MICRO COMPONENT SYSTEM MCR-E320
COMPACT DISC RECEIVER/SPEAKER SYSTEM

CRX-E320/NX-E700

SERVICE MANUAL

The MCR-E320 consists of the CRX-E320 and the NX-E700.
MCR-E320 は CRX-E320 および NX-E700 で構成されています。

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

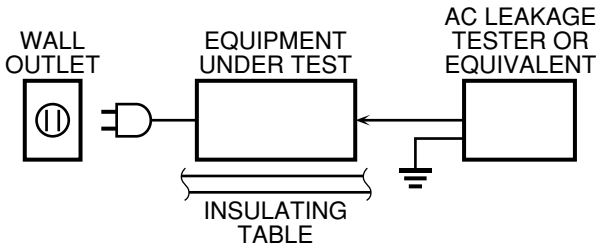
101049

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
'07.06

■ 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!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

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

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: 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.

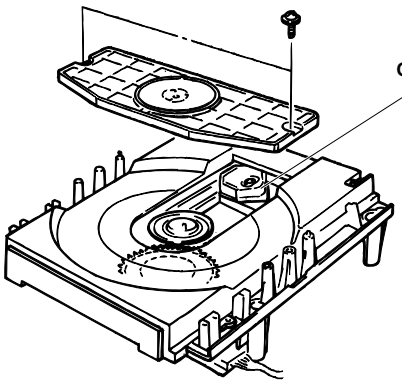
Laser Emitting conditions:

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.

Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: Continuous
- Laser Output: Max. 44.6 μW *

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

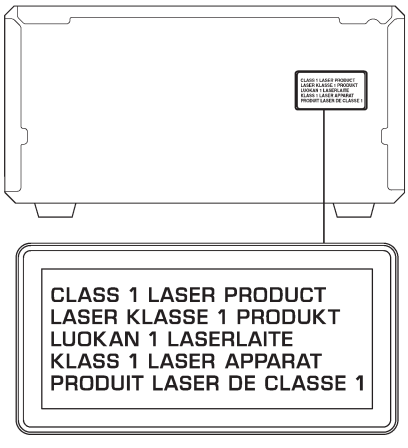


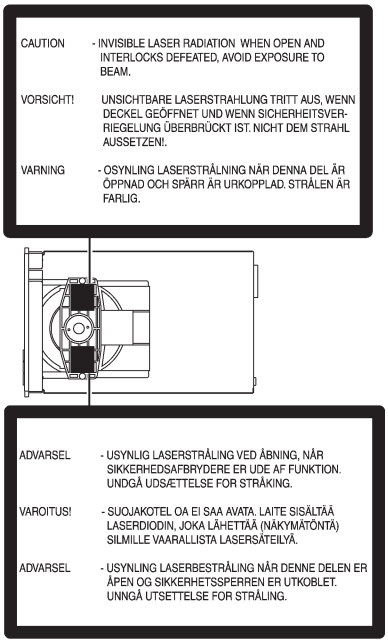
VARO!:	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER-SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING!:	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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.

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





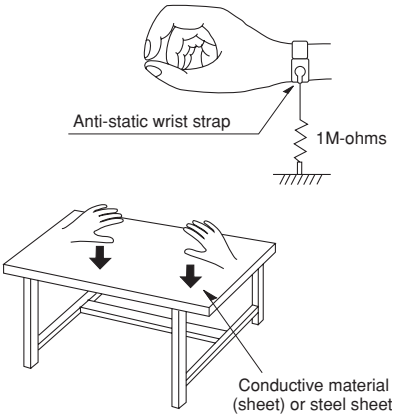
■ PREVENTION OF ELECTROSTATIC DISCHARGE

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 electrostatic 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 divice, 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 the brushing together of your clothes fabric or the 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 anti-static 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 pick-up is placed and ground the sheet.



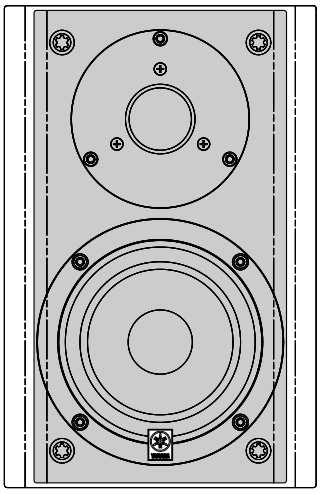
Caution:

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 pick-up.

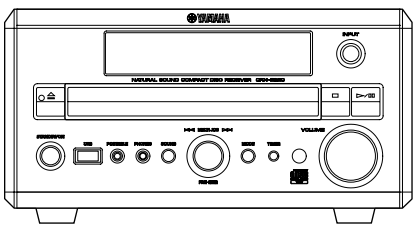
■ SYSTEM COMPOSITION / システム構成

The MCR-E320 consists of the CRX-E320 and the NX-E700.
MCR-E320 は CRX-E320 および NX-E700 で構成されています。

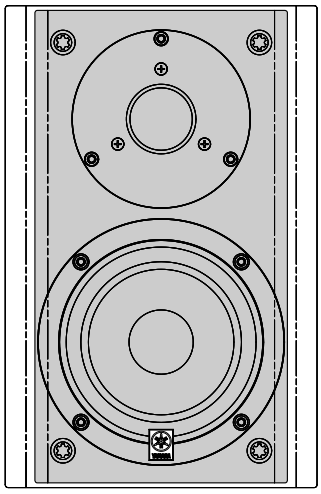
NX-E700



CRX-E320

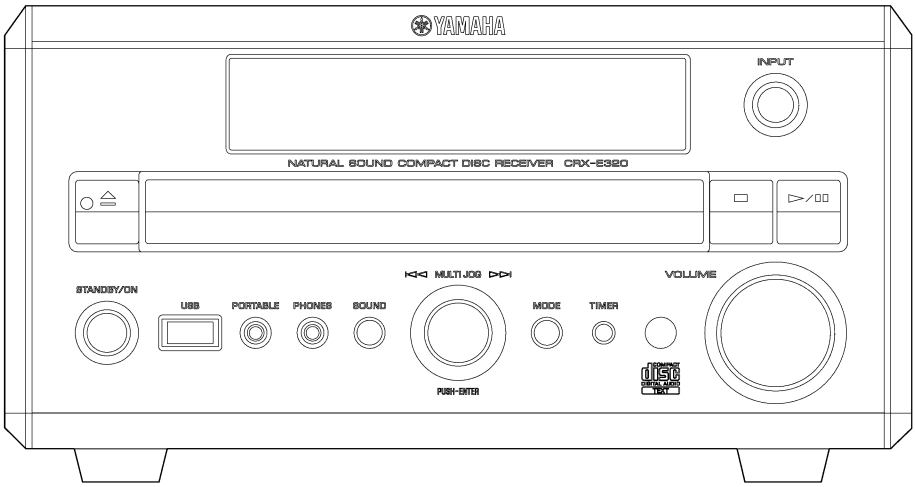


NX-E700



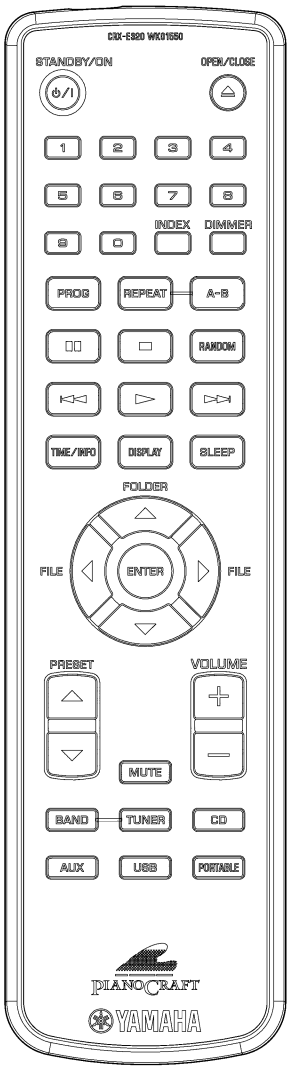
■ FRONT PANEL

CRX-E320

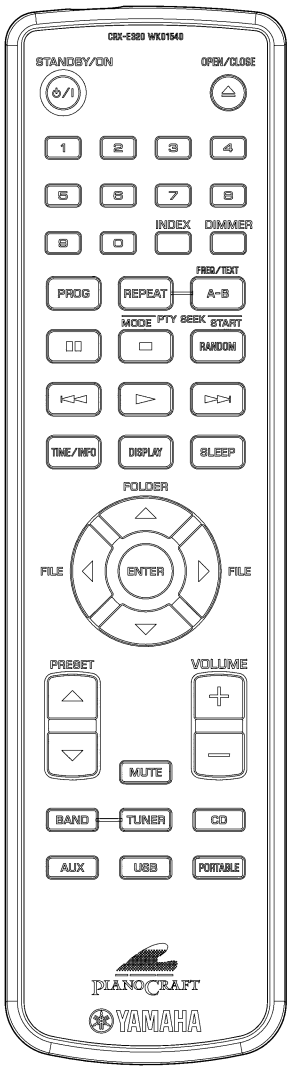


■ REMOTE CONTROL PANELS

- **U, T, K, A, L, J models**



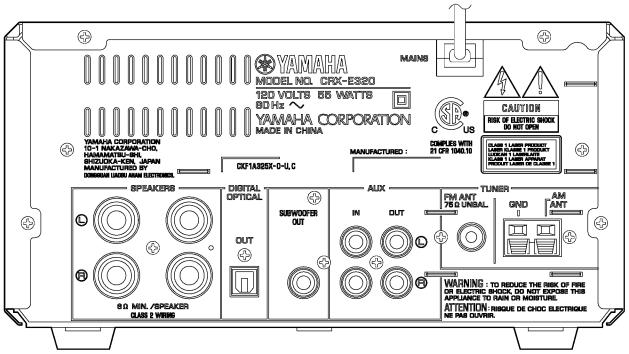
- **G model**



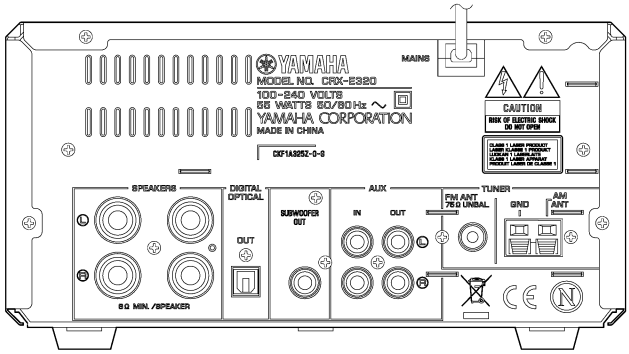
■ REAR PANELS

CRX-E320

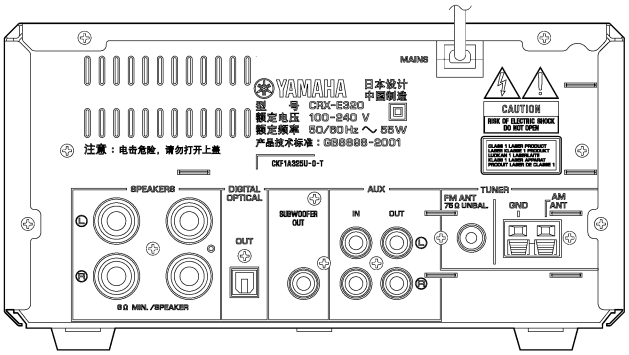
U model



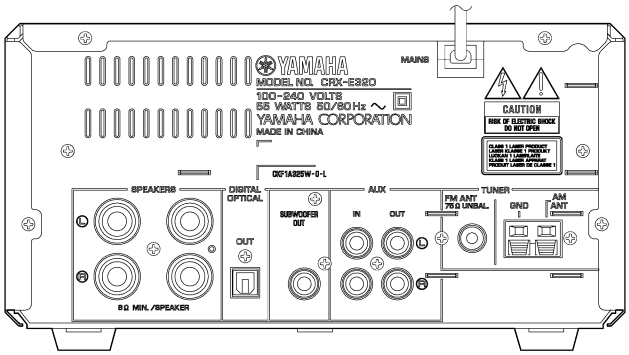
G model



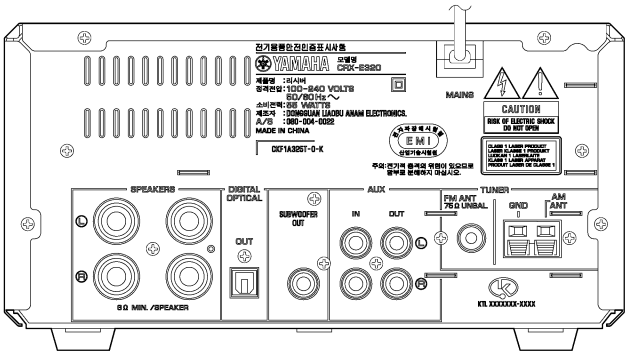
T model



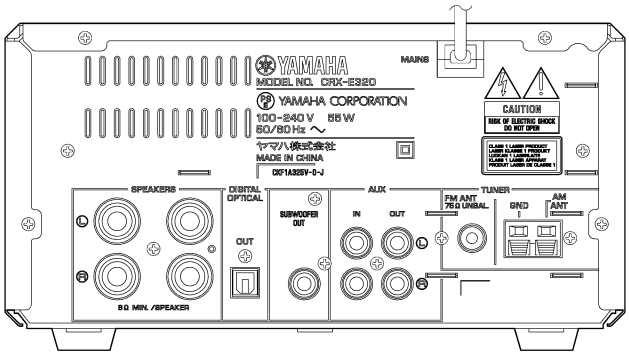
L model



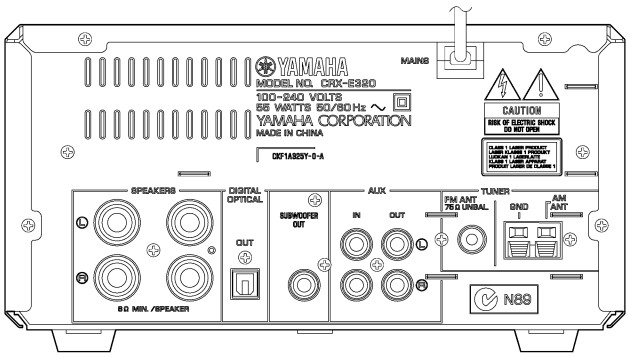
K model



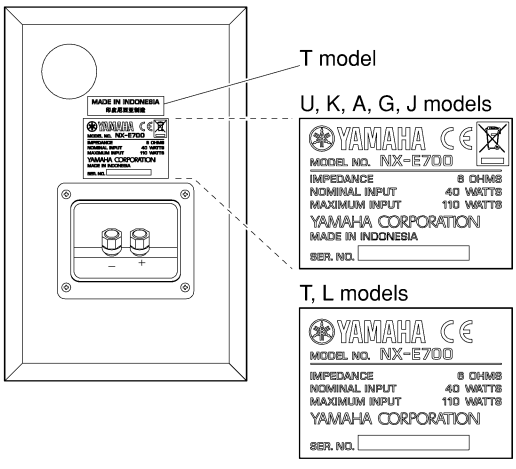
J model



A model



NX-E700



■ SPECIFICATIONS / 参考仕様

CRX-E320

■ Player Section / プレーヤー部

Playback System / 再生システム
CD, CD-R/RW

Audio Performance / オーディオ部性能 (1 kHz)
Signal-Noise ..... 100 dB or more
Dynamic range ..... 100 dB or more
Distortion and Noise ..... 0.005 % or less
DAC 192 kHz/24-bit

■ Amplifier Section / アンプ部

Minimum RMS Output Power Per Channel / 定格出力
(6-ohm, 1 kHz, 0.5 % THD)
25 W + 25 W

Maximum RMS Output Power Per Channel / 実用最大出力
(6-ohm, 1 kHz, 10 % THD)
30 W + 30 W

Input Sensitivity/Impedance / 入力感度/インピーダンス
AUX etc. ..... 300 mV/47 k-ohms

Frequency Response / 周波数特性 (1 W, 6-ohm)
CD etc. ..... 20 Hz to 20 kHz ± 0.5 dB

Total Harmonic Distortion / 全高調波歪率 (6-ohm, 1 kHz, 1 W)
CD etc. ..... 0.08 % or less

Signal to Noise Ratio / S/N比 (IHF-A network)
CD etc. ..... 95 dB or more

Output level/Impedance / 出力レベル/インピーダンス
PHONES (Volume max.) ..... 1 V/32 ohms

■ Tuner Section / チューナー部

FM Section / FMチューナー部
Tuning Range / 受信周波数範囲
U, T, K, A, G, L models ..... 87.50 to 108.00 MHz
J model ..... 76.0 to 108.0 MHz
Sensitivity / 感度
S/N 30 dB ..... 7 dBμVm (EMF)

AM Section / AMチューナー部
Tuning Range / 受信周波数範囲
U model ..... 530 to 1700 kHz
T, K, A, G, L, J models ..... 522 to 1629 kHz
Sensitivity / 感度
S/N 20 dB ..... 60 dB (EMF)

■ General / 総合

Power Supply / 電源電圧
U model ..... AC 120 V, 60 Hz
T, K, A, G, L, J models ..... AC 100 to 240 V, 50/60 Hz

Power Consumption / 消費電力
55 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)
215 x 113 x 308.4 mm (8-7/16" x 4-7/16" x 12-1/8")

Weight / 質量
3.1 kg (6 lbs. 13 oz)

Finish / 仕上げ
Gold color ..... T, A models
Black color ..... G, L, J models
Silver color ..... U, K, G, L models

Accessories / 付属品
Remote control x 1, Indoor FM antenna x 1, AM loop antenna x 1

* 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。

NX-E700

Type / 型式 ..... 2-way bass reflex speaker system/ Magnetic shielding type
2ウェイ・バスレス式／防磁型

Driver / スピーカーユニット
Woofer ..... 11 cm (4-1/2") cone type
Tweeter ..... 2.5 cm (1") dome type

Frequency Response / 再生周波数帯域
U, T, K, A, G and L models ..... 60 Hz to 28 kHz (-10dB)
J model ..... 60 Hz to 80 kHz (-30dB)

Impedance / インピーダンス ..... 6 ohms
Nominal Input / 許容入力 ..... 40 W
Maximum Input / 最大入力 ..... 110 W
Sensitivity / 出力音圧レベル ..... 85 dB/2.83 V/m
Crossover Frequency / クロスオーバー周波数 ..... 3 kHz
Input Terminal / 入力端子 ..... Screw/Banana type
Dimensions (W x H x D) / 寸法(幅×高さ×奥行き)
165 mm x 255 mm x 183 mm (6-1/2" x 10-1/16" x 7-3/16")
Weight / 質量 ..... 3.4 kg (7 lbs 8 oz)
Finish / 仕上げ ..... Black color
Accessories / 付属品 ..... Speaker cable (4 m) x 2

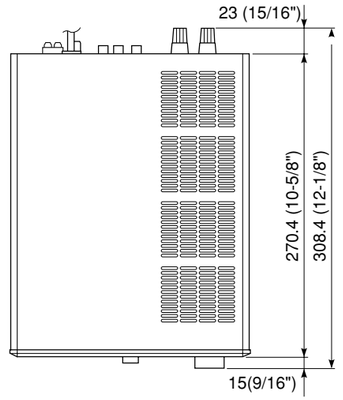
* Specifications are subject to change without notice due to product improvements.

※ 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。

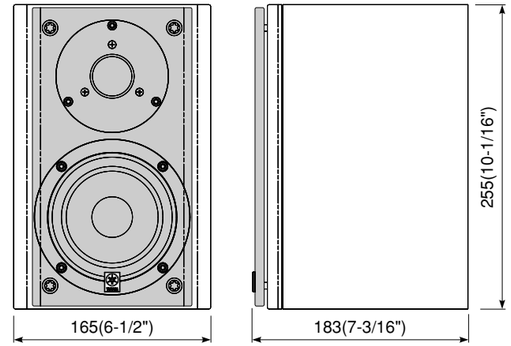
U ..... U.S.A. and Canadian models
T ..... Chinese model
K ..... Korean model
A ..... Australian model
G ..... European model
L ..... Singapore model
J ..... Japanese model

- **DIMENSIONS / 寸法図**

CRX-E320



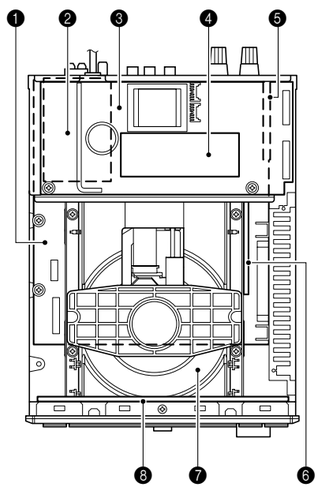
NX-E700



Unit: mm (inch)
単位：mm(インチ)

■ INTERNAL VIEW

CRX-E320



❶ MAIN (1) P.C.B.
❷ TUNER MODULE
❸ FRONT / SMPS (3) P.C.B.
❹ CONNECTOR P.C.B.
❺ MAIN (2) P.C.B.
❻ FRONT / SMPS (2) P.C.B
❼ CD MECHANISM UNIT
❽ FRONT / SMPS (1) P.C.B

■ DISASSEMBLY PROCEDURES / 分解手順

CRX-E320

- Remove parts in disassembly order as numbered.
- Disconnect the power cable from the AC outlet.

- 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。

1. Removal of Top Cover

a. Remove 2 screws (①) and 4 screws (②). (Fig. 1)
b. Slide the top cover rearward to remove it. (Fig. 1)

1. トップカバーの外し方

a. ①のネジ2本、②のネジ4本を外します。(Fig. 1)
b. トップカバーを後方へスライドさせ取り外します。(Fig. 1)

2. Removal of Front Panel Unit

a. Eject the tray. (See “How to manually eject the tray”.)
b. Remove the tray lid and close the tray. (Fig. 1)
c. Remove 2 screws (③) and 2 screws (④). (Fig. 1)
d. Remove CN81. (Fig. 1)
e. Remove 2 hooks and then slide the front panel unit forward. (Fig. 1)
f. Remove CN82. (Fig. 1)

2. フロントパネルユニットの外し方

a. トレイを開きます。(“手動でトレイを開く方法”を参照)
b. トレイリッドを外し、トレイを閉じます。(Fig. 1)
c. ③のネジ2本、④のネジ2本を外します。(Fig. 1)
d. CN81を外します。(Fig. 1)
e. フック2箇所を外し、フロントパネルユニットを前方へ引き出します。(Fig. 1)
f. CN82を外します。(Fig. 1)

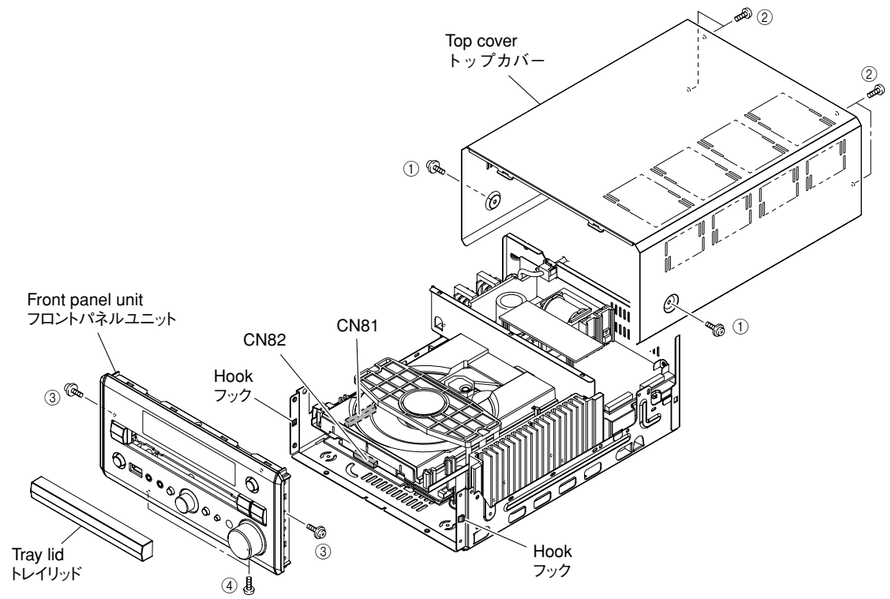


Fig. 1

- **How to manually eject the tray / 手動でトレイを開く方法**

a. Turn the unit bottom up.
b. Using a flatblade screwdriver, turn the loading cam 90 degrees in the direction indicated by an arrow in the figure. (Fig. 2)
c. Gently pull the tray out.

a. 本機を上下反転します。
b. マイナスドライバーでローディングカムを図に示す矢印の方向に90度回転します。(Fig. 2)
c. トレイをそっと引き出します。

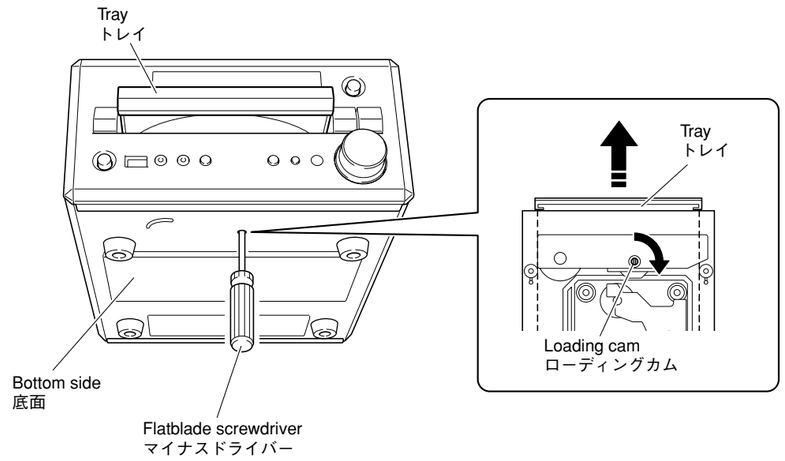


Fig. 2

3. Removal of FRONT/SMPS (3) P.C.B.

a. Remove 2 screws (⑤). (Fig. 3)
b. Remove 2 screws (⑥). (Fig. 4)
c. Remove CN91, CN92 and CN93. (Fig. 3)
d. Remove power cable. (Fig. 3)
e. Remove 2 screws (⑦). (Fig. 3)
f. Remove screw (⑧). (Fig. 4)
g. Remove FRONT/SMPS (3) P.C.B. together with the shield case. (Fig. 3)

3. FRONT/SMPS(3)P.C.B.の外し方

a. ⑤のネジ2本を外します。(Fig. 3)
b. ⑥のネジ2本を外します。(Fig. 4)
c. CN91、CN92、CN93を外します。(Fig. 3)
d. 電源コードを取り外します。(Fig. 3)
e. ⑦のネジ2本を外します。(Fig. 3)
f. ⑧のネジ1本を外します。(Fig. 4)
g. FRONT/SMPS(3)P.C.B.をシールドケースと一緒に取り外します。(Fig. 3)

4. Removal of CD Mechanism Unit

a. Remove 4 screws (⑨). (Fig. 3)
b. Remove CN31 and CN32. (Fig. 3)
c. Remove CD mechanism unit. (Fig. 3)

4. CDメカユニットの外し方

a. ⑨のネジ4本を外します。(Fig. 3)
b. CN31、CN32を外します。(Fig. 3)
c. CDメカユニットを取り外します。(Fig. 3)

5. Removal of Tuner Module

a. Remove 2 screws (⑩). (Fig. 4)
b. Remove CN45. (Fig. 3)
c. Remove tuner module. (Fig. 3)

5. チューナーモジュールの外し方

a. ⑩のネジ2本を外します。(Fig. 4)
b. CN45を外します。(Fig. 3)
c. チューナーモジュールを取り外します。(Fig. 3)

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

a. Remove 2 screws (⑪), screw (⑫) and 5 screws (⑬). (Fig. 3)
b. Remove 4 screws (⑭). (Fig. 4)
c. Remove MAIN (1) P.C.B. together with the heat sink. (Fig. 3)

6. MAIN(1)P.C.B.の外し方

a. ⑪のネジ2本、⑫のネジ1本、⑬のネジ5本を外します。(Fig. 3)
b. ⑭のネジ4本を外します。(Fig. 4)
c. MAIN(1)P.C.B.をヒートシンクと一緒に取り外します。(Fig. 3)

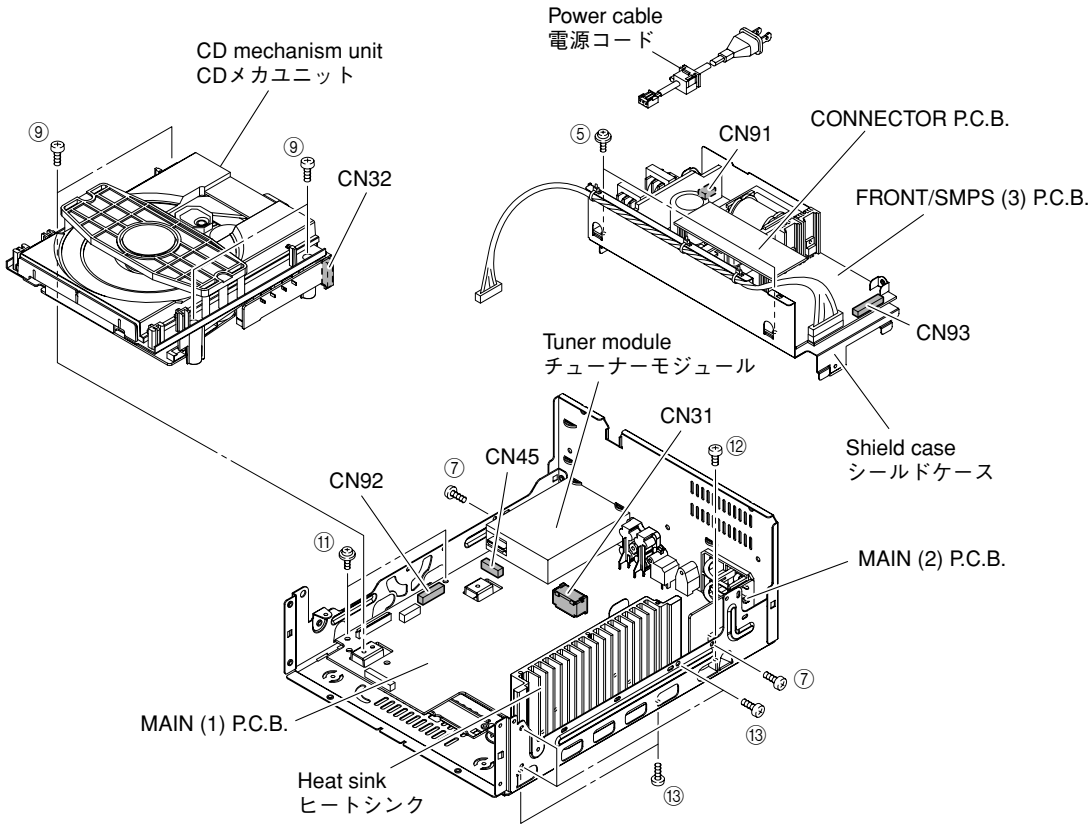

Power cable
電源コード
CD mechanism unit
CDメカユニット
CONNECTOR P.C.B.
CN91
CN32
FRONT/SMPS (3) P.C.B.
CN93
Tuner module
チューナーモジュール
CN31
CN45
CN92
Shield case
シールドケース
MAIN (2) P.C.B.
MAIN (1) P.C.B.
Heat sink
ヒートシンク

Fig. 3

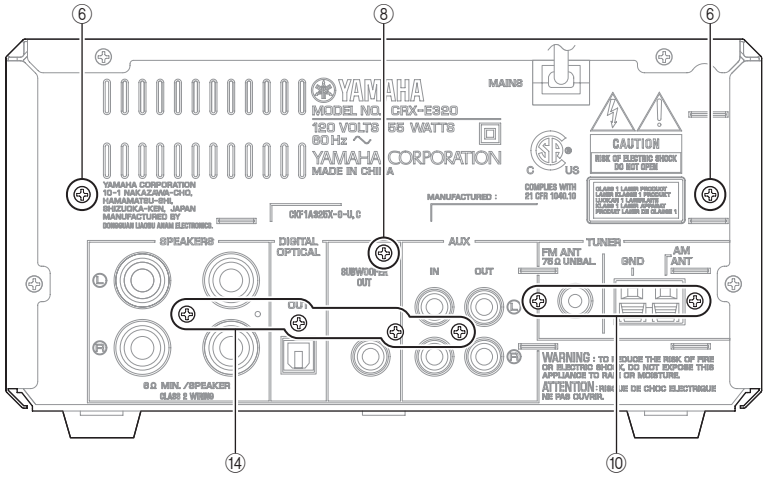

YAMAHA
MODEL NO. CRX-E320
120 VOLTS 55 WATTS
60 Hz
YAMAHA CORPORATION
MADE IN CHINA
CAUTION
SPEAKERS
DIGITAL OPTICAL
AUX
TUNER
FM ANT 75Ω UNBAL.
GND
AM ANT

Fig. 4

7. Removal of Optical Pick-up Unit

a. Remove 4 screws (⑮) and then remove the drive unit. (Fig. 5)
b. Remove flexible flat cable and connector ass'y. (Fig. 5)
c. Remove stopper gear A and then remove the gear A. (Fig. 6)
d. Remove stopper sled shaft and then remove the sled shaft. (Fig. 6)
e. Remove the optical pick-up unit. (Fig. 6)
   * Never touch the potentiometer (VR301) installed to the optical pick-up unit. (Fig. 7)

7. オプティカルピックアップユニットの外し方

a. ⑮のネジ4本を外し、ドライブユニットを取り外します。(Fig. 5)
b. カード電線、コネクターASSYを外します。(Fig. 5)
c. ギアAストッパーを外し、ギアAを取り外します。(Fig. 6)
d. 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. 6)
e. オプティカルピックアップユニットを取り外します。(Fig. 6)
   * 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(VR301)は、絶対に触らないでください。(Fig. 7)

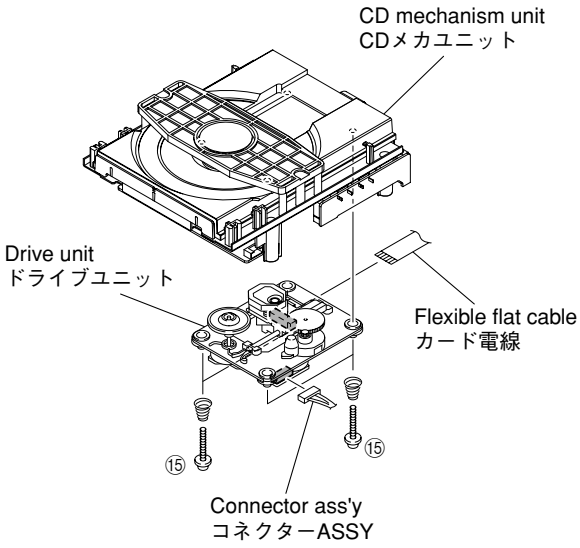


Fig. 5

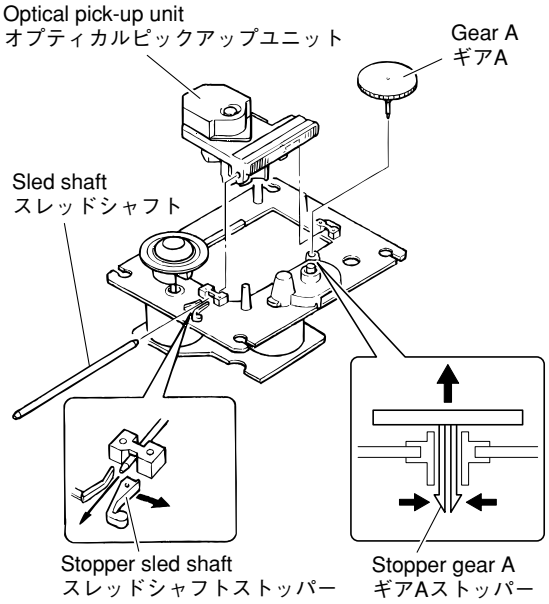


Fig. 6

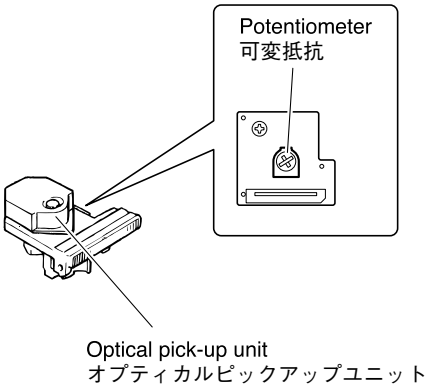


Fig. 7

■ TEST MODE

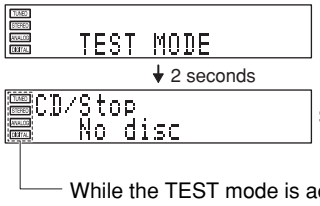
Operation and FIP display of the CD mechanism unit are checked.

• Starting Test Mode

a. Connect the power cable to the AC power outlet.

b. Press the "STANDBY/ON" key while simultaneously pressing "► / ▮▮" (PLAY/PAUSE) and "■" (STOP) keys of the main unit.

c. TEST mode is activated and "TEST MODE" flashes for about 2 seconds.



Starting TEST mode

While the TEST mode is activated, the indicator remains ON constantly.

d. When using the input source other than [CD] for the main unit, press the "CD" key of the remote control to set the input source as [CD].

*** While the TEST mode is at work, it is not possible to change the input source even by pressing the "INPUT" key of the main unit.**

• Function list of panel keys.

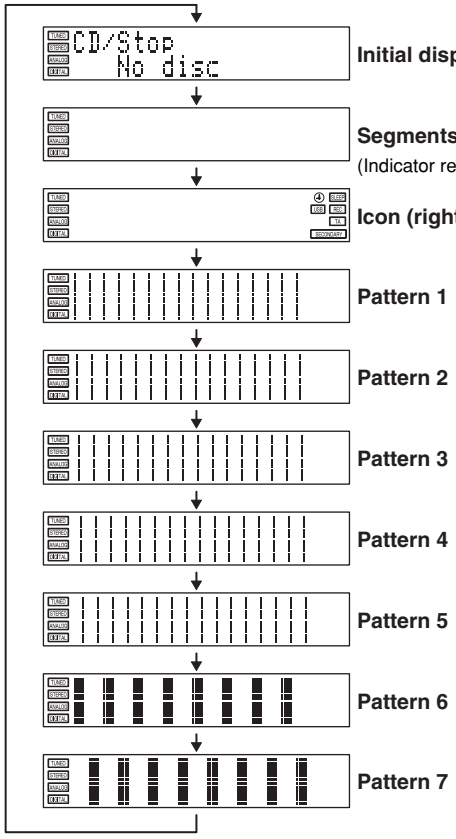
Panel key	Function
⏏ (OPEN/CLOSE)	Tray open/close.
► / ▮▮ (PLAY/PAUSE)	Playback/Pause.
■ (STOP)	Stop.
⏮ / ◄◄ (SKIP-/SEARCH-)	Move traverse reverse.
►► / ⏭ (SKIP+/SEARCH+)	Move traverse forward.

• Function list of remote control keys.

Panel key	Function
⏏ (OPEN/CLOSE)	Tray open/close.
► (PLAY)	Playback.
▮▮ (PAUSE)	Pause.
■ (STOP)	Stop.
⏮ (SKIP-)	Move traverse reverse.
⏭ (SKIP+)	Move traverse forward.
TIME/INFO	Check FIP display. (*1)
RANDOM	Spindle servo on/off.

***1 Check FIP display**

The display condition varies as shown below according to the "TIME/INFO" key of the remote control.



• Canceling Test Mode

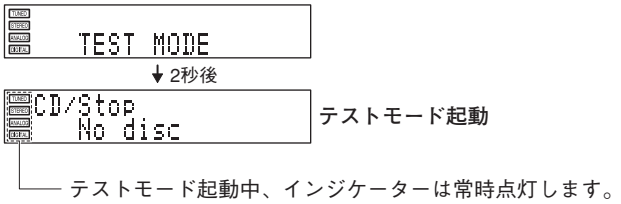
Press the "STANDBY/ON" key of the main unit and disconnect the power cable from the AC power outlet.

■ テストモード

CDメカユニットの動作チェックおよび表示器のチェックを行います。

・ テストモードの起動

a. 電源コードをACコンセントに接続します。
b. 同時に本機の“► / ▮▮”(PLAY/PAUSE)キーと“■”(STOP)キーを押しながら、“STANDBY/ON”キーを押します。
c. テストモードが起動し、約2秒間“TEST MODE”が点滅表示されます。



d. 本機の入力ソースが「CD」以外の場合、リモコンの“CD”キーを押して本機の入力ソースを「CD」に設定します。
＊ テストモード起動中、本機の“INPUT”キーを押しても入力ソースは変更できません。

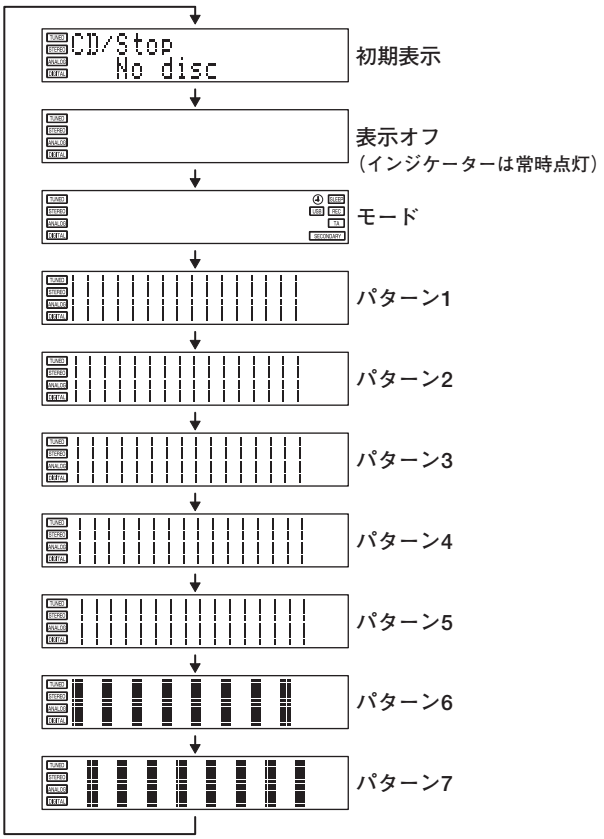
・ パネルキー操作リスト

パネルキー	機能
⏏ (OPEN/CLOSE)	トレイ オープン／クローズ
► / ▮▮ (PLAY/PAUSE)	再生／一時停止
■ (STOP)	停止
⏮ / ◄◄ (SKIP-/SEARCH-)	トラバース内周移動
►► / ⏭ (SKIP+/SEARCH+)	トラバース外周移動

・ リモコンキー操作リスト

パネルキー	機能
⏏ (OPEN/CLOSE)	トレイ オープン・クローズ
► (PLAY)	再生
▮▮ (PAUSE)	一時停止
■ (STOP)	停止
⏮ (SKIP-)	トラバース内周移動
⏭ (SKIP+)	トラバース外周移動
TIME/INFO	表示器チェック(*1)
RANDOM	スピンドルサーボオン／オフ

***1 表示器のチェック**
リモコンの “TIME/INFO” キーを押すことにより、表示状態が下記のように変わります。



・ テストモードの解除

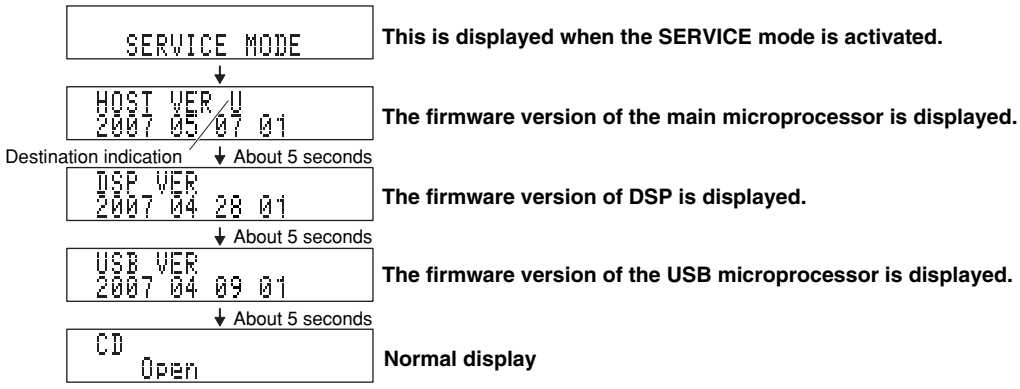
本機の“STANDBY/ON”キーを押し、ACコンセントから電源コードを抜きます。

■ SERVICE MODE

The firmware versions of the main microprocessor, DSP and USB microprocessors are displayed.

• Starting Service Mode

a. Connect the power cable to the AC power outlet.
b. To open the tray, press the "⏏"(EJECT) key of the main unit or "OPEN/CLOSE" key of the remote control.
c. With the tray drawn out, press and hold the "■" (STOP) key of the main unit for about 4 seconds.
Then the SERVICE mode is activated.
Each firmware version is displayed at about 5 seconds intervals.



d. To close the tray, press the "⏏"(EJECT) key of the main unit or "OPEN/CLOSE" key of the remote control.
e. Press the "STANDBY/ON" key of the main unit or "STANDBY/ON" key of the remote control and disconnect the power cable from the AC power outlet.

■ FACTORY MODE

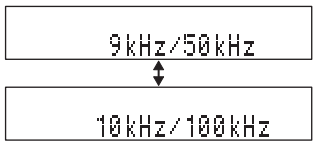
Factory settings are restored and the tuner step is changed (L model).

• Starting Factory Reset

All settings are returned to initial settings.
a. Connect the power cable to the AC power outlet.
b. Press the "STANDBY/ON" key for about 4 seconds continuously while pressing "SOUND" and "MODE" keys of the main unit simultaneously. [FACTORY RESET] is displayed and after about 4 seconds, the power is turned off automatically.
c. Disconnect the power cable from the AC power outlet.

• Starting Tuner Step (L model)

Select the tuner step AM9kHz/FM50kHz or AM10kHz/FM100kHz.
The initial setting becomes AM9kHz/FM50kHz.
a. Connect the power cable to the AC power outlet.
b. Press the "STANDBY/ON" key for about 4 seconds continuously while pressing "SOUND" and "INPUT" keys of the main unit simultaneously,
[10kHz/100kHz] flashes and after about 4 seconds, the power is turned off automatically.
* The setting is changed to [9kHz/50kHz] when the tuner step is activated again.



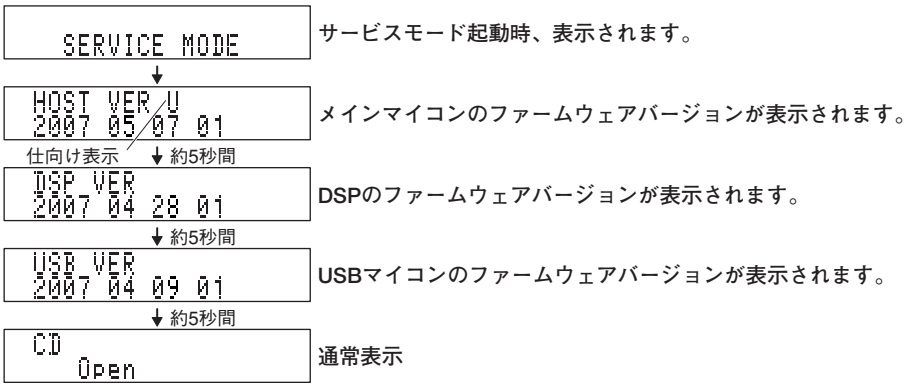
(Default)
This setting change takes place every time the tuner step is activated.

■ サービスモード

メインマイコン、DSP、USBマイコンの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. 電源コードをACコンセントに接続します。
b. 本機の“⏏”(イジェクト)キーまたはリモコンの“OPEN/CLOSE”キーを押し、トレイを引き出します。
c. トレイを引き出した状態で、本機の“■”(STOP)キーを約4秒間押し続けます。
サービスモードが起動します。
各ファームウェアバージョンは約5秒間隔で表示されます。



d. 本機の“⏏”(イジェクト)キーまたは、リモコンの“OPEN/CLOSE”キーを押し、トレイを閉じます。
e. 本機の“STANDBY/ON”キーまたはリモコンの“STANDBY/ON”キーを押し、ACコンセントから電源コードを抜きます。

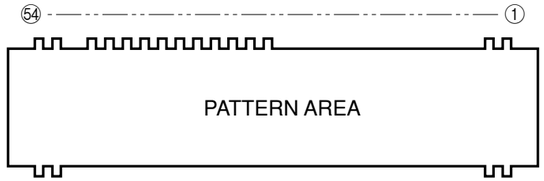
■ ファクトリーモード

・ 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. 電源コードをACコンセントに接続します。
b. 同時に本機の“SOUND”キーと“MODE”キーを押しながら、“STANDBY/ON”キーを約4秒間押し続けます。
「FACTORY RESET」が表示され、約4秒後自動で電源オフされます。
c. ACコンセントから電源コードを抜きます。

■ DISPLAY DATA

● FIP1: HCA-17SM03T (FRONT/SMPS P.C.B.)



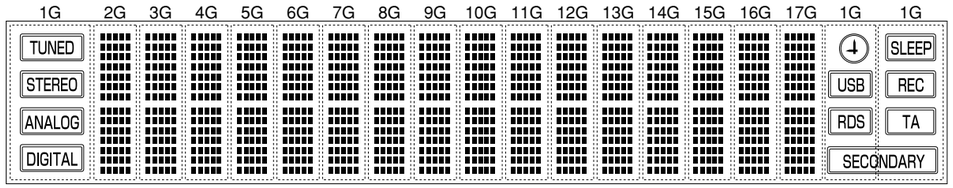
● PIN CONNECTION

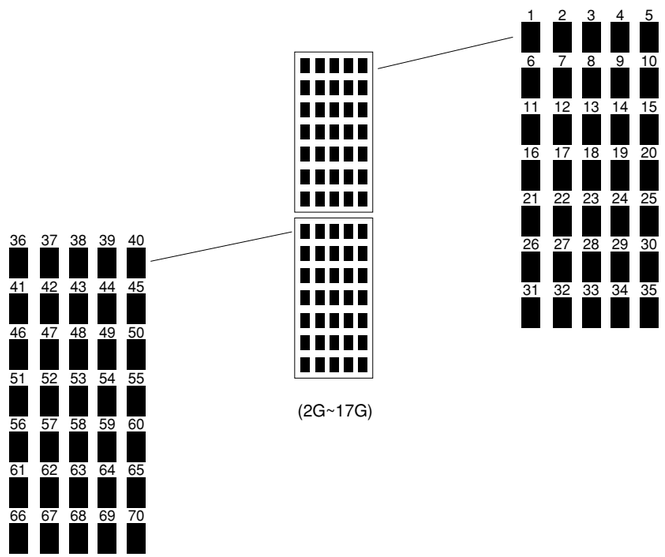
Pin No.	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
Connection	F-	F-	NP	NP	V_{DISP}	L-GND	D-GND	V_{DD}	OSCO	/RST	/CS	/CP	DA	DO	Test	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Pin No.	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	F+	F+

Note : 1) F+, F- ..... Filament pin 2) DO ..... Serial data output 3) Test ..... Be left open if not used. 4) NP ..... No pin

● GRID ASSIGNMENT



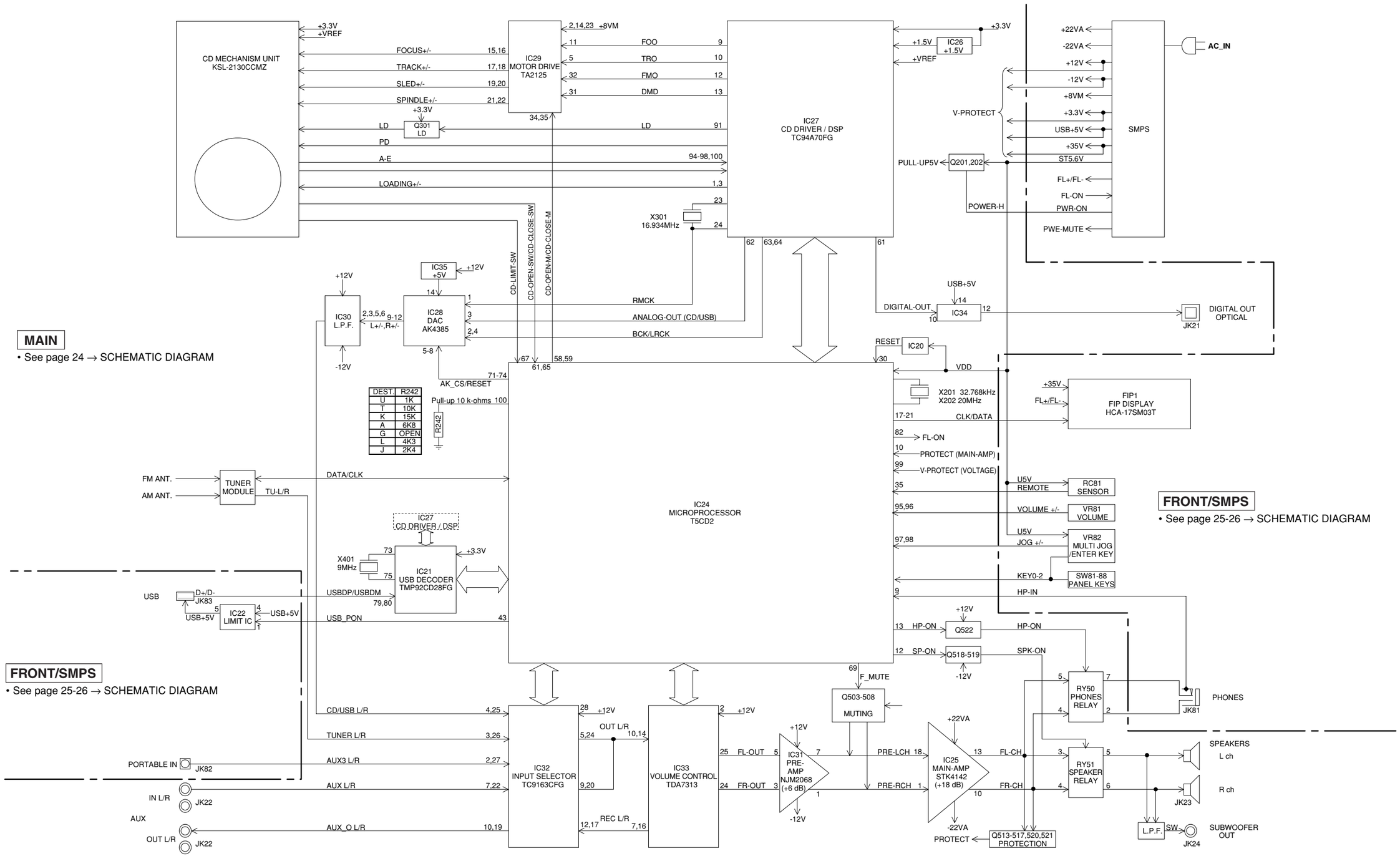


● ANODE CONNECTION

	COM1	COM2	COM3	–	COM15	COM16	COM17
	1G	2G	3G	–	15G	16G	17G
SEGB1	TUNED	1	1	1	1	1	1
SEGB2		2	2	2	2	2	2
SEGB3		3	3	3	3	3	3
SEGB4		4	4	4	4	4	4
SEGB5		5	5	5	5	5	5
SEGB6		6	6	6	6	6	6
SEGB7		7	7	7	7	7	7
SEGB8		8	8	8	8	8	8
SEGB9		9	9	9	9	9	9
SEGB10		10	10	10	10	10	10
SEGB11		11	11	11	11	11	11
SEGB12		12	12	12	12	12	12
SEGB13		13	13	13	13	13	13
SEGB14		14	14	14	14	14	14
SEGB15		15	15	15	15	15	15
SEGB16		16	16	16	16	16	16
SEGB17		17	17	17	17	17	17
SEGB18		18	18	18	18	18	18
SEGB19		19	19	19	19	19	19
SEGB20	⏲	20	20	20	20	20	20
SEGB21	STEREO	21	21	21	21	21	21
SEGB22	SLEEP	22	22	22	22	22	22
SEGB23		23	23	23	23	23	23
SEGB24		24	24	24	24	24	24
SEGB25		25	25	25	25	25	25
SEGB26		26	26	26	26	26	26
SEGB27		27	27	27	27	27	27
SEGB28		28	28	28	28	28	28
SEGB29		29	29	29	29	29	29
SEGB30		30	30	30	30	30	30
SEGB31		31	31	31	31	31	31
SEGB32	USB	32	32	32	32	32	32
SEGB33	REC	33	33	33	33	33	33
SEGB34		34	34	34	34	34	34
SEGB35		35	35	35	35	35	35

	COM1	COM2	COM3	–	COM15	COM16	COM17
	1G	2G	3G	–	15G	16G	17G
SEGA1		36	36	36	36	36	36
SEGA2		37	37	37	37	37	37
SEGA3		38	38	38	38	38	38
SEGA4		39	39	39	39	39	39
SEGA5		40	40	40	40	40	40
SEGA6		41	41	41	41	41	41
SEGA7		42	42	42	42	42	42
SEGA8		43	43	43	43	43	43
SEGA9		44	44	44	44	44	44
SEGA10		45	45	45	45	45	45
SEGA11	ANALOG	46	46	46	46	46	46
SEGA12	RDS	47	47	47	47	47	47
SEGA13	TA	48	48	48	48	48	48
SEGA14		49	49	49	49	49	49
SEGA15		50	50	50	50	50	50
SEGA16		51	51	51	51	51	51
SEGA17		52	52	52	52	52	52
SEGA18		53	53	53	53	53	53
SEGA19		54	54	54	54	54	54
SEGA20		55	55	55	55	55	55
SEGA21	DIGITAL	56	56	56	56	56	56
SEGA22		57	57	57	57	57	57
SEGA23		58	58	58	58	58	58
SEGA24		59	59	59	59	59	59
SEGA25	SECONDARY	60	60	60	60	60	60
SEGA26		61	61	61	61	61	61
SEGA27		62	62	62	62	62	62
SEGA28		63	63	63	63	63	63
SEGA29		64	64	64	64	64	64
SEGA30		65	65	65	65	65	65
SEGA31		66	66	66	66	66	66
SEGA32		67	67	67	67	67	67
SEGA33		68	68	68	68	68	68
SEGA34		69	69	69	69	69	69
SEGA35		70	70	70	70	70	70

■ BLOCK DIAGRAM



MAIN

• See page 24 → SCHEMATIC DIAGRAM

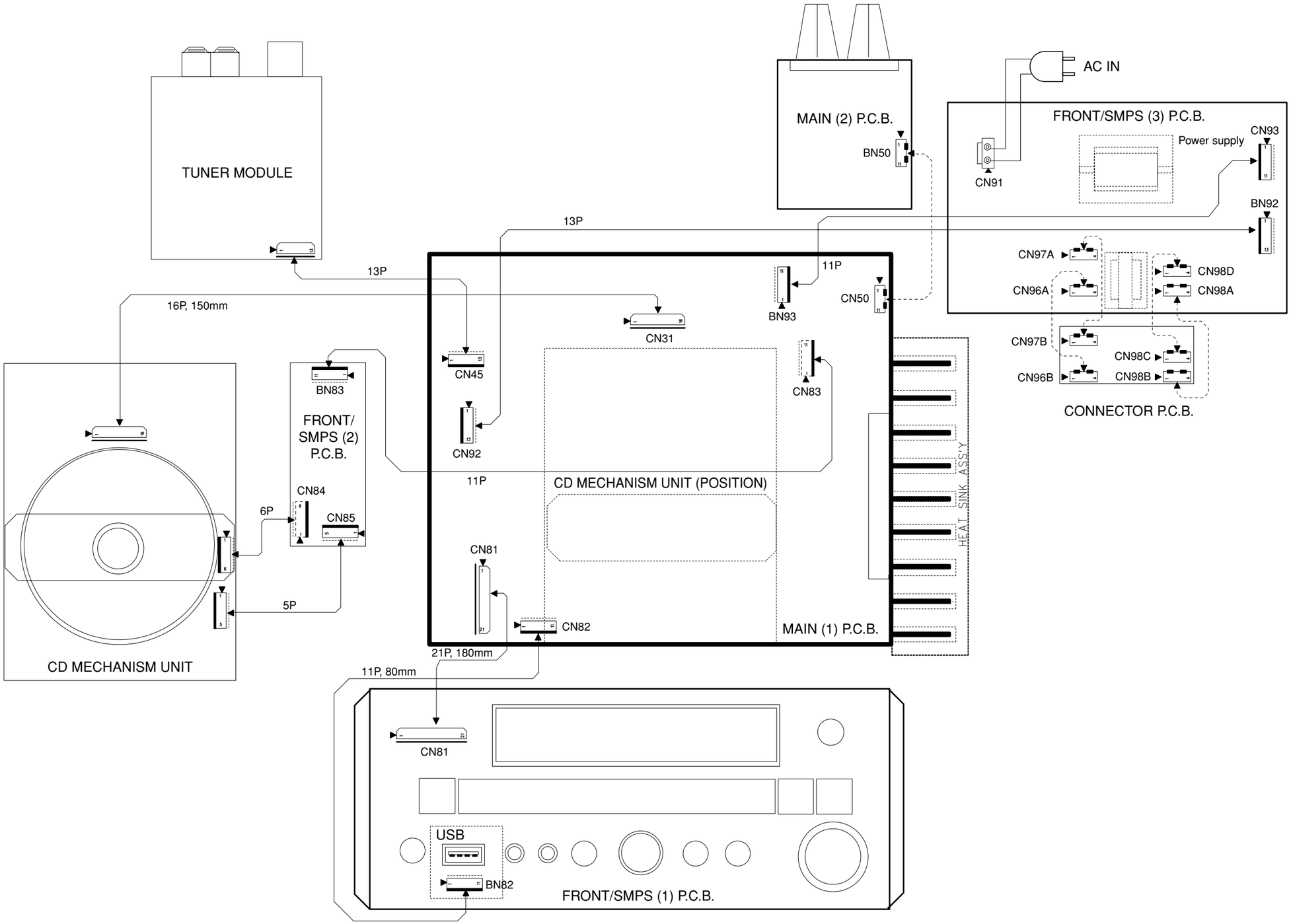
FRONT/SMPS

• See page 25-26 → SCHEMATIC DIAGRAM

FRONT/SMPS

• See page 25-26 → SCHEMATIC DIAGRAM

■ WIRING DIAGRAM



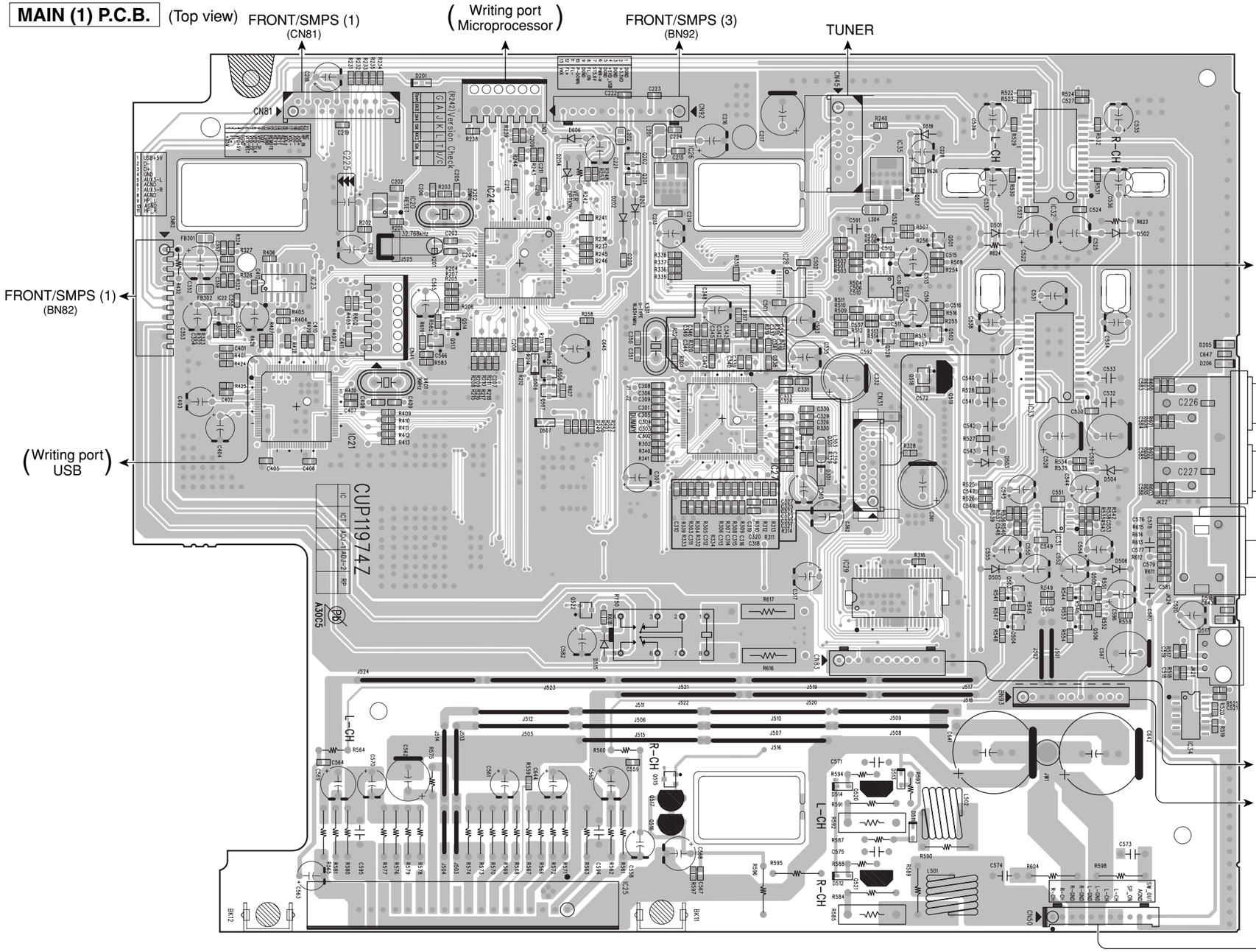
■ PRINTED CIRCUIT BOARDS

CRX-E320

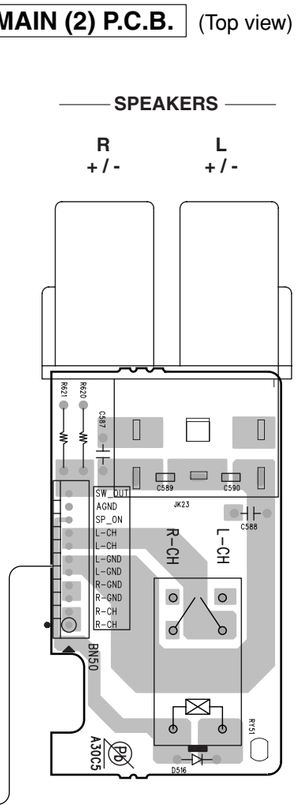
Note) The electrical parts available as servicing parts are those in the replacement parts list only. When replacement of any electrical part other than those in the list is necessary, replace the P.C.B. assembly which includes that part.

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。

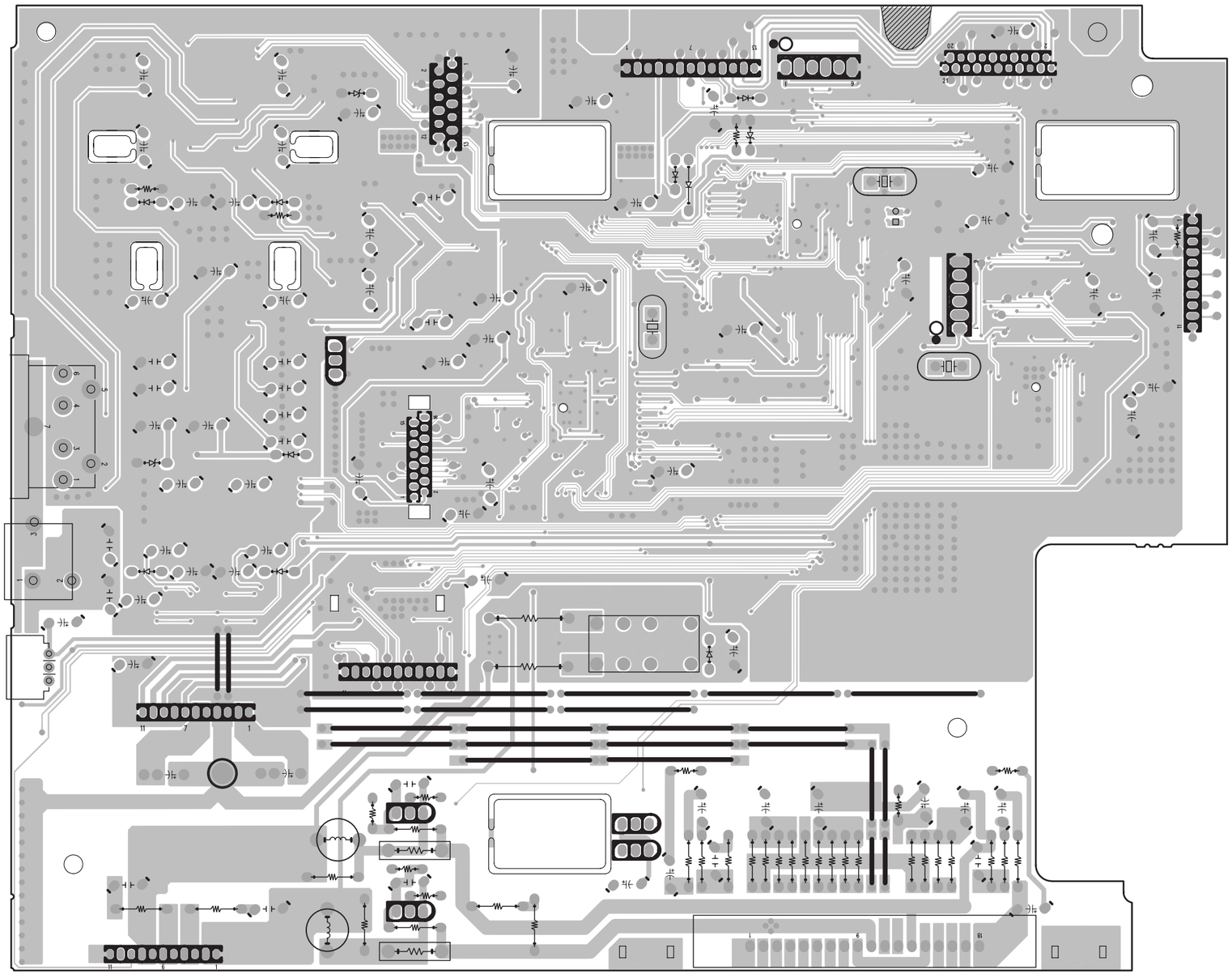
MAIN (1) P.C.B. (Top view)



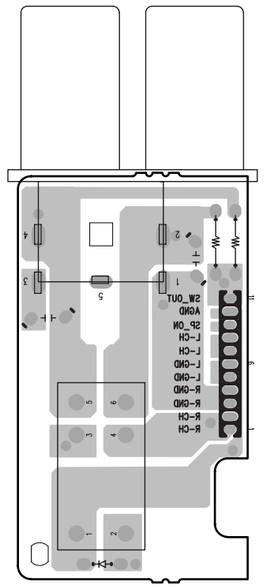
MAIN (2) P.C.B. (Top view)



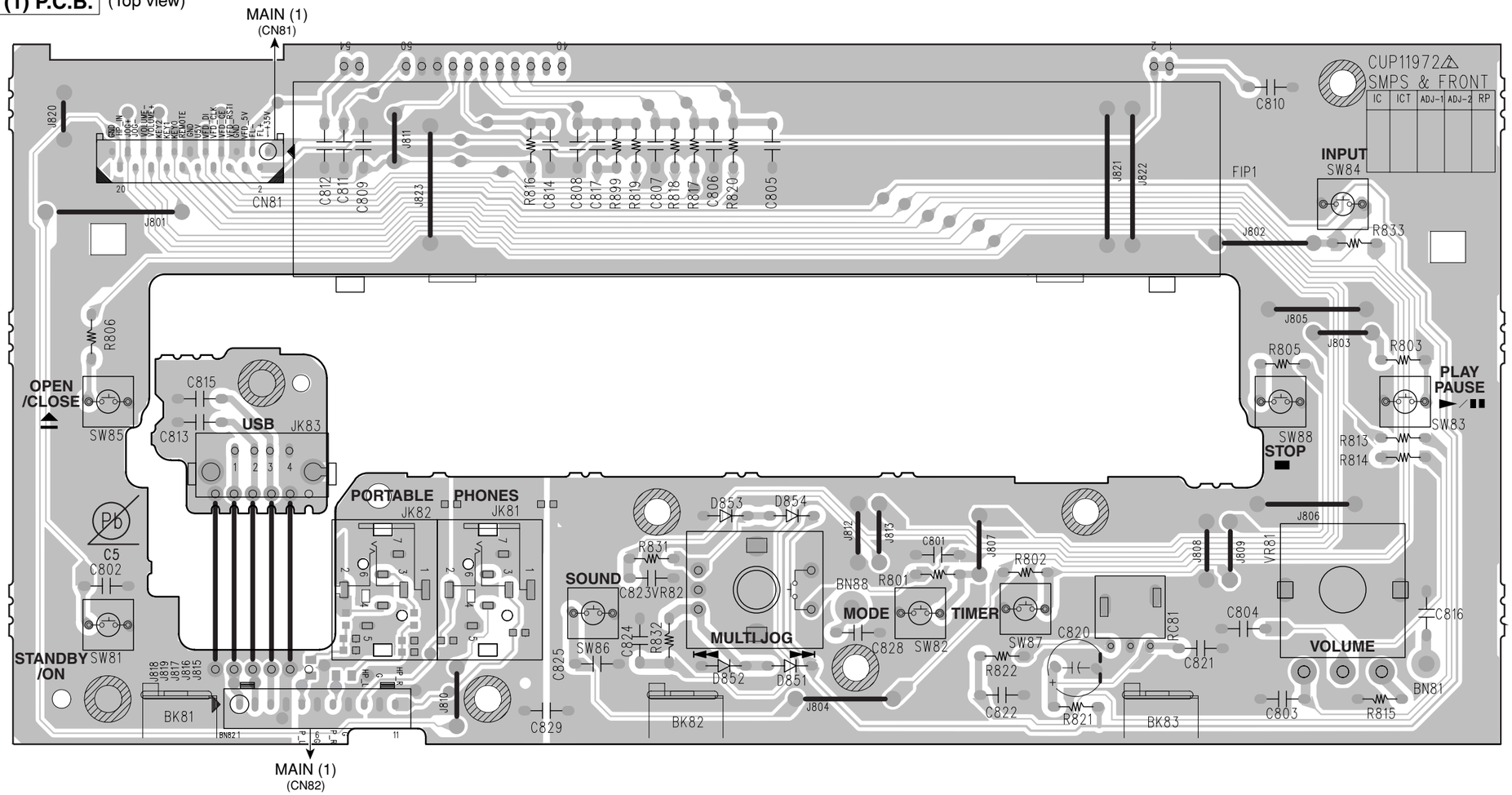
MAIN (1) P.C.B. (Bottom view)



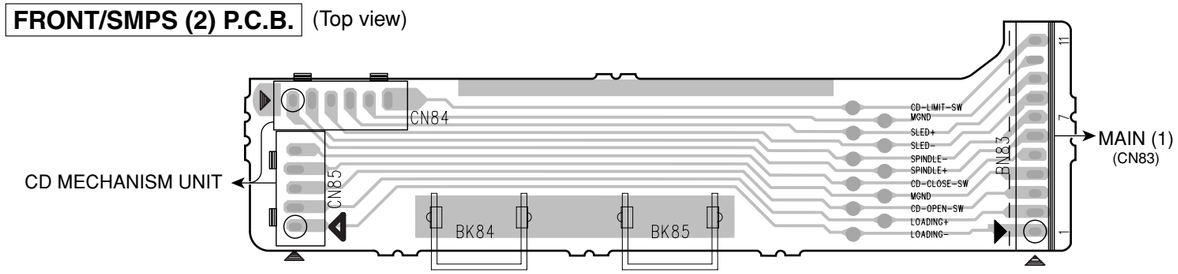
MAIN (2) P.C.B. (Bottom view)



FRONT/SMPS (1) P.C.B. (Top view)



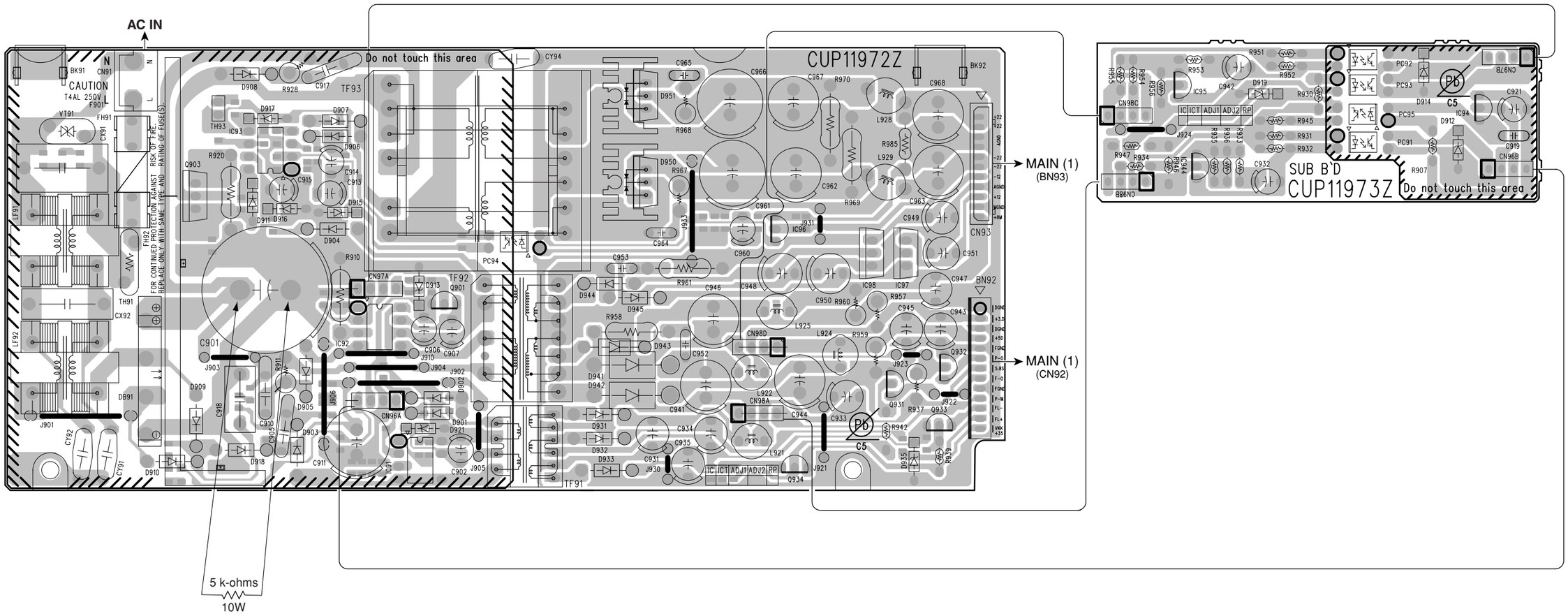
FRONT/SMPS (2) P.C.B. (Top view)



FRONT/SMPS (1) P.C.B. (Bottom view)

FRONT/SMPS (2) P.C.B. (Bottom view)

FRONT/SMPS (3) P.C.B. (Top view)



CONNECTOR P.C.B. (Top view)

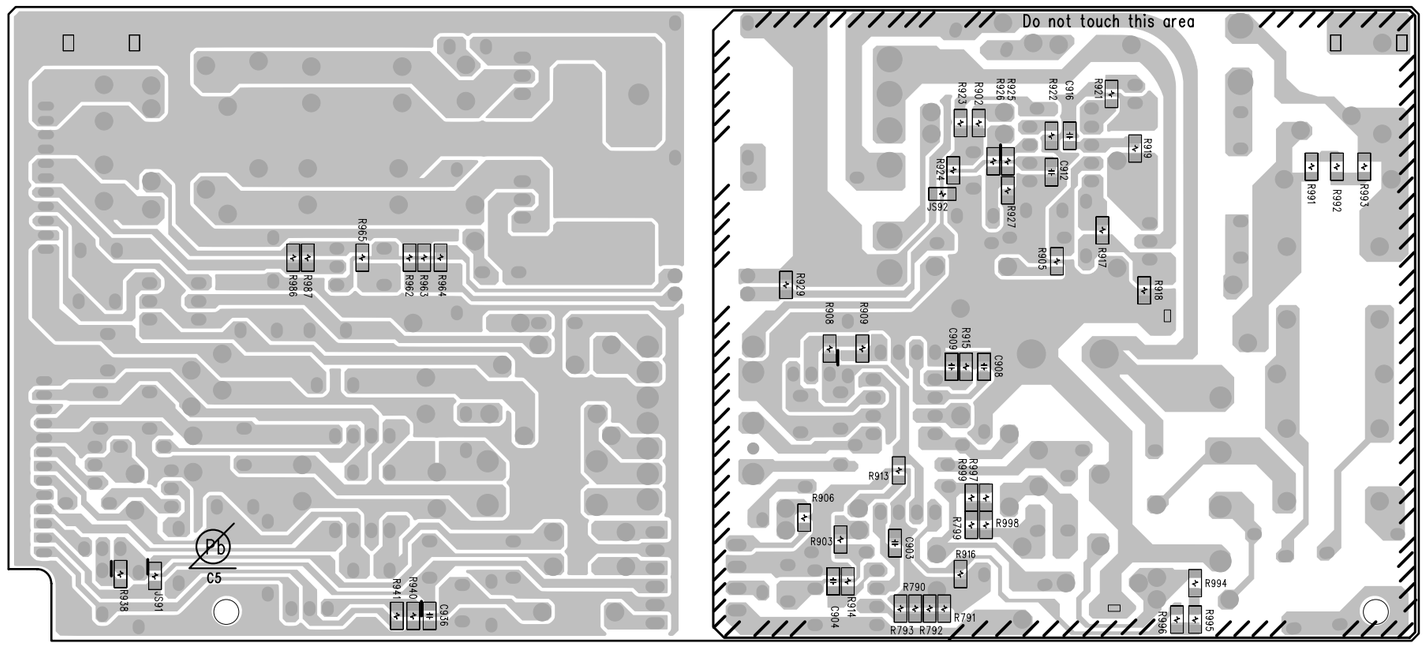
Safety Measures

- 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.
- C901 on the FRONT/SMPS (3) P.C.B. are dangerous, for a high voltage is retained there even after the power is turned off.
  Before the repair work, connect a resistor about 5 k-ohms/10 W between terminals of the capacitor to force discharge.
  After the repair work, also perform force discharge by connecting a resistor about 5 k-ohms/10 W between terminals of the capacitor.

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。
- FRONT/SMPS（3）P.C.B.のC901には電源OFF後も高電圧が維持されるため危険です。
  修理前に5 kΩ/10 W程度の抵抗をコンデンサの端子間に接続して強制放電してください。
  また、修理後も同様に5 kΩ/10 W程度の抵抗をコンデンサの端子間に接続して強制放電してください。

FRONT/SMPS (3) P.C.B. (Bottom view)



■ SCHEMATIC DIAGRAMS

CRX-E320

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。

MAIN

MAIN (1)

Page 25 E7
to FRONT/SMPS (1)_BN82

Writing port
Microprocessor

MICROPROCESSOR

T5CD2

To TUNER

Page 25 B3
to FRONT/SMPS (1)_CN81

DAC

L.P.F.

MOTOR DRIVE

Page 25 H2
to FRONT/SMPS (2)_BN83

CD DRIVER/DSP

CD MECHANISM UNIT

Page 26 I5
to FRONT/SMPS (3)_BN92

Writing port
USB

MAIN AMP

SUBWOOFER OUT

IN
AUX
OUT

DIGITAL OPTICAL OUT

Page 26 I3
to FRONT/SMPS (3)_CN93

INPUT SELECTOR

VOLUME CONTROL

PRE AMP

USB DECODER
(CD=MASK)
(FD=FLASH)

MAIN (2)

SPEAKER BOARD

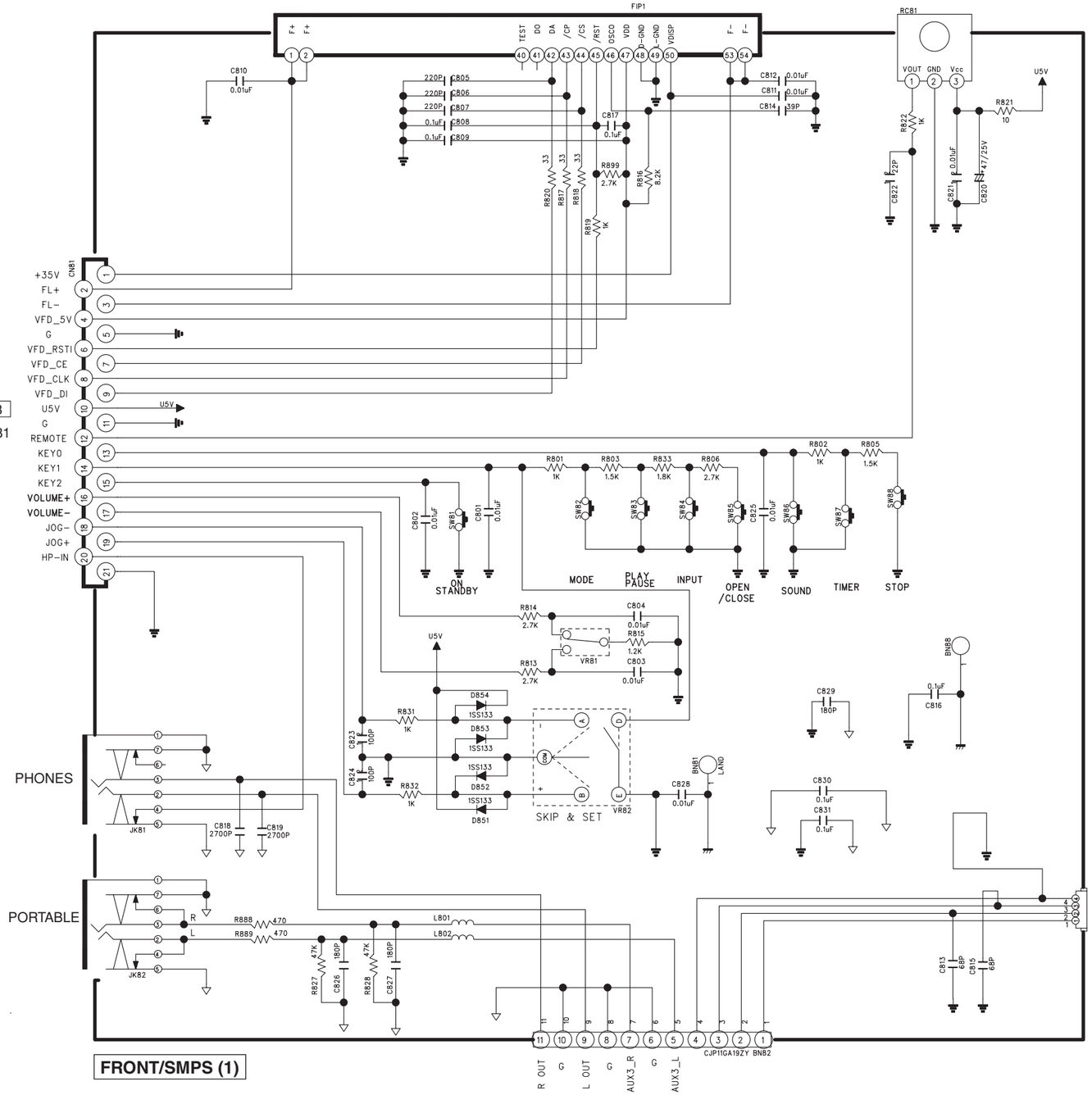
SPEAKERS

MAIN BOARD

★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

● ⚠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。

FRONT/SMPS 1/2

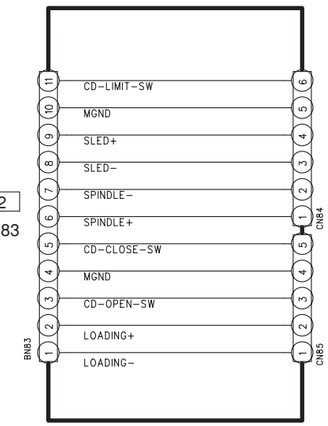


Page 24 B3
to MAIN (1)_CN81

Page 24 G2
to MAIN (1)_CN82

FRONT/SMPS (1)

Page 24 I2
to MAIN (1)_CN83



CD MECHANISM UNIT

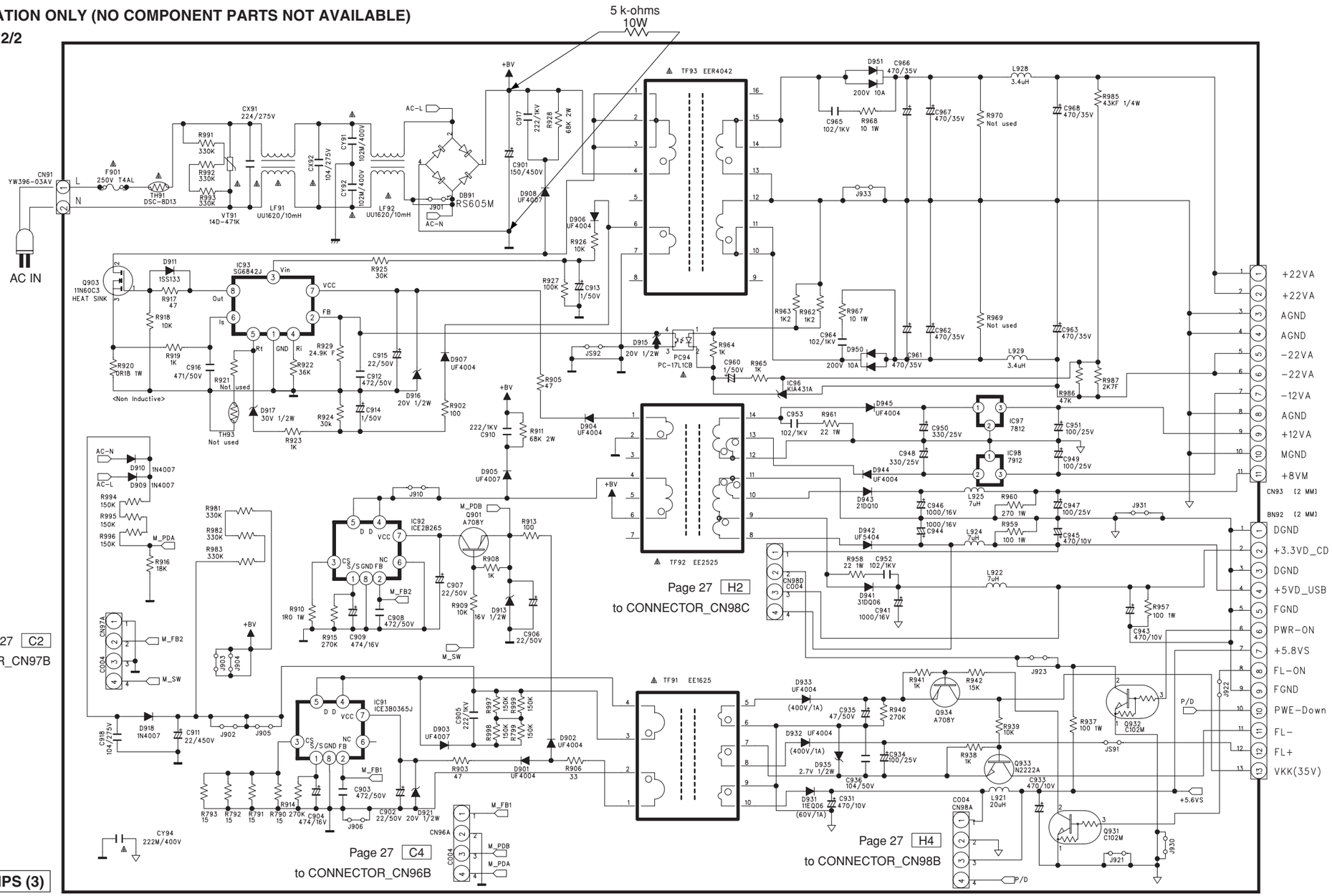
FRONT/SMPS (2)

★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

● ⚠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。

FOR INFORMATION ONLY (NO COMPONENT PARTS NOT AVAILABLE)

FRONT/SMPS 2/2



FRONT/SMPS (3)

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.
- C901 on the FRONT/SMPS (3) P.C.B. are dangerous, for a high voltage is retained there even after the power is turned off.
  Before the repair work, connect a resistor about 5 k-ohms/10 W between terminals of the capacitor to force discharge.
  After the repair work, also perform force discharge by connecting a resistor about 5 k-ohms/10 W between terminals of the capacitor.

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。
- FRONT/SMPS(3) P.C.B.のC901には電源OFF後も高電圧が維持されるため危険です。
  修理前に5 kΩ/10 W程度の抵抗をコンデンサの端子間に接続して強制放電してください。
  また、修理後も同様に5 kΩ/10 W程度の抵抗をコンデンサの端子間に接続して強制放電してください。

★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

● ⚠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。
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CONNECTOR

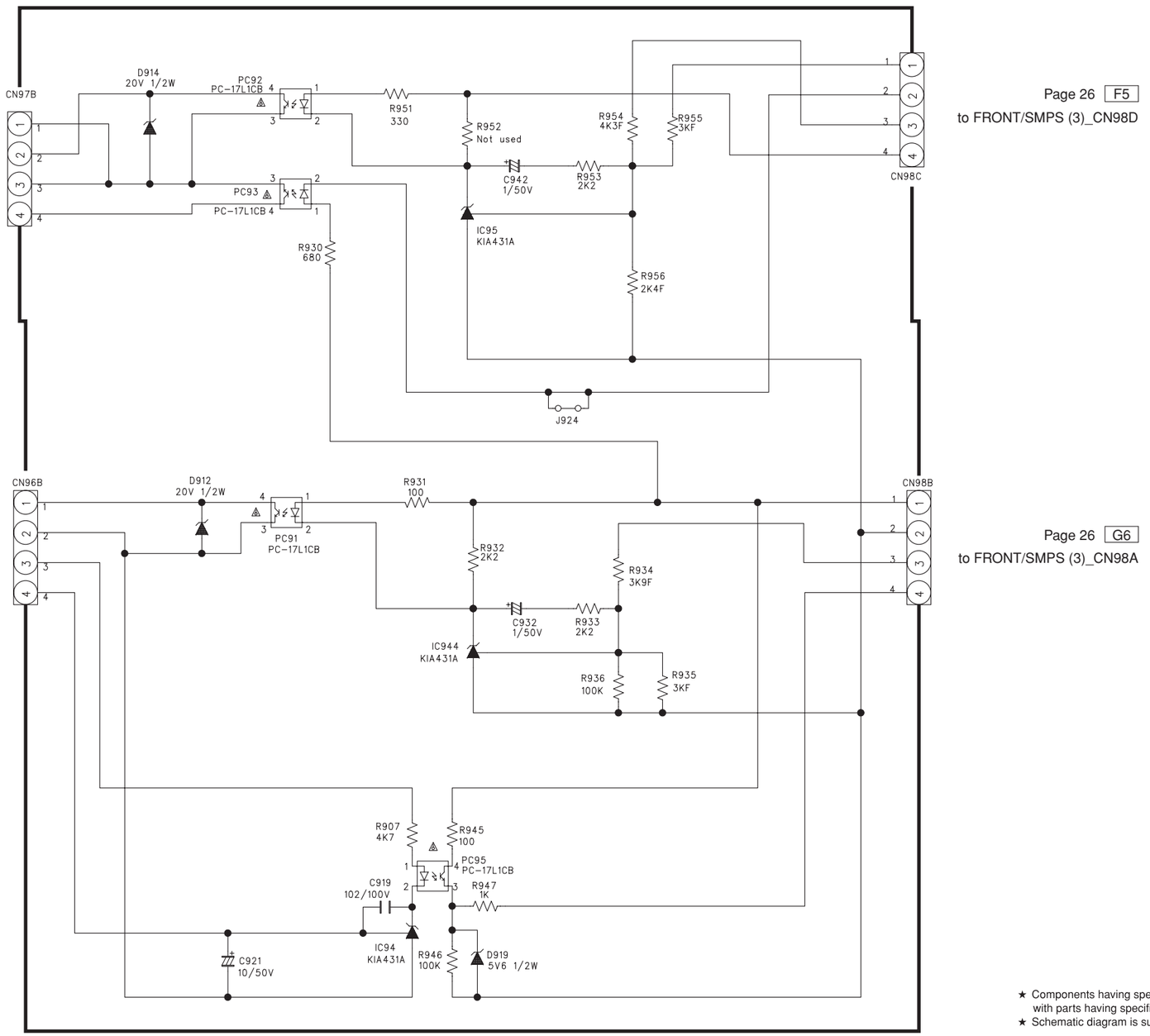
CONNECTOR

Page 26 B5
to FRONT/SMPS (3)_CN97A

Page 26 F5
to FRONT/SMPS (3)_CN98D

Page 26 D6
to FRONT/SMPS (3)_CN96A

Page 26 G6
to FRONT/SMPS (3)_CN98A



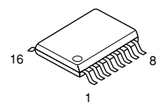
★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

● ⚠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。

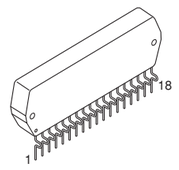
■ PIN CONNECTION DIAGRAMS

• ICs

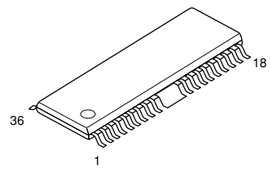
AK4385ET



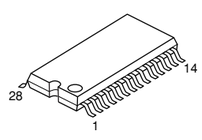
STK4142MK2



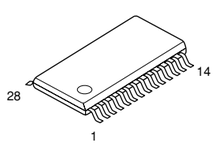
TA2125AFG



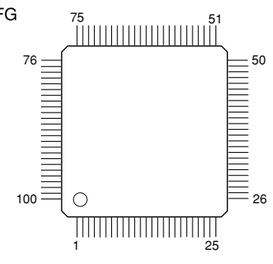
TC9163CFG



TDA7313NDTR



TMP92CD28FG



■ REPLACEMENT PARTS LIST

• ELECTRICAL COMPONENT PARTS

WARNING

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

CRX-E320

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.

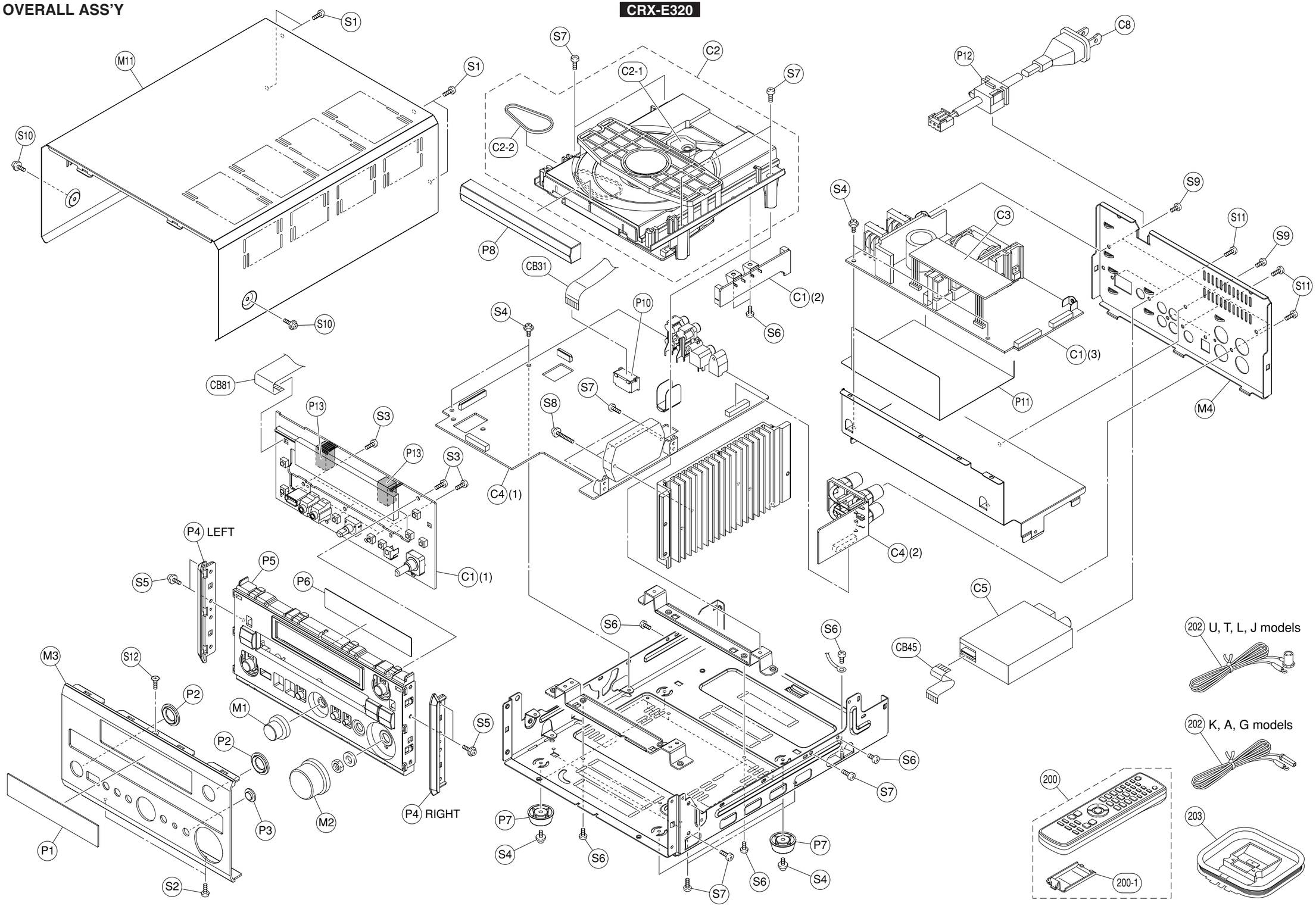
注） 電気部品リストに記載されている電気部品のみ、サービス部品として供給できます。
電気部品リストに記載されていない電気部品の交換が必要な場合は、その電気部品を搭載している「P.C.B. ASSY」を交換してください。

	Ref No.	Part No.	Description		Remarks	Markets	部 品 名	ランク
*		AAX83230	P.C.B.	MAIN	COP11974J	J	ＰＣＢ メイン	
*		AAX83270	P.C.B.	MAIN	COP11974U	U	ＰＣＢ メイン	
*		AAX83260	P.C.B.	MAIN	COP11974T	T	ＰＣＢ メイン	
*		AAX83240	P.C.B.	MAIN	COP11974K	K	ＰＣＢ メイン	
*		AAX83210	P.C.B.	MAIN	COP11974A	A	ＰＣＢ メイン	
*		AAX83220	P.C.B.	MAIN	COP11974G	G	ＰＣＢ メイン	
*		AAX83250	P.C.B.	MAIN	COP11974L	L	ＰＣＢ メイン	
*	IC22	AAX83060	IC	RT9702APB	CVIRT9702APB		ＩＣ	
*	IC23	AAX83110	IC	74ACT04MTR	HVI74ACT04MTR		ＩＣ	
*	IC25	AAX83070	IC	STK4142MK2	CVISTK4142MK2		ＩＣ	
*	IC26	AAX83120	IC	LM1117S-1V5	HVILM1117S-1V5		ＩＣ	
*	IC27	AAX83090	IC	TC94A70FG	CVITC94A70FG		ＩＣ	
*	IC28	AAX83050	IC	AK4385ET	CVIAK4385ET		ＩＣ	
*	IC29	AAX83140	IC	TA2125AFG	HVITA2125AFG		ＩＣ	
*	IC30	AAX83130	IC	NJM2068MDTE1	HVINJM2068MDTE1		ＩＣ	
*	IC31	AAX83130	IC	NJM2068MDTE1	HVINJM2068MDTE1		ＩＣ	
*	IC32	AAX83150	IC	TC9163CFG	HVITC9163CFG		ＩＣ	
*	IC33	AAX83160	IC	TDA7313NDTR	HVITDA7313NDTR		ＩＣ	
	IC34	AAX77300	IC	74HCU04	HVI74HCU04AFNG		ロジックＩＣ	
*	JK21	AAX83570	CN.OPT	TOTX177L	HJSTOTX177L		光ファイバー送信器	
*	JK22	AAX83170	JACK.PIN	4P AUX IN/OUT	CJJ4P014W		ＩＮ／ＯＵＴ端子	
*	JK23	AAX83390	SP.TERM	4P	CJJ5P012Z		スピーカー端子	
*	JK24	AAX83430	JACK.PIN	1P SUBWOOFER	CJJ4M046Z		ピンジャック１Ｐ	
*	RY50	AAX83560	RELAY	DC12V 2C2P	CSL4A016ZU		リレー	
	RY51	AAX79390	RELAY	G5PA28	CSL3A017ZU		リレー	
*		AAX83200	P.C.B.	FRONT/SMPS	COP11972B		ＰＣＢ フロント／ＳＭＰＳ	
	FiP1	AAX73210	FIP	HCA-17SM03T	HFLHCA-17SM03T		ＦＩＰ	
*	JK81	AAX83470	JACK.PHONE	3.5mm 2P PHONES	HJJ2D003Z		ホーンジャック ３．５ｍｍ	
*	JK82	AAX83470	JACK.PHONE	3.5mm 2P PORTABLE	HJJ2D003Z		ホーンジャック ３．５ｍｍ	
*	JK83	AAX83300	JACK	4P	CJJ9X003Y		ＵＳＢ端子	
*	RC81	AAX83550	SENSER.RC	KSM603TH2A	HRVKSM603TH2A		リモコン受光ユニット	
	SW81-88	AAX74630	SW. TACT	SKHV10910G	CST1A012ZT		タクトスイッチ	01
	VR81	AAX74610	VR.ENCODER		CSR2A036Z		エンコーダーＶＲ	04
	VR82	AAX74600	SW.ENCODER		HSR2A025Z		エンコーダーＳＷ	05
*		AAX83190	P.C.B.	CONNECTOR	COP11973B		ＰＣＢ コネクタ	

＊New Parts ＊新規部品

• OVERALL ASS'Y

CRX-E320



	Ref No.	Part No.	Description		Remarks	Markets	部 品 名	ランク
⚠	C1	AAX83200	P.C.B. ASS'Y	FRONT/SMPS	C0P11972B		ＰＣＢ フロント・ＳＭＰＳ	
	C2	AAX78140	CD MECHANISM UNIT	KSL2130CCMZ	CJDKSL2130CCMZ		ＣＤメカニズムユニット	17
*	C2-1	AAX82720	PICK UP UNIT	KSS-213C	KSM2130CCM		ピックアップユニット	
	C2-2	AAX78500	BELT		9A07980900		ベルト	
* ⚠	C3	AAX83190	P.C.B. ASS'Y	CONNECTOR	C0P11973B		ＰＣＢ コネクタ	
*	C4	AAX83230	P.C.B. ASS'Y	MAIN	C0P11974J	J	ＰＣＢ メイン	
*	C4	AAX83270	P.C.B. ASS'Y	MAIN	C0P11974C	U	ＰＣＢ メイン	
*	C4	AAX83260	P.C.B. ASS'Y	MAIN	C0P11974T	T	ＰＣＢ メイン	
*	C4	AAX83240	P.C.B. ASS'Y	MAIN	C0P11974K	K	ＰＣＢ メイン	
*	C4	AAX83210	P.C.B. ASS'Y	MAIN	C0P11974D	A	ＰＣＢ メイン	
*	C4	AAX83220	P.C.B. ASS'Y	MAIN	C0P11974B	G	ＰＣＢ メイン	
*	C4	AAX83250	P.C.B. ASS'Y	MAIN	C0P11974L	L	ＰＣＢ メイン	
*	C5	AAX83400	MODULE TUNER	MV114MA1-17	CNVMV114MA1-17		チューナーモジュール	
⚠	C8	AAX74330	POWER CABLE	2m	CJA2J049ZA	J	電源コード	04
⚠	C8	AAX74370	POWER CABLE	2m	CJA523FBYA	U	電源コード	
⚠	C8	AAX74350	POWER CABLE	2m	CJA2N047ZA	T	電源コード	
⚠	C8	AAX74320	POWER CABLE	2m	CJA2D073Z	K	電源コード	
⚠	C8	AAX74360	POWER CABLE	2m	CJA2S048ZA	A	電源コード	
⚠	C8	AAX74310	POWER CABLE	2m	CJA2B043ZA	GL	電源コード	
*	CB31	AAX83330	FLEXIBLE FLAT CABLE	16P 150mm P=1.0	CWC4F1A16A150A		カード電線	
*	CB45	AAX83320	FLEXIBLE FLAT CABLE	13P 60mm P=1.25	CWC4C4A13B060B		カード電線	
*	CB81	AAX83340	FLEXIBLE FLAT CABLE	21P 180mm P=1.0	CWC4F4A21A180B		カード電線	
	M1	AAX74020	JOG KNOB ASS'Y	GD	CGK1A114YA		ジョグノブＡＳＳＹ	
	M1	AAX80880	JOG KNOB ASS'Y	BL	CGK1A114XA		ジョグノブＡＳＳＹ	09
	M1	AAX74030	JOG KNOB ASS'Y	SI	CGK1A114ZA		ジョグノブＡＳＳＹ	07
	M2	AAX74160	VOLUME KNOB ASS'Y	GD	CGK1A113YA		ボリュームノブＡＳＳＹ	
	M2	AAX80920	VOLUME KNOB ASS'Y	BL	CGK1A113XA		ボリュームノブＡＳＳＹ	09
	M2	AAX74170	VOLUME KNOB ASS'Y	SI	CGK1A113ZA		ボリュームノブＡＳＳＹ	07
*	M3	AAX83450	PANEL AL FRONT	GD	CKM1A183ZC55		フロントパネル	
*	M3	AAX83460	PANEL AL FRONT	BL	CKM1A183ZC59		フロントパネル	
*	M3	AAX83440	PANEL AL FRONT	SI	CKM1A183ZC54		フロントパネル	
*	M4	AAX83500	PANEL REAR		CKF1A325V	J	リアパネル	
*	M4	AAX83520	PANEL REAR		CKF1A325X	U	リアパネル	
*	M4	AAX83490	PANEL REAR		CKF1A325U	T	リアパネル	
*	M4	AAX83480	PANEL REAR		CKF1A325T	K	リアパネル	
*	M4	AAX83530	PANEL REAR		CKF1A325Y	A	リアパネル	
*	M4	AAX83540	PANEL REAR		CKF1A325Z	G	リアパネル	
*	M4	AAX83510	PANEL REAR		CKF1A325W	L	リアパネル	
*	M11	AAX83410	TOP COVER	GD	CKC1A167D7		トップカバー	
	M11	AAX80890	TOP COVER	BL	CKC1A167B11		トップカバー	10
	M11	AAX74040	TOP COVER	SI	CKC1A167G33		トップカバー	11
*	P1	AAX83010	WINDOW FL		CGU1A379Y		ＦＬウィンドウ	
	P2	AAX74090	KNOB ORNAMENT STANDBY/ON	GD	CGR1A388M9D6		ノブ飾り	
	P2	AAX79300	KNOB ORNAMENT STANDBY/ON	BL	CGR1A388K128		ノブ飾り	01
	P2	AAX74080	KNOB ORNAMENT STANDBY/ON	SI	CGR1A388M7G5		ノブ飾り	02
*	P3	AAX83180	IR LENS	GD, SI	CGU1A380		ＩＲレンズ	
*	P3	AAX83180	IR LENS	BL	CGU1A380A26		ＩＲレンズ	
	P4	AAX73980	SIDE BAR		CGR1A385		サイドバー	02
*	P5	AAX83370	SUB PANEL ASS'Y	GD	CGWCRXE320G		サブパネルＡＳＳＹ	
*	P5	AAX83360	SUB PANEL ASS'Y	BL	CGWCRXE320B		サブパネルＡＳＳＹ	
*	P5	AAX83380	SUB PANEL ASS'Y	SI	CGWCRXE320S		サブパネルＡＳＳＹ	
*	P6	AAX83040	SHEET FL ORANGE	GD	CMZ1A124Y		ＦＬシート	
	P6	AAX83030	SHEET FL BLUE	BL, SI	CMZ1A103X		ＦＬシート	
	P7	AAX74300	FOOT		CKL1A191		脚	01
*	P8	AAX83420	TRAY LID (DOOR ORNAMENT)	GD	CGR1A394M9D6		トレイリッド	
	P8	AAX79280	TRAY LID (DOOR ORNAMENT)	BL	CGR1A394K128		トレイリッド	05
	P8	AAX79290	TRAY LID (DOOR ORNAMENT)	SI	CGR1A394M7G5		トレイリッド	
*	P10	AAX83350	GUIDE CABLE		CMH1A265		ケーブルガイド	
*	P11	AAX83310	INSULATOR SMPS		CMX1A215		インシュレーターＳＭＰＳ	

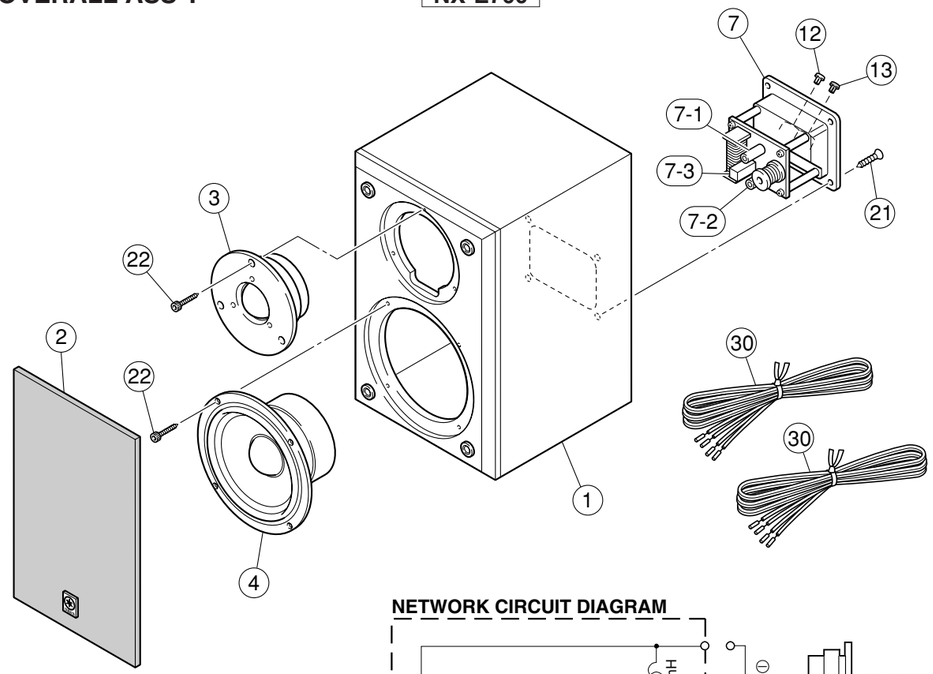
※ New Parts ＊新規部品

	Ref No.	Part No.	Description		Remarks	Markets	部 品 名	ランク
	P12	AAX73380	CORD STOPPER		KHR1A028		コードストッパー	01
*	P13	AAX83020	RUBBER FL		CHG1A364		ＦＬゴムパッド	
	S1	AAX73500	BIND HEAD B-TIGHT SCREW	GD,SI 3x8 MFZN2W3	CTB3+8JFC		バインドＢタイトネジ	01
	S1	AAX78380	BIND HEAD B-TIGHT SCREW	BL 3x8 MFZN2B3	CTB3+8JFZR		バインドＢタイトネジ	
	S2	AAX74180	BIND HEAD BONDING B-T. SCREW	GD,SI 3x8 MFZN2W3	CTBD3+8JFC		ボンディングＢタイトネジ	01
	S2	AAX80490	BIND HEAD BONDING B-T. SCREW	BL 3x8 MFZN2B3	CTBD3+8JFZR		ボンディングＢタイトネジ	01
	S3	AAX78410	BIND HEAD P-TIGHT SCREW	3x10 MFZN2Y	CTB3+10GR		バインドＰタイトネジ	01
*	S4	AAX83290	PW HEAD B-TIGHT SCREW	3x8 MFZN2Y	CTW3+6JR		ＰＷヘッドＢタイトネジ	
	S5	AAX80140	PW HEAD B-TIGHT SCREW	3x8 MFZN2Y	CTW3+8JR		ＰＷヘッドＢタイトネジ	01
	S6	AAX80420	BIND HEAD B-TIGHT SCREW	3x6 MFZN2Y	CTB3+6JR		バインドＢタイトネジ	01
	S7	AAX78390	BIND HEAD B-TIGHT SCREW	3x8 MFZN2Y	CTB3+8JR		バインドＢタイトネジ	01
*	S8	AAX83280	PW HEAD B-TIGHT SCREW	3x18 MFZN2Y	CTW3+18JR		ＰＷヘッドＢタイトネジ	
	S9	AAX80430	BIND HEAD SCREW	3x6 MFZN2B3	CTB3+6FFZR		バインド小ネジ	01
	S10	AAX73930	PW HEAD B-TIGHT SCREW	GD,SI 3x8 MFZN2W3	CTW3+8JFC		ＰＷヘッドＢタイトネジ	01
	S10	AAX78230	PW HEAD B-TIGHT SCREW	BL 3x8 MFZN2B3	CTW3+8JFZR		ＰＷヘッドＢタイトネジ	01
	S11	AAX78400	BIND HEAD P-TIGHT SCREW	3x10 MFZN2B3	CTB3+10GFZR		バインドＰタイトネジ	01
	S12	AAX80600	FLAT HEAD B-TIGHT SCERW	3x8 MFZN2Y	CTS3+8JR		皿Ｂタイトネジ	01
			ACCESSORIES				付属品	
*	200	WK015500	REMOTE CONTROL		CARTCRXE320	JUTKAL	リモコン	
*	200	WK015400	REMOTE CONTROL		CARTCRXE320G	G	リモコン	
	200-1	AAX57560	BATTERY COVER	103RRS-141-07L	103RRS-141-07L		電池蓋	04
	202	AAX76680	INDOOR FM ANTENNA	1pc	CSA1A019Z	JUTL	ＦＭ簡易アンテナ	03
	202	AAX73240	INDOOR FM ANTENNA	1pc	CSA1A018Z	KAG	ＦＭ簡易アンテナ	03
	203	AAX73180	AM LOOP ANTENNA	1pc	CSA1A020Z		ＡＭループアンテナ	04
			BATTERY	R6,AA,UM-3 2pcs	単３乾電池			

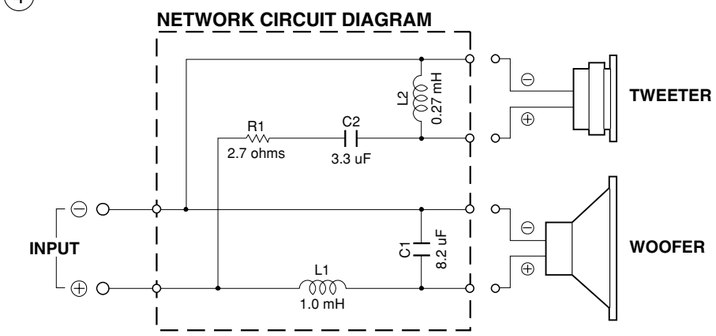
※ New Parts ＊新規部品

• OVERALL ASS'Y

NX-E700



NETWORK CIRCUIT DIAGRAM



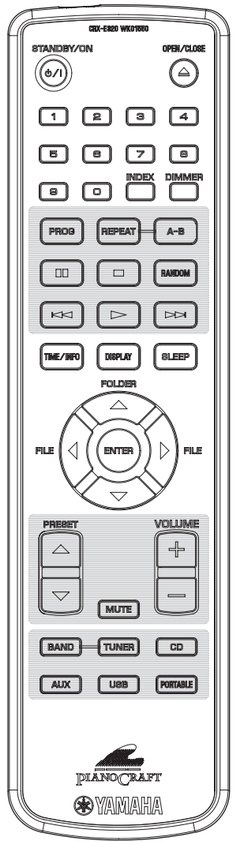
Ref No.	Part No.	Description		Remarks	Markets	部 品 名	ランク
1	WG237700	CABINET ASS'Y		BL		キャビネットＡＳＳＹ	
2	WG237800	FRONT GRILLE ASS'Y				フロントグリルＡＳＳＹ	
3	XM275B00	DRIVER TWEETER	2.5cm 5Ω	JA05U3		スピーカーユニット	
4	XZ668C00	DRIVER WOOFER	11cm 6Ω	JA1151		スピーカーユニット	
7	V9504600	NETWORK ASS'Y				ネットワークＡＳＳＹ	
7-1	V6055400	ELECTROLYTIC CAP	8.2uF 63V			ＢＰケミコン	04
7-2	V6367500	ELECTROLYTIC CAP	3.3uF 63V			ＢＰケミコン	
7-3	V9507500	CEMENT RESISTOR	2.7Ω 5W			セメント抵抗	01
12	V5361400	TERMINAL CAP	S06E RED			ターミナルキャップ	
13	V5361500	TERMINAL CAP	S06E BLACK			ターミナルキャップ	
21	WE963200	FLAT HEAD WOOD SCREW	3.5x20 MFZN2B3			皿木ネジ	
22	V9506100	HEXAGON HEAD WOOD SCREW	4x25 MFZN2BL			6角穴付き木ネジ	
		ACCESSORIES				付属品	
30	V9826900	SPEAKER CABLE	4m 1pc			スピーカーケーブル	

＊New Parts ＊新規部品

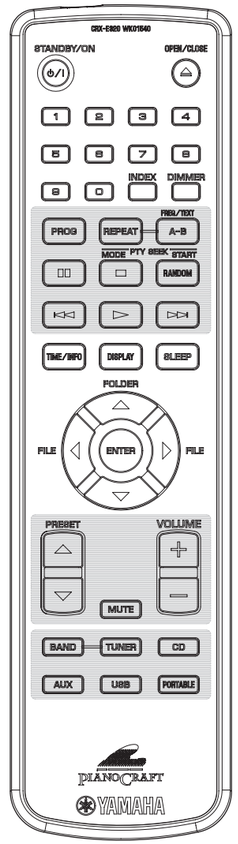
■ REMOTE CONTROL

• PANELS

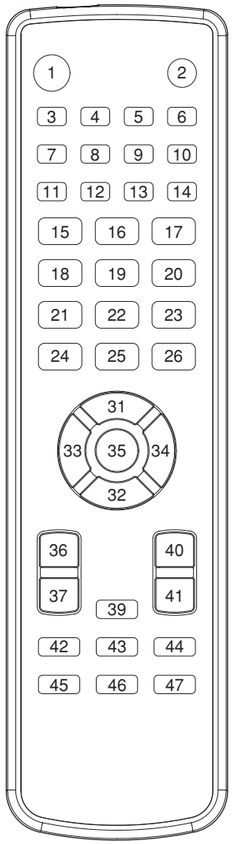
U, T, K, A, L, J models



G model



• KEY LAYOUT



- **KEY CODE**

Key no.	Common code	Function			
		AMP	CD (K44)	TUNER (K43)	USB (K46)
1	78-0F	STANDBY/ON	–	–	–
2	78-00	OPEN/CLOSE ⏏	OPEN/CLOSE ⏏	–	–
3	78-11	1	1	1	1
4	78-12	2	2	2	2
5	78-13	3	3	3	3
6	78-14	4	4	4	4
7	78-15	5	5	5	5
8	78-16	6	6	6	6
9	78-17	7	7	7	7
10	78-18	8	8	8	8
11	78-19	9	9	–	9
12	78-10	0	0	–	0
13	78-0E	INDEX	INDEX	–	–
14	78-BA	DIMMER	–	–	–
15	78-0B	PROG	PROGRAM	–	PROG
16	78-0C	REPEAT	REPEAT	–	REPEAT
17	78-BE	A-B	Repeat A-B	(FREQ/TEXT)	–
18	78-B9	PAUSE ⏸	PAUSE ⏸	–	PAUSE ⏸
19	78-01	STOP ■	STOP ■	(MODE)	CLEAR / STOP ■
20	78-07	RANDOM	SHUFFLE	(START)	RANDOM
21	78-04	SKIP/SEARCH - ⏮	SKIP/SEARCH - ⏮	–	SKIP/SEARCH - ⏮
22	78-02	PLAY ►	PLAY ►	–	PLAY ►
23	78-03	SKIP/SEARCH + ⏭	SKIP/SEARCH + ⏭	–	SKIP/SEARCH + ⏭
24	78-0A	TIME/INFO	TIME/INFO	–	TIME/INFO
25	78-4E	DISPLAY	–	–	–
26	78-4F	SLEEP	–	–	–
31	78-8E	FOLDER ▲	FOLDER ▲	–	FOLDER ▲
32	78-8F	FOLDER ▼	FOLDER ▼	–	FOLDER ▼
33	78-9F	FILE ◄	FILE ◄	–	FILE ◄
34	78-9E	FILE ►	FILE ►	–	FILE ►
35	78-C1	ENTER	ENTER	–	ENTER
36	78-1B	PRESET ▲	–	PRESET/CH ▲	–
37	78-1C	PRESET ▼	–	PRESET/CH ▼	–
39	78-9C	MUTE	–	–	–
40	78-1E	VOLUME +	–	–	–
41	78-1F	VOLUME -	–	–	–
42	78-B6	BAND	–	BAND	–
43	78-4B	TUNER	–	–	–
44	78-4A	CD	–	–	–
45	78-49	AUX	–	–	–
46	78-BC	USB	–	–	–
47	78-DF	PORTABLE	–	–	–

* (xxx): G model

CRX-E320/NX-E700

YAMAHA