

Service
Service
Service



Service Manual

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3141 785 32834

Version 1.4



PHILIPS

Type /Versions: Service policy		DC570									
		/05	/12	/37	/55	/58	/61	/98			
Board in used:											
MCU & USB BOARD			C	C				C			
KEY & LCD BOARD			C	C				C			
USB JACK BOARD			C	C				C			
POWER AMP BOARD			C	C				C			
RECTIFIER BOARD			C	C				C			
TUNER MODULE			M	M				M			
IPOD & USB JACK BOARD			C	C				C			
Type /Versions: Feature difference		DC570									
		/05	/12	/37	/98						
Features in used:											
Aux in / CDR in			x	x	x						
Line Out											
Video Out											
Subwoofer Out			x	x	x						
Digital Out											
Karaoke Features											
Voltage Selector											
ECO Power Standby (LCD Display Off)			x	x	x						
USB Direct			x	x	x						
* TIPS : C -- Component Lever Repair. M -- Module Lever Repair x -- Used Remark: version /37 only for Latam. for Nafta, service policy should be OCX.											

SPECIFICATIONS

AMPLIFIER

Output power 50W+2 × 25W
 Signal-to-noise ratio ≥ 70 dBA
 Frequency response 50 Hz – 20 KHz, ± 3 dB
 Input sensitivity AUX 0.5 V (max. 2 V)

SUBWOOFER

Frequency response 50 Hz – 1KHz
 Impedance 8 Ω
 Rated power 50W

TWEETER

Frequency response 160 Hz – 16 KHz
 Impedance 4 Ω
 Rated power 2 × 25W

TUNER

FM wave range 87.5 – 108 MHz
 Sensitivity at 75 Ω

– FM 20dBf
 Total harmonic distortion ≤ 1%
 Frequency response
 – FM 63 – 6000 Hz
 Signal-to-noise-ratio
 – FM ≥ 50 dBA

USB PLAYER

USB 12Mb/s, V1.1
 support MP3 and WMA files
 Number of albums/folders maximum 99
 Number of tracks/titles maximum 999

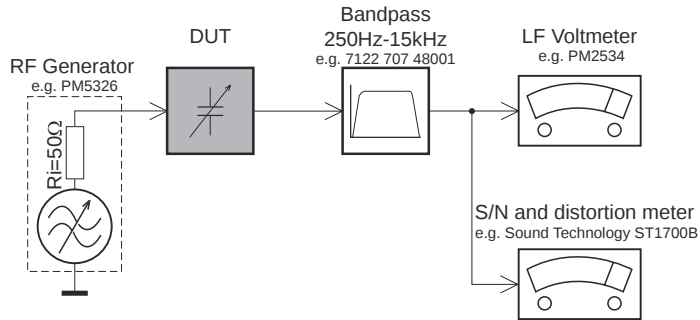
GENERAL INFORMATION

AC Power 220 – 240 V / 50-60 Hz
 Dimensions (w × h × d) 300 × 300 × 1024 (mm)
 Weight 10.1 kg
 Standby power consumption <7 W

***Specifications are subject to change
 without notice.***

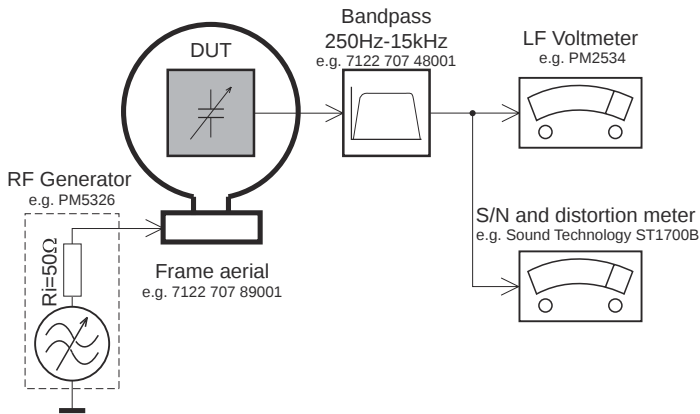
MEASUREMENT SETUP

Tuner FM



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

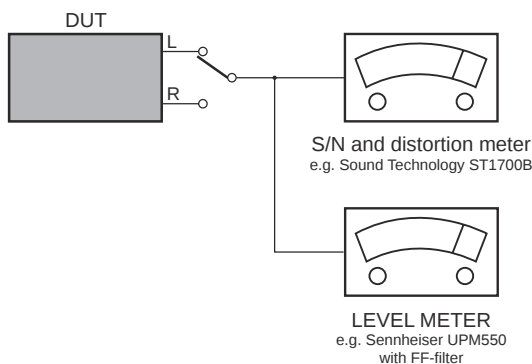
Tuner AM (MW,LW)



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)



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".

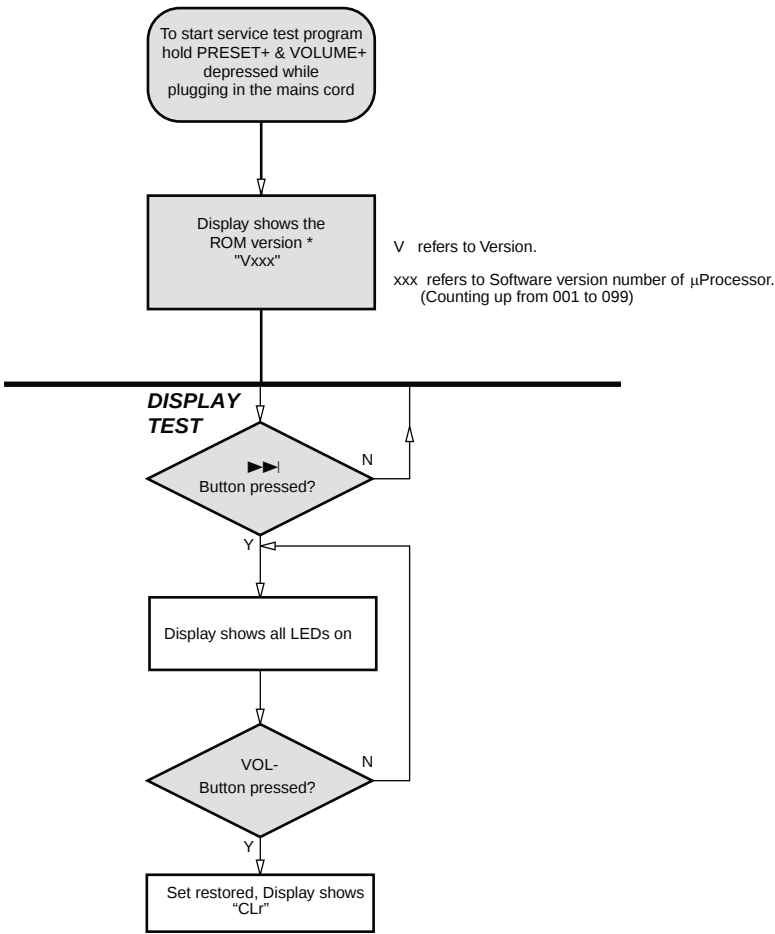
For additional questions please contact your local repair-helpdesk.

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.

SERVICE TEST PROGRAM



How to read USB fireware version:

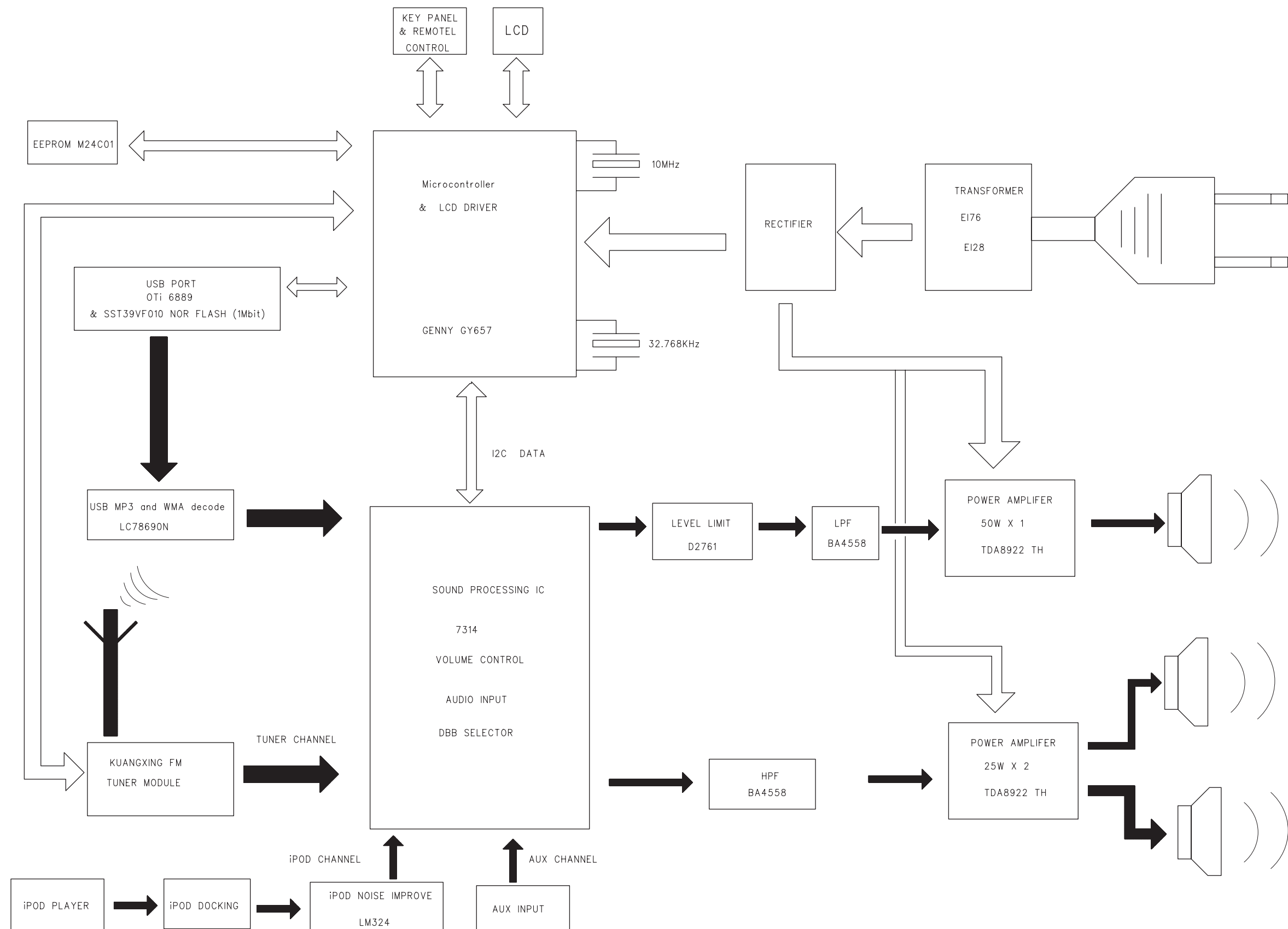
- 1) Insert any USB device at USB mode.
- 2) Press PLAY/PAUSE button on Front Panel for 7 seconds, the display will shows yy ---> mmdd---> uu.

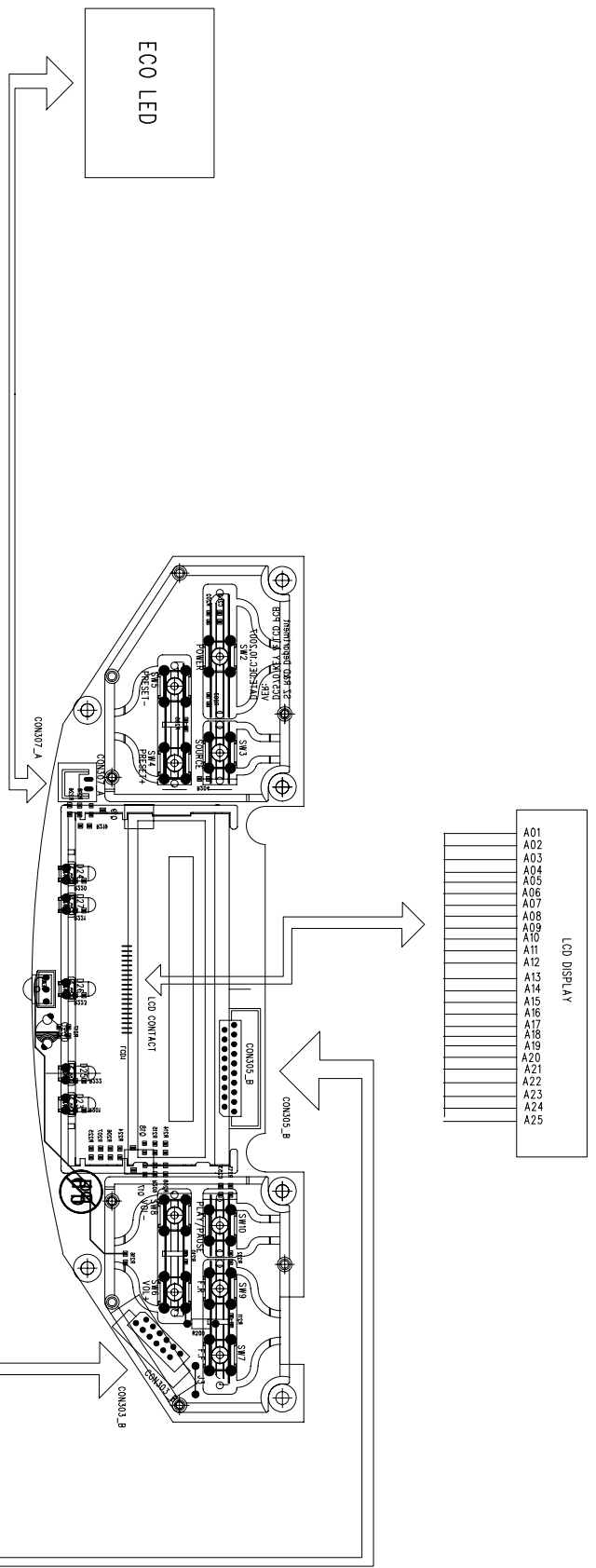
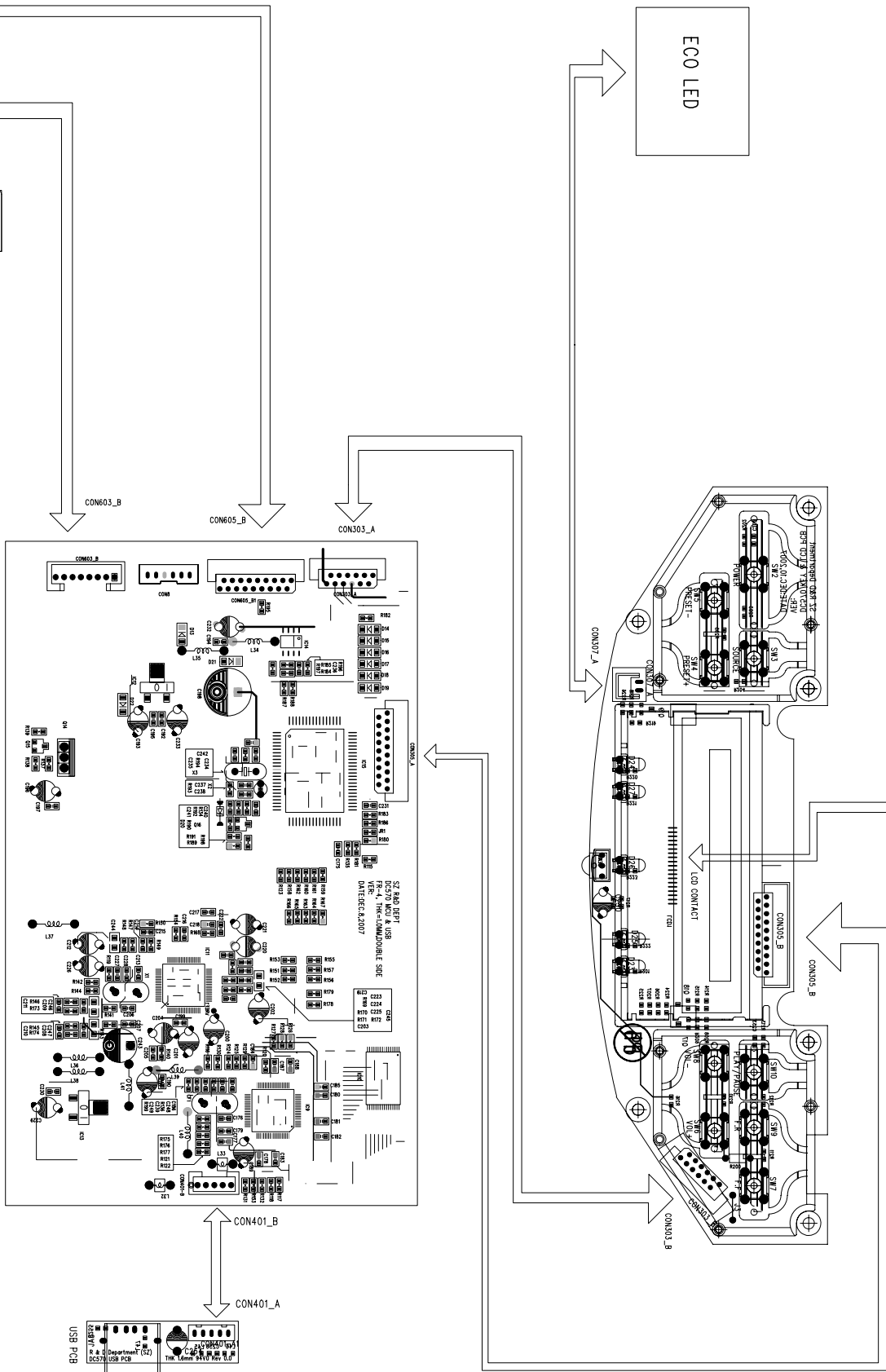
yy refers to year.
mmdd refers to month & date.
uu refers to Software version number of USB.

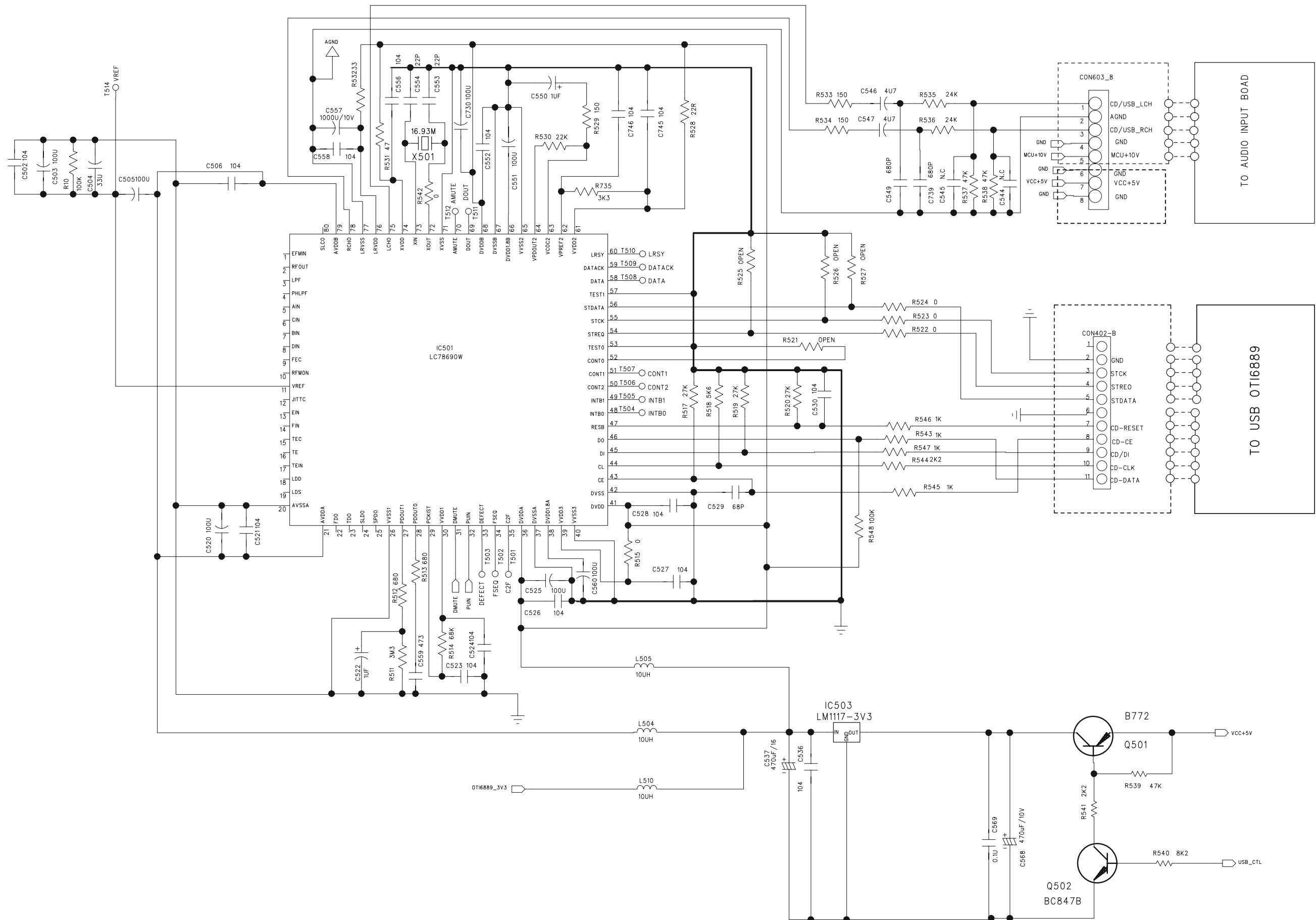
How to upgrade USB fireware:

- 1) Insert the USB device which contains new version software at USB mode.
- 2) Press SOURCE button on Front Panel for 10 seconds, the display will shows ISP. Then OTI IC will be upgraded automatically within 15 seconds.

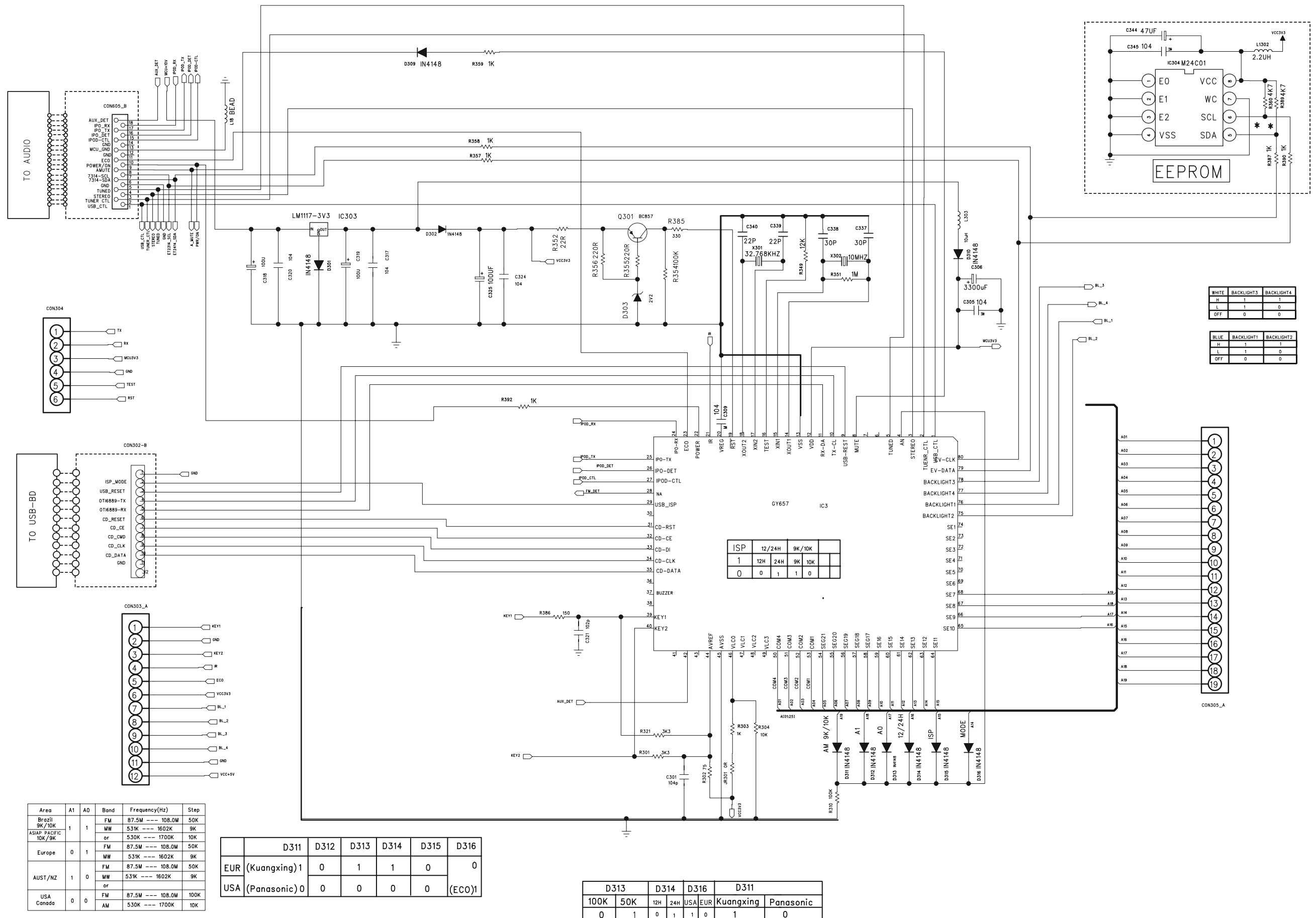
SET BLOCK DIAGRAM



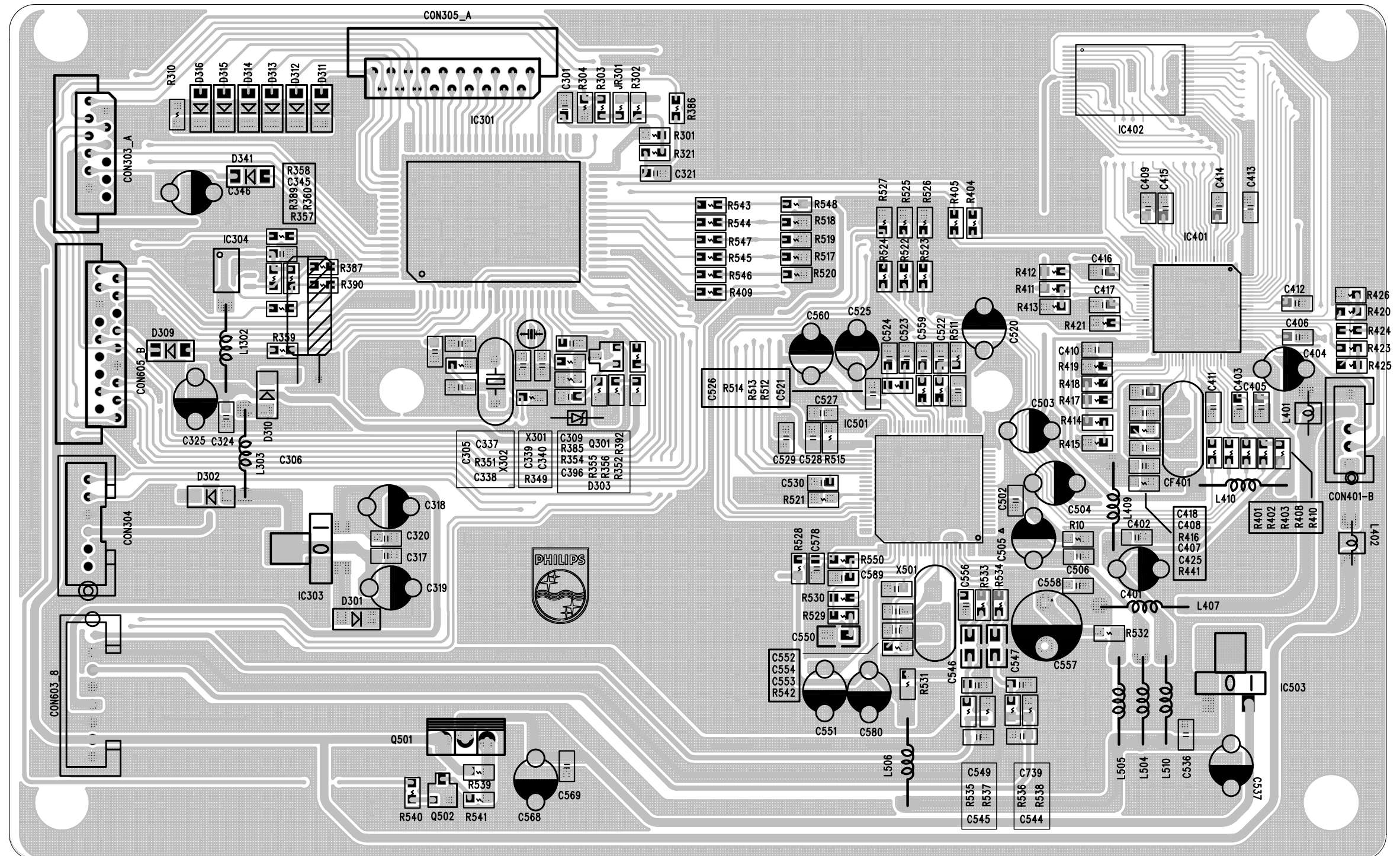




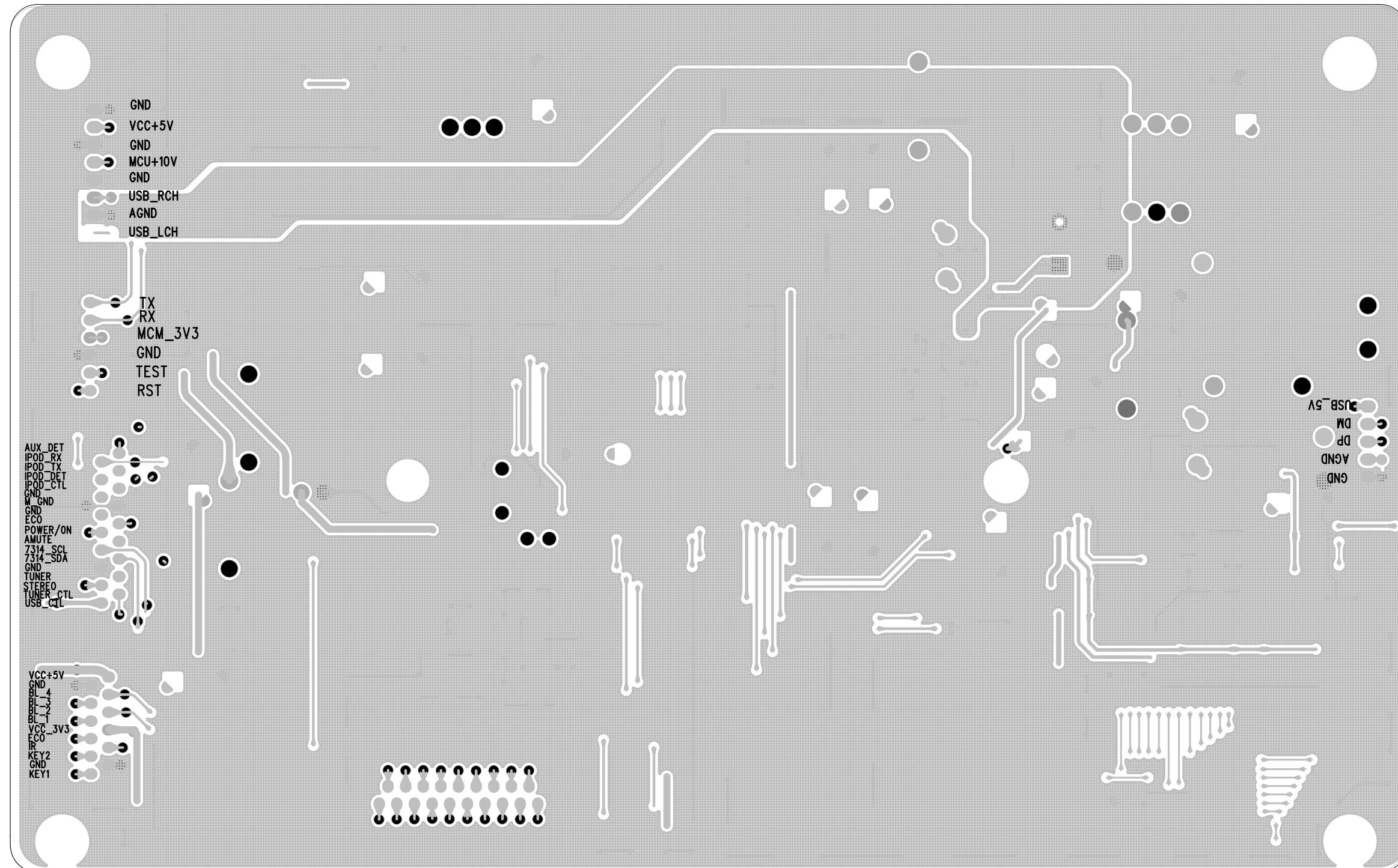
CIRCUIT DIAGRAM - MCU & USB BOARD



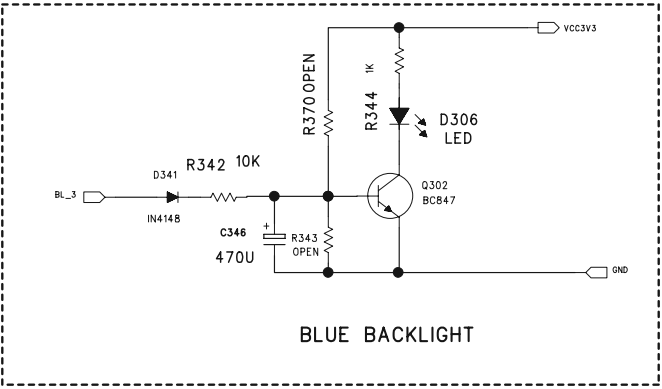
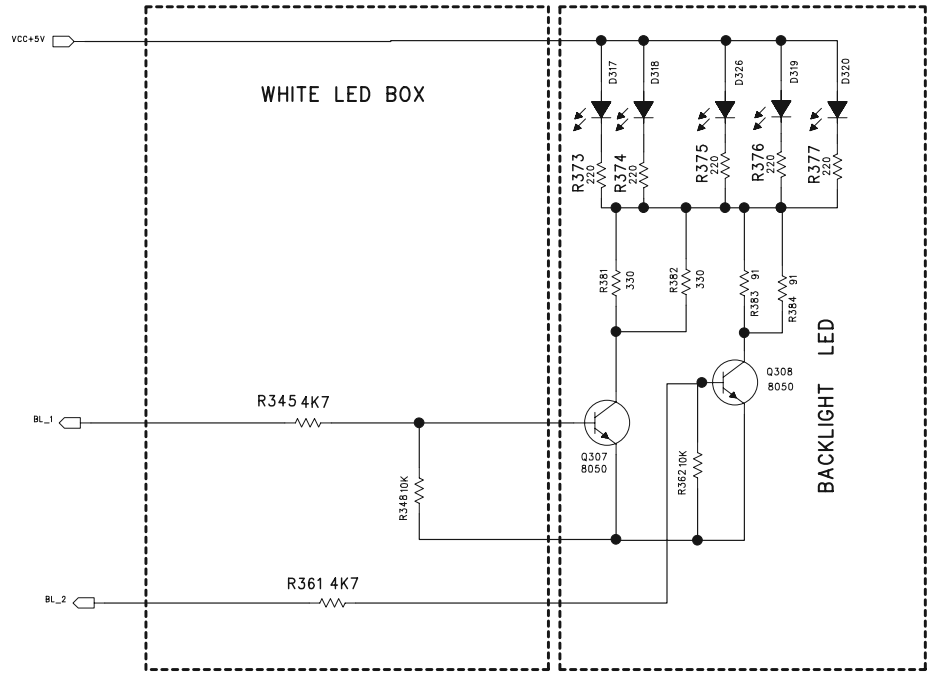
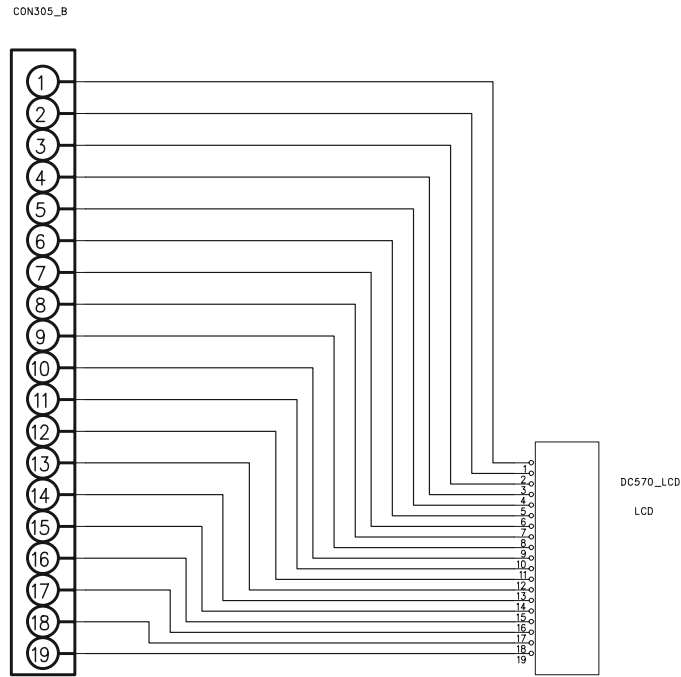
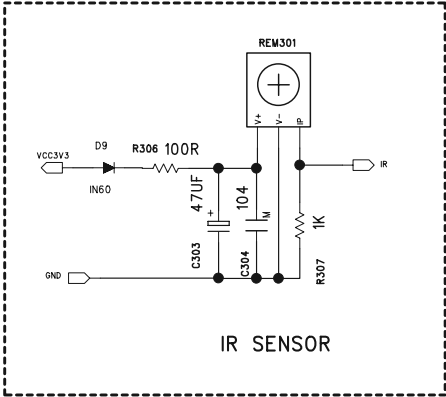
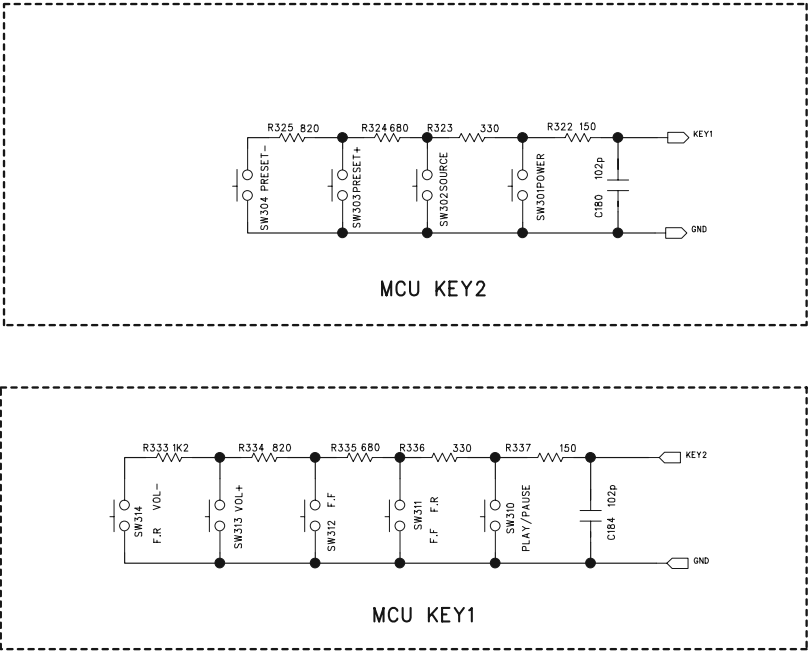
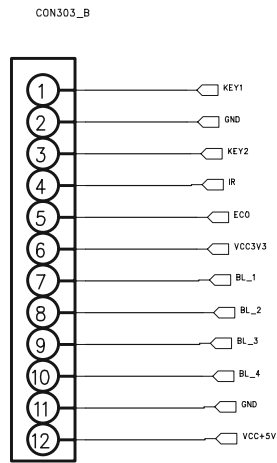
LAYOUT DIAGRAM - MCU & USB BOARD TOP VIEW



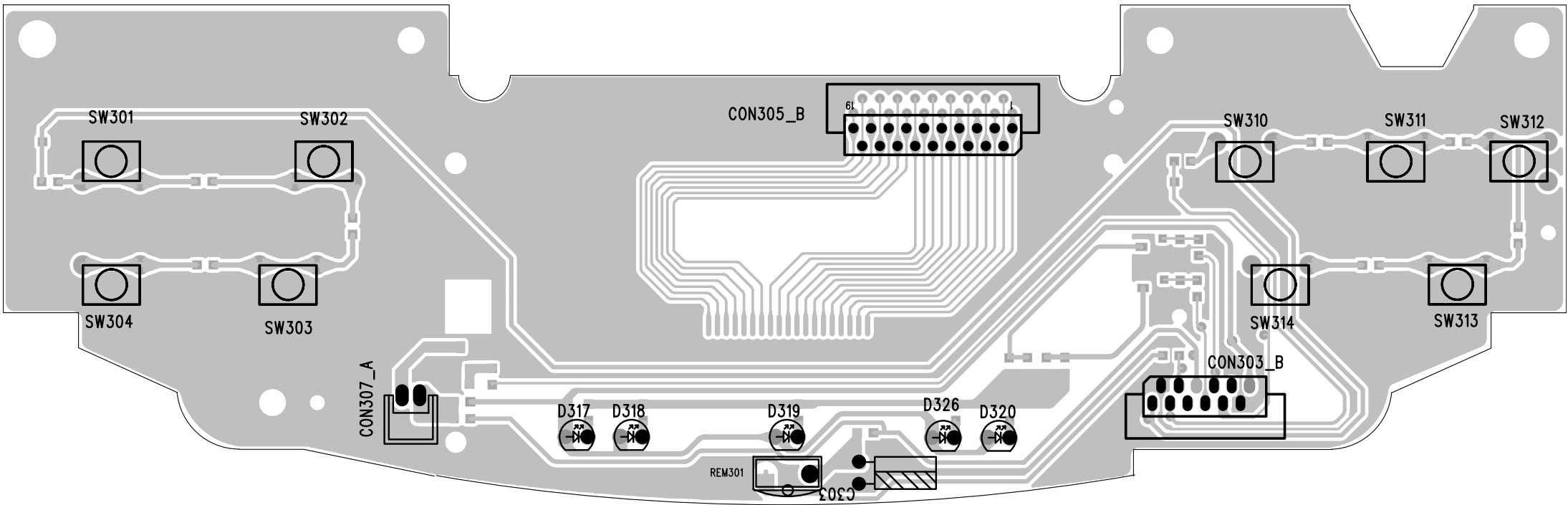
LAYOUT DIAGRAM - MCU & USB BOARD
BOTTOM VIEW



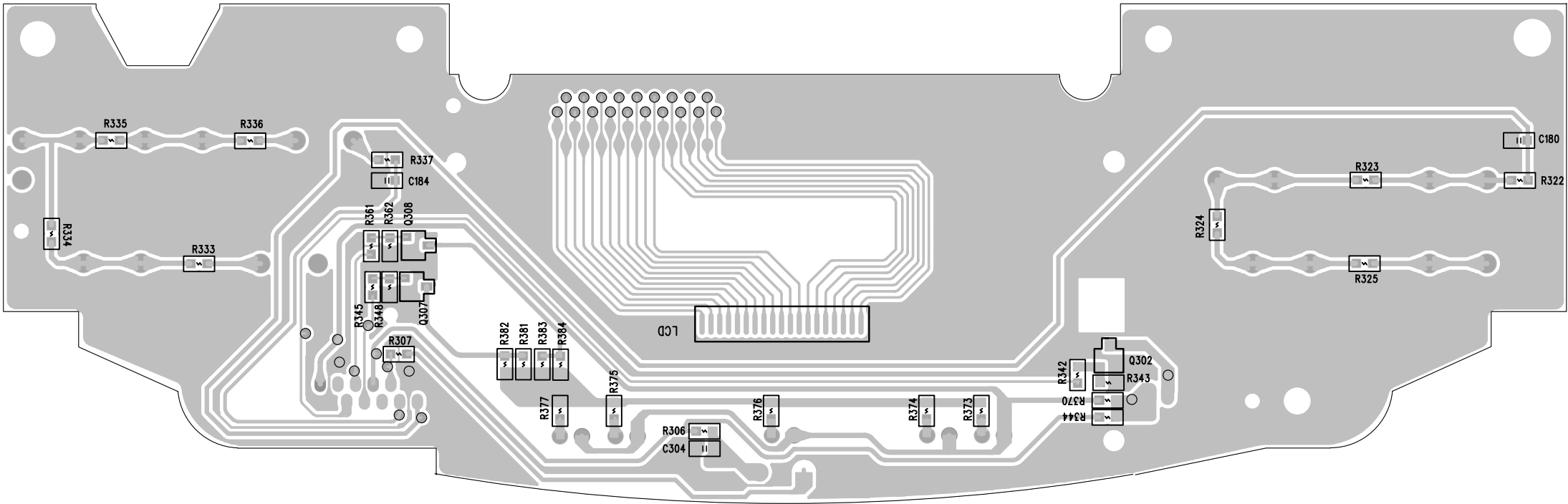
CIRCUIT DIAGRAM - KEY & LCD BOARD



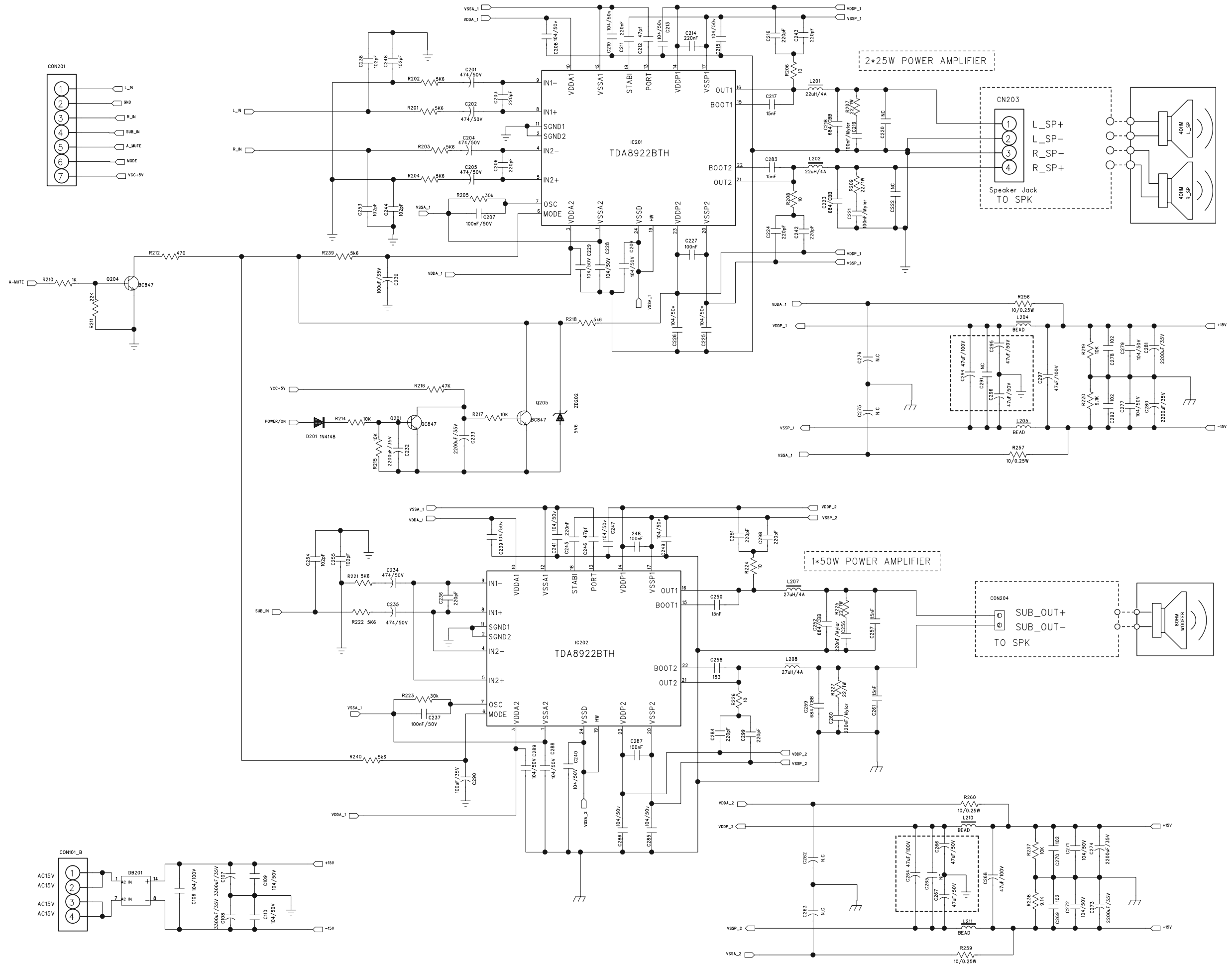
LAYOUT DIAGRAM - LCD & KEY BOARD
TOP VIEW



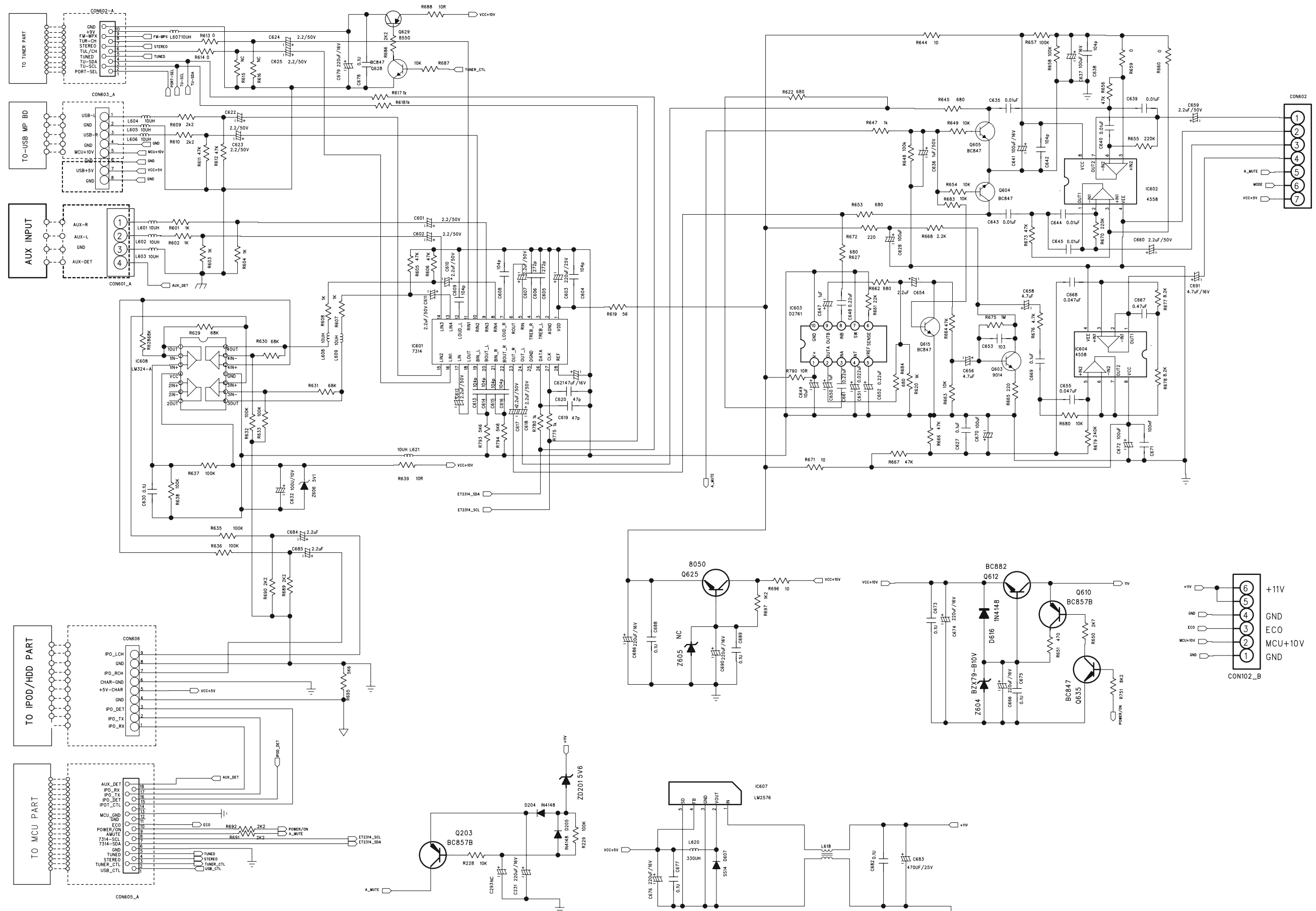
LAYOUT DIAGRAM - LCD & KEY BOARD
BOTTOM VIEW



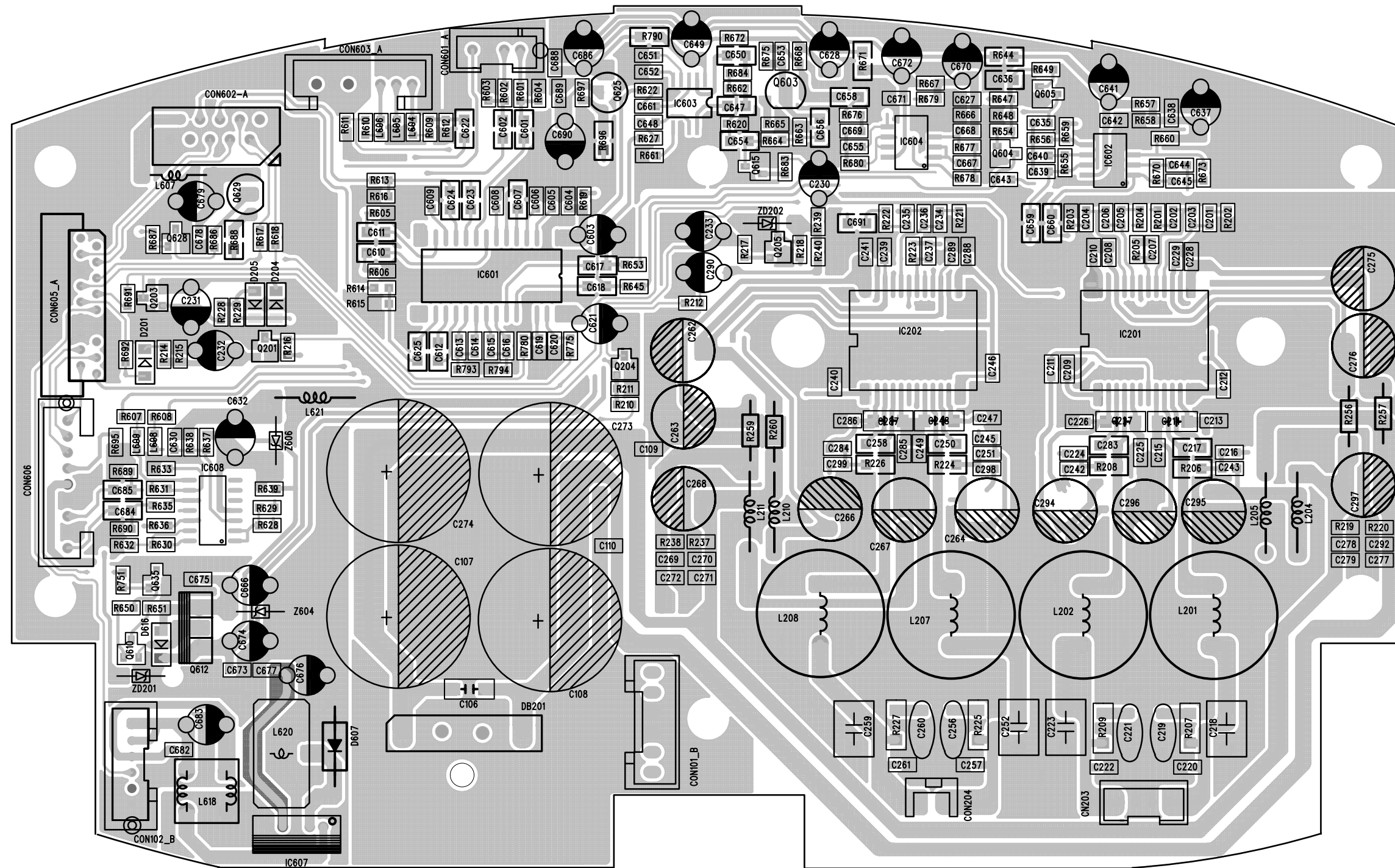
CIRCUIT DIAGARM - POWER AMP BOARD
PART 1



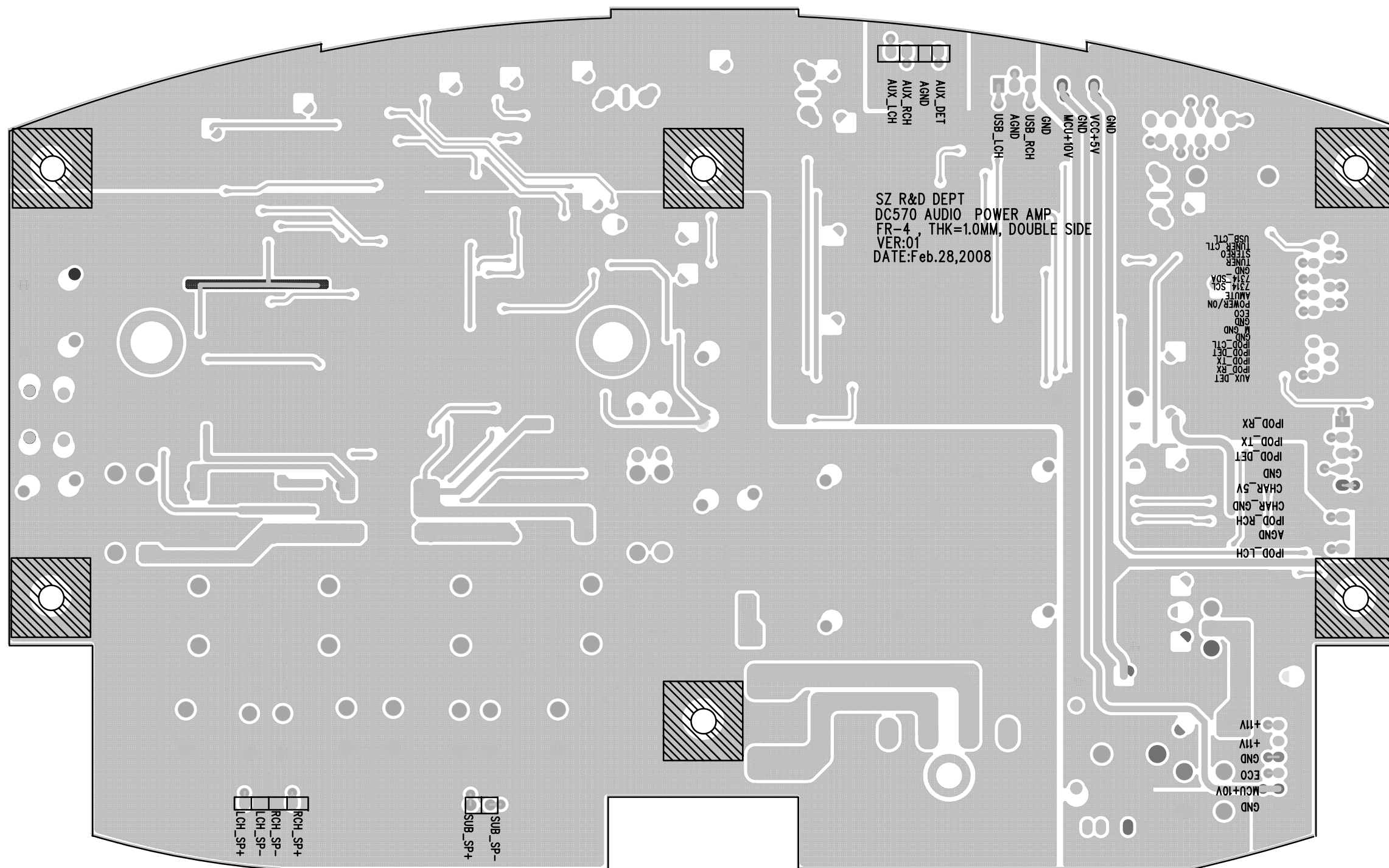
CIRCUIT DIAGARM - POWER AMP BOARD PART 2



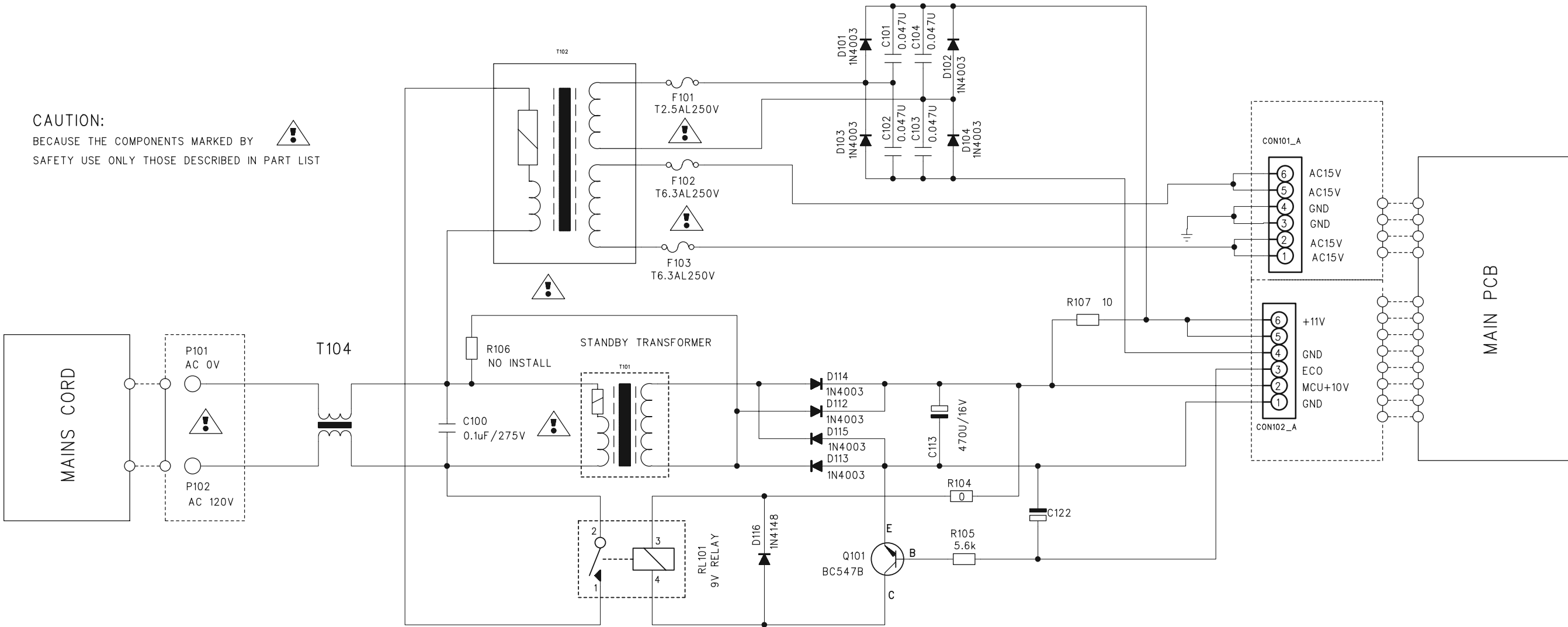
LAYOUT DIAGARM - POWER AMP BOARD
TOP VIEW



LAYOUT DIAGARM - POWER AMP BOARD
BOTTOM VIEW



CIRCUIT DIAGARM - RECTIFIER BOARD

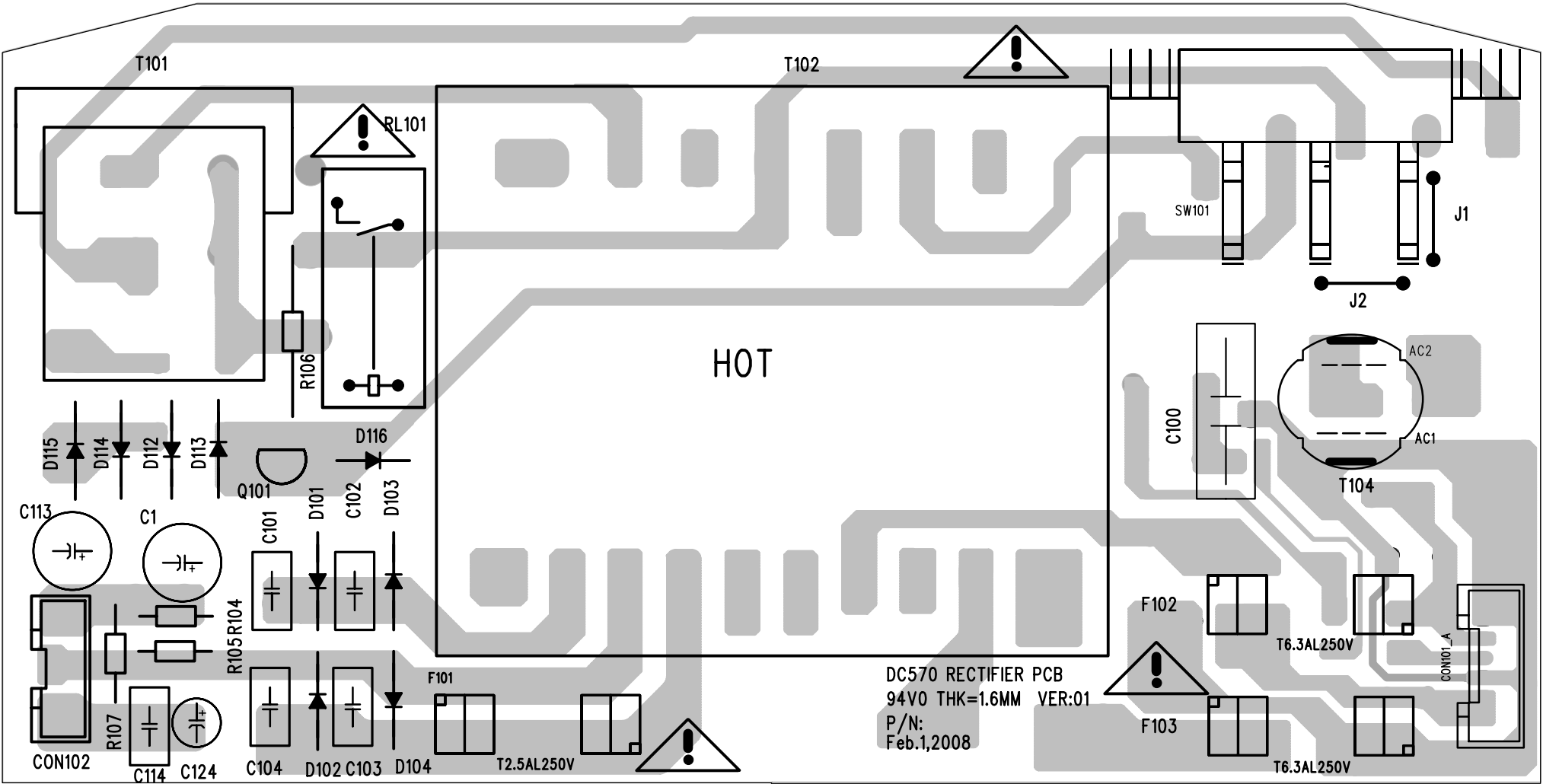


REMARK:

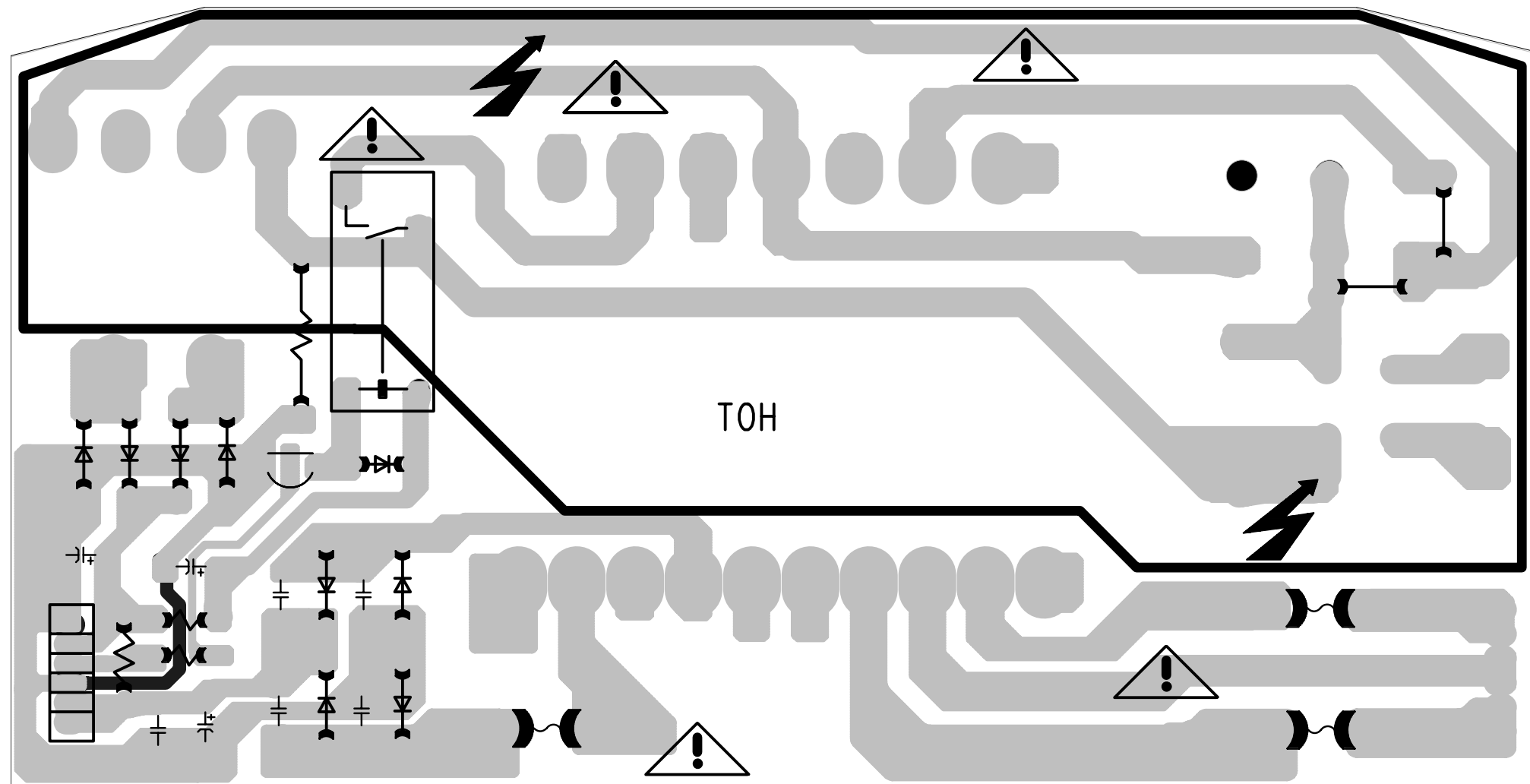
1 - ALL RESISTANCE VALUES ARE INDICATED IN "ohm".
(k = 1,000ohm; M = 1,000,000ohm.)

2 - ALL CAPACITANCE VALUES ARE INDICATED IN "F".
(U =0.000001F; P = 0.000001UF.)

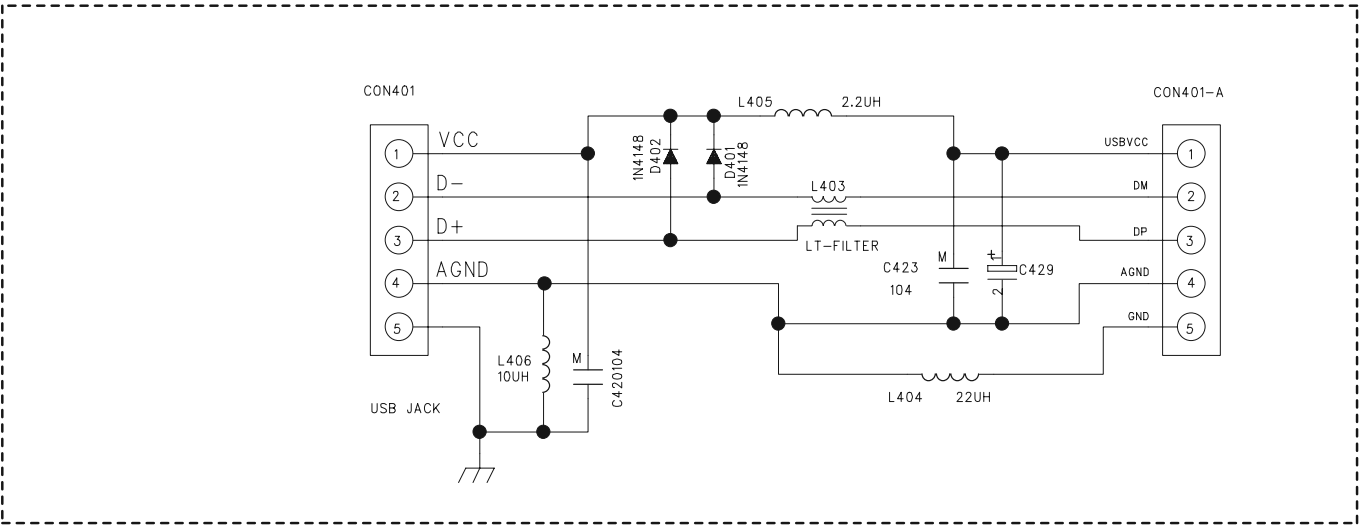
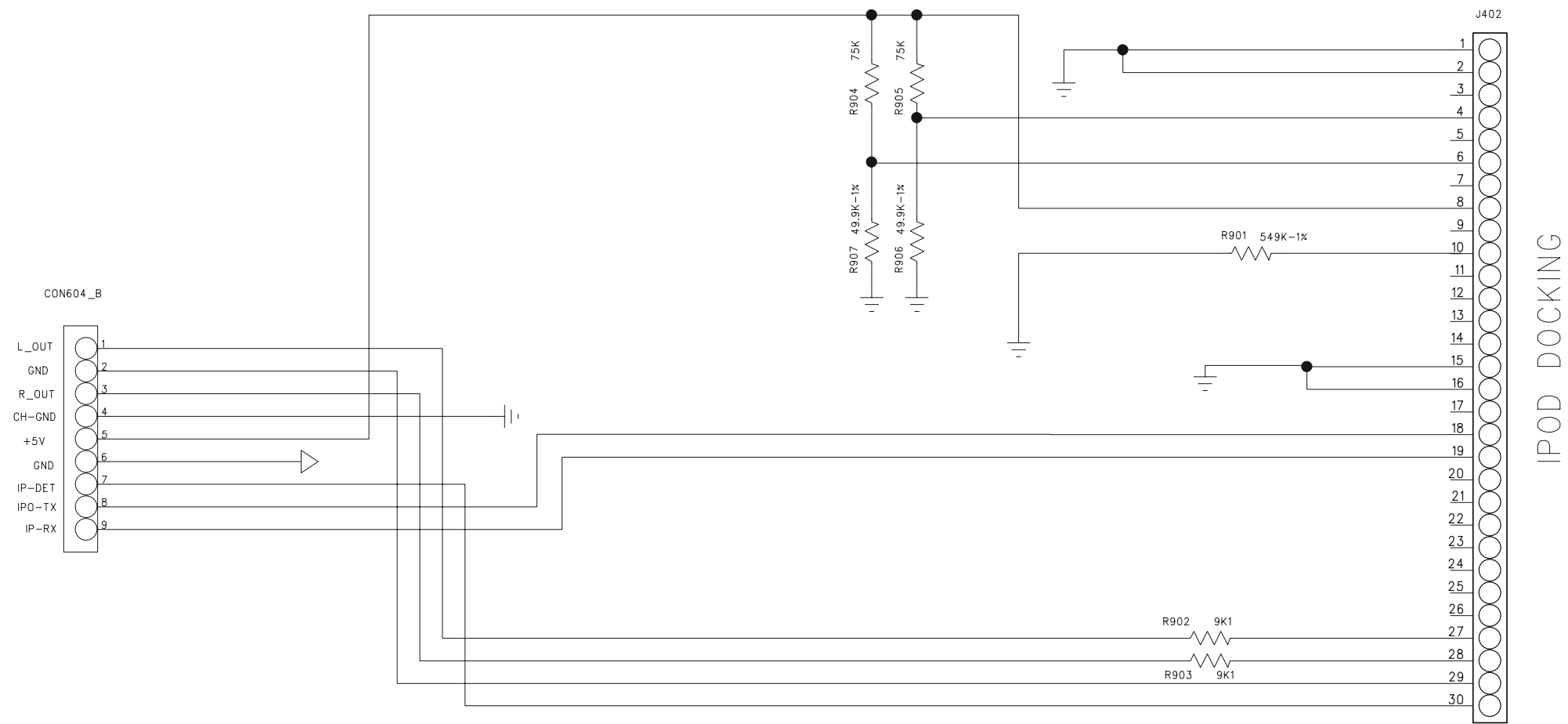
LAYOUT DIAGARM - RECTIFIER BOARD
TOP VIEW



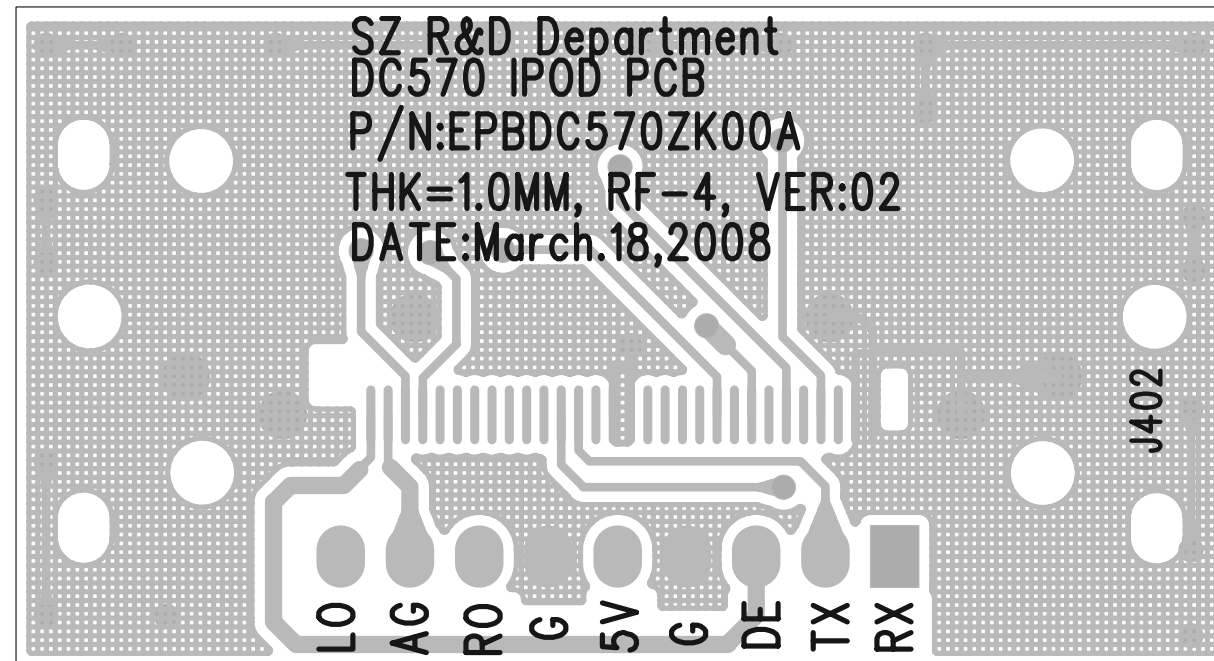
LAYOUT DIAGARM - RECTIFIER BOARD
BOTTOM VIEW



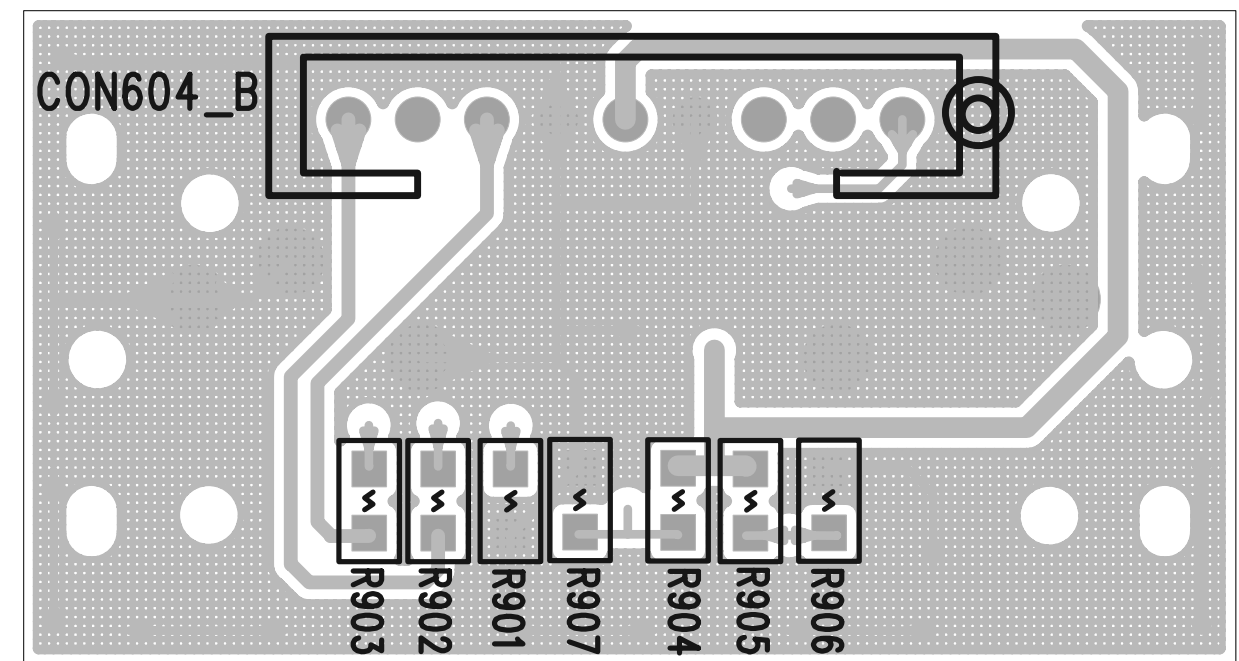
CIRCUIT DIAGRAM - IPOD & USB JACK BOARD



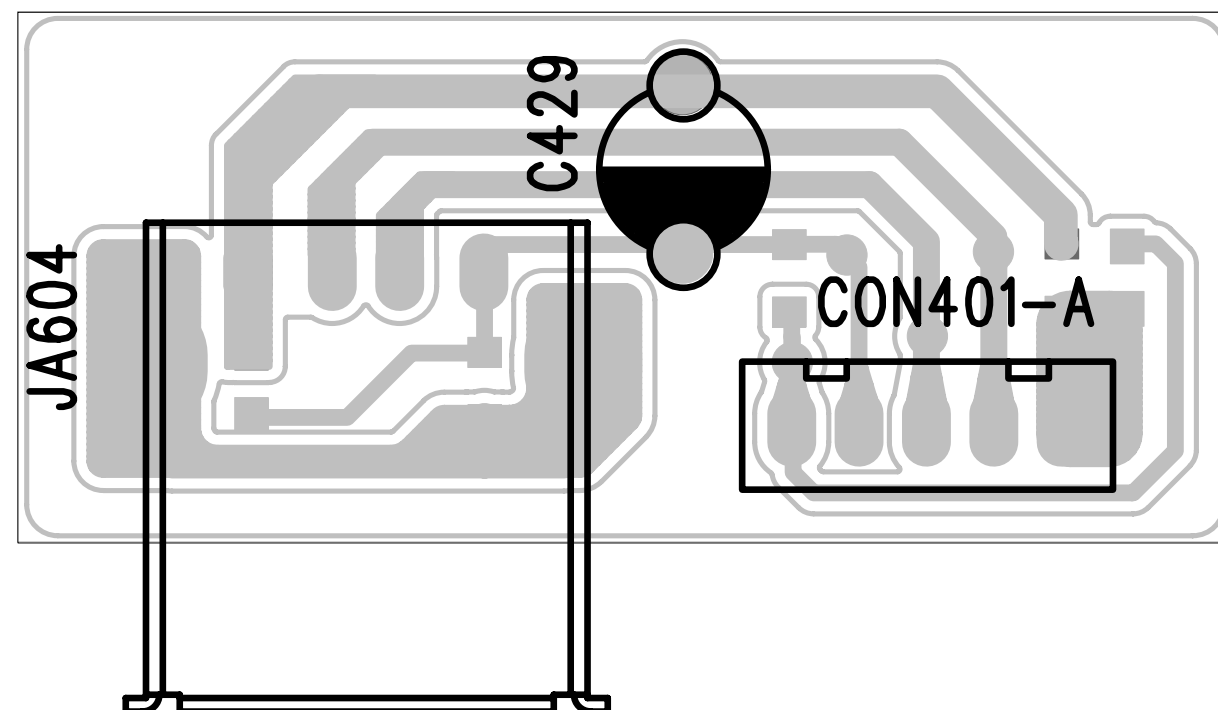
LAYOUT DIAGRAM - IPOD JACK BOARD
TOP VIEW



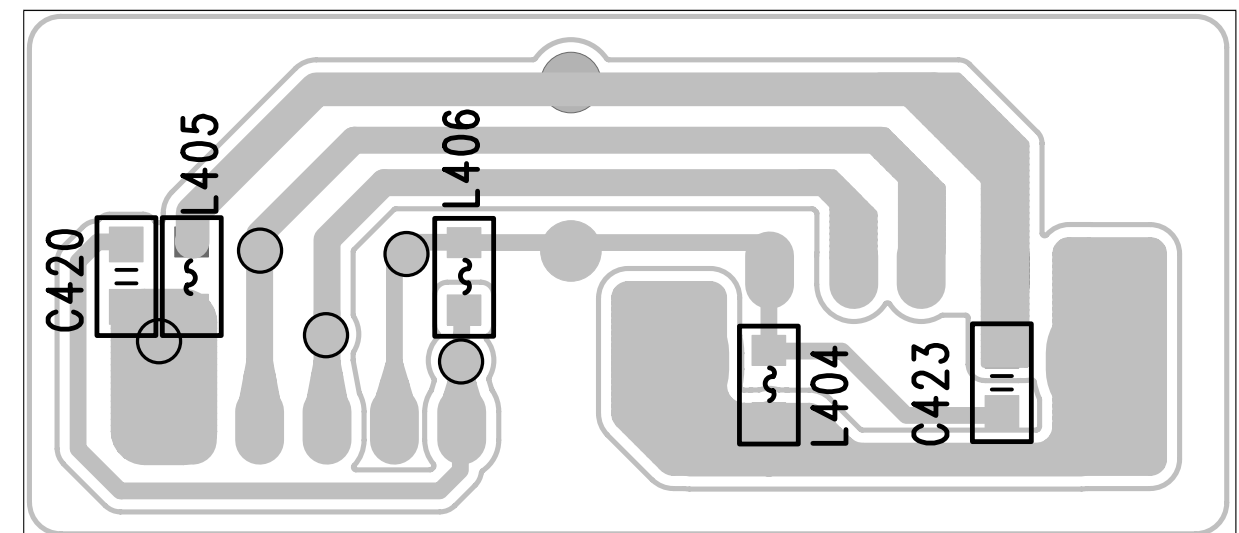
LAYOUT DIAGRAM - IPOD JACK BOARD
BOTTOM VIEW



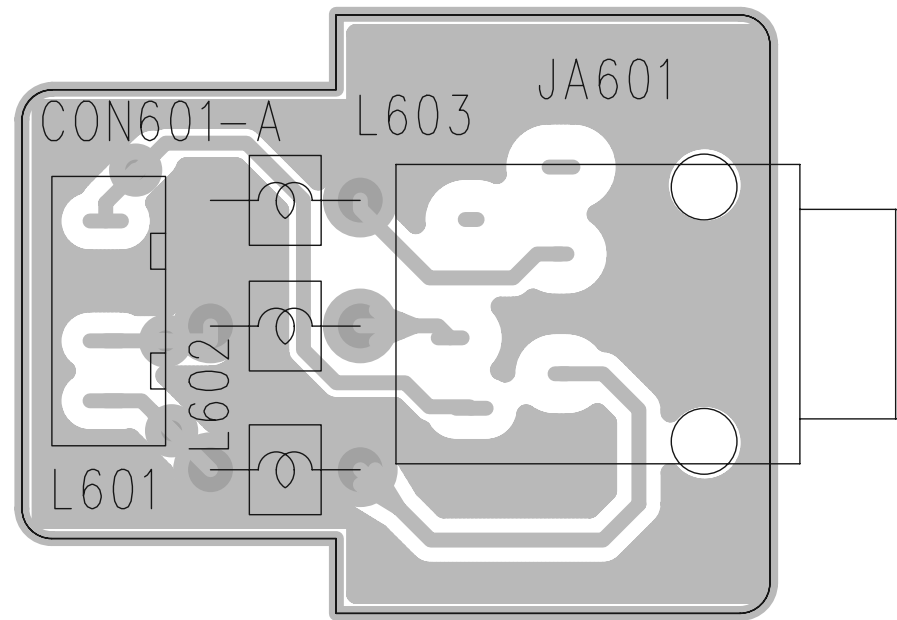
LAYOUT DIAGRAM - USB JACK BOARD
TOP VIEW



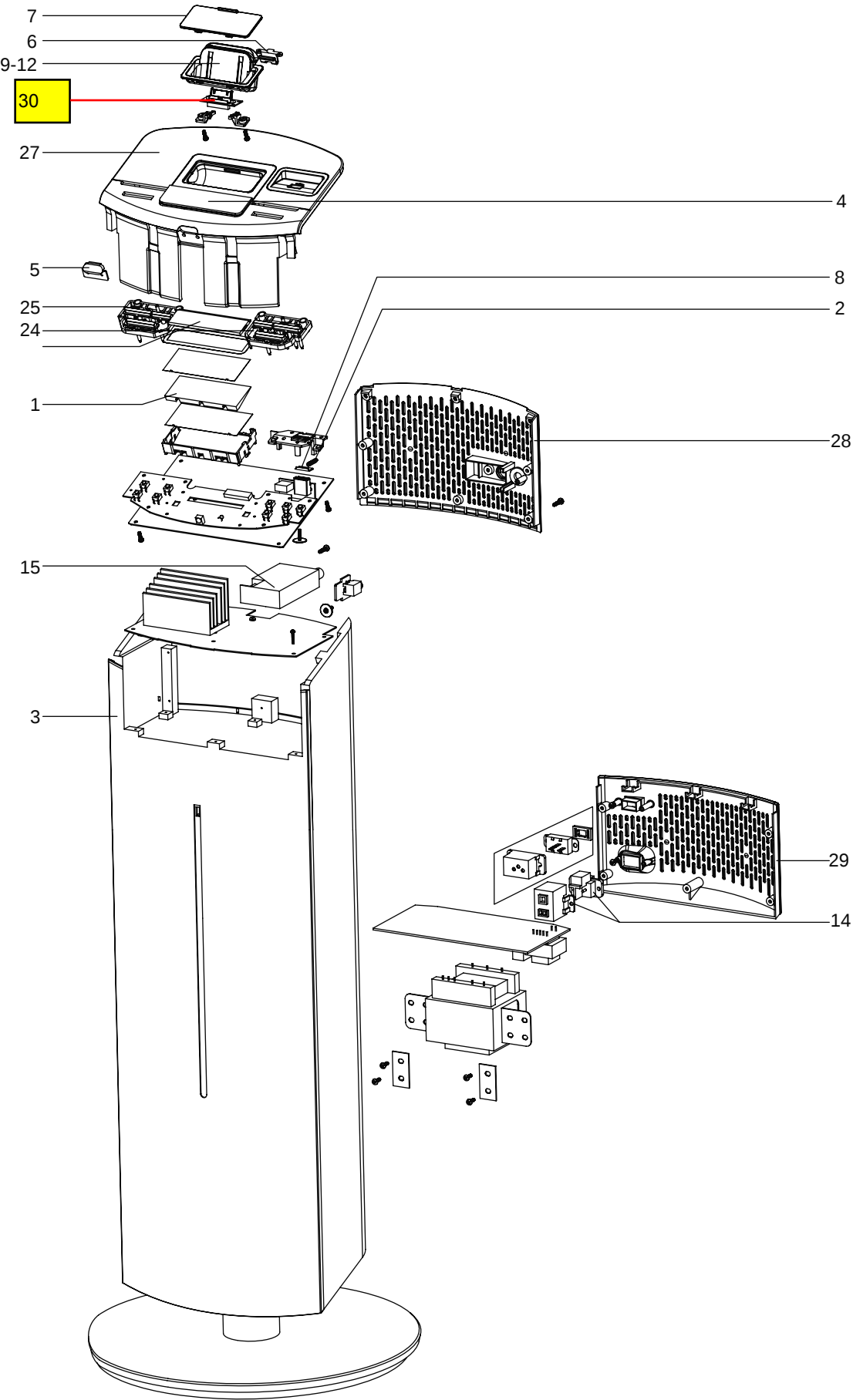
LAYOUT DIAGRAM - USB JACK BOARD
BOTTOM VIEW



LAYOUT DIAGRAM - AUX BOARD



SET MECHANICAL EXPLODED VIEW



MECHANICAL & ACCESSORIES PARTS LIST

1	996510016725	LCD LIGHT GUIDE
2	996510016689	USB COVER SPRING T:0.3MM
3	996510016690	WOODEN SPEAKER BOX /12
3	996510018734	WOODEN SPEAKER BOX /37
3	996510019202	WOODEN SPEAKER BOX /98
4	996510016691	DISPLAY LENS
5	996510016701	INFRARED LENS
6	996510013842	IPOD ADAPTOR CATCH /12
6	996510018736	IPOD ADAPTOR CATCH /37/98
7	996510013843	IPOD DOCKING ADAPTOR COVER
8	996510016702	USB COVER
9	996510013844	IPOD 5G ADAPTOR STAND(30GB)
10	996510013845	IPOD 5G ADAPTOR STAND
11	996510013847	IPOD ADAPTOR NANO STAND
12	996510013848	IPOD TOUCH ADAPTOR STAND
13	996510016703	AC SOCKET COVER
13	996510018422	AC SOCKET COVER /98
14	996510016704	2PINS AC SOCKET /12/98
14	996510016925	2PINS AC SOCKET 120V /37
15	996510012855	FM TUNER MODULE
16	996510016705	FFC CABLE L100MM P1.0 12P
17	996510016706	FFC CABLE L130MM P1.0 18P
18	996510016707	FFC CABLE L150MM P1.0 19P
19	996510001454	FFC CABLE 10P
20	△ 996510000876	5FT VDE POWER CORD /12
20	△ 996510013849	AC CORD 1524MM /37
20	△ 996510019052	AC POWER CORD 1.525M SAA /98
21	996510016708	D3.5MM STEREO CORD
22	996510013850	REMOTE CONTROL
23	996510027266	PIG TAIL ANTENNA WIRE 1500MM
24	996510016709	CONTROL KEYS
25	996510016710	POWER KEYS
27	996510017446	FRONT CABINET /12
27	996510018735	FRONT CABINET /37/98
28	996510017447	REAR PANEL-TOP /12
28	996510018741	REAR PANEL-TOP /37
28	996510019246	REAR PANEL-TOP /98
29	996510017445	REAR PANEL -BOTTOM /12
29	996510018742	REAR PANEL-BOTTOM /37
29	996510019247	REAR PANEL-BOTTOM /98
30	996510020972	IPOD PCBA /12

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

ELECTRICAL PARTS LIST

C107	996510012836	E.CAP. 3300UF 35V	RL101	994000001448	9V DC RELAY 10A ME-7-009-HL /37
C108	996510012836	E.CAP. 3300UF 35V	REM301	996510016718	INFRA. RECEIVER
C218	996510012837	CBB CAP HMFS-5 0.68UF 63V	SW301	996500039269	TACT SWITCH
C223	996510012837	CBB CAP HMFS-5 0.68UF 63V	SW302	996500039269	TACT SWITCH
C252	996510012837	CBB CAP HMFS-5 0.68UF 63V	SW303	996500039269	TACT SWITCH
C259	996510012837	CBB CAP HMFS-5 0.68UF 63V	SW304	996500039269	TACT SWITCH
C273	996510012836	E.CAP. 3300UF 35V	SW310	996500039269	TACT SWITCH
C274	996510012836	E.CAP. 3300UF 35V	SW311	996500039269	TACT SWITCH
CF401	996510005000	X'TAL 12MHZ 49S 20PF+/-20PPM	SW312	996500039269	TACT SWITCH
D303	996510016711	ZENER DIODE 2.2V 1/2W	SW313	996500039269	TACT SWITCH
D317	996510001423	LED INDICATOR 3mm WHITE	SW314	996500039269	TACT SWITCH
D319	996510001423	LED INDICATOR 3mm WHITE	T101	△ 996510001418	TRASFO STANDBY /12
D320	996510001423	LED INDICATOR 3mm WHITE	T101	△ 996510018733	TRASFO EI-28 AC120V/60Hz /37
D607	996510010770	RECTIFIER DIODE 1N5822	T102	△ 996510016719	TRASFO EI-66 AC230V/50Hz /12
DB201	994000003223	DIODE BRIDGE RECTIFIER GBU6B	T102	△ 996510018738	TRASFO. EI-66 AC120V/60Hz /37
F101	△ 996510000389	FUSE 2.5A 250V	T102	△ 996510019203	TRASFO. AC127V/230V 50Hz /98
F102	△ 994000003224	FUSE 6.3A 250V	X301	994000003208	X'TAL 32.768KHZ 12.5PF -10P
F103	△ 994000003224	FUSE 6.3A 250V	X302	996510005011	X'TAL HC-49/US LP-3.5 10MHZ
IC201	996510016712	IC AMPLIFIER TDA8922BTH	X501	996510016720	X'TAL 16.9344MHZ 20PF +-20PPM
IC202	996510016712	IC AMPLIFIER TDA8922BTH	Z604	996510011335	ZENER DIODE 10V 1/2W
IC301	996510016713	IC GY657 PROGRAMMED	Z606	994000005744	ZENER DIODE 5V1 1/2W
IC303	996510035717	IC BM1117-3.3	ZD201	996510012835	ZENER DIODE 5V6 1/2W (TC5V6)
IC304	996510005014	IC M24C01WMN6T EEROM	ZD202	996510012835	ZENER DIODE 5V6 1/2W (TC5V6)
IC401	996510005005	IC OTI6889			
IC402	996510016714	IC SST39VF010-70-4C PROGRAMMED /12			
IC402	996510018730	IC M39LV010 PROGRAMMED /37/98			
IC501	996510005003	IC LC78690NW SQFP80			
IC503	996510035717	IC BM1117-3.3			
IC601	996510010771	IC 7314(ANGUS)			
IC602	996510001055	IC BA4558 SOP8			
IC603	996510005002	IC D2761 (SILICORE)			
IC604	996510001055	IC BA4558 SOP8			
IC607	996510005007	IC LM2576 T-5.0 TO-220			
IC608	996510005004	IC LM324DR2G (SOIC-14)			
JA601	994000001456	STEREO HEADPHONE JACK			
JA604	996510001071	USB JACK 4P ANGLE TYPE			
LCD1	996510016726	LCD DISPLAY			
Q101	996510011345	TRANSISTOR BC547B			
Q301	996510012833	TRANSISTOR BC857B			
Q501	996510001414	TRANSISTOR KTB772			
Q502	996510012793	TRANSISTOR BC847B			
Q603	996510016717	TRANSISTOR KTC-9014C			
Q612	996510003717	TRANSISTOR KTD882 (KEC)			
Q625	996500039268	TRANSISTOR KTC-8050C			
Q629	994000003206	TRANSISTOR 8550D			

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

REVISION LIST

1.0 Manual 3141 785 32830

Initial Service Manual released.

1.1 Manual 3141 785 32831

In this version, the version /12(Latam) & /37(Latam) & /98 added.

P10-2 Mechanical Partslist & P10-3 Electrical Partslist are updated.

1.2 Manual 3141 785 32832

In this version, for version /12 Ipod Jack Board added

P10-2 Mechanical Partslist updated.

Add:

30 996510020972 IPOD PCB

1.3 Manual 3141 785 32833

P10-2 to P10-3 Partslist updated for version /98.

1.4 Manual 3141 785 32834

1) P10-2 Mechanical & Accessories Partslist updated.

23 996510027266 PIG TAIL ANTENNA WIRE 1500MM (was 996510005595 PIG TAIL ANTENNA WIRE BLACK)

2) P10-3 Electrical Partslist updated.

IC303 996510035717 IC BM1117-3.3 (was 996510003731 IC V REGULATOR LD1117-3.3)

IC503 996510035717 IC BM1117-3.3 (was 996510003731 IC V REGULATOR LD1117-3.3)