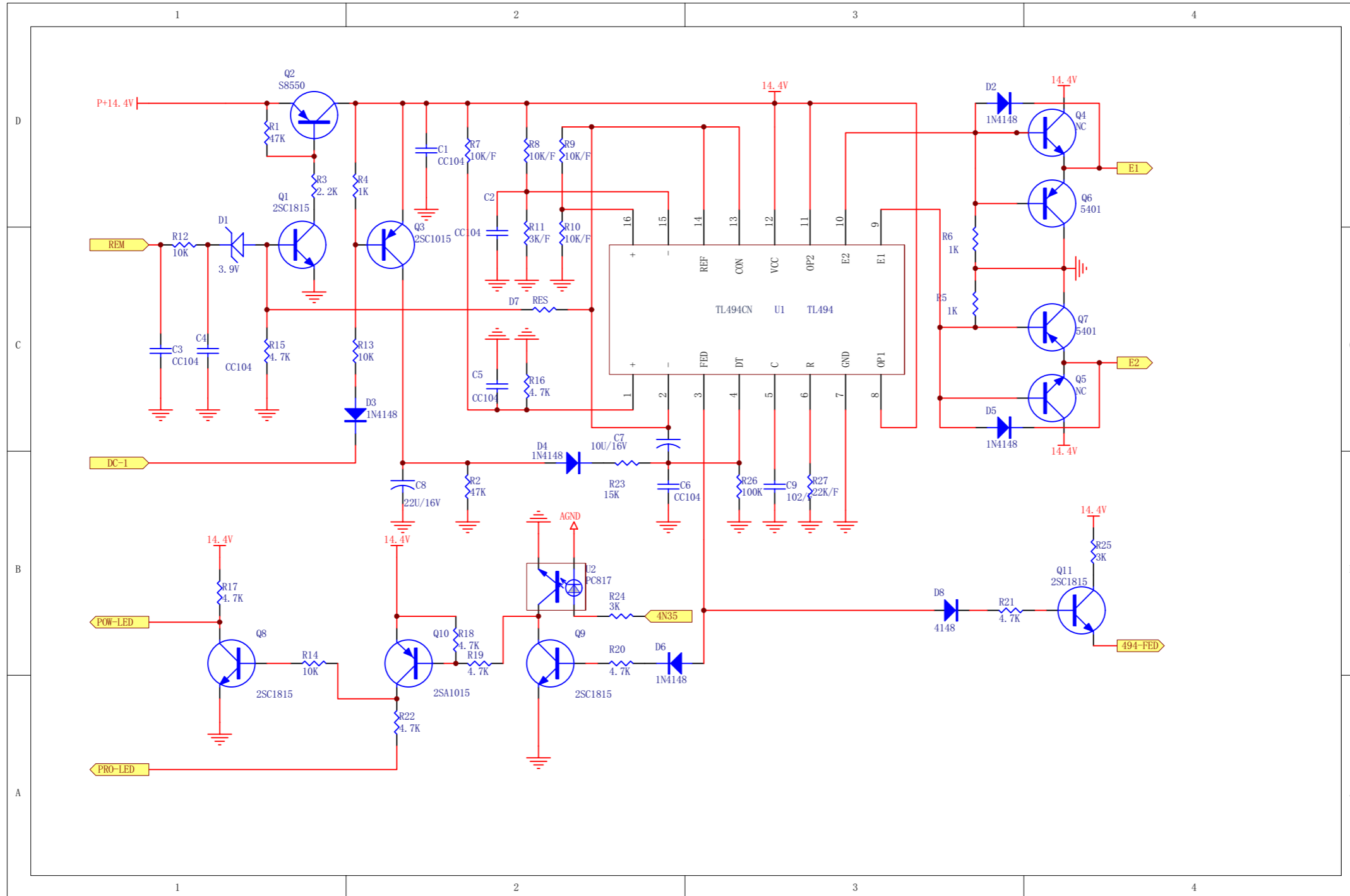
2-Channels



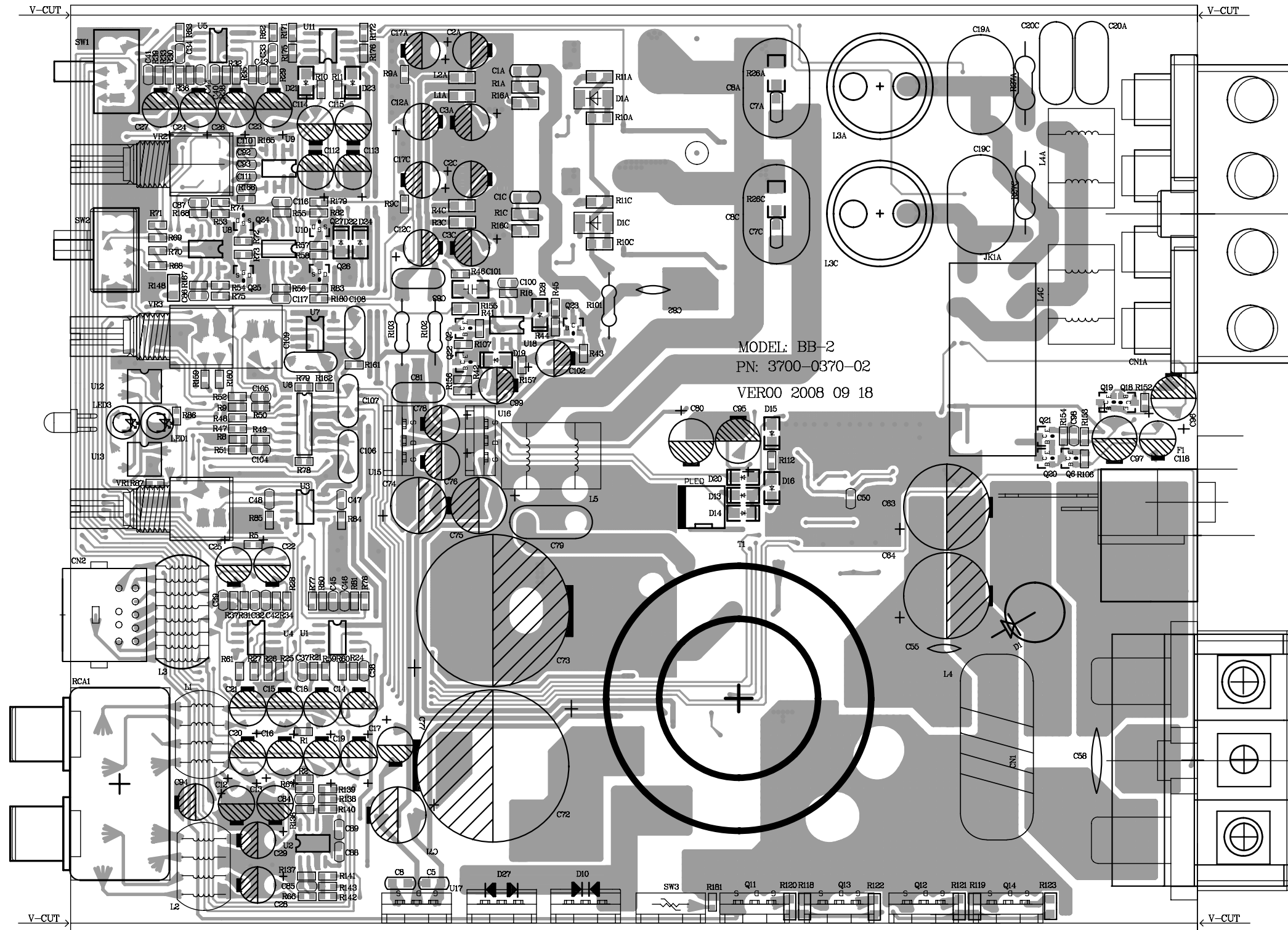
Power_1



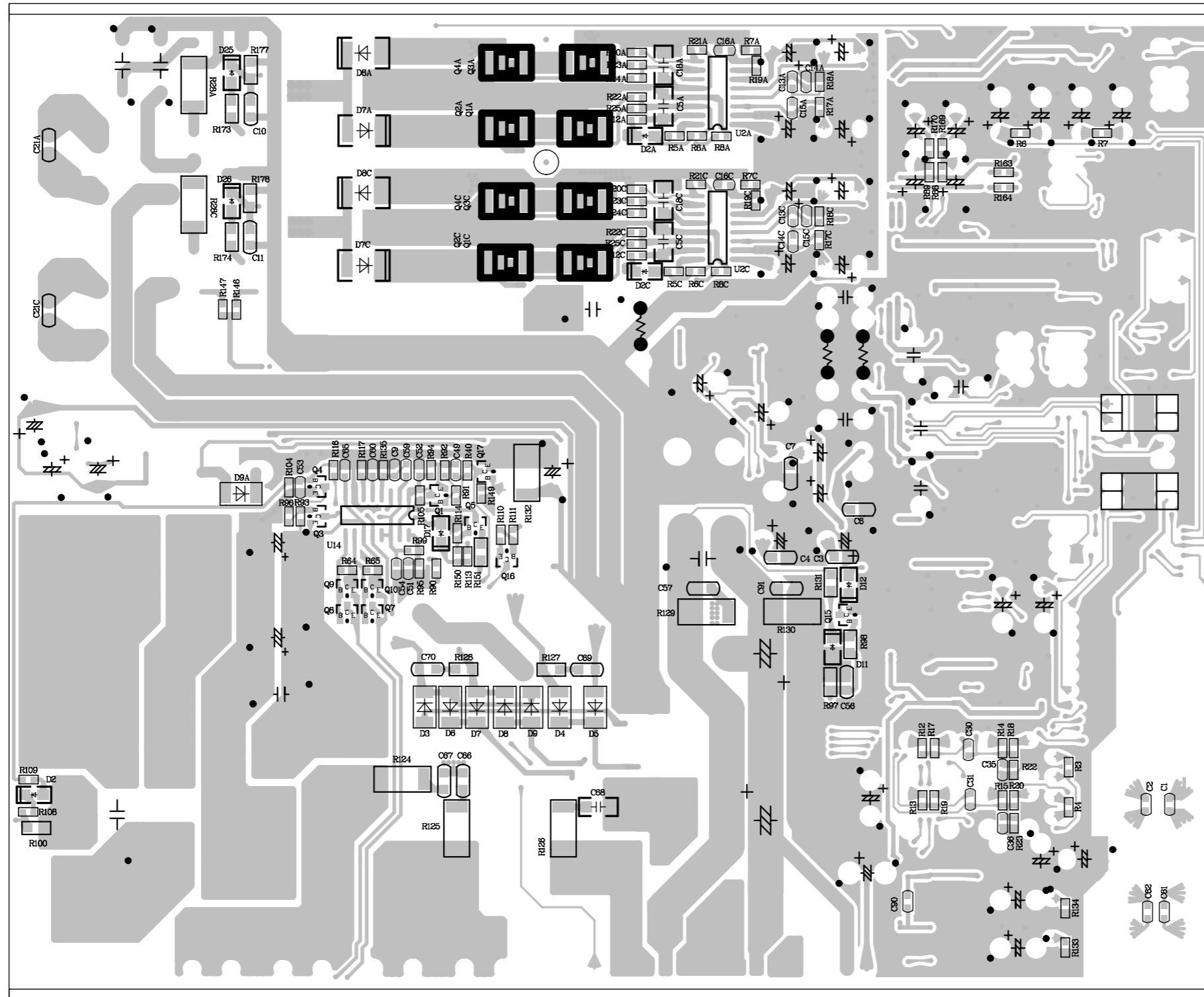
Power_2



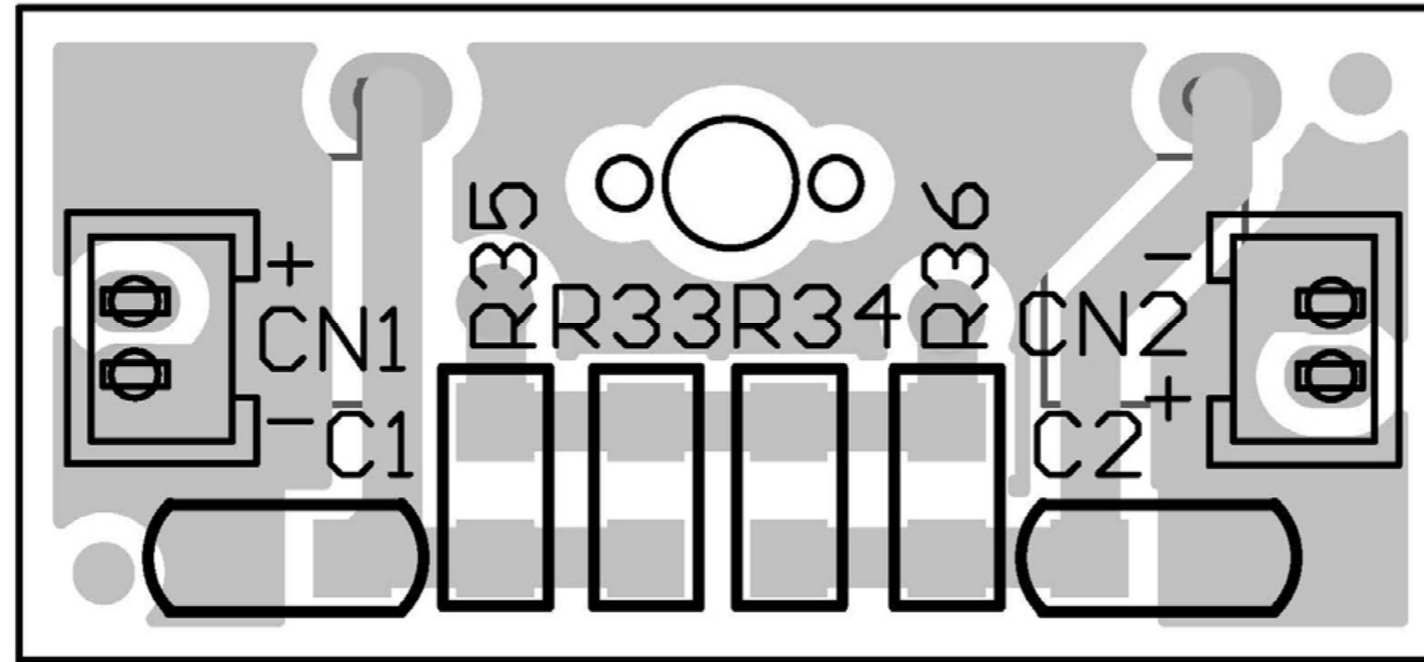
1、 Amplifier PCB Top Layout



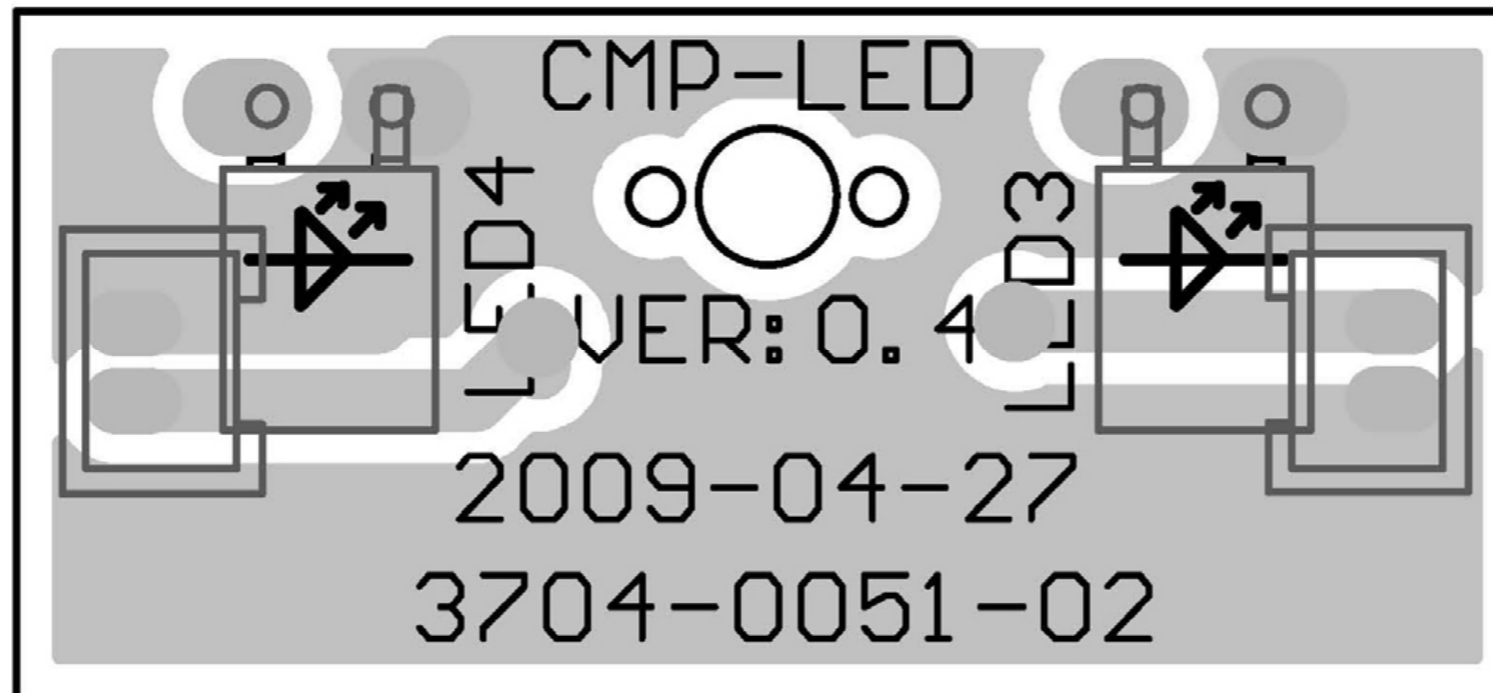
2、Amplifier PCB Bottom Layout



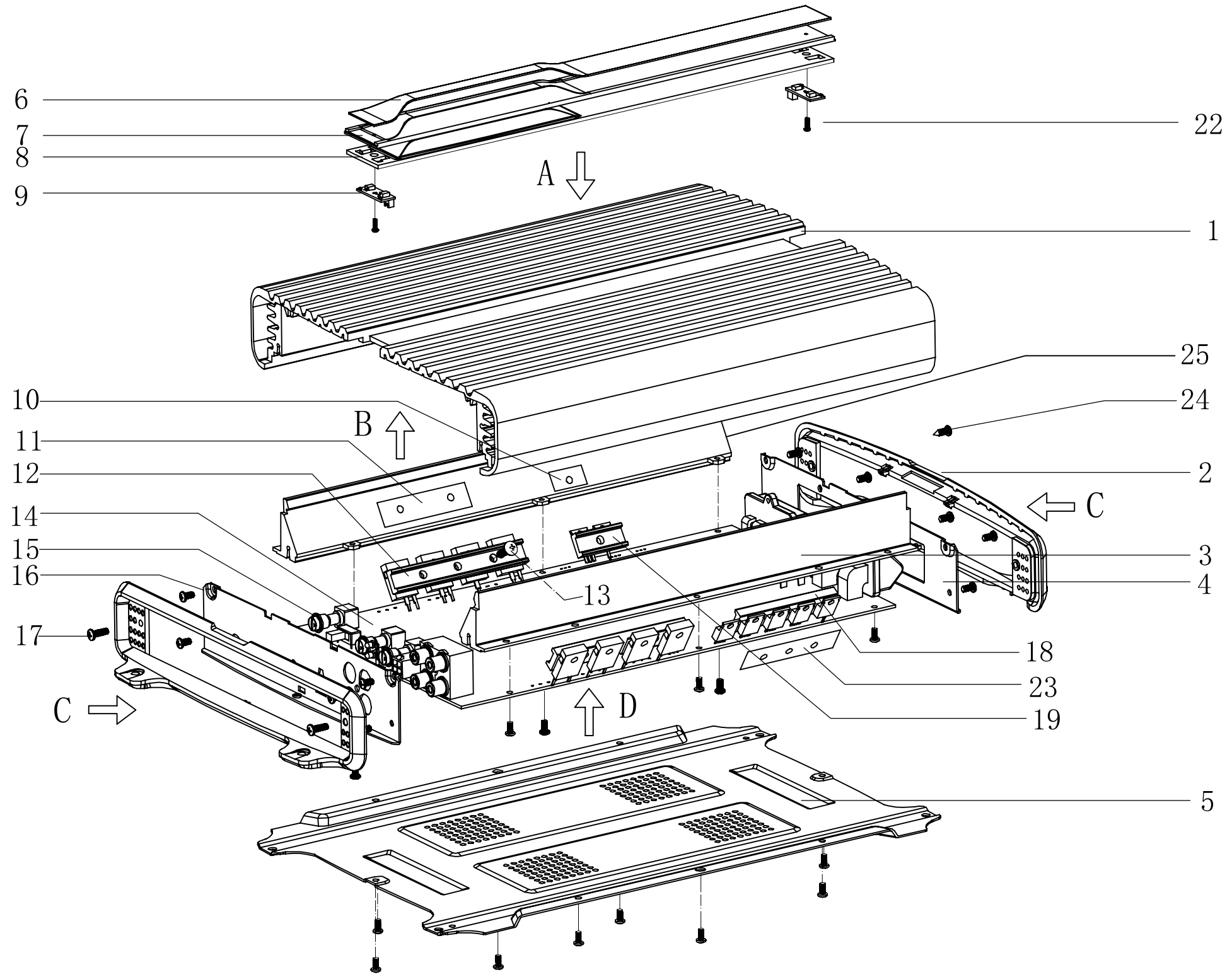
3、LED PCB Top Layout



4、LED PCB Bottom Layout



Mechanical Exploded View



ELECTRICAL PARTS LIST

Loc.	12Nc	Description
15	996510030375	KNOB ABS-757 BLACK 10.5*9MM
2	996510028408	END PLATE
8	996510028381	BACKLIGHT MODULE

LED2 PCB ASS'Y

Loc.	12Nc	Description
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

LED2 PCB ASS'Y

Loc.	12Nc	Description
CN1	996510028388	CONNECT 2P 1.25MM
CN2	996510028388	CONNECT 2P 1.25MM
LED3	996510028401	LED 2P WHITE/BLUE
LED4	996510028401	LED 2P WHITE/BLUE

AMPLIFIER ASS'Y

Loc.	12Nc	Description
C	996510030389	AMPLIFIER PCBA
CN1	996510028373	CONNECT 3P
CN2	996510028374	CONNECT 2P
CN3	996510028371	SPK JACK
CN4	996510028389	AC SOCKET 4P
D10P	996510028396	DIODE FR104 1A 400V
D11P	996510028396	DIODE FR104 1A 400V
D12P	996510028396	DIODE FR104 1A 400V
D13P	996510028396	DIODE FR104 1A 400V
D14P	996510028418	RECTIFIER UF1602CT 16/200V
D15P	996510028365	RECTIFIER MUR1620CTA 16A/20V
D1P	996510028425	DIODE 6A10 1000V
DZ1P	996510028383	VOLTAGE REGULATOR DIODE
DZ2P	996510030385	VOLTAGE REGULATOR DIODE
DZ3P	996510030385	VOLTAGE REGULATOR DIODE
F1	996510028394	FUSE 30A/32V
FFC	996510030383	FFC 1571 #28 2P L150MM
FP1	996510030376	2PIN BXS2-09(FOR FUSE)
J1	996510028398	ESD DIODE 15KV 0603
J10	996510028398	ESD DIODE 15KV 0603
J11	996510028398	ESD DIODE 15KV 0603
J12	996510028398	ESD DIODE 15KV 0603
J2	996510028398	ESD DIODE 15KV 0603

ELECTRICAL PARTS LIST

Loc.	12Nc	Description
J3	996510028398	ESD DIODE 15KV 0603
J4	996510028398	ESD DIODE 15KV 0603
J5	996510028398	ESD DIODE 15KV 0603
J6	996510028398	ESD DIODE 15KV 0603
J7	996510028398	ESD DIODE 15KV 0603
J8	996510028398	ESD DIODE 15KV 0603
J9	996510028398	ESD DIODE 15KV 0603
L1	996510028416	INDUCTOR 5uH 23 1.2*3
L2	996510030379	INDUCTOR
L3	996510030379	INDUCTOR
LED1	996510028366	LED D3.0 RED
LED2	996510028378	LED D3.0 BLUE
Q10P	996510030381	IRF3205 110A 50V TO-220
Q11A	996510028422	2SD667AC 1A 120V 0.9W NPN
Q11B	996510028422	2SD667AC 1A 120V 0.9W NPN
Q11P	996510028419	MOS 2SK117BL
Q12A	996510028385	2SB647 1A 120V 0.9W PNP
Q12B	996510028385	2SB647 1A 120V 0.9W PNP
Q12P	996510028397	2SC1815 SOT-23 NPN
Q13A	996510028585	TRANSISTOR TIP36CW PNP
Q13B	996510028585	TRANSISTOR TIP36CW PNP
Q13P	996510028397	2SC1815 SOT-23 NPN
Q14A	996510028585	TRANSISTOR TIP36CW PNP
Q14B	996510028585	TRANSISTOR TIP36CW PNP
Q14P	996510028397	2SC1815 SOT-23 NPN
Q15A	996510028397	2SC1815 SOT-23 NPN
Q15B	996510028397	2SC1815 SOT-23 NPN
Q15P	996510028397	2SC1815 SOT-23 NPN
Q1A	0 996510028372	MMBT5401LT1 PNP SOT-23
Q1A	1 996510030378	MMBT5551LT1 NPN SOT-23
Q1B	0 996510028372	MMBT5401LT1 PNP SOT-23
Q1B	1 996510030378	MMBT5551LT1 NPN SOT-23
Q1P	996510028423	2SB649A 1.5A 180V 20W PNP
Q2A	0 996510028372	MMBT5401LT1 PNP SOT-23
Q2A	1 996510030378	MMBT5551LT1 NPN SOT-23
Q2B	0 996510028372	MMBT5401LT1 PNP SOT-23
Q2B	1 996510030378	MMBT5551LT1 NPN SOT-23
Q2P	996510028382	2SA1015 SOT-23 PNP
Q3A	996510030384	MPSA13 0.5A 30V NPN TO-92
Q3B	996510030384	MPSA13 0.5A 30V NPN TO-92
Q3P	996510028397	2SC1815 SOT-23 NPN
Q4A	996510028385	2SB647 1A 120V 0.9W PNP
Q4B	996510028385	2SB647 1A 120V 0.9W PNP
Q4P	996510028397	2SC1815 SOT-23 NPN
Q5A	996510028422	2SD667AC 1A 120V 0.9W NPN

ELECTRICAL PARTS LIST

Loc.	12Nc	Description
Q5B	996510028422	2SD667AC 1A 120V 0.9W NPN
Q5P	996510028382	2SA1015 SOT-23 PNP
Q6A	996510028578	TRANSISTOR TIP35CW NPN
Q6B	996510028578	TRANSISTOR TIP35CW NPN
Q6P	996510028382	2SA1015 SOT-23 PNP
Q7A	996510028578	TRANSISTOR TIP35CW NPN
Q7B	996510028578	TRANSISTOR TIP35CW NPN
Q7P	996510030381	IRF3205 110A 50V TO-220
Q8A	996510028419	MOS 2SK117BL
Q8B	996510028419	MOS 2SK117BL
Q8P	996510030381	IRF3205 110A 50V TO-220
Q9P	996510030381	IRF3205 110A 50V TO-220
RCA300	996510030386	AV4-8.4-38
SW1	996510030382	SWITCH SSH-23D04-2P3T
SW2	996510028377	TEMP SWITCH
T1	996510030388	TRANSFORMER
U1P	996510028361	IC TL494B SO-16
U300	996510028411	IC NJM4558 SO-8
U301	996510028575	IC LM833 SOP-8
U302	996510030387	TL074 SOP-14
U303	996510030387	TL074 SOP-14
U304	996510028411	IC NJM4558 SO-8
U305	996510028411	IC NJM4558 SO-8
VR1	996510028406	POTENTIOMETER B20K
VR2	996510028582	POTENTIOMETER A50K L15 10%
VR3	996510028584	POTENTIOMETER C500K L15 10%