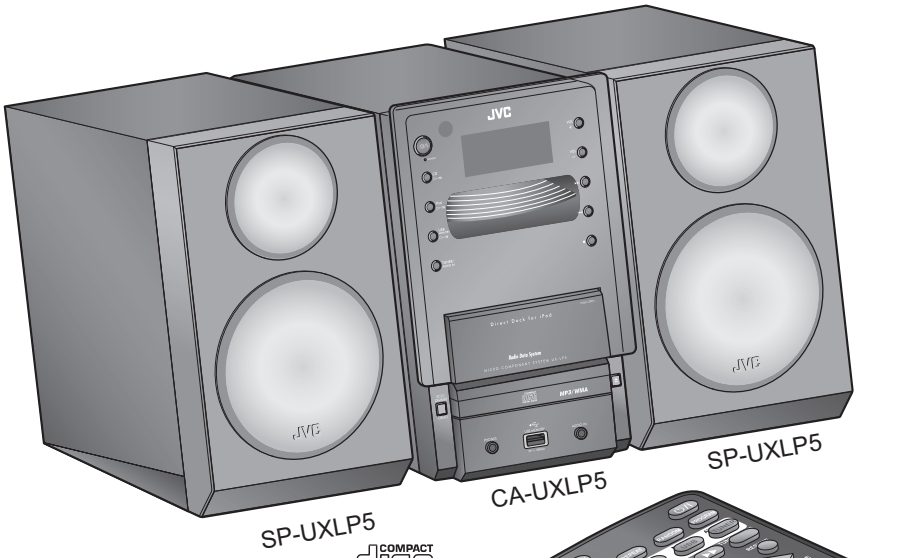
JVC

# SERVICE MANUAL

## MICRO COMPONENT SYSTEM

# UX-LP5B, UX-LP5E, UX-LP5EN, UX-LP5EV, UX-LP5J, UX-LP5C, UX-LP5A, UX-LP5US, UX-LP5UB, UX-LP5UP, UX-LP5UT




Made for iPod

COMPACT disc DIGITAL AUDIO

MP3/WMA

Radio Data System
(for Europe)

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

## TABLE OF CONTENTS





No.MB698<Rev.004>
2009/10

# SPECIFICATION

**UX-LP5 for Europe**

| | | |
|---|---|---|
| **Amplifier section** | | |
| OUTPUT POWER | | 60 W (30 W + 30 W) at 6 Ω (10% THD) |
| Speakers/Impedance | | 6 Ω - 16 Ω |
| Audio input | AUDIO IN | 500 mV/47 kΩ (at “LEVEL 1”) |
| | | 250 mV/47 kΩ (at “LEVEL 2”) |
| | | 125 mV/47 kΩ (at “LEVEL 3”) |
| Digital input | | USB MEMORY |
| **Tuner section** | | |
| FM tuning range | | 87.50 MHz - 108.00 MHz |
| AM (MW) tuning range | | 522 kHz - 1 629 kHz |
| **CD player section** | | |
| Dynamic range | | 88 dB |
| Signal-to-noise ratio | | 85 dB |
| Wow and flutter | | Immeasurable |
| **iPod section** | | |
| iPod output power | | DC 5 V 500 mA |
| VIDEO OUT | | Composite |
| **USB storage** | | |
| USB specification | | Compatible with USB 2.0 Full Speed |
| Compatible device | | Mass storage class |
| Compatible file system | | FAT16, FAT32 |
| Bus power supply | | DC 5 V 500 mA |
| **General** | | |
| Power requirements | | AC 230 V , 50 Hz |
| Power consumption | | 35 W (power on) |
| | | 8 W (standby mode) |
| | | 1 W or less (Ecology Mode) |
| Dimensions (approx) | | 165 mm × 259 mm × 258 mm (W × H × D) |
| Mass (approx) | | 1.9 kg |
| **Speakers** | | |
| Speaker units | | 10 cm × 1; 1.5 cm × 1 |
| Impedance | | 6 Ω |
| Dimensions (approx.) | | 140 mm × 250 mm × 188 mm (W × H × D) |
| Mass (approx.) | | 1.4 kg each |

Specifications and appearance are subject to change without prior notice.

**UX-LP5J/C**

| | | |
|---|---|---|
| **Amplifier section** | | |
| OUTPUT POWER | | 35 W per channel, min. RMS, driven into 4 Ω at 1 kHz with no more than 10% total harmonic distortion |
| Speakers/Impedance | | 6 Ω - 16 Ω |
| Audio input | AUDIO IN | 500 mV/47 kΩ (at “LEVEL 1”) |
| | | 250 mV/47 kΩ (at “LEVEL 2”) |
| | | 125 mV/47 kΩ (at “LEVEL 3”) |
| **Tuner section** | | |
| FM tuning range | | 87.5 MHz - 108.0 MHz |
| AM tuning range | | 530 kHz - 1 710 kHz |
| **CD player section** | | |
| Dynamic range | | 88 dB |
| Signal-to-noise ratio | | 85 dB |
| Wow and flutter | | Immeasurable |
| **iPod section** | | |
| iPod output power | | DC 5 V 500 mA |
| VIDEO OUT | | Composite |
| **General** | | |
| Power requirements | | AC 120 V , 60 Hz |
| Power consumption | | 35 W (power on) |
| | | 8 W (standby mode) |
| | | 1 W or less (Ecology Mode) |
| Dimensions (approx.) | | 165 mm × 259 mm × 258 mm<br>(6-1/2 inches × 10-1/4 inches × 10-3/16 inches) (W × H × D) |
| Mass (approx.) | | 1.9 kg (4.2 lbs) |
| **Speakers** | | |
| Speaker units | | 10 cm (3-15/16 inches) × 1; 1.5 cm (5/8 inch) × 1 |
| Impedance | | 6 Ω |
| Dimensions (approx.) | | 140 mm × 250 mm × 188 mm<br>(5-9/16 inches × 9-7/8 inches × 7-7/16 inches) (W × H × D) |
| Mass (approx.) | | 1.4 kg (3.1 lbs) each |

Specifications and appearance are subject to change without prior notice.

**UX-LP5 for Asia, Australia**

| | | |
|---|---|---|
| **Amplifier section** | | |
| OUTPUT POWER | | 60 W (30 W + 30 W) at 6 Ω (10% THD) |
| Speakers/Impedance | | 6 Ω - 16 Ω |
| Audio input | AUDIO IN | 500 mV/47 kΩ (at “LEVEL 1”) |
| | | 250 mV/47 kΩ (at “LEVEL 2”) |
| | | 125 mV/47 kΩ (at “LEVEL 3”) |
| Digital input | | USB MEMORY |
| **Tuner section** | | |
| FM tuning range | | 87.50 MHz - 108.00 MHz |
| AM tuning range | | 531 kHz - 1 710 kHz (in 9 kHz spacing) |
| | | 530 kHz - 1 710 kHz (in 10 kHz spacing) |
| **CD player section** | | |
| Dynamic range | | 88 dB |
| Signal-to-noise ratio | | 85 dB |
| Wow and flutter | | Immeasurable |
| **iPod section** | | |
| iPod output power | | DC 5 V 500 mA |
| VIDEO OUT | | Composite |
| **USB storage** | | |
| USB specification | | Compatible with USB 2.0 Full Speed |
| Compatible device | | Mass storage class |
| Compatible file system | | FAT16, FAT32 |
| Bus power supply | | DC 5 V 500 mA |
| **General** | | |
| Power requirements | | AC 110 V - 127 V/AC 220 V - 240 V (adjustable with the voltage selector), 50 Hz/60 Hz |
| | | AC 240 V , 50 Hz (only Australia) |
| | | AC 220 V , 50 Hz (only Hong Kong) |
| Power consumption | | 35 W (power on) |
| | | 8 W (standby mode) |
| | | 1 W or less (Ecology Mode) |
| Dimensions (approx) | | 165 mm × 259 mm × 258 mm (W × H × D) |
| Mass (approx) | | 1.9 kg |
| **Speakers** | | |
| Speaker units | | 10 cm × 1; 1.5 cm × 1 |
| Impedance | | 6 Ω |
| Dimensions (approx.) | | 140 mm × 250 mm × 188 mm (W × H × D) |
| Mass (approx.) | | 1.4 kg each |

Specifications and appearance are subject to change without prior notice.

# SECTION 1
# PRECAUTION

## 1.1 Safety Precautions

(1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.

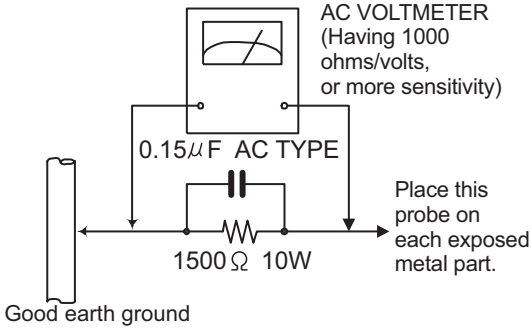
(2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by ( ⚠ ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.

(4) The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.

(5) Leakage shock hazard testing
After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
- Alternate check method
  Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000Ω per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
  Measure the AC voltage across the resistor with the AC voltmeter.
  Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).




## 1.2 Warning

(1) This equipment has been designed and manufactured to meet international safety standards.
(2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
(3) Repairs must be made in accordance with the relevant safety standards.
(4) It is essential that safety critical components are replaced by approved parts.
(5) If mains voltage selector is provided, check setting for local voltage.

## 1.3 Caution

**Burrs formed during molding may be left over on some parts of the chassis.**
**Therefore, pay attention to such burrs in the case of preforming repair of this system.**

## 1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor ( ▬ ), diode ( ▮ ) and ICP ( ● ) or identified by the " ⚠ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.
(This regulation dose not Except the J and C version)

### 1.5 Preventing static electricity

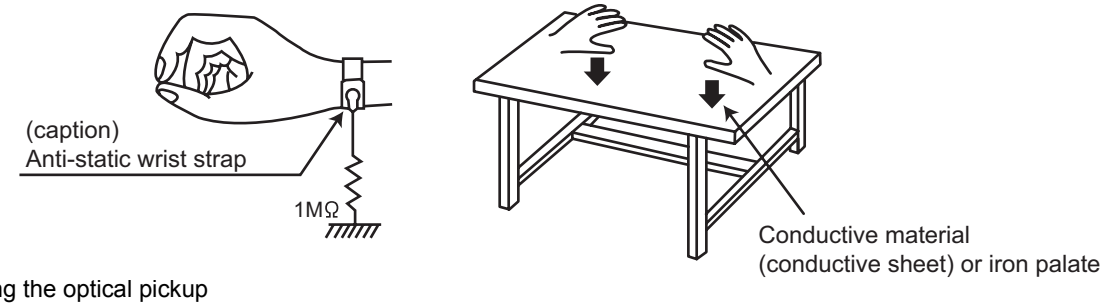
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

#### 1.5.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench
Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself
Use an anti-static wrist strap to release any static electricity built up in your body.




(3) Handling the optical pickup

- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

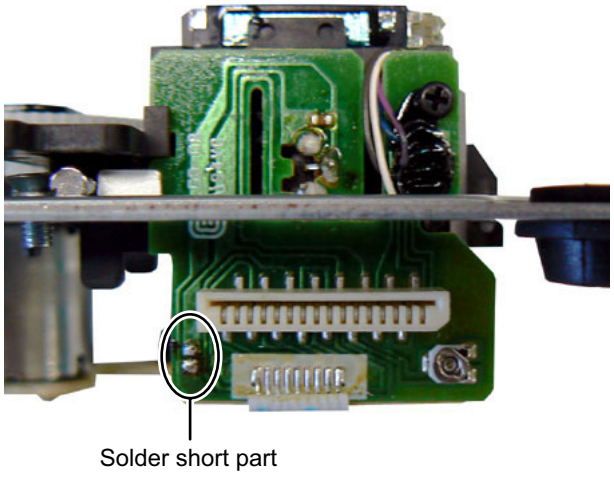
### 1.6 Handling the traverse unit (optical pickup)

(1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
(2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
(3) Handle the flexible cable carefully as it may break when subjected to strong force.
(4) I t is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

### 1.7 Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the pickup unit.**

- Apply solder to the short land sections before the card wire is disconnected from the connecto on the servo board. (If the card wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land sections after connecting the card wire.



## 1.8 Important for laser products

**1.CLASS 1 LASER PRODUCT**

**2.CAUTION :**
(For U.S.A.) Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others) Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments.

**3.CAUTION :** Visible and/or invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

**4.CAUTION :** This laser product uses visible and/or invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

**5.CAUTION :** If safety switches malfunction, the laser is able to function.

**6.CAUTION :** Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.

⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

(For U.S.A.)
**CAUTION :** Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others)
**CAUTION :** Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments

**ACHTUNG:** Sichtbare und/oder unsichtbare Laserstrahlung der Klasse 1M bei offenen Abdeckungen. Nicht direkt mit optischen Instrumenten betrachten.

**ATTENTION:** Rayonnement laser visible et/ou invisible de classe 1M une fois ouvert. Ne pas regarder directement avec des instruments optiques.

**VOORZICHTIG:** Zichtbare en/of onzichtbare klasse 1M laserstralen indien geopend. Bekijk niet direct met optische instrumenten.

**ATTENZIONE:** Radiazione laser in classe 1M visibile e/o invisibile quando aperto. Non osservare direttamente con strumenti ottici.

**VARNING:** Synlig och/eller osynlig laserstrålning, klass 1M, när denna del är öppnad. Betrakta ej strålen med optiska instrument.

**VARO!:** Avattaessa olet alttiina nakyvalle ja/tai näkymättömälle luokan 1M lasersateilylle. Älä tarkastele sitä optisen laitteen läpi.

**ADVARSEL:** Synlig og/eller usynlig klasse 1M-laserstråling ved åbning. Se ikke direkte med optiske instrumenter.

**AVISO:** Radiación láser de clase 1M visible y/o invisible cuando está abierto. No mirar directamente con instrumental óptico.

**PRECAUÇÃO:** Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe directamente com instrumentos ópticos.

**PRECAUÇÃO:** Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe diretamente com instrumentos óticos.

ПРЕДУПРЕЖДЕНИЕ: В открытом состоянии происходит видимое и/или невидимое излучение лазера класса 1M. Не смотрите непосредственно в оптические инструменты.

**UWAGA:** Otwarcie spowoduje narażenie na widzialne i/lub niewidzialne promieniowanie lasera klasy 1M. Nie patrzeć bezpośrednio w przyrządy optyczne.

**UPOZORNĚNÍ:** Při otevření vydává viditelné popř. neviditelné laserové ozáření třídy 1M. Nedívejte se do otvoru přímo s optickými nástroji.

**FIGYELMEZTETÉS:** Látható és/vagy láthatatlan 1M osztályú sugárzás nyitott állapotban. Ne nézze közvetlenül optikai műszerekkel.

**注意**：打開蓋板可能會產生可見或不可見的 1M 級鐳射。
不要使用光學儀器直接進行窺視。

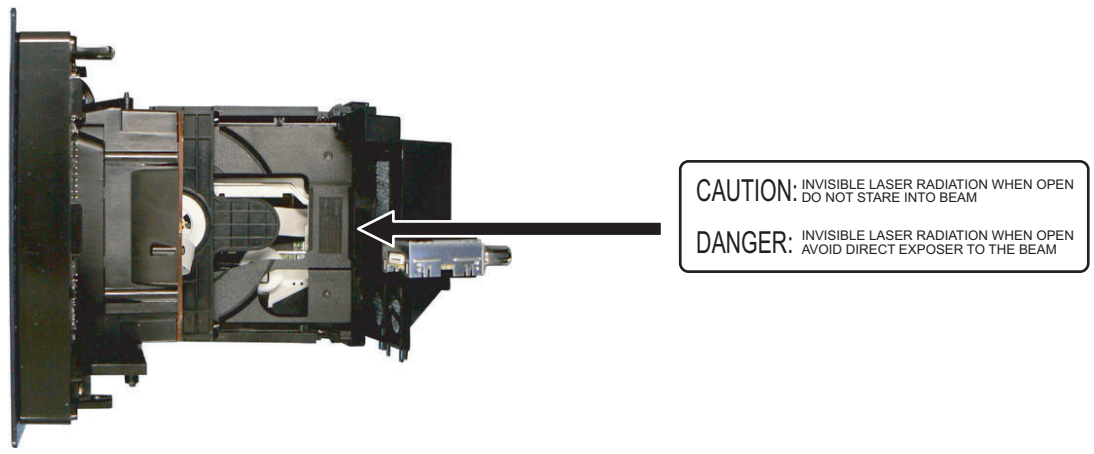
**注意**：打开盖板可能会产生可见或不可见的 1M 级镭射。
不要使用光学仪器直接进行窥视。

**تنبيه:** يوجد إشعاع ليزري مرئي و/أو غير مرئي من الفئة 1M عندما يكون الجهاز مفتوحا. تجنب النظر مباشرة داخل الجهاز باستخدام أدوات بصرية.

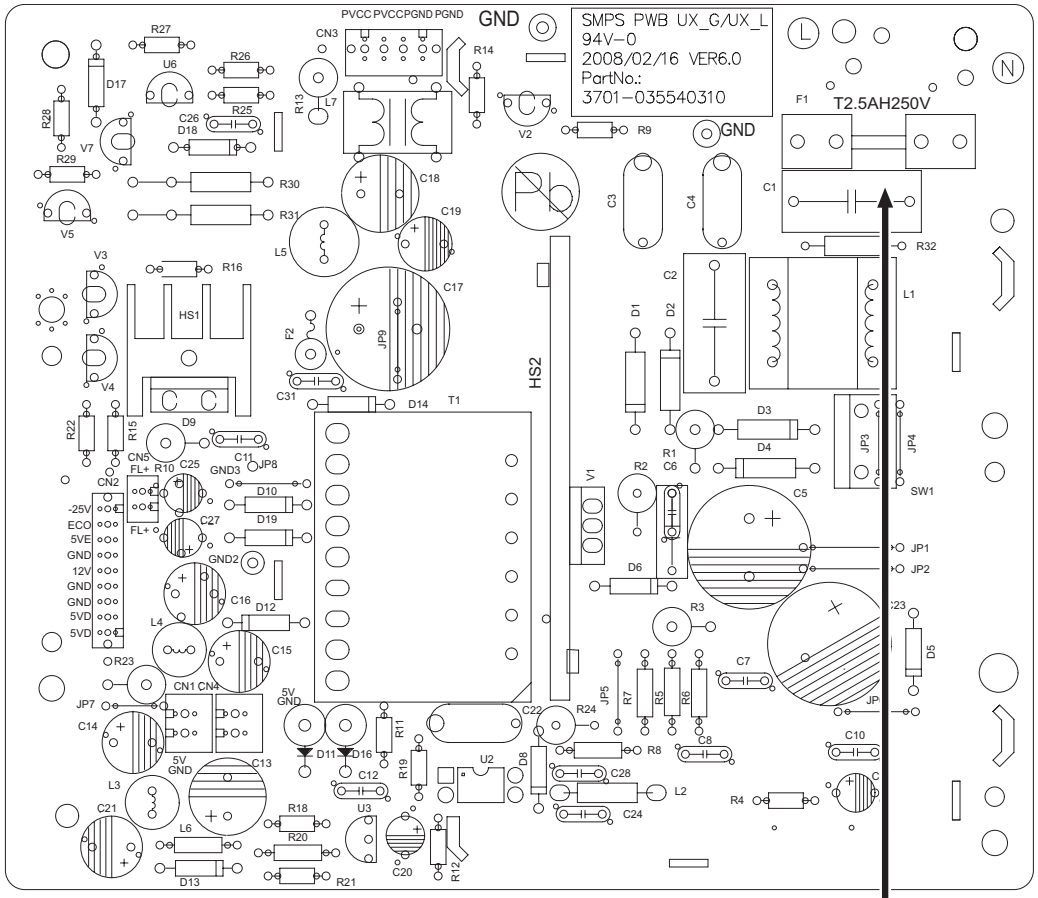
**احتیاط**: هنگامی که باز گردد، تشعشع مرئی و یا نامرئی کلاس 1M لیزر وجود دارد. با لوازم چشمی مستقیماً به آن نگاه نکنید.

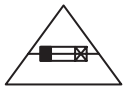
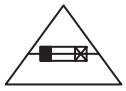
**주의:** 개방하면 가시 및/또는 비가시 클래스 1M 레이저 방사선이 나옵니다. 광학 기구로 직접 들여다보지 마십시오.

## REPRODUCTION AND POSITION



## 1.9 Importance administering point on the safety




| Full Fuse Replacement Marking | Marquage Pour Le Remplacement Complet De Fusible |
|---|---|
| Graphic symbol mark<br>(This symbol means slow blow type fuse.)<br>  <br>should be read as follows ; | Le symbole graphique (Ce symbole signifie fusible de type á fusion lent.)<br>  <br>doit être interprété comme suit ; |
| **FUSE CAUTION** | **PRECAUTIONS SUR LES FUSIBLES** |
| **FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSES ;**<br>F901 : T1.6AH 250V | **POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;**<br>F901 : T1.6AH 250V |

# SECTION 2
# SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

# SECTION 3
# DISASSEMBLY

### 3.1 Main body (Used figure are UX-LP5E)

#### 3.1.1 Removing the Top cabinet (See Fig.1, 2)

(1) Remove the six screws **A** attaching the both side of the Top cabinet. (See Fig.1)

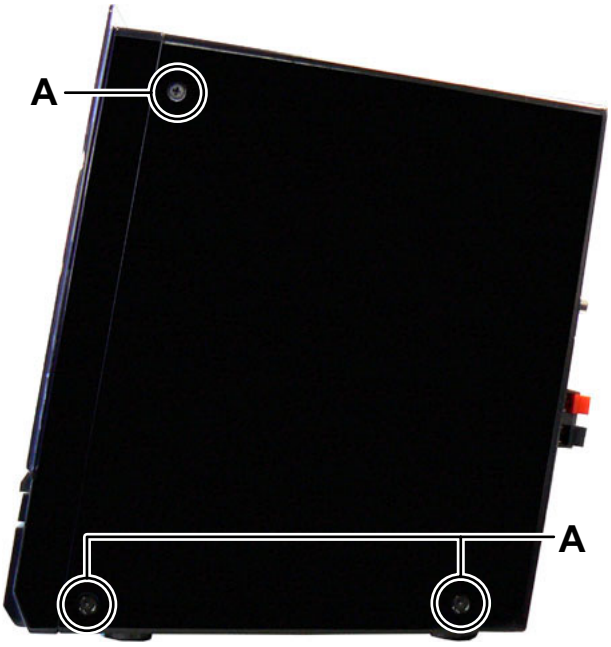



Fig.1

(2) Remove the five screws **B** attaching the Top cabinet. (See Fig.2)

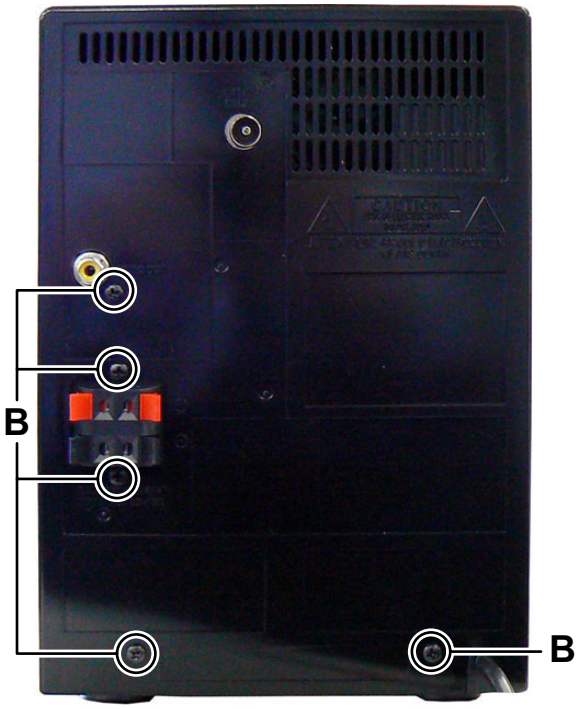



Fig.2

#### 3.1.2 Removing the SMPS board (See Fig.3)

(1) Remove the four screws **C** attaching the SMPS board.

(2) Disconnect the connector wires from MCU board connected to connectors CN2 and CN3 of the SMPS board.

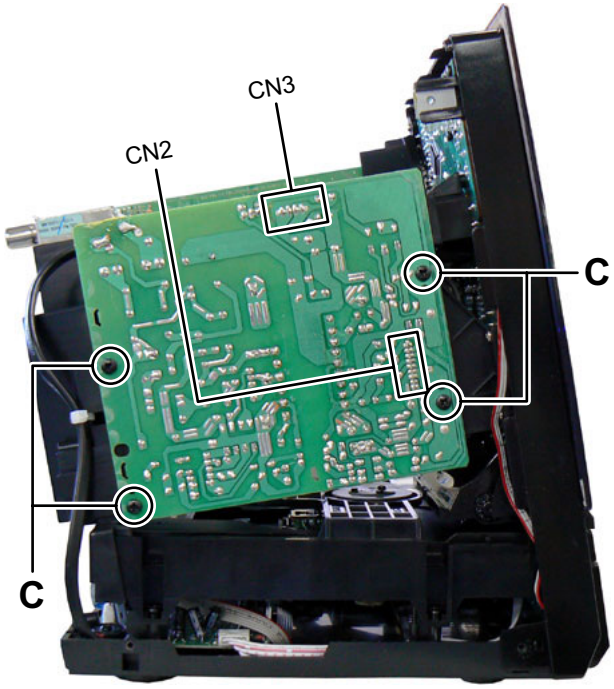



Fig.3

### 3.1.3 Removing the MCU board (See Fig.4)

(1) Disconnect the card wire from Tuner pack connected to connector CN201 of the MCU board.
(2) Disconnect the card wire from Display board connected to connector CN202 of the MCU board.
(3) Disconnect the connector wire from USB board connected to connector CN210 of the MCU board.
(4) Disconnect the connector wire from CD board connected to connector CN208 of the MCU board.
(5) Disconnect the card wire from iPod board connected to connector CN206 of the MCU board.
(6) Disconnect the card wire from CD board connected to connector CN207 of the MCU board.
(7) Remove the five screws **D** attaching the MCU board.

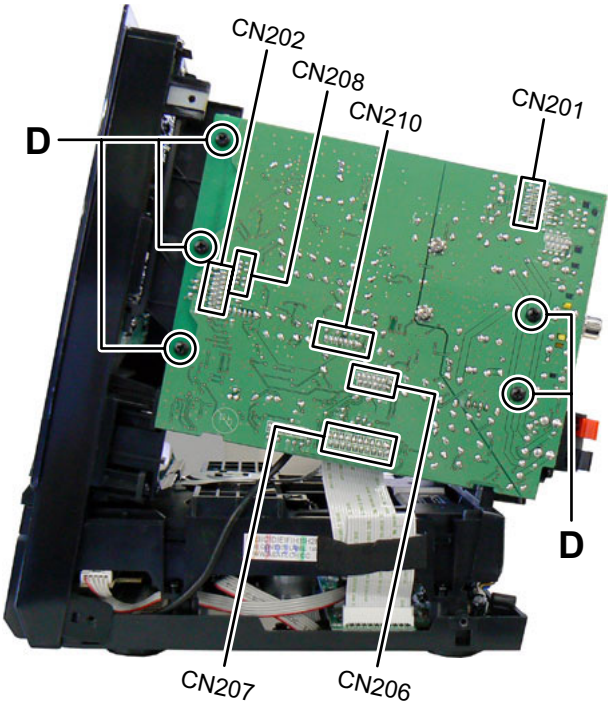



Fig.4

### 3.1.4 Removing the Front cabinet (See Fig.5 to 7)

(1) Disconnect the connector wire from USB board connected to connector CN114 of the CD board. (See Fig.5)

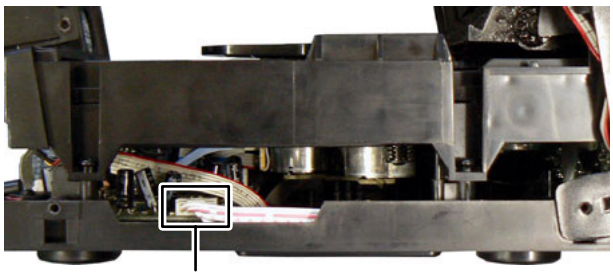



Fig.5

(2) Remove the two screws **E** attaching the Front cabinet. (See Fig.6)

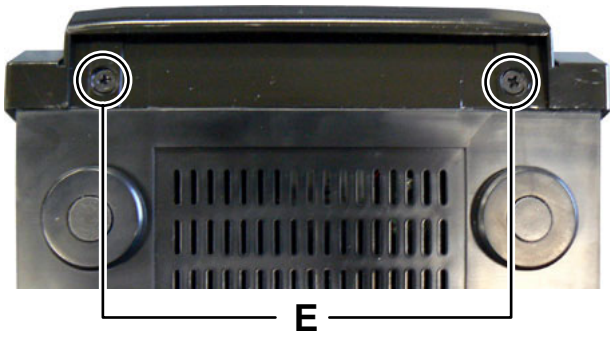



Fig.6

(3) Disengage two hooks **a** engaged both side of the Front cabinet. (See Fig.7)

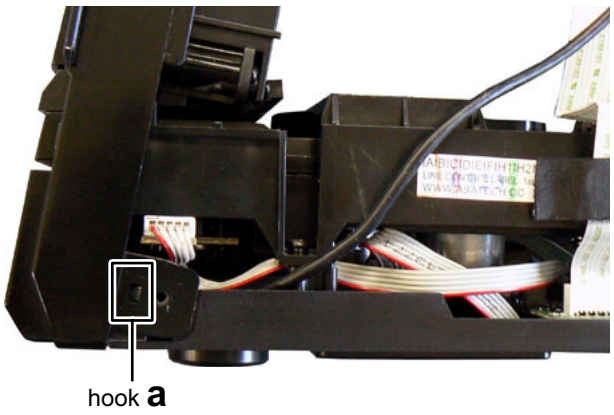



Fig.7

### 3.1.5 Removing the CD mechanism (See Fig.8 to 10)

(1) Disconnect the card wire from CD mechanism connected to connector CN102 of the CD board. (See Fig.8)

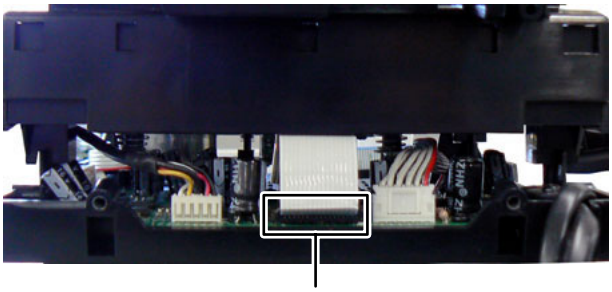



Fig.8

(2) Disconnect the connector wire from CD board connected to connector of the Loader board. (See Fig.9)
(3) Disconnect the connector wire from CD board connected to connector of Mechanism board. (See Fig.9)

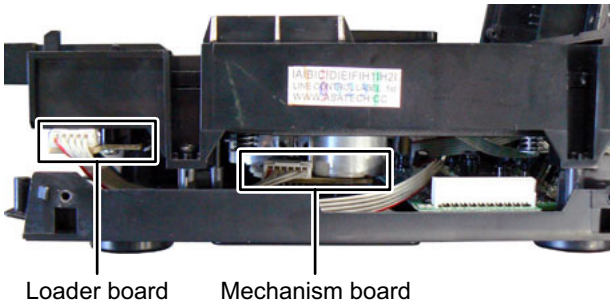



Fig.9

(4) Remove the four screws **F** attaching the CD mechanism. (See Fig.10)

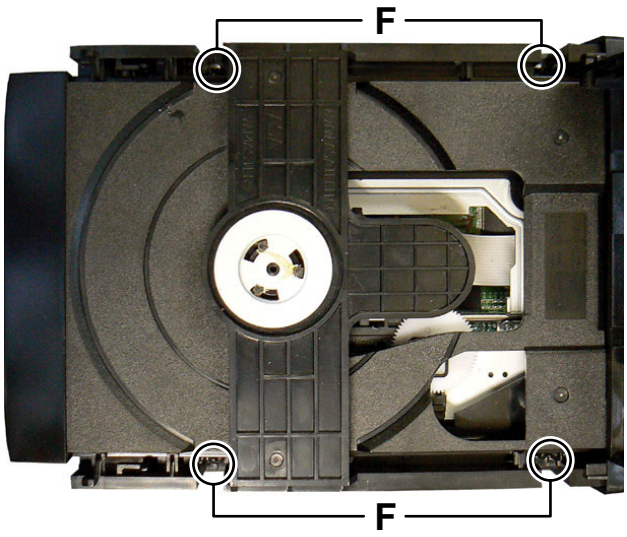



Fig.10

### 3.1.6 Removing the Traverse mechanism (See Fig.11)

(1) Remove the two screws **G** attaching the Traverse mechanism.

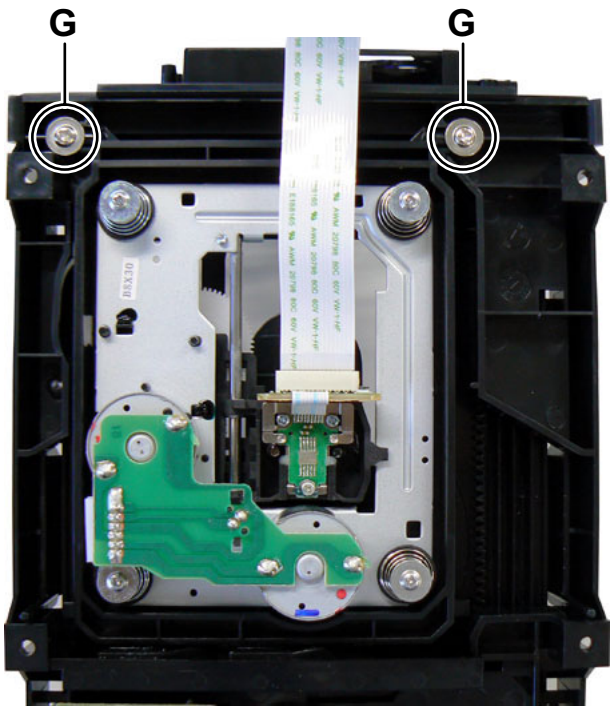



Fig.11

### 3.1.7 Removing the CD board (See Fig.12)

(1) Remove the four screws **H** attaching the CD board.

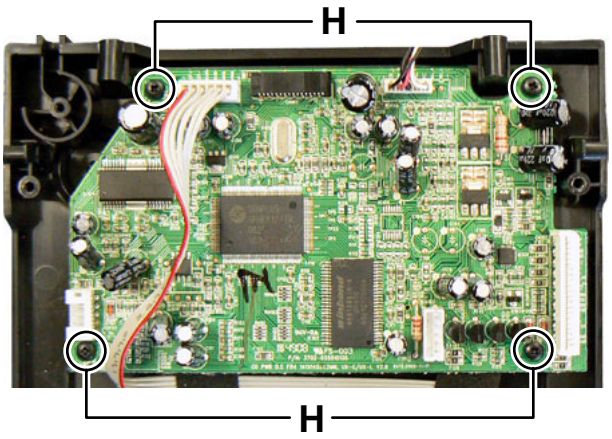



Fig.12

### 3.1.8 Removing the LED board (See Fig.13)

(1) Disconnect the connector wire from Display board connected to connector CN45 of the LED board.

(2) Remove the two screws **J** and one screw **K** attaching the Reflector bracket.

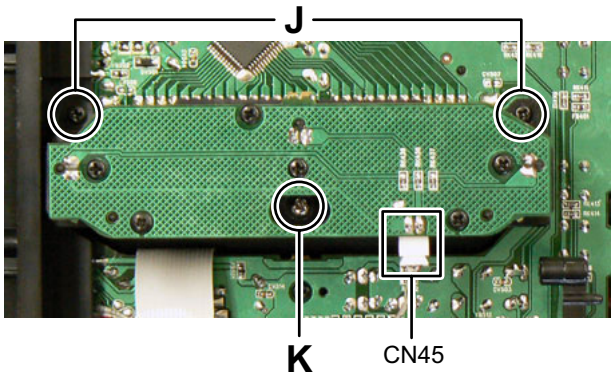



Fig.13

### 3.1.9 Removing the Display board (see Fig.14 to 16)

(1) Remove the six screws **L** attaching the USB board. (See Fig.14)

(2) Disconnect the connector wire from Display board connected to connector CN43 of the USB board. (See Fig.14)

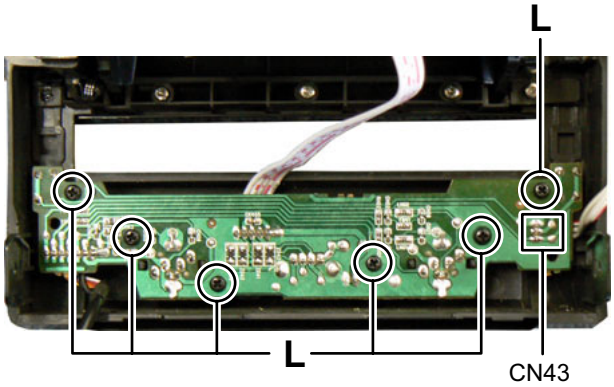



Fig.14

(3) Remove the four screws **M** attaching the PCB bracket. (See Fig.15)

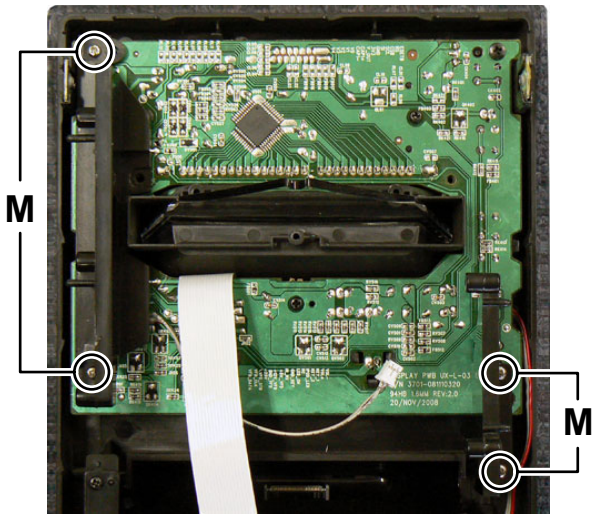



Fig.15

(4) Remove the two screws **N** and one screw **P** attaching the Display board. (See Fig.16)

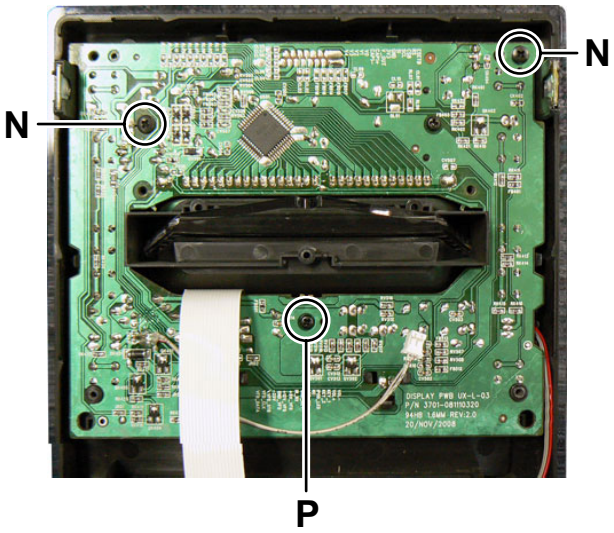



Fig.16

### 3.1.10 Removing the iPod board (See Fig.17, 18)

(1) Remove the iPod door cover.
(2) Remove the Eject spring. (See Fig.17)
(3) Remove the one screw **Q** and one screw **R** attaching the Cassette lid latch. (See Fig.17)
(4) Remove the one screw **S** attaching the Cassette cam bracket. (See Fig.17)
(5) Remove the one screw **T** and one screw **U** attaching the iPod door bracket. (See Fig.17)

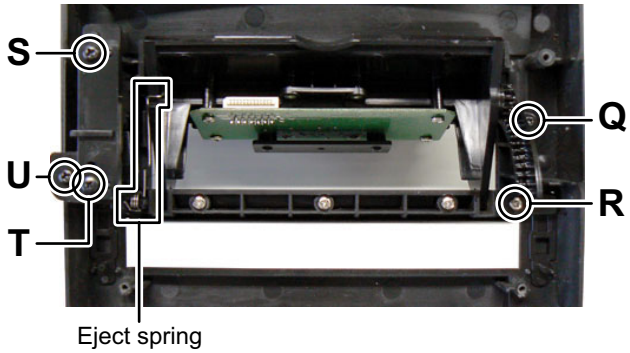



Fig.17

(6) Remove the four screws **V** attaching the Cosmetic frame. (See Fig.18)
(7) It takes both picks off the hook and take off iPod door while inclining the fulcrum of the door inward. (See Fig.18)

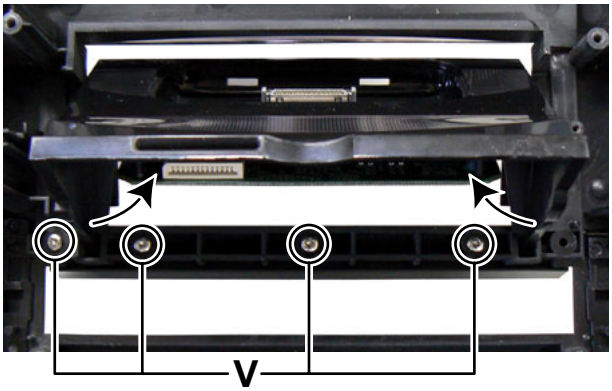



Fig.18

## SECTION 4
## ADJUSTMENT

This service manual does not describe ADJUSTMENT.

## SECTION 5
## TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.

JVC

**Victor Company of Japan, Limited**
Audio/Video Systems Division 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB698<Rev.004>)

Printed in Japan
VSE

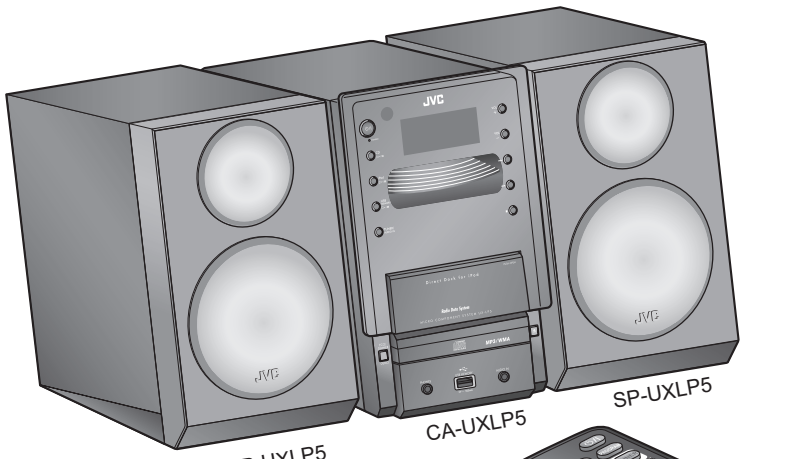
JVC

# SCHEMATIC DIAGRAMS

## MICRO COMPONENT SYSTEM

# UX-LP5B, UX-LP5E, UX-LP5EN, UX-LP5EV, UX-LP5J, UX-LP5C, UX-LP5A, UX-LP5US, UX-LP5UB, UX-LP5UP, UX-LP5UT

**DVD-ROM No.SML2009S2**




Made for iPod

COMPACT disc DIGITAL AUDIO

*MP3/WMA*

*Radio Data System*
(for Europe)

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

**Contents**

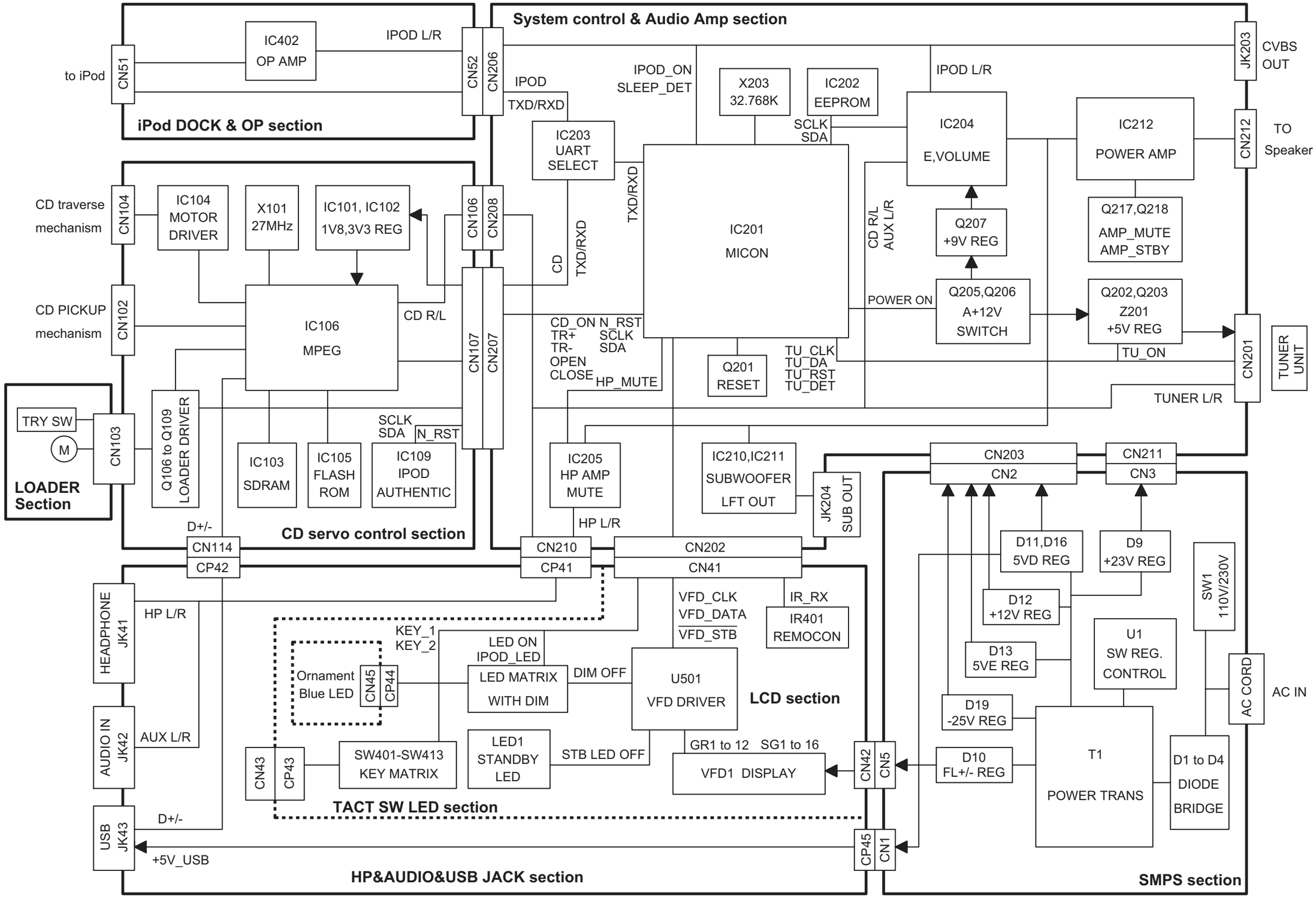




**No.MB698SCH<Rev.004>**
**2009/10**

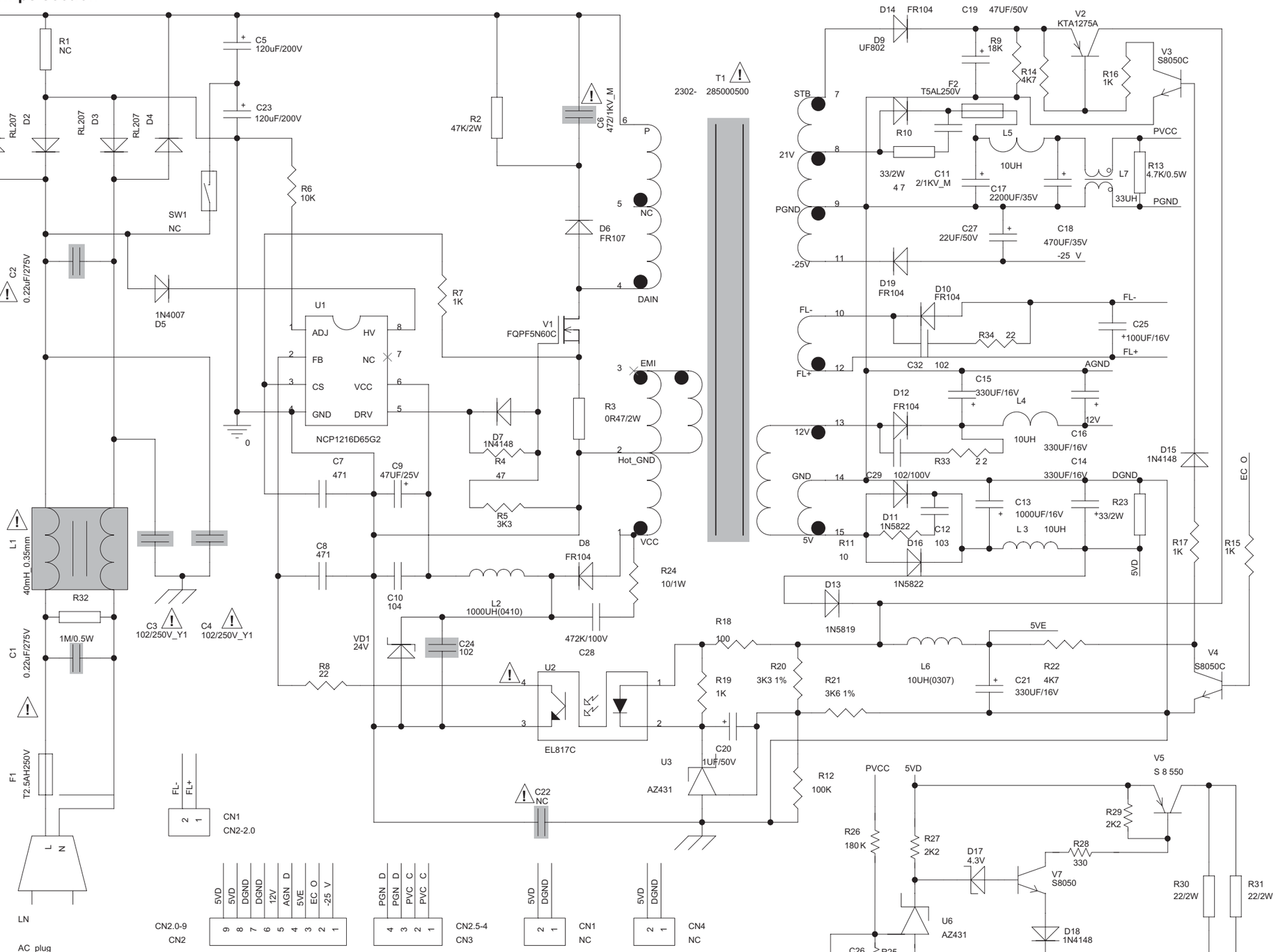
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▮) and ICP (⬤) or identified by the "⚠" mark nearby are critical for safety.

# Block diagram



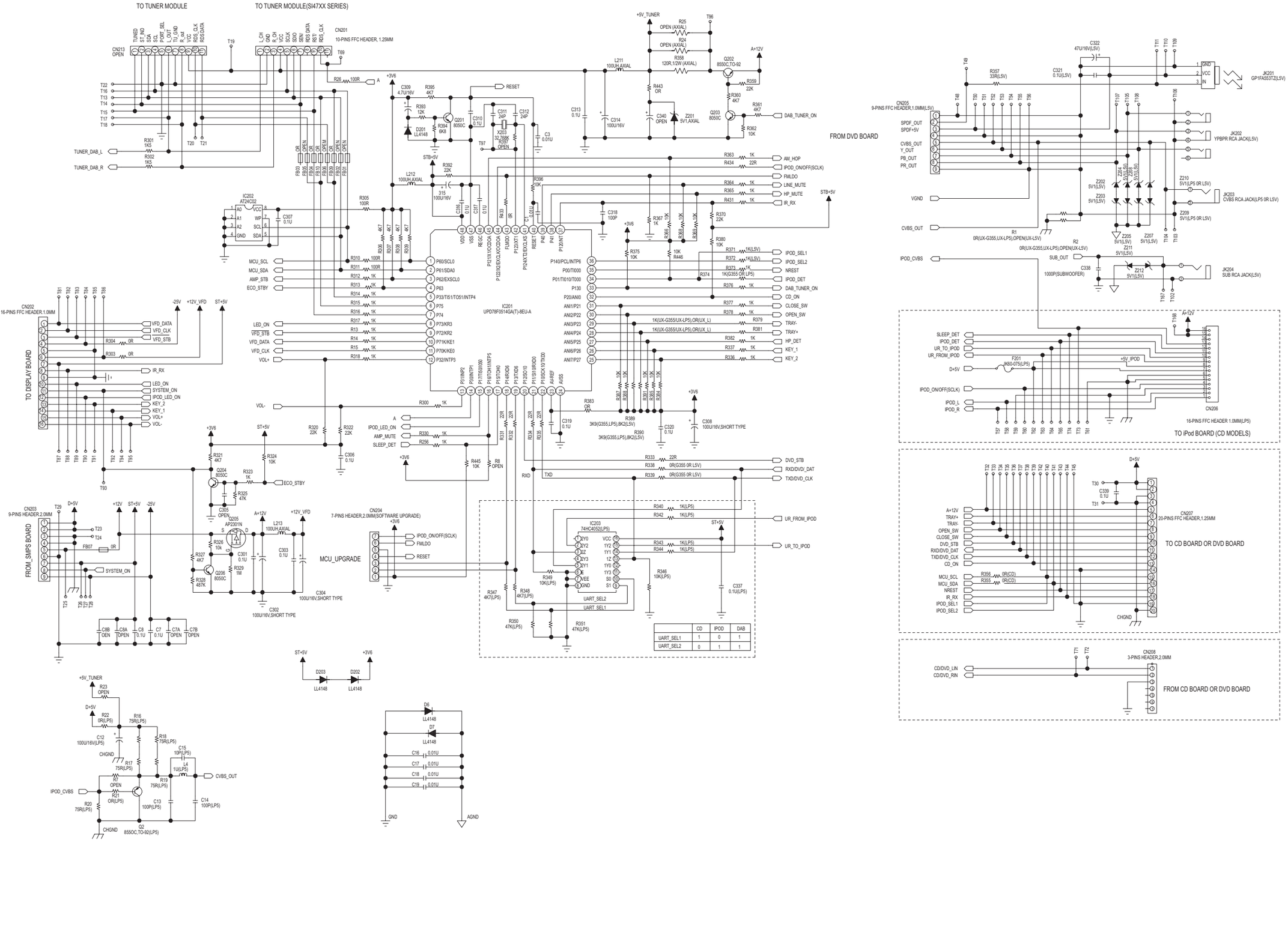
# Standard schematic diagrams

## ■ Smps section

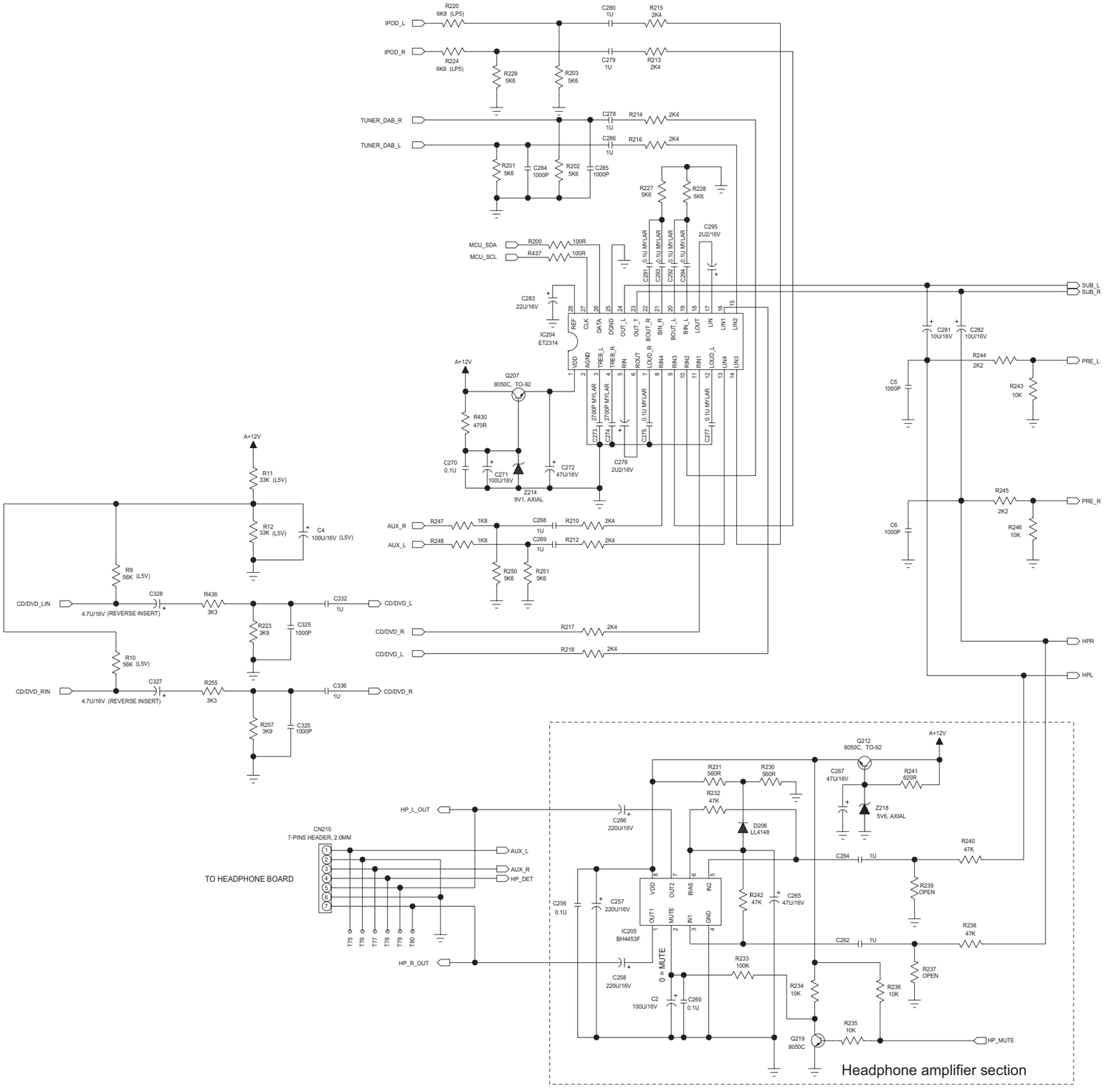



⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

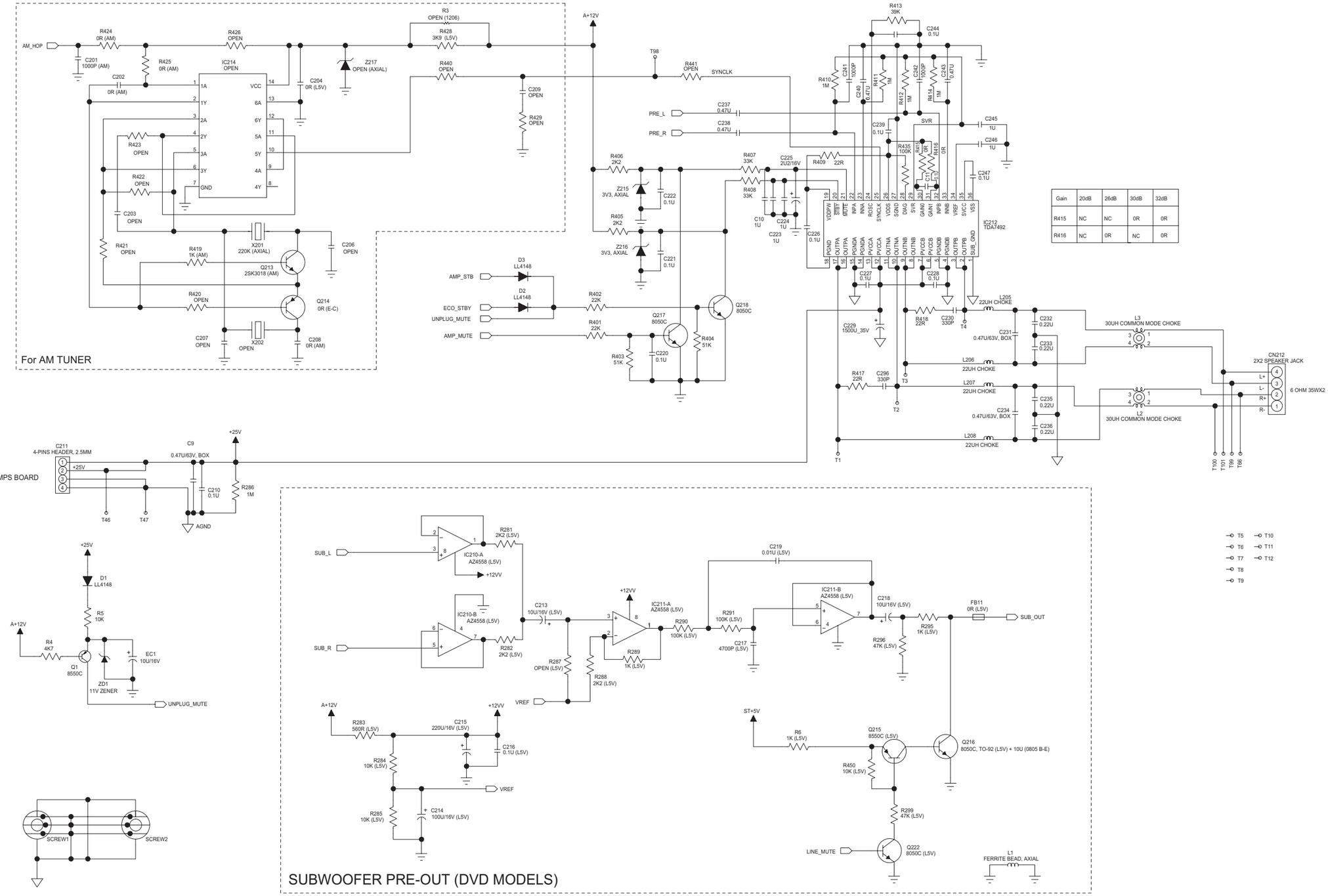
# ■ Main section 1



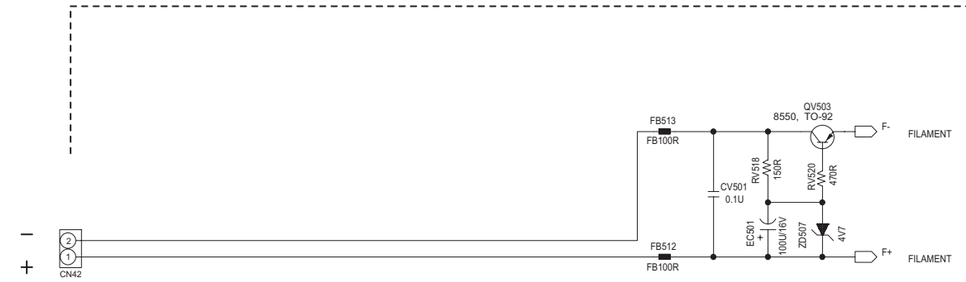
## ■ Main section 2

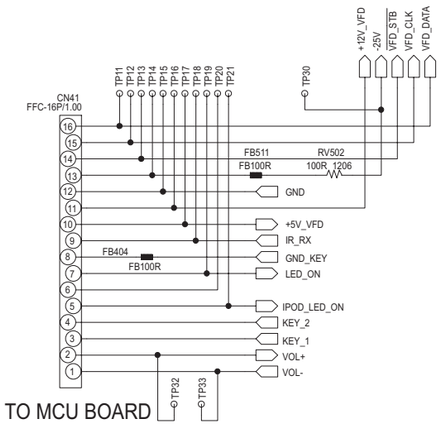


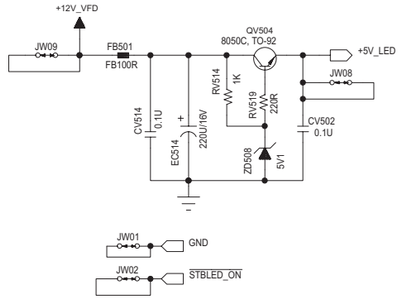
# ■ Main section 3

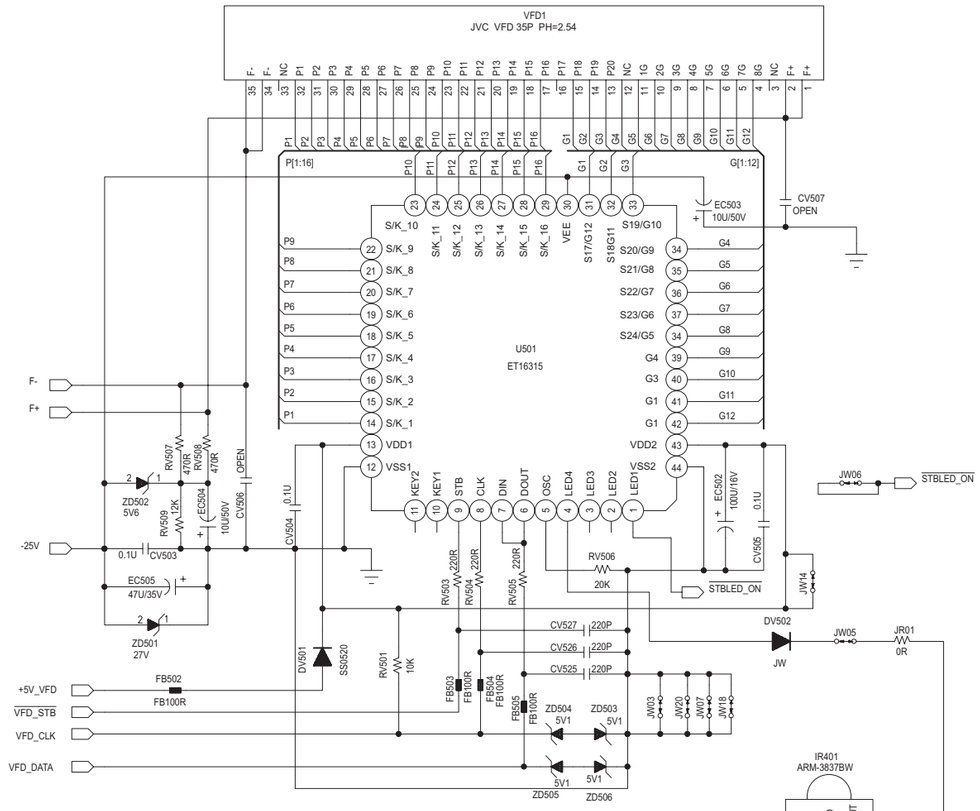


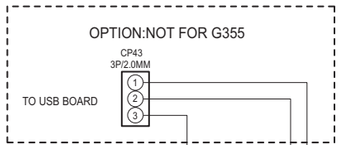
## ■ Front section

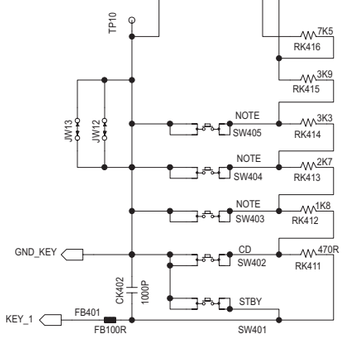


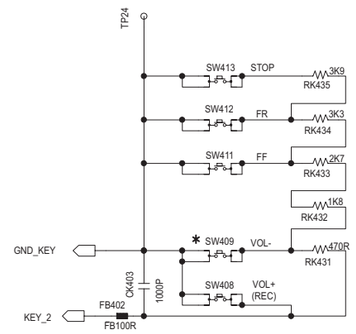



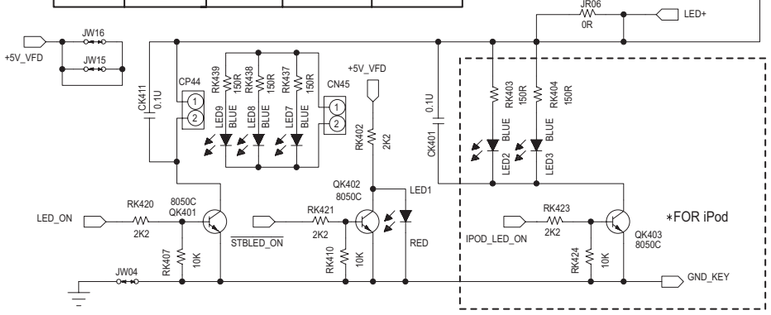



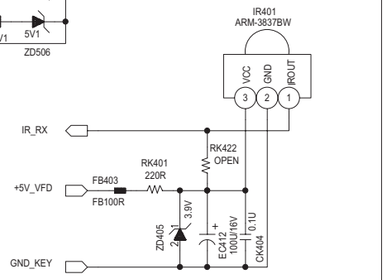



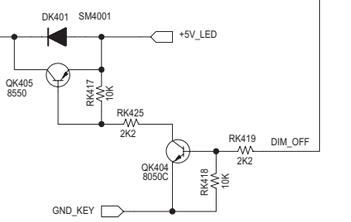




| NOTE | UX-G355 | UX-L5V | UX-LP5 | |
|---|---|---|---|---|
| | | | WITH USB | NO USB |
| SW403 | USB | USB | iPod | iPod |
| SW404 | TUNER | REC | TUNER AUX | AUX |
| SW405 | AUX | TUNER AUX | USB | TUNER |
| SW408 | REC | VOL+ | VOL+ | VOL+ |

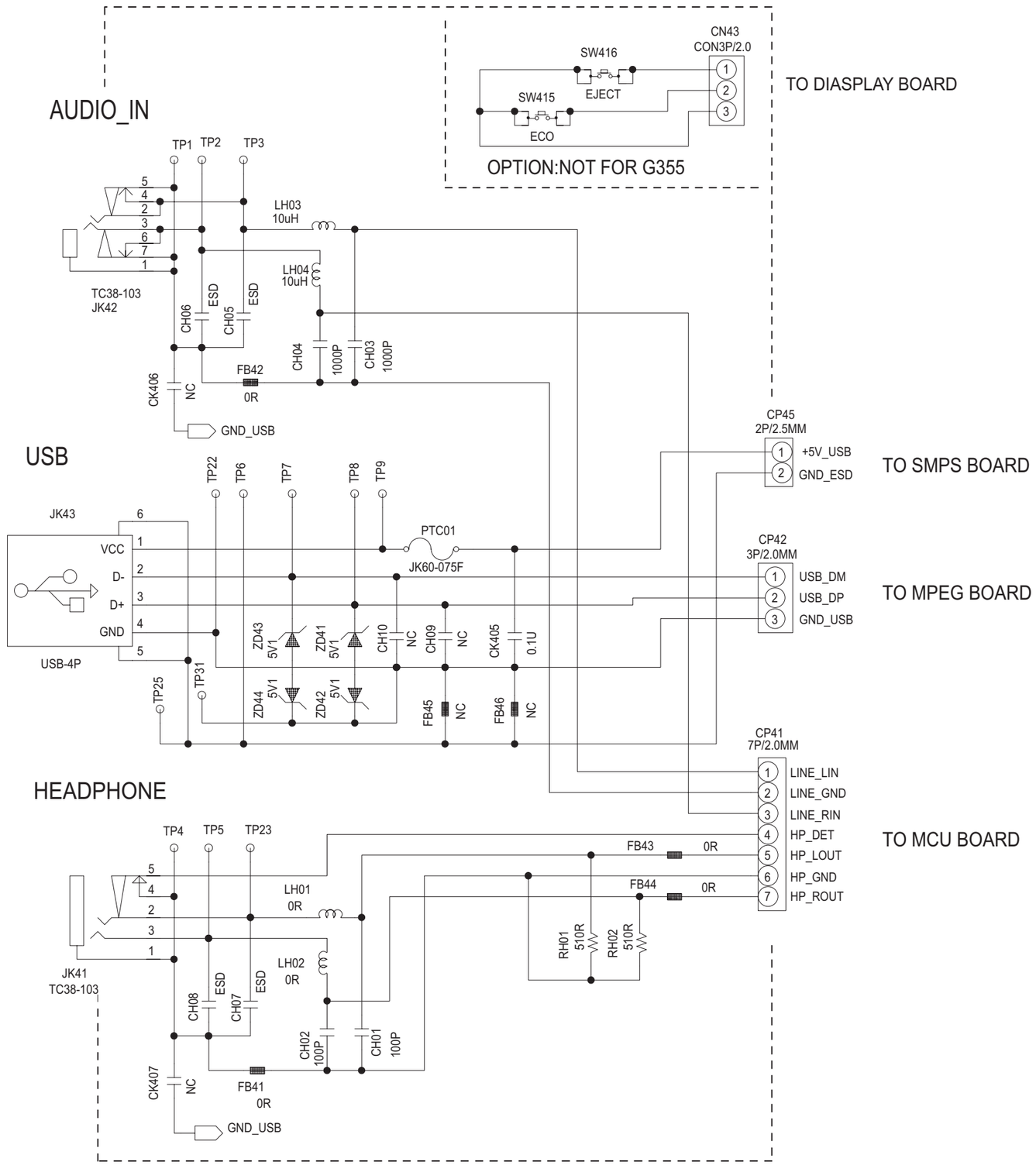
* SW409 NOT FOR G355
* SW410 ONLY FOR G355
* SW406 SW407 ONLY FOR G355



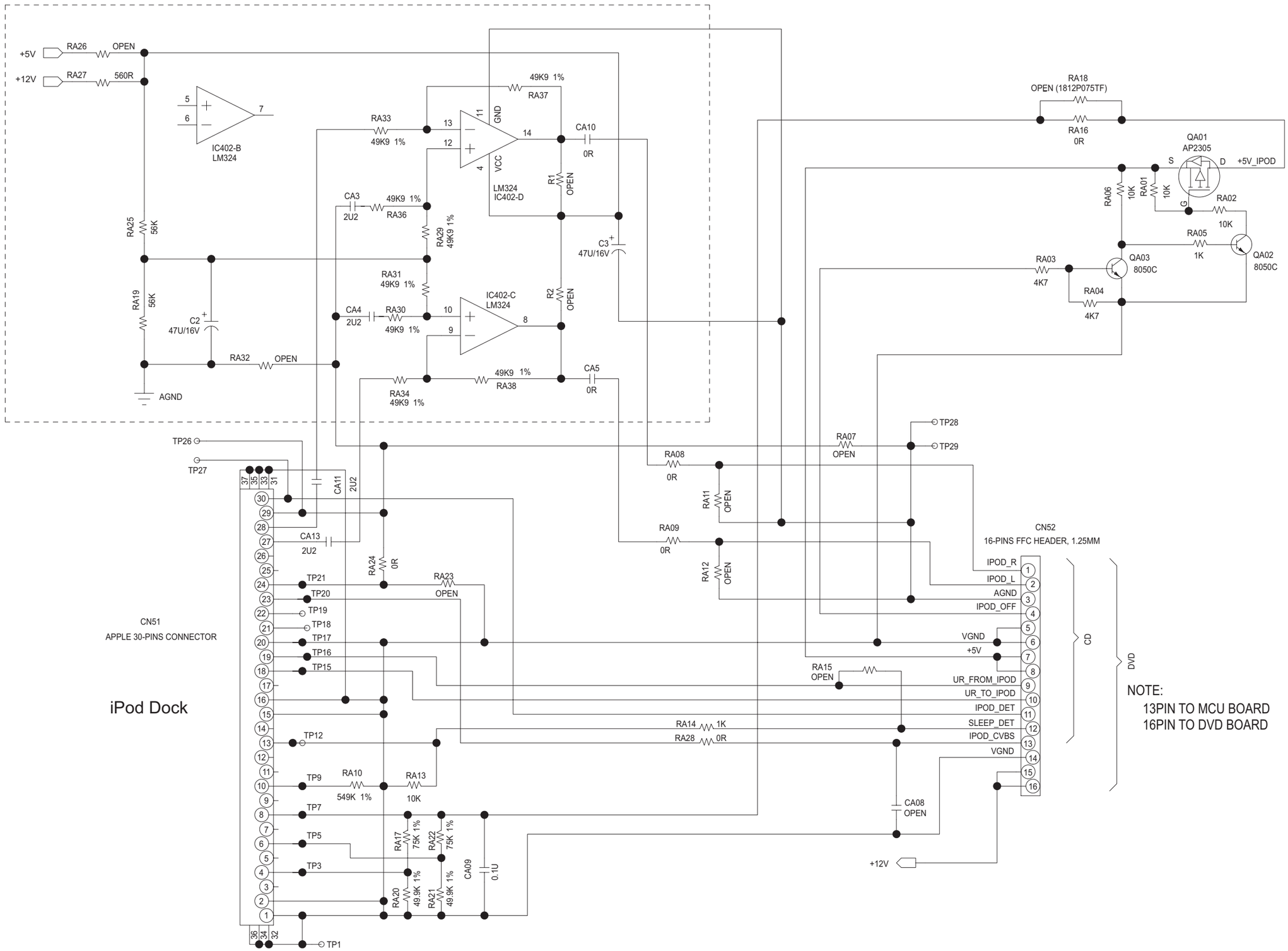



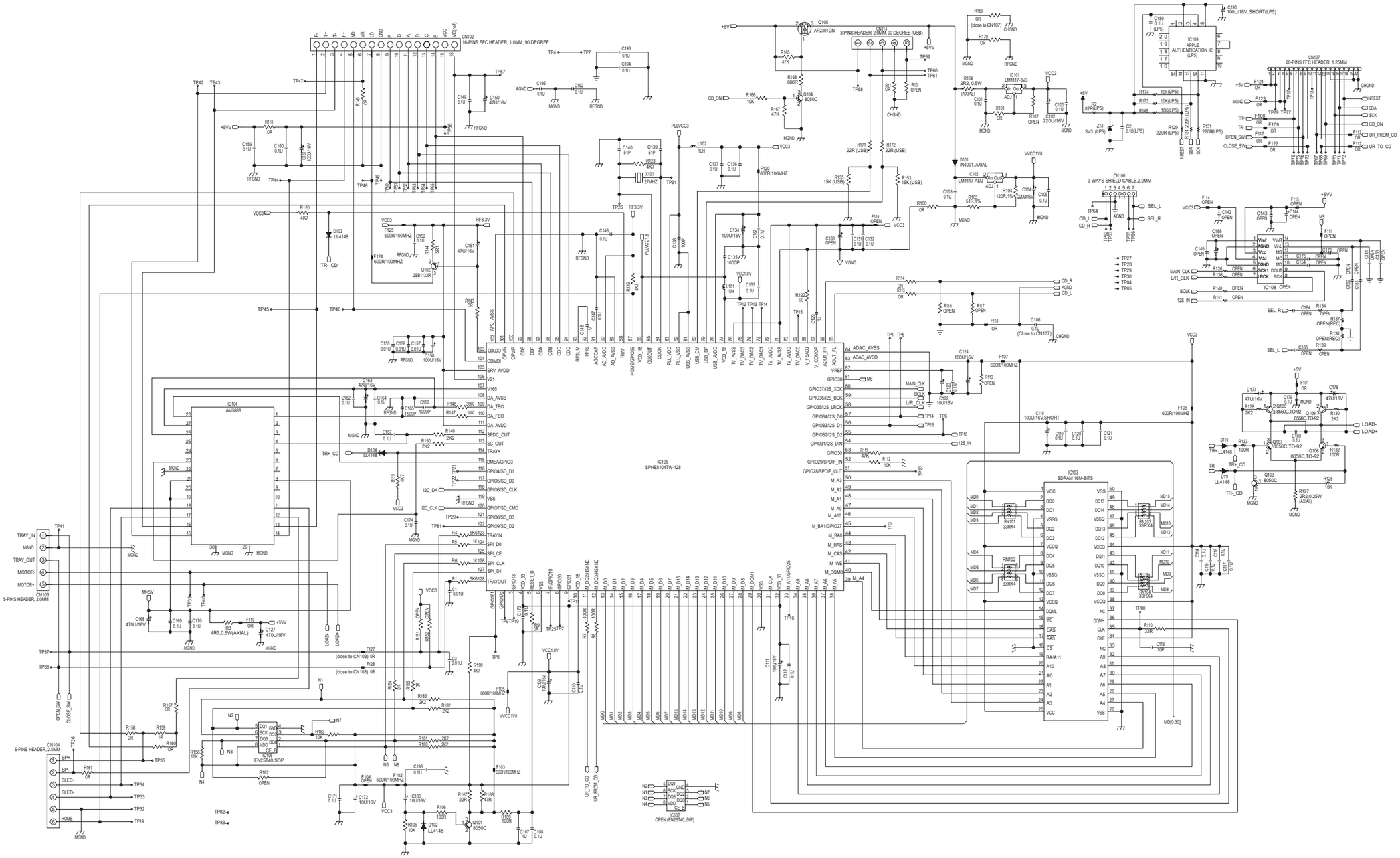
## ■ Front jack section



## ■ ipod section



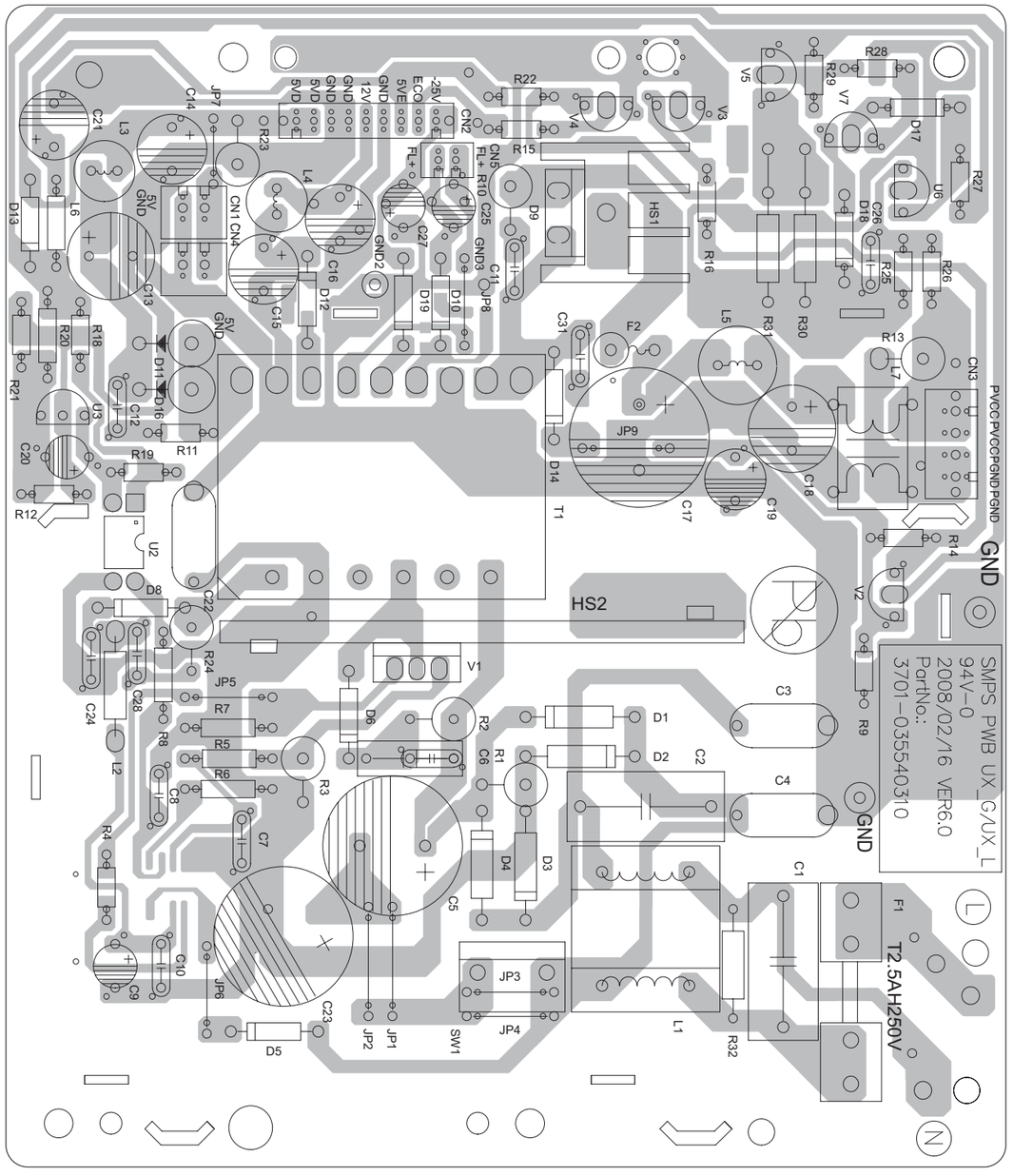
## ■ CD section


CN102
16-PINS FFC HEADER, 1.0MM, 90 DEGREE
IC104
AM5888
IC106
SPHE8104TW-128
IC103
SDRAM 16M-BITS
IC105
EN25T40,SOP
IC107
OPEN (EN25T40, DIP)
CN103
5-PINS HEADER, 2.0MM
CN104
6-PINS HEADER, 2.0MM
CN106
3-WAYS SHIELD CABLE,2.0MM
CN107
20-PINS FFC HEADER, 1.25MM
CN114
3-PINS HEADER, 2.0MM, 90 DEGREE (USB)
IC109
APPLE AUTHENTICATION IC (LPS)
IC108
TRAY_IN
TRAY_OUT
MOTOR-
MOTOR+
SP+
SP-
SLED+
SLED-
HOME
OPEN_SW
CLOSE_SW
LOAD-
LOAD+
TR+_CD
TR-_CD
CD_ON
CD_L
CD_R
SEL_L
SEL_R
MAIN_CLK
L/R_CLK
BCLK
I2S_IN
I2C_DA
I2C_CLK
UR_TO_CD
UR_FROM_CD
MD[0:30]
CHGND
MGND
RFGND
VCC3
VVCC1V8
PLLVCC3
RF3.3V
PLLVCC1.8
VGND
AGND
M+5V
+5V
+5VV

# Printed circuit boards

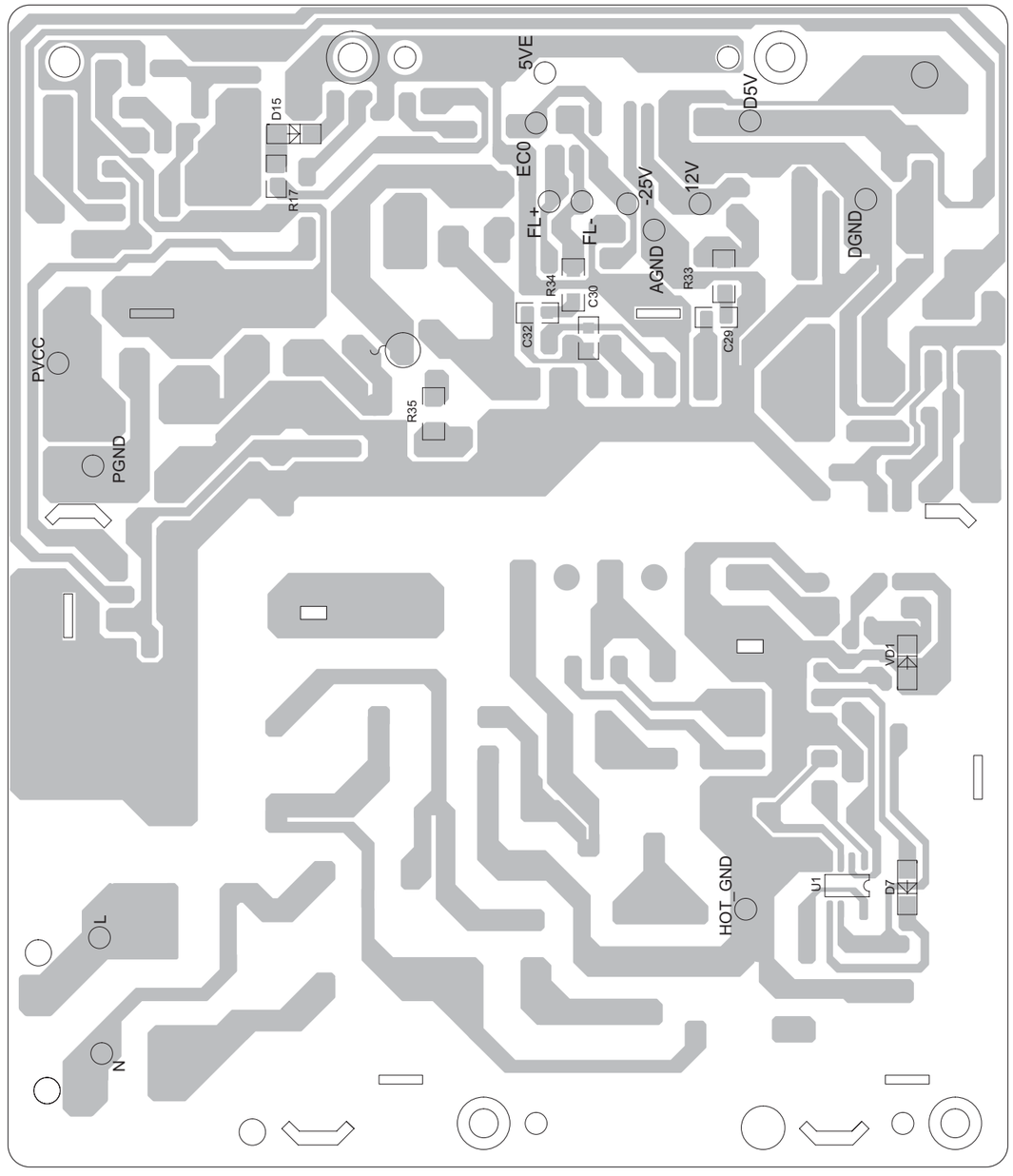
## ■ Smps board ( forward side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



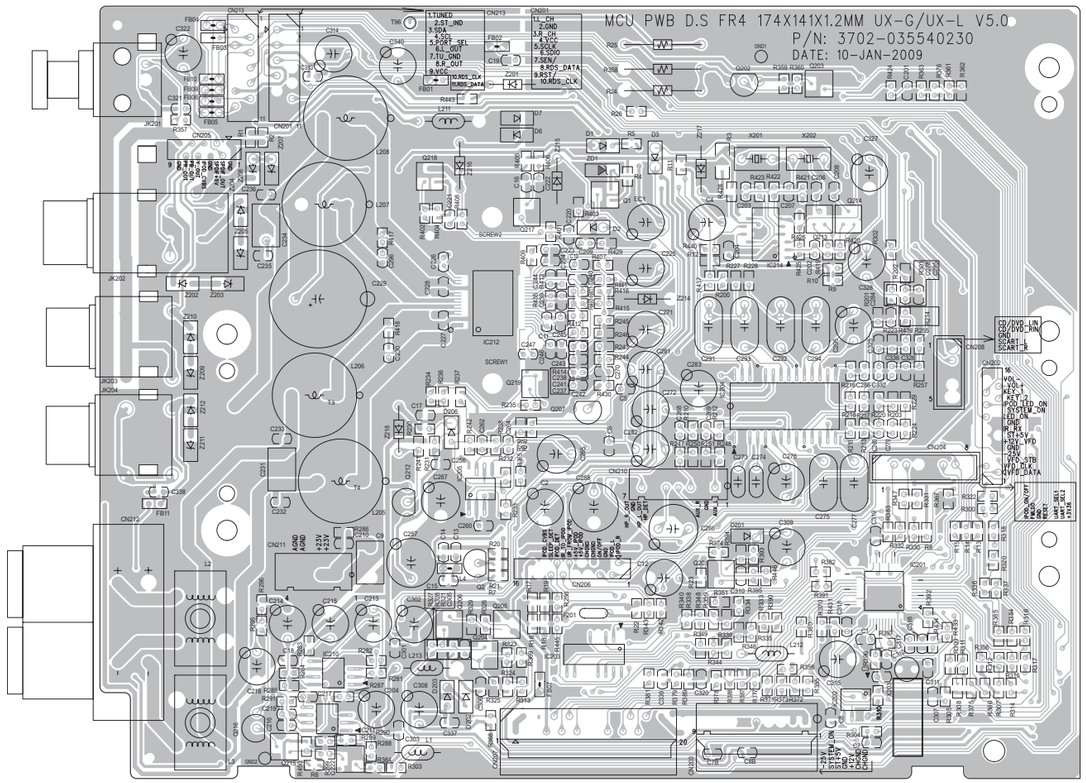

## ■ Smps board ( reverse side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



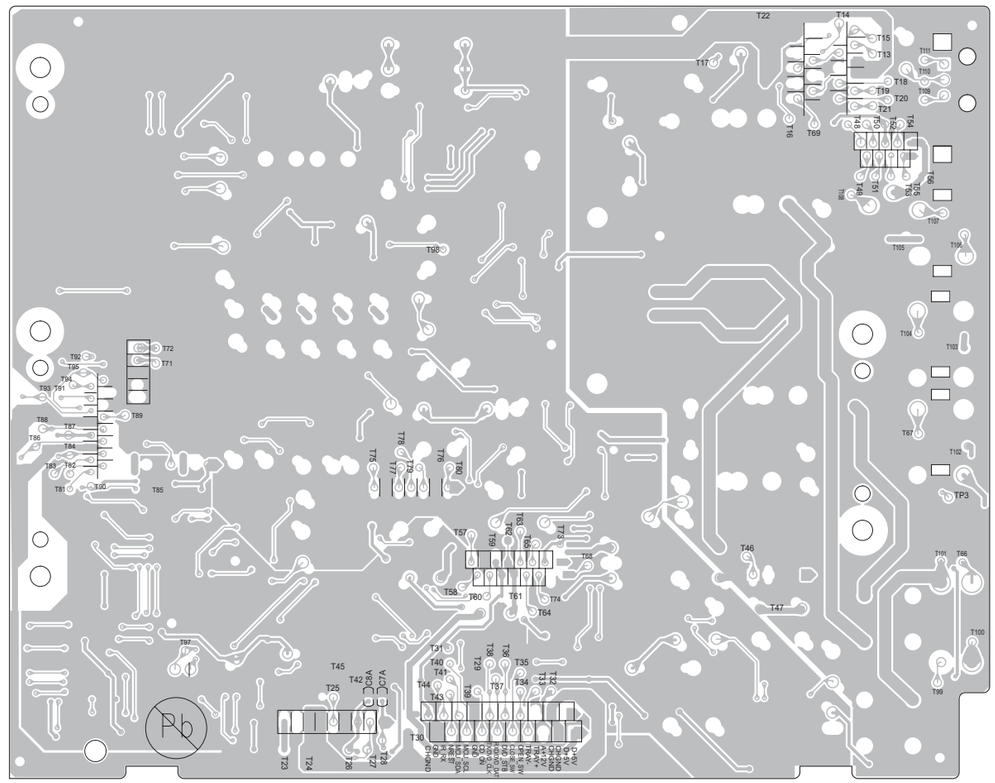
## ■ Main board ( forward side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



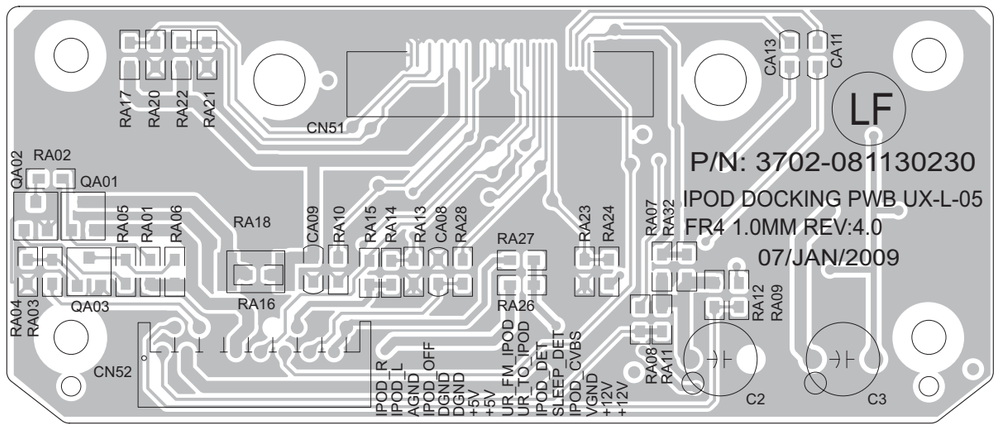

## ■ Main board ( reverse side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



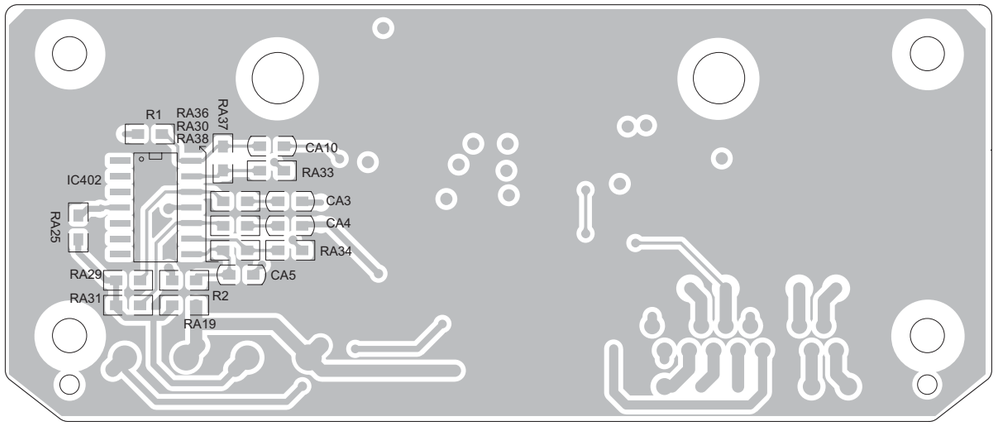
## ■ iPod board ( forward side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



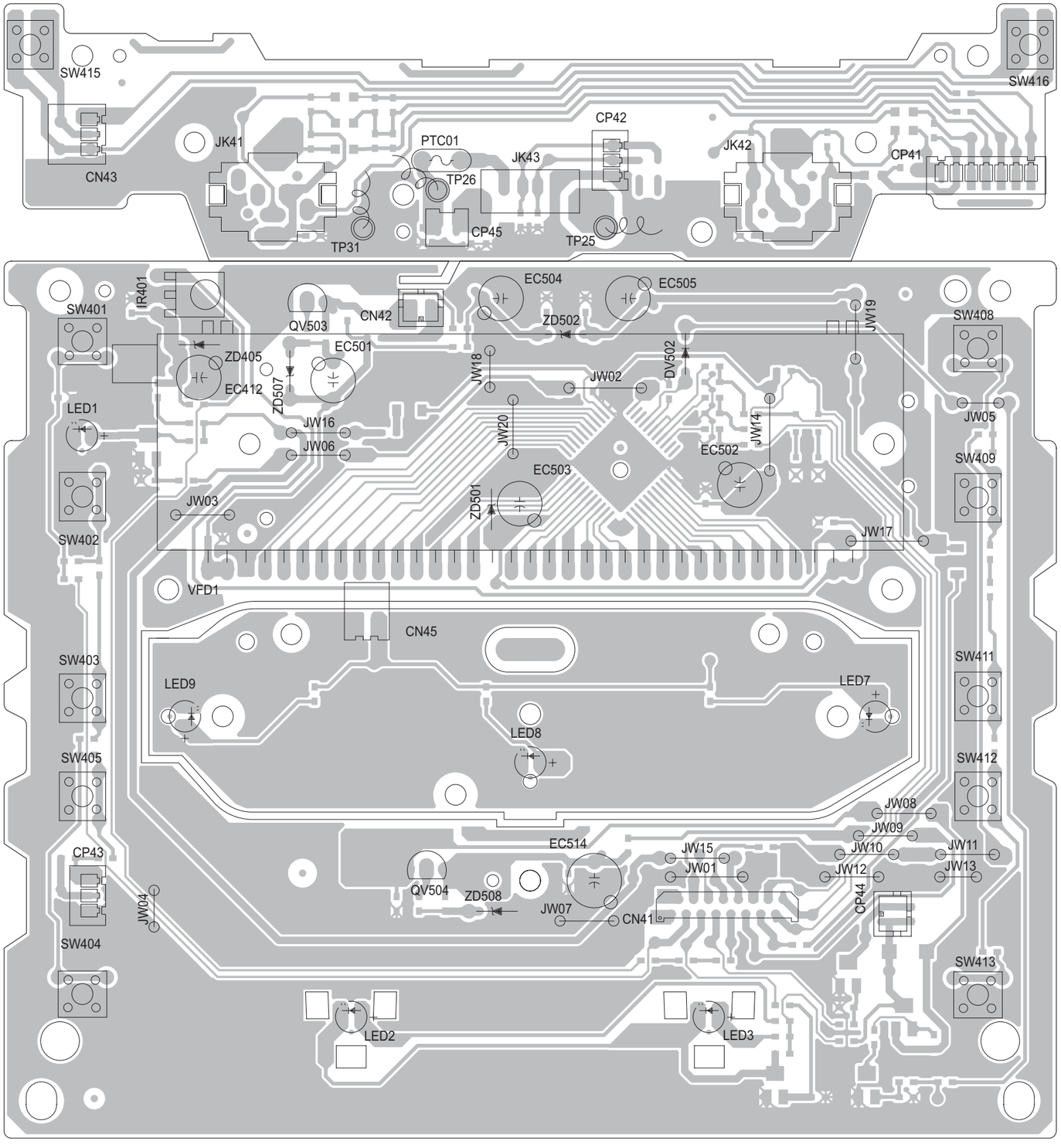

## ■ iPod board ( reverse side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



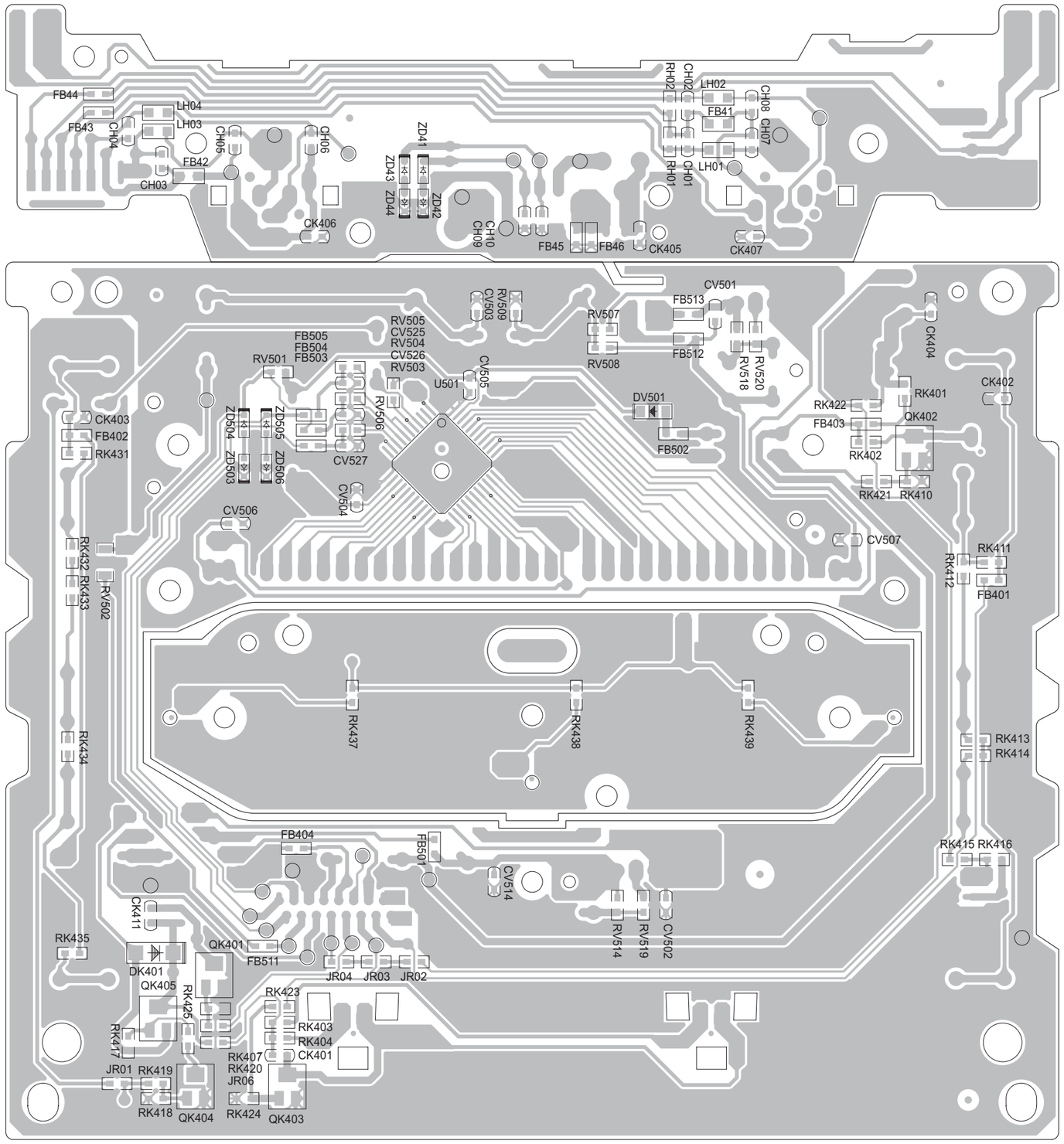
## ■ Front board ( forward side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



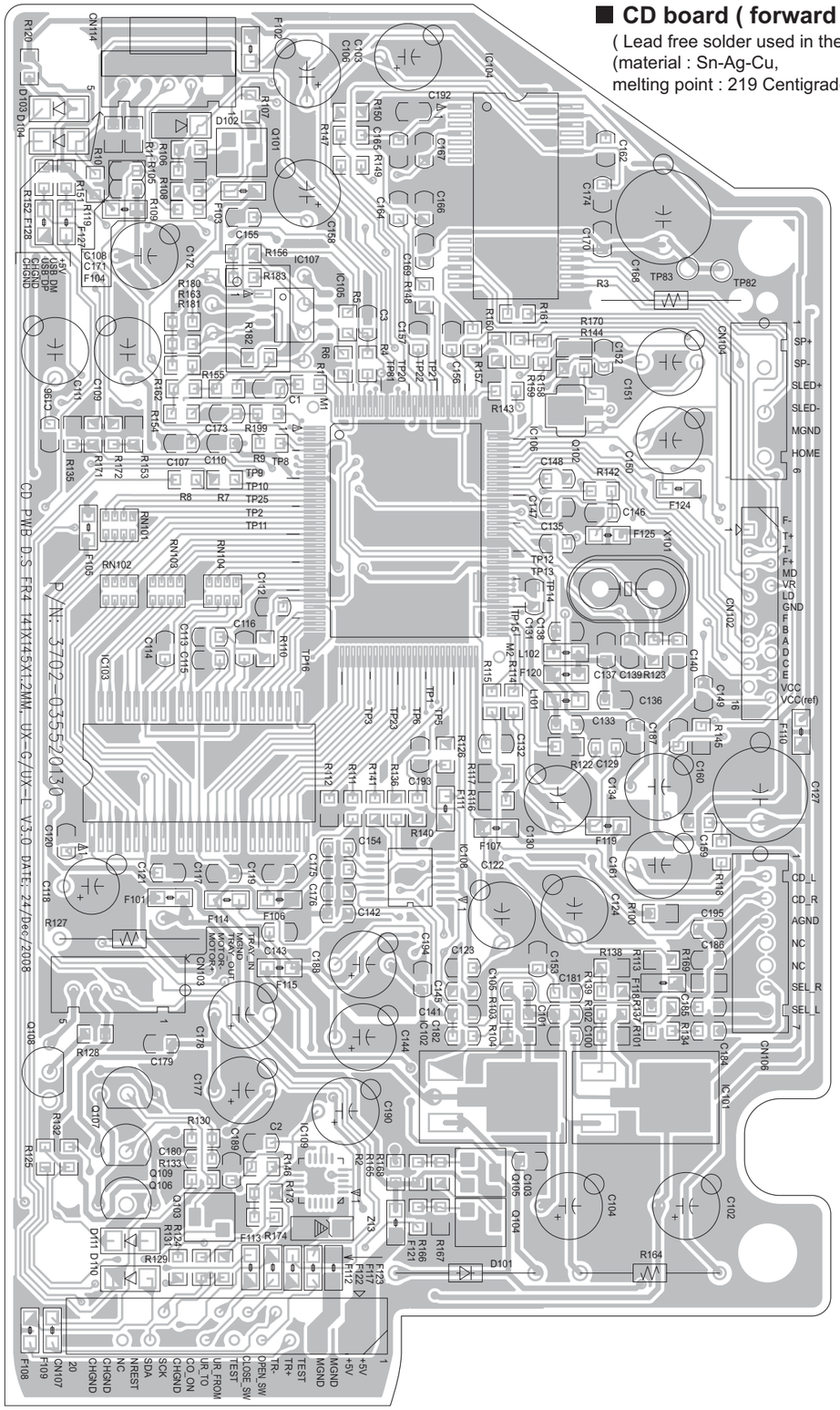
## ■ Front board ( reverse side )

( Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade) )



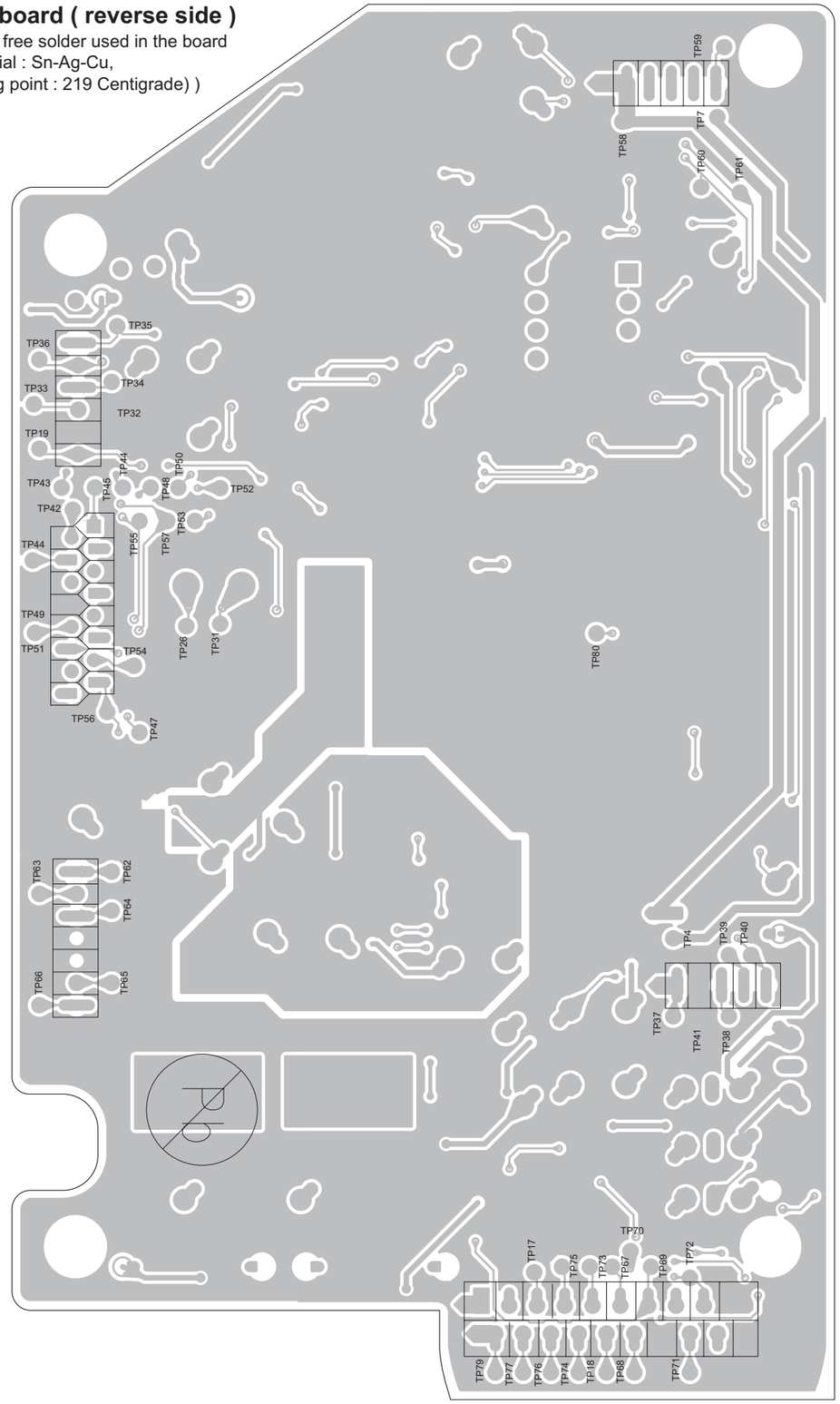
## ■ CD board ( forward side )

( Lead free solder used in the board
(material : Sn-Ag-Cu,
melting point : 219 Centigrade) )




## ■ CD board ( reverse side )

( Lead free solder used in the board
(material : Sn-Ag-Cu,
melting point : 219 Centigrade) )



< MEMO >

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(No.MB698SCH<Rev.004>)

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