

DESKTOP AUDIO SYSTEM

TSX-100

SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

| | | | |
|--------------------------------------------|-------|------------------------------|-------|
| TO SERVICE PERSONNEL | 2-4 | TEST MODE | 16 |
| PREVENTION OF ELECTROSTATIC DISCHARGE | 5 | テストモード | 17 |
| FRONT PANELS | 6-7 | BLOCK DIAGRAM | 18 |
| REAR PANELS | 8-10 | WIRING DIAGRAM | 19 |
| REMOTE CONTROL PANELS | 11 | PRINTED CIRCUIT BOARDS | 20-26 |
| SPECIFICATIONS / 参考仕様 | 11 | SCHEMATIC DIAGRAMS | 27-31 |
| INTERNAL VIEW | 12 | REPLACEMENT PARTS LIST | 32-36 |
| DISASSEMBLY PROCEDURES / 分解手順 | 12-15 | REMOTE CONTROL | 37-39 |



このサービスマニュアルは、エコマーク認定の再生紙を使用しています。
This Service Manual uses recycled paper.

101079

© 2008 YAMAHA CORPORATION All rights reserved.
This manual is copyrighted by YAMAHA and may not be copied or
redistributed either in print or electronically without permission.



YAMAHA

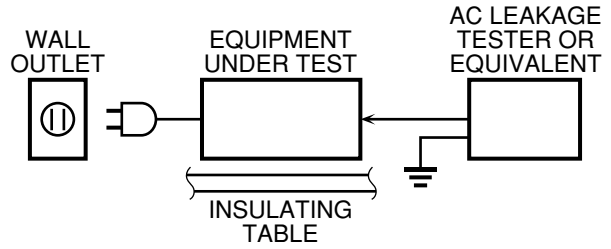
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

'08.03

TSX-100

■ TO SERVICE PERSONNEL

1. Critical Components Information
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
 2. Leakage Current Measurement (For 120V Models Only)
When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.
- Meter impedance should be equivalent to 1500 ohms shunted by 0.15μF.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

WARNING: CHEMICAL CONTENT NOTICE!

This product contains chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About lead free solder / 無鉛ハンダについて

All of the P.C.B.s installed in this unit and solder joints are soldered using the lead free solder.

Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.

本機に搭載されているすべての基板およびハンダ付けによる接合部は無鉛ハンダでハンダ付けされています。

無鉛ハンダにはいくつかの種類がありますが、修理時には下記のような無鉛ハンダの使用を推奨します。

- Sn+Ag+Cu(錫+銀+銅)
- Sn+Cu(錫+銅)
- Sn+Zn+Bi(錫+亜鉛+ビスマス)

注意：

無鉛ハンダの融点温度は通常の鉛入りハンダに比べ30～40℃程度高くなっていますので、それぞれのハンダに合ったハンダごてをご使用ください。

WARNING: Lithium batteries

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

WARNING: Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board by soldering, solder using the connection terminals provided on the battery cells. Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precautions must be used during servicing of the unit.

- 1) When testing and/or repairing any component within the product, keep your eyes and skin more than 30 cm away from the laser pick-up unit at all times. Do not stare at the laser beam at any time.
- 2) Do not attempt to readjust, disassemble or repair the laser pick-up, unless noted elsewhere in this manual.
- 3) CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Emitting conditions:

- 1) When the top cover is removed, and the STANDBY/ON SW is turned to the "ON" position, the laser component will emit a beam for several seconds to detect if a disc is present. During this time (5-10 sec.) the laser may radiate through the lens of the laser pick-up unit. Do not attempt any servicing during this period!
If no disc is detected, the laser will stop emitting the beam. When a disc is loaded, you will not be exposed to any laser emissions.
- 2) The laser power level can be adjusted with the VR on the pick-up PWB, however, this level has been set by the factory prior to shipping from the factory. Do not adjust this laser level control unless instruction is provided elsewhere in this manual. Adjustment of this control can increase the laser emission level from the device.

注意

正しい電池と交換しないと爆発が起きるおそれがあります。
同一型名または同等品以外の電池とは絶対に交換しないようにしてください。

ADVARSEL!

Lithiumbatteri –Eksplodingsfare ved fejlagtig håndtering.
Udsiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

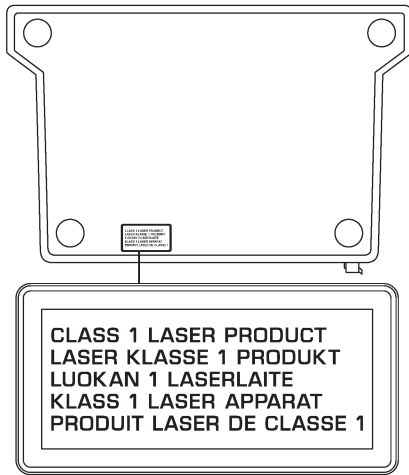
Laser Diode Properties

- **Type** GaAIAs
- **Wave length** 780 nm
- **Emission duration** continuous

- **Laser output** max. 44.6 μ W *

* This output is the value measured at a distance of about 200 mm (7.9 in) from the objective lens surface on the optical pick-up block.

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>CAUTION Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.</p> |
| <p>AVERTISSEMENT L'utilisation de commandes et l'emploi de réglages ou de méthodes autres que ceux décrits ci-dessous, peuvent entraîner une exposition à un rayonnement dangereux.</p> |



| |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>CAUTION - INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED, AVOID EXPOSURE TO BEAM.</p> |
| <p>VORSICHT! UNSICHTBARE LASERSTRAHLUNG TRITTT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHLEN AUSSETZEN!</p> |
| <p>VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.</p> |

| |
|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>ADVARSEL - USYNLIG LASERSTRÅLING VED ÅBNING, NÄR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.</p> |
| <p>VAROITUS! - SUOJAKOTEL OI EI SAA AVATA. LAITE SISÄLTÄÄ LASERIODIN, JOKI LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ.</p> |
| <p>ADVARSEL - USYNLIG LASERSTRÅLING NÄR DENNE DELEN ER ÅBEN OG SIKKERHEDSSPERREN ER UTKOBLET. UNNGÅ UTSETTELSE FOR STRÅLING.</p> |

CAUTION INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

Warning for power supply

The primary side of the power supply carries live mains voltage when the player is connected to the mains even when the player is switched off !

This primary area is not shielded so it is possible to touch copper tracks and/or components when servicing the player. Service personnel have to take precautions to prevent touching this area or components in this area.

Note:

The screws on the DVD mechanism may never be touched, removed or re-adjusted.

Handle the DVD mechanism with care when the unit has to be exchanged!

The DVD mechanism is very sensitive for dropping or giving shocks.

■ PREVENTION OF ELECTROSTATIC DISCHARGE

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

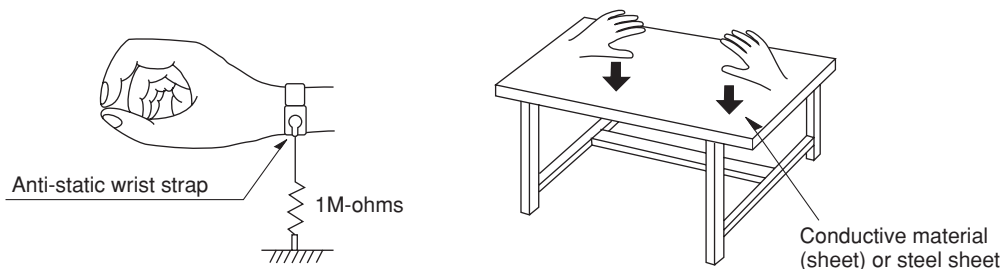
1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as brushing together of your fabric clothes or lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

Grounding for electrostatic breakdown prevention

1. Human body grounding.
Use the antistatic wrist strap to discharge the static electricity from your body.
2. Work table grounding.
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pickup.



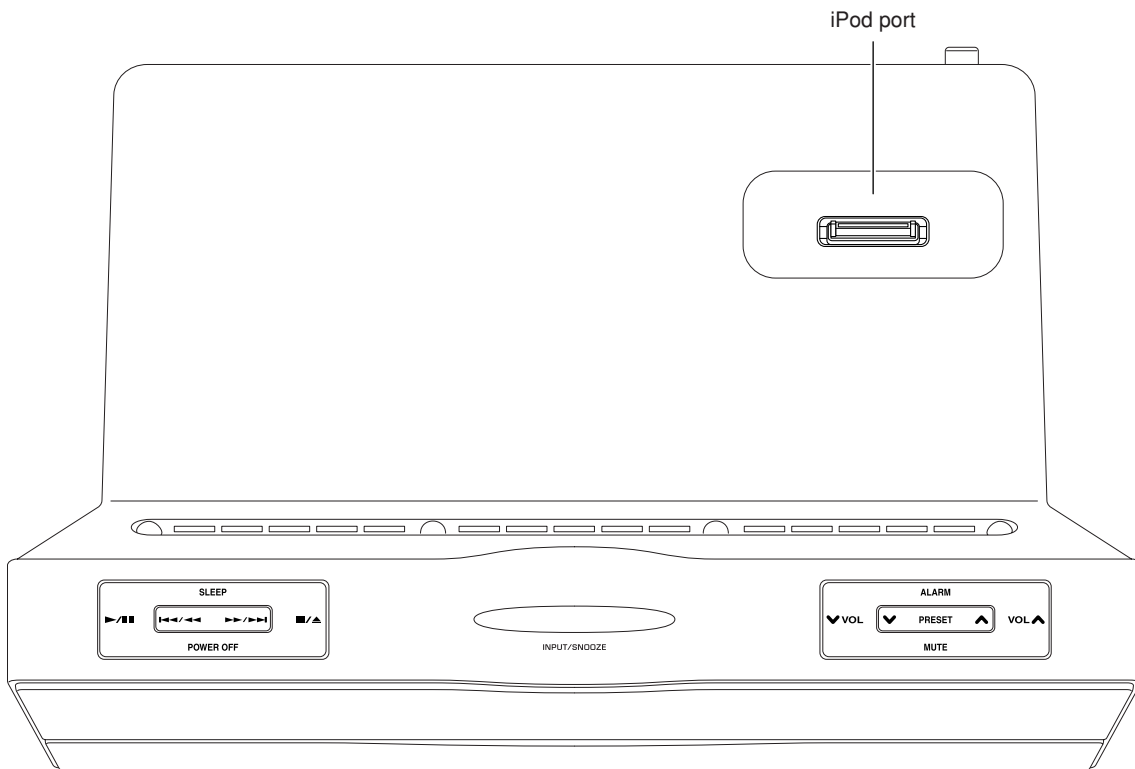
FRONT PANELS

Top view

R, B, G models

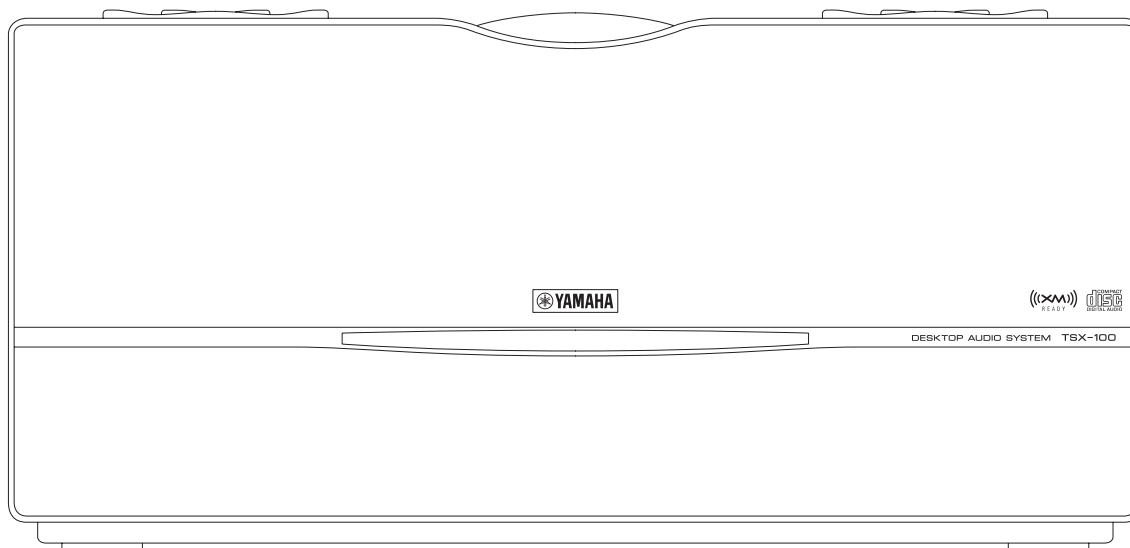


U, A, J models

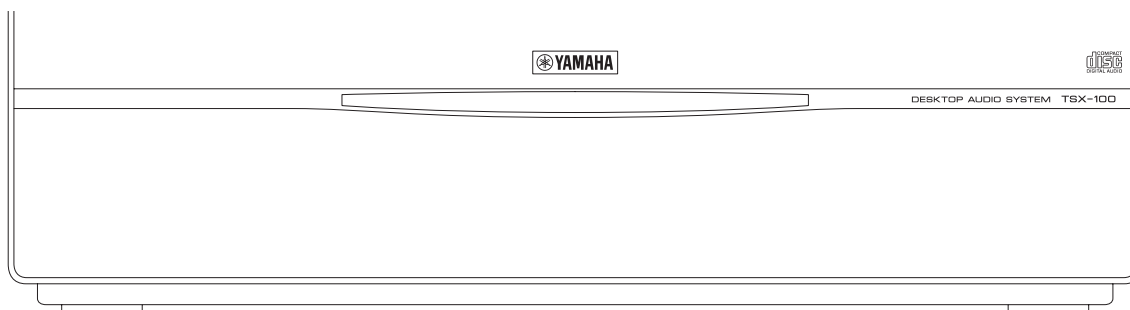


Front view

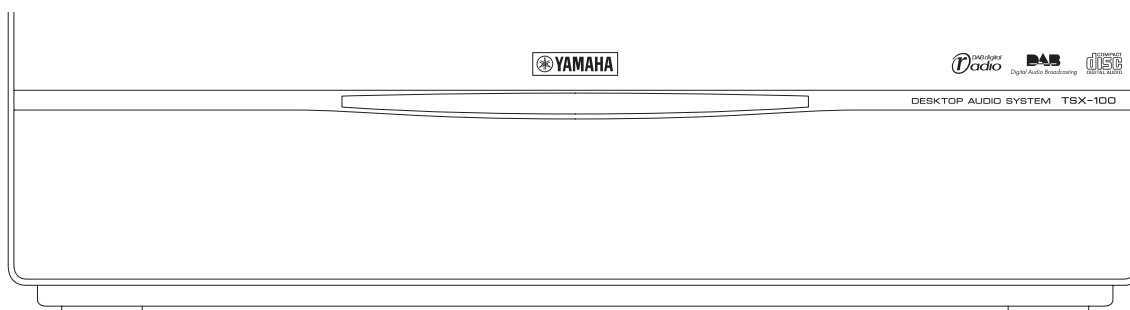
U model



R, A, G, J models



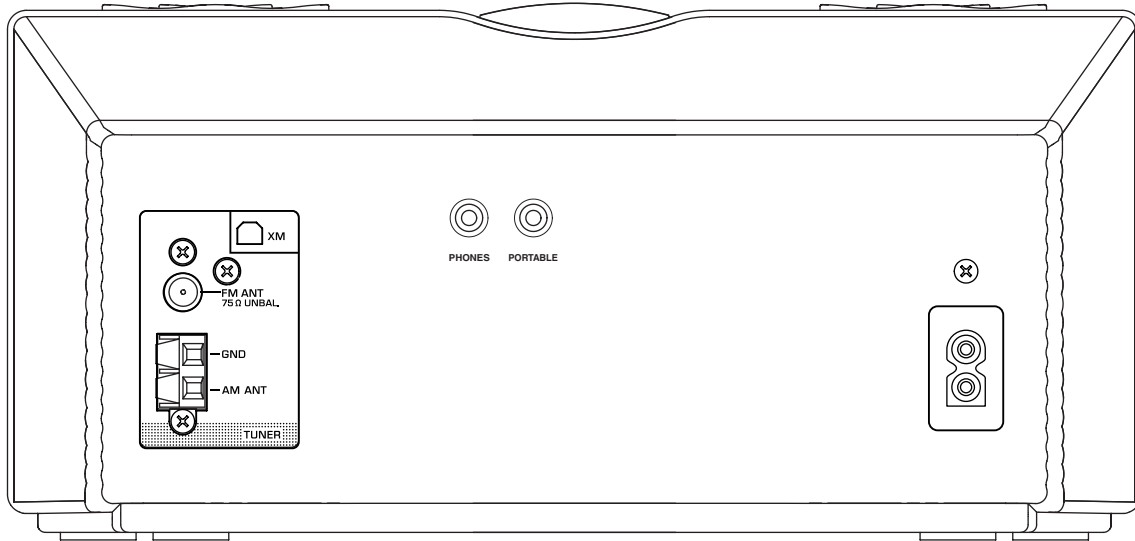
B model



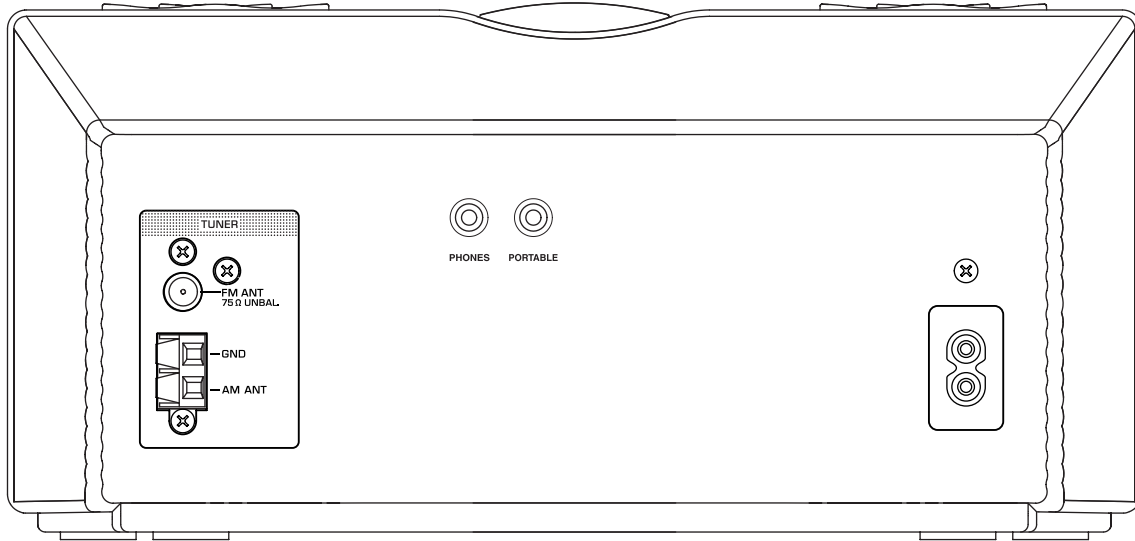
REAR PANELS

Rear view

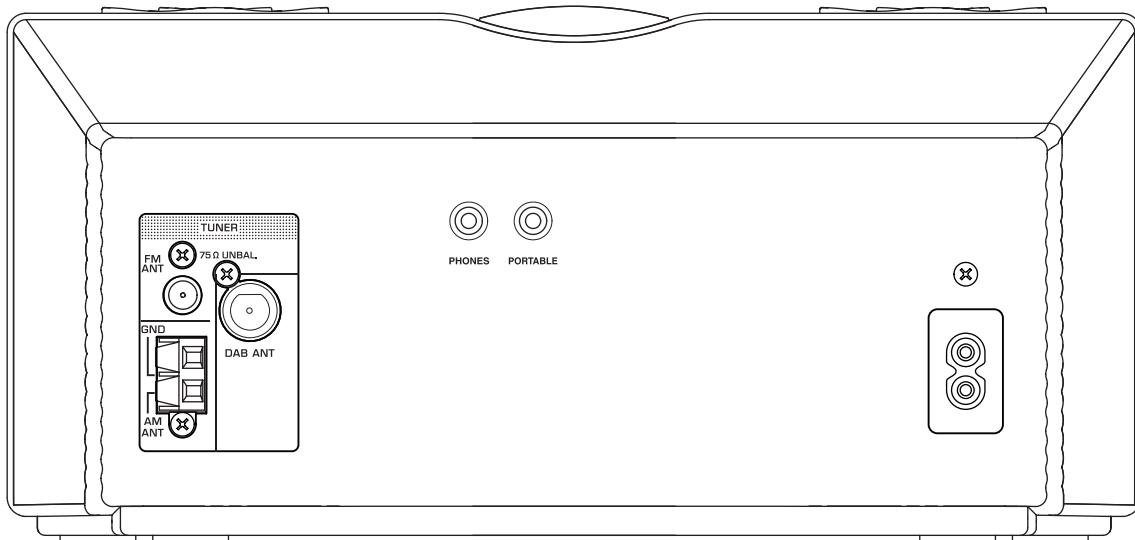
U model



R, A, G, J models

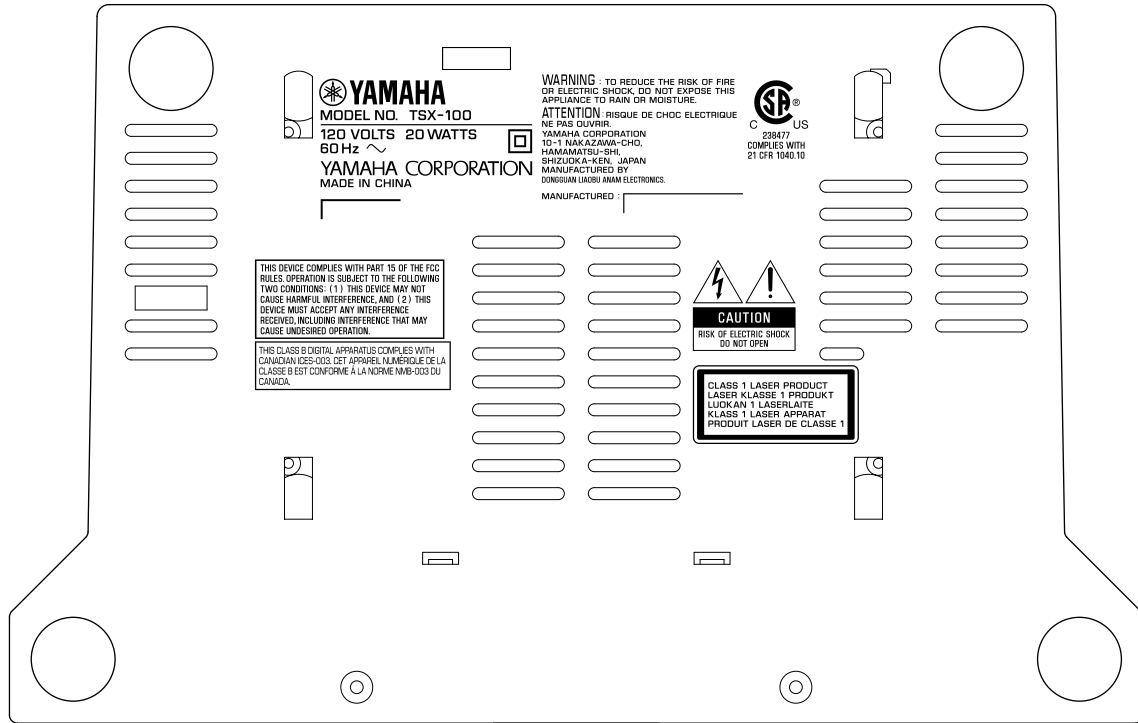


B model

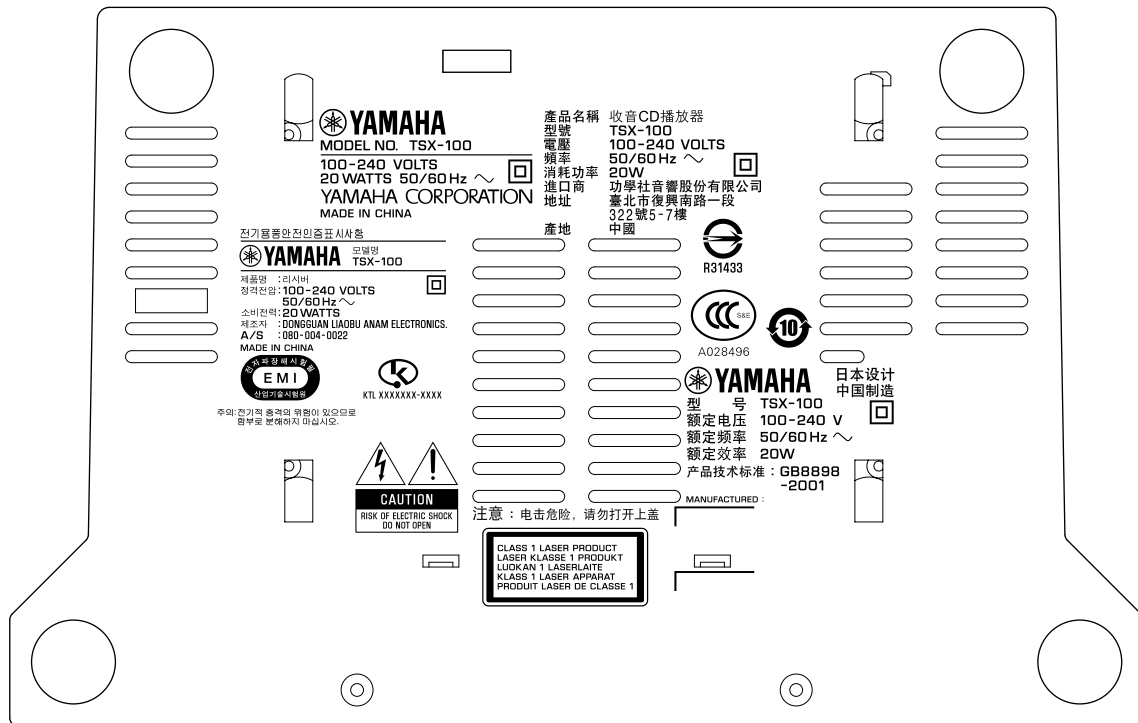


Bottom view

U model

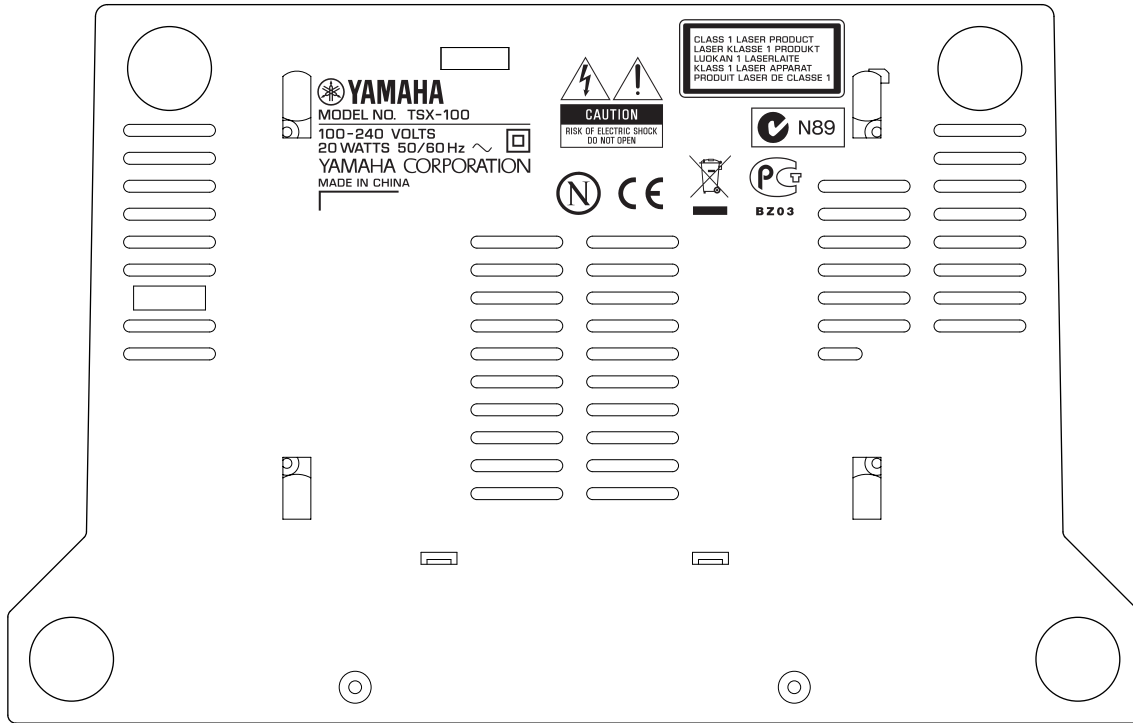


R model

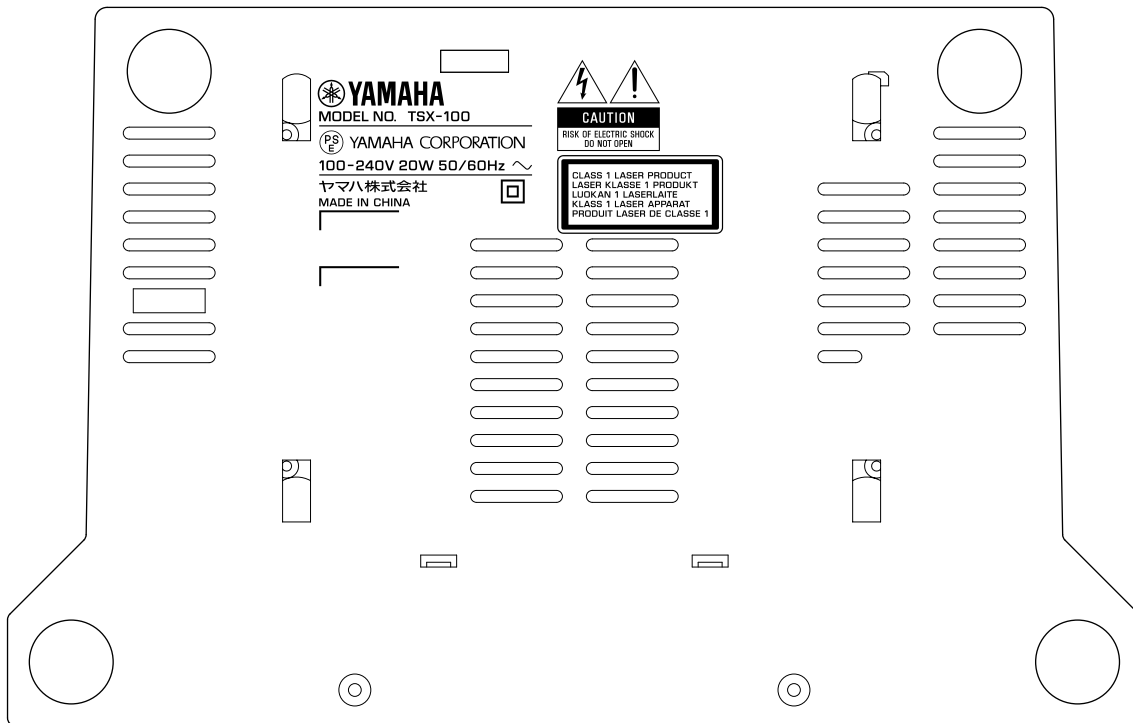


TSX-100

A, B, G models

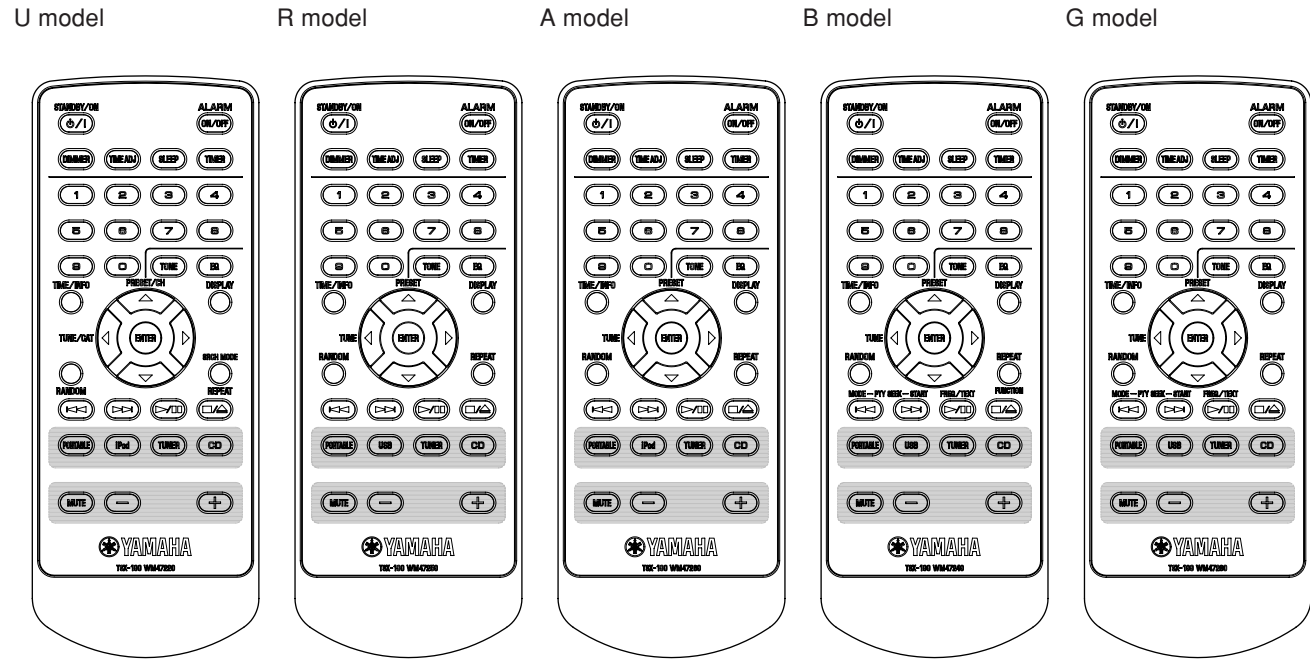


J model

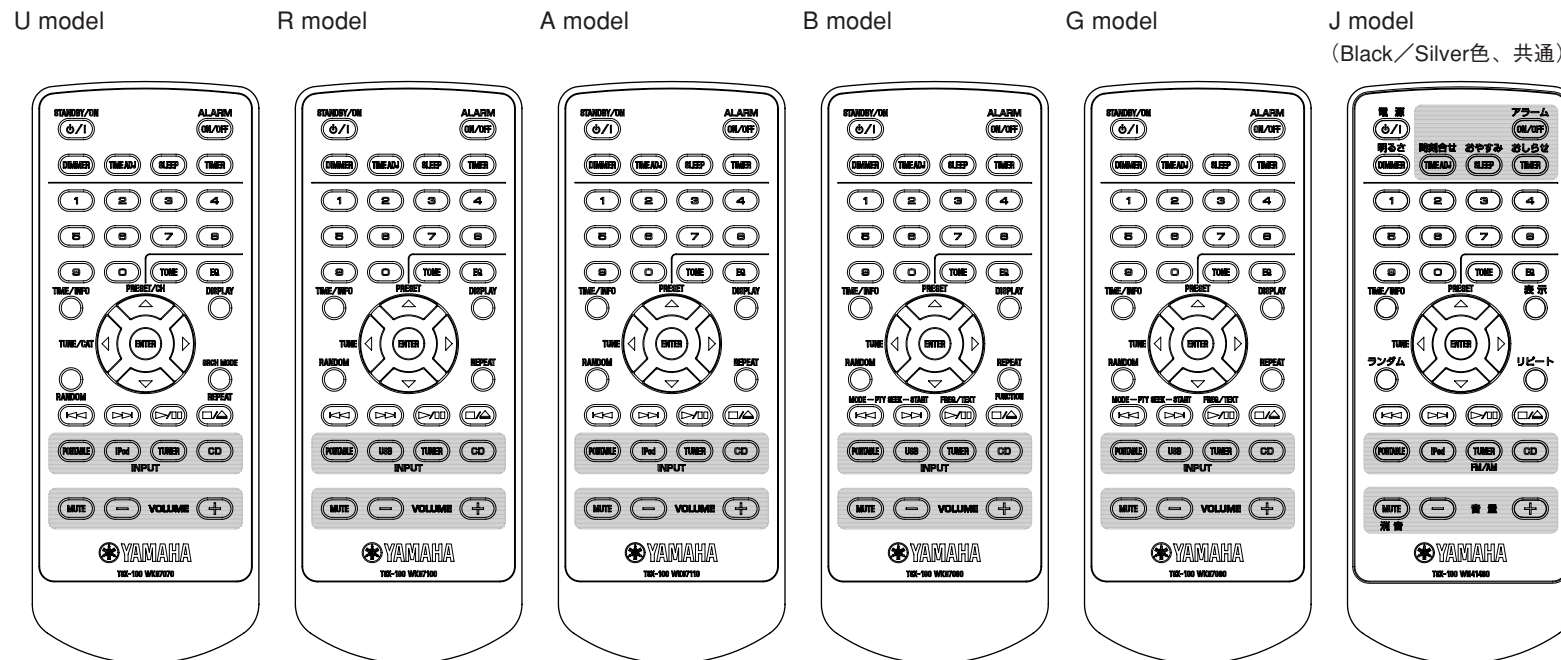


■ REMOTE CONTROL PANELS

– Black color –



– Silver color –



■ SPECIFICATIONS / 参考仕様

■ Player Section / プレーヤー部

Playback system / 再生システム CD, CD-R/RW

■ Amplifier Section / アンプ部

Type / スピーカー形式 Twin SR-Bass
Magnetic shielding type / 防磁型

Driver / スピーカーユニット 4.5 cm (1-3/4")
Titanium cone full-range x 2

Minimum RMS output power per channel / 定格出力 (EIAJ)
..... 10 W + 10 W

Input sensitivity/Impedance / 入力感度/インピーダンス
U, R, A, B, J models
PORTABLE 300 mV/47 k-ohms
G model
AUX 300 mV/47 k-ohms

Output level/Impedance / 出力レベル/インピーダンス
PHONES (volume max.)
U, R, A, G models 1 V/32 ohms
B, J models 470 V/32 ohms

■ iPod Section / iPod部 [U, A, J models]

Support iPod models / 対応iPod
..... iPod (Click and wheel), iPod mini, iPod nano, iPod touch

■ FM Tuner Section / FMチューナー部

Tuning range / 受信周波数範囲
U model 87.5 to 107.9 MHz
R, A, B, G models 87.50 to 108.00 MHz
J model 76.0 to 108.0 MHz

■ AM Tuner Section / AMチューナー部

Tuning range / 受信周波数範囲
U model 530 to 1,710 kHz
R, A, B, G, J models 522 to 1,629 kHz

■ DAB Tuner Section [B model]

Tuning range (BAND III) 174 MHz to 240 MHz
Sensitivity -95 dB
Selectivity (for adjacent channel) 40 dB
Antenna input (unbalanced) 50 ohms

■ General / 総合

Power supply / 電源電圧
U model AC 120 V, 60 Hz
R, A, B, G, J models AC 100-240 V, 50/60 Hz

Power consumption / 消費電力
..... 20 W

Standby power consumption / 待機時消費電力
..... 1.0 W or less

Dimensions (W x H x D) / 寸法 (幅×高さ×奥行き)
..... 300 x 141.5 x 200 mm (11-13/16" x 5-9/16" x 7-7/8")

Weight / 質量
..... 2.7 kg (5 lbs. 15 oz.)

Finish / 仕上げ
Black color U, R, A, B, G, J models
Silver color U, R, A, B, G, J models

Accessories / 付属品
Remote control x 1, Battery (Lithium, CR2025) x 1, AM loop antenna (2.0 m) x 1, Indoor FM antenna (1.5 m) x 1, Power cable (2 m) x 1, Indoor DAB antenna (2.0 m) x 1 (B model)

* Specifications are subject to change without notice due to product improvements.

※ 参考仕様および外観は予告なく変更されることがあります。

U U.S.A. model B British model
R General model G European model
A Australian model J Japanese model

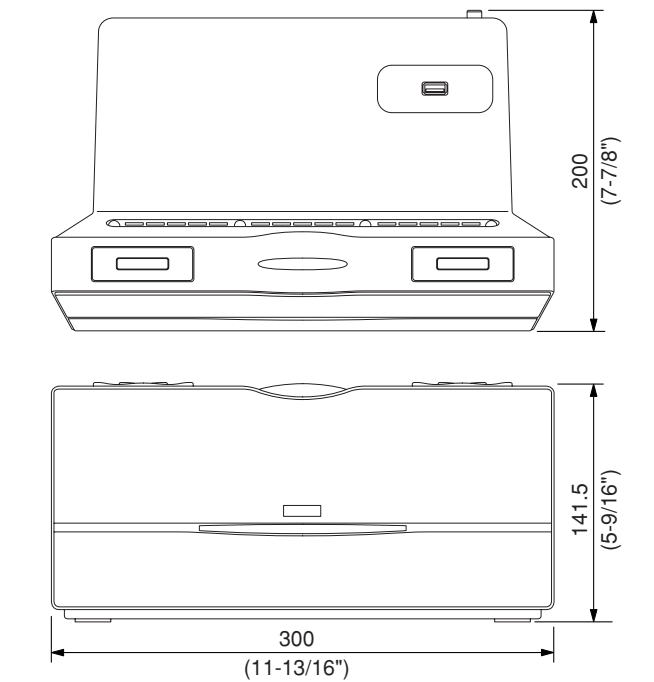
SR-Bass
"Swing Radiator Bass™" is a trademark of YAMAHA CORPORATION.
「Swing Radiator Bass™」はヤマハ株式会社の登録商標です。

iPod™
"iPod" is a trademark of Apple Inc., registered in the U.S. and other countries.
「iPod」は、米国及びその他の国々で登録されたApple Inc.の商標または登録商標です。

XM Mini-Tuner
The XM name and related logos are registered trademarks of XM Satellite Radio Inc.

DAB
Digital Audio Broadcasting
This receiver supports DAB tuning.

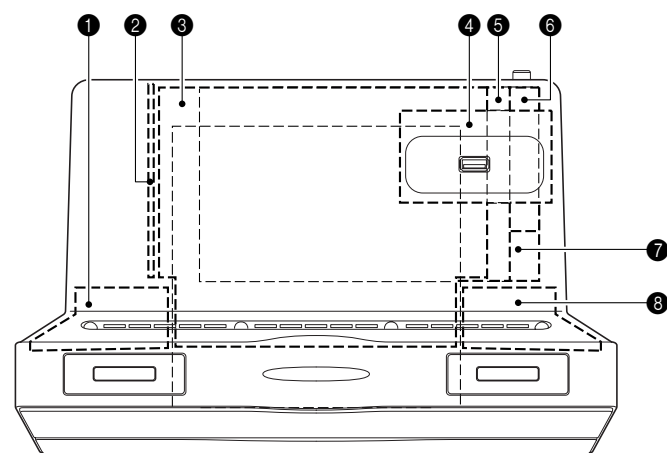
• DIMENSIONS / 寸法図



Unit: mm (inch)
単位: mm (インチ)

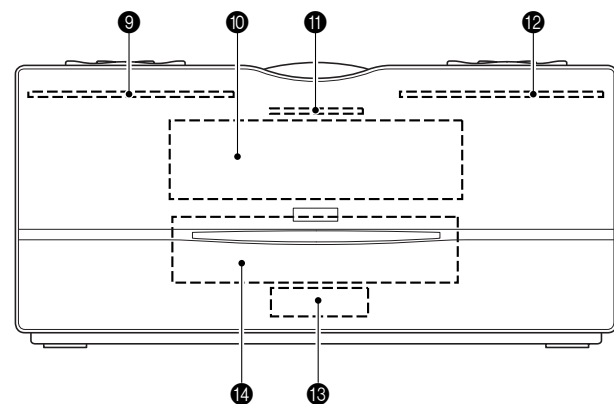
INTERNAL VIEW

Top view



- ① SPEAKER L ASS'Y
- ② SMPS P.C.B.
- ③ MAIN (1) P.C.B.
- ④ MAIN (4) P.C.B. (U, A, J models)
MAIN (6) P.C.B. (R, B, G models)
- ⑤ DAB MODULE (B model)
MAIN (7) P.C.B. (B model)
- ⑥ AM/FM TUNER MODULE
- ⑦ MAIN (2) P.C.B.
- ⑧ SPEAKER R ASS'Y
- ⑨ MAIN (8) P.C.B.
- ⑩ MAIN (3) P.C.B.
- ⑪ MAIN (5) P.C.B.
- ⑫ MAIN (9) P.C.B.
- ⑬ MAIN (10) P.C.B.
- ⑭ CD MECHANISM UNIT

Front view



DISASSEMBLY PROCEDURES / 分解手順

(Remove parts in the order as numbered.)
Disconnect the power cable from the AC outlet.

Safety Measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- C971 on the SMPS (2) P.C.B. is dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, perform discharge by connecting a discharge resistor (5k-ohms/10 W) between terminals of the capacitor. The time required for discharging is about 30 seconds. After the repair work, also perform discharge in the same manner.

(番号順に部品を取り外してください。)
AC電源コンセントから、電源コードを抜いてください。

安全対策

- この製品の内部には高電圧部分があり危険です。修理の際は、絶縁性の手袋を使用するなどの安全対策を行ってください。
- SMPS(2)P.C.B.のC971には電源をOFFにした後も電荷が残り、高電圧が維持されており危険です。修理作業前に放電用抵抗(5kΩ/10W)をコンデンサの端子間に接続して放電してください。放電所用時間は約30秒間です。また、修理後も同じ方法で放電してください。

1. Removal of Rear Cabinet Ass'y

- a. Remove 2 screws (①) and 6 screws (②). (Fig. 1)
- b. Pull out the rear cabinet rearward slowly. (Fig. 1)
- c. Remove CN17. (Fig. 1)
- d. Remove screw (③) and then remove the ground lead. (Fig. 1)
- e. Remove the rear cabinet ass'y. (Fig. 1)

1. リアキャビネットASSYの外し方

- a. ①のネジ2本、②のネジ6本を外します。(Fig. 1)
- b. リアキャビネットを後方に引き出します。(Fig. 1)
- c. CN17を外します。(Fig. 1)
- d. ③のネジ1本を外し、アース線を外します。(Fig. 1)
- e. リアキャビネットASSYを取り外します。(Fig. 1)

2. Removal of Front Panel Unit

- a. Remove 2 screws (④). (Fig. 1)
- b. Remove CN18, CN82 and CN84. (Fig. 1)
- c. Remove the front panel unit forward. (Fig. 1)

2. フロントパネルユニットの外し方

- a. ④のネジ2本を外します。(Fig. 1)
- b. CN18、CN82、CN84を外します。(Fig. 1)
- c. フロントパネルユニットを前方へ取り外します。(Fig. 1)

3. Removal of Speaker L Ass'y and Speaker R Ass'y

- a. Remove 3 screws (⑤). (Fig. 1)
- b. Remove CN83. (Fig. 1)
- c. Remove the speaker L ass'y. (Fig. 1)
- d. Remove 3 screws (⑥). (Fig. 1)
- e. Remove CN85. (Fig. 1)
- f. Remove the speaker R ass'y. (Fig. 1)

3. スピーカーL ASSY、スピーカーR ASSYの外し方

- a. ⑤のネジ3本を外します。(Fig. 1)
- b. CN83を外します。(Fig. 1)
- c. スピーカーL ASSYを取り外します。(Fig. 1)
- d. ⑥のネジ3本を外します。(Fig. 1)
- e. CN85を外します。(Fig. 1)
- f. スピーカーR ASSYを取り外します。(Fig. 1)

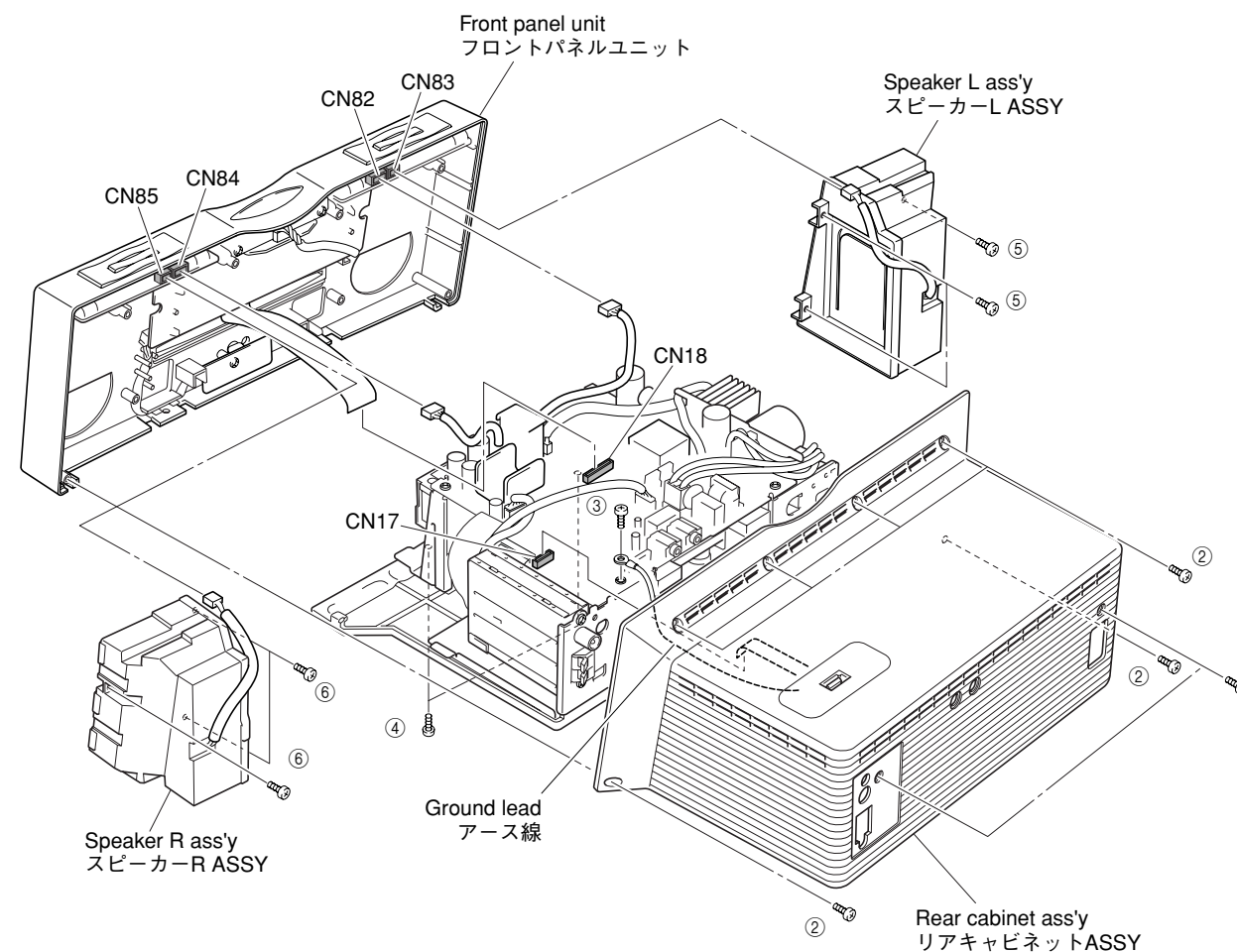


Fig. 1

4. Removal of AM/FM Tuner Module

- Remove 2 screws (⑦). (Fig. 2)
- Remove CN12. (Fig. 2)
- Remove the AM/FM tuner module. (Fig. 2)

5. Removal of MAIN(1) P.C.B.

- Remove 4 screws (⑧) and screw (⑨). (Fig. 2)
- Remove CN11, CN35, CN42, CN91-93 and CN95. (Fig. 2)
- Remove CN15. (Fig. 2) (B model)
- Remove the MAIN (1) P.C.B.. (Fig. 2)

6. Removal of CD Mechanism Unit and Optical Pick-Up

- Remove 4 screws (⑩). (Fig. 2)
- Remove CN31-33. (Fig. 2)
- Lift up the rear side of the CD mechanism unit, then remove it rearward. (Fig. 2)

* When installing the CD mechanism unit, install the flexible flat cable as shown in Fig. 3.

4. AM/FMチューナーの外し方

- ⑦のネジ2本を外します。(Fig. 2)
- CN12を外します。(Fig. 2)
- AM/FMチューナーを取り外します。(Fig. 2)

5. MAIN(1) P.C.B.の外し方

- ⑧のネジ4本、⑨のネジ1本を外します。(Fig. 2)
- CN11、CN35、CN42、CN91-93、CN95を外します。(Fig. 2)
- MAIN(1) P.C.B.を取り外します。(Fig. 2)

6. CDメカユニットおよびオプティカルピックアップの外し方

- ⑩のネジ4本を外します。(Fig. 2)
- CN31-33を外します。(Fig. 2)
- CDメカユニットの後ろを持ち上げ、後方へ取り外します。(Fig. 2)

* CDメカユニットを取り付ける場合、カード電線はFig. 3に示すように取り付けます。

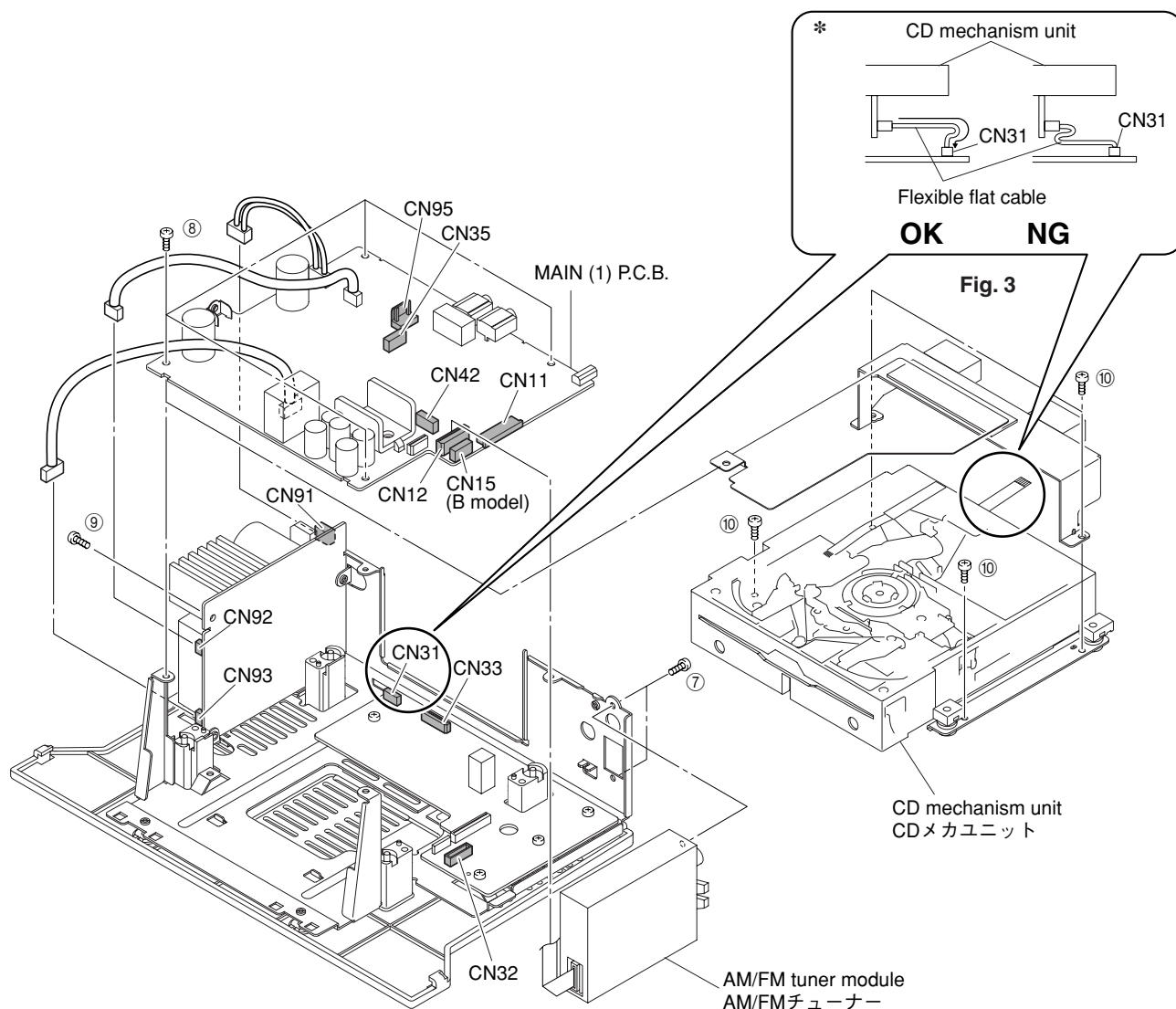


Fig. 2

- d. Remove 4 screws (⑪) and then remove the drive unit. (Fig. 4)
- e. Remove flexible flat cable. (Fig. 4)
- f. Remove stopper gear A and then remove the gear A. (Fig. 4)
- g. Remove stopper sled shaft and then remove the sled shaft. (Fig. 4)
- h. Remove the optical pick-up unit. (Fig. 4)
- * Never touch the potentiometer installed to the optical pick-up unit. (Fig. 5)

- d. ⑪のネジ4本を外し、ドライブユニットを取り外します。(Fig. 4)
- e. カード電線を外します。(Fig. 4)
- f. ギアAストッパーを外し、ギアAを取り外します。(Fig. 4)
- g. スレッドシャフトストッパーを外し、スレッドシャフトを取り外します。(Fig. 4)
- h. オプティカルピックアップユニットを取り外します。(Fig. 4)
- ※ オプティカルピックアップユニットに搭載されている可変抵抗は、絶対に触らないでください。(Fig. 5)

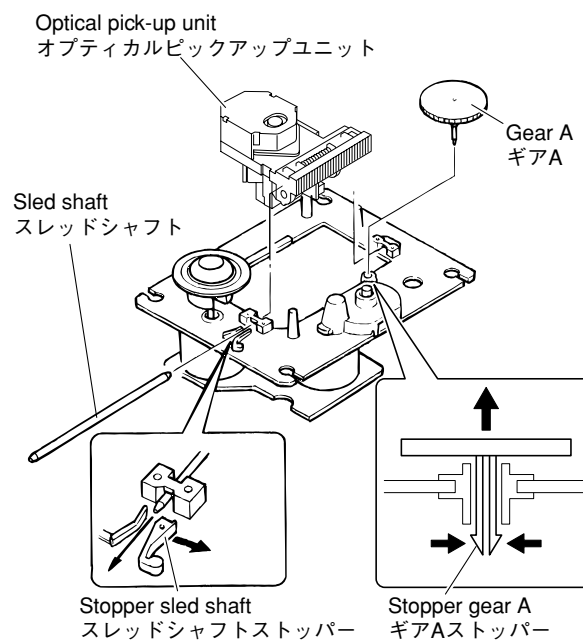
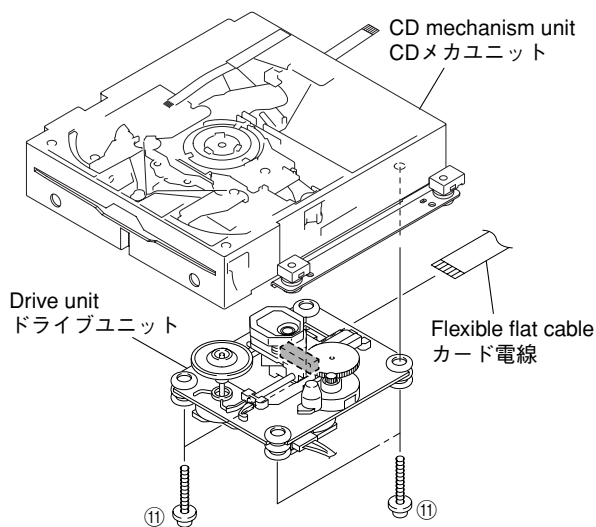


Fig. 4

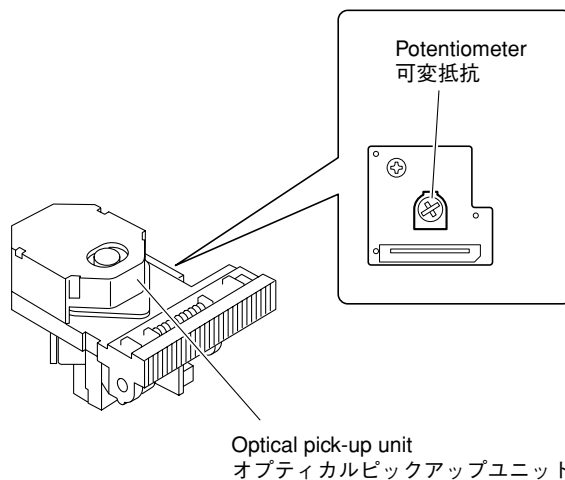


Fig. 5

● **How to manually eject a disc**

If the inserted disc cannot be ejected, it is possible to eject it manually.

- a. Remove the CD mechanism unit. (Refer to Disassembly Procedures)
- b. Turn the loading gear in the arrow direction until the disc is ejected. (Fig. 6)

● **手動でディスクを取り出す方法**

挿入したディスクが取り出せない場合、手動で取り出すことができます。

- a. CDメカユニットを取り外します。(分解手順参照)
- b. ディスクが取り出せるまで、ローディングギアを矢印の方向に回します。(Fig. 6)

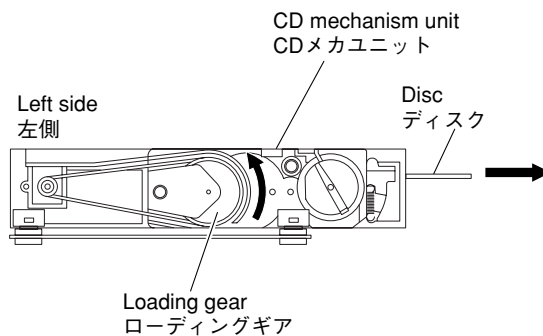


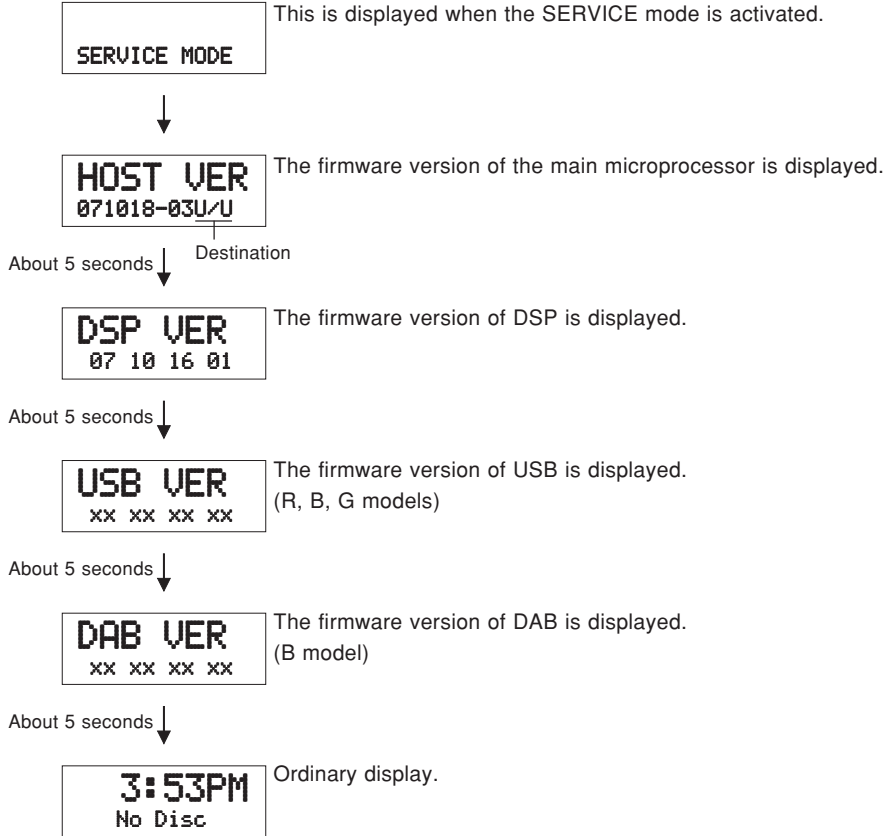
Fig. 6

■ TEST MODE

The firmware version is displayed.

● Starting Service Mode

- a. Connect the power cable of this unit to the AC power outlet.
- b. Press the "INPUT/SNOOZE" key of this unit to turn on the power.
- c. Press the "INPUT/SNOOZE" key of this unit repeatedly to select the CD.
Make sure that [No Disc] is displayed.
- * While the disc is being played, press the "■/▲ (STOP/EJECT)" key to eject the disc.
- d. While pressing the "MUTE" key of this unit, press the "■/▲ (STOP/EJECT)" key of this unit.
The SERVICE mode is activated and each firmware version is displayed at about 5 seconds intervals.



- e. Press the "POWER OFF" key of this unit to turn off the power.
- f. Disconnect the power cable of this unit from the AC power outlet.

● Starting Factory Reset

All settings are returned to initial settings.

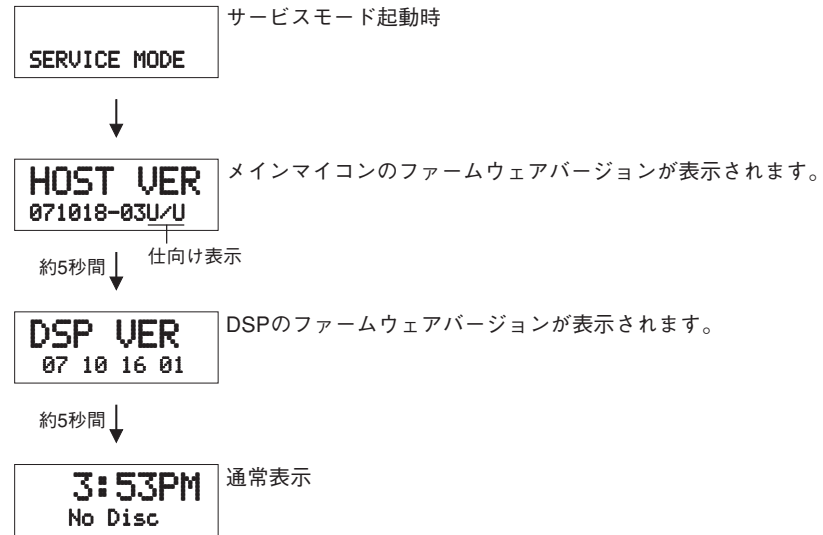
- a. Activate the Service Mode.
- b. While the firmware versions are displayed, press and hold the "INPUT/SNOOZE" key for longer than 4 seconds.
- c. [FACTORY SET] is displayed and the power is turned off automatically in about 4 seconds.

■ テストモード

ファームウェアバージョンを表示します。

● サービスモードの起動

- a. 本機の電源コードをACコンセントに接続します。
- b. 本機の“INPUT/SNOOZE”キーを押し、電源オンします。
- c. 本機の“INPUT/SNOOZE”キーを繰り返し押し、CDを選択します。
[No Disc]が表示されていることを確認します。
※ ディスクが再生されている場合は、本機の“■/▲(STOP/EJECT)”キーを押し、ディスクを取り出します。
- d. 本機の“MUTE”キーを押しながら“■/▲(STOP/EJECT)”キーを押します。
サービスモードが起動し、各ファームウェアバージョンが約5秒間隔で表示されます。

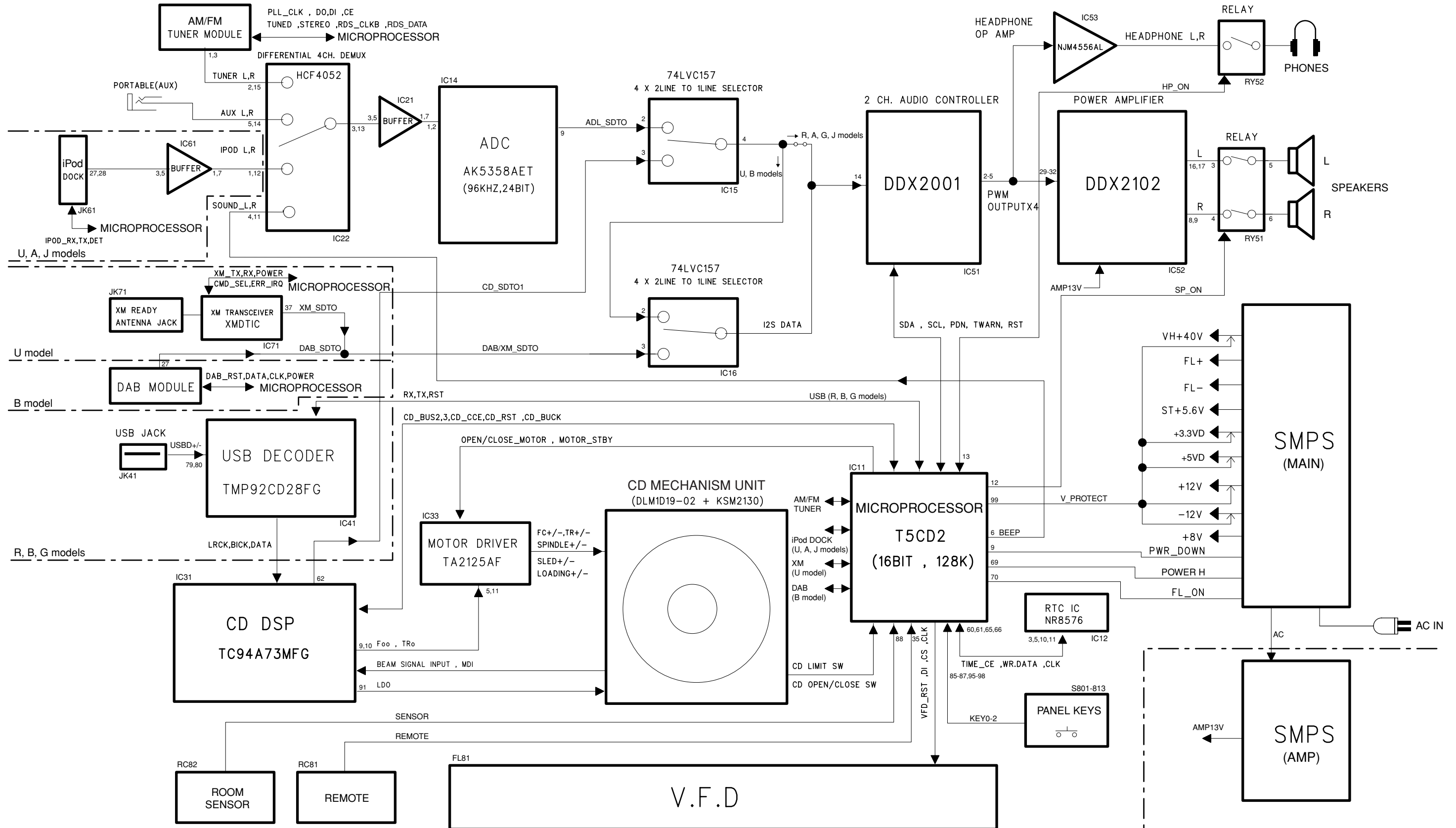


- e. 本機の“POWER OFF”キーを押し、電源オフします。
- f. ACコンセントから本機の電源コードを抜きます。

● ファクトリーリセットの起動

- すべての設定を初期設定に戻します。
- a. サービスモードを起動します。
 - b. ファームウェアバージョンを表示している間に、“INPUT/SNOOZE”キーを4秒以上押し続けます。
 - c. [FACTORY SET]が表示され、約4秒後に自動で電源オフします。

BLOCK DIAGRAM

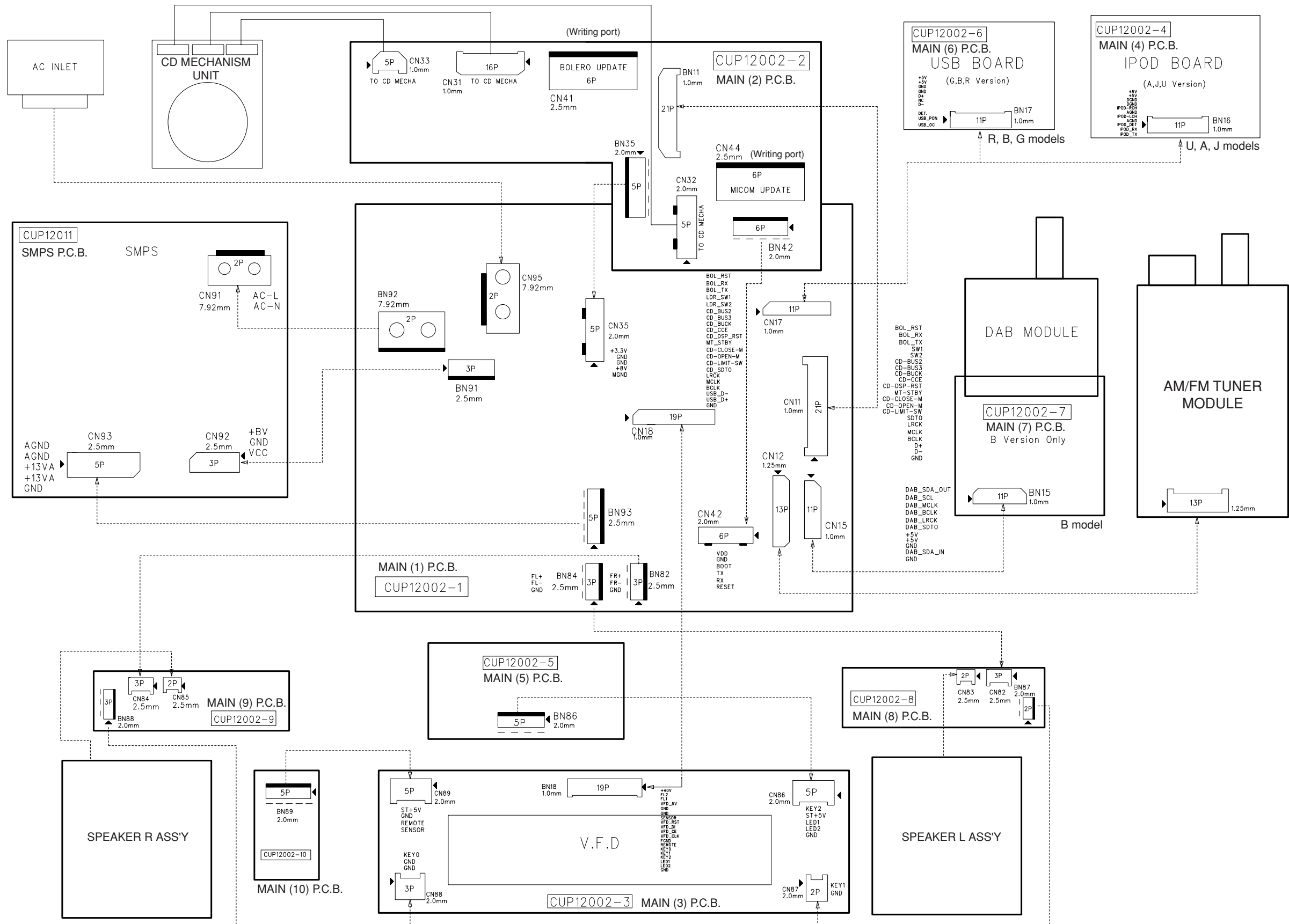


MAIN • See page 27-30 → SCHEMATIC DIAGRAM

SMPS • See page 31 → SCHEMATIC DIAGRAM

1 ■ WIRING DIAGRAM

2
3
4
5
6
7

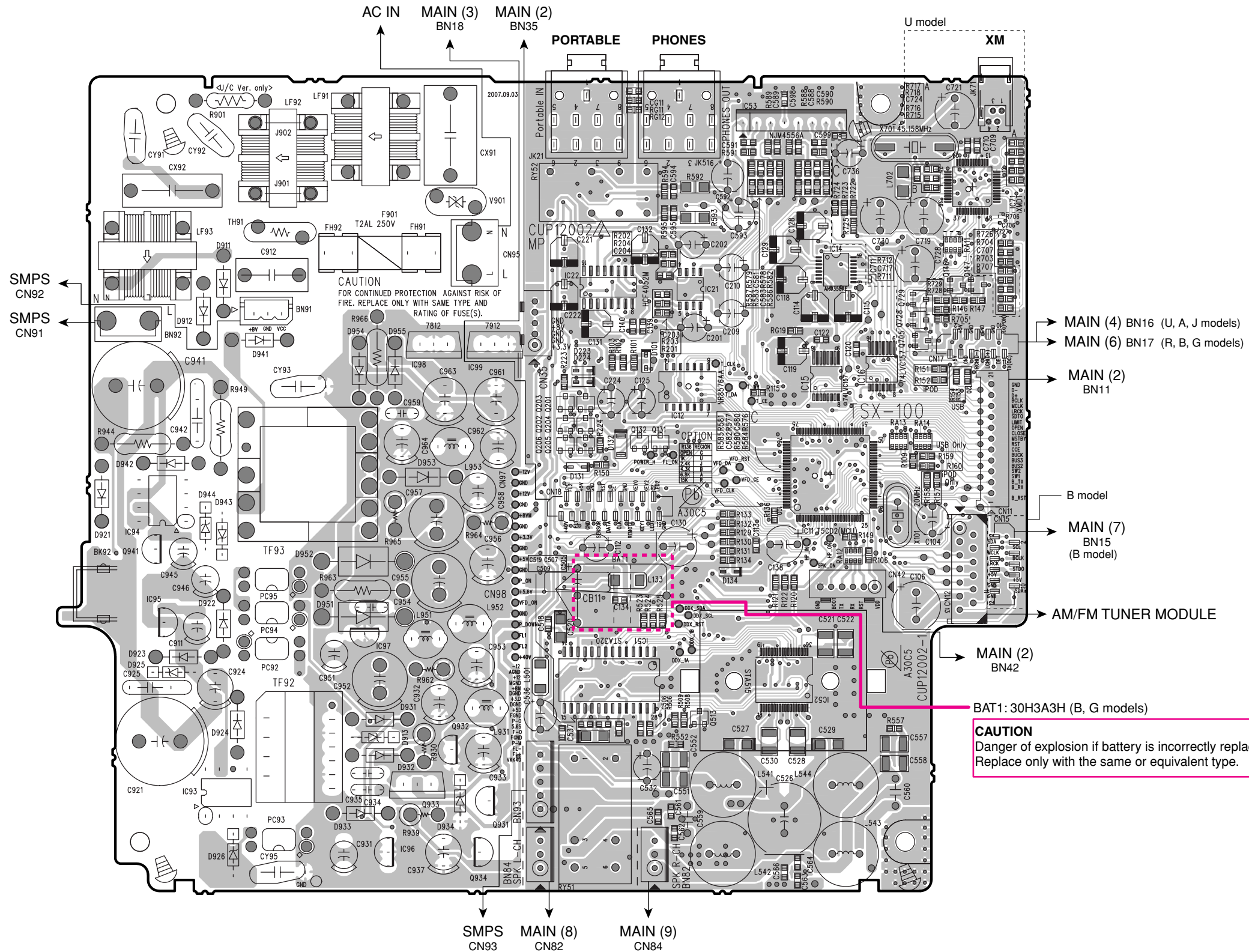


PRINTED CIRCUIT BOARDS

MAIN (1) (Top view)

Note) The electrical parts available as servicing parts are those in the replacement parts list only. When replacement of any electrical part other than those in the list is necessary, replace the P.C.B. assembly which includes that part.

注) 電気部品リストに記載されている電気部品のみ、サービス部品として供給できます。電気部品リストに記載されていない電気部品の交換が必要な場合は、その電気部品を搭載している「P.C.B. ASSY」を交換してください。



1

MAIN (1) (Bottom view)

2

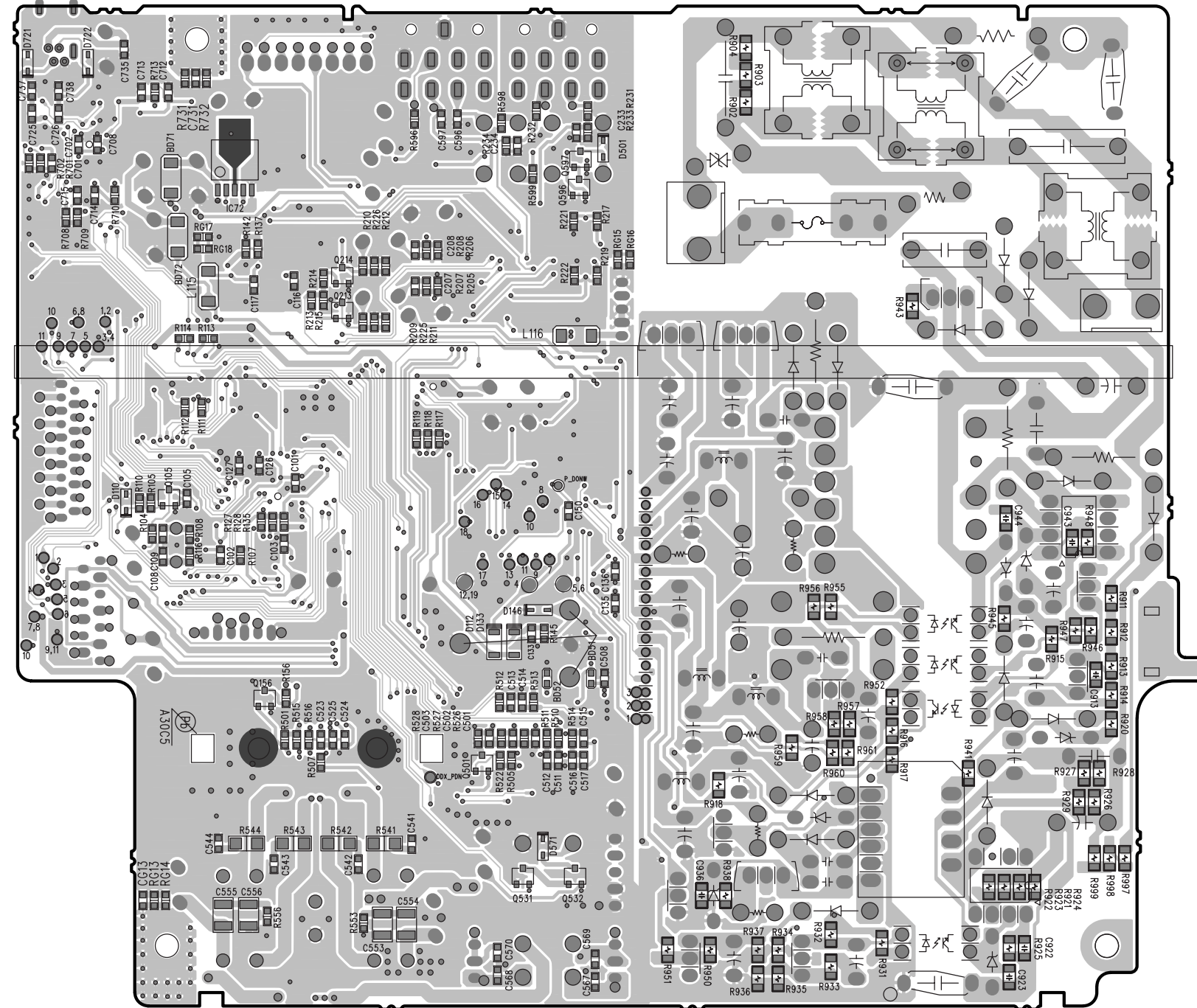
3

4

5

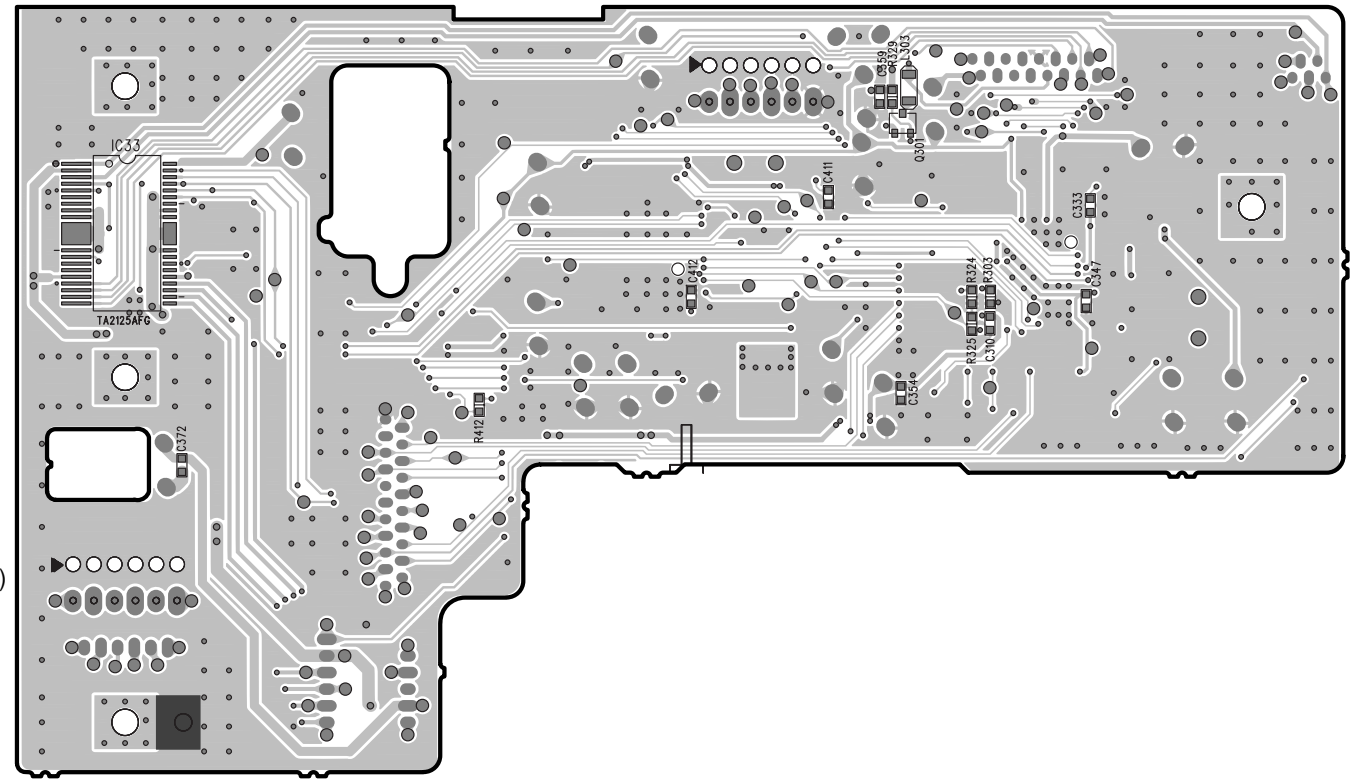
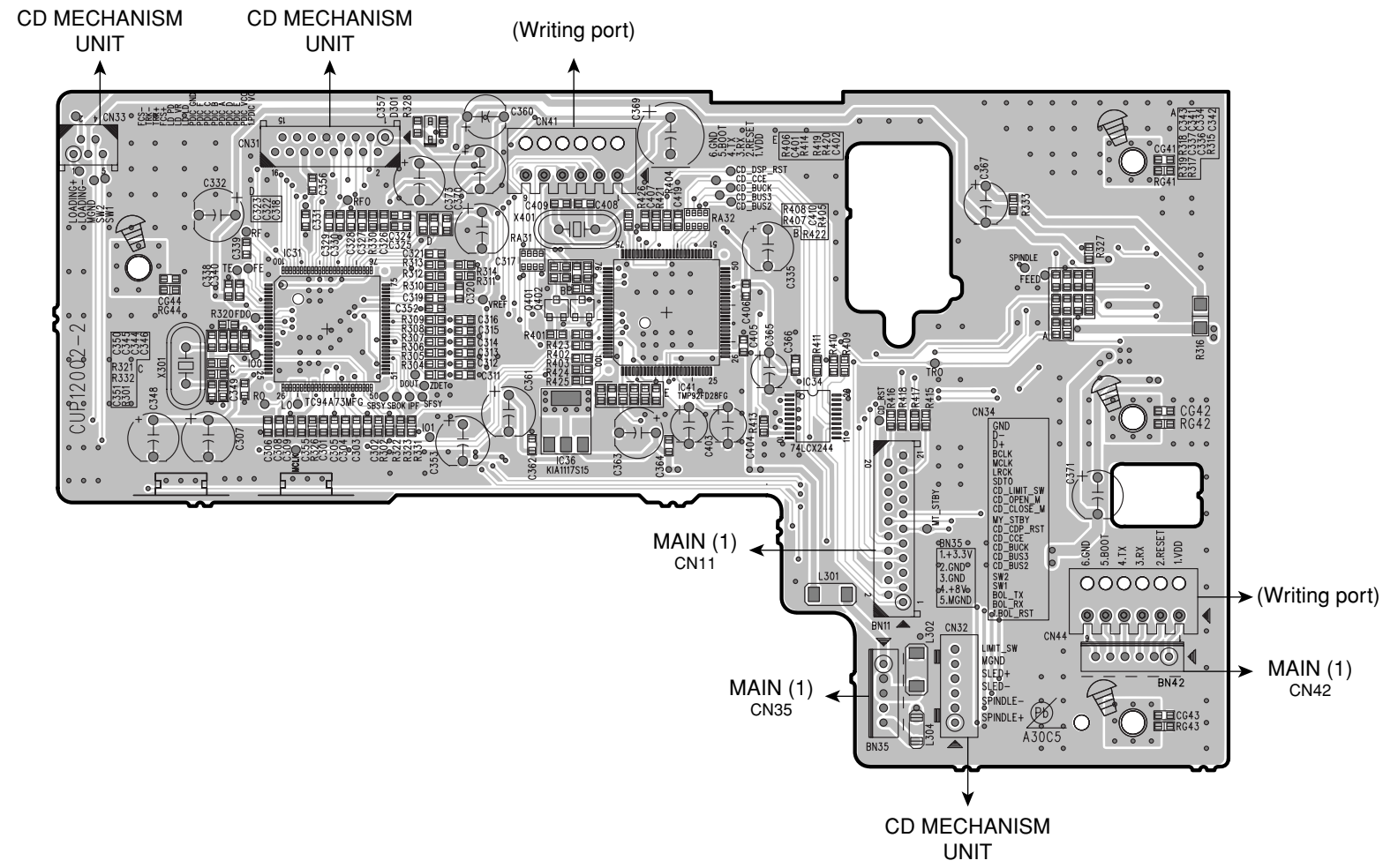
6

7



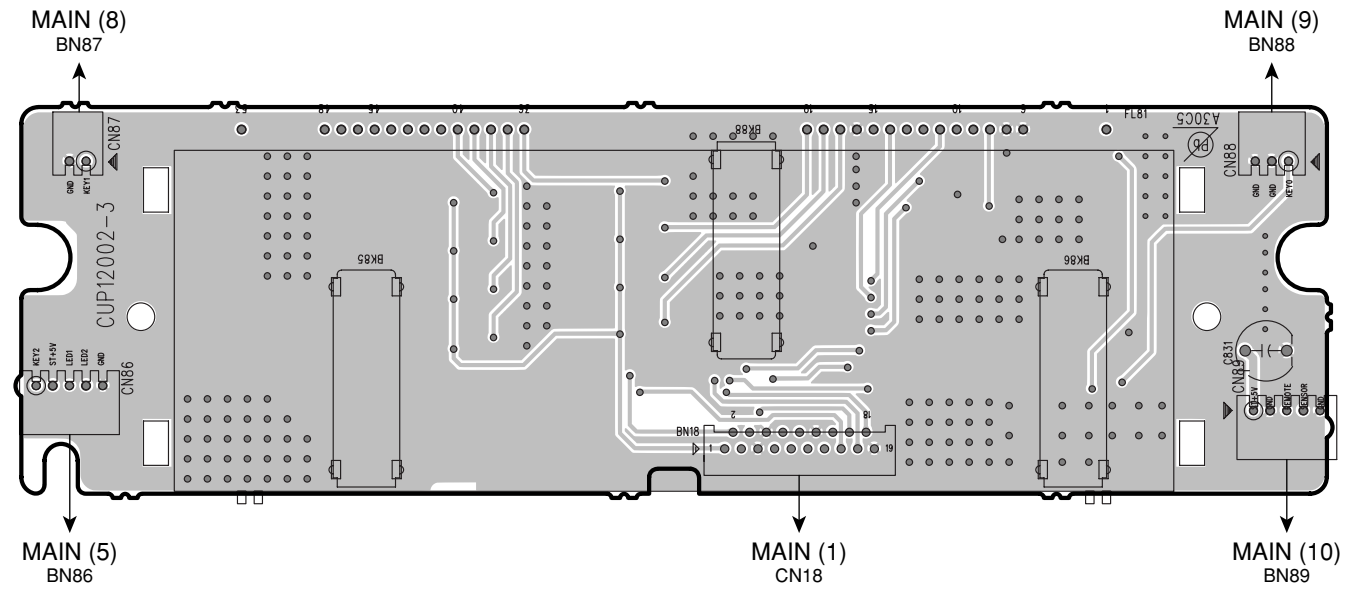
MAIN (2) (Top view)

MAIN (2) (Bottom view)

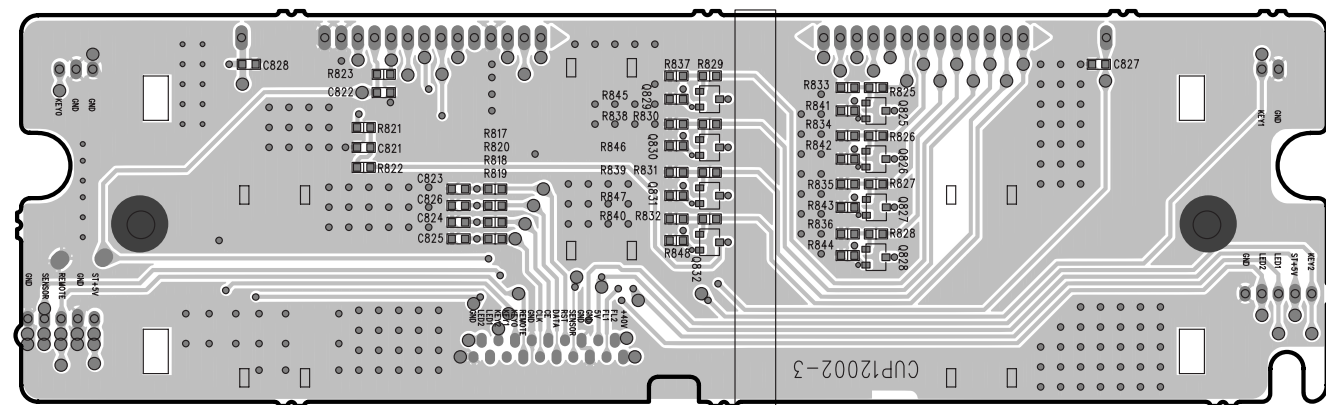


1
2
3
4
5
6
7

MAIN (3) (Top view)

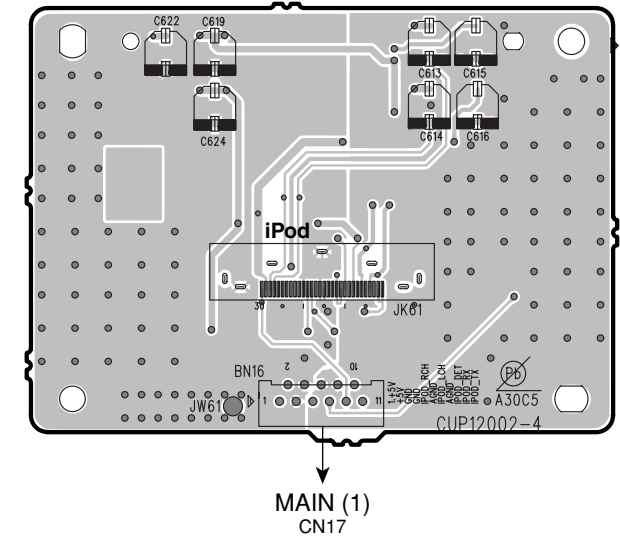


MAIN (3) (Bottom view)



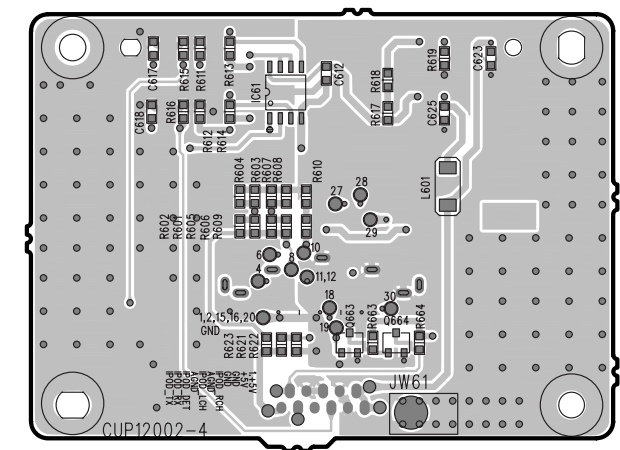
MAIN (4) (Top view)

U, A, J models

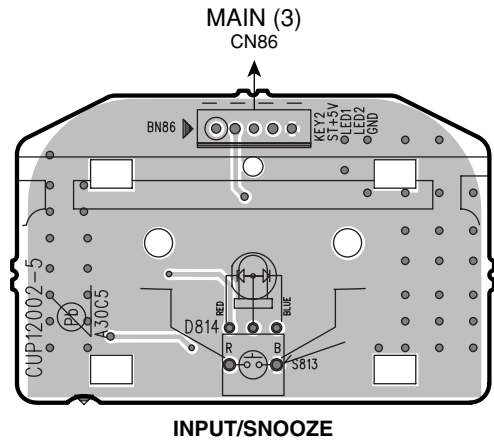


MAIN (4) (Bottom view)

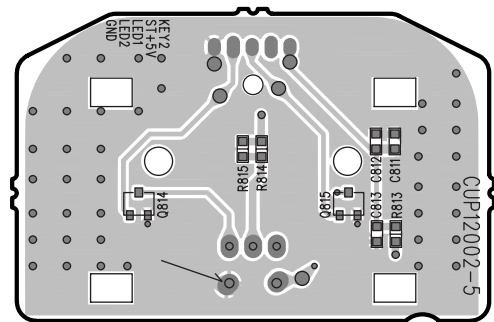
U, A, J models



MAIN (5) (Top view)

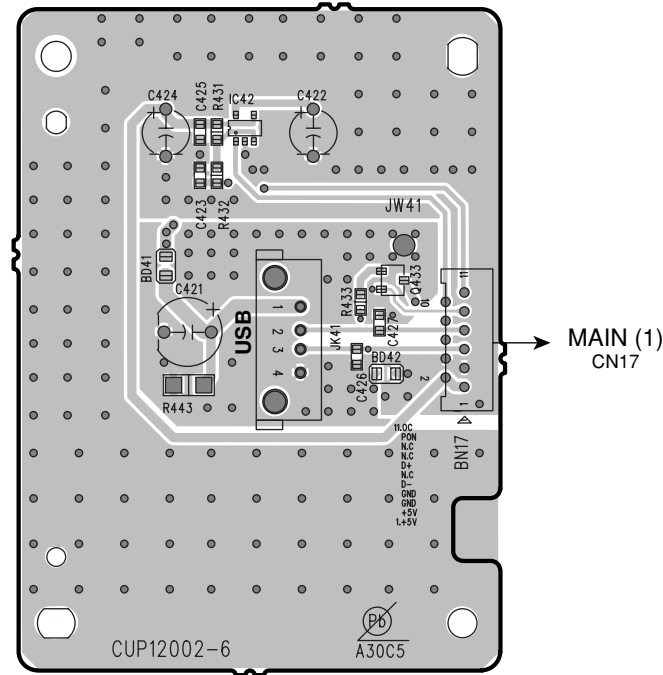


MAIN (5) (Bottom view)



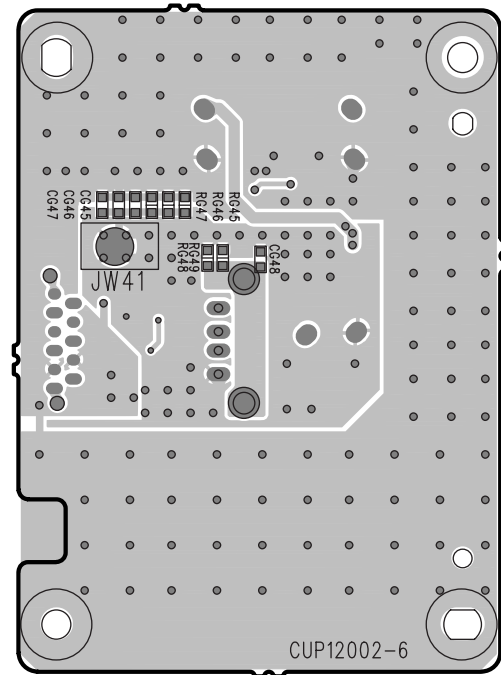
MAIN (6) (Top view)

R, B, G models



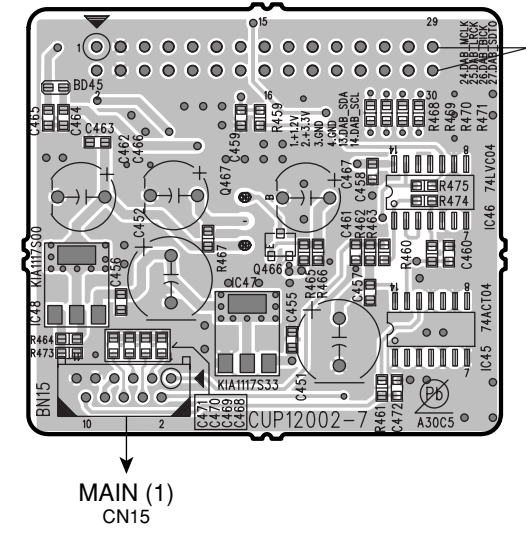
MAIN (6) (Bottom view)

R, B, G models



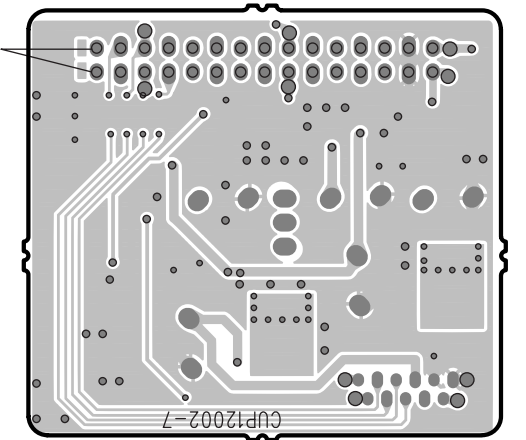
MAIN (7) (Top view)

B model



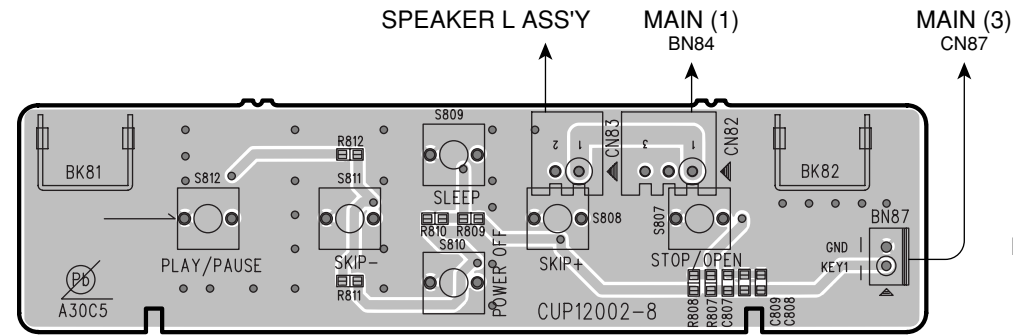
MAIN (7) (Bottom view)

B model

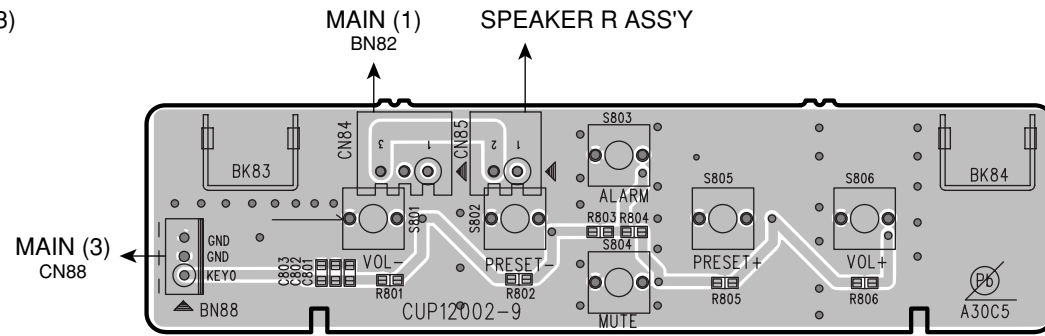


1
2
3
4
5
6
7

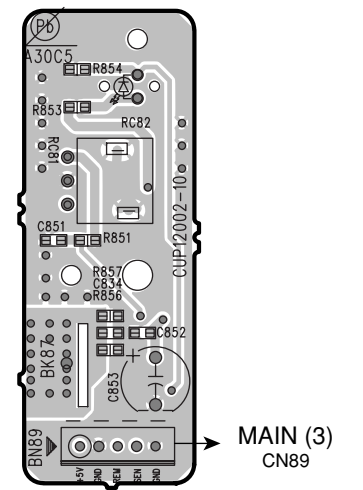
MAIN (8) (Top view)



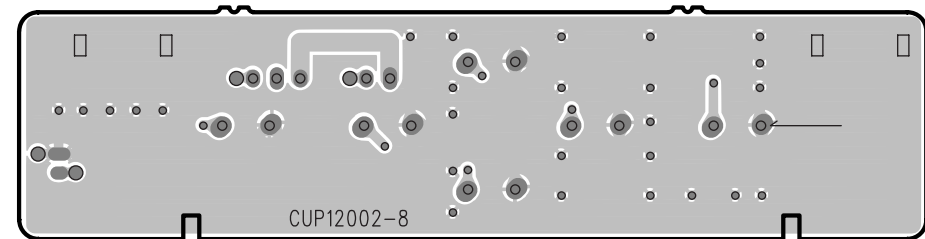
MAIN (9) (Top view)



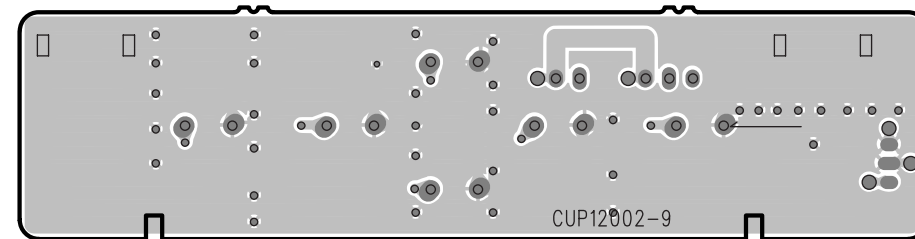
MAIN (10) (Top view)



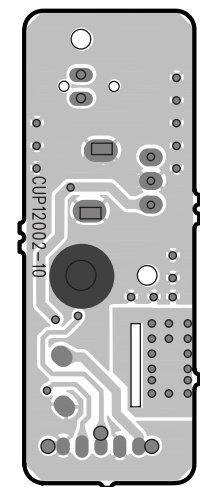
MAIN (8) (Bottom view)



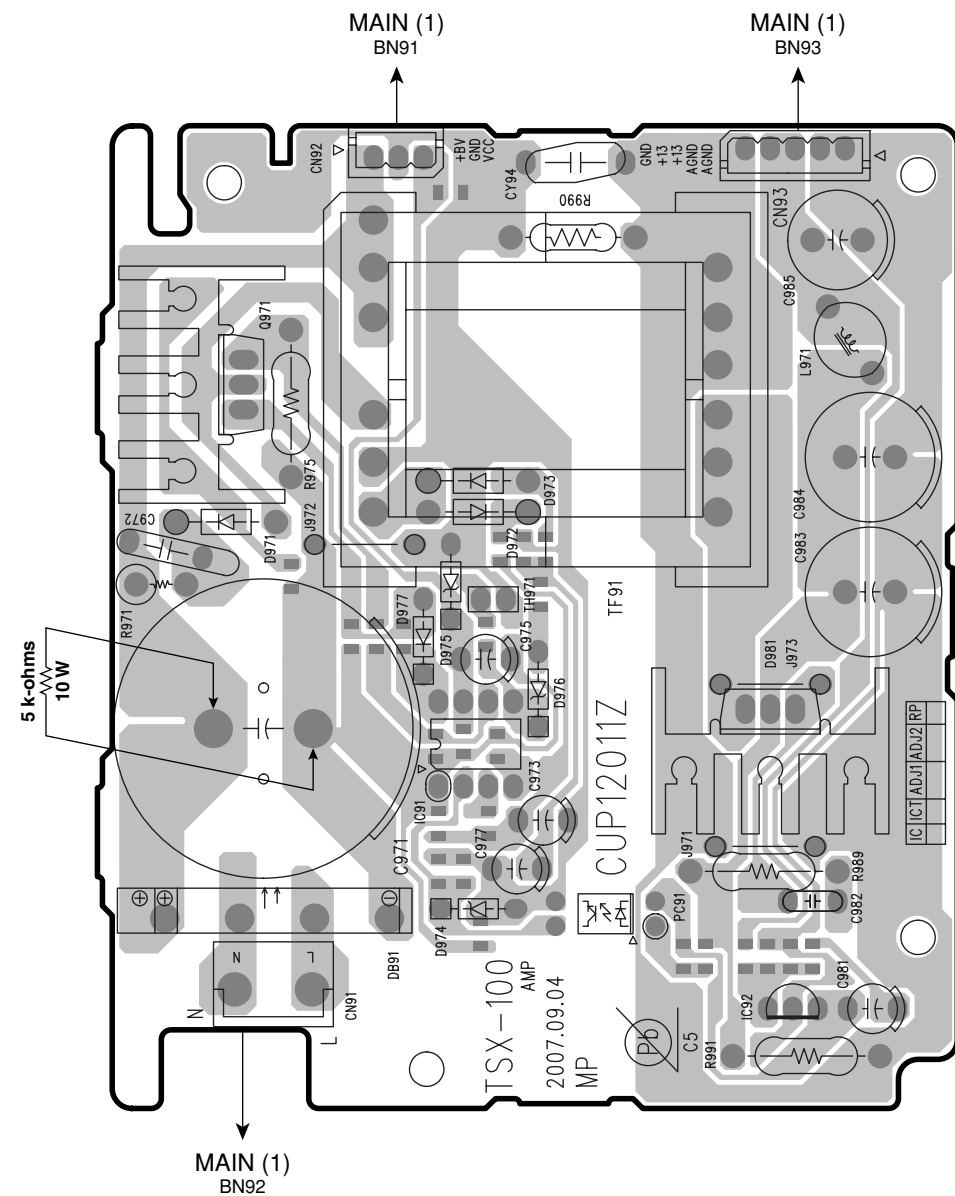
MAIN (9) (Bottom view)



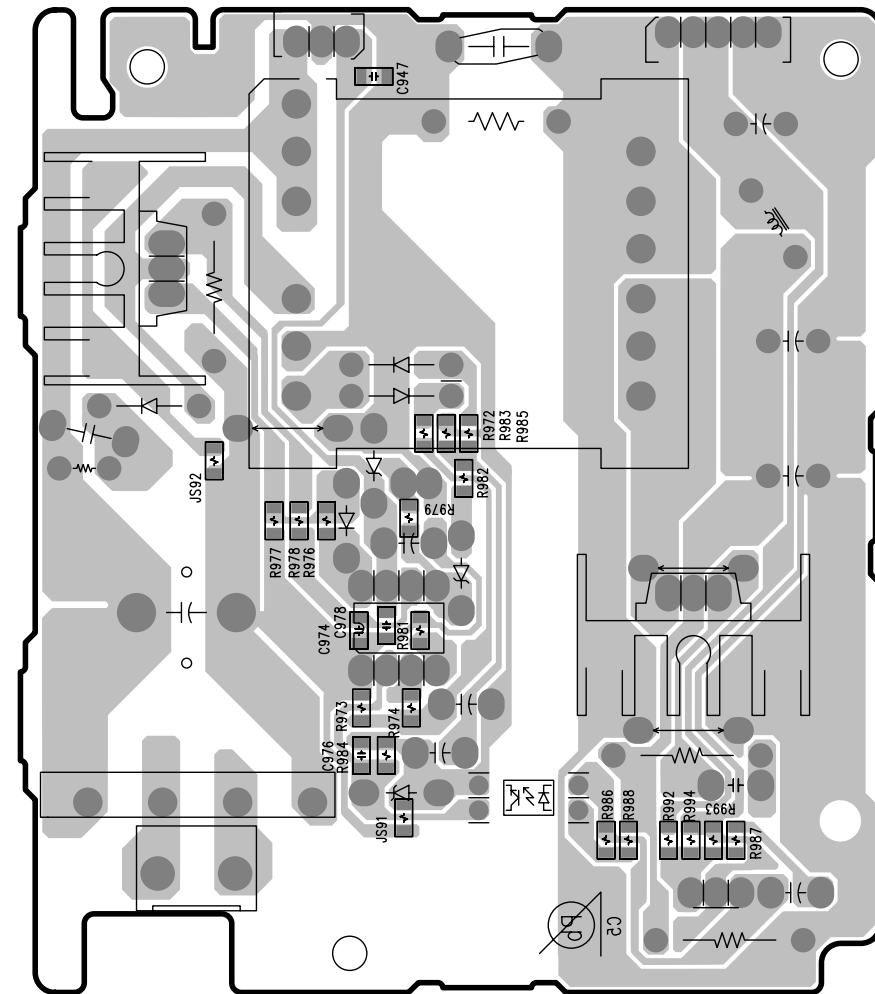
MAIN (10) (Bottom view)



SMPS (Side A)



SMPS (Side B)



Safety Measures

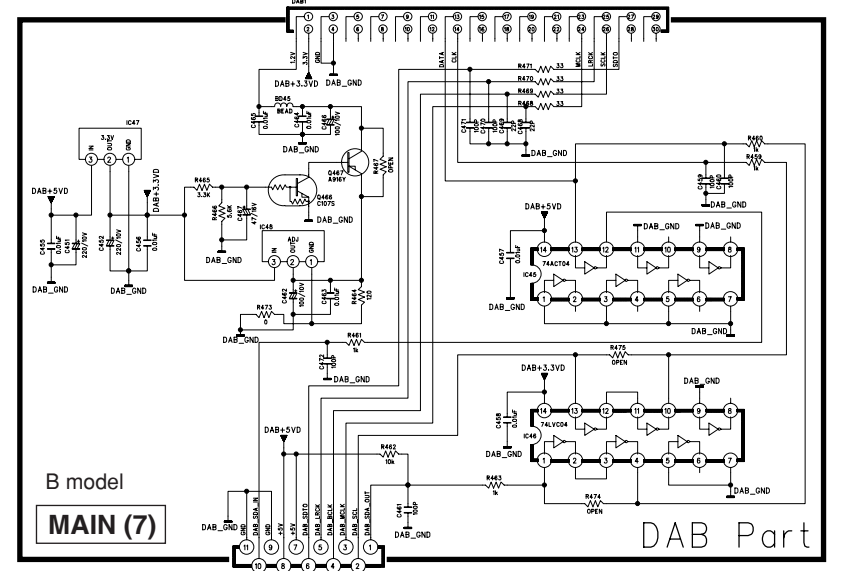
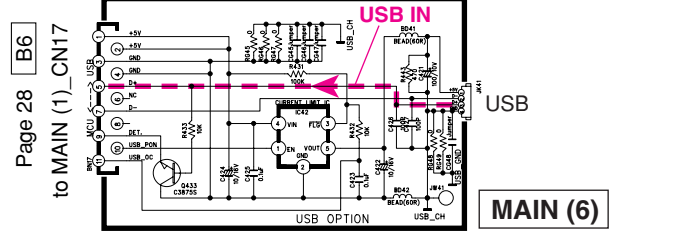
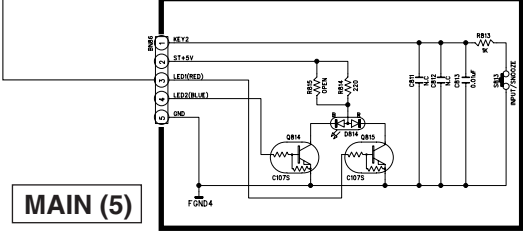
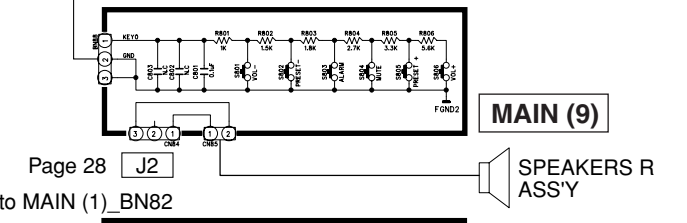
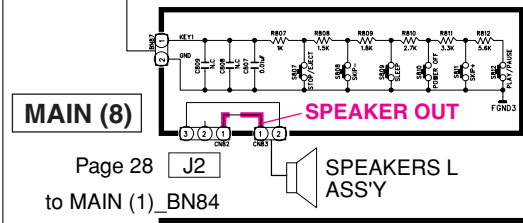
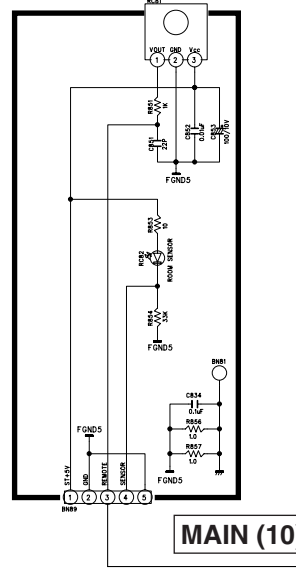
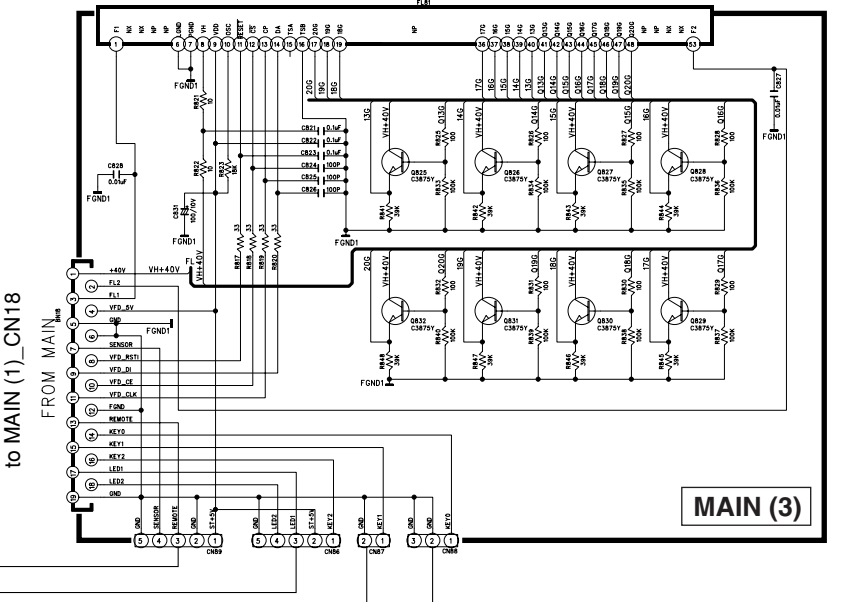
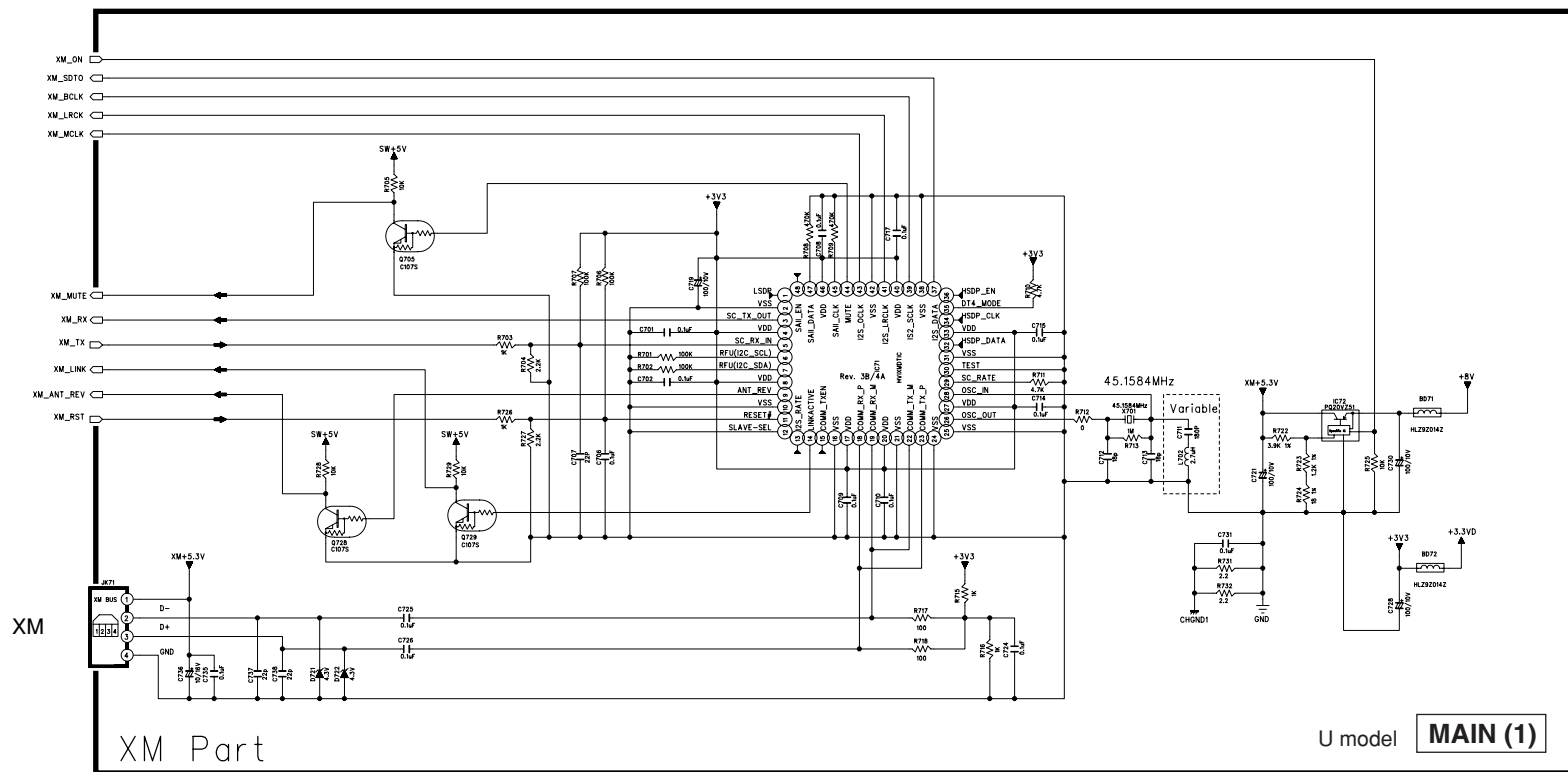
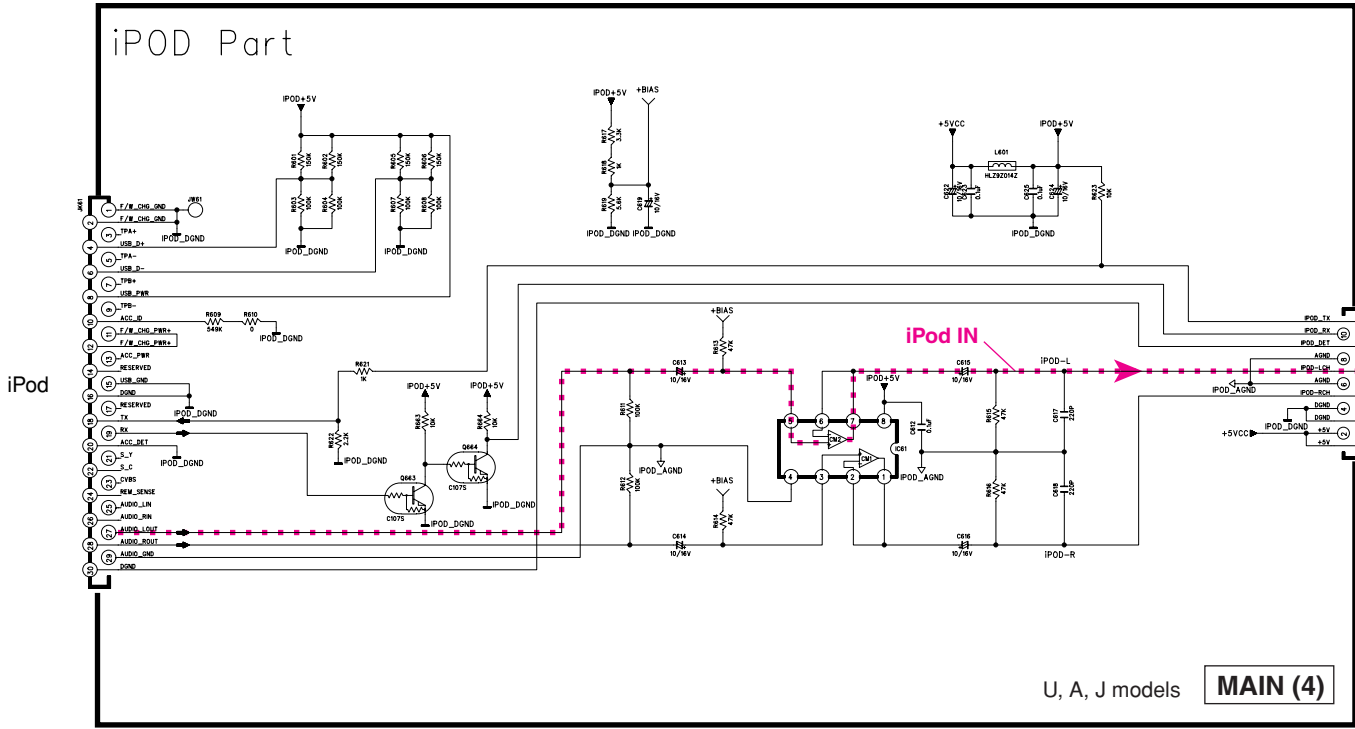
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- C971 on the SMPS (2) P.C.B. is dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there.
Before starting any repair work, perform discharge by connecting a discharge resistor (5k-ohms/10 W) between terminals of the capacitor. The time required for discharging is about 30 seconds.
After the repair work, also perform discharge in the same manner.

安全対策

- この製品の内部には高電圧部分があり危険です。修理の際は、絶縁性の手袋を使用などの安全対策を行ってください。
- SMPS(2)P.C.B.のC971には電源をOFFにした後も電荷が残り、高電圧が維持されており危険です。
修理作業前に放電用抵抗(5 kΩ/10 W)をコンデンサの端子間に接続して放電してください。放電所用時間は約30秒間です。
また、修理後も同じ方法で放電してください。

SCHEMATIC DIAGRAMS

MAIN 1/4



- ★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.
- ★ Δ 印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- ★ 本回路図は標準回路図です。改良のため予告なく変更することがございます。

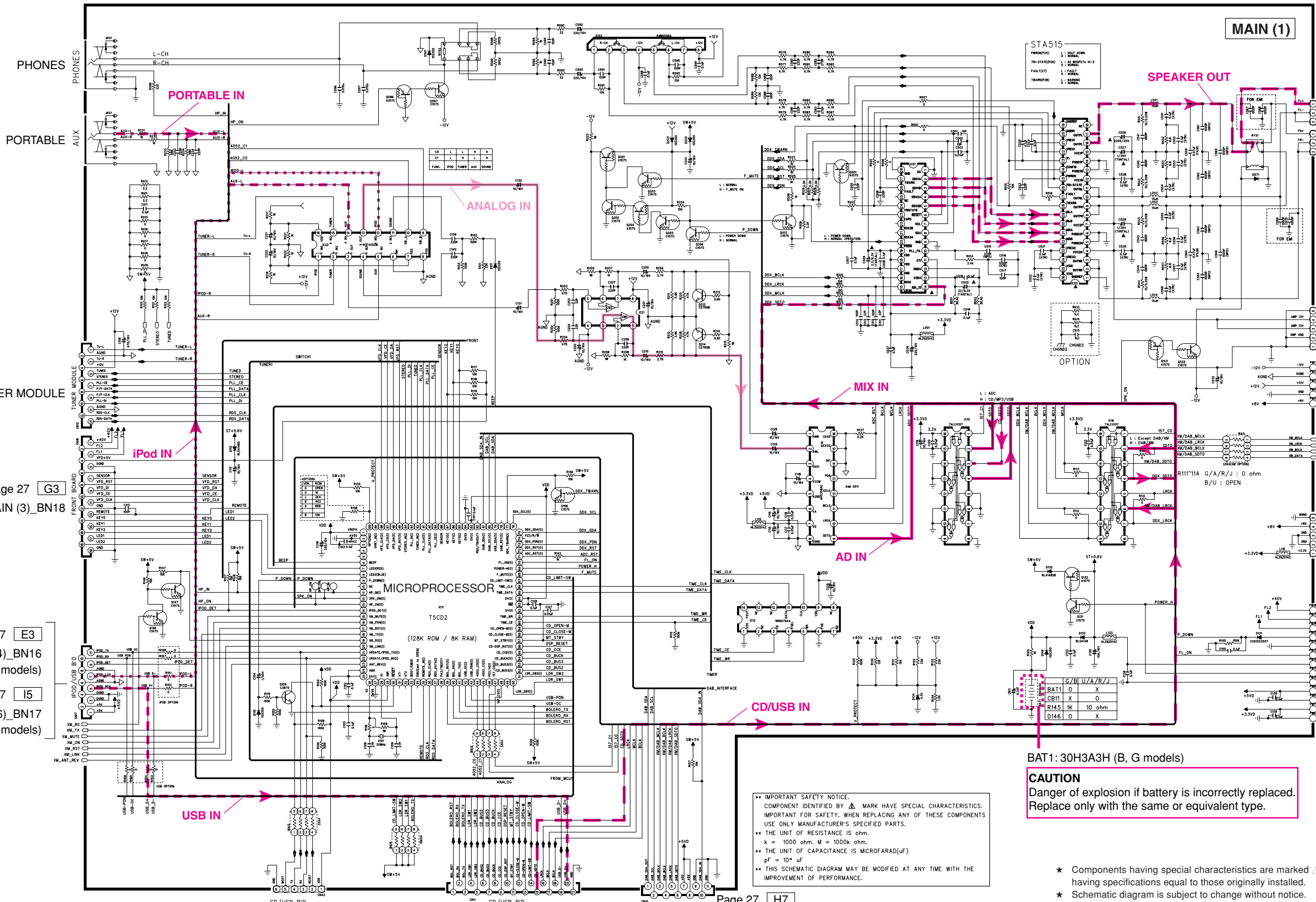
●● IMPORTANT SAFETY NOTICE.
 COMPONENT IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.

- THE UNIT OF RESISTANCE IS ohm.
 k = 1000 ohm, M = 1000k ohm.
- THE UNIT OF CAPACITANCE IS MICROFARAD(μ F)
 pF = 10^{-4} μ F
- THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.

Note) The electrical parts available as servicing parts are those in the replacement parts list only.
 When replacement of any electrical part other than those in the list is necessary, replace the P.C.B.
 assembly which includes that part.

注) 電気部品リストに記載されている電気部品のみ、サービス部品として供給できます。
 電気部品リストに記載されていない電気部品の交換が必要な場合は、その電気部品を搭載している「P.C.B. ASSY」を交換してください。

Page 28 F7
 to MAIN (1)_CN15



Page 27 G4
to MAIN (8)_CN82
Page 27 I4
to MAIN (9)_CN84

Page 31 H3
to SMPS_CN93
Page 30 I3
to MAIN (1)_CN97

Page 29 B3
to MAIN (2)_BN35

Page 30 I4
to MAIN (1)_CN98

Page 27 G3
to MAIN (3)_BN18

Page 27 E3
to MAIN (4)_BN16
(U, A, J models)

Page 27 I5
to MAIN (6)_BN17
(R, B, G models)

BAT1: 30H3A3H (B, G models)
CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

IMPORTANT SAFETY NOTICE.
COMPONENT IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
• THE UNIT OF RESISTANCE IS ohm.
k = 1000 ohm. M = 1000k ohm.
• THE UNIT OF CAPACITANCE IS MICROFARAD(μ F)
pF = 10⁻⁶ μ F
• THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.

- ★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.
- ★ Δ 印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- ★ 本回路図は標準回路図です。改良のため予告なく変更することがございます。

Page 29 G7
to MAIN (2)_BN42

Page 29 E2
to MAIN (2)_BN11

Page 27 H7
to MAIN (7)_BN15
(B model)

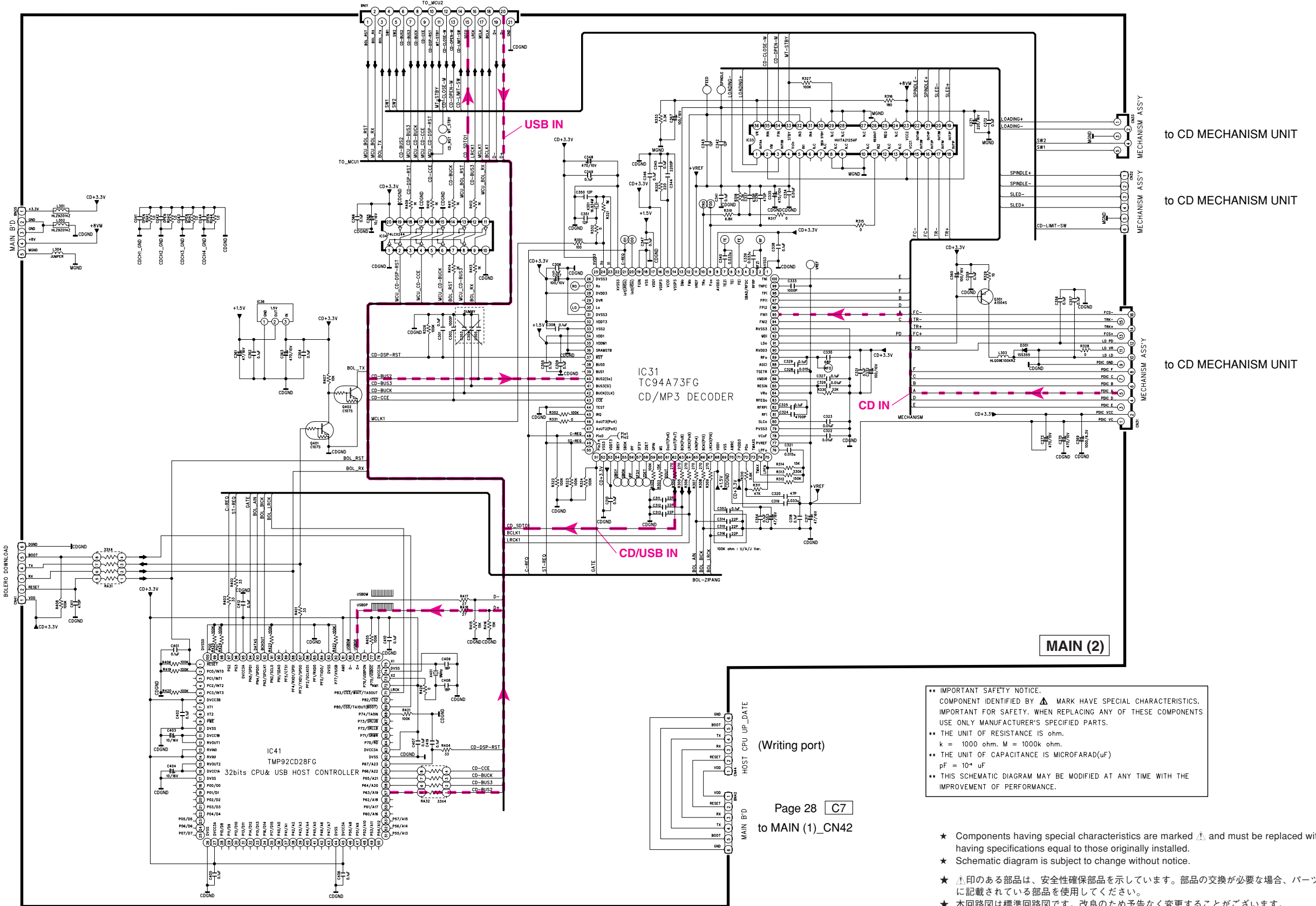
MAIN 3/4

Page 28 E7
to MAIN (1)_CN11

Page 28 J5
to MAIN (1)_CN35

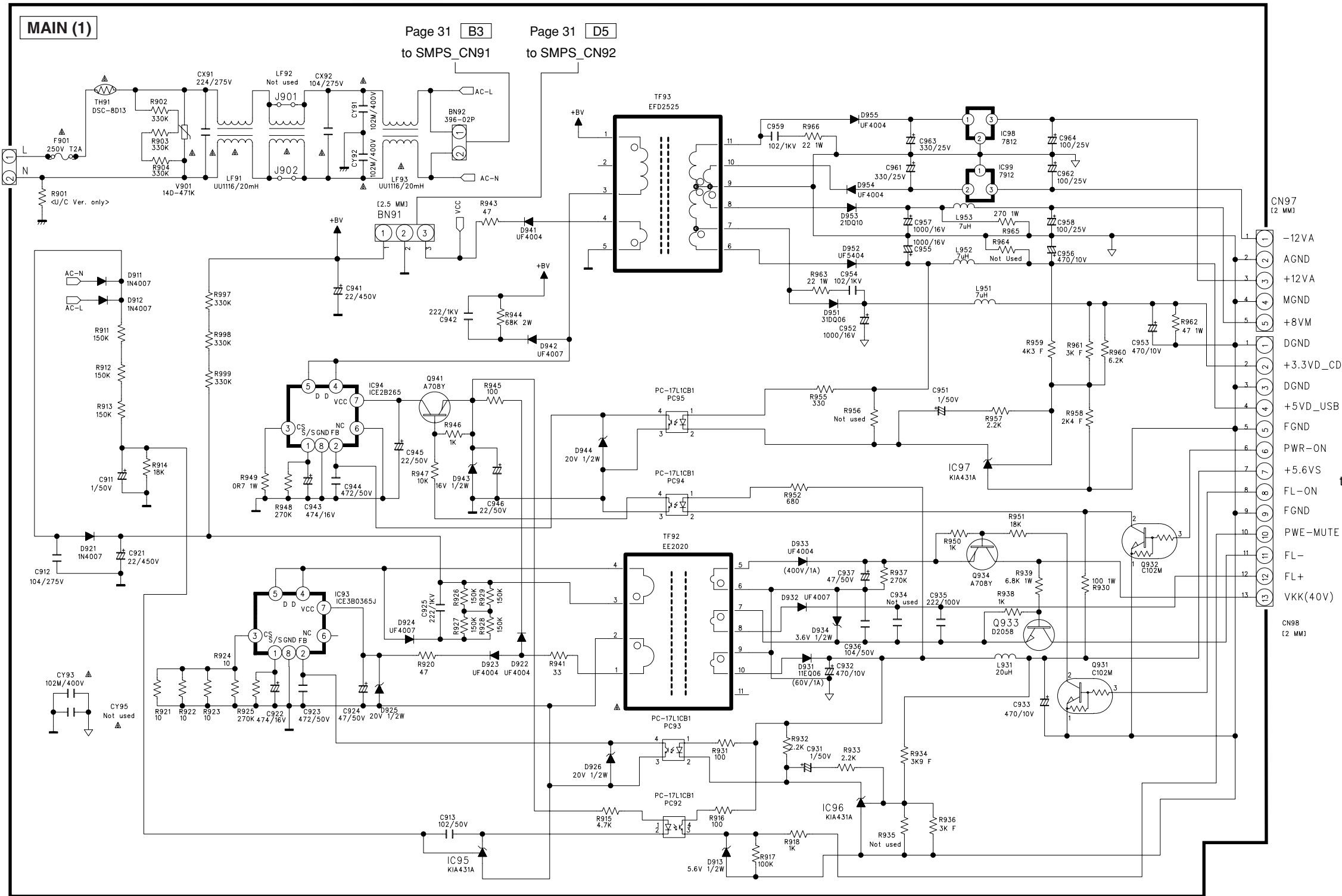
Page 28 C7
to MAIN (1)_CN42

Page 28 C7
to MAIN (1)_CN42



•• IMPORTANT SAFETY NOTICE.
 COMPONENT IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 •• THE UNIT OF RESISTANCE IS ohm.
 $k = 1000 \text{ ohm}$, $M = 1000k \text{ ohm}$.
 •• THE UNIT OF CAPACITANCE IS MICROFARAD(μF)
 $\text{pF} = 10^{-4} \text{ uF}$
 •• THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.

- ★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.
- ★ Δ 印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- ★ 本回路図は標準回路図です。改良のため予告なく変更することがございます。



Page 28 J4
to MAIN (1)_PW1-5

Page 28 J4
to MAIN (1)_PW6-18

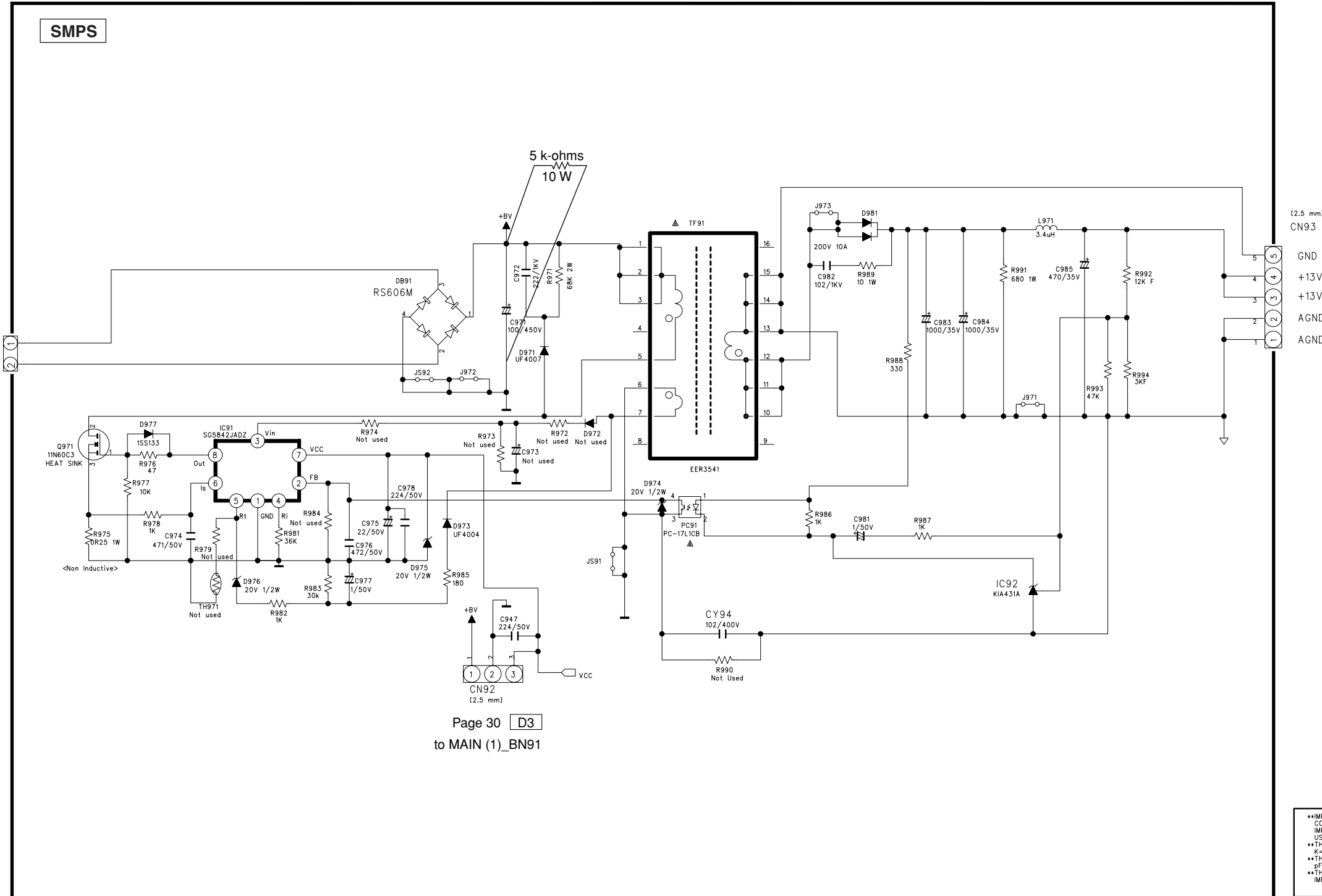
- ★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.
- ★ Δ 印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- ★ 本回路図は標準回路図です。改良のため予告なく変更することがございます。

••IMPORTANT SAFETY NOTICE. COMPONENTS IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS. IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 ••THE UNIT OF RESISTANCE IS OHM.
 ••K=1000 OHM, M=1000 KOHM
 ••THE UNIT OF CAPACITANCE IS MICROFARAD (μ F)
 ••pF=10⁻¹² F
 ••THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE

SMPS

- ★ Components having special characteristics are marked \triangle and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.
- ★ \triangle 印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- ★ 本回路図は標準回路図です。改良のため予告なく変更することがございます。

Page 30 **E2**
to MAIN (1)_BN92



(2.5 mm)
CN93
GND
+13VA
+13VA
AGND
AGND

Page 28 **J3**
to MAIN (1)_BN93

Page 30 **D3**
to MAIN (1)_BN91

***IMPORTANT SAFETY NOTICE.
COMPONENTS IDENTIFIED BY \triangle MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
**THE UNIT OF RESISTANCE IS OHM.
K=1000 OHM, M=1000 KOHM
**THE UNIT OF CAPACITANCE IS MICROFARAD (μ F)
 μ F=10⁻⁶ F
**THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE

Safety Measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
 - C971 on the SMPS (2) P.C.B. is dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there.
- Before starting any repair work, perform discharge by connecting a discharge resistor (5k-ohms/10 W) between terminals of the capacitor. The time required for discharging is about 30 seconds.
After the repair work, also perform discharge in the same manner.

安全対策

- この製品の内部には高電圧部分があり危険です。修理の際は、絶縁性の手袋を使用などの安全対策を行ってください。
- SMPS(2)P.C.B.のC971には電源をOFFにした後も電荷が残り、高電圧が維持されており危険です。修理作業前に放電用抵抗 (5 k Ω /10 W) をコンデンサの端子間に接続して放電してください。放電所用時間は約30秒間です。また、修理後も同じ方法で放電してください。

REPLACEMENT PARTS LIST

ELECTRICAL COMPONENT PARTS

WARNING

- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- Δ 印のある部分は、安全確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 部品価格ランクは、予告なく変更することがあります。

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

| | |
|------------------------------------------|----------------------------------------|
| C.A.EL.CHP : CHIP ALUMI.ELECTROLYTIC CAP | L.EMIT : LIGHT EMITTING MODULE |
| C.CE : CERAMIC CAP | LED.DSPLY : LED DISPLAY |
| C.CE.ARRAY : CERAMIC CAP ARRAY | LED.INFRD : LED,INFRARED |
| C.CE.CHP : CHIP CERAMIC CAP | MODUL.RF : MODULATOR,RF |
| C.CE.ML : MULTILAYER CERAMIC CAP | PHOT.CPL : PHOTO COUPLER |
| C.CE.M.CHP : CHIP MULTILAYER CERAMIC CAP | PHOT.INTR : PHOTO INTERRUPTER |
| C.CE.SAFTY : RECOGNIZED CERAMIC CAP | PHOT.RFLCT : PHOTO REFLECTOR |
| C.CE.TUBLR : CERAMIC TUBULAR CAP | PIN.TEST : PIN,TEST POINT |
| C.CE.SMI : SEMI CONDUCTIVE CERAMIC CAP | PLST.RIVET : PLASTIC RIVET |
| C.EL : ELECTROLYTIC CAP | R.ARRAY : RESISTOR ARRAY |
| C.MICA : MICA CAP | R.CAR. : CARBON RESISTOR |
| C.ML.FLM : MULTILAYER FILM CAP | R.CAR.CHP : CHIP RESISTOR |
| C.MP : METALLIZED PAPER CAP | R.CAR.FP : FLAME PROOF CARBON RESISTOR |
| C.MYLAR : MYLAR FILM CAP | R.FUS : FUSABLE RESISTOR |
| C.MYLAR.ML : MULTILAYER MYLAR FILM CAP | R.MTL.CHP : CHIP METAL FILM RESISTOR |
| C.PAPER : PAPER CAPACITOR | R.MTL.FLM : METAL FILM RESISTOR |
| C.PLS : POLYSTYRENE FILM CAP | R.MTL.OXD : METAL OXIDE FILM RESISTOR |
| C.POL : POLYESTER FILM CAP | R.MTL.PLAT : METAL PLATE RESISTOR |
| C.POLY : POLYETHYLENE FILM CAP | RSNR.CE : CERAMIC RESONATOR |
| C.PP : POLYPROPYLENE FILM CAP | RSNR.CRYS : CRYSTAL RESONATOR |
| C.TNTL : TANTALUM CAP | R.TW.CEM : TWIN CEMENT FIXED RESISTOR |
| C.TNTL.CHP : CHIP TANTALUM CAP | R.CEMENT : CEMENT RESISTOR |
| C.TRIM : TRIMMER CAP | SCR.BND.HD : BIND HEAD B-TIGHT SCREW |
| CN : CONNECTOR | SCR.BW.HD : BW HEAD TAPPING SCREW |
| CN.BS.PIN : CONNECTOR,BASE PIN | SCR.CUP : CUP TIGHT SCREW |
| CN.CANNON : CONNECTOR,CANNON | SCR.TERM : SCREW TERMINAL |
| CN.DIN : CONNECTOR,DIN | SCR.TR : SCREW,TRANSISTOR |
| CN.FLAT : CONNECTOR,FLAT CABLE | SUPRT.PCB : SUPPORT,P.C.B. |
| CN.POST : CONNECTOR,BASE POST | SURG.PRTCT : SURGE PROTECTOR |
| COIL.MX.AM : COIL,AM MIX | SW.TACT : TACT SWITCH |
| COIL.AT.FM : COIL,FM ANTENNA | SW.LEAF : LEAF SWITCH |
| COIL.DT.FM : COIL,FM DETECT | SW.LEVER : LEVER SWITCH |
| COIL.MX.FM : COIL,FM MIX | SW.MICRO : MICRO SWITCH |
| COIL.OUTPT : OUTPUT COIL | SW.PUSH : PUSH SWITCH |
| DIOD.ARRAY : DIODE ARRAY | SW.RT.ENC : ROTARY ENCODER |
| DIODE.BRG : DIODE BRIDGE | SW.RT.MTR : ROTARY SWITCH WITH MOTOR |
| DIODE.CHP : CHIP DIODE | SW.RT : ROTARY SWITCH |
| DIODE.VAR : VARACTOR DIODE | SW.SLIDE : SLIDE SWITCH |
| DIOD.Z.CHP : CHIP ZENER DIODE | TERM.SP : SPEAKER TERMINAL |
| DIODE.ZENR : ZENER DIODE | TERM.WRAP : WRAPPING TERMINAL |
| DSCR.CE : CERAMIC DISCRIMINATOR | THRMST.CHP : CHIP THERMISTOR |
| FER.BEAD : FERRITE BEADS | TR.CHP : CHIP TRANSISTOR |
| FER.CORE : FERRITE CORE | TR.DGT : DIGITAL TRANSISTOR |
| FET.CHP : CHIP FET | TR.DGT.CHP : CHIP DIGITAL TRANSISTOR |
| FL.DSPLY : FLUORESCENT DISPLAY | TRANS : TRANSFORMER |
| FLTR.CE : CERAMIC FILTER | TRANS.PULS : PULSE TRANSFORMER |
| FLTR.COMB : COMB FILTER MODULE | TRANS.PWR : POWER TRANSFORMER ASS'Y |
| FLTR.LC.RF : LC FILTER,EMI | TUNER.AM : TUNER PACK,AM |
| GND.MTL : GROUND PLATE | TUNER.FM : TUNER PACK,FM |
| GND.TERM : GROUND TERMINAL | TUNER.PK : FRONT-ENDTUNER PACK |
| HOLDER.FUS : FUSE HOLDER | VR : ROTARY POTENTIOMETER |
| IC.PRTCT : IC PROTECTOR | VR.MTR : POTENTIOMETER WITH MOTOR |
| JUMPER.CN : JUMPER CONNECTOR | VR.SW : POTENTIOMETER WITH ROTARY SW |
| JUMPER.TST : JUMPER,TEST POINT | VR.SLIDE : SLIDE POTENTIOMETER |
| L.DTCT : LIGHT DETECTING MODULE | VR.TRIM : TRIMMER POTENTIOMETER |

P.C.B. MAIN

Note) The electrical parts available as servicing parts are those in the replacement parts list only. When replacement of any electrical part other than those in the list is necessary, replace the P.C.B. assembly which includes that part.

注) 電気部品リストに記載されている電気部品のみ、サービス部品として供給できます。電気部品リストに記載されていない電気部品の交換が必要な場合は、その電気部品を搭載している「P.C.B. ASSY」を交換してください。

| Ref No. | Part No. | Description | Remarks | Markets | 部 品 名 | ランク |
|---------|----------|-------------|-------------------|---------------------|-------|---------------|
| * | AAX88200 | P. C. B. | MAIN | COP12002G | J | P C B M A I N |
| * | AAX88170 | P. C. B. | MAIN | COP12002D | U | P C B M A I N |
| * | AAX88190 | P. C. B. | MAIN | COP12002F | R | P C B M A I N |
| * | AAX88180 | P. C. B. | MAIN | COP12002E | A | P C B M A I N |
| * | AAX88160 | P. C. B. | MAIN | COP12002C | B | P C B M A I N |
| * | AAX87070 | P. C. B. | MAIN | COP12002B | G | P C B M A I N |
| BAT1 | AAX88880 | BATTERY | 30H3A3H | CAB30H3A3H | BG | リチウム電池 |
| C509 | AAX88870 | C. CHIP | 2. 2F 6. 3V | CCSJA0J2R2B | | チップコンデンサ |
| C520 | AAX88860 | C. CHIP | 22F 6. 3V | CCSJA0J220B | | チップコンデンサ |
| C526 | AAX88810 | C. EL | 2200uF 25V | CCEA1EKLH222EKS | | ケミコン |
| C527 | AAX88850 | C. CHIP | 1F 35V | CCSJA1V1R0B | | チップコンデンサ |
| C529 | AAX88850 | C. CHIP | 1F 35V | CCSJA1V1R0B | | チップコンデンサ |
| CX91 | AAX88770 | C. PP | F2E224KZE | CCOF2E224KZE | | PPコン |
| CX92 | AAX88780 | C. PP | F2E104KZE | HCOF2E104KZE | | PPコン |
| CY91-94 | AAX88840 | C. CE | 2G102M10FF7 | CCKDHS102ME | | セラコン |
| D814 | AAX88760 | LED | 2-COLOR RED/BLUE | CVD1L0392S1B11MA402 | | L E D |
| F901 | AAX87280 | FUSE | T2A 250V | KBA2C2000TLEY | | ヒューズ |
| FH91-92 | AAX87380 | HOLDER | | KJCFCS5 | | ヒューズホルダー |
| FL81 | AAX87090 | FL. DSPLY | FV891G1ND | CFLFV891G1ND | | V F D |
| IC12 | AAX86970 | IC | NR8576AAGET | CV1NR8576AAGET | | I C |
| IC14 | AAX86930 | IC | AK5358AET | CV1AK5358AET | | I C |
| IC15 | AAX88750 | IC | SN74LVC157APW-EL2 | HV1SN74LVC157AP | JRAG | I C |
| IC21 | AAX77190 | IC | BA4560RF | HV1BA4560RF | | アンプ I C |
| IC22 | AAX86940 | IC | HCF4052M013T | CV1HCF4052M013T | | I C |
| IC31 | AAX87000 | IC | TC94A73FG | CV1TC94A73FG | | I C |
| IC33 | AAX83140 | IC | TA2125AFG | HV1TA2125AFG | | I C |
| IC34 | AAX87010 | IC | 74LCX244T | HV174LCX244T | | I C |
| IC36 | AAX86960 | IC | K1A1117S15 | CV1K1A1117S15 | | I C |
| IC42 | AAX83060 | IC | RT9702APB | CV1RT9702APB | RBG | I C |
| IC45 | AAX83110 | IC | 74ACT04MTR | HV174ACT04MTR | | I C |
| IC51 | AAX86980 | IC | STA320 | CV1STA320 | | I C |
| IC52 | AAX86990 | IC | STA515 | CV1STA515 | | I C |
| IC53 | AAX87020 | IC | NJM4556AL | HV1NJM4556AL | | I C |
| IC91 | AAX88730 | IC | SG5842JADZ | CV1SG5842JADZ | | I C |
| IC92 | AAX81040 | IC | K1A431BAT | HV1K1A431BAT | | I C |
| IC93 | AAX80950 | IC | ICE3B0365J | CV1ICE3B0365J | | I C |
| IC94 | AAX86950 | IC | ICE2B265 | CV1ICE2B265 | | I C |
| IC95 | AAX81040 | IC | K1A431BAT | HV1K1A431BAT | | I C |
| IC96 | AAX81040 | IC | K1A431BAT | HV1K1A431BAT | | I C |
| IC97 | AAX81040 | IC | K1A431BAT | HV1K1A431BAT | | I C |
| IC98 | AAX77360 | IC | K1A7812AP1 | HV1K1A7812AP1 | | 電源 I C |
| IC99 | AAX77370 | IC | K1A7912P1 | HV1K1A7912P1 | | 電源 I C |
| JK21 | AAX87240 | JACK | PORTABLE | HJJ2E027Z | | ジャック |
| JK41 | AAX83300 | JACK | 4P | CJJ9X003Y | RBG | U S B 端子 |

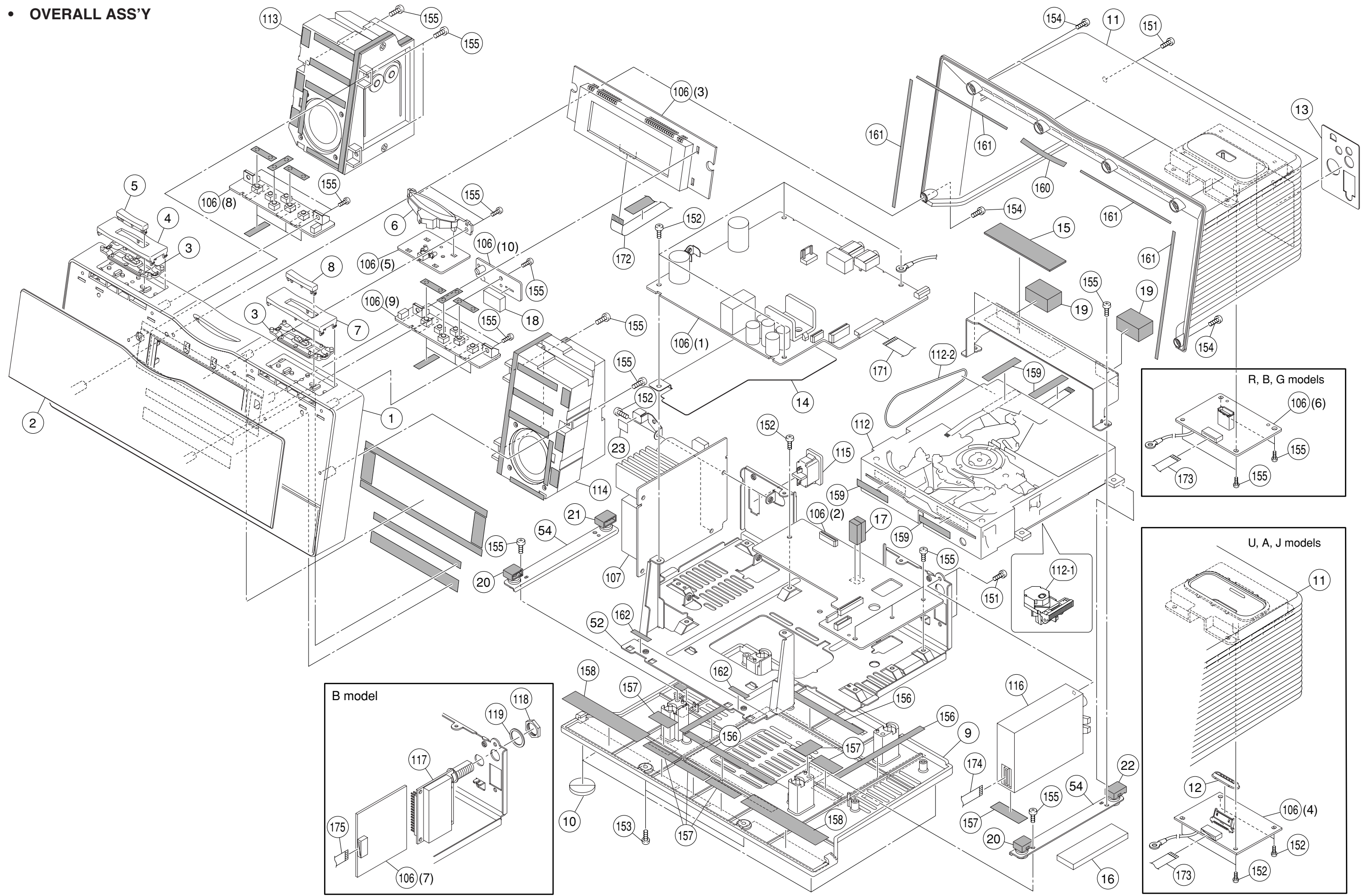
* New Parts * 新規部品

P.C.B. MAIN and P.C.B. SMPS

| Ref No. | Part No. | Description | Remarks | Markets | 部 品 名 | ランク | |
|---------|----------|----------------------|--------------|----------------|-------|---------------|----|
| * | JK51 | AAX87240 JACK | PHONES | HJJ2E027Z | | ジャック | |
| * | LF91 | AAX88910 FILTER | UU1116 20mH | CLZ9Z065Z | | ラインフィルタ | |
| * | LF93 | AAX88910 FILTER | UU1116 20mH | CLZ9Z065Z | | ラインフィルタ | |
| | PC91 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| | PC92 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| | PC93 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| | PC94 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| | PC95 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| | RC81 | AAX84540 SENS. RC | KSM603TH2E | CRVKSM603TH2E | | リモコン受光器 | |
| * | RC82 | AAX88920 SENS | PT337P11A | CRVPT337P11A | JBG | 光センサー | |
| | RY51 | AAX79390 RELAY | G5PA28 | CSL3A017ZU | | リレー | 04 |
| | RY52 | AAX83560 RELAY | DC12V 2C2P | CSL4A016ZU | | リレー | 04 |
| | S801-813 | AAX74630 SW. TACT | SKHV10910G | CST1A012ZT | | タクトスイッチ | 01 |
| * | TF91 | AAX87490 TRANS. PWR | MAIN EER3541 | CLT9Z041ZE | | 電源トランス | |
| * | TF92 | AAX87470 TRANS. PWR | SUB EFD2525 | CLT9Z039ZE | | 電源トランス | |
| * | TF93 | AAX87480 TRANS. PWR | FL EE2020 | CLT9Z040ZE | | 電源トランス | |
| * | TH91 | AAX88820 THERM. | DSC-8D13MSFB | KRT8D13MSFB | | サーミスタ | |
| * | V901 | AAX88890 VARISTOR | SVC471D14A | CRVSVC471D14A | | バリスタ | |
| * | X101 | AAX88940 RSNR. CRYST | 20MHz | HOX20000E220TF | | 水晶振動子 | |
| * | X301 | AAX88930 RSNR. CRYST | 16.934MHz | HOX16934A120C | | 水晶振動子 | |
| * | X401 | AAX88950 RSNR. CRYST | 9MHz | COX09000E150C | RBG | 水晶振動子 | |
| | | AAX87080 P.C.B. | SMPS | COP12011B | | P C B S M P S | |
| * | IC91 | AAX88730 IC | SG5842JADZ | CVISG5842JADZ | | IC | |
| * | IC92 | AAX81040 IC | KIA431BAT | HVIA431BAT | | IC | |
| | PC91 | AAX81120 IC. PHOTO | PC17L1CB | HVIPC17L1CB | | IC | |
| * | Q971 | AAX88740 IC | SPP11N60C3 | CVISPP11N60C3 | | IC | |
| * | TF91 | AAX87490 TRANS. PWR | EER3541 | CLT9Z041ZE | | 電源トランス | |

* New Parts * 新規部品

• OVERALL ASS'Y



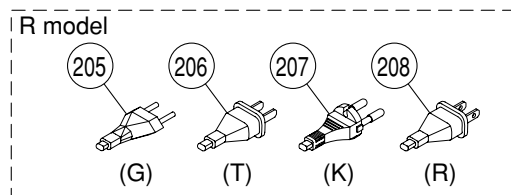
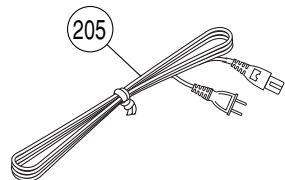
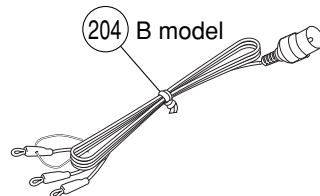
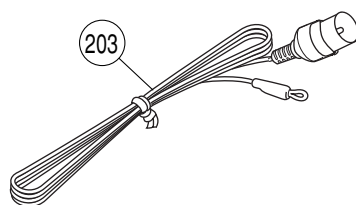
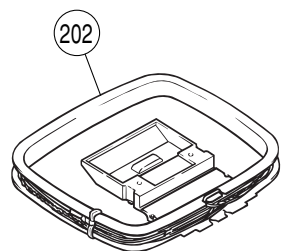
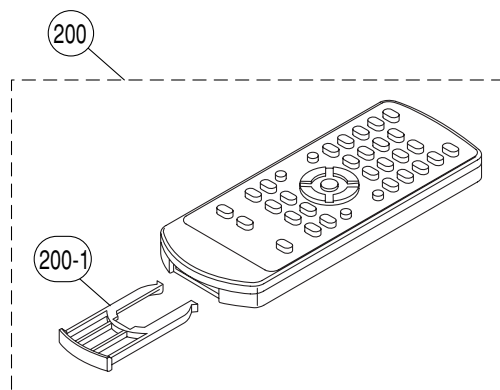
| Ref No. | Part No. | Description | Remarks | Markets | 部 品 名 | ランク |
|---------|----------|----------------------|--------------|---------|------------------|-----|
| * 1 | AAX87060 | FRONT PANEL ASS'Y | | | フロントパネル A S S Y | |
| * 2 | AAX87100 | WINDOW | BL | JRAG | ウィンドウ | 05 |
| * 2 | AAX89820 | WINDOW | BL | U | ウィンドウ | |
| * 2 | AAX89840 | WINDOW | BL | B | ウィンドウ | |
| * 2 | AAX87110 | WINDOW | SI | JRAG | ウィンドウ | 05 |
| * 2 | AAX89830 | WINDOW | SI | U | ウィンドウ | |
| * 2 | AAX89850 | WINDOW | SI | B | ウィンドウ | |
| * 3 | AAX88480 | FUNCTION RUBBER | | | ボタン受けゴム | |
| * 4 | AAX87400 | BUTTON | POWER | | ボタン | |
| * 5 | AAX87420 | BUTTON | SKIP | | ボタン | |
| * 6 | AAX88500 | LENS BUTTON ASS'Y | | | レンズボタン A S S Y | |
| * 7 | AAX87390 | BUTTON | MUTE | | ボタン | |
| * 8 | AAX87410 | BUTTON | PRESET | | ボタン | |
| * 9 | AAX88220 | COVER BOTTOM | | J | ボトムカバー | |
| * 9 | AAX88240 | COVER BOTTOM | | U | ボトムカバー | |
| * 9 | AAX88230 | COVER BOTTOM | | R | ボトムカバー | |
| * 9 | AAX87160 | COVER BOTTOM | | ABG | ボトムカバー | |
| * 10 | AAX87450 | FOOT | D21 t=2 | | 脚 | |
| * 11 | AAX89730 | REAR CABINET ASS'Y | BL | JUA | リアキャビネット A S S Y | |
| * 11 | AAX89740 | REAR CABINET ASS'Y | BL | RBG | リアキャビネット A S S Y | |
| * 11 | AAX89750 | REAR CABINET ASS'Y | SI | JUA | リアキャビネット A S S Y | |
| * 11 | AAX89760 | REAR CABINET ASS'Y | SI | RBG | リアキャビネット A S S Y | |
| * 12 | AAX88340 | SLEEVE | BL | RBG | スリーブ | |
| * 12 | AAX88350 | SLEEVE | SI | RBG | スリーブ | |
| * 13 | AAX87330 | PLATE NAME | BL | JRAG | ネームプレート | |
| * 13 | AAX88390 | PLATE NAME | BL | U | ネームプレート | |
| * 13 | AAX88370 | PLATE NAME | BL | B | ネームプレート | |
| * 13 | AAX87340 | PLATE NAME | SI | JRAG | ネームプレート | |
| * 13 | AAX88400 | PLATE NAME | SI | U | ネームプレート | |
| * 13 | AAX88380 | PLATE NAME | SI | B | ネームプレート | |
| * 14 | AAX88830 | COVER SHIELD | | | シールドカバー | |
| * 15 | AAX88250 | CUSHION A | | | クッション A | |
| * 16 | AAX88460 | RUBBER A | | | ラバー A | |
| * 17 | AAX88330 | EVA CUSHION | | JUA | EVAクッション | |
| * 17 | AAX88320 | EVA CUSHION | | RBG | EVAクッション | |
| * 18 | AAX88450 | RUBBER B | | | ラバー B | |
| * 19 | AAX88470 | RUBBER C | | | ラバー C | |
| * 20 | AAX89700 | CUSHION FRONT | | | クッション FRONT | |
| * 21 | AAX89710 | CUSHION REAR L | | | クッション REAR L | |
| * 22 | AAX89720 | CUSHION REAR R | | | クッション REAR R | |
| * 23 | AAX88210 | INSULATOR | | | インシュレータ | |
| * 52 | AAX87360 | PLATE BOTTOM | | | プレート ボトム | |
| * 55 | AAX88900 | BRACKET CD MECHANISM | | | ブラケット CDメカ | |
| * 106 | AAX88200 | P.C.B. ASS'Y | MAIN | J | P C B M A I N | |
| * 106 | AAX88170 | P.C.B. ASS'Y | MAIN | U | P C B M A I N | |
| * 106 | AAX88190 | P.C.B. ASS'Y | MAIN | R | P C B M A I N | |
| * 106 | AAX88180 | P.C.B. ASS'Y | MAIN | A | P C B M A I N | |
| * 106 | AAX88160 | P.C.B. ASS'Y | MAIN | B | P C B M A I N | |
| * 106 | AAX87070 | P.C.B. ASS'Y | MAIN | G | P C B M A I N | |
| * 107 | AAX87080 | P.C.B. ASS'Y | SMPS | | P C B S M P S | |
| * 112 | AAX86920 | CD MECHANISM UNIT | SLOT IN TYPE | | CDメカユニット | |
| * 112-1 | AAX82720 | OPTICAL PICK UP UNIT | KSS-213C | | オプティカルピックアップ | |
| * 112-2 | AAX78500 | BELT | | | ベルト | 04 |
| * 113 | AAX90040 | SPEAKER L ASS'Y | L | J | スピーカー L A S S Y | |
| * 113 | AAX87250 | SPEAKER L ASS'Y | L | URABG | スピーカー L A S S Y | |
| * 114 | AAX90050 | SPEAKER R ASS'Y | R | J | スピーカー R A S S Y | |

* New Parts * 新規部品

| Ref No. | Part No. | Description | Remarks | Markets | 部 品 名 | ランク |
|---------|----------|-------------------------|-----------------|----------------|------------------|-----|
| * 114 | AAX87260 | SPEAKER R ASS'Y | R | CASTSX100RSPK | スピーカー R A S S Y | |
| * 115 | AAX89690 | INLET | BL | HJJ8A003Z | I N L E T | |
| * 115 | AAX89800 | INLET | BL | CJJ8A004X | I N L E T | |
| * 115 | AAX89680 | INLET | SI | CJJ8A003Y | I N L E T | |
| * 115 | AAX89810 | INLET | SI | CJJ8A004Y | I N L E T | |
| * 116 | AAX89960 | AM/FM TUNER MODULE | | CNVMV016MA1-17 | AM/FMチューナー | |
| * 116 | AAX89950 | AM/FM TUNER MODULE | | CNVMV014MA1-17 | AM/FMチューナー | |
| * 116 | AAX89940 | AM/FM TUNER MODULE | | CNVMV014MA0-17 | AM/FMチューナー | |
| * 116 | AAX83400 | AM/FM TUNER MODULE | | CNVMV114MA1-17 | AM/FMチューナー | 15 |
| * 117 | AAX89790 | DAB MODULE | | CNVFS2025V22A | D A Bモジュール | |
| 118 | AAX84530 | NUT DAB | | CNE1A009 | ナット | |
| 119 | AAX84550 | WASHER | | CNW1A038 | ワッシャー | |
| 151 | AAX78380 | BIND HEAD B-TIGHT SCREW | BL 3x8 MFZN2B3 | CTB3+8JFZR | バインド B タイトネジ | 01 |
| 151 | AAX73500 | BIND HEAD B-TIGHT SCREW | SI 3x8 MFZN2W3 | CTB3+8JFC | バインド B タイトネジ | 01 |
| 152 | AAX78380 | BIND HEAD B-TIGHT SCREW | 3x8 MFZN2B3 | CTB3+8JFZR | バインド B タイトネジ | 01 |
| 153 | AAX84370 | BIND HEAD B-TIGHT SCREW | 3x10 MFZN2B3 | CTB3+10JFZR | バインド B タイトネジ | |
| 154 | AAX78400 | BIND HEAD P-TIGHT SCREW | BL 3x10 MFZN2B3 | CTB3+10GFZR | バインド P タイトネジ | 01 |
| 154 | AAX82020 | BIND HEAD P-TIGHT SCREW | SI 3x10 MFZN2W3 | CTB3+10GFC | バインド P タイトネジ | 01 |
| 155 | AAX78400 | BIND HEAD P-TIGHT SCREW | 3x10 MFZN2B3 | CTB3+10GFZR | バインド P タイトネジ | 01 |
| * 156 | AAX88260 | CUSHION B | 10x100x1 | CHG1A389 | クッション B | |
| * 157 | AAX88300 | CUSHION C | 15x30x1 | CHG1A395 | クッション C | |
| * 158 | AAX88270 | CUSHION D | 16x83x1 | CHG1A391 | クッション D | |
| * 159 | AAX88280 | CUSHION E | 8x40x1 | CHG1A392 | クッション E | |
| * 160 | AAX88290 | CUSHION F | 8x40x1 | CHG1A392Z | クッション F | |
| * 161 | AAX88310 | CUSHION G | 4x100x1 | CHG1A404 | クッション G | |
| * 162 | AAX89890 | HIMELON TAPE | 4x25x0.5 | CHS1A163 | H I M E L O Nテープ | |
| * 171 | AAX87150 | FLEXIBLE FLAT CABLE | 21P 100mm | CWC4F2A21A100B | カード電線 | |
| * 171 | AAX89900 | FLEXIBLE FLAT CABLE | 21P 80mm | CWC4F2A21A080B | カード電線 | |
| * 172 | AAX87140 | FLEXIBLE FLAT CABLE | 19P 150mm | CWC4F2A19A150B | カード電線 | |
| * 173 | AAX87130 | FLEXIBLE FLAT CABLE | 11P 100mm | CWC4F2A11A100B | カード電線 | |
| * 174 | AAX89970 | FLEXIBLE FLAT CABLE | 13P 100mm | CWC4C4A13B100B | カード電線 | |
| * 175 | AAX89980 | FLEXIBLE FLAT CABLE | 11P 100mm | CWCTSX100BN15 | カード電線 | |

* New Parts * 新規部品

• ACCESSORIES

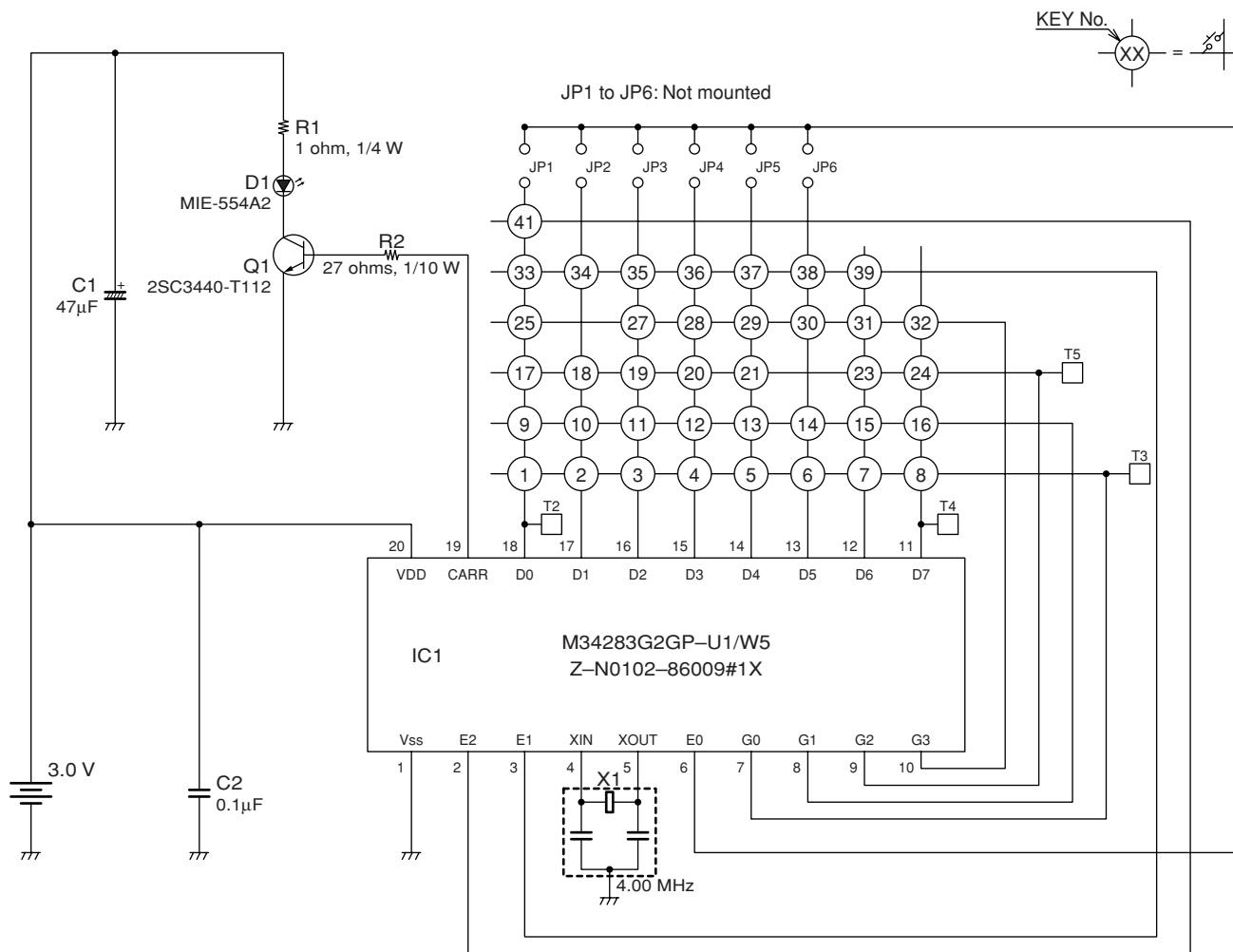


| Ref No. | Part No. | Description | Remarks | Markets | 部 品 名 | ランク |
|---------|----------|--------------------|------------|----------------|-------|---------------|
| * 200 | WN414800 | REMOTE CONTROL | BL, SI | J | リモコン | |
| * 200 | WM472200 | REMOTE CONTROL | BL | U | リモコン | |
| * 200 | WM472500 | REMOTE CONTROL | BL | R | リモコン | |
| * 200 | WM472600 | REMOTE CONTROL | BL | A | リモコン | |
| * 200 | WM472400 | REMOTE CONTROL | BL | B | リモコン | |
| * 200 | WM472300 | REMOTE CONTROL | BL | G | リモコン | |
| * 200 | WK970700 | REMOTE CONTROL | SI | U | リモコン | |
| * 200 | WK971000 | REMOTE CONTROL | SI | R | リモコン | |
| * 200 | WK971100 | REMOTE CONTROL | SI | A | リモコン | |
| * 200 | WK970900 | REMOTE CONTROL | SI | B | リモコン | |
| * 200 | WK970800 | REMOTE CONTROL | SI | G | リモコン | |
| * 200-1 | AAX89770 | BATTERY HOLDER | BL | 103RRS-162-01E | URABG | 電池蓋 |
| * 200-1 | AAX89780 | BATTERY HOLDER | SI | 103RRS-162-50E | | 電池蓋 |
| 202 | AAX73180 | AM LOOP ANTENNA | 2.0m 1pc | CSA1A020Z | | A Mループアンテナ 04 |
| 203 | AAX76680 | INDOOR FM ANTENNA | 1.5m 1pc | CSA1A019Z | J | F M簡易アンテナ 03 |
| 203 | AAX73240 | INDOOR FM ANTENNA | 1.5m 1pc | CSA1A018Z | URABG | F M簡易アンテナ 03 |
| 204 | AAX84630 | INDOOR DAB ANTENNA | 2.0m 1pc | CSA1A27Z | B | D A Bワイヤアンテナ |
| * 205 | AAX80650 | POWER CABLE | BL 2m 1pc | CJA2J091Z | J | 電源コード 07 |
| * 205 | AAX80620 | POWER CABLE | BL 2m 1pc | CJA2A085Z | U | 電源コード |
| * 205 | AAX80630 | POWER CABLE | BL 2m 1pc | CJA2B020Z | RG | 電源コード |
| * 205 | AAX80680 | POWER CABLE | BL 2m 1pc | CJA2S088Z | A | 電源コード |
| * 205 | AAX88530 | POWER CABLE | BL 2m 1pc | CJA2E079Z | B | 電源コード |
| * 205 | AAX88540 | POWER CABLE | SI 2m 1pc | CJA2J091Y | J | 電源コード |
| * 205 | AAX88510 | POWER CABLE | SI 2m 1pc | CJA2A085Y | U | 電源コード |
| * 205 | AAX87460 | POWER CABLE | SI 2m 1pc | CJA2B020Y | RG | 電源コード |
| * 205 | AAX88550 | POWER CABLE | SI 2m 1pc | CJA2S088Y | A | 電源コード |
| * 205 | AAX88520 | POWER CABLE | SI 2m 1pc | CJA2E079Y | B | 電源コード |
| * 206 | AAX80670 | POWER CABLE | BL 2m 1pc | CJA2N078Z | R | 電源コード |
| * 206 | AAX90080 | POWER CABLE | SI 2m 1pc | CJA2N078Y | R | 電源コード |
| * 207 | AAX80640 | POWER CABLE | BL 2m 1pc | CJA2D089Z | R | 電源コード |
| * 207 | AAX90060 | POWER CABLE | SI 2m 1pc | CJA2D089Y | R | 電源コード |
| * 208 | AAX80660 | POWER CABLE | BL 2m 1pc | CJA2L090Z | R | 電源コード |
| * 208 | AAX90070 | POWER CABLE | SI 2m 1pc | CJA2L090Y | R | 電源コード |
| | | LITHIUM BATTERY | CR2025 1pc | | | リチウム電池 |

* New Parts * 新規部品

REMOTE CONTROL

SCHEMATIC DIAGRAM



PANELS

– Black color –

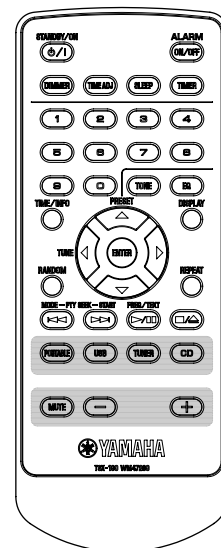
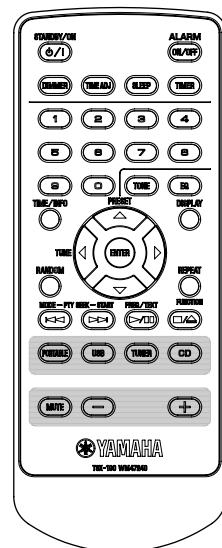
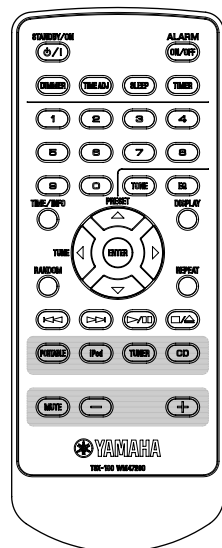
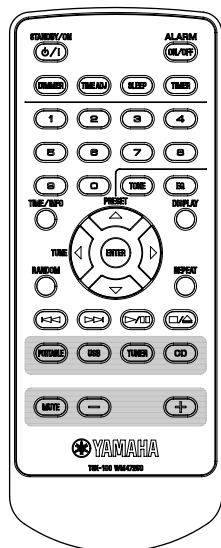
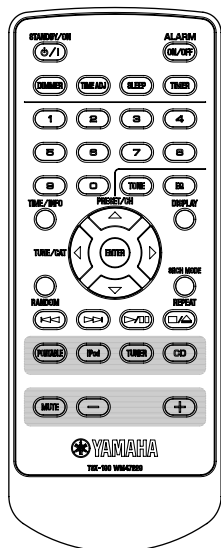
U model

R model

A model

B model

G model



TSX-100

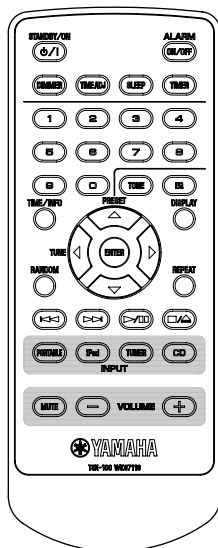
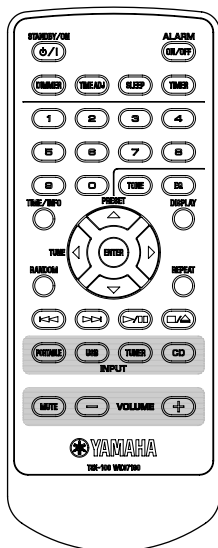
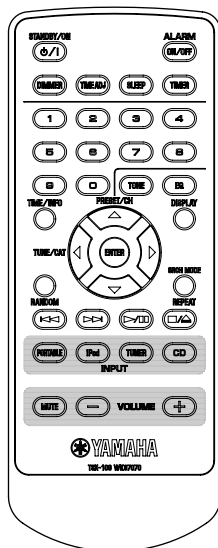
• KEY LAYOUT

– Silver color –

U model

R model

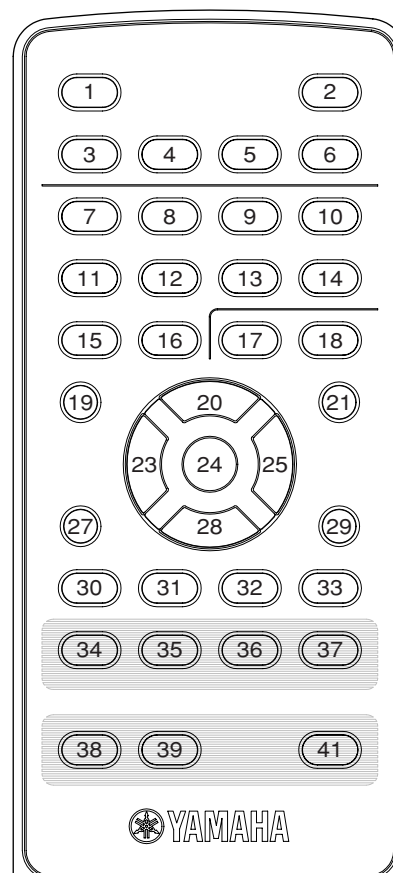
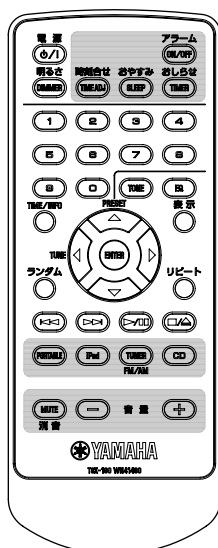
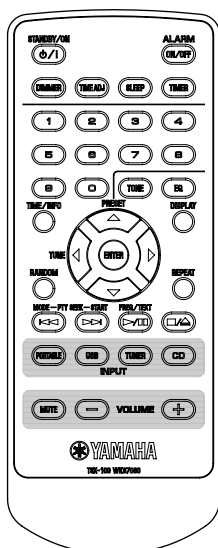
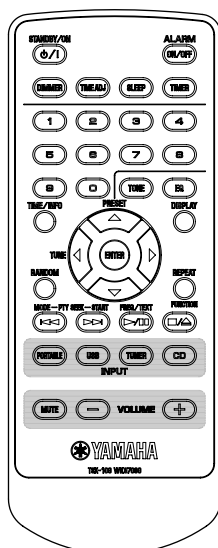
A model



B model

G model

J model
(Black/Silver色、共通)



- KEY CODE

| Key No. | Key Name | | | | | | Custom Code | Data Code |
|---------|--------------------|----------------|----------------|---------------------------|---------------------------|------------------|-------------|-----------|
| | U model | R model | A model | B model | G model | J model | | |
| 1 | STANDBY/ON | STANDBY/ON | STANDBY/ON | STANDBY/ON | STANDBY/ON | 電源 | 78-87 | 0F |
| 2 | ALARM / ON/OFF | ALARM / ON/OFF | ALARM / ON/OFF | ALARM / ON/OFF | ALARM / ON/OFF | アラーム / ON/OFF | 78-87 | A0 |
| 3 | DIMMER | DIMMER | DIMMER | DIMMER | DIMMER | 明るさ / DIMMER | 78-87 | BA |
| 4 | TIME ADJ | TIME ADJ | TIME ADJ | TIME ADJ | TIME ADJ | 時刻合わせ / TIME ADJ | 78-87 | A1 |
| 5 | SLEEP | SLEEP | SLEEP | SLEEP | SLEEP | おやすみ / SLEEP | 78-87 | 4F |
| 6 | TIMER | TIMER | TIMER | TIMER | TIMER | おしらせ / TIMER | 78-87 | 20 |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 78-87 | 11 |
| 8 | 2 | 2 | 2 | 2 | 2 | 2 | 78-87 | 12 |
| 9 | 3 | 3 | 3 | 3 | 3 | 3 | 78-87 | 13 |
| 10 | 4 | 4 | 4 | 4 | 4 | 4 | 78-87 | 14 |
| 11 | 5 | 5 | 5 | 5 | 5 | 5 | 78-87 | 15 |
| 12 | 6 | 6 | 6 | 6 | 6 | 6 | 78-87 | 16 |
| 13 | 7 | 7 | 7 | 7 | 7 | 7 | 78-87 | 17 |
| 14 | 8 | 8 | 8 | 8 | 8 | 8 | 78-87 | 18 |
| 15 | 9 | 9 | 9 | 9 | 9 | 9 | 78-87 | 19 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 78-87 | 10 |
| 17 | TONE | TONE | TONE | TONE | TONE | TONE | 78-87 | 84 |
| 18 | EQ | EQ | EQ | EQ | EQ | EQ | 78-87 | 5A |
| 19 | TIME/INFO | TIME/INFO | TIME/INFO | TIME/INFO | TIME/INFO | TIME/INFO | 78-87 | 0A |
| 20 | PRESET/CH / ▲ | PRESET / ▲ | PRESET / ▲ | PRESET / ▲ | PRESET / ▲ | PRESET / ▲ | 78-87 | 8E |
| 21 | DISPLAY | DISPLAY | DISPLAY | DISPLAY | DISPLAY | 表示 | 78-87 | 4E |
| 23 | TUNE/CAT / ◀ | TUNE / ◀ | TUNE / ◀ | TUNE / ◀ | TUNE / ◀ | TUNE / ◀ | 78-87 | 9F |
| 24 | ENTER | ENTER | ENTER | ENTER | ENTER | ENTER | 78-87 | C1 |
| 25 | ▶ | ▶ | ▶ | ▶ | ▶ | ▶ | 78-87 | 9E |
| 27 | RANDOM | RANDOM | RANDOM | RANDOM | RANDOM | ランダム | 78-87 | 07 |
| 28 | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | 78-87 | 8F |
| 29 | SRCH MODE / REPEAT | REPEAT | REPEAT | REPEAT / FUNCTION | REPEAT | リピート | 78-87 | 0C |
| 30 | ◀◀ | ◀◀ | ◀◀ | MODE-PTY SEEK-START ◀◀ | MODE-PTY SEEK-START ◀◀ | ◀◀ | 78-87 | 04 |
| 31 | ▶▶ | ▶▶ | ▶▶ | MODE-PTY SEEK-START ▶▶ | MODE-PTY SEEK-START ▶▶ | ▶▶ | 78-87 | 03 |
| 32 | ▶ / | ▶ / | ▶ / | FREQ/TEXT / ▶ / | FREQ/TEXT / ▶ / | ▶ / | 78-87 | 02 |
| 33 | ■ / ▲ | ■ / ▲ | ■ / ▲ | ■ / ▲ | ■ / ▲ | ■ / ▲ | 78-87 | 01 |
| 34 | PORTABLE | PORTABLE | PORTABLE | PORTABLE | PORTABLE | PORTABLE | 78-87 | DF |
| 35 | iPod | USB | iPod | USB | USB | iPod | 78-87 | BC |
| 36 | TUNER | TUNER | TUNER | TUNER | TUNER | TUNER / FM/AM | 78-87 | 4B |
| 37 | CD | CD | CD | CD | CD | CD | 78-87 | 4A |
| 38 | MUTE | MUTE | MUTE | MUTE | MUTE | MUTE / 消音 | 78-87 | 9C |
| 39 | - | - | - | - | - | - | 78-87 | 1F |
| 41 | + | + | + | + | + | + | 78-87 | 1E |

TSX-100

