

Service
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Service Manual

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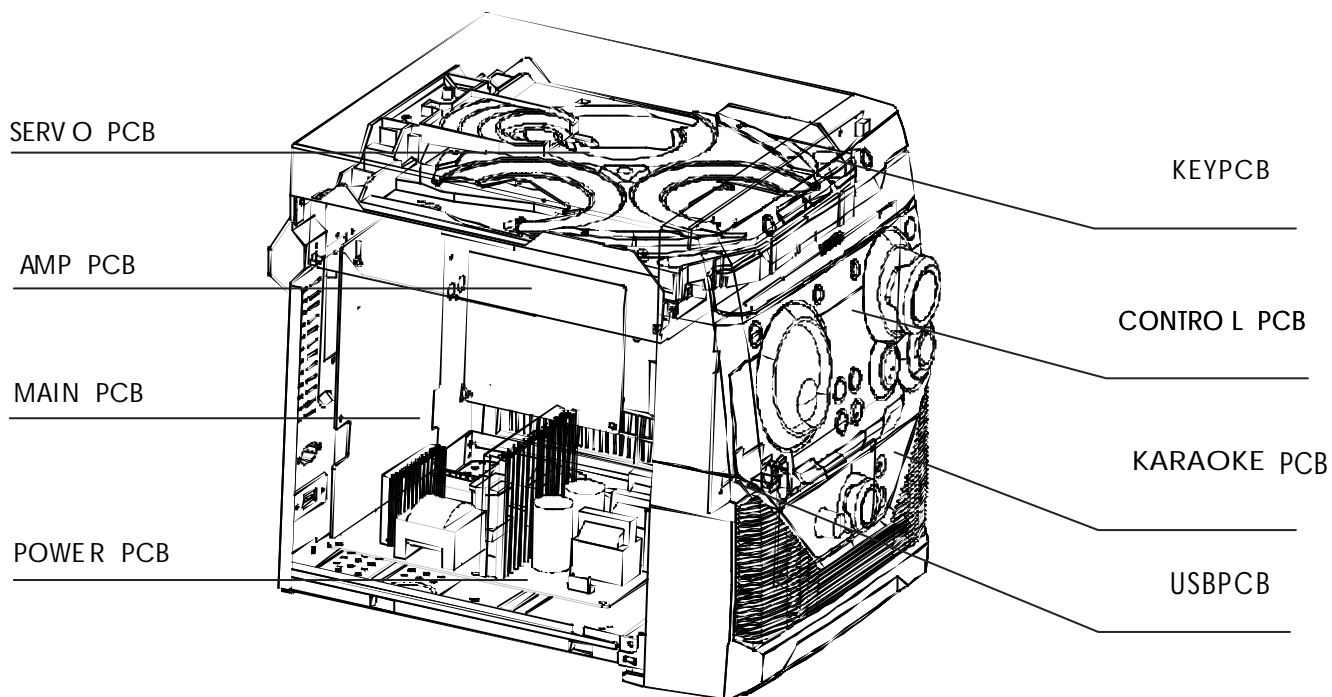
**CLASS 1
LASER PRODUCT**

Version 1.1



PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Versions	FWM986
Features & Board in used	/55
Main (Output Power-1200W)	X
Power Voltage (110V~240V)	X

Specifications

AMPLIFIER

Total output power	1200W
Front	250W per channel
Rear	100W per channel
Subwoofer	250W per channel
Signal-to-noise ratio	60 dBA (IEC)
Frequency response	50 – 18000 Hz
Input sensitivity	
AUX	1000/2000 mV
Output	
Headphones	32 Ω
(1) (3 Ω , 1 kHz, 10% THD)	

CD/MP3-CD PLAYER

Number of programmable tracks	99
Frequency response	50 – 20000 Hz -3dB
Signal-to-noise ratio	60 dBA
Channel separation	35 dBA (1 kHz)
Total harmonic distortion	< 1%
MPEG 1 Layer 3 (MP3-CD)	MPEG AUDIO
MP3-CD bit rate	32-256 kbps
	(128 kbps advised)
Sampling frequencies	32, 44.1, 48 kHz

TUNER

FM wave range	87.5 – 108 MHz
MW wave range (9 kHz)	531 – 1602 kHz
MW wave range (10 kHz)	530 – 1700 kHz
Tuning grid	9/10 kHz
Number of presets	40
Antenna	
FM	75 Ω wire
MW	Loop antenna

USB PLAYER

USB	12 Mb/s, V1.1
 support MP3 and WMA files
Number of albums/folders	maximum 512
Number of tracks/titles	maximum 999

FRONT SPEAKER

System full range satellite	
Impedance	5 Ω
Speaker drivers	2x6.5" 250w woofer
 2x2" 250w tweeter
Frequency response	50Hz-20KHz
Dimensions(w x h x d) ...	235 x 457 x 260(mm)
Weight	6.25 kg/ each

REAR SPEAKER

System full range satellite	
Impedance	8 Ω
Speaker driver	2x4" 100w full-range speaker
Frequency response	50Hz-20KHz
Dimensions(w x h x d) ...	140 x 311 x 250(mm)
Weight	2.67 kg/ each

SUBWOOFER

Impedance	5 Ω
Subwoofer drivers	10" 250w woofer
Frequency response	45Hz-150Hz
Dimensions(w x h x d) ...	303 x 455 x 357(mm)
Weight	10.37 kg/ each

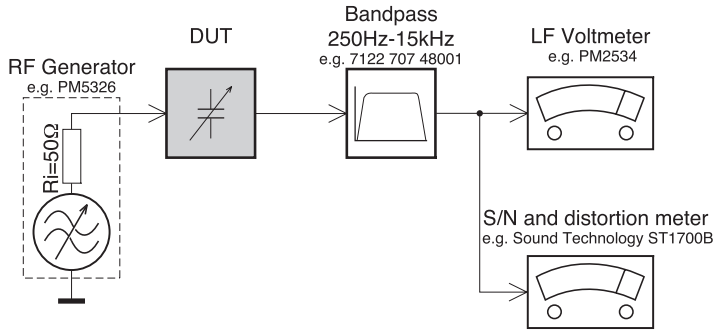
GENERAL

Material/finish	Polystyrene/Metal
AC Power	110 – 127 / 220 – 240 V
 50/60 Hz Switchable
Power Consumption	
Active	300 W
Standby	\leq 15 W
Dimensions (w x h x d) ..	269 x 311 x 412 (mm)
Weight (without speakers)	5.6 kg

Specifications and external appearance are subject to change without notice.

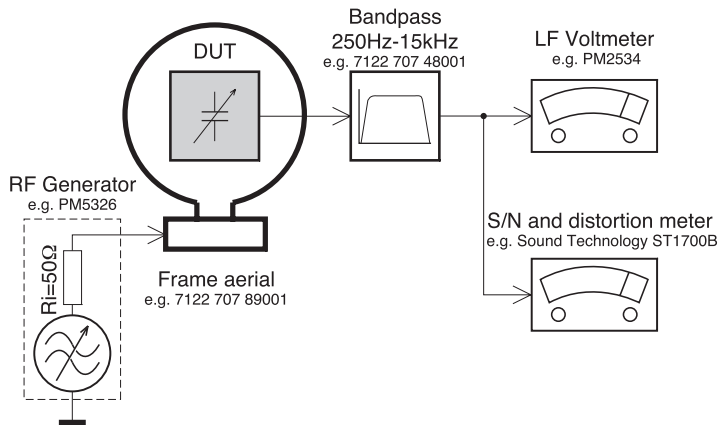
Measurement Setup

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

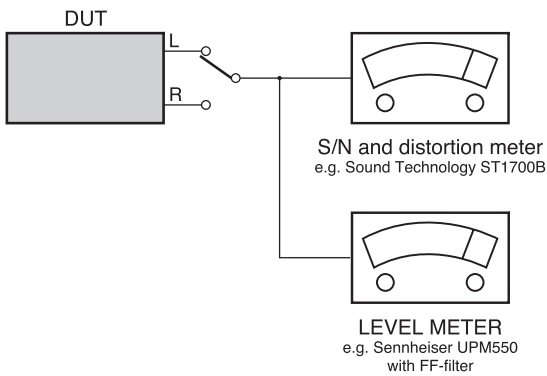
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

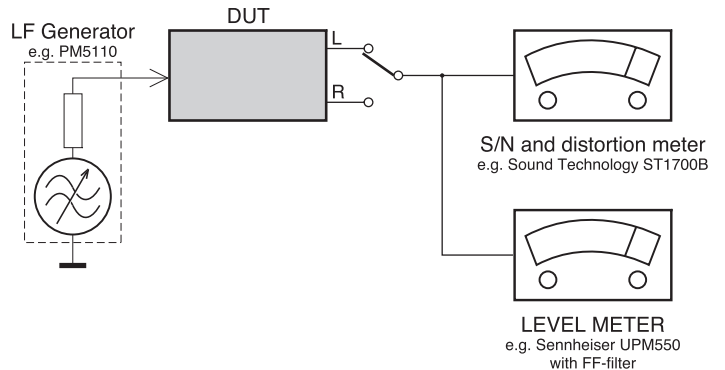
CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071



SERVICE AIDS

Service Tools:

Universal Torx driver holder	4822 395 91019
Torx bit T10 150mm	4822 395 50456
Torx driver set T6-T20	4822 395 50145
Torx driver T10 extended	4822 395 50423

Compact Disc:

SBC426/426A Test disc 5 + 5A	4822 397 30096
SBC442 Audio Burn-in test disc 1kHz	4822 397 30155
SBC429 Audio Signals disc	4822 397 30184
Dolby Pro-logic Test Disc	4822 395 10216

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 .

**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".

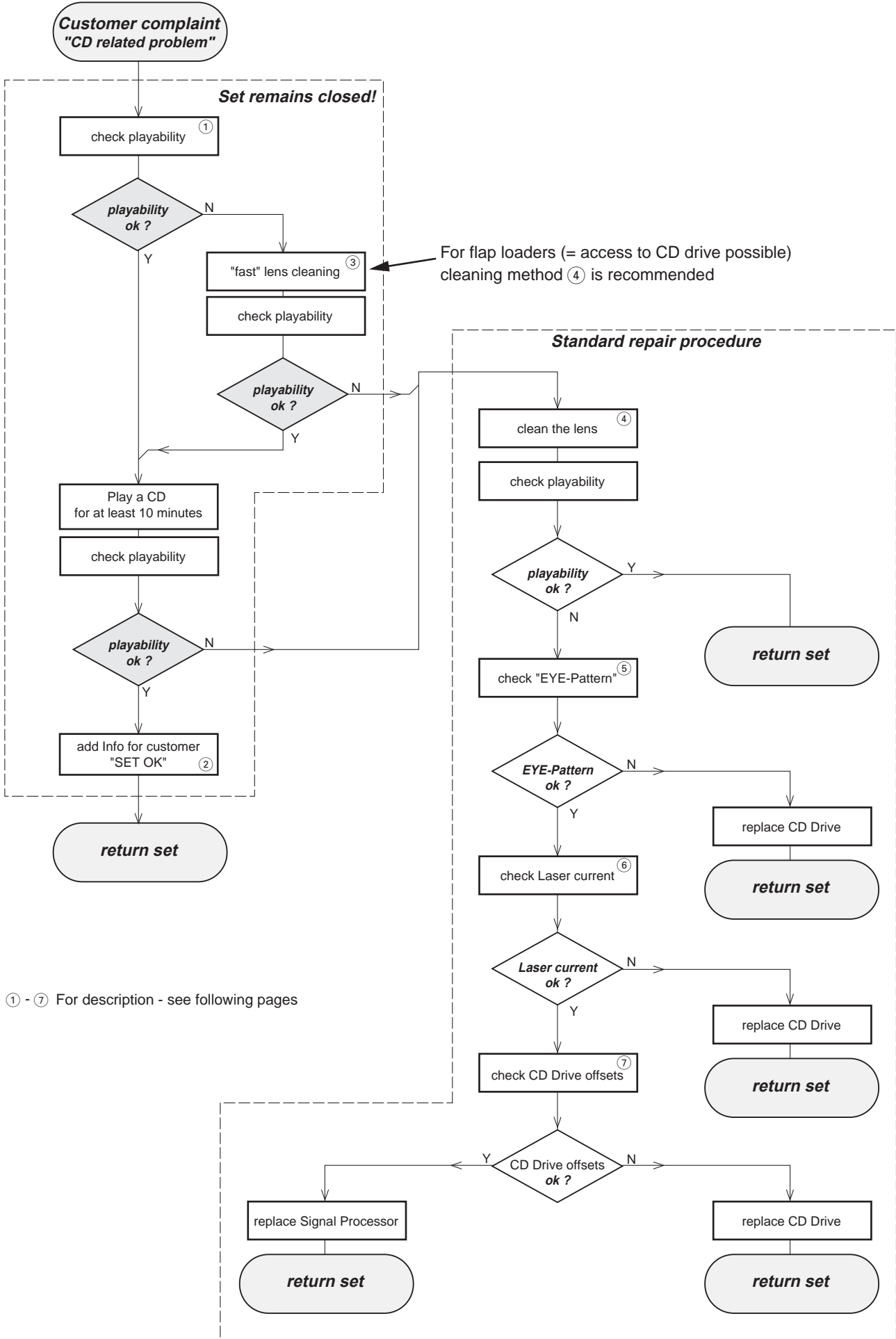
For additional questions please contact your local repair-helpdesk.

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.

INSTRUCTIONS ON CD PLAYABILITY



INSTRUCTIONS ON CD PLAYABILITY

①

PLAYABILITY CHECK

For sets which are compatible with **CD-RW** discs
 use CD-RW Printed Audio Disc.....7104 099 96611
 TR 3 (Fingerprint)
 TR 8 (600µ Black dot) **maximum at 01:00**

- playback of these two tracks without audible disturbance
 playing time for: Fingerprint ≥10seconds
 Black dot from 00:50 to 01:10
- jump forward/backward (search) within a reasonable time

For all other sets
 use CD-DA SBC 444A.....4822 397 30245
 TR 14 (600µ Black dot) **maximum at 01:15**
 TR 19 (Fingerprint)
 TR 10 (1000µ wedge)

- playback of all these tracks without audible disturbance
 playing time for: 1000µ wedge ≥10seconds
 Fingerprint ≥10seconds
 Black dot from 01:05 to 01:25
- jump forward/backward (search) within a reasonable time

②

CUSTOMER INFORMATION

It is proposed to add an addendum sheet to the set which informs the customer that the set has been checked carefully - but no fault was found. The problem was obviously caused by a scratched, dirty or copy-protected CD. In case problems remain, the customer is requested to contact the workshop directly. The lens cleaning (method ③) should be mentioned in the addendum sheet.

The final wording in national language as well as the printing is under responsibility of the Regional Service Organizations.

③

FAST LENS CLEANING (dry brush)

Use lens cleaning CD
 SBC AC300.....9082 100 00043

Insert the lens cleaning CD, press PLAY and follow the voice guide's instructions on the CD.

④

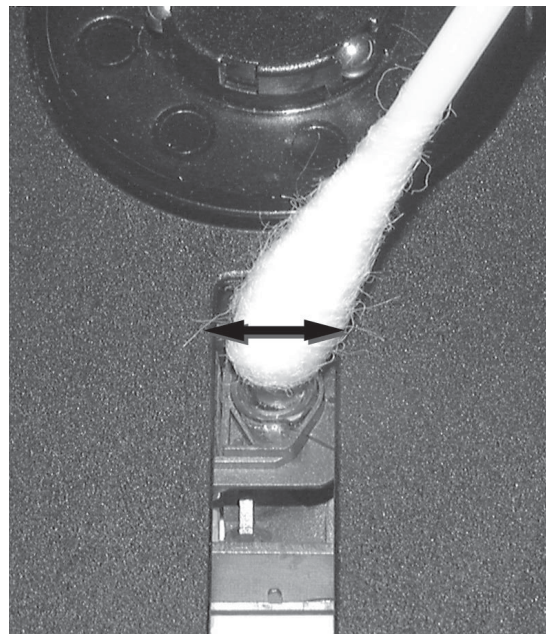
LIQUID LENS CLEANING

Before touching the lens it is advised to clean the surface of the lens by blowing clean air over it. This to avoid that little particles make scratches on the lens.

Because the material of the lens is synthetic and coated with a special anti-reflectivity layer, cleaning must be done with a non-aggressive cleaning fluid. It is advised to use "Cleaning Solvent B4-No2", available with codenumber 4822 389 10026.

The actuator is a very precise mechanical component and may not be damaged in order to guarantee its full function. Clean the lens gently (don't press too hard) with a soft and clean cotton bud moistened with the special lens cleaner.

The direction of cleaning must be in the way as indicated in the picture below.



System, etc. setting procedure

1) System Reset

- a) press and hold "TUNER" and "ALBUM-" key
- b) power on
- c) VFD will display "VXXX-X"
- d) Press "PROGRAM" key, VFD display "NEW"

2) Check on the Software Version

- a) press and hold "TUNER" and "ALBUM-" key
- b) power on
- c) VFD will display "VXXX-X"

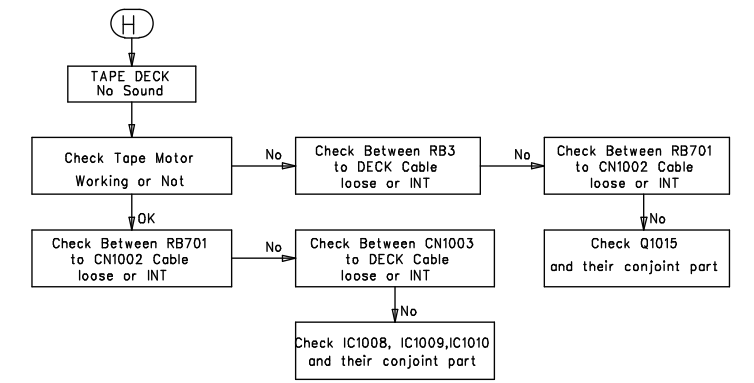
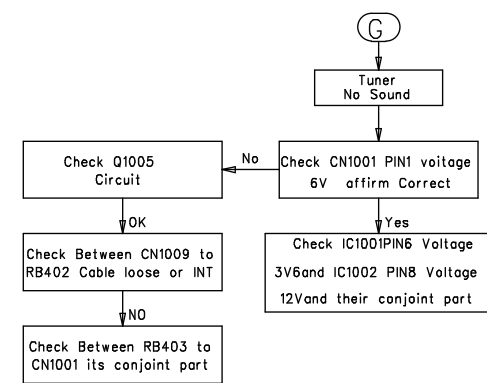
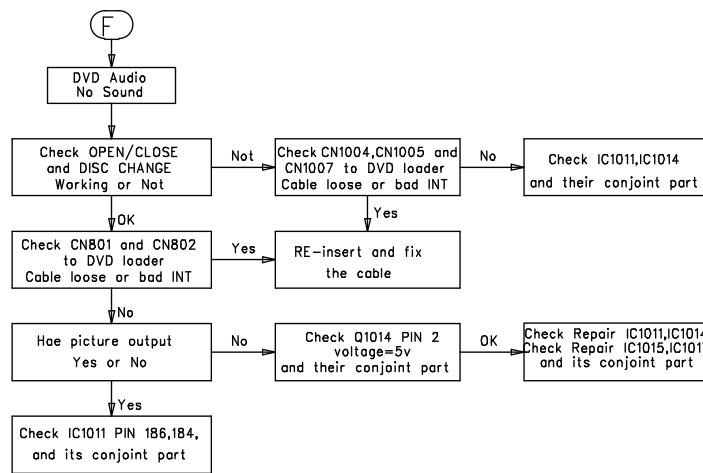
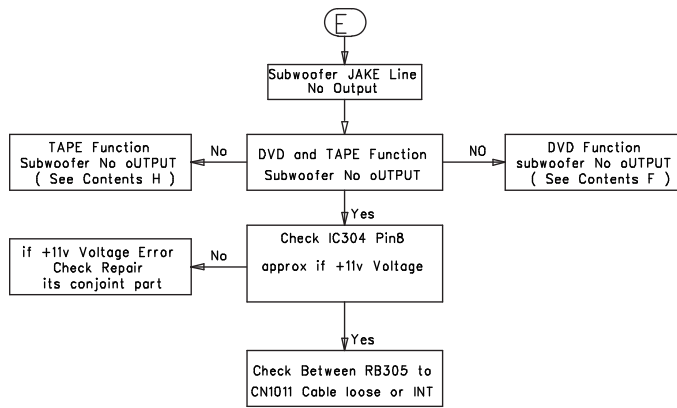
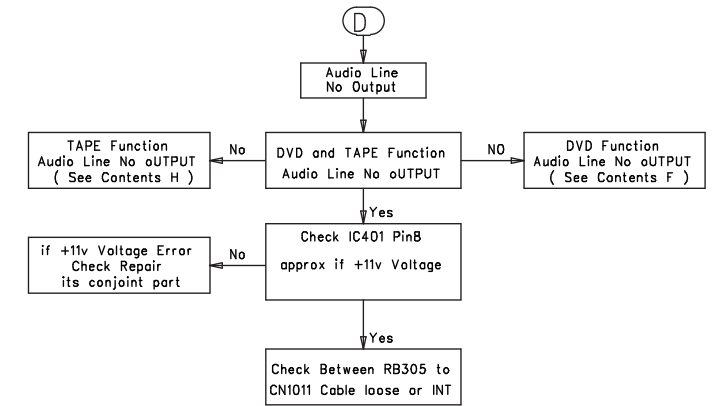
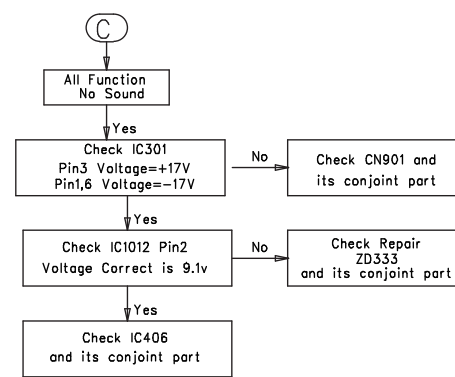
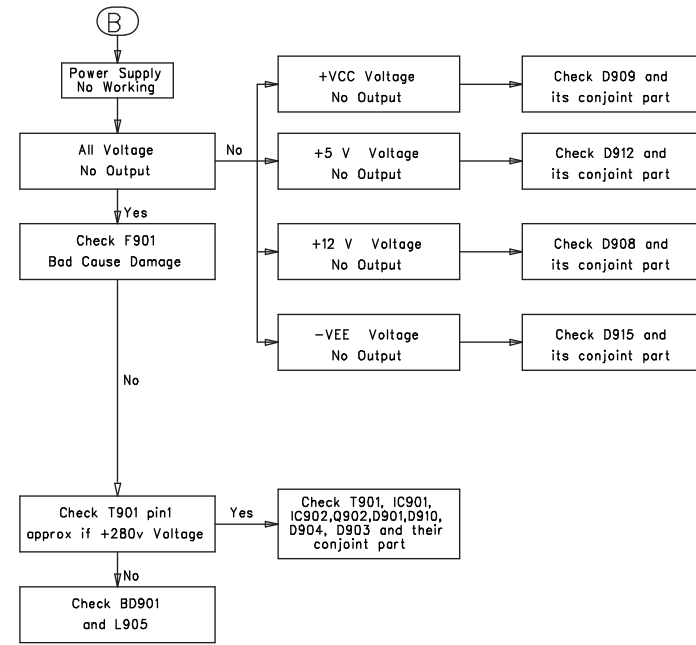
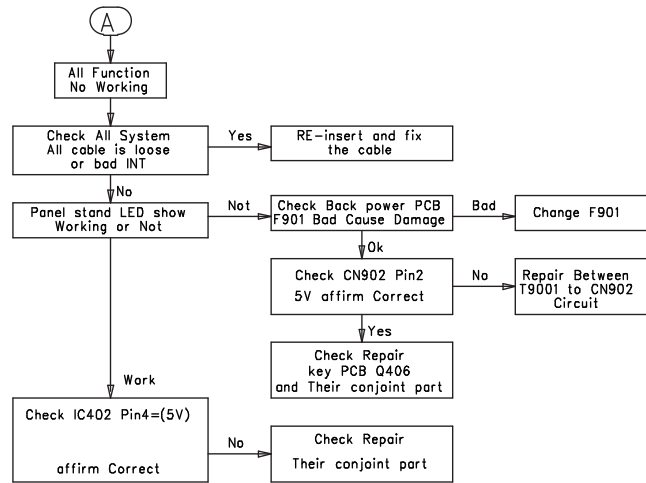
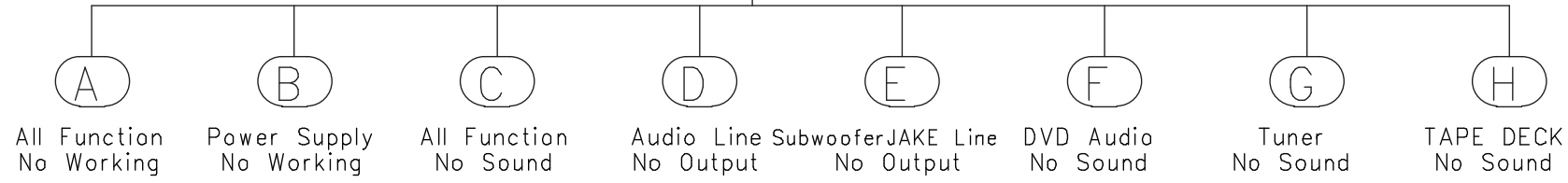
3) Updating new software

- a) insert USB
- b) press "USB" key to select USB mode
- c) press and hold "STOP" key
- d) VFD will display "UPGRADE"
- e) when finishing upgrade ,system will automatic go to standby mode

CAUTION !

This information is confidential and may not be distributed. Only a qualified service person should reprogram the Region Code.

MAIN UNIT REPAIR CHART



DISMANTLE INSTRUCTIONS

1. Dismantling of the top cover Assembly

- Loosen 8 screws and remove the Top Cover
- 2 screws "AI" on the back panel as shown in figure1
- 1 screws "AII" each on the left& right sides as shown in figure2

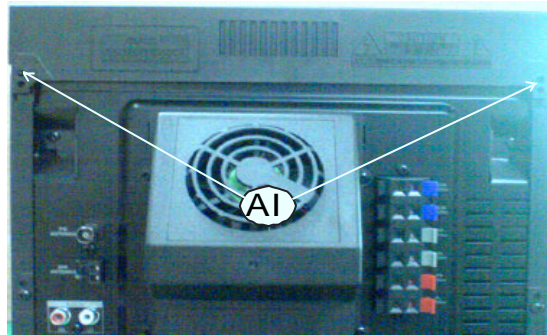


Figure1

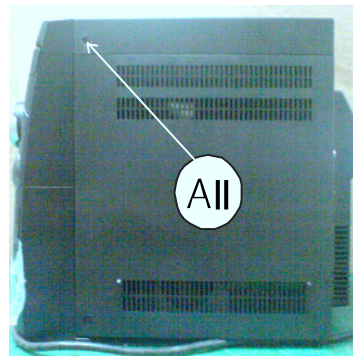


Figure2

2. Dismantling of the top back panel Assembly

- Loosen 4 screws "B" each on the back panel as show in figure 3
- 1 screws "C" each on the left& right sides as shown in figure 4

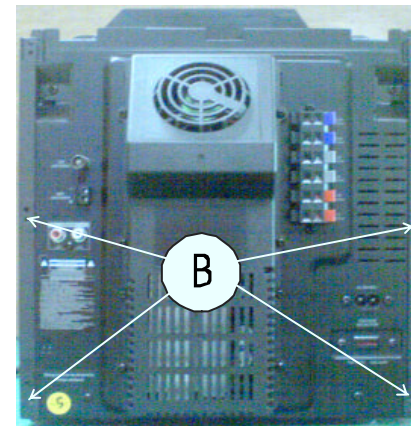


Figure3

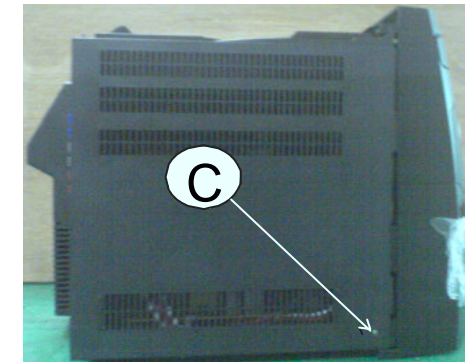


Figure4

3. Dismantling of the DVD LOADER Assembly

- Power On ,Open the door and remove the DVD DOOR from the LOADER as shown in figure5

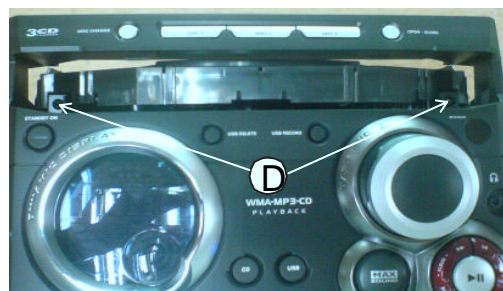


Figure5 (D1—D4)

4 . Dismantling of the BOTTOM PANEL Assembly

- Loosen 2 screws "F" on the bottom panel as shown in figure 6.

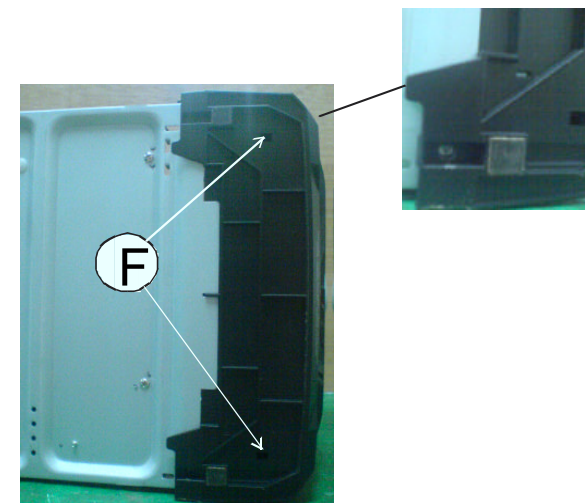
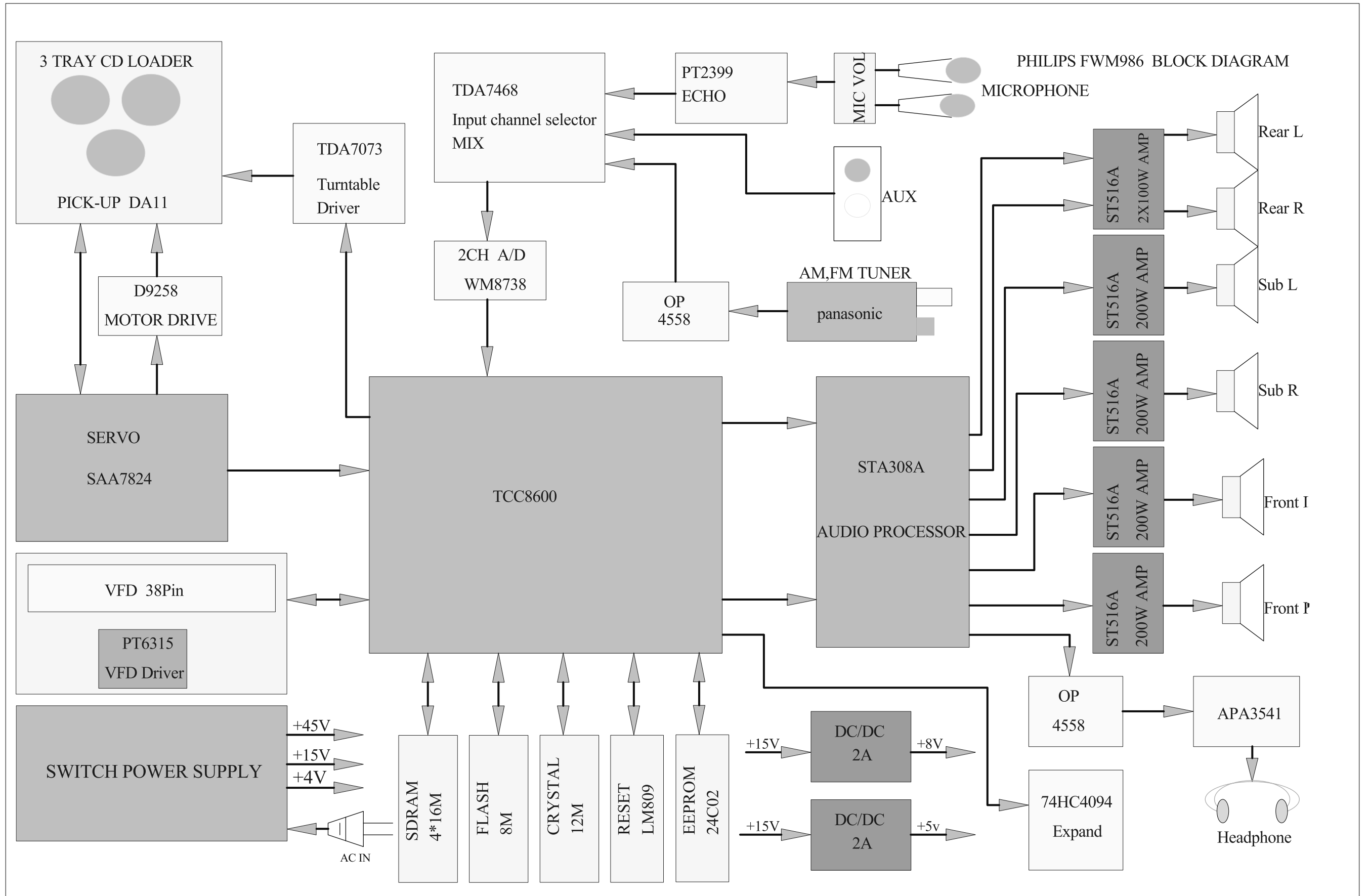
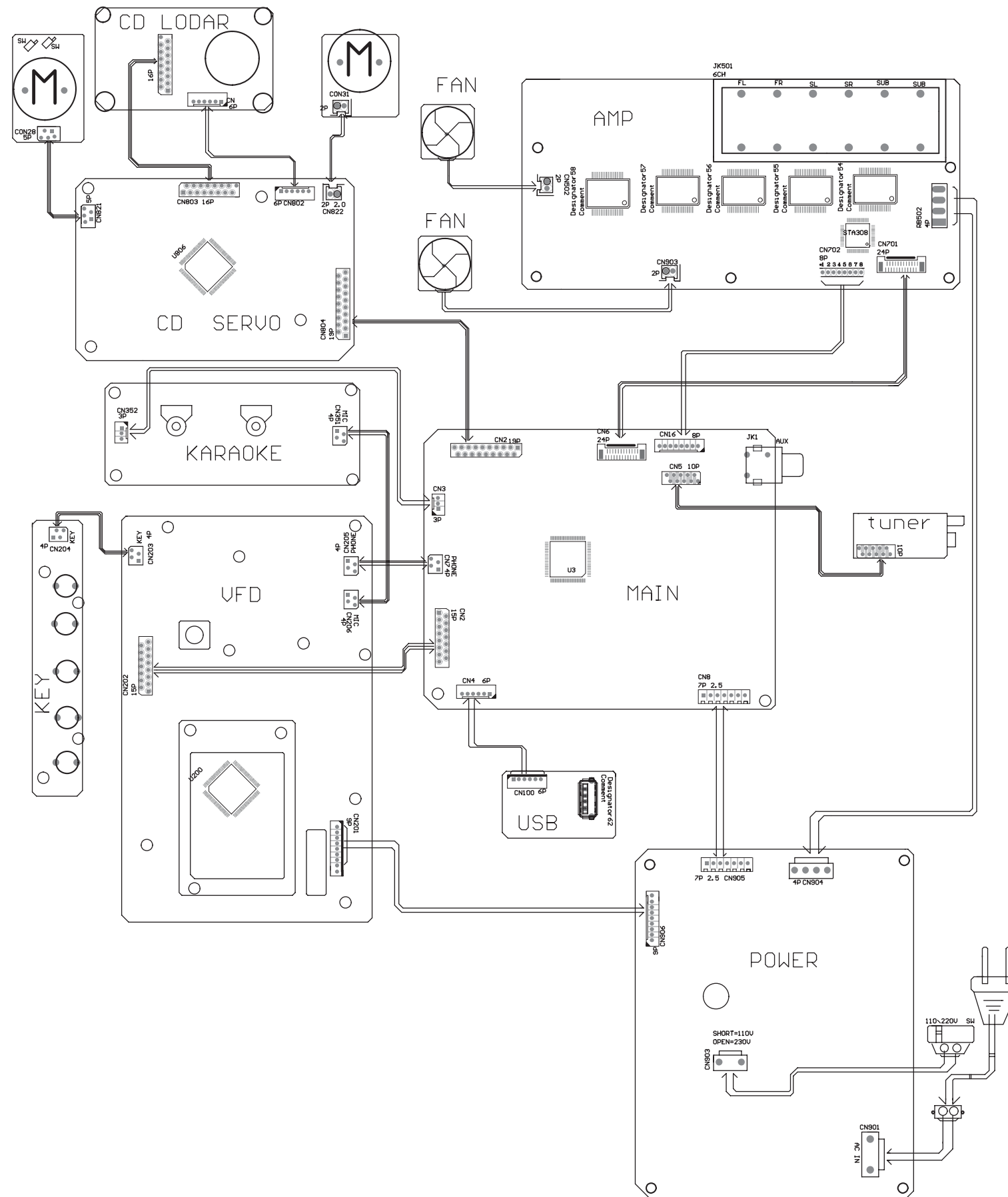


Figure6

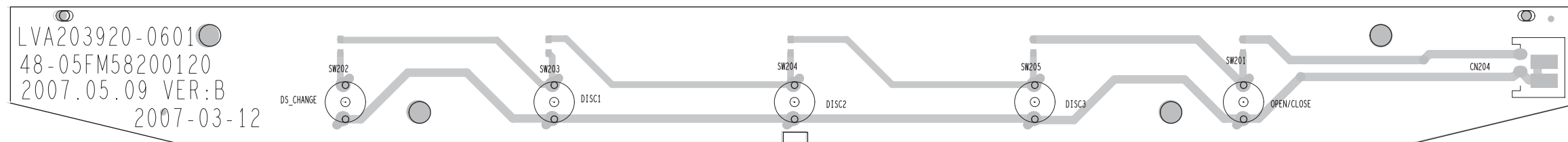
SET BLOCK DIAGRAM



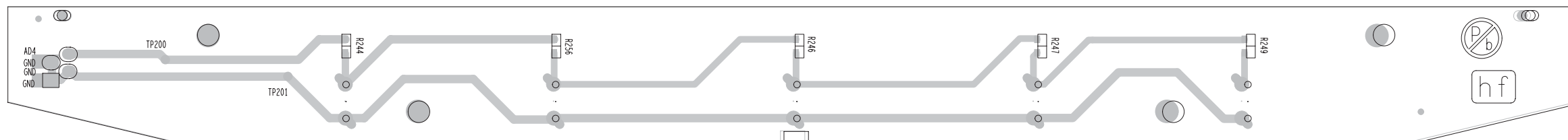
SET WIRING DIAGRAM



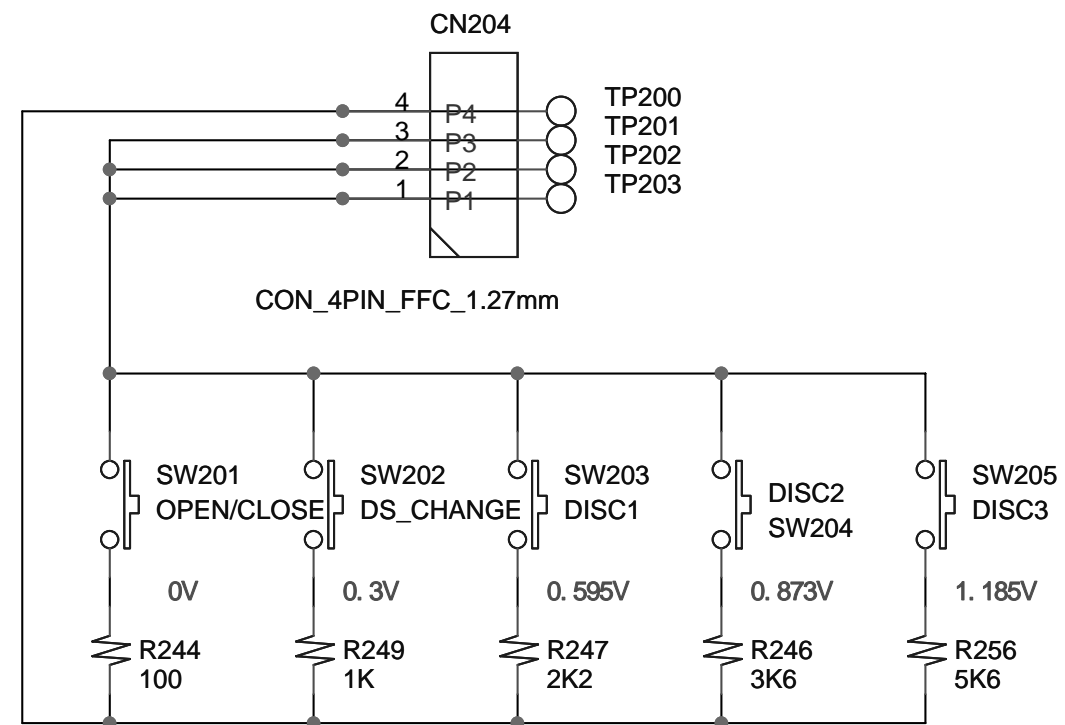
LAYOUT DIAGRAM - KEY BOARD
TOP VIEW



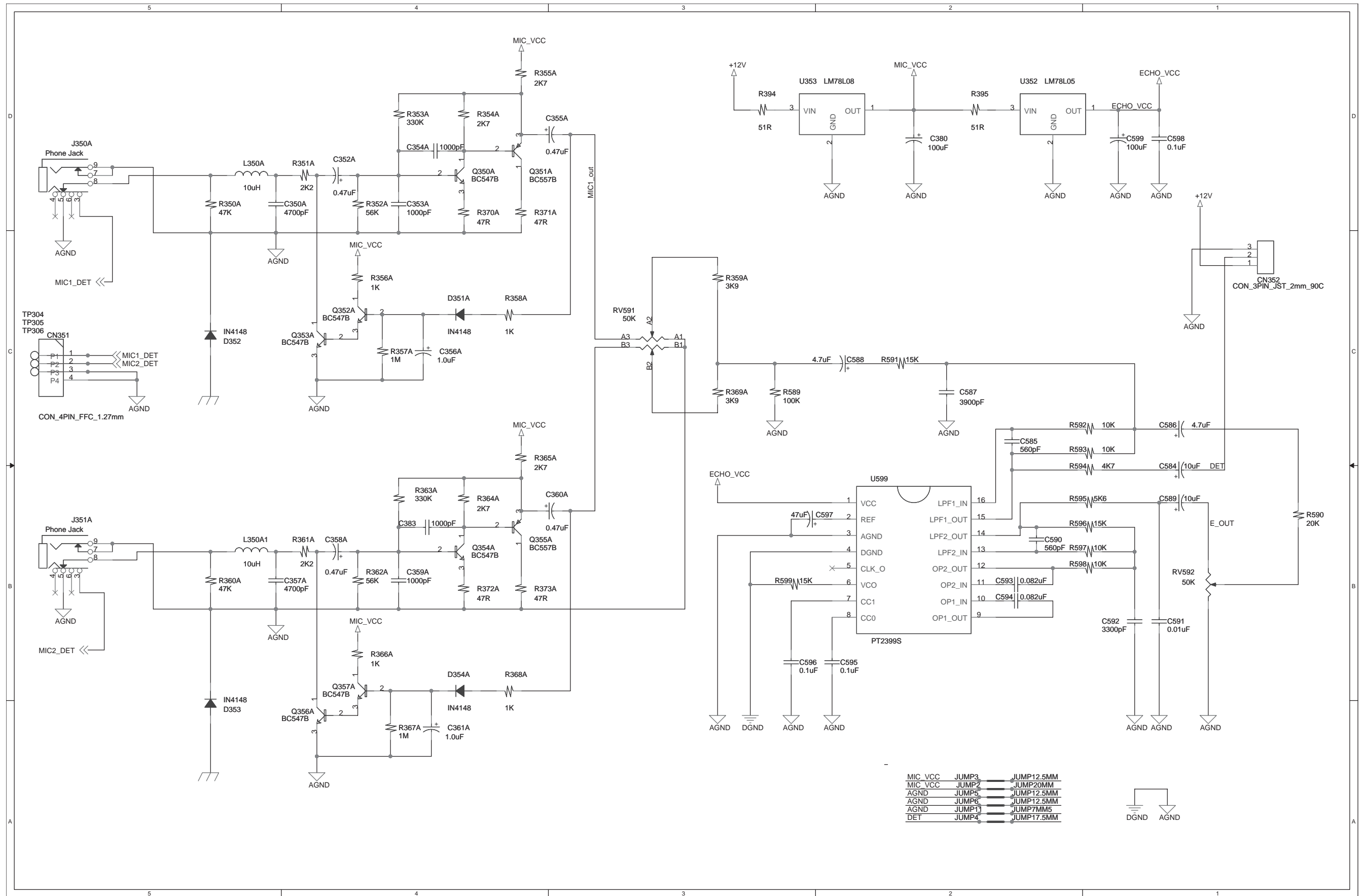
LAYOUT DIAGRAM - KEY BOARD
BOTTOM VIEW



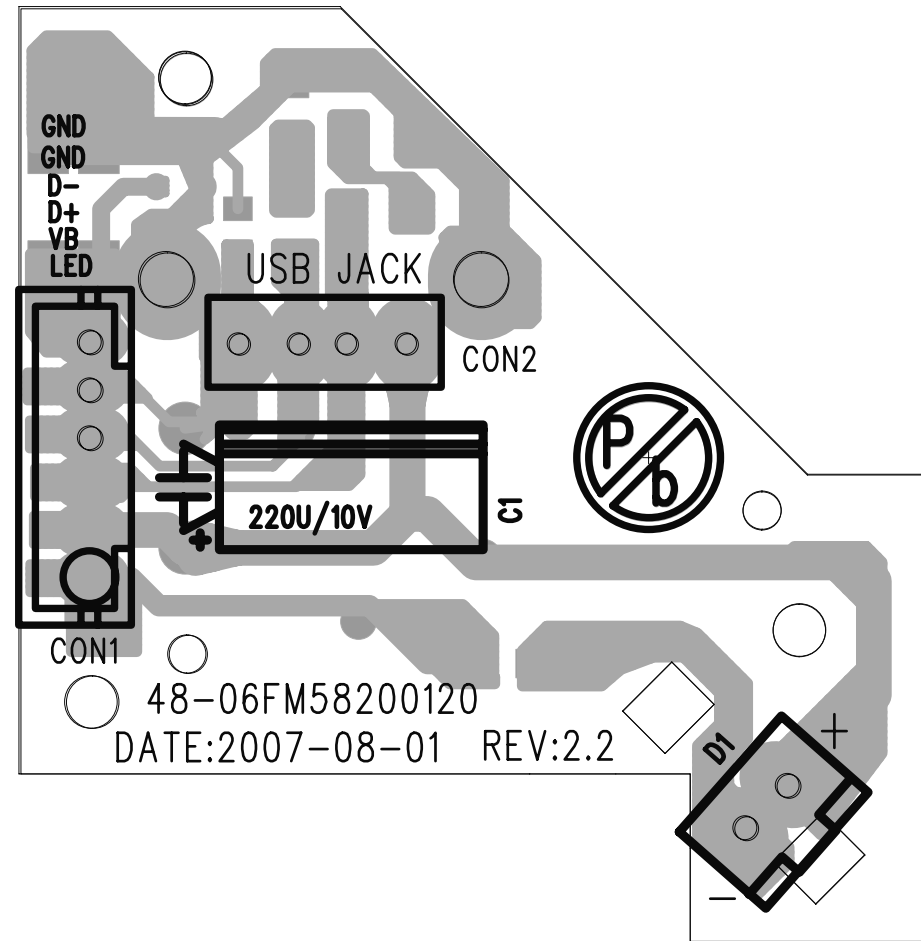
CIRCUIT DIAGRAM - KEY BOARD



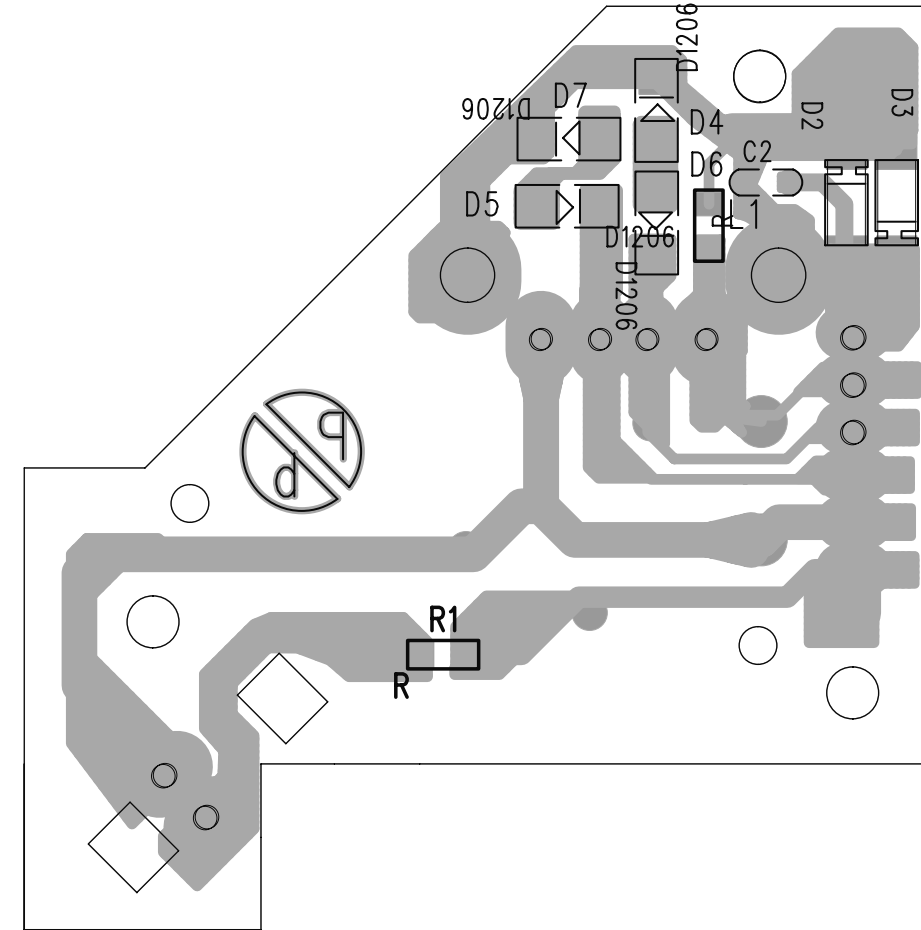
LAYOUT DIAGRAM - KARAOKE BOARD



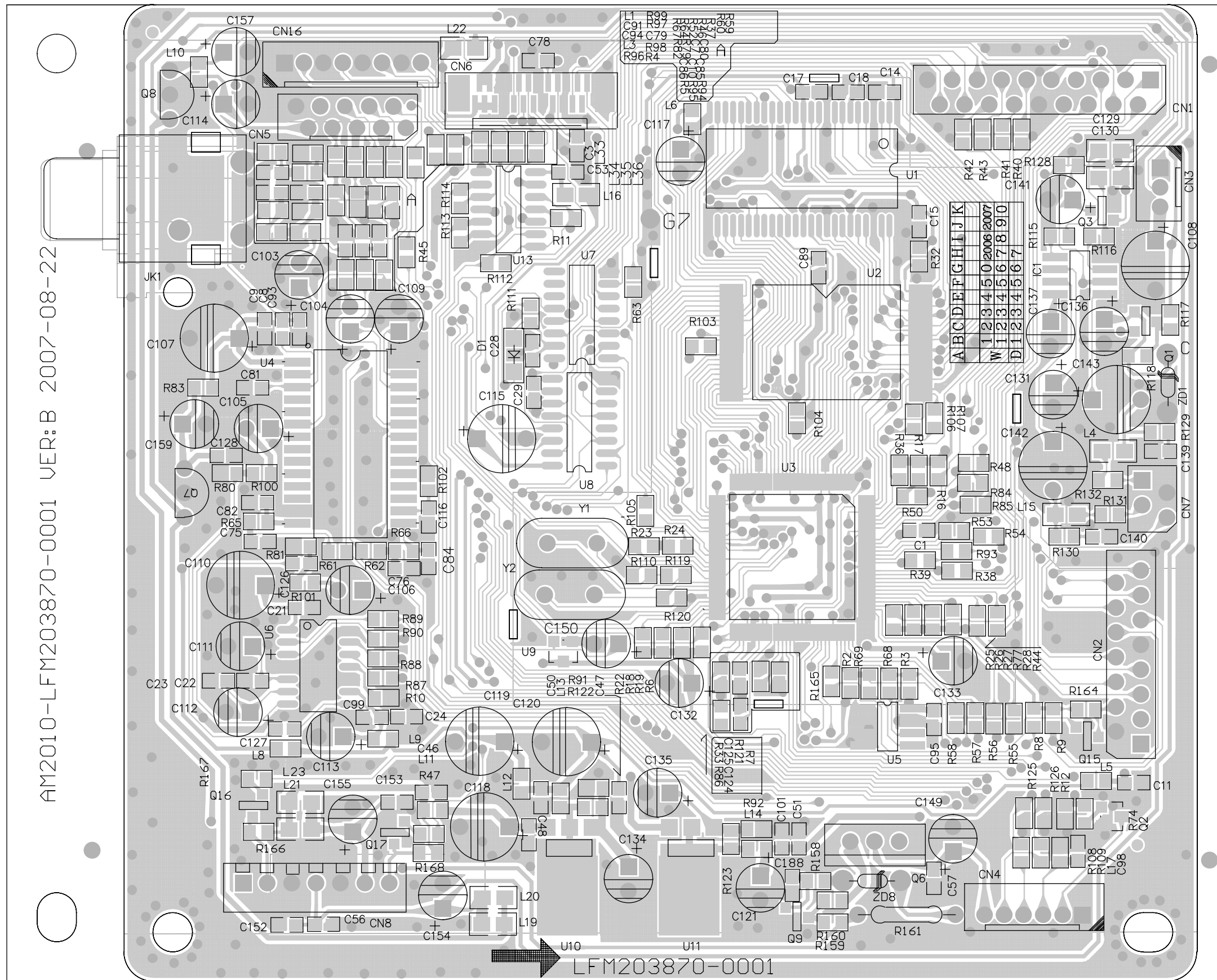
LAYOUT DIAGRAM - USB JACK BOARD
TOP VIEW



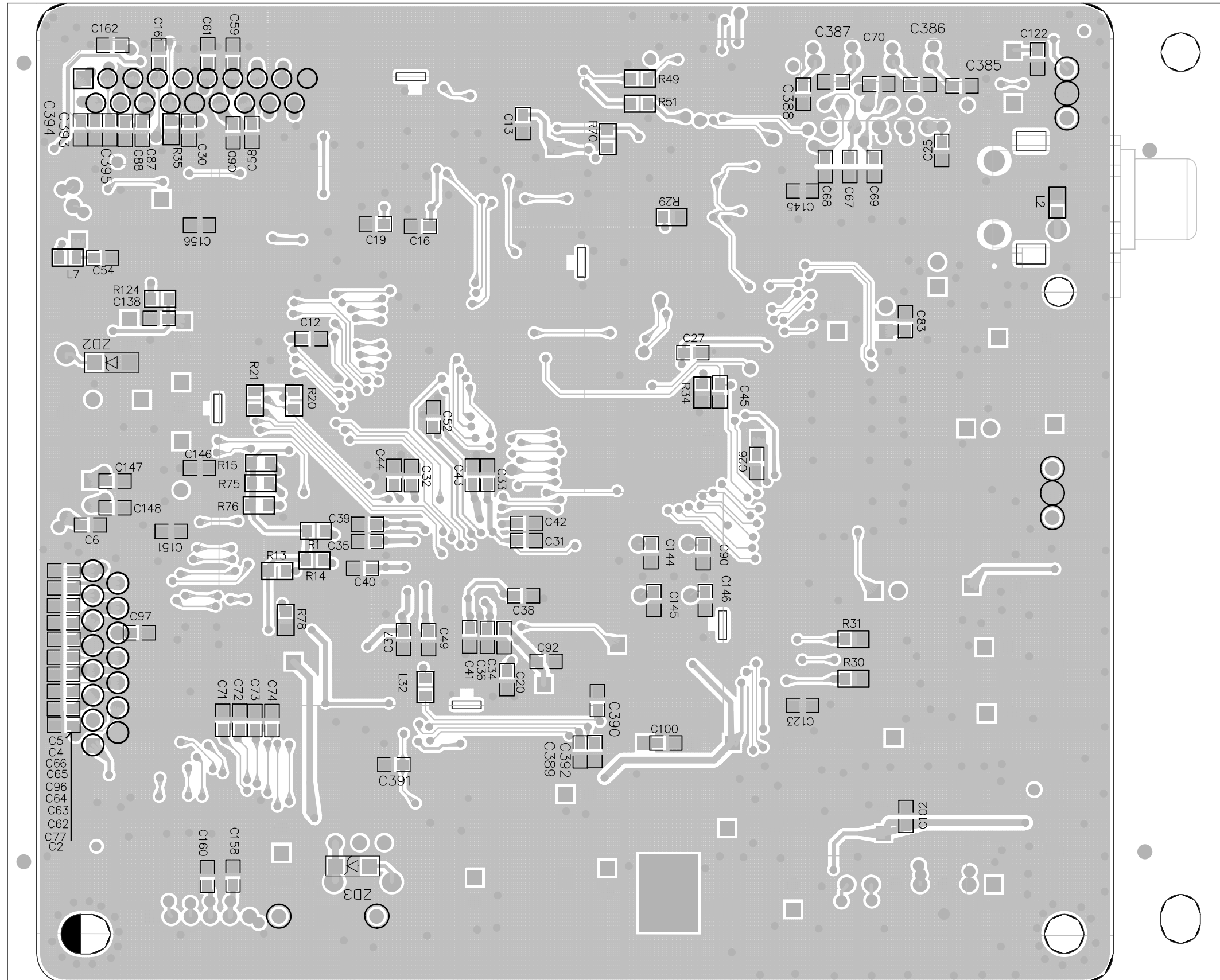
LAYOUT DIAGRAM - USB JACK BOARD
BOTTOM VIEW



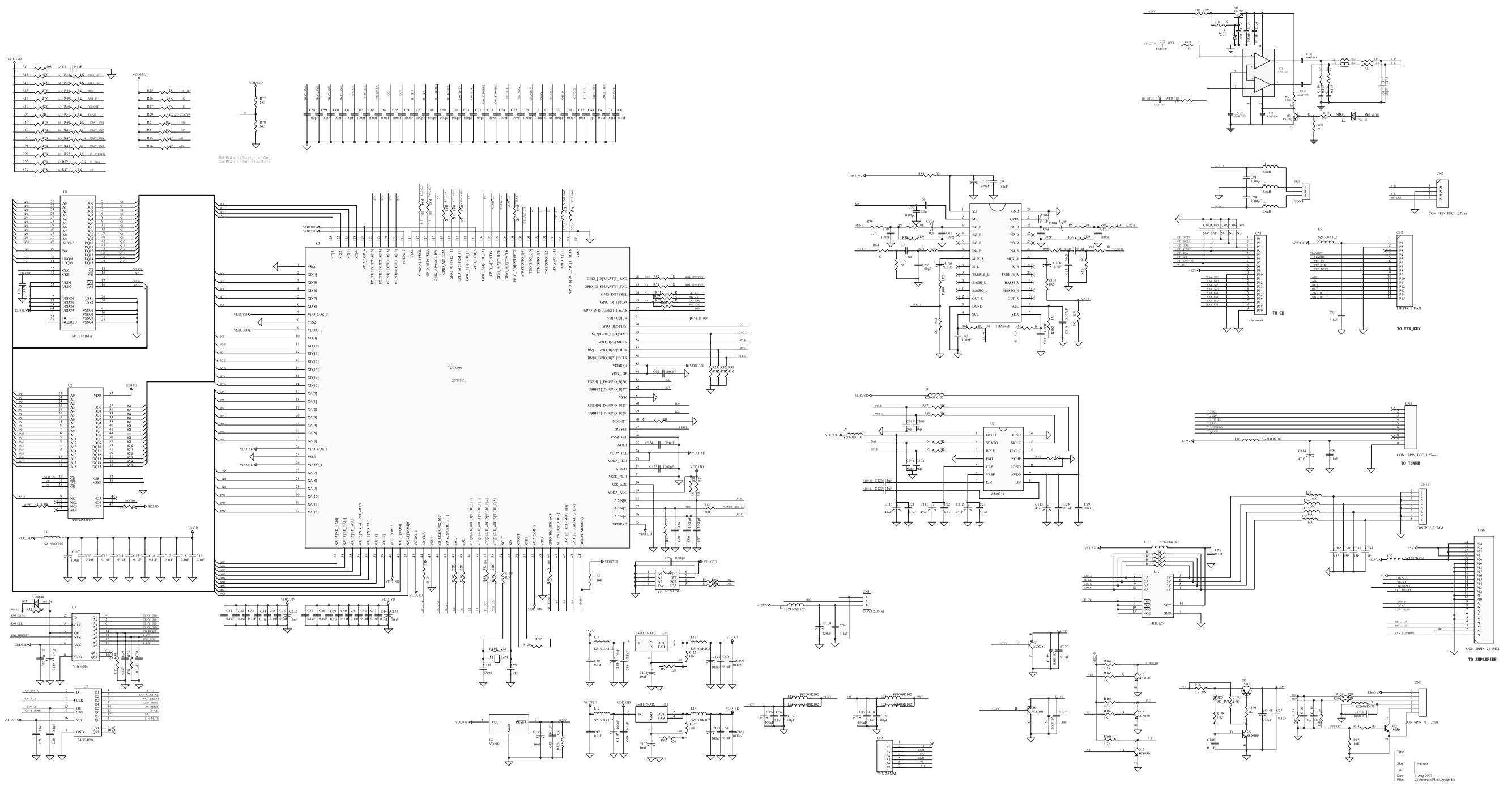
LAYOUT DIAGRAM - MAIN BOARD
TOP VIEW



LAYOUT DIAGRAM - MAIN BOARD
BOTTOM VIEW

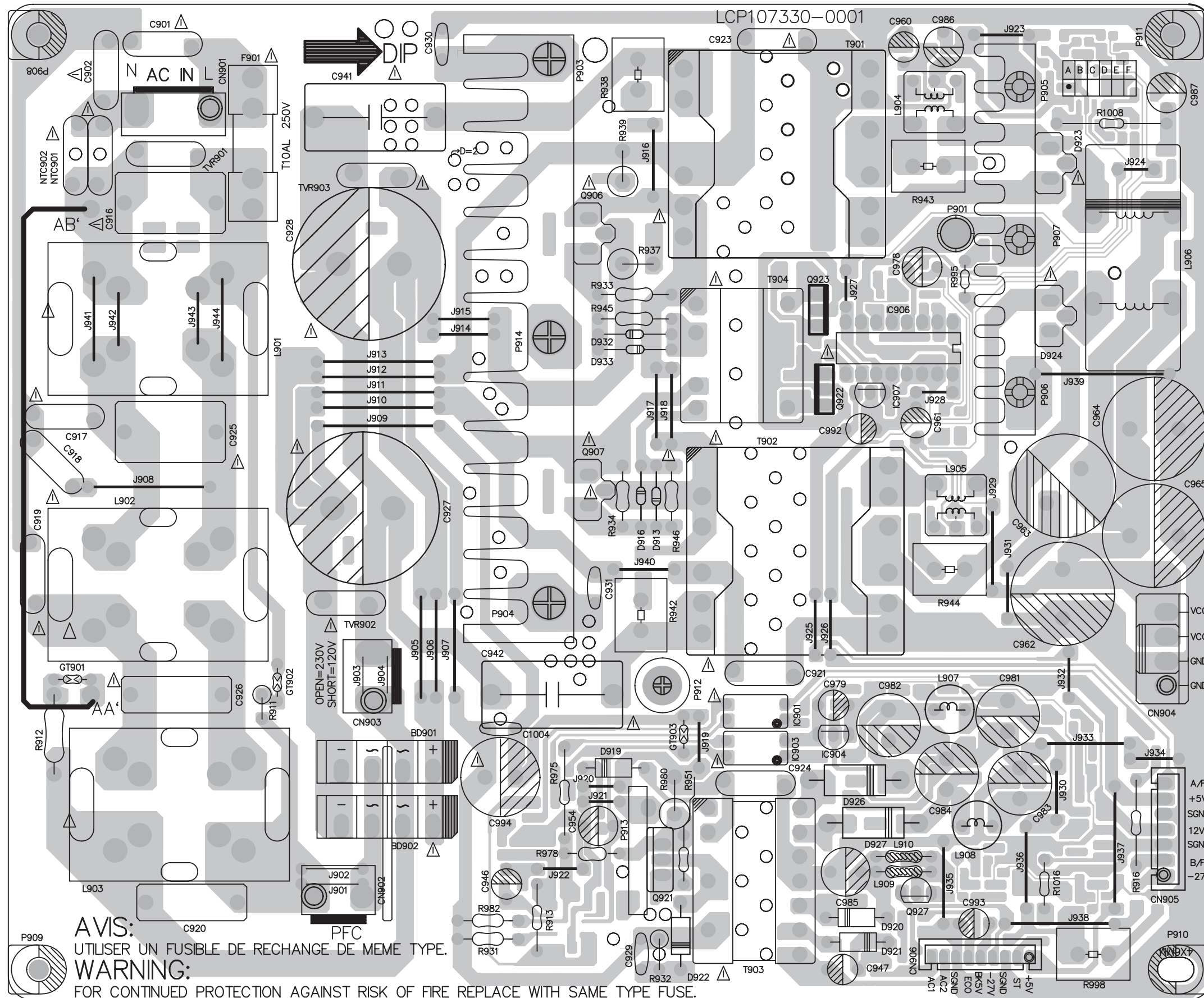


CIRCUIT DIAGRAM - MAIN BOARD



Title: _____
 Date: _____
 Draw: 5-Aug-2007
 File: C:\Program Files\Design Ex

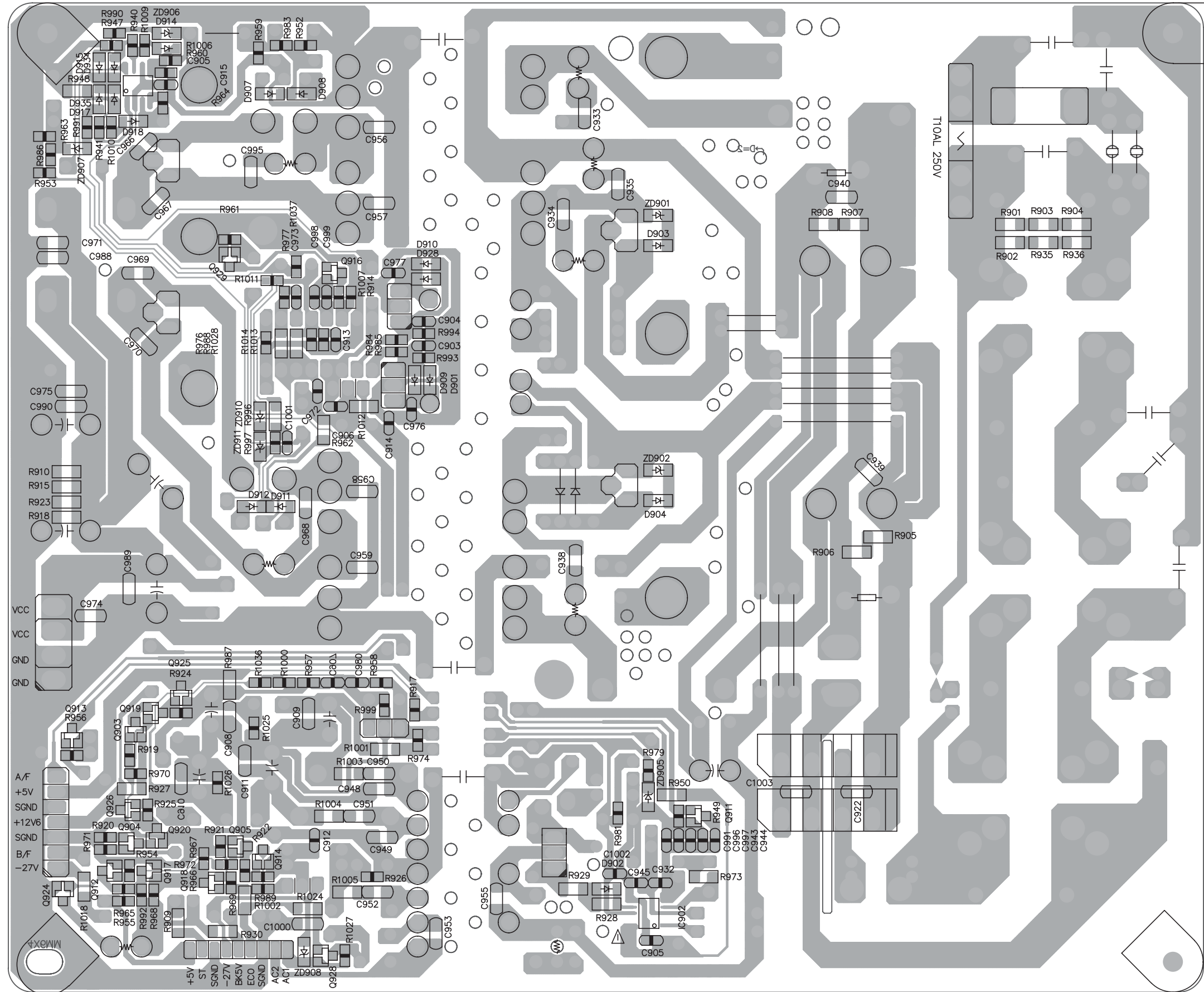
LAYOUT DIAGRAM - POWER BOARD (TOP VIEW)



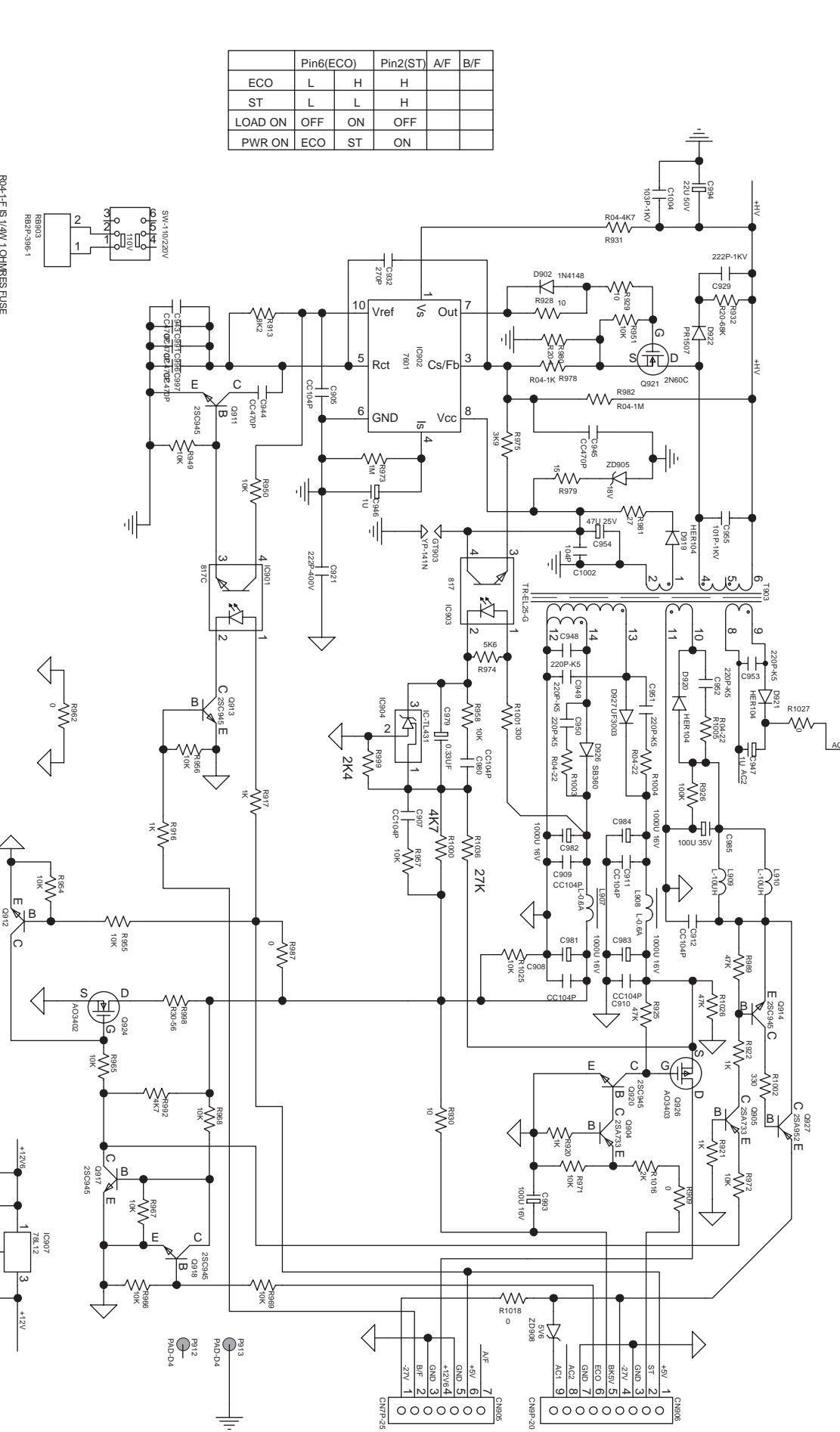
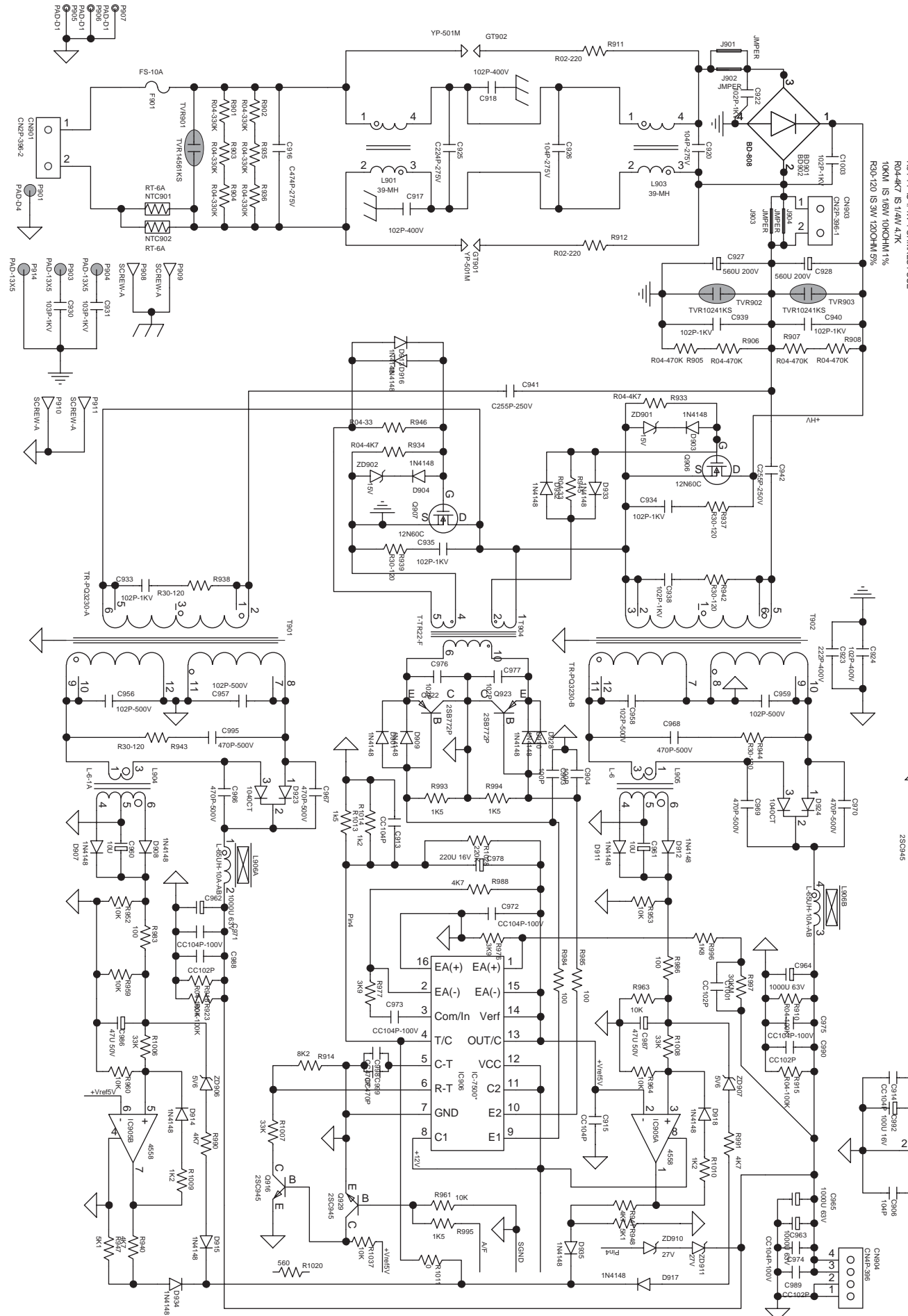
AVIS:
UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE.

WARNING:
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE WITH SAME TYPE FUSE.

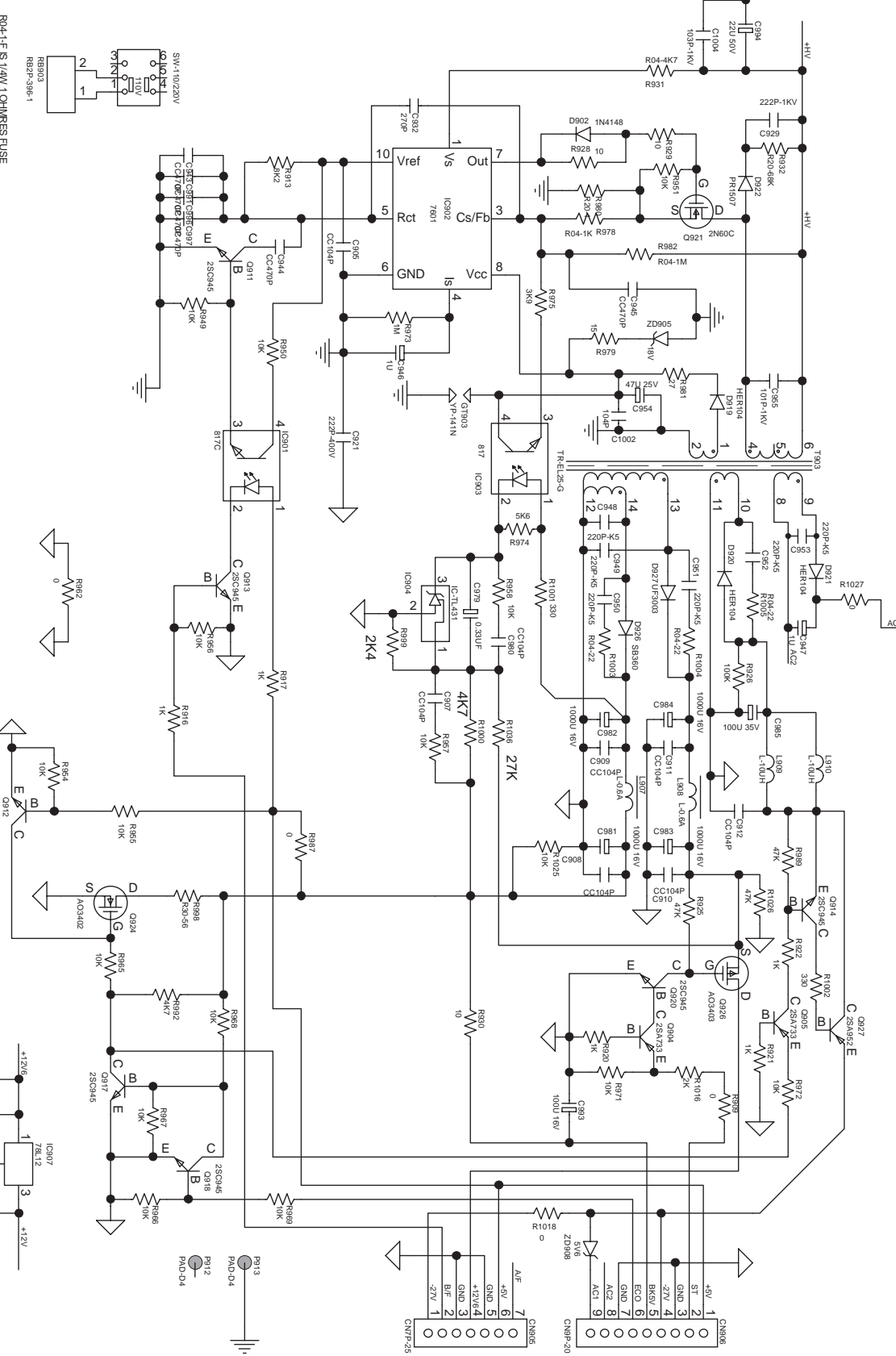
LAYOUT DIAGRAM - POWER BOARD (BOTTOM VIEW)



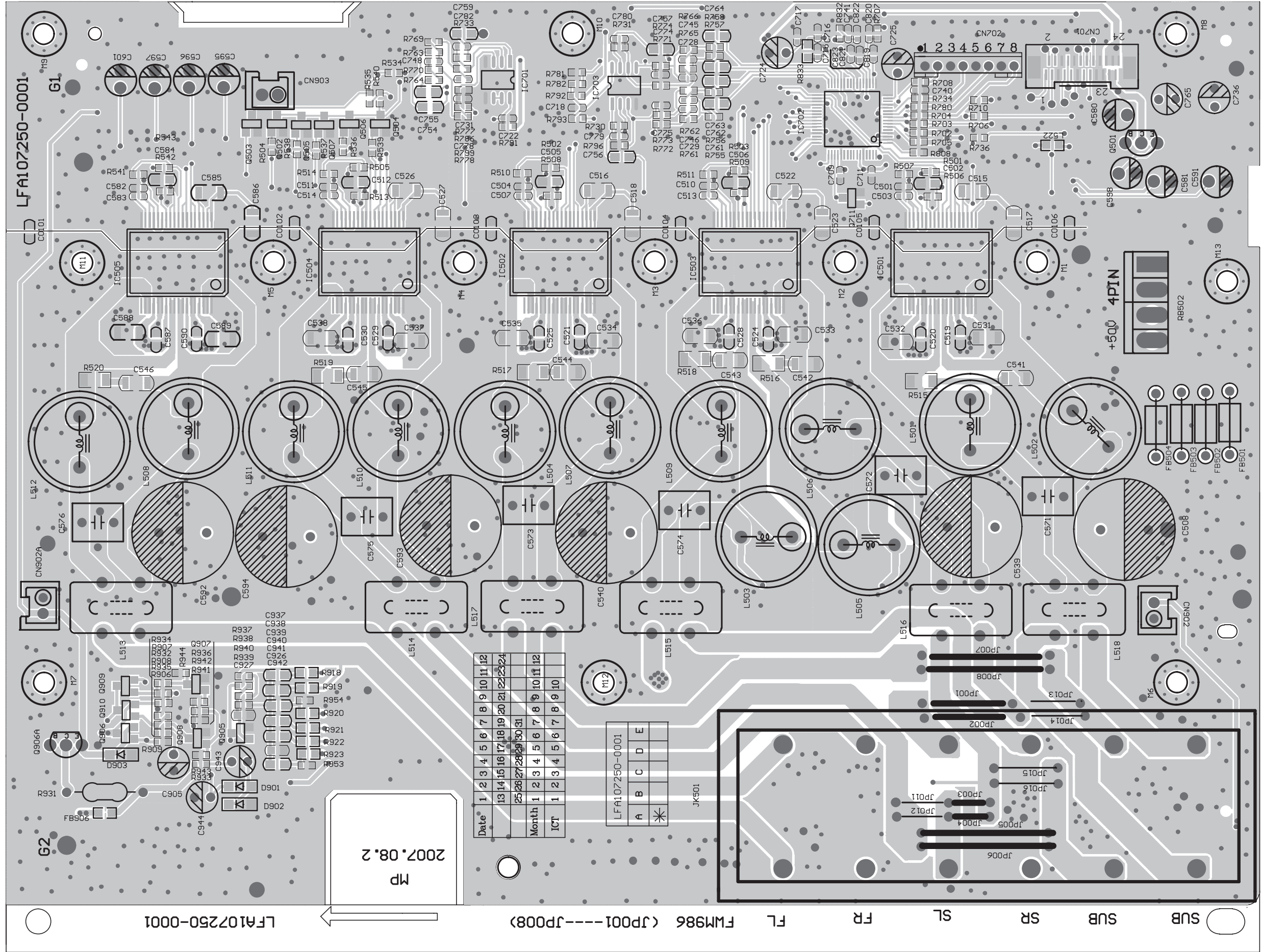
CIRCUIT DIAGRAM - POWER BOARD



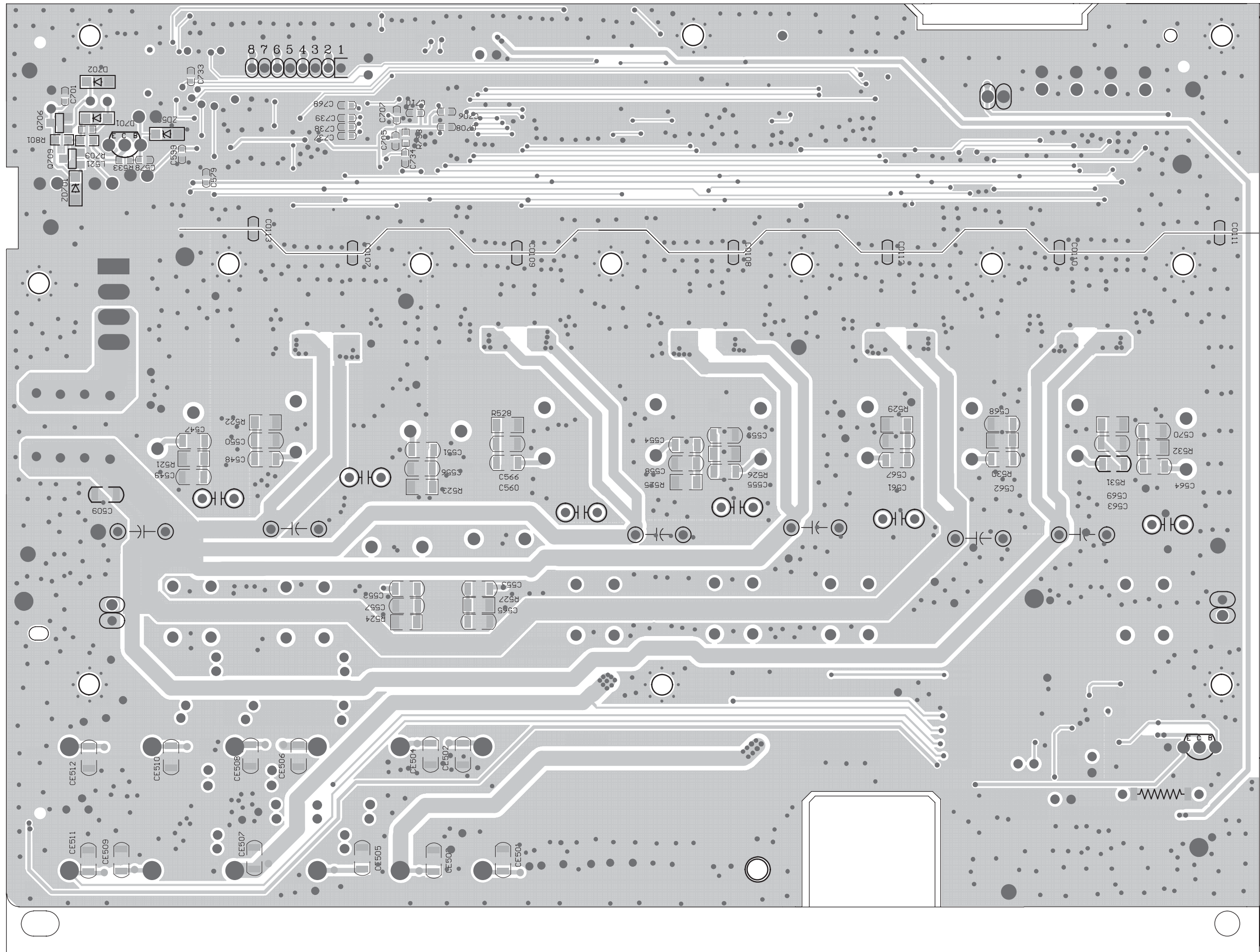
	Pin6(ECO)	Pin2(ST)	A/F	B/F
ECO	L	H	H	
ST	L	L	H	
LOAD ON	OFF	ON	OFF	
PWR ON	ECO	ST	ON	



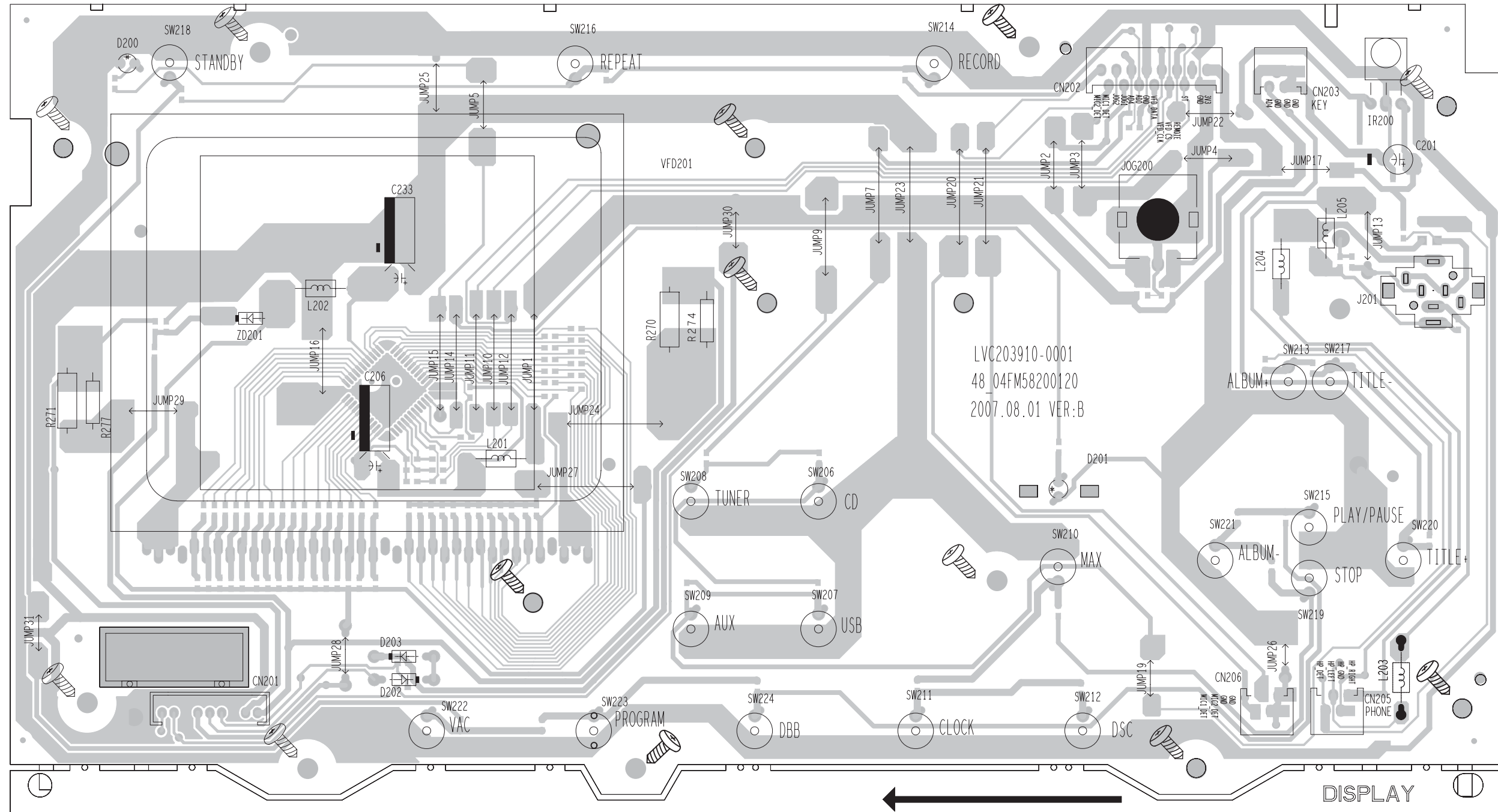
LAYOUT DIAGRAM - AMP BOARD (TOP VIEW)



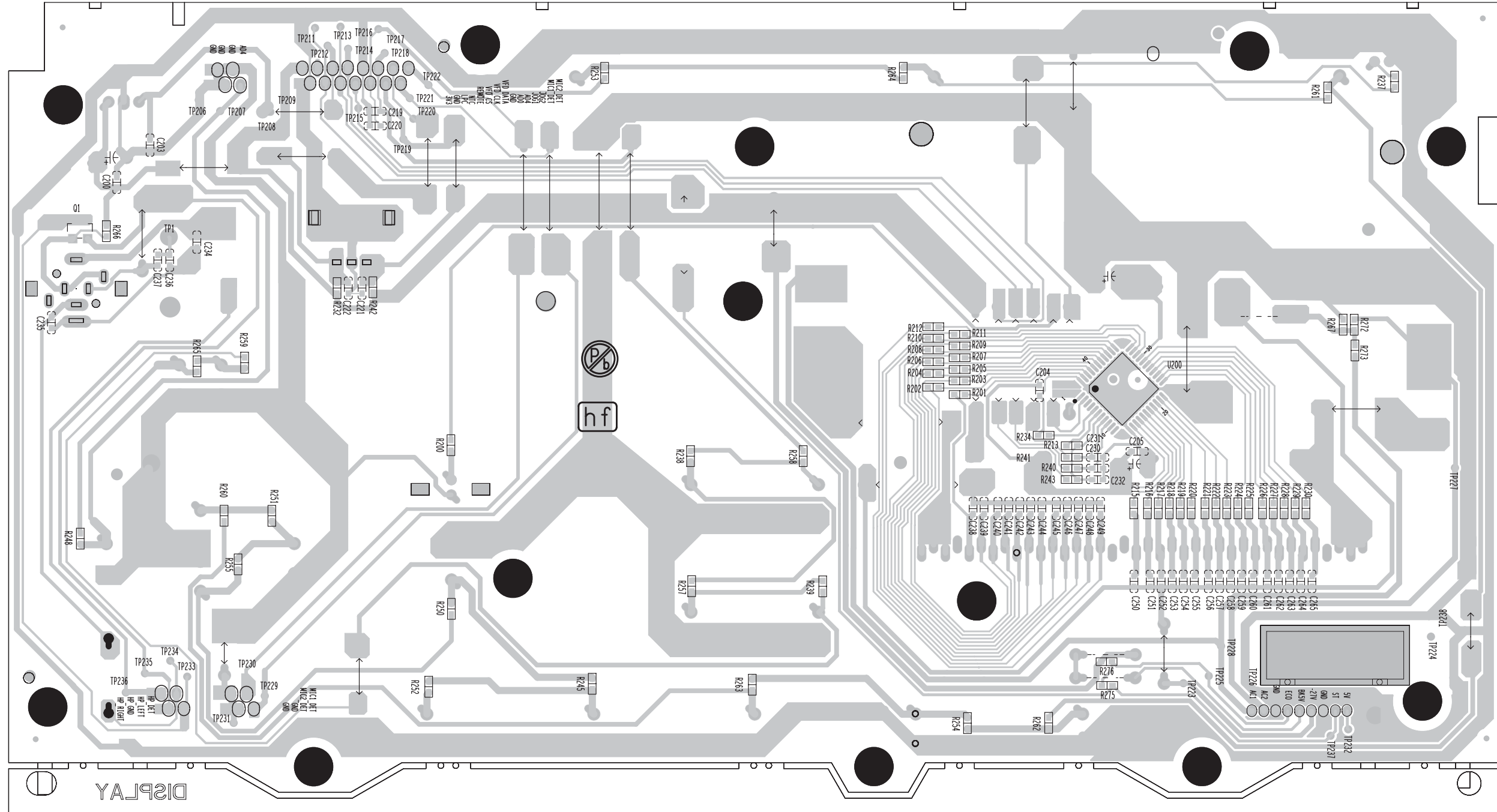
LAYOUT DIAGRAM - AMP BOARD (BOTTOM VIEW)



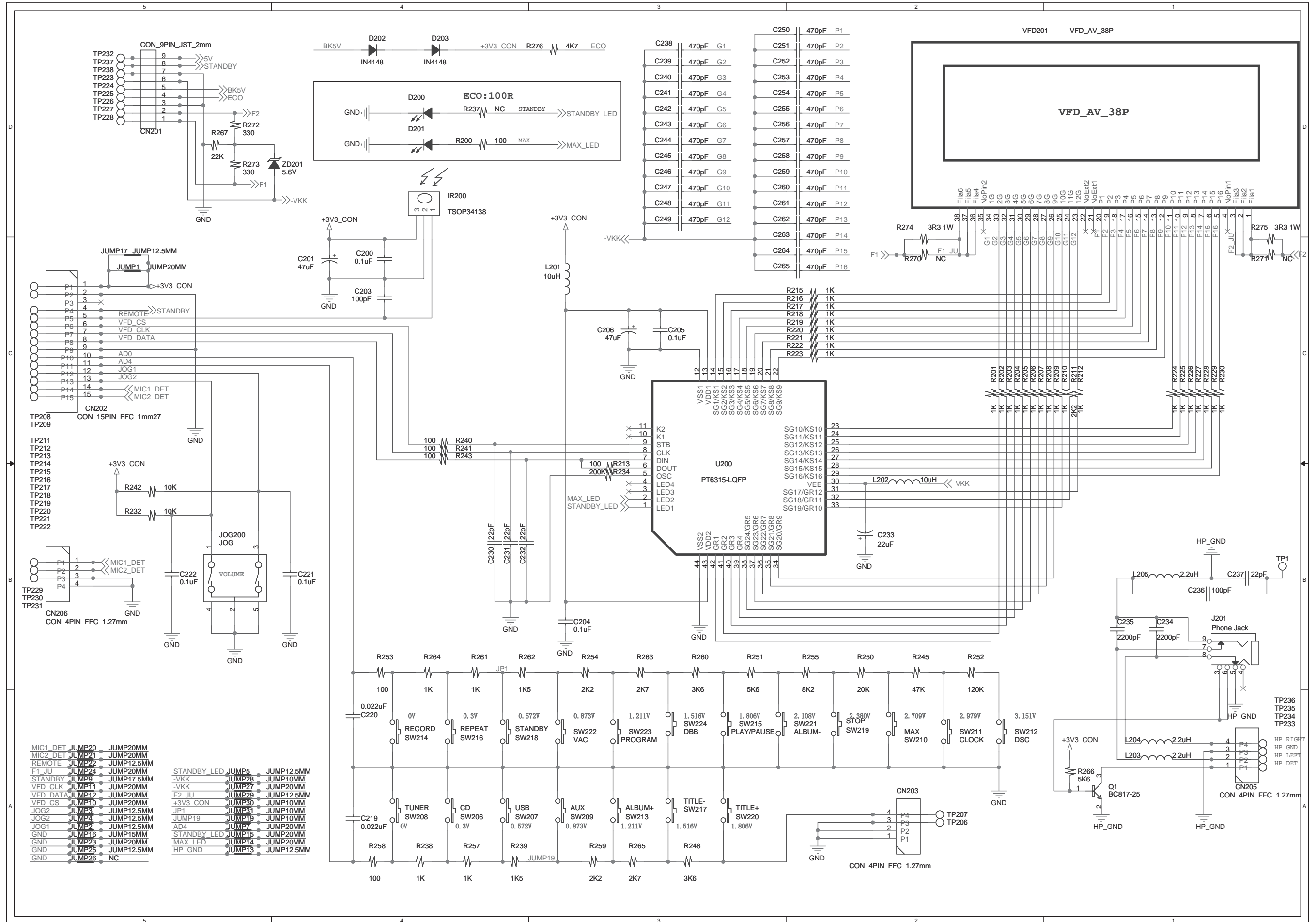
LAYOUT DIAGRAM - CONTROL BOARD (TOP VIEW)



LAYOUT DIAGRAM - CONTROL BOARD (BOTTOM VIEW)

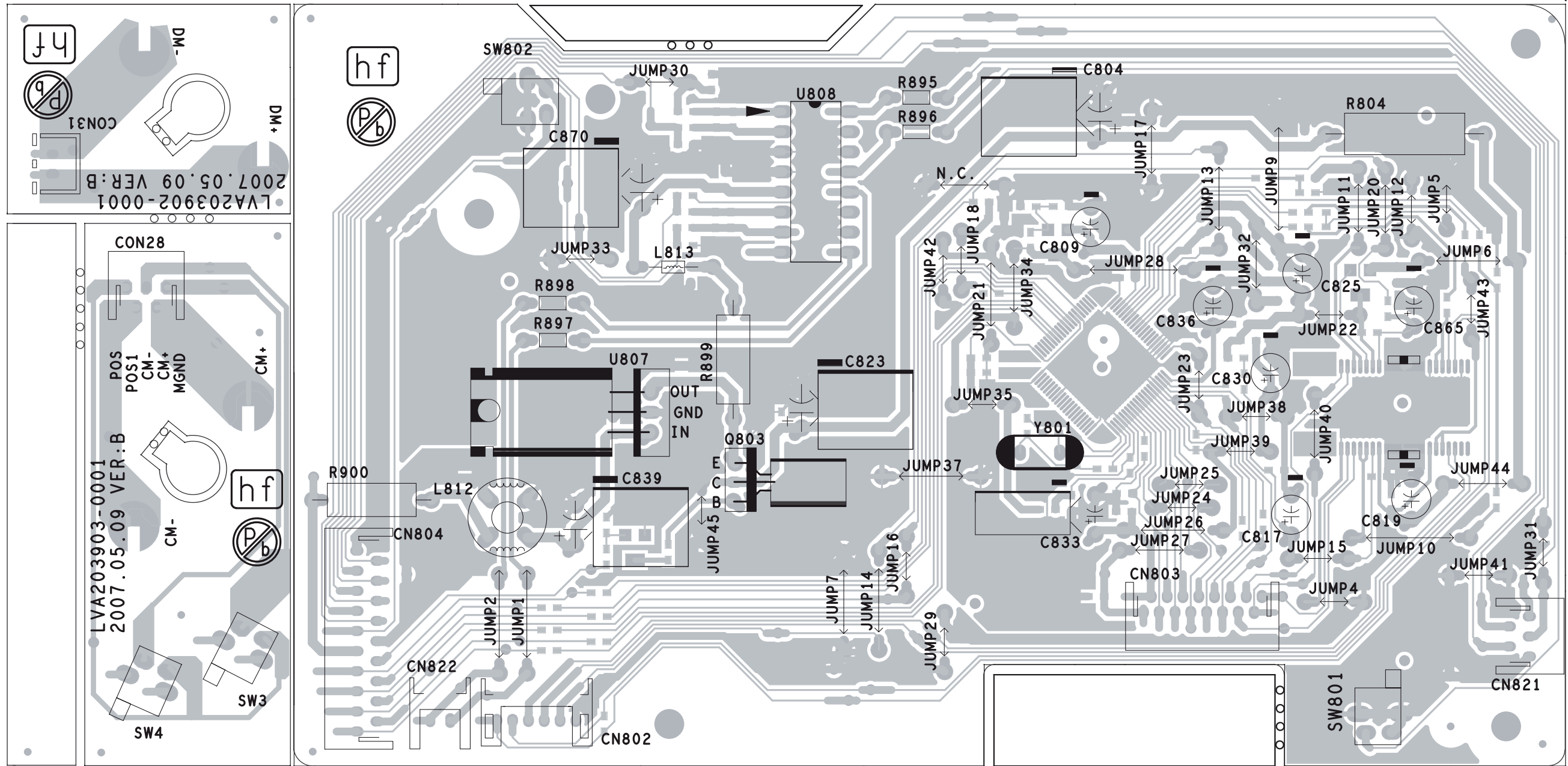


CIRCUIT DIAGRAM - CONTROL BOARD

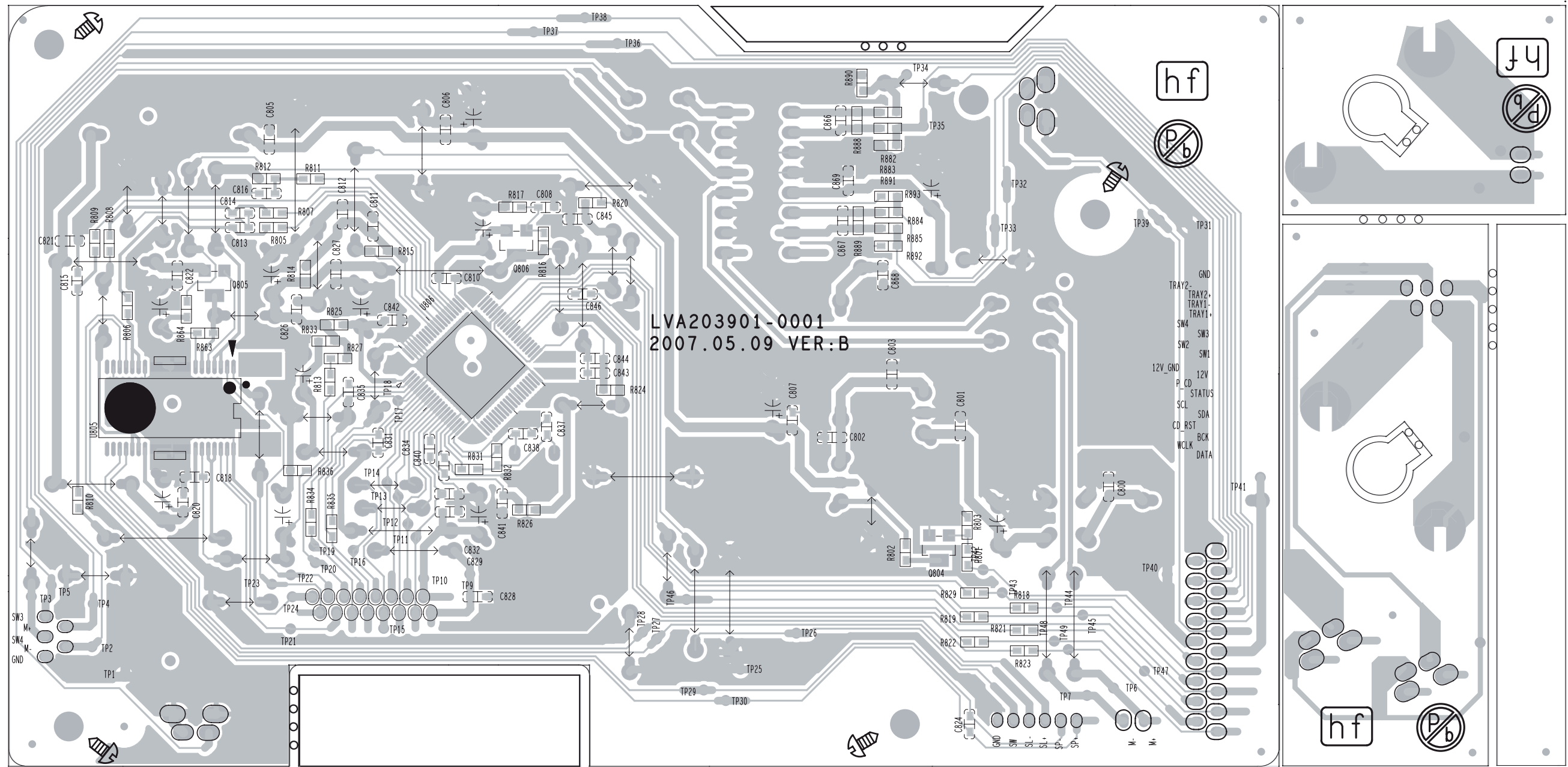


- | | | |
|----------|--------|------------|
| MIC1_DET | JUMP20 | JUMP20MM |
| MIC2_DET | JUMP21 | JUMP20MM |
| REMOTE | JUMP22 | JUMP12.5MM |
| F1_JU | JUMP24 | JUMP20MM |
| STANDBY | JUMP9 | JUMP17.5MM |
| VFD_CLK | JUMP11 | JUMP20MM |
| VFD_DATA | JUMP12 | JUMP20MM |
| VFD_CS | JUMP10 | JUMP20MM |
| JOG2 | JUMP3 | JUMP12.5MM |
| JOG1 | JUMP2 | JUMP12.5MM |
| AD4 | JUMP7 | JUMP20MM |
| GND | JUMP16 | JUMP15MM |
| GND | JUMP23 | JUMP20MM |
| GND | JUMP25 | JUMP12.5MM |
| GND | JUMP26 | NC |
-
- | | | |
|-------------|--------|------------|
| STANDBY_LED | JUMP5 | JUMP12.5MM |
| -VKK | JUMP28 | JUMP10MM |
| -VKK | JUMP27 | JUMP20MM |
| F2_JU | JUMP29 | JUMP12.5MM |
| +3V3_CON | JUMP30 | JUMP10MM |
| JP1 | JUMP31 | JUMP10MM |
| JUMP19 | JUMP19 | JUMP10MM |
| AD4 | JUMP7 | JUMP20MM |
| STANDBY_LED | JUMP15 | JUMP20MM |
| MAX_LED | JUMP14 | JUMP20MM |
| HP_GND | JUMP13 | JUMP12.5MM |

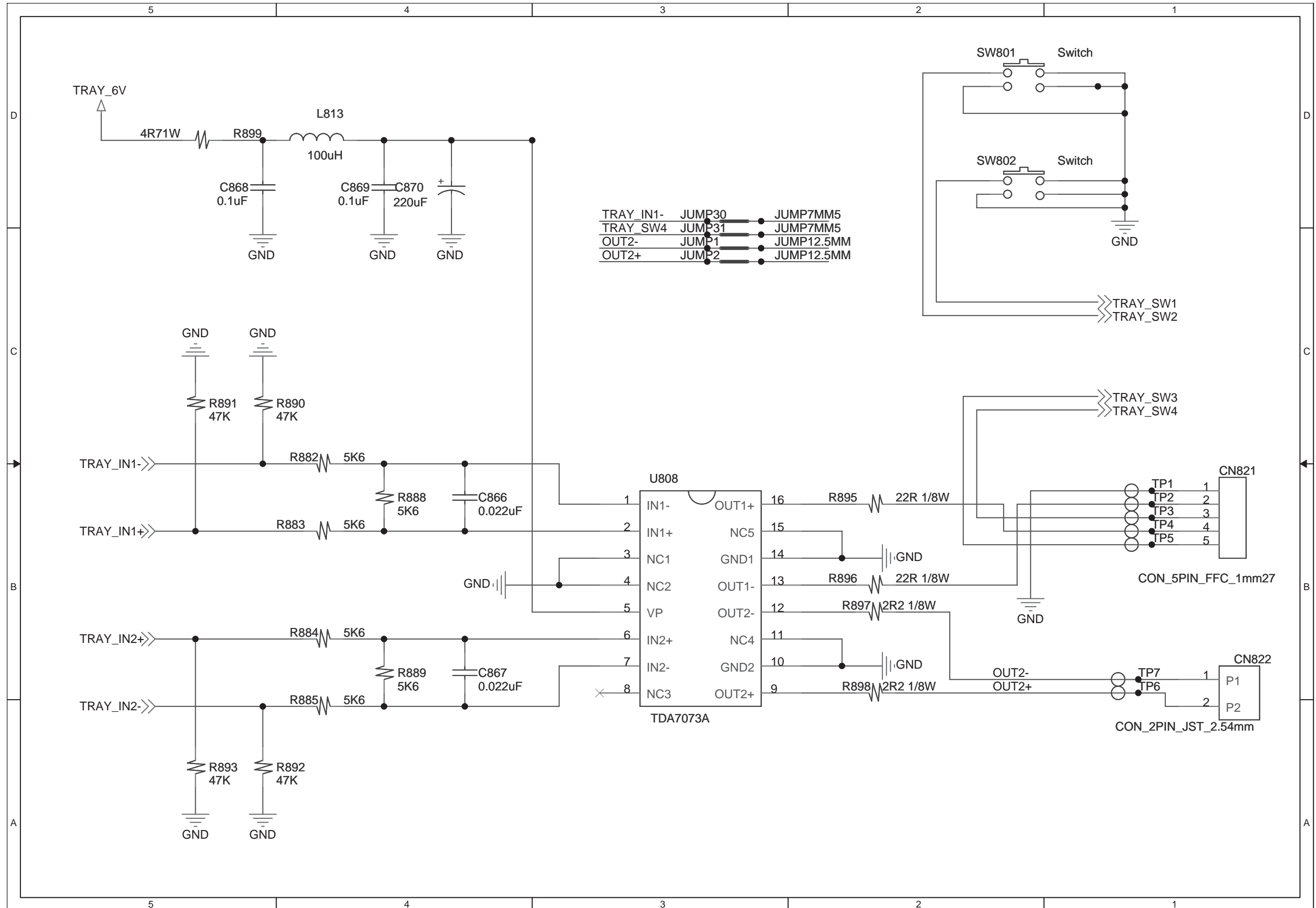
LAYOUT DIAGRAM - CD & TRANSFER & INSPECT BOARD (TOP VIEW)



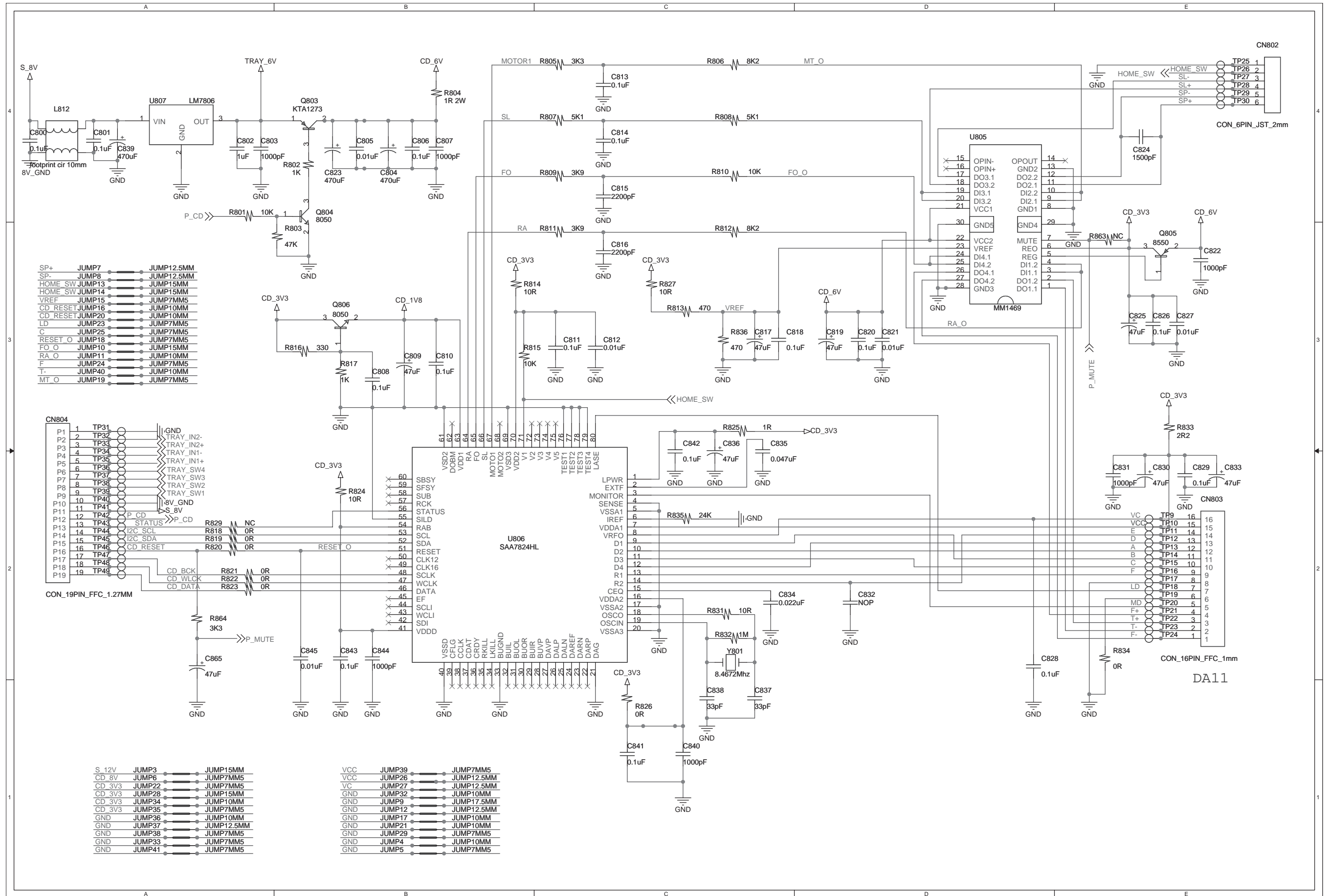
LAYOUT DIAGRAM - CD & TRANSFER & INSPECT BOARD (BOTTOM VIEW)



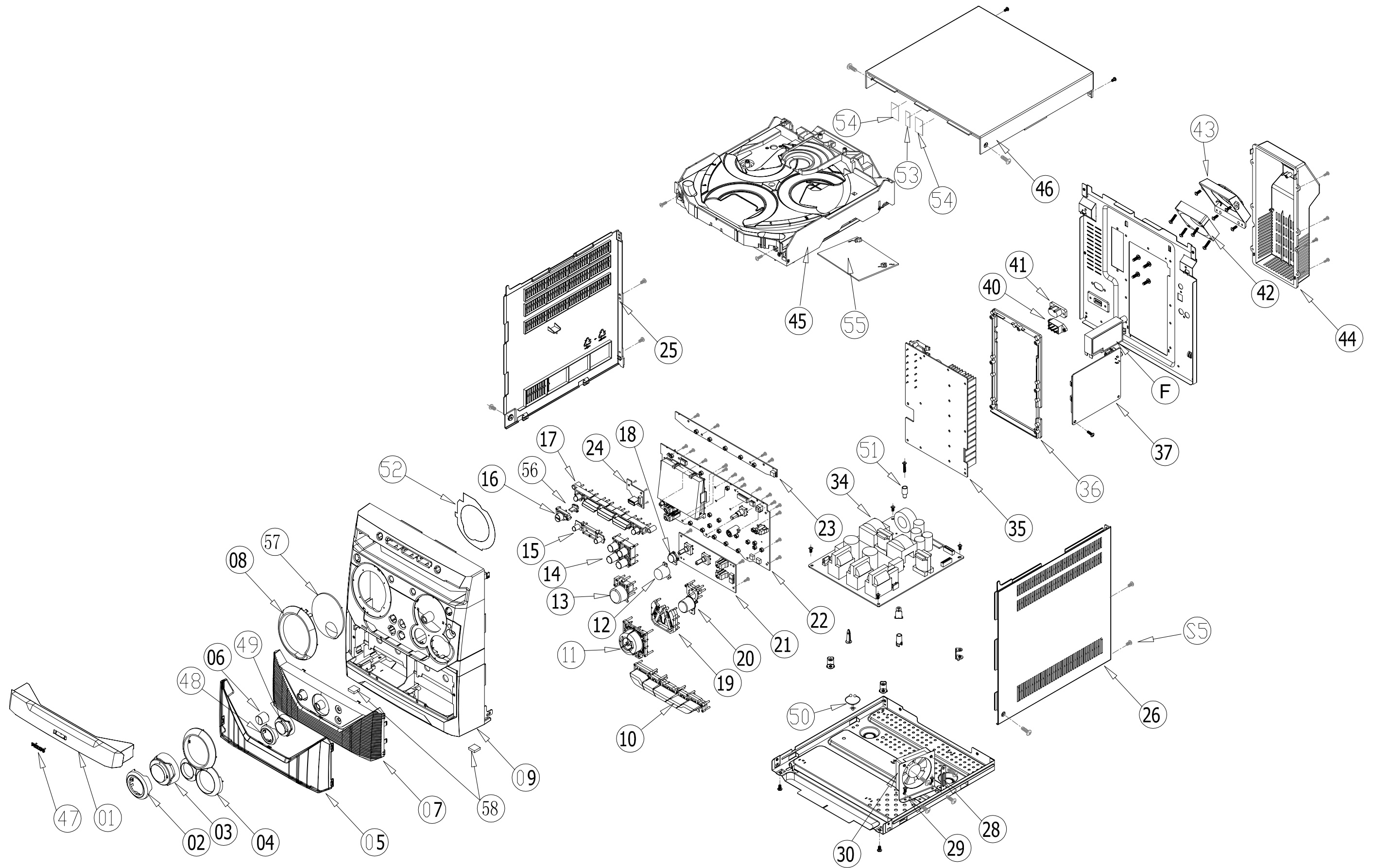
**CIRCUIT DIAGRAM - CD BOARD
PART 1**



CIRCUIT DIAGRAM - CD BOARD PART 2



SET MECHANICAL EXPLODED VIEW



MECHANICAL & ACCESSORIES PARTS LIST

1	996510008220	CDC TRAY DOOR	AM	996510008250	LOOP AM ANT
2	994000001522	VOL KNOB GRIP	B	△ 996500032751	AC PLUG CONVERSION PLUG
3	996510008239	VOL KNOB RING	CN1	996510008248	FFC CABLE 19P 200mm
4	994000001544	COMESTIC RING	CN2	996510008246	FFC CABLE 15P 300mm
5	996510008235	CABINET LENS	CN203	996510008243	FFC CABLE 4P 180mm
6	996510008231	TONE/ECHO KONB	CN5	996510000673	FFC CABLE 10P 100MM P1.25MM
7	996510008222	KARAOKE PANEL	CN6	996510008249	FFC CABLE 24P 150mm
8	996510008240	DISPLAY RING	CN7	996510008244	FFC CABLE 4P 300mm
9	996510008221	FRONT CABINET	CN803	996510008247	FFC CABLE 16P 170mm
10	996510008226	MODE KEY	CN821	996510008245	FFC CABLE 5P 200mm
11	996510008223	CD CTRL KEY	E	996510008253	MICROPHONE 3M CABLE 3.5
12	996510008234	DBB LIGHT GUIDE LENS	FM	996510008251	FM ANT
13	994000001525	DBB KEY	PWR	△ 994000001054	LINE CORD 2P 2000MM
14	996510008227	SOURCE KEY	RC	996510008252	REMOTE CONTROL
15	996510008225	AUTO KEYS	RCA	996500023267	RCA CABLE 1200MM OD2.6X5.2
16	996510008228	STANDBY KEY	SPKM	996510008704	SPEAKER BOX ASSY-MAIN
17	996510008224	CD DISC KEY	SPKSUR	996510008706	SPEAKER BOX ASSY-SURR.
18	996510008233	IR LENS	SUBW	996510008705	SPEAKER BOX ASSY-SUB.
20	996500038418	CD PLAY KEY			
25	996510008238	PANEL LEFT			
26	996510008237	PANEL RIGHT			
30	000000000000	FAN 89mA DC 12V			
42	994000000917	FAN 60x60x15mm DC 12V			
45	996510008218	3CD CHANGE MODULE			
46	996510008219	TOP COVER			
48	996510008232	MIC VOL KONB RING			
49	996510008230	MIC VOLUME KONB			
56	994000001532	STANDBY LENS			
57	994000001533	DISPLAY LENS			
F	996510001607	TUNER PACK			

Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTS LIST**KEY BOARD**

SW201	996500038754	TACT SWITCH
SW202	996500038754	TACT SWITCH
SW203	996500038754	TACT SWITCH
SW204	996500038754	TACT SWITCH
SW205	996500038754	TACT SWITCH

KARAOKE BOARD

J201	994000001559	PHONE JACK D3.5MM 8P
J351A	994000001559	PHONE JACK D3.5MM 8P
RV591	996510008264	VR ROTARY 50K OHM 20% 5P
RV592	996510008263	VR ROTARY 50K OHM 20% 3P
U352	996510008267	IC 3P AZ78L05Z-E1
U353	996510008265	IC 3P G78L08 TO-92 GTM 8V 0.1A
U599	996510008266	IC 16P PT2399S

USB JACK BOARD

LED	996500041956	LED HI-BLUE
RB102	996510008277	USB CONNECTOR 4P

MAIN BOARD

IC1	996500026923	IC 8 PIN APA3541-TRL SOP-8 HEA
JK1	996510004632	RCA JACK 2P WHT-RED STAND
Q1	996510000578	XISTR NPN KTC3875-Y
Q15	996510000580	XISTR NPN MMS8050L
Q16	996510000580	XISTR NPN MMS8050L
Q17	996510000580	XISTR NPN MMS8050L
Q2	996510000578	XISTR NPN KTC3875-Y
Q3	996510000578	XISTR NPN KTC3875-Y
Q7	996510008255	IC 3P AZ78L09ZTR-E1 TO-92 9V
Q8	996510008255	IC 3P AZ78L09ZTR-E1 TO-92 9V
Q9	996510000580	XISTR NPN MMS8050L
U1	996510005670	IC 50P EM636165TS-7G TSOP II
U10	996510008256	IC 3P GJ1117AADJ
U11	996510008256	IC 3P GJ1117AADJ
U13	996510008260	IC 14P SN74LVC125ADR
U2	996510008259	IC 48PIN SST39VF800A-70-4C-EK
U3	996510008258	IC 128P TCC8600
U4	996510008257	IC 28P TDA7468D
U5	994000005208	IC 8P TU24C02CS2BF CMOS

MAIN BOARD

U6	996500017381	IC WM8738ED
U7	996510008261	IC 16P CD74HC4094M96
U8	996510008261	IC 16P CD74HC4094M96
U9	996500038750	IC 3P STL8110GCL300 SOT23 3V

POWER BOARD

BD901	996500038405	BRIDGE KBU808 8A 800V
BD902	996500038405	BRIDGE KBU808 8A 800V
C1003	996510008284	CHIP CAP 1000pF 1000V 10%
C1004	996500018042	COND DISC 0.01UF 1KV 20%
C916	996510004626	COND SAFTY 0.47UF 275V 20%
C917	△ 996500027115	CAP.SAFTY Y1 102PF 250V 20%
C918	△ 996500027115	CAP.SAFTY Y1 102PF 250V 20%
C920	△ 996510008283	COND SAFTY 0.1uF 250V +/-10%
C921	△ 996500027115	CAP.SAFTY Y1 102PF 250V 20%
C922	996510008284	CHIP CAP 1000pF 1000V 10%
C924	△ 996500027115	CAP.SAFTY Y1 102PF 250V 20%
C925	△ 994000005343	COND SAFETY 0.22UF 275V 20%
C926	△ 996510008283	COND SAFTY 0.1uF 250V +/-10%
C929	996500020261	COND DISC 0.001UF 1KV 20%
C930	996500018042	COND DISC 0.01UF 1KV 20%
C931	996500018042	COND DISC 0.01UF 1KV 20%
C933	996510008285	CHIP CAP 470pF 1000V 10%
C934	996510008285	CHIP CAP 470pF 1000V 10%
C935	996510008285	CHIP CAP 470pF 1000V 10%
C938	996510008285	CHIP CAP 470pF 1000V 10%
C939	996510008285	CHIP CAP 470pF 1000V 10%
C940	996510008285	CHIP CAP 470pF 1000V 10%
D919	994000000941	DIODE HER104 1A 300V 50NS
D920	994000000941	DIODE HER104 1A 300V 50NS
D921	996510004297	IN5819 1A 28V SCHOTTKY
D922	994000000938	DIODE PR1507 1.5A 1000V
D923	996510008292	RECTIFIER UF1004CT
D924	996510008292	RECTIFIER UF1004CT
D926	994000005249	DIODE SB360 3A 60V DO-201AD
D927	994000000943	DIODE UF3003 3A 200V
Fuse	△ 996510008282	FUSE T10AL 250V
IC901	994000000946	OPTICAL SENSOR 4P
IC902	996510008287	IC 10P FAN7601G
IC903	994000000946	OPTICAL SENSOR 4P
IC904	994000000952	IC 3PIN TL431
IC905	996500041286	IC 8P 4558

ELECTRICAL PARTS LIST**POWER BOARD**

IC906	996510008293	IC 16P AZ7500BP-E1
IC907	996510008286	IC 3P 78L12L-T92-B 12V TO-92
JK901	△ 996500012443	AC SOCKET
NTC901	996510008294	NTC THERMISTOR
NTC902	996510008294	NTC THERMISTOR

Q803	996510008276	XISTR PNP 2SB772P/Q TO126
Q906	994000000954	MOSFET FQP18N50V2
Q907	994000000954	MOSFET FQP18N50V2
Q921	994000005348	MOSFET STF3NK80Z N-CH 2.5A
Q922	996500026946	XISTR PNP 2SB772P/Q

Q924	996510008289	FET AO3402 SOT23 30V/4A
Q926	996500041969	FET AO3403 ALPHA -30V/-2.6A
T901	△ 996510008297	SMPS TRANS PQ32/30 6+6P
T902	△ 996510008298	SMPS TRANS PQ32/30 6+6P
T903	△ 996510008295	TRASFO EEL-25 HE4B 7+7P

T904	△ 996510008296	TRASFO EEL-22 7+7P
TVR901	996500032754	THERMIST 50A 561V
TVR902	996500027114	VARISTOR SURGE VOLT. TVR10
TVR903	996500027114	VARISTOR SURGE VOLT. TVR10
ZD910	996510008290	ZENER 27V 0.5W MMSZ5254B

ZD911	996510008290	ZENER 27V 0.5W MMSZ5254B
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AMP BOARD

IC501	996510008280	IC 36P STA516B
IC502	996510008280	IC 36P STA516B
IC503	996510008280	IC 36P STA516B
IC504	996510008280	IC 36P STA516B
IC505	996510008280	IC 36P STA516B

IC702	996510004293	IC 64P STA308A TQFP ST
IC703	996500041286	IC 8P 4558
JK501	996510008279	SPK JACK
Q501	996510004299	XISTR NPN 2SC2001L NEC
Q711	996510000578	XISTR NPN KTC3875-Y

Q906	996510000578	XISTR NPN KTC3875-Y
Q906A	996510004299	XISTR NPN 2SC2001L NEC
Q908	996510000578	XISTR NPN KTC3875-Y

CONTROL BOARD

IR200	996510008275	IRT RECEIVER
J350A	994000001559	PHONE JACK D3.5MM 8P

CONTROL BOARD

JOG200	994000000881	ENCODER
LED	994000001561	LED 3DIA SUPER RED LENS
LED	996510004102	LED 3 DIA RED ROUND
Q1	996510000580	XISTR NPN MMS8050L
SW206	996500038754	TACT SWITCH

SW207	996500038754	TACT SWITCH
SW208	996500038754	TACT SWITCH
SW209	996500038754	TACT SWITCH
SW210	996500038754	TACT SWITCH
SW211	996500038754	TACT SWITCH

SW212	996500038754	TACT SWITCH
SW213	996500038754	TACT SWITCH
SW214	996500038754	TACT SWITCH
SW215	996500038754	TACT SWITCH
SW216	996500038754	TACT SWITCH

SW217	996500038754	TACT SWITCH
SW218	996500038754	TACT SWITCH
SW219	996500038754	TACT SWITCH
SW220	996500038754	TACT SWITCH
SW221	996500038754	TACT SWITCH

SW222	996500038754	TACT SWITCH
SW223	996500038754	TACT SWITCH
SW224	996500038754	TACT SWITCH
U200	996510008288	IC 44P PT6315(L) LQFP
ZD201	994000005206	DIODE ZENR 5.6-5.9V 0.5W

CD BOARD (SERVO BOARD)

Q803	996510008276	XISTR PNP 2SB772P/Q TO126
Q804	996510000580	XISTR NPN MMS8050L
Q805	996510000625	XISTR PNP 8550SL hFE160-300
Q806	996510000580	XISTR NPN MMS8050L
SW3	996510008270	DETECTOR SWITCH 1C-1P

SW4	996510008270	DETECTOR SWITCH 1C-1P
SW801	996510008270	DETECTOR SWITCH 1C-1P
SW802	996510008270	DETECTOR SWITCH 1C-1P
U805	996510008272	IC 28P D9258PH
U806	996510008271	IC 80P SAA7824HL

U807	996510008274	IC 3P AS7808AT-E1
U808	996510008273	IC 16P TDA7073A
Y801	996510008269	CRYSTAL 8.4672MHz HC-49US

Note: Only these parts mentioned in the list are normal service parts.

REVISION LIST

1.0 Manual 3141 785 32100

Initial Service Manual released.

1.1 Manual 3141 785 32101

In this version,

1) Missing Chapters have been added.