

# MICRO COMPONENT SYSTEM MCS-1330 CD PLAYER

# CD-1330

## SERVICE MANUAL

The MCS-1330 consists of the R-1330, CD-1330 and NS-BP400.

This service manual is for the CD-1330.

For service manual of the R-1330 and NS-BP400, please refer to the following publication number:

R-1330/NS-BP400: 101127

MCS-1330 は、R-1330、CD-1330 および NS-BP400 で構成されています。

このサービスマニュアルは CD-1330 用です。

R-1330、NS-BP400 用のサービスマニュアルは下記管理ナンバーを参照してください。

R-1330/NS-BP400: 101127

### 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.

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This Service Manual uses recycled paper.

101130

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# YAMAHA

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animate '08.11

CD-1330

## ■ TO SERVICE PERSONNEL

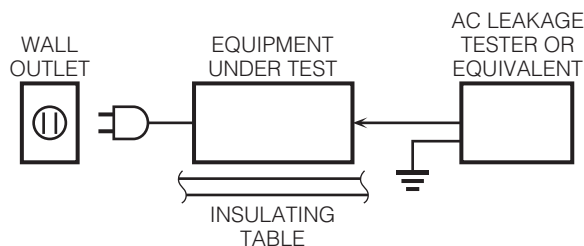
### 1. Critical Components Information

Components having special characteristics are marked  $\Delta$  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 0.15  $\mu$ F.



- 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 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°C 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/1 feet 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: 795 nm

Emission Duration: continuous

Laser Output: max. 160  $\mu$ W \*

\* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

## 警告：レーザーの安全対策

本機はレーザー光線を放射する部品を搭載しています。この部品が放射するレーザー光線は目に損傷を起こします。このレーザー光線から目及び肌を保護するために、本機の修理作業中は下記の注意を厳守してください。

- 1) テスト時または修理時、目及び肌を光ピックアップから 30 cm 以上離してください。いかなる場合もレーザー光線を見つめないでください。
- 2) 光ピックアップの再調整及び分解はしないでください。
- 3) このマニュアル上で指定されている以外の制御、調整、手順はレーザー光線を照射される結果を招く恐れがあります。

## レーザー放射条件

- 1) トップカバーを取り外し STANDBY/ON スイッチを ON にすると、ディスク検知のため 5 ～ 10 秒間、光ピックアップからレーザー光線が放射されます。この間、修理はしないでください。  
ディスクが検知されなければ、レーザー光線の放射は停止します。ディスクがセットされている場合、ディスクで遮られるのでレーザー光線は修理担当者に届きません。
- 2) レーザーパワーレベルは光ピックアップ基板上の VR により調整可能ですが、工場出荷前に調整セット済みなので、この VR は廻さないでください。この VR を廻すと装置からのレーザー光線の放射レベルが上がる恐れがあります。

## レーザー

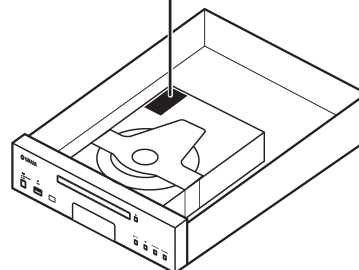
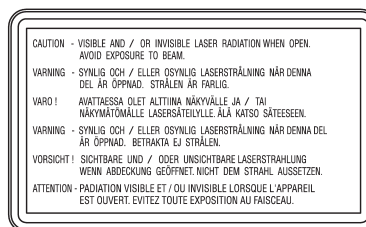
レーザータイプ : GaAlAs

波長 : 795 nm

レーザー出力 : 最大 160  $\mu$  W

**CAUTION**

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

**T model****U, K, A, G models****L model**

CAUTION - VISIBLE AND / OR INVISIBLE LASER  
RADIATION WHEN OPEN.  
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 accidentally 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.

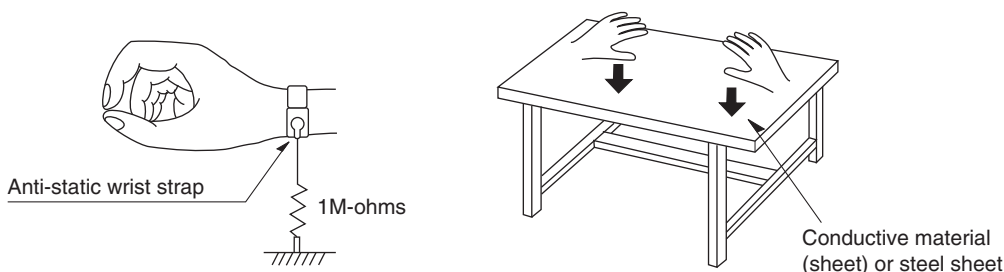
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as brushing together of your fabric clothes or lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

### 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.

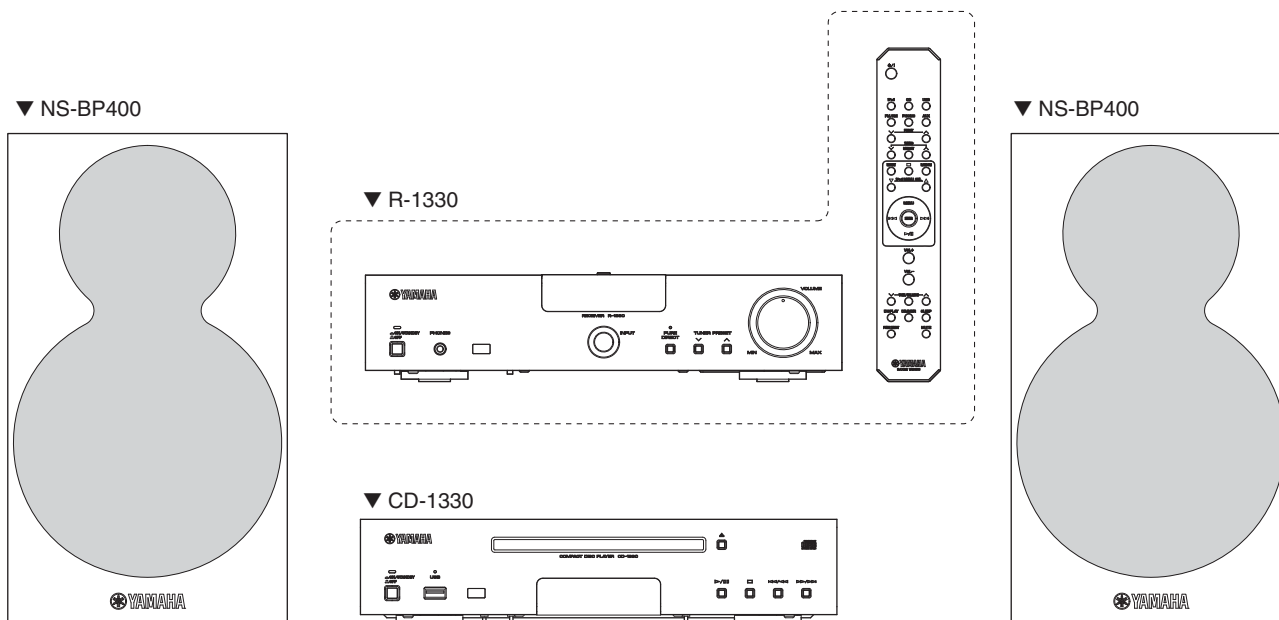


## SYSTEM COMPOSITION / システム構成

The MCS-1330 consists of the R-1330, CD-1330 and NS-BP400.

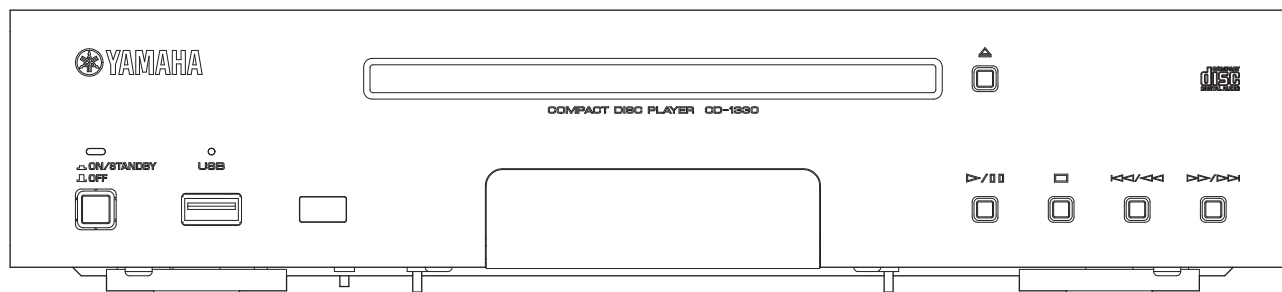
MCS-1330 は、R-1330、CD-1330 および NS-BP400 で構成されています。

### MCS-1330



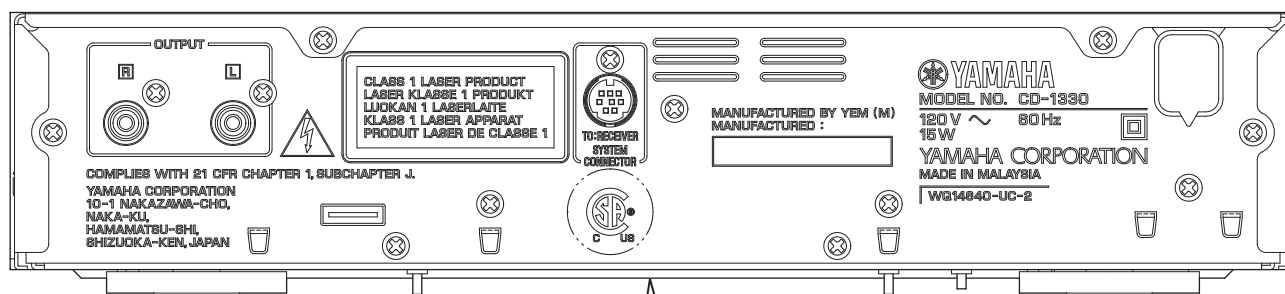
## FRONT PANEL

CD-1330 (U, T, K, A, G, L, J models)

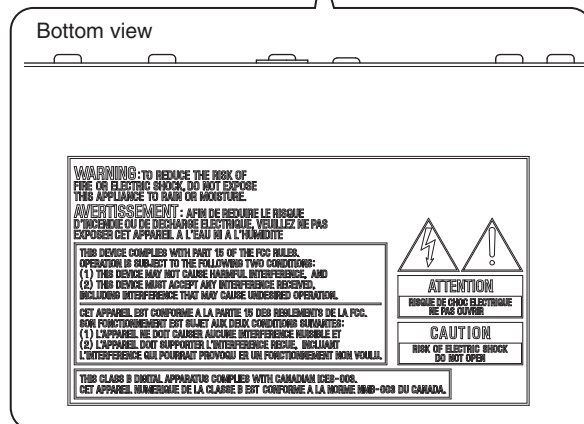


## REAR PANELS

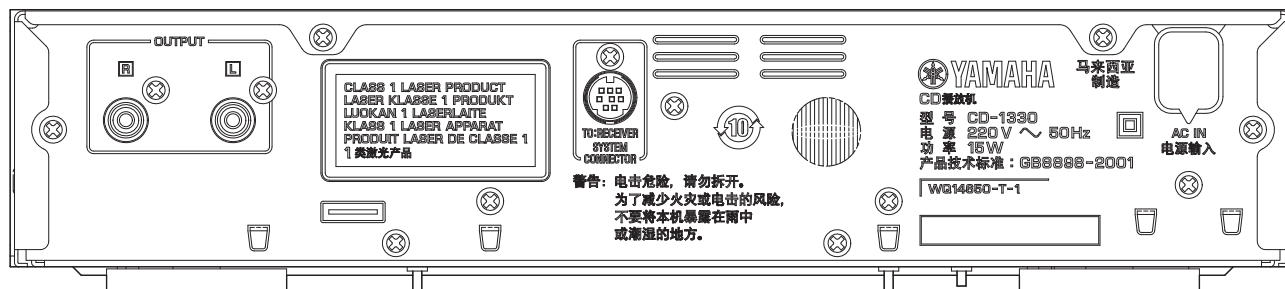
CD-1330 (U model)



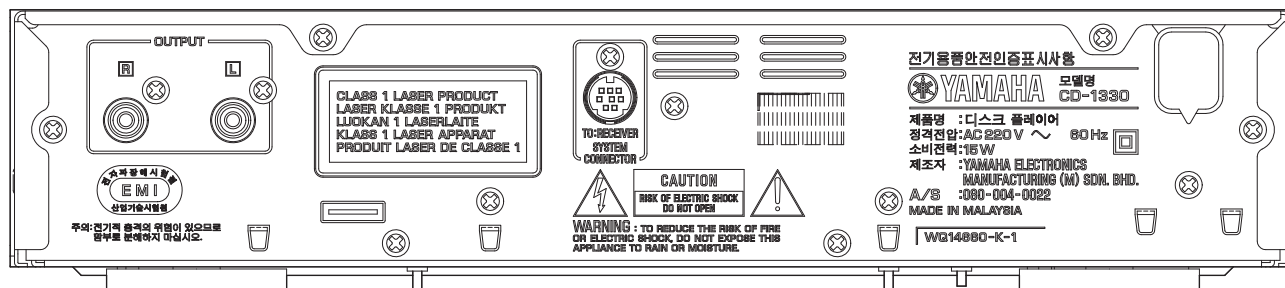
Bottom view



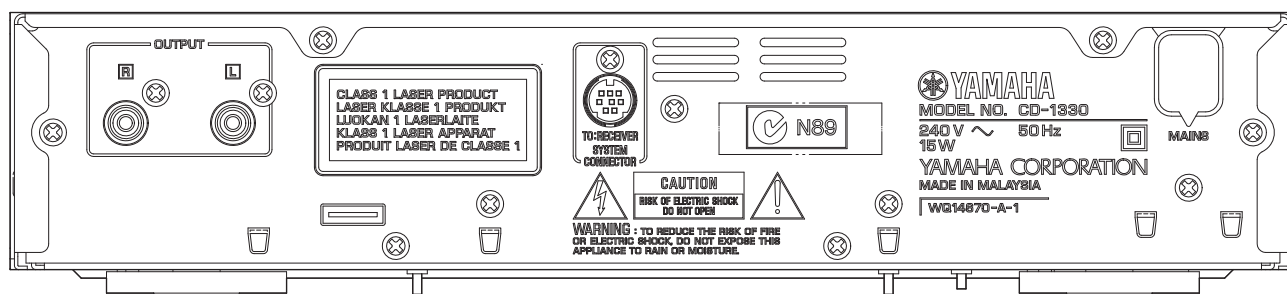
CD-1330 (T model)



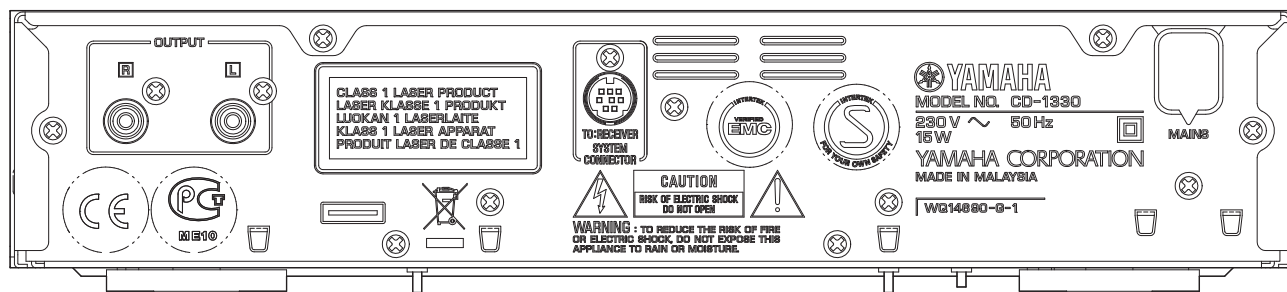
CD-1330 (K model)



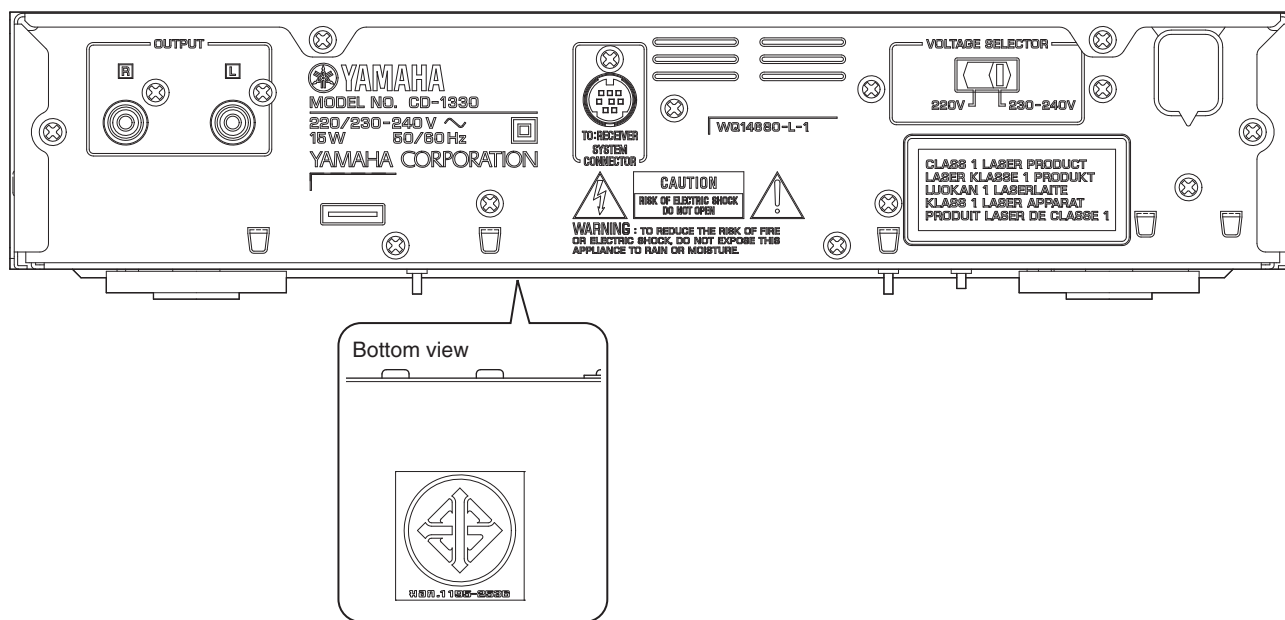
## CD-1330 (A model)



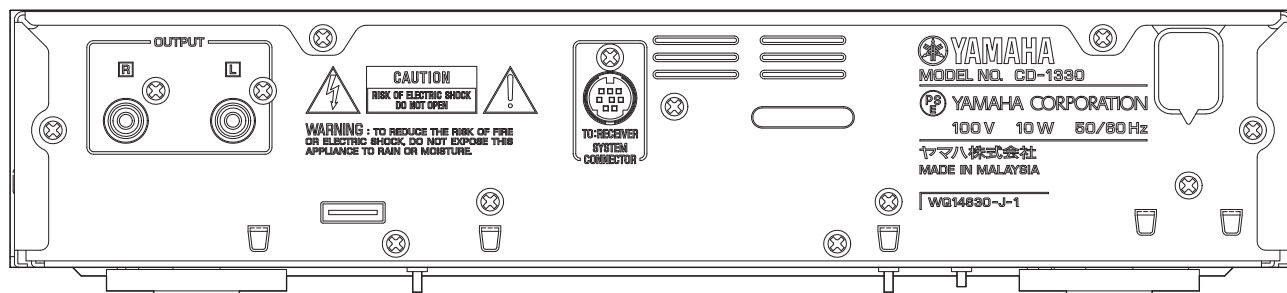
## CD-1330 (G model)



## CD-1330 (L model)



## CD-1330 (J model)



## ■ 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

### ■ Audio Section / オーディオ部

#### Output Level / 出力レベル (1 kHz, 0 dB)

..... 2 ±0.3 V

#### Signal to Noise Ratio / 信号対雑音比

..... 105 dB or more

#### Dynamic Range / ダイナミックレンジ

..... 100 dB or more

#### Harmonic Distortion / 歪率 (1 kHz)

..... 0.003 % or less

#### Frequency Response / 周波数特性

..... 2 Hz to 20 kHz

#### Other Output Equipment / その他の出力端子

..... System control-terminal

### ■ General / 総合

#### Power Consumption / 消費電力

U, T, K, A, G, L models ..... 15 W

J model ..... 10 W

#### Power Supply / 電源電圧

U model ..... AC 120 V, 60 Hz

T model ..... AC 220 V, 50 Hz

K model ..... AC 220 V, 60 Hz

A model ..... AC 240 V, 50 Hz

G model ..... AC 230 V, 50 Hz

L model ..... AC 220/230-240 V, 50/60 Hz

J model ..... AC 100 V, 50/60 Hz

#### Dimensions (W x H x D) / 寸法 (幅 × 高さ × 奥行き)

..... 300 x 67 x 300 mm (11-3/4" x 2-5/8" x 11-3/4")

#### Weight / 質量

..... 3.8 kg (8 lbs. 5 oz.)

#### Finish / 仕上げ

Black color ..... U, T, K, A, G, L, J models

Silver color ..... U, T, K, A, G, L, J models

#### Accessories / 付属品

Audio pin cable (1.0 m) ..... x 1

Mini pin cable (0.6 m) ..... 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。

U ..... U.S.A. model G ..... European model

T ..... Chinese model L ..... Singapore model

K ..... Korean model J ..... Japanese model

A ..... Australian model

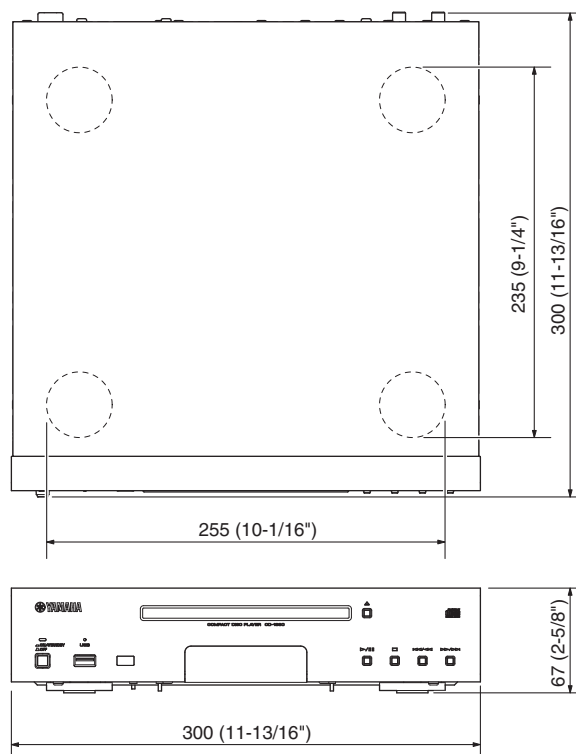
MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson Multimedia.

#### iPod™

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iPod は、米国およ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。

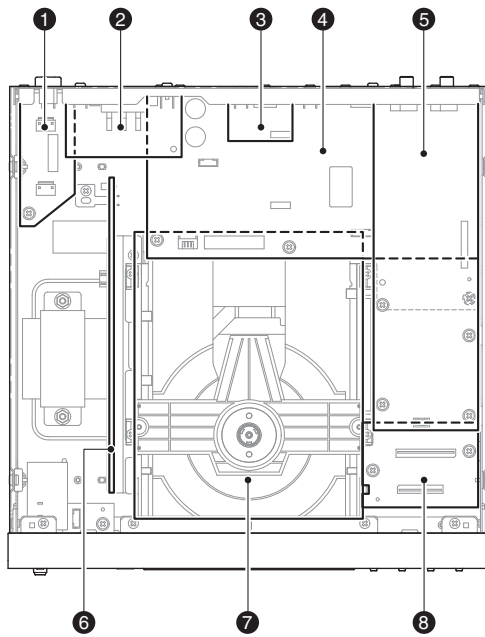
## • DIMENSIONS / 寸法図



Unit: mm (inch)  
単位:mm (インチ)

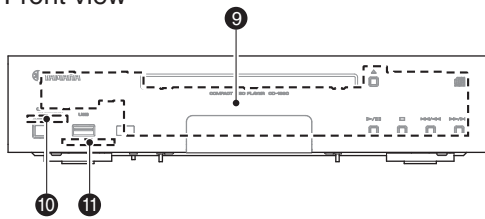
## ■ INTERNAL VIEW

Top view



- ① OPERATION (5) P.C.B.
- ② OPERATION (7) P.C.B. (L model)
- ③ DIGITAL (2) P.C.B.
- ④ DIGITAL (1) P.C.B.
- ⑤ OPERATION (3) P.C.B.
- ⑥ OPERATION (4) P.C.B.
- ⑦ Loader Mechanism Ass'y
- ⑧ OPERATION (9) P.C.B.
- ⑨ OPERATION (1) P.C.B.
- ⑩ OPERATION (6) P.C.B.
- ⑪ OPERATION (8) P.C.B.

Front view



## ■ DISASSEMBLY PROCEDURES / 分解手順

(Remove parts in the 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

- Remove 4 screws (①) and 2 screws (②). (Fig. 1)
- Remove the top cover. (Fig. 1)

### 1. トップカバーの外し方

- ①のネジ 4 本、②のネジ 2 本を外します。(Fig. 1)
- トップカバーを取り外します。(Fig. 1)

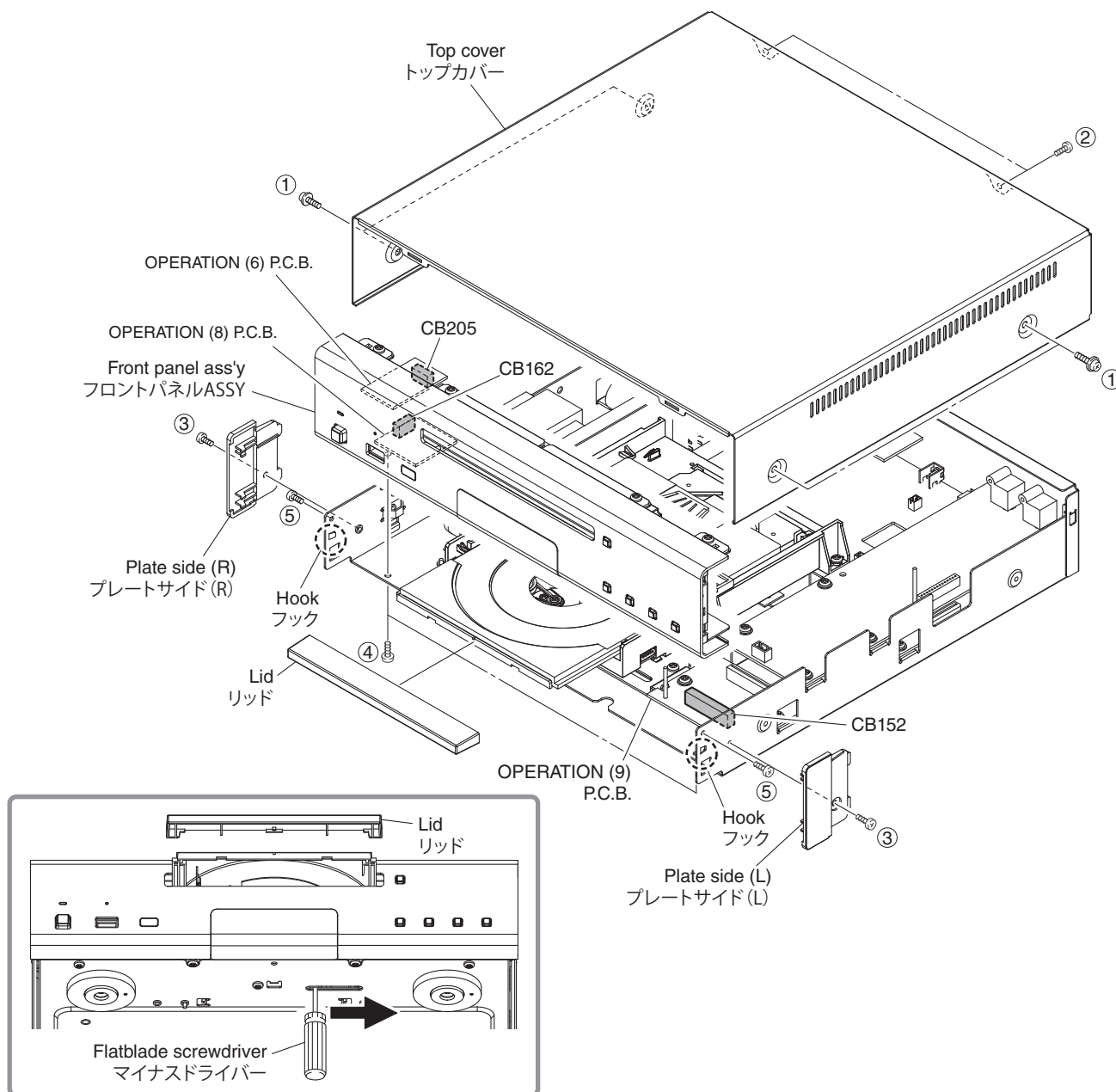


Fig. 1

### 2. Removal of Front Panel Ass'y

- Open the disc tray, remove the lid and close the disc tray. (Fig. 1)
- Remove 2 screws (③) and then remove the plate side (L and R). (Fig. 1)
- Remove 2 screws (④) and 2 screws (⑤). (Fig. 1)
- Remove CB152, CB162 and CB205. (Fig. 1)
- Release 2 hooks and then remove the front panel ass'y. (Fig. 1)

### 2. フロントパネル ASSY の外し方

- ディスクトレイを開けてリッドを取り外し、ディスクトレイを閉じます。(Fig. 1)
- ③のネジ 2 本を外し、プレートサイド (L、R) を取り外します。(Fig. 1)
- ④のネジ 2 本、⑤のネジ 2 本を外します。(Fig. 1)
- CB152、CB162、CB205 を外します。(Fig. 1)
- フック 2 箇所を外し、フロントパネル ASSY を取り外します。(Fig. 1)

### 3. Removal of OPERATION (3) P.C.B.

- Remove 4 screws (⑥) and 2 screws (⑦). (Fig. 2)
- Remove CB1. (Fig. 2)
- Pull up the OPERATION (3) P.C.B.. (Fig. 2)
- Remove CB301. (Fig. 2)

### 4. Removal of Loader Mechanism Unit

- Remove 4 screws (⑧). (Fig. 2)
- Remove CB602 and CB603. (Fig. 2)
- Remove CB601 and ground the terminal face of the flexible flat cable with a clip or the like. (Fig. 2)
- Remove the loader mechanism unit. (Fig. 2)

### 2. OPERATION (3) P.C.B. の外し方

- ⑥のネジ 4 本、⑦のネジ 2 本を外します。(Fig. 2)
- CB1 を外します。(Fig. 2)
- OPERATION (3) P.C.B. を持ち上げます。(Fig. 2)
- CB301 を外します。(Fig. 2)

### 4. ローダーメカユニットの外し方

- ⑧のネジ 4 本を外します。(Fig. 2)
- CB602、CB603 を外します。(Fig. 2)
- CB601 を外し、カード電線の端子面をクリップ等でアースします。(Fig. 2)
- ローダーメカユニットを取り外します。(Fig. 2)

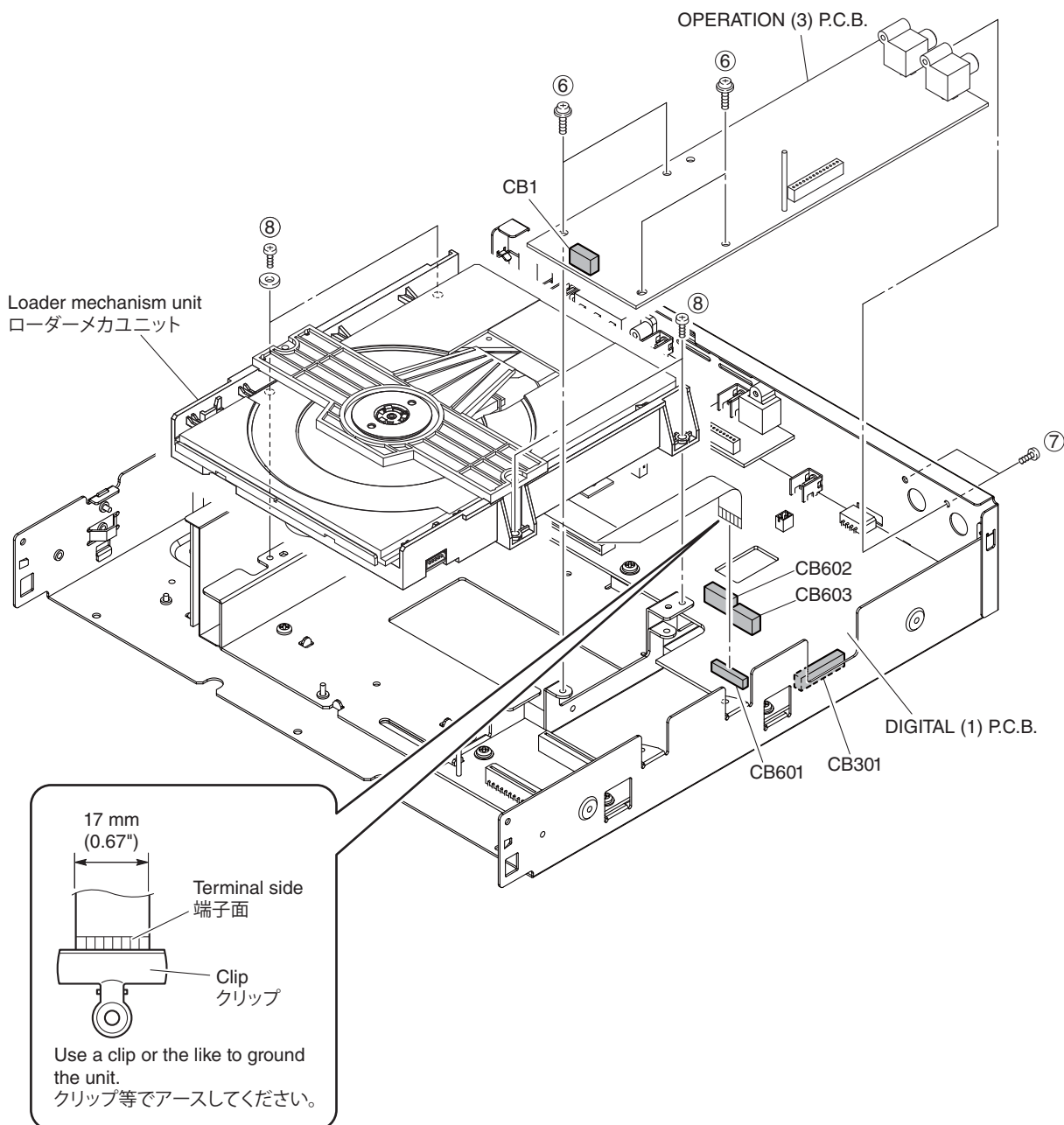


Fig. 2

### When checking the P.C.B.s:

- Spread the rubber sheet and the cloth. Then place the sub chassis unit on the cloth and check it. (Fig. 3)
- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flexible flat cable, be careful with polarity.
- Connect the ground points of the front panel ass'y and OPERATION (3) P.C.B. to the chassis with a ground lead or the like. (Fig. 3)

### P.C.B. をチェックする場合には：

- ゴムシートと布を敷き、その上にサブシャーシユニットを置いてチェックします。(Fig. 3)
- 外したケーブル（コネクタ）をすべて接続します。
- フラットケーブルを接続する際、極性に注意してください。
- フロントパネル ASSY と OPERATION (3) P.C.B. のアースをアース線等でシャーシに接続してください。(Fig. 3)

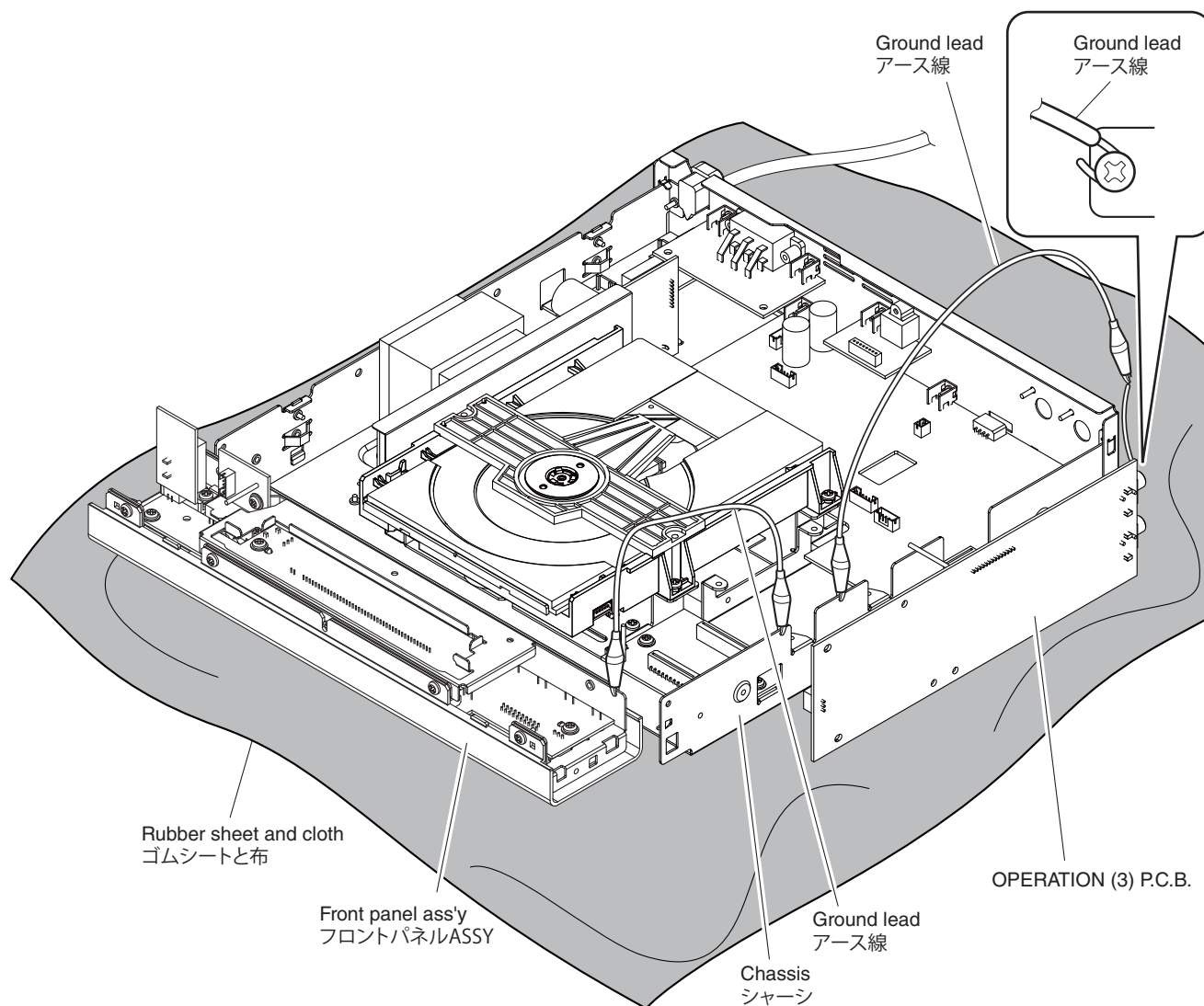


Fig. 3

## ■ TEST MODE / テストモード

Check the FL display and indicators for display/indication condition.

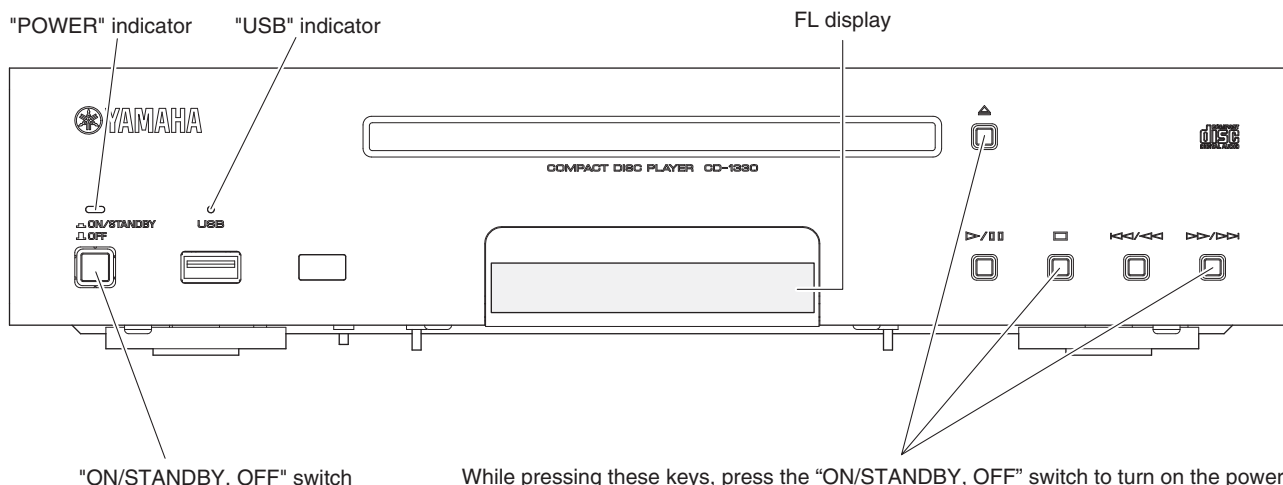
FL ディスプレイとインジケータの表示状態をチェックします。

### ● Check the FL display and Indicators

1. While pressing those 3 keys of this unit as indicated in the figure below, press the "ON/STANDBY, OFF" switch to turn on the power and keep pressing those 3 keys.

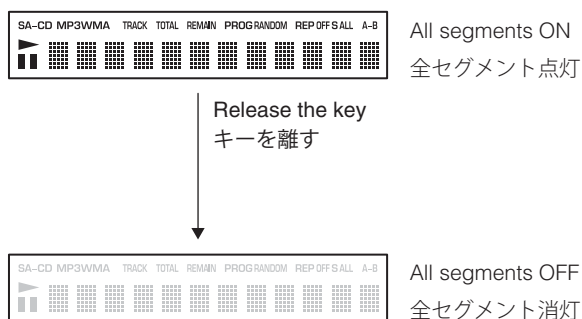
### ● FL ディスプレイとインジケータの確認

1. 本機の下図に示す 3 つのキーを押しながら "ON/STANDBY, OFF" スイッチを押して電源を入れ、3 つのキーを押し続けます。



While pressing these keys, press the "ON/STANDBY, OFF" switch to turn on the power.  
これらのキーを押しながら、"ON/STANDBY, OFF" スイッチを押して電源を入れます。

### FL display / FL ディスプレイ表示



2. With these 3 keys pressed continuously, check that all indicators (POWER, USB) are lit. At the same time, check that all segments of the FL display are lit.
3. Release these 3 keys. Then check that all indicators (POWER, USB) as well as all segments of the FL display are turned off.
4. The Test Mode is activated.

2. 3 つのキーを押したまま、全てのインジケータ (POWER、USB) が点灯していることを確認します。同時に、FL ディスプレイの全セグメントが点灯していることを確認します。
3. 3 つのキーを離します。  
全てのインジケータ (POWER、USB) と、FL ディスプレイの全セグメントが消灯していることを確認します。
4. テストモードが起動します。

## ● Operation Procedure of Test Mode

## ● テストモード時の操作

### Function list of panel keys / テストモード時のパネルキー

| Panel key / パネルキー | Function / 機能                            | Display / 表示 |
|-------------------|------------------------------------------|--------------|
| OPEN/CLOSE        | Disc tray open/close / ディスクトレイ オープン/クローズ | OPEN / CLOSE |
| PLAY/PAUSE        | —                                        | —            |
| STOP              | Trace off / トレース オフ                      | TRACE off    |
| SKIP+/SEARCH+     | Trace on / トレース オン                       | TRACE on     |
| SKIP-/SEARCH-     | —                                        | —            |

### Function list of remote control keys / テストモード時のリモコンキー

| Key / キー    | Function / 機能                                   | Display / 表示                                                       |
|-------------|-------------------------------------------------|--------------------------------------------------------------------|
| CD/USB      | —                                               | —                                                                  |
| PURE DIRECT | —                                               | —                                                                  |
| OPEN/CLOSE  | Disc tray open/close / ディスクトレイ オープン/クローズ        | OPEN / CLOSE                                                       |
| DIMMER      | —                                               | —                                                                  |
| DISPLAY     | Firmware version is displayed. / ファームウェアバージョン表示 | Yxxx xxxx                                                          |
| 1           | Laser on / レーザー オン                              | LASER on                                                           |
| 2           | Focus on / フォーカス オン                             | FOCUS on                                                           |
| 3           | TE measure / TE 測定                              | TE measure                                                         |
| 4           | Traverse in /<br>トラバース イン                       | * Press “5” key to stop traverse. /<br>※ “5” キーを押してトラバースを停止してください。 |
| 5           | Traverse stop / トラバース ストップ                      | TRV stop                                                           |
| 6           | Traverse out /<br>トラバース アウト                     | * Press “5” key to stop traverse. /<br>※ “5” キーを押してトラバースを停止してください。 |
| 7           | Spindle reverse /<br>スピンドル リバース                 | * Press “8” key to stop spindle. /<br>※ “8” キーを押してスピンドルを停止してください。  |
| 8           | Spindle off / スピンドル オフ                          | SPDL stop                                                          |
| 9           | Spindle on /<br>スピンドル オン                        | * Press “8” key to stop spindle. /<br>※ “8” キーを押してスピンドルを停止してください。  |
| 0           | —                                               | —                                                                  |
| ENTER       | —                                               | —                                                                  |
| CLEAR       | —                                               | —                                                                  |
| PROGRAM     | —                                               | —                                                                  |
| REPEAT      | —                                               | —                                                                  |
| RANDOM      | —                                               | —                                                                  |
| SEARCH -    | —                                               | —                                                                  |
| A-B REPEAT  | —                                               | —                                                                  |
| SEARCH +    | —                                               | —                                                                  |
| PAUSE       | —                                               | —                                                                  |
| SKIP -      | —                                               | —                                                                  |
| PLAY        | Trace on / トレース オン                              | TRACE on                                                           |
| SKIP +      | Trace on / トレース オン                              | TRACE on                                                           |
| STOP        | Trace off / トレース オフ                             | TRACE off                                                          |

## ● Canceling Test Mode

Press the “ON/STANDBY, OFF” switch of this unit to turn off the power.

## ● テストモードの解除

本機の “ON/STANDBY, OFF” スイッチを押して電源を切ります。

## ■ UPDATING FIRMWARE / ファームウェアの書き込み

After replacing the following parts update the latest firmware according to the following procedure.

DIGITAL P.C.B.  
Microprocessor (IC304) of DIGITAL P.C.B.

### ● Required tools

- Program downloader programs ..... FlashSta.exe
  - Firmware ..... CD1330.S  
CD1330.id
  - RS232C cross cable "D-sub 9 pin female"  
(Specifications)
- |              |                                                                                   |              |
|--------------|-----------------------------------------------------------------------------------|--------------|
| Pin No.2 RxD |  | Pin No.2 RxD |
| Pin No.3 TxD |  | Pin No.3 TxD |
| Pin No.5 GND |  | Pin No.5 GND |
| Pin No.7 RTS |  | Pin No.7 RTS |
| Pin No.8 CTS |  | Pin No.8 CTS |
- RS232C conversion adaptor (Part No.: AAX88050)

### ● Preparation and precautions before starting the operation

- Download firmware downloader program and firmware from the specified source to the same folder of the PC.
- Prepare the above specified RS232C cross cable.
- While writing, keep the other application software on the PC closed.  
It is also recommended to keep the software on the task tray closed as well.

下記の部品を交換した場合、下記の手順により最新のファームウェアの書き込みを行ってください。

DIGITAL P.C.B.  
DIGITAL P.C.B. のマイコン (IC304)

### ● 必要なツール

- プログラム書き込み用プログラム ..... FlashSta.exe
  - ファームウェア ..... CD1330.S  
CD1330.id
  - RS232C クロスケーブル "D-sub 9pin メス"  
(仕様)
- |              |                                                                                     |              |
|--------------|-------------------------------------------------------------------------------------|--------------|
| Pin No.2 RxD |  | Pin No.2 RxD |
| Pin No.3 TxD |  | Pin No.3 TxD |
| Pin No.5 GND |  | Pin No.5 GND |
| Pin No.7 RTS |  | Pin No.7 RTS |
| Pin No.8 CTS |  | Pin No.8 CTS |
- RS232C 変換アダプター (部品番号：AAX88050)

### ● 操作前の準備と注意

- PC へ指定のダウンロード先からファームウェア書き込み用プログラムおよび、ファームウェアを同じフォルダにダウンロードしてください。
- RS232C クロスケーブルは必ず上記仕様のものを用意してください。
- 書き込み時は、PC 上の他のアプリケーションソフトは閉じてください。  
さらに、タスクトレイ上にあるソフトも閉じておくことを推奨します。

## ● Confirmation of firmware version

Before and after updating the firmware, check the firmware version.

1. While pressing the "PLAY/PAUSE" and "STOP" keys, press the "ON/STANDBY, OFF" switch of this unit to turn on the power, and then release these 2 keys. (Fig. 1)

The firmware version is displayed. (Fig. 1)

## ● ファームウェアバージョンの確認

ファームウェア更新の前後に、ファームウェアのバージョンを確認します。

1. 本機の "PLAY/PAUSE" キーと "STOP" キーを押しながら、"ON/STANDBY, OFF" スイッチを押して電源を入れ、これら2つのキーを放します。(Fig. 1)  
ファームウェアバージョンが表示されます。(Fig. 1)

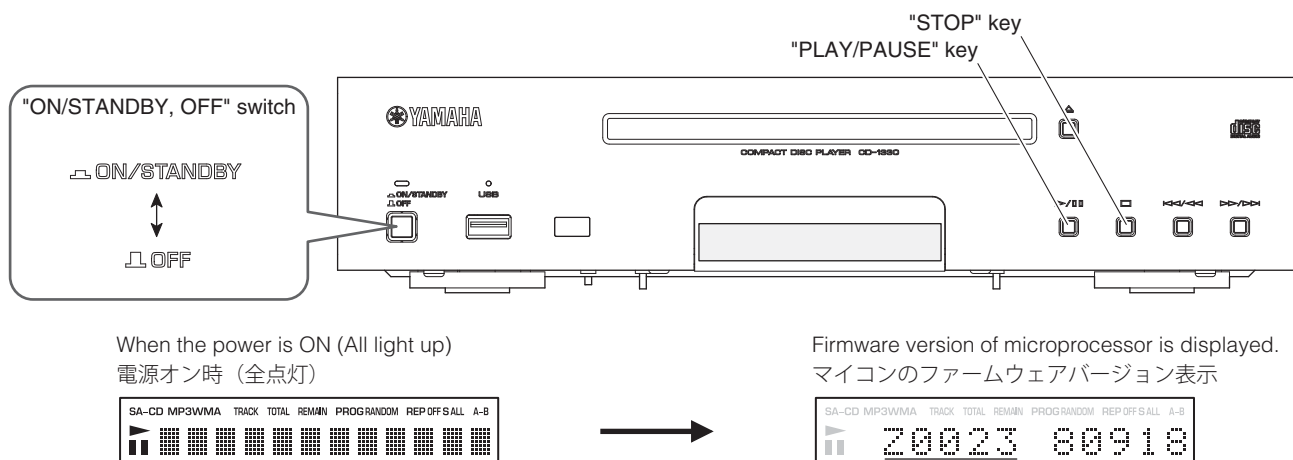


Fig. 1

2. Every time you press the "DISPLAY" key, the display changes in the order as shown below.

2. リモコンの "DISPLAY" キーを押すたびに、下図の順で表示が切り替わります。

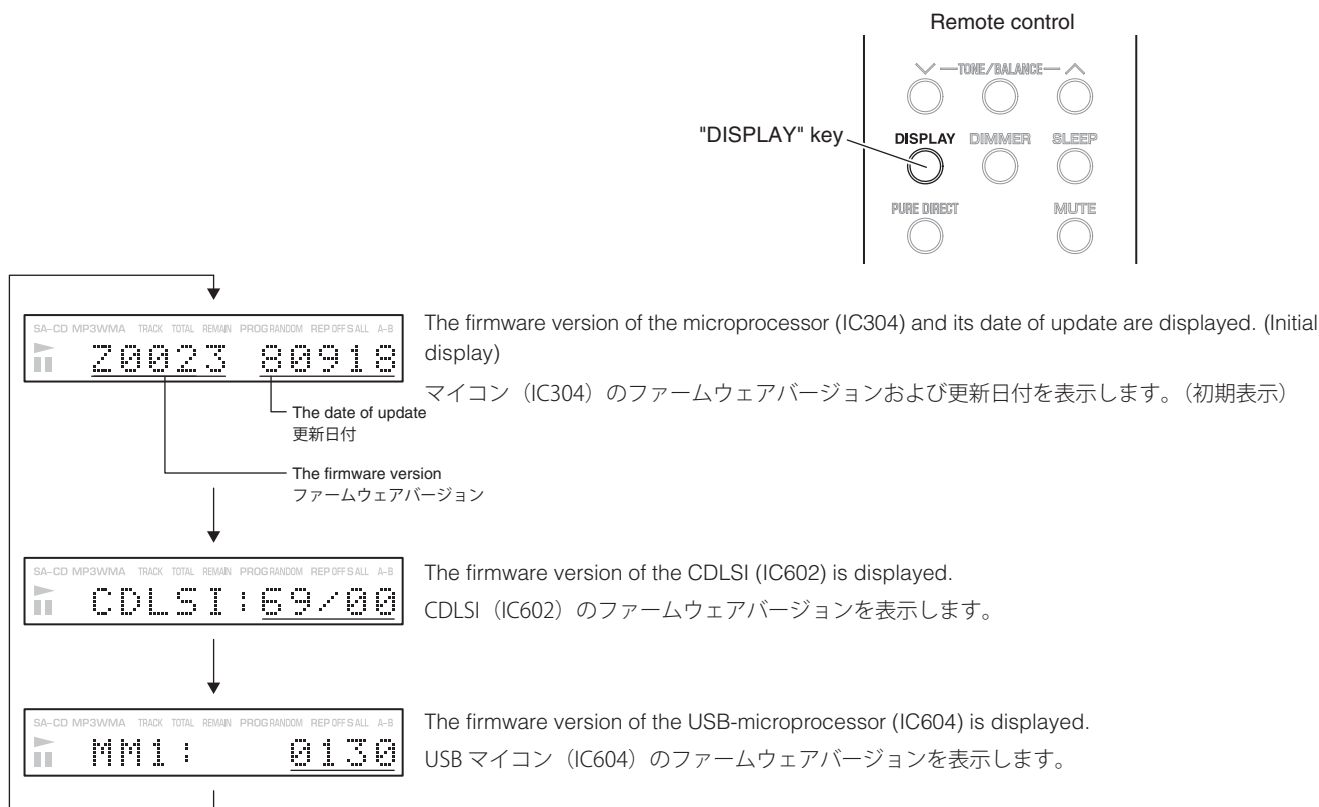


Fig. 2

## ● Connection

Connect the writing port of this unit to the serial port (RS232C) of the PC with RS232C cross cable, RS232C conversion adaptor and flexible flat cable as shown below. (Fig. 3)

## ● 接続

本機の書き込み用ポートと PC のシリアルポート (RS232C) を下記のように接続します。(Fig. 3)

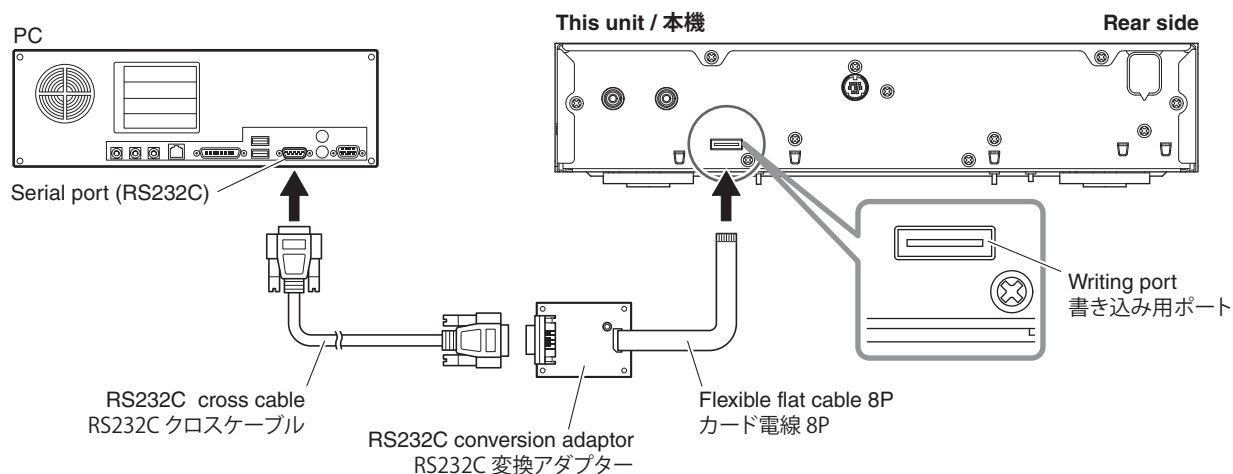


Fig. 3

## ● Operation Procedures

1. Connect the power cable of this unit to the AC outlet.
2. While pressing the reset switch of RS232C conversion adaptor, press the "ON/STANDBY, OFF" switch of this unit to turn on the power. (Fig. 4)

## ● 操作手順

1. 本機の電源コードを AC コンセントに接続します。
2. RS232C 変換アダプターのリセットスイッチを押しながら、本機の "ON/STANDBY, OFF" スイッチを押してオンにします。(Fig. 4)

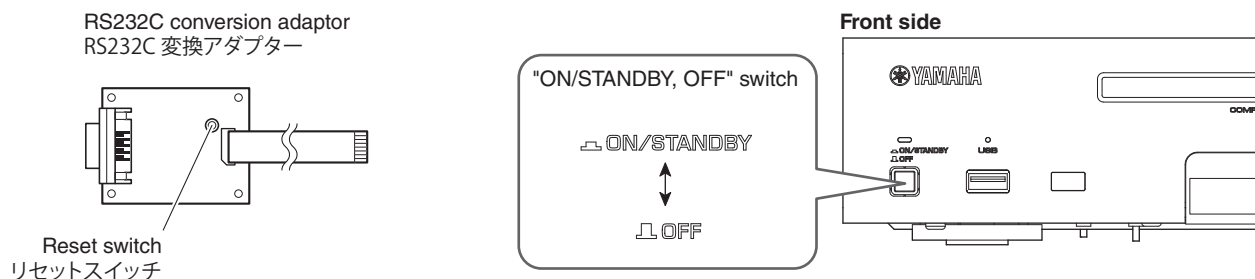


Fig. 4

3. Start up FlashSta.exe, the screen will appear as shown below. (Fig. 5)

3. FlashSta.exe を立ち上げます。  
すると下記の画面が表示されます。(Fig. 5)

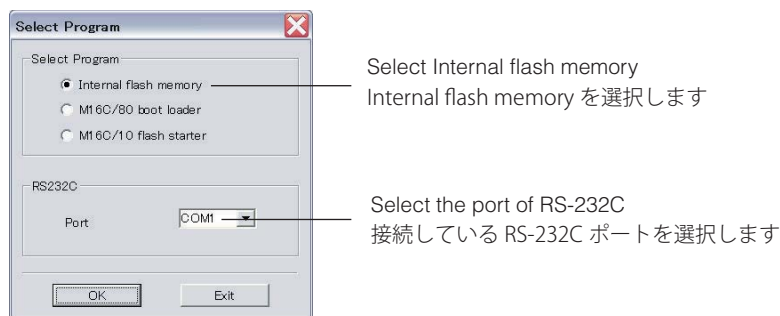


Fig. 5

4. Select the port and data to be transmitted. (Fig. 5)

- **Select Program**  
Select Internal flash memory

- **RS232C**  
Select the port of RS-232C

\* For selection of the port, COM1 to 4 can be used.  
As COM5 or higher port cannot be used, select out of COM 1 to 4 of the setting on the PC side.

4. 送信データ、ポートを選択します。(Fig. 5)

- **Select Program**  
Internal flash memory を選択します。

- **RS232C**  
接続している RS-232C ポートを選択します。

※ ポートの選択は COM1 ～ 4 までが使用できます。  
COM5 以上は使用できませんので、PC 側の設定で COM1 ～ 4 を選択してください。

5. Click [Refer...]. And select the firmware name. (Fig. 6)

\* The ID code and MCU type are loaded automatically when the file is selected. (Fig. 6)

Click [OK]. (Fig. 6)

5. [Refer...] をクリックし、書き込むファームウェアを選択します。(Fig. 6)

※ ID、および MCU Type は書き込みファイル選択時、自動的に取り込まれます。(Fig. 6)

[OK] をクリックします。(Fig. 6)

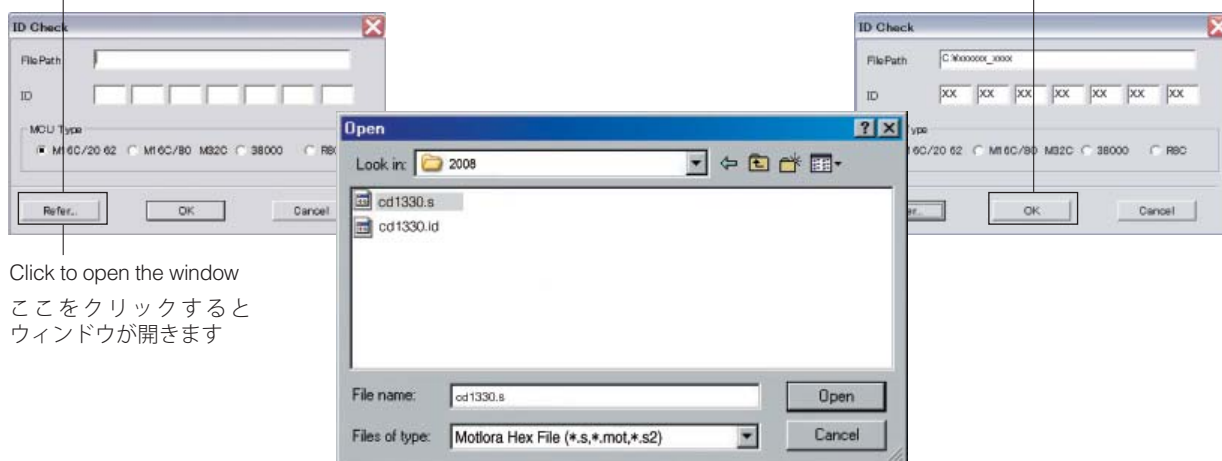


Fig. 6

6. Click [E.P.R.], the screen appears as shown below. (Fig. 7)

Click [OK] to start writing. (Fig. 7)

6. [E.P.R.] をクリックすると、下記の画面が表示されます。(Fig. 7)

[OK] をクリックし、書き込みを開始します。(Fig. 7)

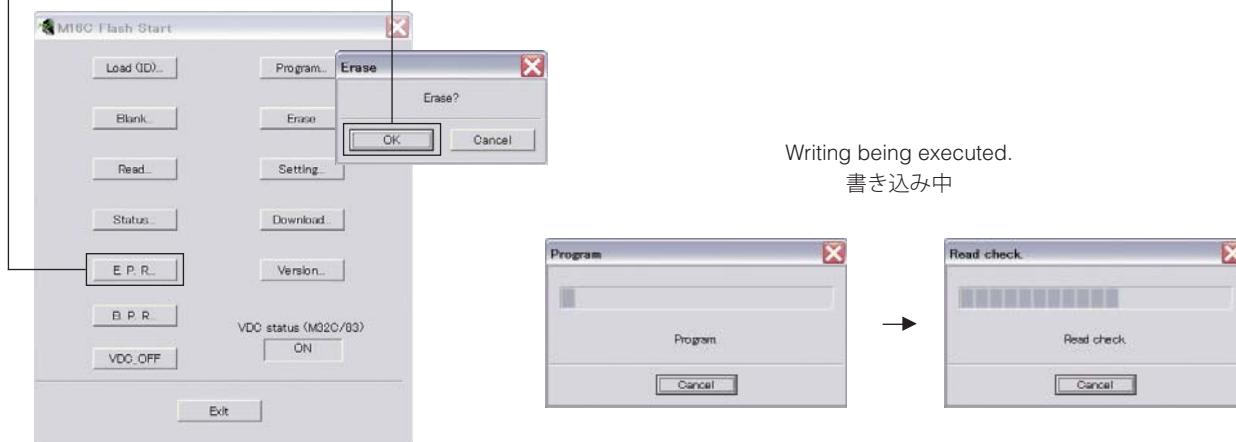


Fig. 7

7. When the program transmission is completed, the screen appears as shown below. (Fig. 8)

Click [OK] to end the procedure. (Fig. 8)

7. プログラムの送信が終了すると、下記の画面が表示されます。(Fig. 8)

[OK] をクリックして完了します。(Fig. 8)



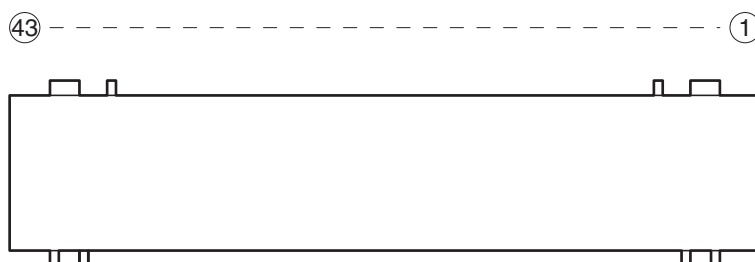
Fig. 8

8. Press the "ON/STANDBY, OFF" switch of this unit to turn off the power.
9. End "FlashSta.exe".
10. Check that the firmware version is same as written ones with the Confirmation of firmware version.
- \* When the firmware version is different from written ones, perform the "UPDATING FIRMWARE" procedure all over again.
11. Press the "ON/STANDBY, OFF" switch of this unit to turn off the power.

8. 本機の "ON/STANDBY、OFF" スイッチを押して電源を切ります。
9. "FlashSta.exe" を終了します。
10. ファームウェアのバージョンが書き込まれたものと同じであることを確認します。
- ※ ファームウェアのバージョンが書き込まれたものとは異なる場合、「ファームウェアの書き込み」をもう一度やり直してください。
11. 本機の "ON/STANDBY、OFF" スイッチを押して電源を切ります。

## ■ DISPLAY DATA

### ● V101 : 13-ST-81GINK (OPERATION (1) P.C.B.)

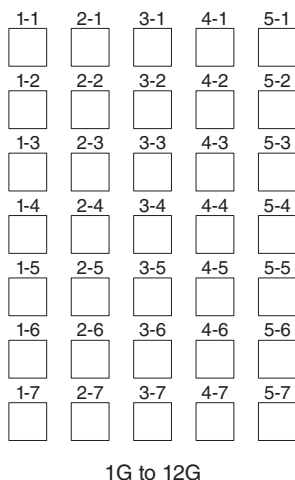
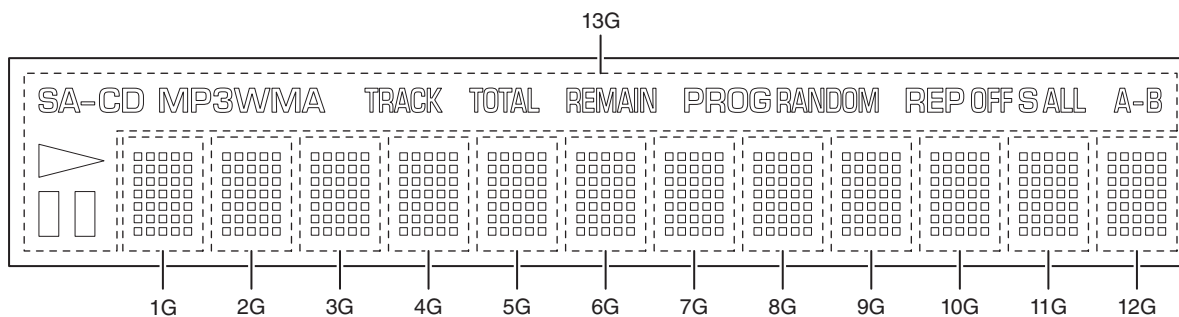


### ● PIN CONNECTION

| Pin No.    | 19  | 18  | 17    | 16   | 15   | 14 | 13  | 12  | 11 | 10 | 9  | 8  | 7  | 6  | 5   | 4    | 3  | 2  | 1  |
|------------|-----|-----|-------|------|------|----|-----|-----|----|----|----|----|----|----|-----|------|----|----|----|
| Connection | NX  | NX  | NX    | NX   | NX   | NX | NX  | NX  | NX | NX | NX | NX | NX | NX | 13G | Q13G | NP | NP | F1 |
| Pin No.    | 37  | 36  | 35    | 34   | 33   | 32 | 31  | 30  | 29 | 28 | 27 | 26 | 25 | 24 | 23  | 22   | 21 | 20 |    |
| Connection | VDD | OSC | RESET | CS   | CP   | DA | TSA | TSB | NX | NX | NX | NX | NX | NX | NX  | NX   | NX | NX |    |
| Pin No.    | 43  | 42  | 41    | 40   | 39   | 38 |     |     |    |    |    |    |    |    |     |      |    |    |    |
| Connection | F2  | NP  | NP    | LGND | PGND | VH |     |     |    |    |    |    |    |    |     |      |    |    |    |

Note: 1) F1, F2 ..... Filament 2) NP ..... No pin 3) NX ..... No extended pin 4) DL ..... Datum line 5) LGND ..... Logic GND pin  
 6) PGND ..... Power GND pin 7) VH ..... High voltage supply pin 8) VDD ..... Logic voltage supply pin 9) CP ..... Shift register clock  
 10) DA ..... Serial data input 11) TSA, B ..... Test pin 12) CS ..... Chip select input pin 13) OSC ..... Pin for self-oscillation  
 14) RESET ..... Reset input 16) Q13G ..... Driver output port 17) 13G ..... Grid

### ● GRID ASSIGNMENT

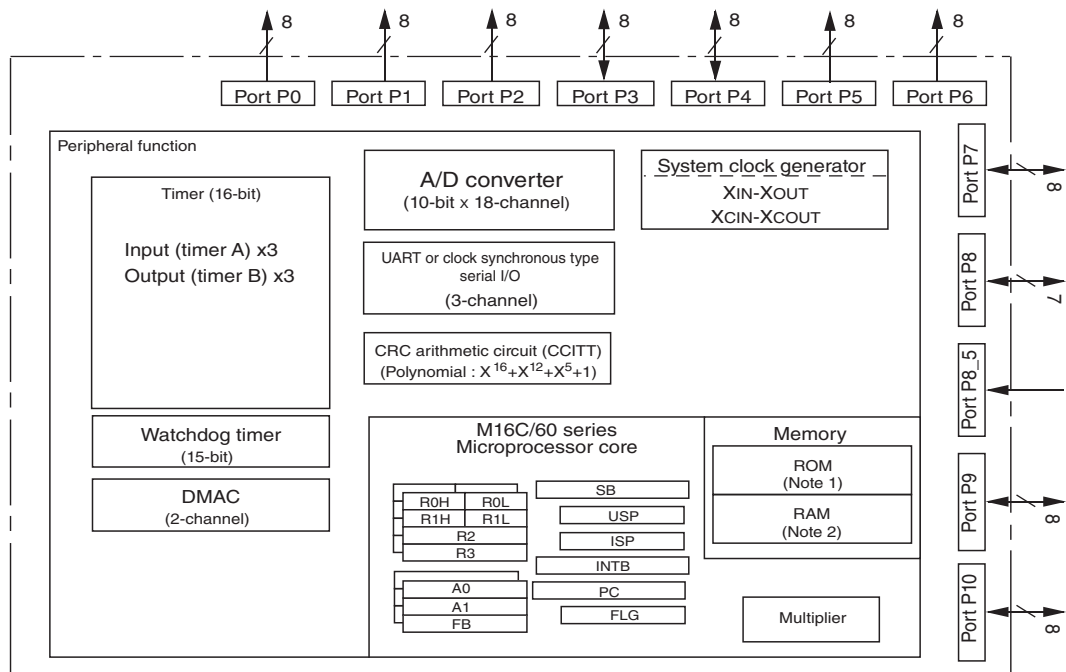


### ● ANODE CONNECTION

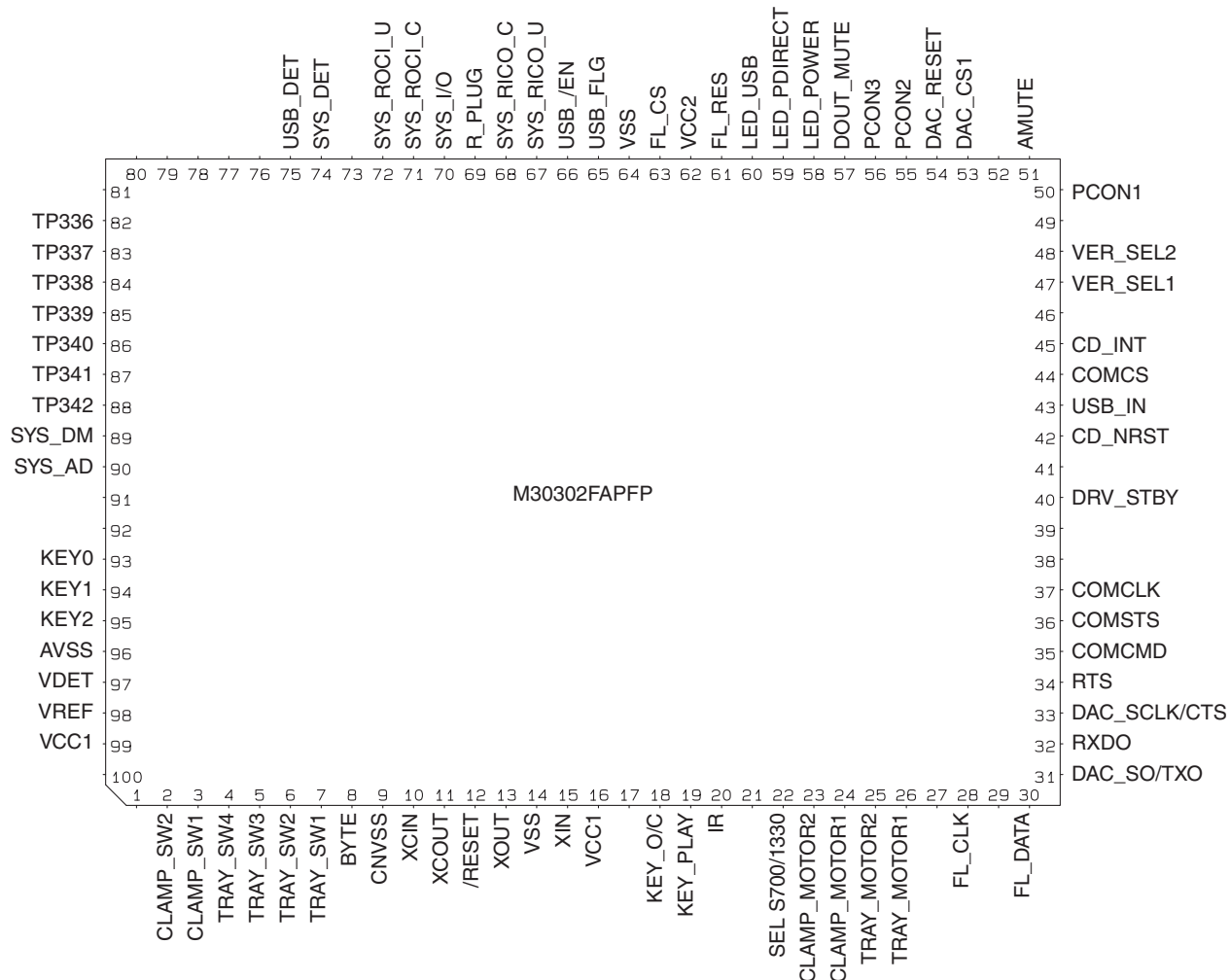
|     | 1G to 12G | 13G    |     | 1G to 12G | 13G |     | 1G to 12G | 13G |
|-----|-----------|--------|-----|-----------|-----|-----|-----------|-----|
| D0  | 1-1       |        | D15 | 1-4       | CD  | D30 | 1-7       | —   |
| D1  | 2-1       |        | D16 | 2-4       | SA- | D31 | 2-7       | —   |
| D2  | 3-1       | B      | D17 | 3-4       | —   | D32 | 3-7       | —   |
| D3  | 4-1       | A-     | D18 | 4-4       | —   | D33 | 4-7       | —   |
| D4  | 5-1       | ALL    | D19 | 5-4       | —   | D34 | 5-7       | —   |
| D5  | 1-2       | S      | D20 | 1-5       | —   |     |           |     |
| D6  | 2-2       | OFF    | D21 | 2-5       | —   |     |           |     |
| D7  | 3-2       | REP    | D22 | 3-5       | —   |     |           |     |
| D8  | 4-2       | RANDOM | D23 | 4-5       | —   |     |           |     |
| D9  | 5-2       | PROG   | D24 | 5-5       | —   |     |           |     |
| D10 | 1-3       | REMAIN | D25 | 1-6       | —   |     |           |     |
| D11 | 2-3       | TOTAL  | D26 | 2-6       | —   |     |           |     |
| D12 | 3-3       | TRACK  | D27 | 3-6       | —   |     |           |     |
| D13 | 4-3       | WMA    | D28 | 4-6       | —   |     |           |     |
| D14 | 5-3       | MP3    | D29 | 5-6       | —   |     |           |     |

IC DATA

IC304: M30302FAPFP (DIGITAL P.C.B.)  
Single-chip 16-bit microprocessor



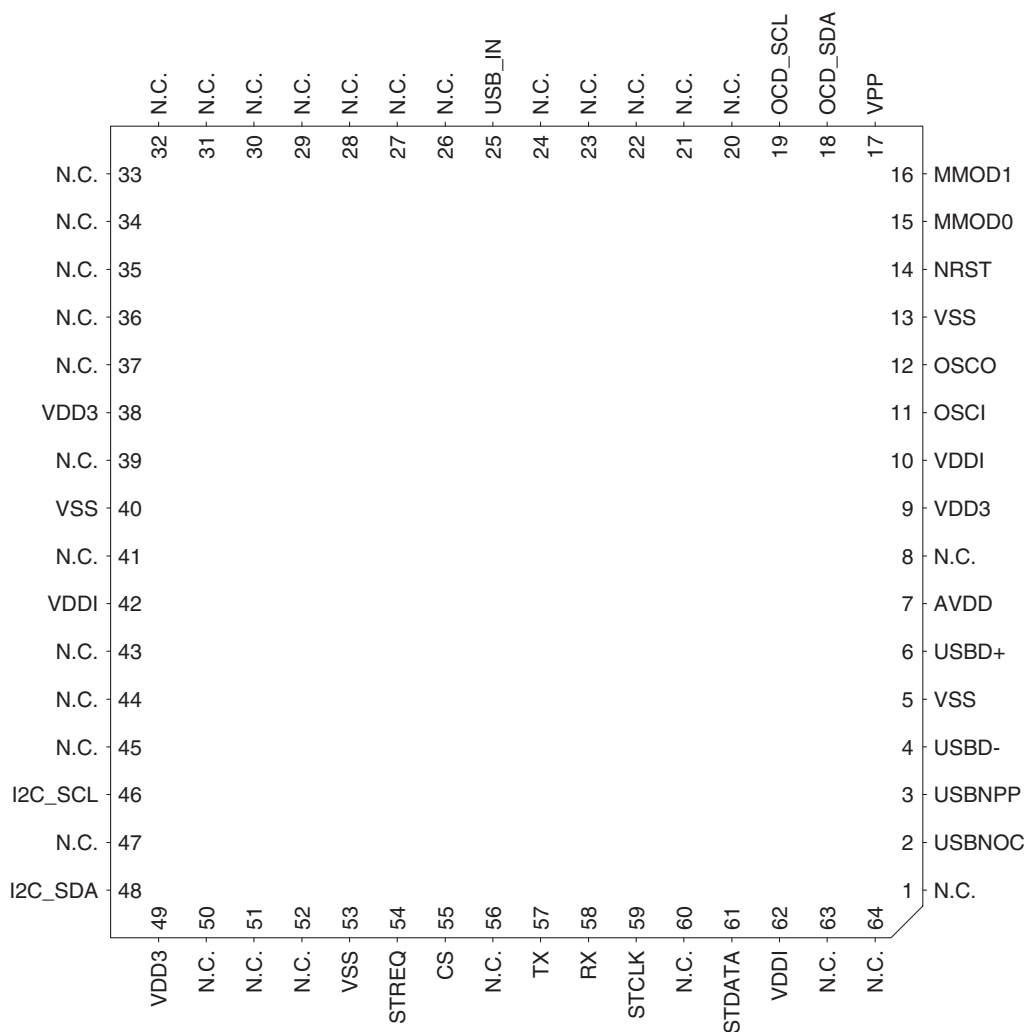
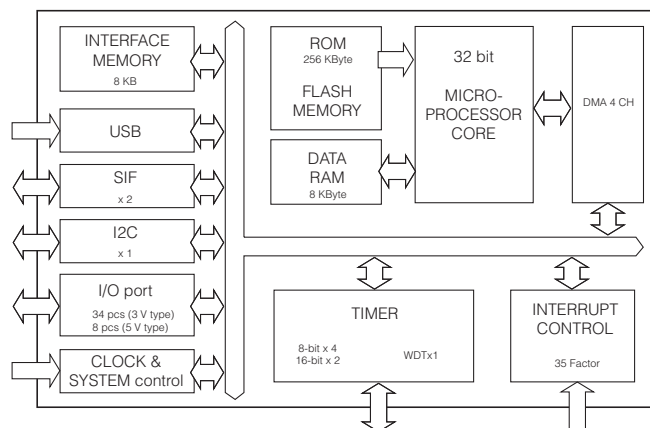
Note 1: ROM contents vary depending on types.  
Note 2: RAM contents vary depending on types.



| No. | Port Name     | Function Name             | I/O | Detail of Function                                  |
|-----|---------------|---------------------------|-----|-----------------------------------------------------|
| 1   |               | P9_6/ANEX1                |     | (No connected)                                      |
| 2   | CLAMP_SW2     | P9_5/ANEX0                | I   | Clamp SW2                                           |
| 3   | CLAMP_SW1     | P9_4                      | I   | Clamp SW1                                           |
| 4   | TRAY_SW4      | P9_3                      |     |                                                     |
| 5   | TRAY_SW3      | P9_2/TB2IN                | I   | Tray SW3 / Loader mechanism specification confirm   |
| 6   | TRAY_SW2      | P9_1/TB1IN                | I   | Tray SW2                                            |
| 7   | TRAY_SW1      | P9_0/TB0IN                | I   | Tray SW1                                            |
| 8   | BYTE          | BYTE                      | I   | GND                                                 |
| 9   | CNVSS         | CNVSS                     |     | Usually GND but VCC1 when writing FLASH             |
| 10  | XCIN          | P8_7/XCIN                 |     | (No connected)                                      |
| 11  | XCOUT         | P8_6/XCOUT                |     | (No connected)                                      |
| 12  | /RESET        | /RESET                    |     |                                                     |
| 13  | XOUT          | XOUT                      |     |                                                     |
| 14  | VSS           | VSS                       |     | GND                                                 |
| 15  | XIN           | XIN                       |     |                                                     |
| 16  | VCC1          | VCC1                      |     |                                                     |
| 17  |               | P8_5/NMI                  |     | Pull-up resistor required                           |
| 18  | KEY_O/C       | P8_4/INT2                 |     | GND when writing FLASH                              |
| 19  | KEY_PLAY      | P8_3/INT1                 |     | (No connected)                                      |
| 20  | IR            | P8_2/INT0                 | I   | Remote control                                      |
| 21  |               | P8_1                      |     | (No connected)                                      |
| 22  | SEL S700/1330 | P8_0                      |     |                                                     |
| 23  | CLAMP_MOTOR2  | P7_7                      | O   | Clamp motor 2                                       |
| 24  | CLAMP_MOTOR1  | P7_6                      | O   | Clamp motor 1                                       |
| 25  | TRAY_MOTOR2   | P7_5/TA2IN                | O   | Tray motor 2                                        |
| 26  | TRAY_MOTOR1   | P7_4/TA2OUT               | O   | Tray motor 1                                        |
| 27  |               | P7_3/CTS2/RTS2/TA1IN      |     | (No connected)                                      |
| 28  | FL_CLK        | P7_2/CLK2/TA1OUT          | O   | FL control                                          |
| 29  |               | P7_1/RXD2/SCL2/TA0IN      |     | (No connected)                                      |
| 30  | FL_DATA       | P7_0/TXD2/SDA2/TA0OUT     | O   | FL control                                          |
| 31  | DAC_SO/TXO    | P6_7/TXD1/SDA1            | O   | TxD for DAC control / Rewriting FLASH commonly used |
| 32  | RXDO          | P6_6/RXD1/SCL1            | I   | RxD for rewriting FLASH commonly used               |
| 33  | DAC_SCLK/CT   | P6_5/CLK1                 | O   | CTS for DAC control / Rewriting FLASH commonly used |
| 34  | RTS           | P6_4/CTS1/RTS1/CTS0/CLKS1 | I   | RTS for rewriting FLASH commonly used               |
| 35  | COMCMD        | P6_3/TXD0/SDA0            | O   | MODULE control                                      |
| 36  | COMSTS        | P6_2/RXD0/SCL0            | I   | MODULE control                                      |
| 37  | COMCLK        | P6_1/CLK0                 | I   | MODULE control                                      |
| 38  |               | P6_0/CTS0/RTS0            |     | (No connected)                                      |
| 39  |               | P5_7/RDY/CLKOUT           |     | (No connected)                                      |
| 40  | DRV_STBY      | P5_6/ALE                  | O   | MODULE control                                      |
| 41  |               | P5_5/HOLD                 |     | GND when writing FLASH                              |
| 42  | CD_NRST       | P5_4/HLDA                 | O   | MODULE control                                      |
| 43  | USB_IN        | P5_3/BCLK                 | O   | MODULE control                                      |
| 44  | COMCS         | P5_2/RD                   | O   | MODULE control                                      |
| 45  | CD_INT        | P5_1/WRH/BHE              | I   | MODULE control                                      |
| 46  |               | P5_0/WRL/WR               |     | VCC1 when writing FLASH                             |
| 47  | VER_SEL1      | P4_7/CS3                  |     | (No connected)                                      |
| 48  | VER_SEL2      | P4_6/CS2                  |     | (No connected)                                      |
| 49  |               | P4_5/CS1                  |     | (No connected)                                      |
| 50  | PCON1         | P4_4/CS0                  | O   | output RELAY                                        |
| 51  | AMUTE         | P4_3/A19                  | O   | Analog mute                                         |
| 52  |               | P4_2/A18                  | O   | DAC control                                         |
| 53  | DAC_CS1       | P4_1/A17                  | O   | DAC control                                         |
| 54  | DAC_RESET     | P4_0/A16                  | O   | DAC control                                         |
| 55  | PCON2         | P3_7/A15                  |     | (No connected)                                      |
| 56  | PCON3         | P3_6/A14                  |     | (No connected)                                      |
| 57  | DOUT_MUTE     | P3_5/A13                  |     | (No connected)                                      |
| 58  | LED_POWER     | P3_4/A12                  | O   | Indicator of power supply                           |
| 59  | LED_PDIRECT   | P3_3/A11                  | O   | Indicator of pure direct                            |
| 60  | LED_USB       | P3_2/A10                  | O   | Indicator of SACD                                   |

| No. | Port Name  | Function Name | I/O | Detail of Function |
|-----|------------|---------------|-----|--------------------|
| 61  | FL_RES     | P3_1/A9       | O   | FL control         |
| 62  | VCC2       | VCC2          |     |                    |
| 63  | FL_CS      | P3_0/A8       | O   | FL control         |
| 64  | VSS        | VSS           |     |                    |
| 65  | USB_FLG    | P2_7/A7       |     | (No connected)     |
| 66  | USB_EN     | P2_6/A6       |     | (No connected)     |
| 67  | SYS_RICO_C | P2_5/A5       |     | (No connected)     |
| 68  | SYS_RICO_U | P2_4/A4       |     | (No connected)     |
| 69  | R_PLUG     | P2_3/A3       |     | (No connected)     |
| 70  | SYS_I/O    | P2_2/A2       |     | (No connected)     |
| 71  | SYS_ROCI_C | P2_1/A1       |     | (No connected)     |
| 72  | SYS_ROCI_U | P2_0/A0       |     | (No connected)     |
| 73  |            | P1_7/D15      |     | (No connected)     |
| 74  | SYS_DET    | P1_6/D14/INT4 |     | (No connected)     |
| 75  | USB_DET    | P1_5/D13/INT3 |     | (No connected)     |
| 76  |            | P1_4/D12      |     | (No connected)     |
| 77  |            | P1_3/D11      |     | (No connected)     |
| 78  |            | P1_2/D10      |     | (No connected)     |
| 79  |            | P1_1/D9       |     | (No connected)     |
| 80  |            | P1_0/D8       |     | (No connected)     |
| 81  |            | P0_7/AN0_7/D7 | O   | Test point         |
| 82  | TP336      | P0_6/AN0_6/D6 | O   | Test point         |
| 83  | TP337      | P0_5/AN0_5/D5 | O   | Test point         |
| 84  | TP338      | P0_4/AN0_4/D4 | I   | LOAD- monitor      |
| 85  | TP339      | P0_3/AN0_3/D3 | O   | Test point         |
| 86  | TP340      | P0_2/AN0_2/D2 | I   | LOAD+ monitor      |
| 87  | TP341      | P0_1/AN0_1/D1 | O   | Test point         |
| 88  | TP342      | P0_0/AN0_0/D0 | O   | Test point         |
| 89  | SYS_DM     | P10_7/AN7/KI3 |     | (No connected)     |
| 90  | SYS_AD     | P10_6/AN6/KI2 |     | (No connected)     |
| 91  |            | P10_5/AN5/KI1 |     | (No connected)     |
| 92  |            | P10_4/AN4/KI0 |     | (No connected)     |
| 93  | KEY0       | P10_3/AN3     | I   | Analog input       |
| 94  | KEY1       | P10_2/AN2     | I   | Analog input       |
| 95  | KEY2       | P10_1/AN1     | I   | Analog input       |
| 96  | AVSS       | AVSS          |     |                    |
| 97  | VDET       | P10_0/AN0     | I   | MODULE control     |
| 98  | VREF       | VREFF         |     |                    |
| 99  | VCC1       | AVCC          |     |                    |
| 100 |            | P9_7/ADTRG    |     | (No connected)     |

**IC604:** MN103SFB5KYAA (DIGITAL P.C.B.)  
USB microprocessor

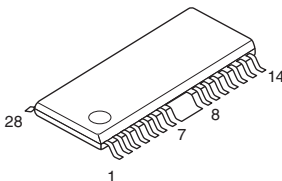
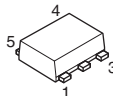
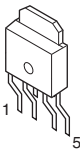
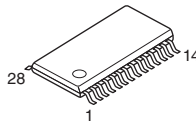
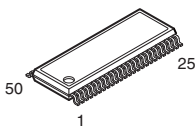
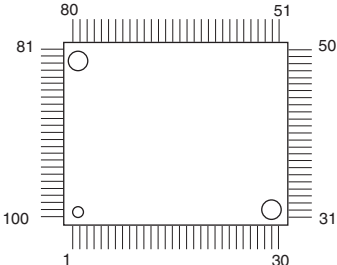
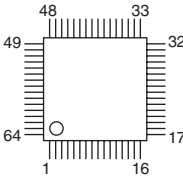
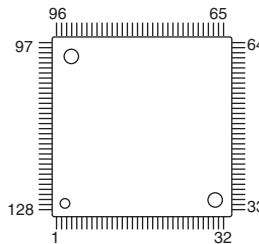
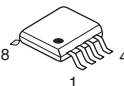
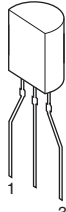
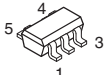
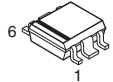
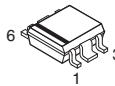
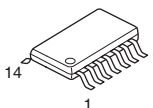


| No. | Port Name | Function Name | Detail of Function                                                                                                                                                                                                                             |
|-----|-----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | N.C.      |               |                                                                                                                                                                                                                                                |
| 2   | USBNOC    |               | USB over-current input (negative polarity)                                                                                                                                                                                                     |
| 3   | USBNPP    |               | USB, VBUS power output control terminal (negative polarity)                                                                                                                                                                                    |
| 4   | USB D-    |               | USB D- terminal                                                                                                                                                                                                                                |
| 5   | VSS       | AVSS          | Ground / Analog power supply for USB / Connect to VSS.                                                                                                                                                                                         |
| 6   | USB D+    |               | USB D+ terminal                                                                                                                                                                                                                                |
| 7   | AVDD      |               | Analog power supply for USB / Connect to VDD33.                                                                                                                                                                                                |
| 8   | N.C.      |               |                                                                                                                                                                                                                                                |
| 9   | VDD3      | VDD33         | Power for on-chip regulator (2.7V to 3.6V)<br>I/O power supply (2.7V to 3.6V)                                                                                                                                                                  |
| 10  | VDDI      | VDD18/VOUT    | Power for internal circuit (1.8V $\pm$ 0.15V)<br>Connect all VDD18 terminals outside of chip.<br>Also, connect a 10 $\mu$ F capacitor between VDD18 and VSS of No.10 pin and place it near LSI.<br>On-chip regulator output (1.8V $\pm$ 0.15V) |
| 11  | OSCI      |               | High-speed oscillation input terminal (fosc)<br>(When PLL used: 6.33 MHz to 20 MHz)                                                                                                                                                            |
| 12  | OSCO      |               | High-speed oscillation output terminal                                                                                                                                                                                                         |
| 13  | VSS       |               | Ground                                                                                                                                                                                                                                         |
| 14  | NRST      |               | Reset signal input terminal (negative polarity)                                                                                                                                                                                                |
| 15  | MMOD0     |               | Operation mode setting terminal                                                                                                                                                                                                                |
| 16  | MMOD1     |               | Operation mode setting terminal                                                                                                                                                                                                                |
| 17  | VPP       |               | Power for rewriting built-in Flash memory (3.3V $\pm$ 0.3V) / only for Flash built in model                                                                                                                                                    |
| 18  | OCD_SDA   |               | Clock, data input/output terminal for on-chip debugger                                                                                                                                                                                         |
| 19  | OCD_SCL   |               | Clock, data input/output terminal for on-chip debugger                                                                                                                                                                                         |
| 20  | N.C.      |               |                                                                                                                                                                                                                                                |
| 21  |           |               |                                                                                                                                                                                                                                                |
| 22  |           |               |                                                                                                                                                                                                                                                |
| 23  |           |               |                                                                                                                                                                                                                                                |
| 24  |           |               |                                                                                                                                                                                                                                                |
| 25  | USB_IN    |               | General purpose input/output port 0                                                                                                                                                                                                            |
| 26  | N.C.      |               |                                                                                                                                                                                                                                                |
| 27  |           |               |                                                                                                                                                                                                                                                |
| 28  |           |               |                                                                                                                                                                                                                                                |
| 29  |           |               |                                                                                                                                                                                                                                                |
| 30  |           |               |                                                                                                                                                                                                                                                |
| 31  |           |               |                                                                                                                                                                                                                                                |
| 32  |           |               |                                                                                                                                                                                                                                                |
| 33  |           |               |                                                                                                                                                                                                                                                |
| 34  |           |               |                                                                                                                                                                                                                                                |
| 35  |           |               |                                                                                                                                                                                                                                                |
| 36  |           |               |                                                                                                                                                                                                                                                |
| 37  |           |               |                                                                                                                                                                                                                                                |
| 38  | VDD3      | VDD33         | Power for on-chip regulator (2.7V to 3.6V)<br>I/O power supply (2.7V to 3.6V)                                                                                                                                                                  |
| 39  | N.C.      |               |                                                                                                                                                                                                                                                |
| 40  | VSS       |               | Ground                                                                                                                                                                                                                                         |
| 41  | N.C.      |               |                                                                                                                                                                                                                                                |
| 42  | VDDI      | VDD18         | Power supply for internal circuit (1.8V $\pm$ 0.15V)<br>Connect all VDD18 terminals outside of chip.<br>Also, connect a 10 $\mu$ F capacitor between VDD18 and VSS of No.10 pin and place it near LSI.                                         |
| 43  | N.C.      |               |                                                                                                                                                                                                                                                |
| 44  |           |               |                                                                                                                                                                                                                                                |
| 45  |           |               |                                                                                                                                                                                                                                                |
| 46  | I2C_SCL   | P35/SCL3      | General purpose input/output port 3                                                                                                                                                                                                            |
| 47  | N.C.      |               |                                                                                                                                                                                                                                                |
| 48  | I2C_SDA   | P33/SDA3      | General purpose input/output port 3                                                                                                                                                                                                            |
| 49  | VDD3      | VDD5          | I/O power supply (5V type I/O)                                                                                                                                                                                                                 |
| 50  | N.C.      |               |                                                                                                                                                                                                                                                |

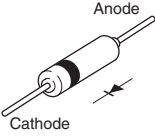
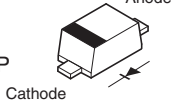
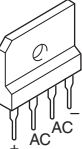
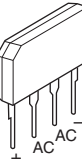
| No. | Port Name | Function Name | Detail of Function                                                                                                                                                                                     |
|-----|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 51  | N.C.      |               |                                                                                                                                                                                                        |
| 52  |           |               |                                                                                                                                                                                                        |
| 53  | VSS       |               | Ground                                                                                                                                                                                                 |
| 54  | STREQ     | PD5/IRQ2      | External interrupt request signal input terminal                                                                                                                                                       |
| 55  | CS        | PD4/IRQ1      | External interrupt request signal input terminal                                                                                                                                                       |
| 56  | N.C.      |               |                                                                                                                                                                                                        |
| 57  | TX        | PD1/SBI2      | Clock synchronization/start stop synchronization serial terminal                                                                                                                                       |
| 58  | RX        | PD0/SBO2      | Clock synchronization/start stop synchronization serial terminal                                                                                                                                       |
| 59  | STCLK     | P92/SBT0      | Serial clock input/output terminal                                                                                                                                                                     |
| 60  | N.C.      |               |                                                                                                                                                                                                        |
| 61  | STDATA    | P90/SBO0      | Serial data output terminal                                                                                                                                                                            |
| 62  | VDDI      | VDD18         | Power supply for internal circuit (1.8V $\pm$ 0.15V)<br>Connect all VDD18 terminals outside of chip.<br>Also, connect a 10 $\mu$ F capacitor between VDD18 and VSS of No.10 pin and place it near LSI. |
| 63  | N.C.      |               |                                                                                                                                                                                                        |
| 64  |           |               |                                                                                                                                                                                                        |

PIN CONNECTION DIAGRAMS

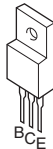
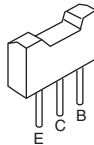
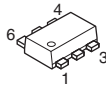
ICs

|                                                                                                                           |                                                                                                                         |                                                                                                                           |                                                                                                                             |                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <div>AN41010A-VF</div> <div></div>       | <div>BD5229G-TR</div> <div></div>      | <div>BD9870FPS-E2</div> <div></div>     | <div>DSD1791DBR</div> <div></div>        |                                                                                                                            |
| <div>M12L16161A-7TG</div> <div></div>    | <div>M30302FAPFP</div> <div></div>     | <div>MN103SFB5KYAA</div> <div></div>    | <div>MN6627971YB</div> <div></div>       |                                                                                                                            |
| <div>OP275GSR</div> <div></div>        | <div>PQ033ES3MXP</div> <div></div>    | <div>R1154N033B-TR-F</div> <div></div> | <div>R1172S331B-E2-F</div> <div></div> | <div>R5523N001A-TR-F</div> <div></div> |
| <div>RP131S501D-E2-F</div> <div></div> | <div>TC74VHCT08AFT</div> <div></div> | <div>TC7SH08F</div> <div></div>       |                                                                                                                             |                                                                                                                            |

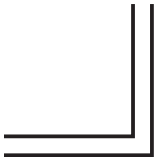
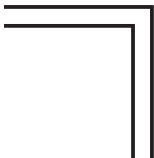
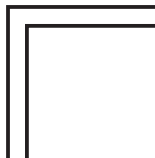
Diodes

|                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                                                          |                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <div>1N4002S</div> <div></div> | <div>1SS355<br/>FM203-W TE<br/>MA-8039-H<br/>MA8047-H<br/>MA8056-M 5.6V<br/>MA8062-M<br/>MA8130-M<br/>MA8300-M 30.0V<br/>RB050LA-40TR TP<br/>RB501V-40</div> <div></div> | <div>D4SBN20-7101</div> <div></div> | <div>RS203M-B-C-J80</div> <div></div> |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|

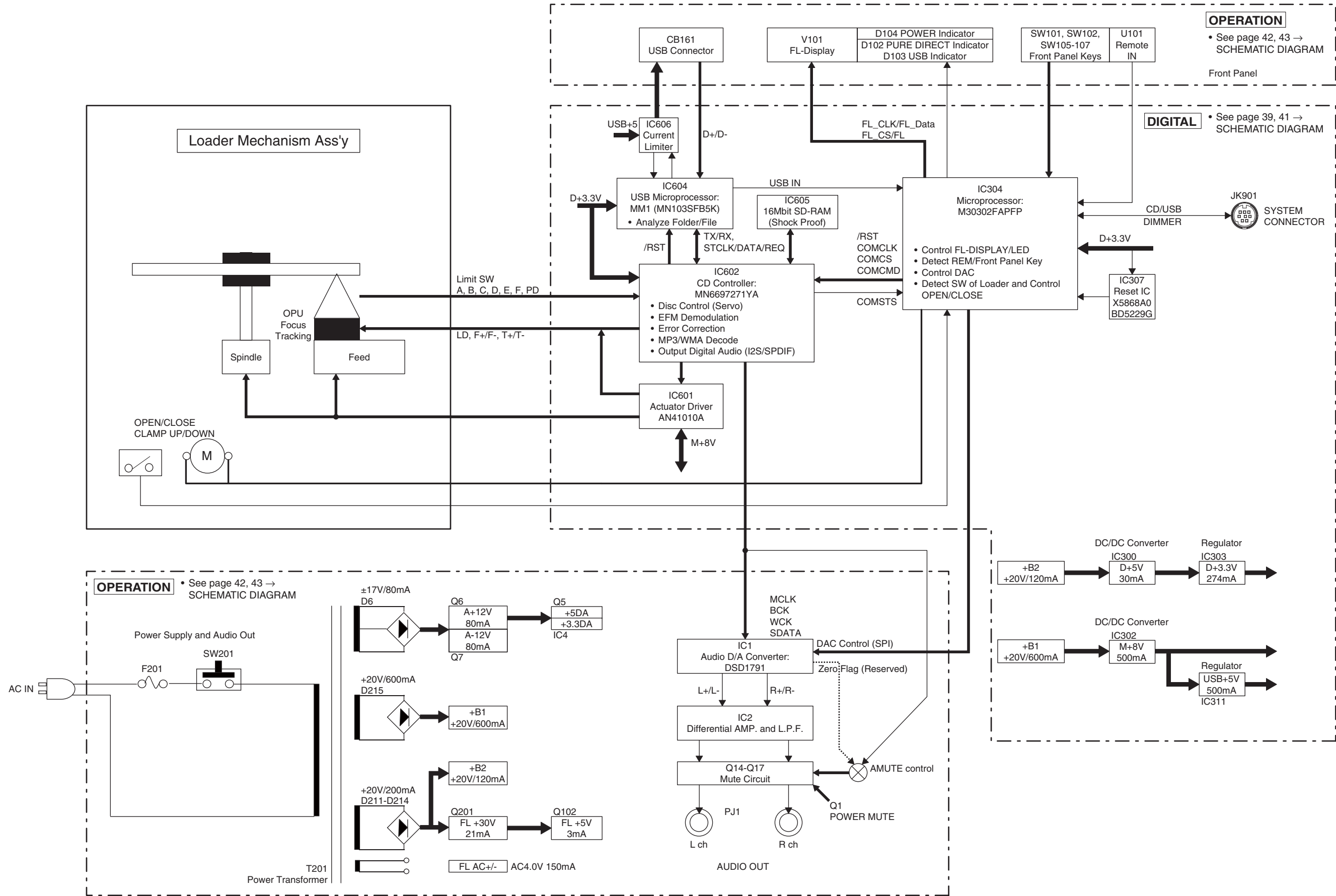
• Transistors

|                                                                                                                |                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2SA1037K<br>2SC2412K<br>2SD1938F                                                                               | 2SB1257<br>2SD2014                                                                                                                                                    | 2SB709A                                                                           | 2SC4488                                                                             | 2SK208                                                                              | 5HP02C-TB-E<br>RSR025N03                                                            |
|                               |                                                                                      |  |   |  |  |
| DTC114EKA<br>DTC144EKA<br>DTA144EKA                                                                            | MCH6612-TL-E                                                                                                                                                          |                                                                                   | RSR025P03TL                                                                         |                                                                                     |                                                                                     |
| <br>1: GND<br>2: IN<br>3: OUT | <br>1: Source 1<br>2: Gate 1<br>3: Drain 2<br>4: Source 2<br>5: Gate 2<br>6: Drain 1 |                                                                                   |  |                                                                                     |                                                                                     |

MEMO



■ BLOCK DIAGRAM



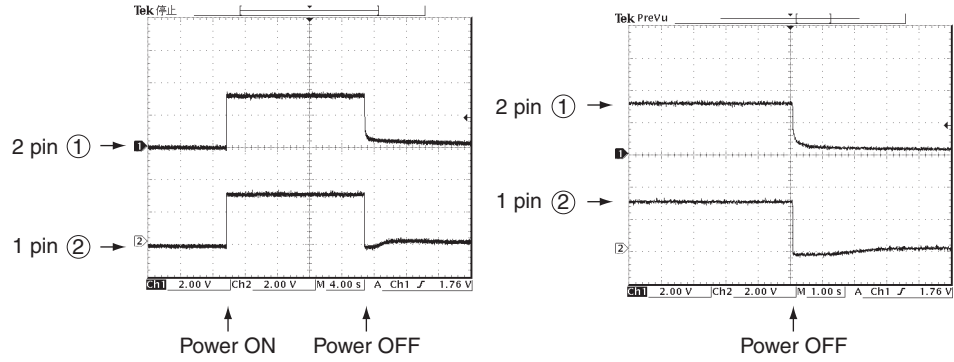
PRINTED CIRCUIT BOARDS

DIGITAL (1) P.C.B. (Side A)

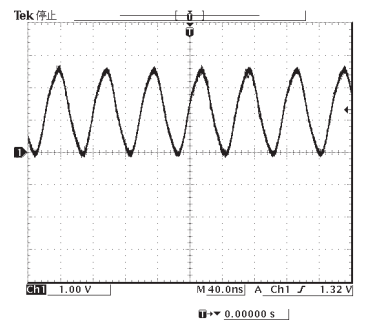
• Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|---------|----------|---------|----------|
| D300    | G3       | D605    | H5       | IC311   | F3       | IC901   | I6       |
| D302    | G3       | IC300   | G3       | IC601   | C6       | Q602    | C3       |
| D303    | F3       | IC302   | G3       | IC602   | C4       | Q804    | H4       |
| D309    | E4       | IC303   | F2       | IC604   | H4       | Q805    | H4       |
| D601    | C3       | IC304   | F4       | IC605   | C3       | Q902    | J6       |
| D602    | C3       | IC307   | E4       | IC606   | H4       | Q903    | J6       |
| D604    | C4       | IC308   | G5       | IC802   | H4       |         |          |

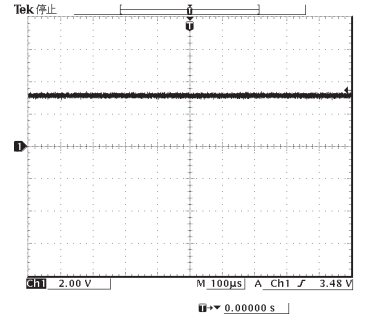
POINT ① Pin2, ②/ Pin1 of IC307



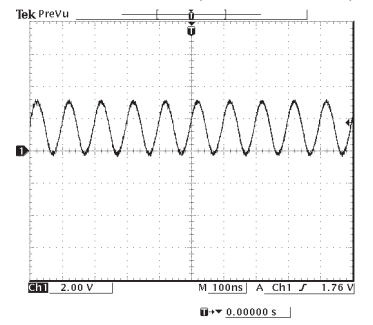
POINT ① XL601 (Pin 109 of IC602)



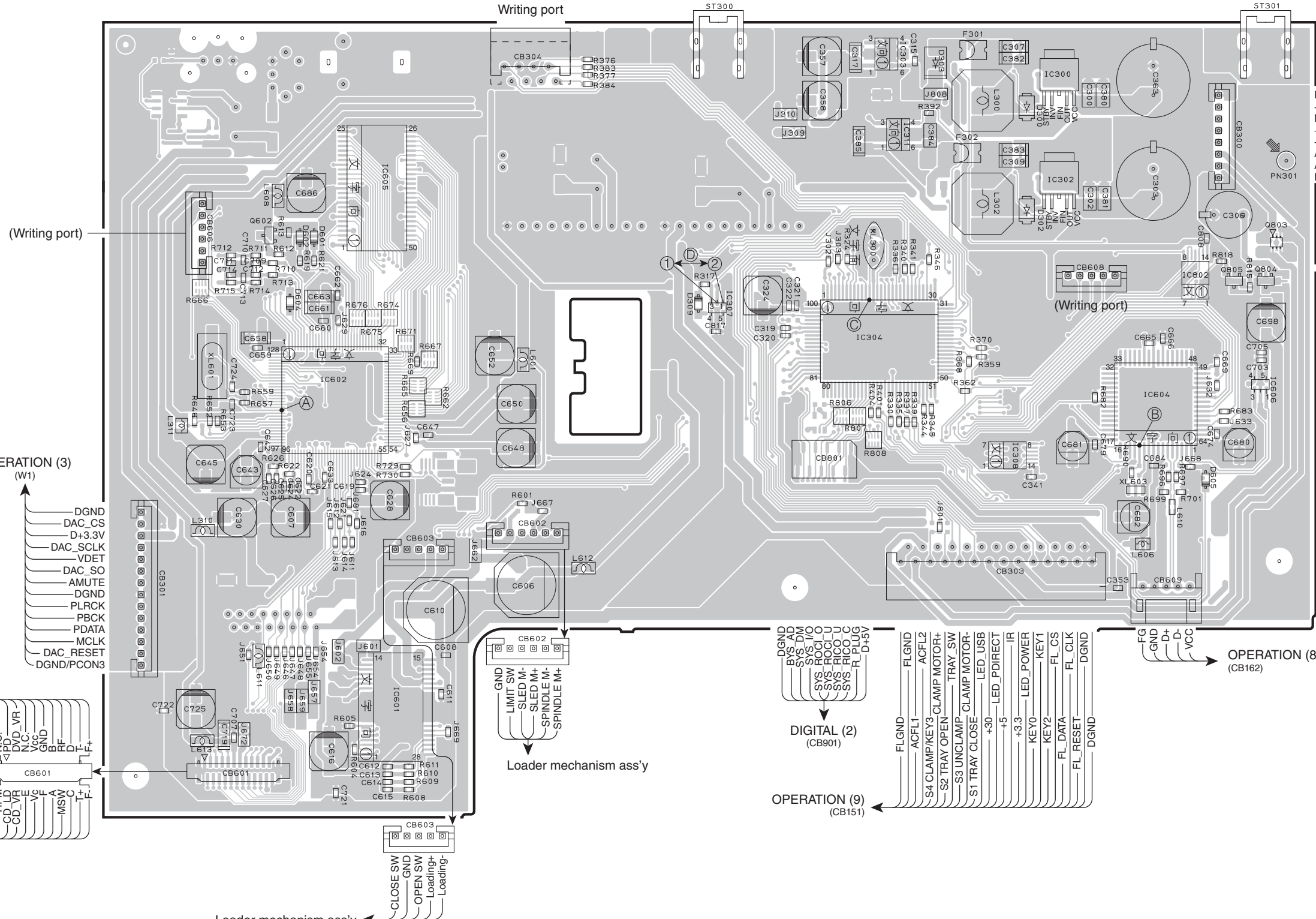
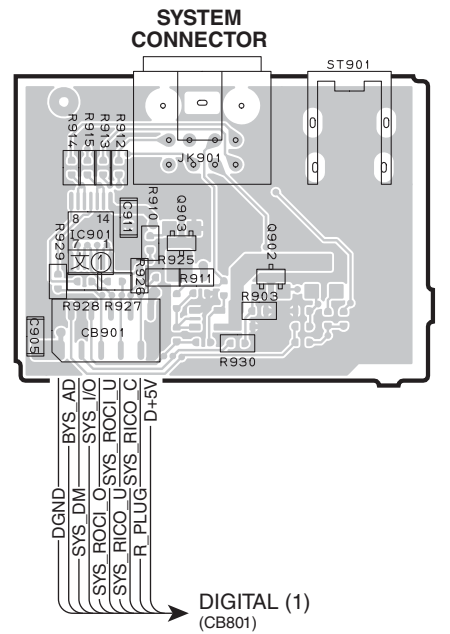
POINT ② XL603 (Pin 12 of IC604)



POINT ③ XL300 (Pin 13 of IC304)



DIGITAL (2) P.C.B. (Side A)



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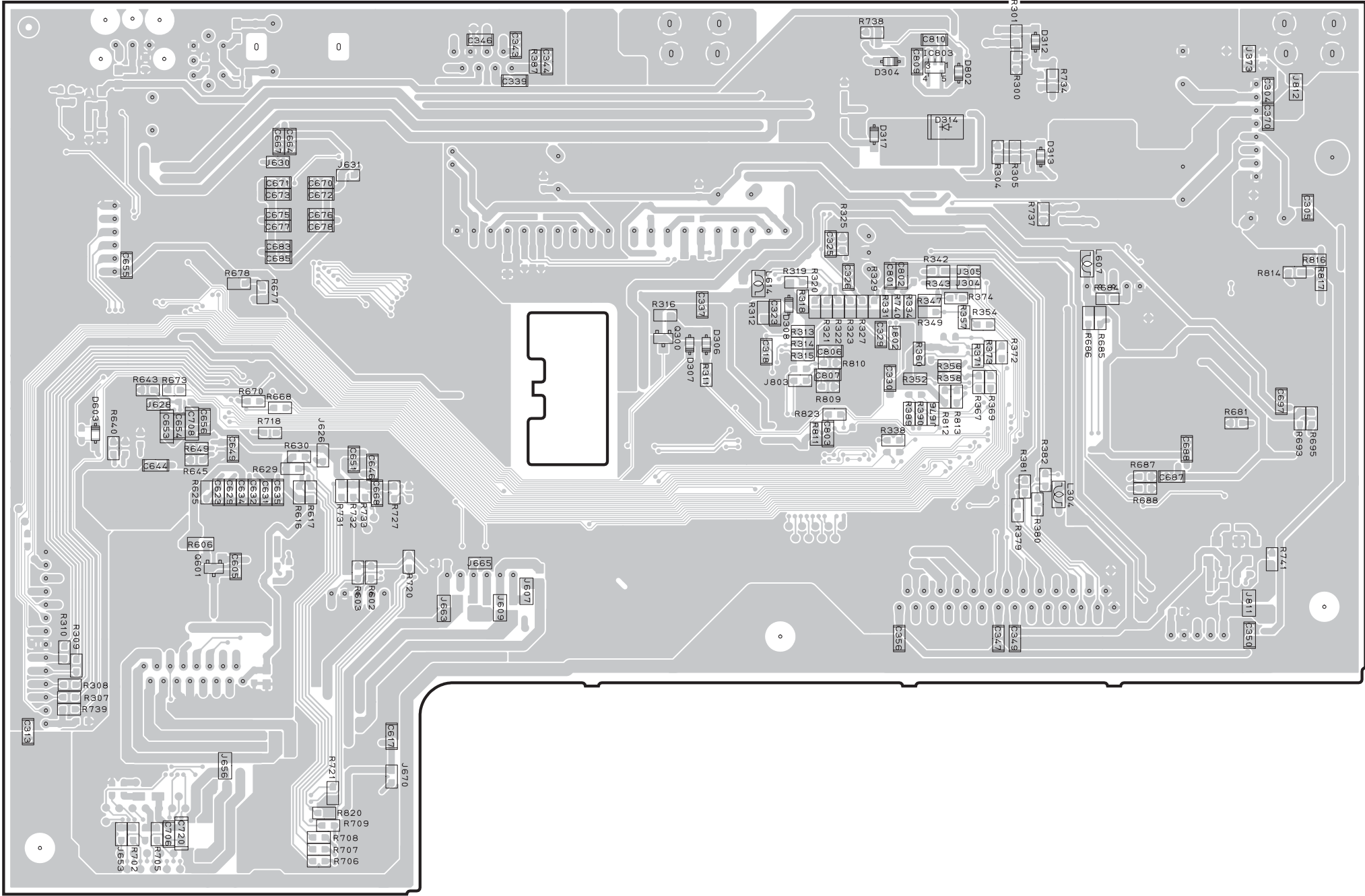
6

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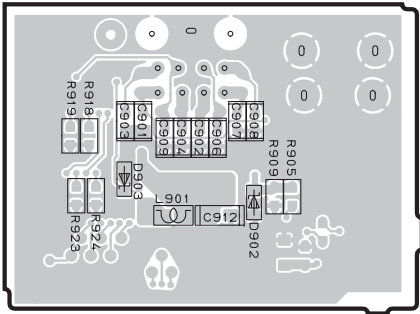
DIGITAL (1) P.C.B. (Side B)

• Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|---------|----------|
| D304    | F3       | D313    | G3       | D902    | J6       |
| D306    | E4       | D314    | F3       | D903    | I6       |
| D307    | E4       | D317    | F3       | IC803   | F3       |
| D308    | E4       | D603    | B4       | Q300    | E4       |
| D312    | G2       | D802    | F3       | Q601    | C5       |

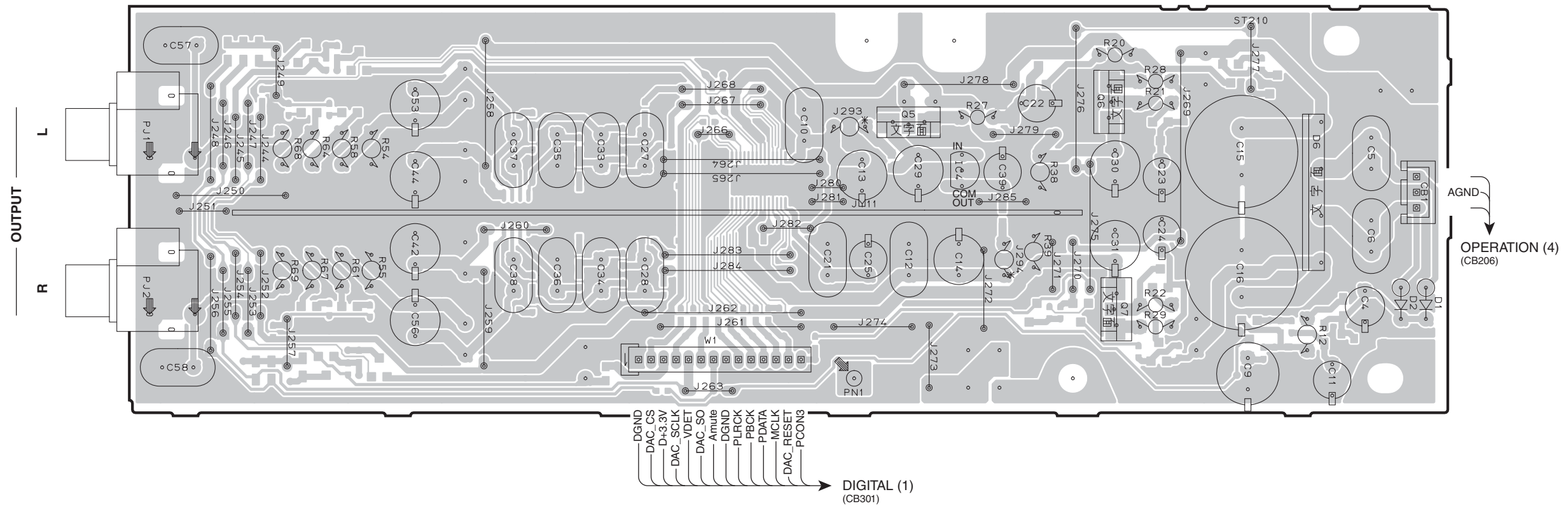


DIGITAL (2) P.C.B. (Side B)

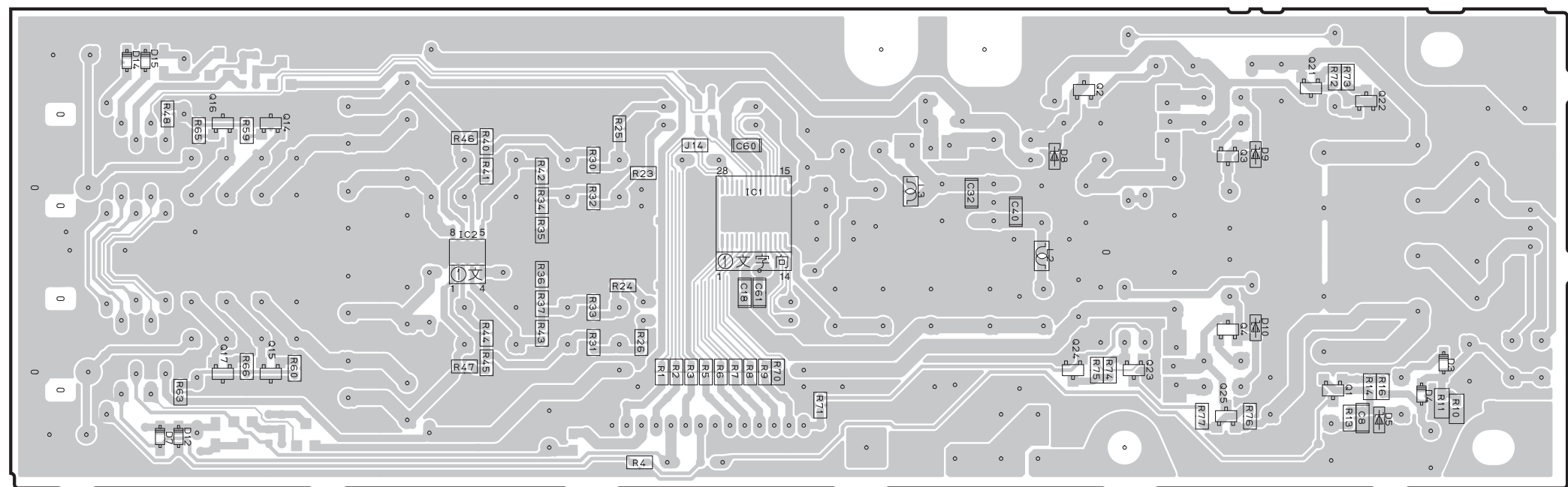




### OPERATION (3) P.C.B. (Side A)



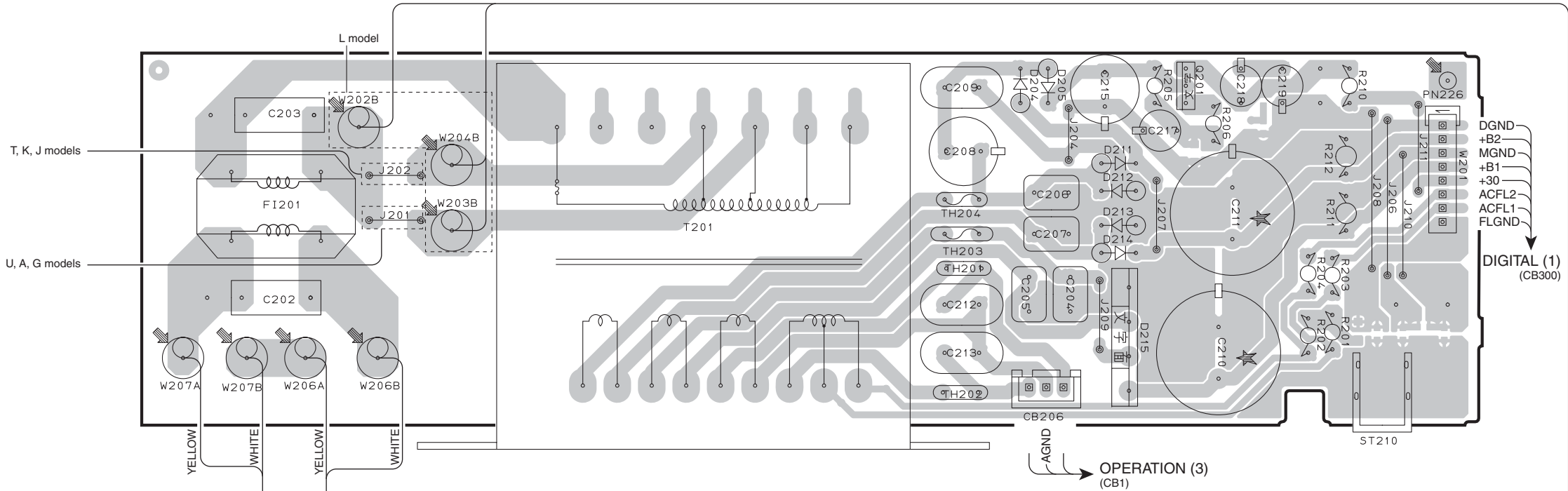
**OPERATION (3) P.C.B.** (Side B)



- Semiconductor Location

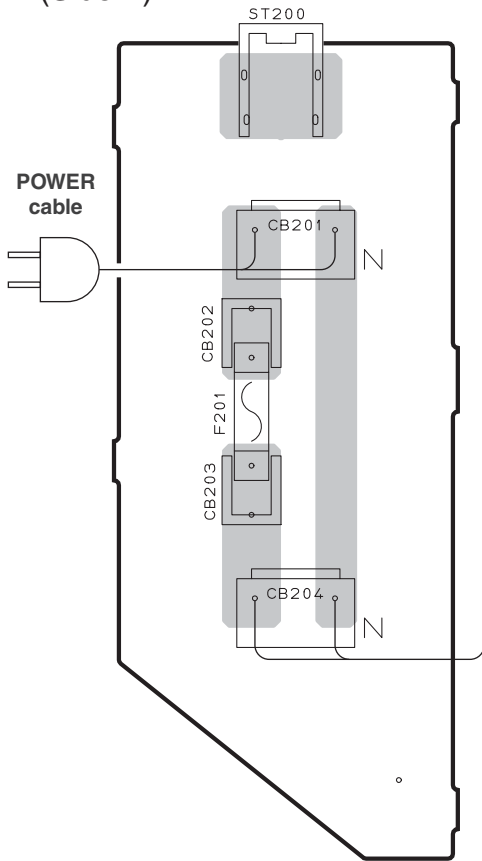
| Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|
| D1      | I3       | Q1      | H6       |
| D2      | I3       | Q2      | G5       |
| D3      | H6       | Q3      | G5       |
| D4      | H7       | Q4      | G6       |
| D5      | H7       | Q5      | F2       |
| D6      | H2       | Q6      | G2       |
| D7      | C7       | Q7      | G3       |
| D8      | G5       | Q14     | C5       |
| D9      | H5       | Q15     | C6       |
| D10     | H6       | Q16     | C5       |
| D12     | C7       | Q17     | C6       |
| D14     | C5       | Q21     | H5       |
| D15     | C5       | Q22     | H5       |
| IC1     | E6       | Q23     | G6       |
| IC2     | D6       | Q24     | G6       |
| IC4     | F2       | Q25     | G7       |

OPERATION (4) P.C.B. (Side A)

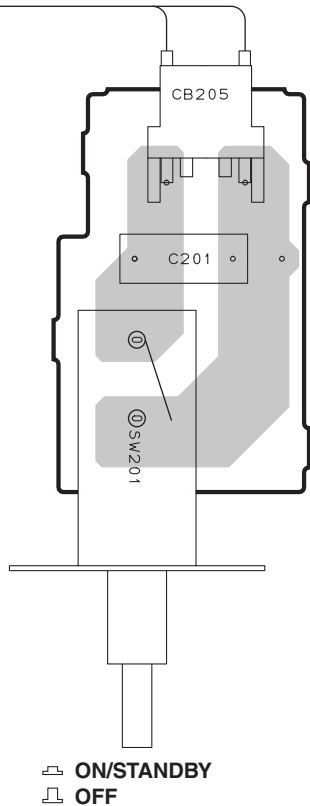


| Ref no. | Location |
|---------|----------|
| D204    | F2       |
| D205    | F2       |
| D211    | G2       |
| D212    | G2       |
| D213    | G3       |
| D214    | G3       |
| D215    | G3       |
| Q201    | G2       |

OPERATION (5) P.C.B. (Side A)

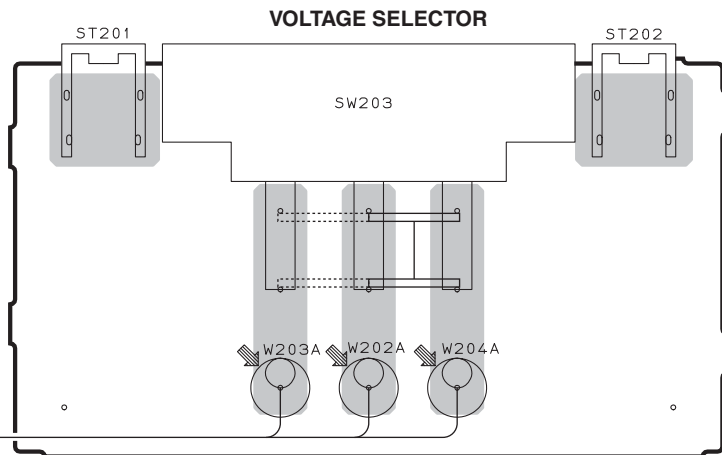


OPERATION (6) P.C.B. (Side A)



OPERATION (7) P.C.B. (Side A)

L model

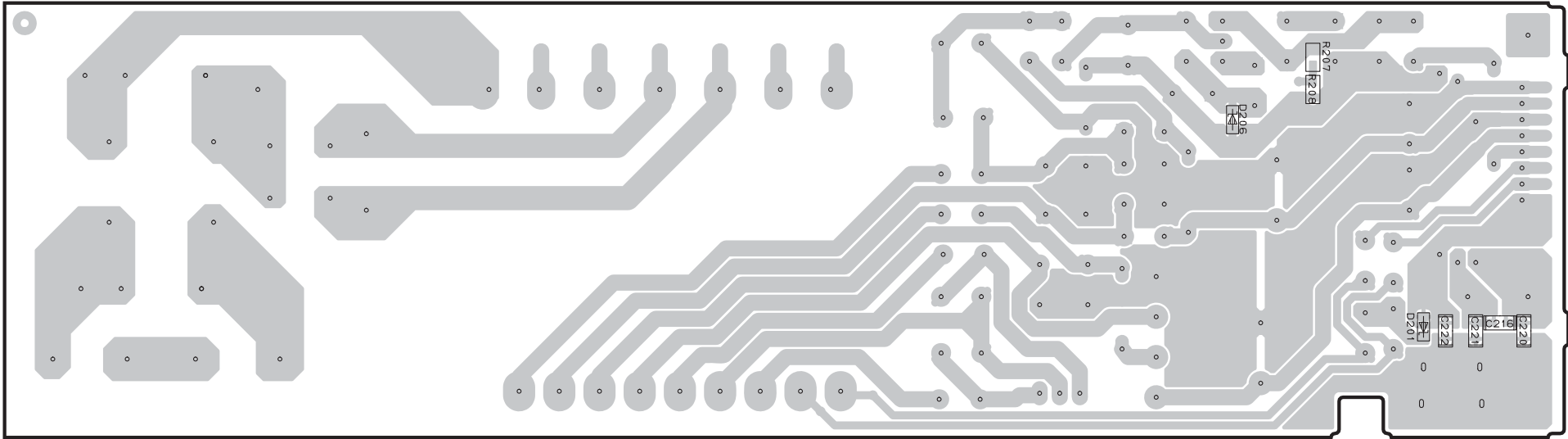


OPERATION (4) P.C.B.

(Side B)

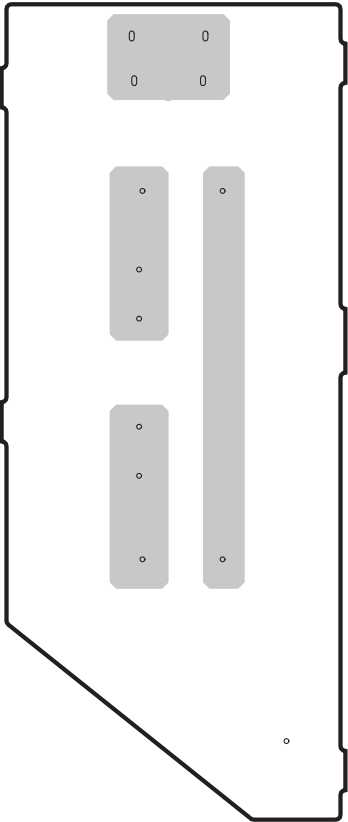
• Semiconductor Location

| Ref no. | Location |
|---------|----------|
| D201    | H3       |
| D206    | G2       |



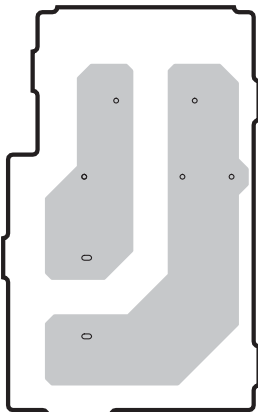
OPERATION (5) P.C.B.

(Side B)



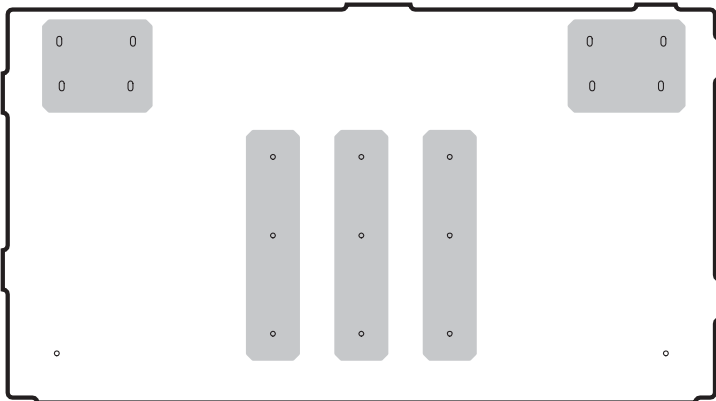
OPERATION (6) P.C.B.

(Side B)



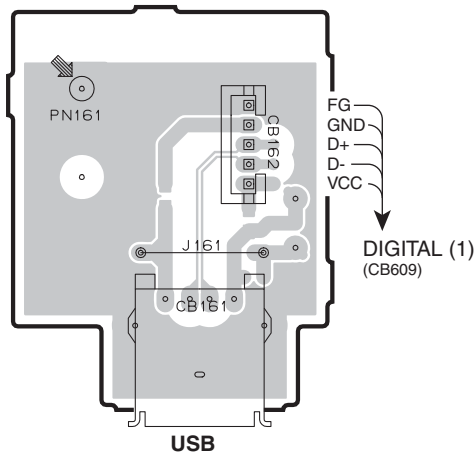
OPERATION (7) P.C.B.

(Side B)

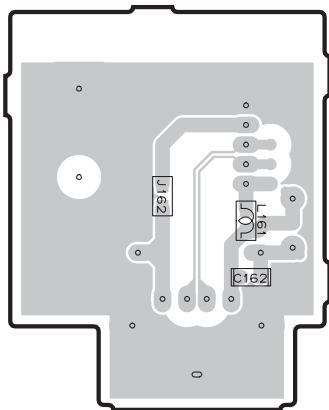


1

OPERATION (8) P.C.B. (Side A)



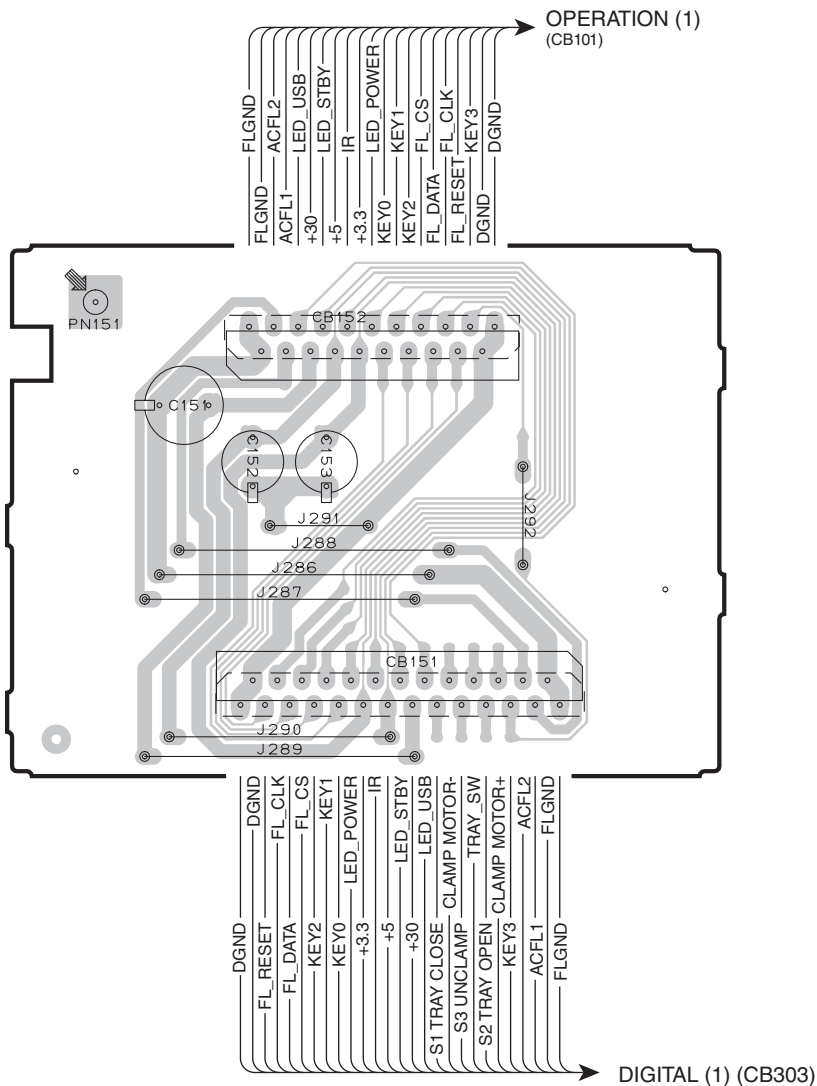
OPERATION (8) P.C.B. (Side B)



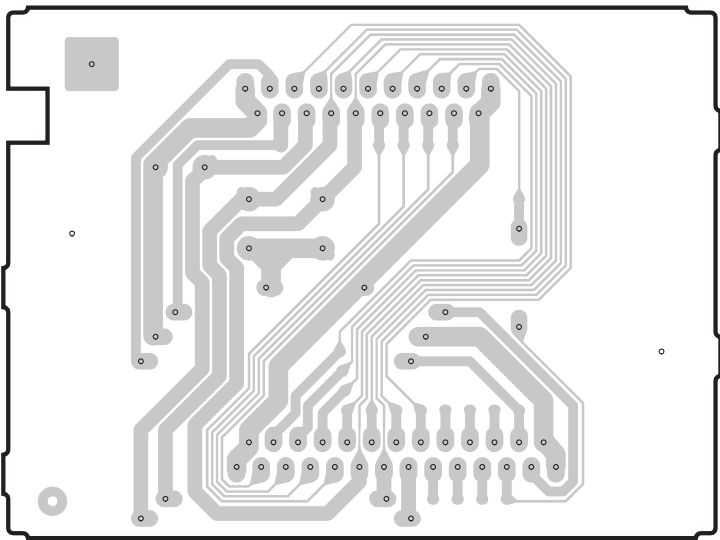
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3

OPERATION (9) P.C.B. (Side A)



OPERATION (9) P.C.B. (Side B)



5

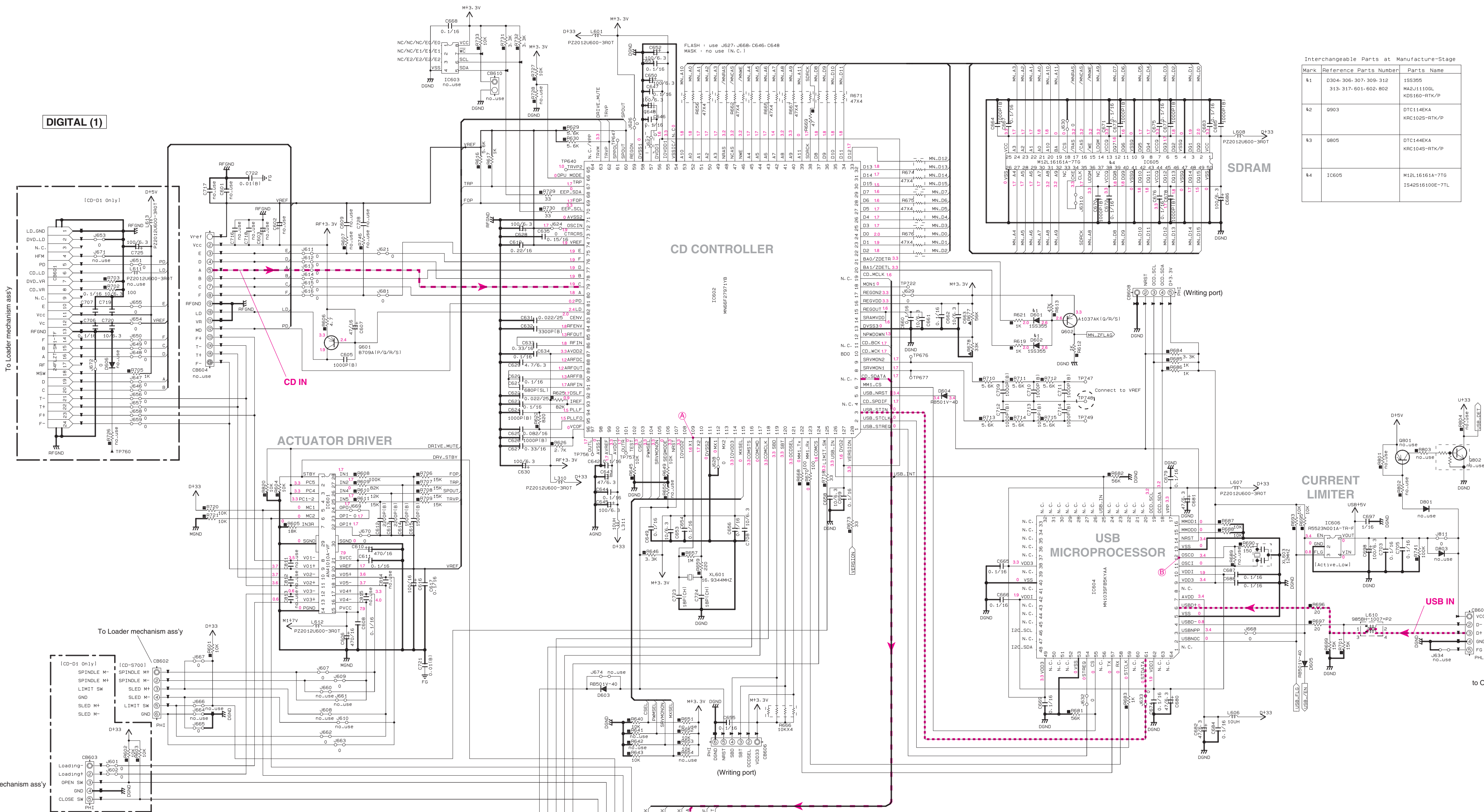
6

7

SCHEMATIC DIAGRAMS  
DIGITAL 1/3

CD-1330

DIGITAL (1)



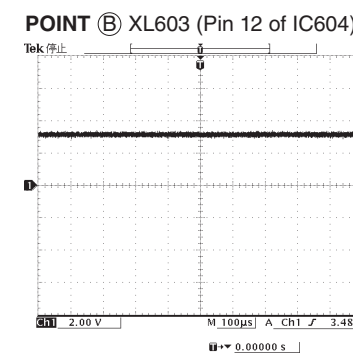
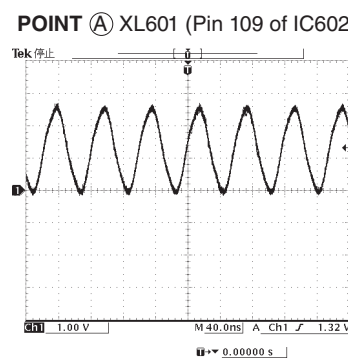
| Mark | Reference Parts Number                      | Parts Name                           |
|------|---------------------------------------------|--------------------------------------|
| k1   | D304-306-307-309-312<br>313-317-601-602-802 | IS3395<br>MA2J1110GL<br>KDS160-RTK/P |
| k2   | D903                                        | DT1C14EKA<br>KRC102S-RTK/P           |
| k3   | D805                                        | DT1C14EKA<br>KRC104S-RTK/P           |
| k4   | IC605                                       | M12L16161A-7TG<br>1S42916100E-7TL    |

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| △       | CARBON FILM RESISTOR (P=10)     |
| □       | METAL OXIDE FILM RESISTOR       |
| △       | METAL FILM RESISTOR             |
| □       | METAL PLATE RESISTOR            |
| □       | FIRE PROOF CARBON FILM RESISTOR |
| □       | CEMENT MOLDED RESISTOR          |
| □       | SEMI-VARIABLE RESISTOR          |
| □       | CHIP RESISTOR                   |

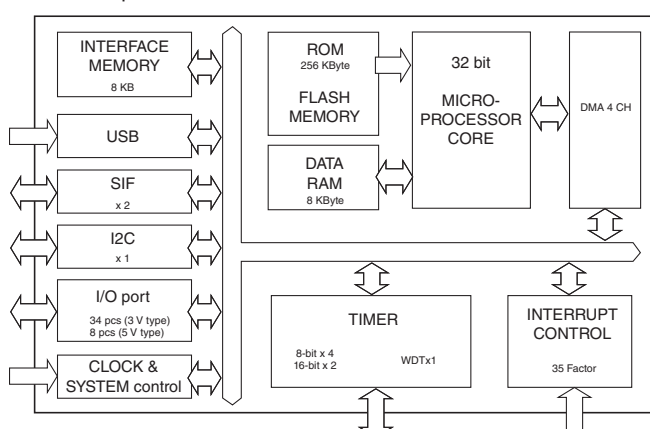
| REMARKS | PARTS NAME                       |
|---------|----------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR           |
| ⊗       | TANTALUM CAPACITOR               |
| NO MARK | CERAMIC CAPACITOR                |
| ⊙       | CERAMIC TUBULAR CAPACITOR        |
| ⊙       | POLYESTER FILM CAPACITOR         |
| ⊙       | POLYSTYRENE FILM CAPACITOR       |
| ⊙       | MICA CAPACITOR                   |
| ⊙       | POLYPROPYLENE FILM CAPACITOR     |
| ⊙       | SEMICONDUCTIVE CERAMIC CAPACITOR |

NOTICE (model)

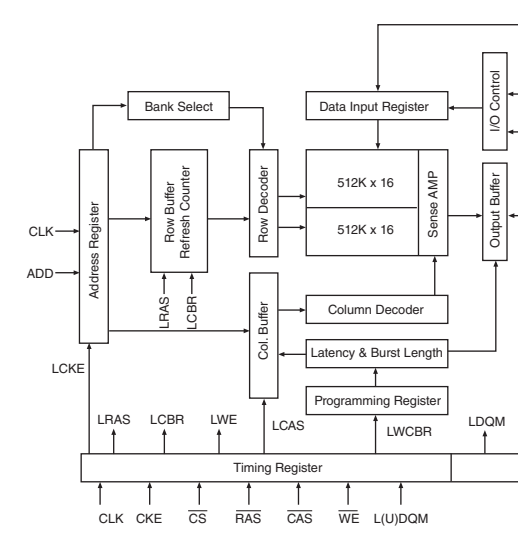
(J)..... JAPAN  
(U)..... U.S.A  
(C)..... CANADA  
(R)..... GENERAL  
(T)..... CHINA  
(K)..... KOREA  
(A)..... AUSTRALIA  
(B)..... BRITISH  
(G)..... EUROPE  
(L)..... SINGAPORE  
(E)..... SOUTH EUROPE  
(V)..... TAIWAN  
(F)..... RUSSIAN



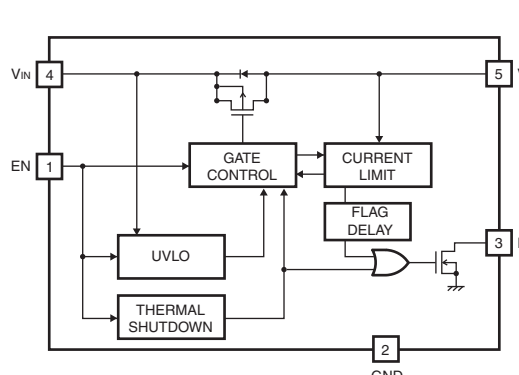
IC604: MN103SFB5KYAA  
USB microprocessor



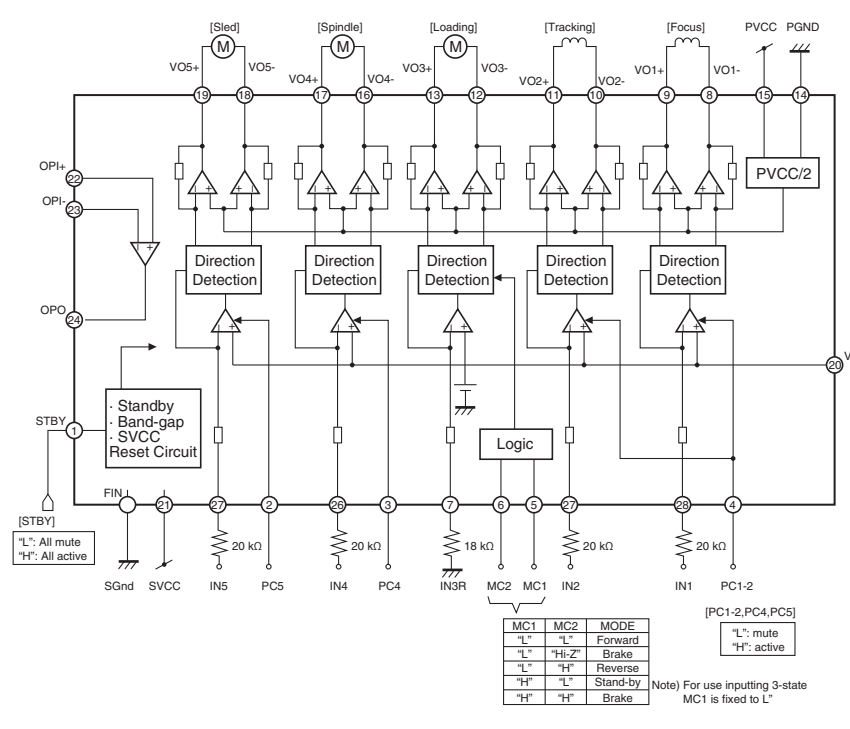
IC605: M12L16161A-7TG  
512 K x 16-bit x 2 banks synchronous DRAM



IC606: R5523N001A-TR-F  
High side switch IC



IC601: AN41010A-VF  
5-ch. linear driver IC for CD and DVD player



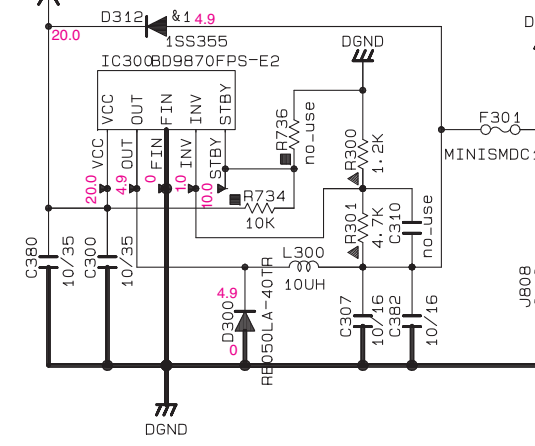
★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.  
★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.  
★ Schematic diagram is subject to change without notice.

●電圧は、内部抵抗 10MΩの電圧計で測定したものです。  
●△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。

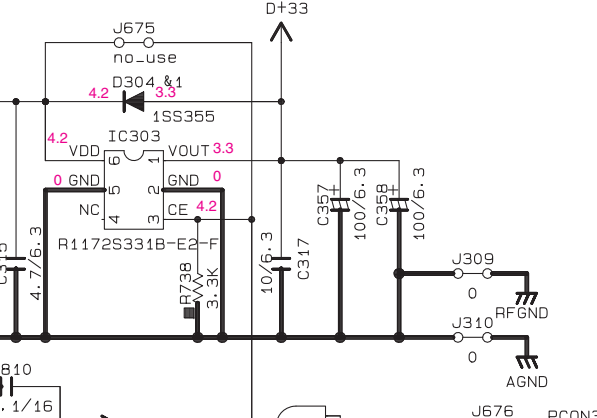
## DIGITAL 2/3

## DIGITAL (1)

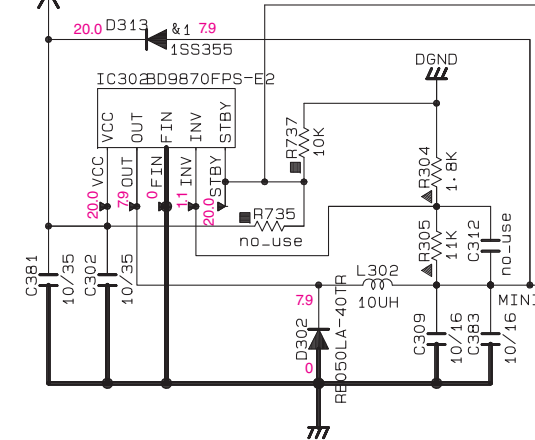
## DC/DC CONVERTER



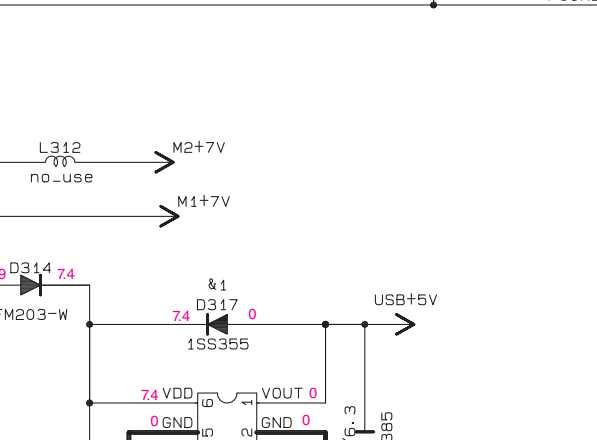
## LEGULATOR



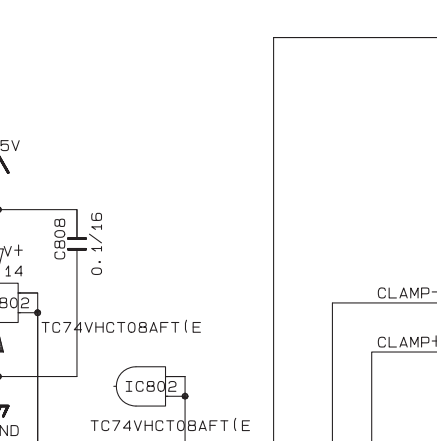
## DC/DC CONVERTER



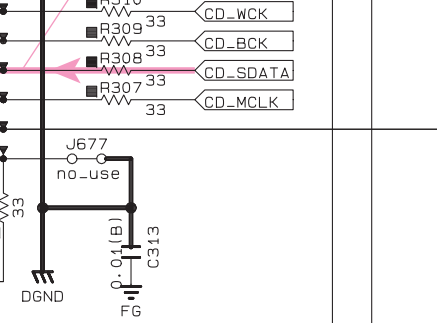
## LEGULATOR



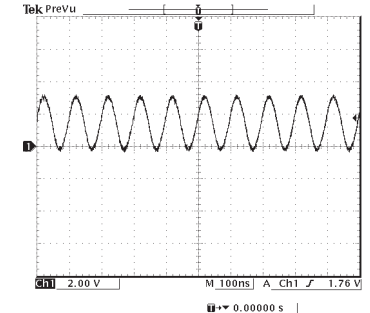
## LEGULATOR



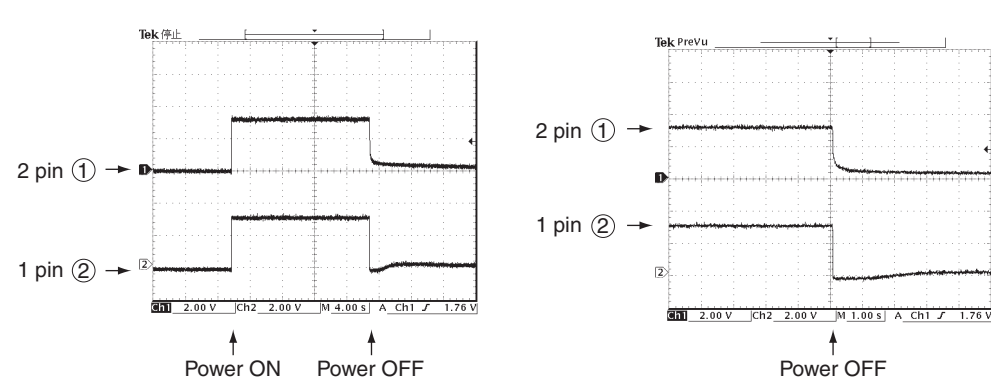
## AUDIO OUT



## POINT © XL300 (Pin 13 of IC304)

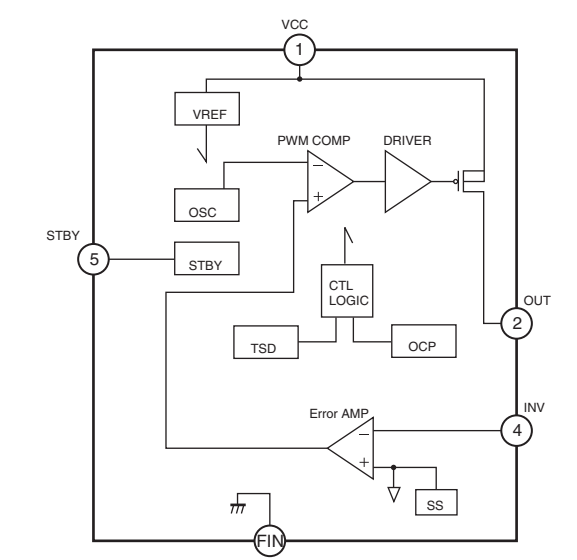
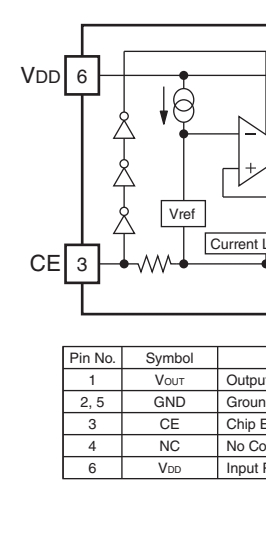
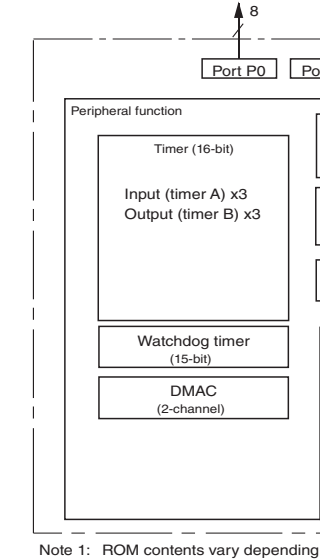
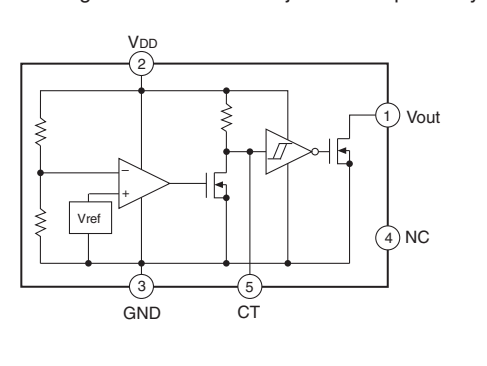
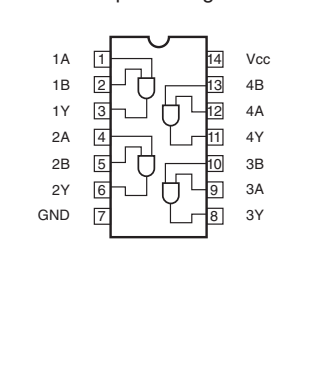


## POINT ① ②/ Pin2, ②/ Pin1 of IC307



- ★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.
- ★ 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.

- 電圧は、内部抵抗 10MΩ の電圧計で測定したものです。
- 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。

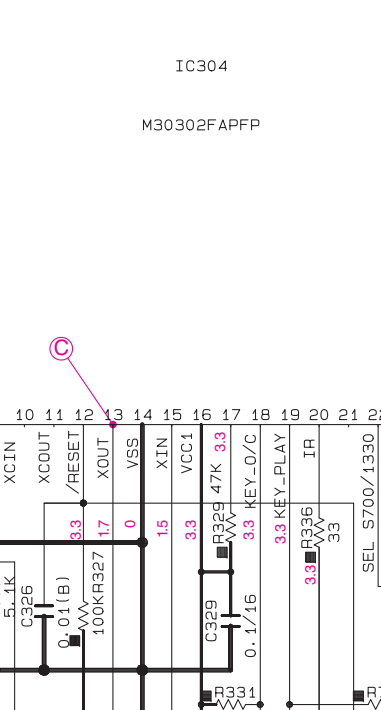
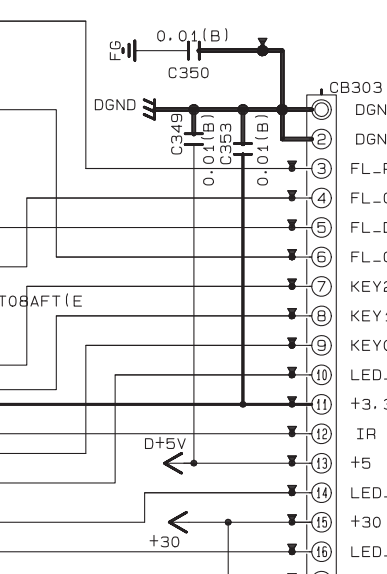
IC300, 302: BD9870FPS-E2  
High stand voltage 1 channel step-down switching regulatorIC303: R1172S331B-E2-F  
CMOS-based positive-voltage regulator ICIC304: M30302FAPP  
Single-chip 16-bit microprocessorIC307: BD5229G-TR  
Voltage detector IC with adjustable output delayIC308, 802: TC74VHC08AFT  
Quad 2-input AND gate

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| △       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| △       | METAL FILM RESISTOR             |
| △       | METAL PLATE RESISTOR            |
| △       | FIRE PROOF CARBON FILM RESISTOR |
| △       | CEMENT MOLDED RESISTOR          |
| △       | SEMI VARIABLE RESISTOR          |
| △       | CHIP RESISTOR                   |

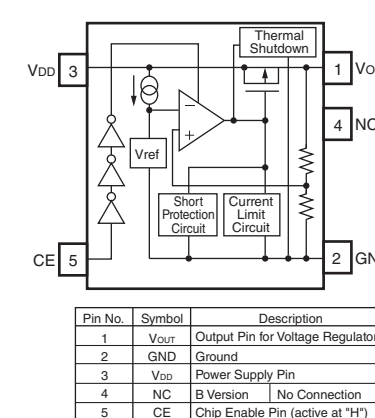
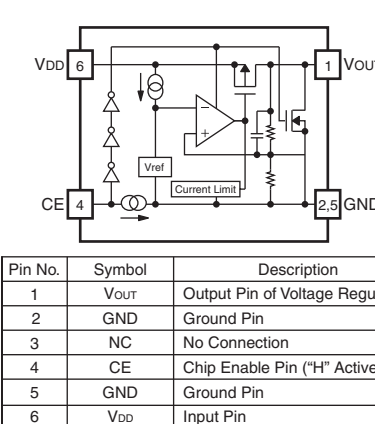
| REMARKS | PARTS NAME                       |
|---------|----------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR           |
| ⊗       | TANTALUM CAPACITOR               |
| NO MARK | CERAMIC CAPACITOR                |
| ●       | CERAMIC TUBULAR CAPACITOR        |
| ⊙       | POLYESTER FILM CAPACITOR         |
| ○       | POLYSTYRENE FILM CAPACITOR       |
| ○       | MICA CAPACITOR                   |
| ⊖       | POLYPROPYLENE FILM CAPACITOR     |
| ●       | SEMICONDUCTIVE CERAMIC CAPACITOR |

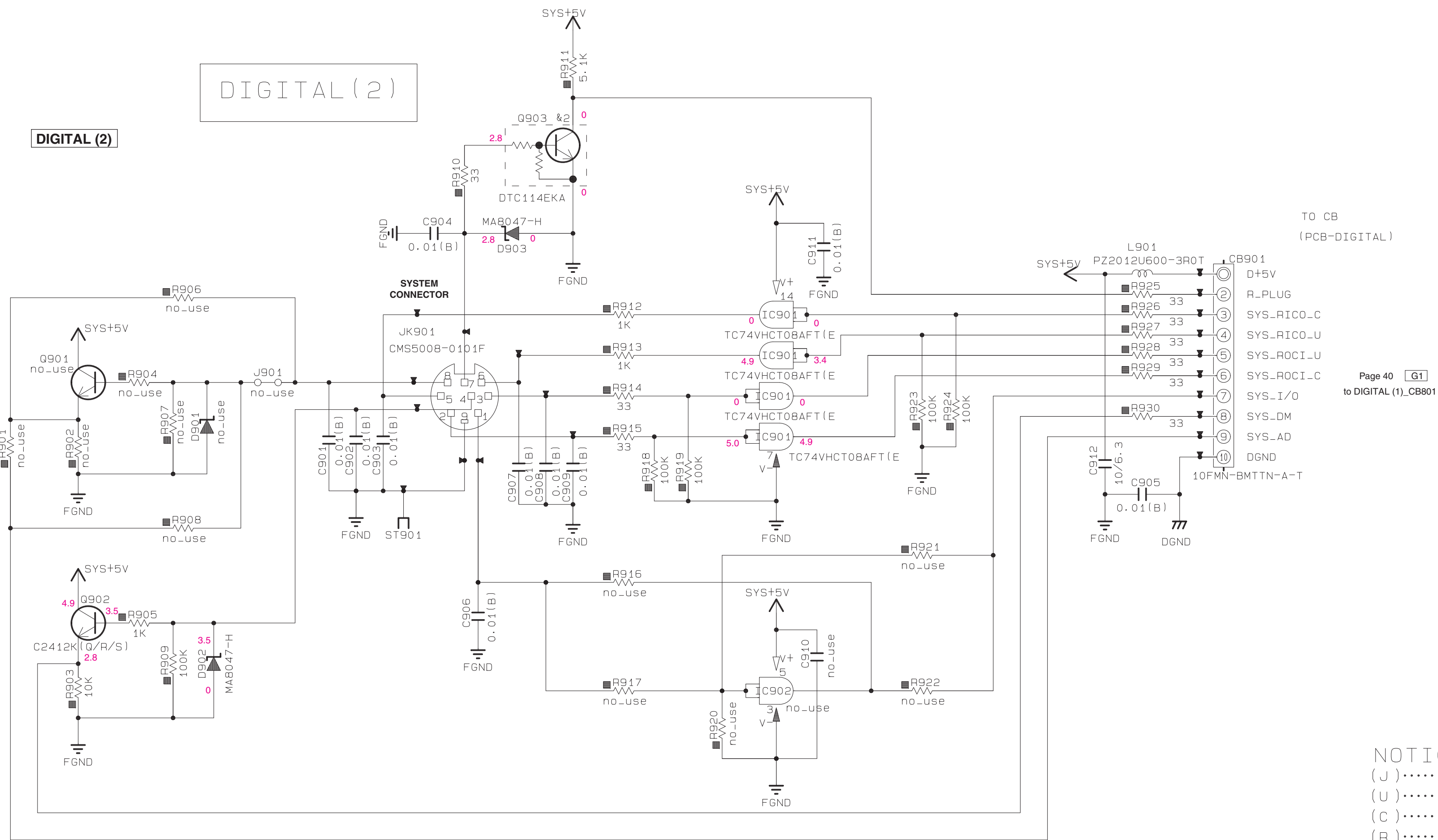
NOTICE (model)  
(J)..... JAPAN  
(U)..... U.S.A  
(C)..... CANADA  
(R)..... GENERAL  
(T)..... CHINA  
(K)..... KOREA  
(A)..... AUSTRALIA  
(B)..... BRITISH  
(G)..... EUROPE  
(L)..... SINGAPORE  
(E)..... SOUTH EUROPE  
(V)..... TAIWAN  
(F)..... RUSSIAN

## MICROPROCESSOR

LEVEL  
SHIFTER

Page 43 [F8]  
to OPERATION (9)\_CB151

IC803: R1154N033B-TR-F  
Voltage regulatorIC311: RP131S01D-E2-F  
Voltage regulator



Page 40 **G1**  
to DIGITAL (1)\_CB801

RESISTOR

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| □       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| ▲       | METAL FILM RESISTOR             |
| ⊠       | METAL PLATE RESISTOR            |
| ▨       | FIRE PROOF CARBON FILM RESISTOR |
| □       | CEMENT MOLDED RESISTOR          |
| ⊗       | SEMI VARIABLE RESISTOR          |
| ■       | CHIP RESISTOR                   |

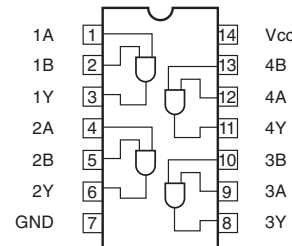
CAPACITOR

| REMARKS | PARTS NAME                       |   |
|---------|----------------------------------|---|
| NO MARK | ELECTROLYTIC CAPACITOR           | ⌘ |
| ⊗       | TANTALUM CAPACITOR               |   |
| NO MARK | CERAMIC CAPACITOR                | ⌘ |
| ●       | CERAMIC TUBULAR CAPACITOR        |   |
| ◎       | POLYESTER FILM CAPACITOR         |   |
| ○       | POLYSTYRENE FILM CAPACITOR       |   |
| ①       | MICA CAPACITOR                   |   |
| Ⓟ       | POLYPROPYLENE FILM CAPACITOR     |   |
| Ⓢ       | SEMICONDUCTIVE CERAMIC CAPACITOR |   |

NOTICE (model)

- ( J )..... JAPAN
- ( U )..... U. S. A
- ( C )..... CANADA
- ( R )..... GENERAL
- ( T )..... CHINA
- ( K )..... KOREA
- ( A )..... AUSTRALIA
- ( B )..... BRITISH
- ( G )..... EUROPE
- ( L )..... SINGAPORE
- ( E )..... SOUTH EUROPE
- ( V )..... TAIWAN
- ( F )..... RUSSIAN

IC901: TC74VHCT08AFT  
Quad 2-input AND gate

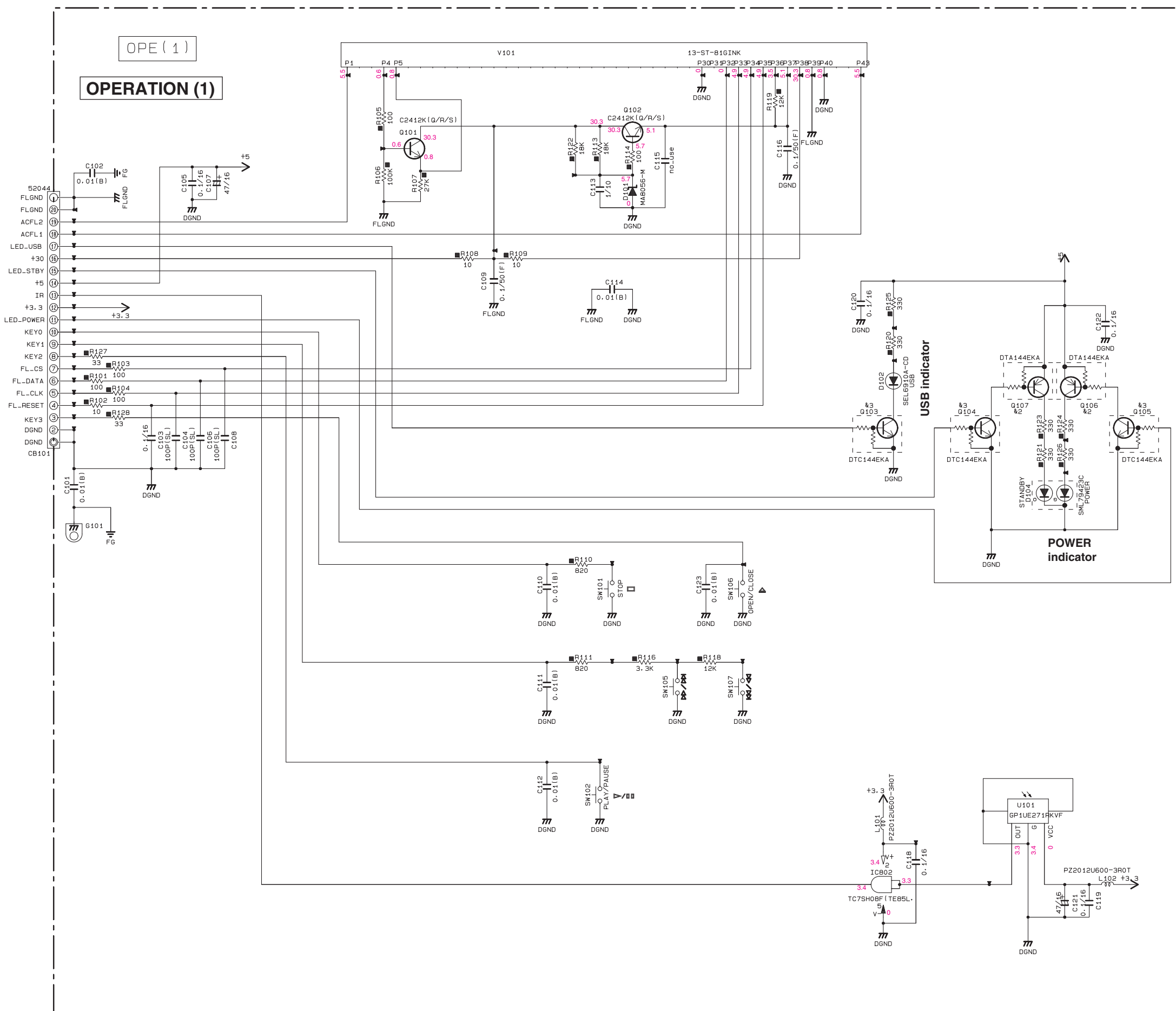


★ All voltages are measured with a 10MQ/V DC electronic voltmeter.  
★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.  
★ Schematic diagram is subject to change without notice.

● 電圧は、内部抵抗 10MQ の電圧計で測定したものです。  
● △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。

OPERATION 1/2

Page 43 17 to OPERATION (9)\_CB152

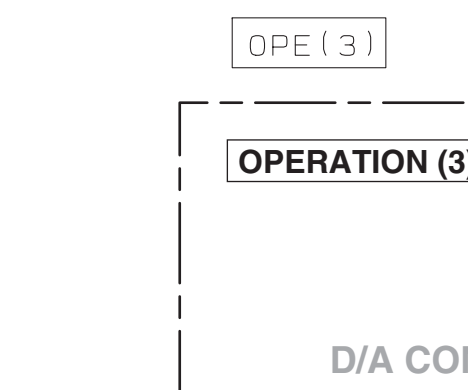
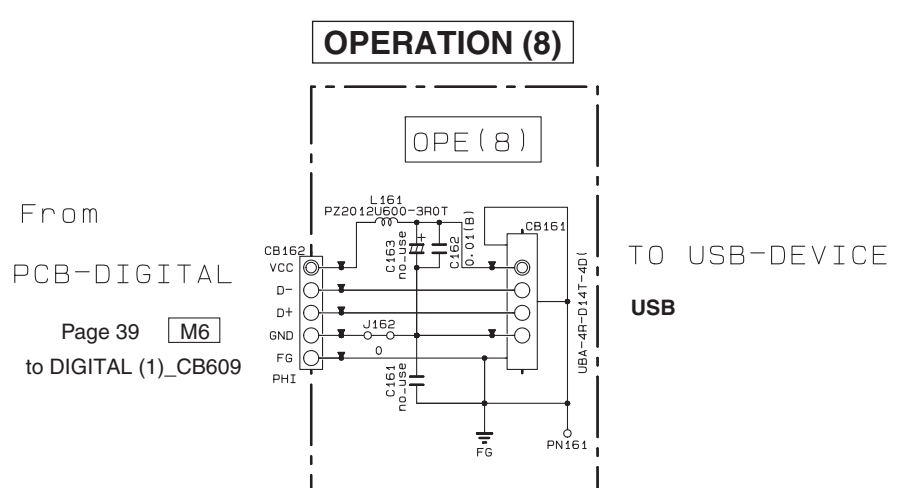


| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| □       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| △       | METAL FILM RESISTOR             |
| △       | METAL PLATE RESISTOR            |
| □       | FIRE PROOF CARBON FILM RESISTOR |
| □       | CEMENT MOLDED RESISTOR          |
| ○       | SEMI VARIABLE RESISTOR          |
| ■       | CHIP RESISTOR                   |

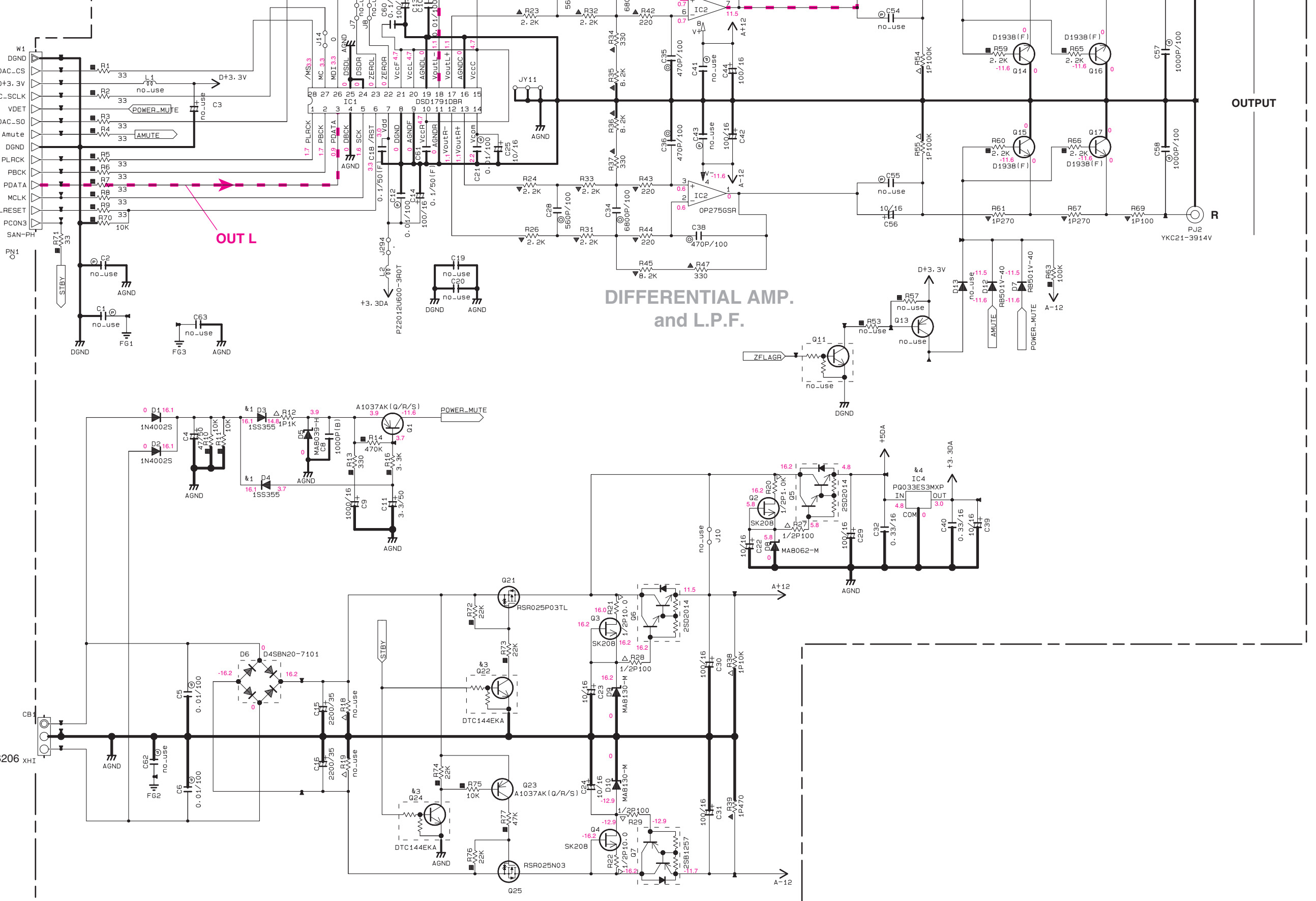
| REMARKS | PARTS NAME                       |
|---------|----------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR           |
| ⊗       | TANTALUM CAPACITOR               |
| ●       | CERAMIC CAPACITOR                |
| ⊙       | CERAMIC TUBULAR CAPACITOR        |
| ⊙       | POLYESTER FILM CAPACITOR         |
| ⊙       | POLYSTYRENE FILM CAPACITOR       |
| ⊙       | MICA CAPACITOR                   |
| ⊙       | POLYPROPYLENE FILM CAPACITOR     |
| ●       | SEMICONDUCTIVE CERAMIC CAPACITOR |

NOTICE (model)  
(J)..... JAPAN  
(U)..... U.S.A  
(C)..... CANADA  
(R)..... GENERAL  
(T)..... CHINA  
(K)..... KOREA  
(A)..... AUSTRALIA  
(B)..... BRITISH  
(G)..... EUROPE  
(L)..... SINGAPORE  
(E)..... SOUTH EUROPE  
(V)..... TAIWAN  
(F)..... RUSSIAN

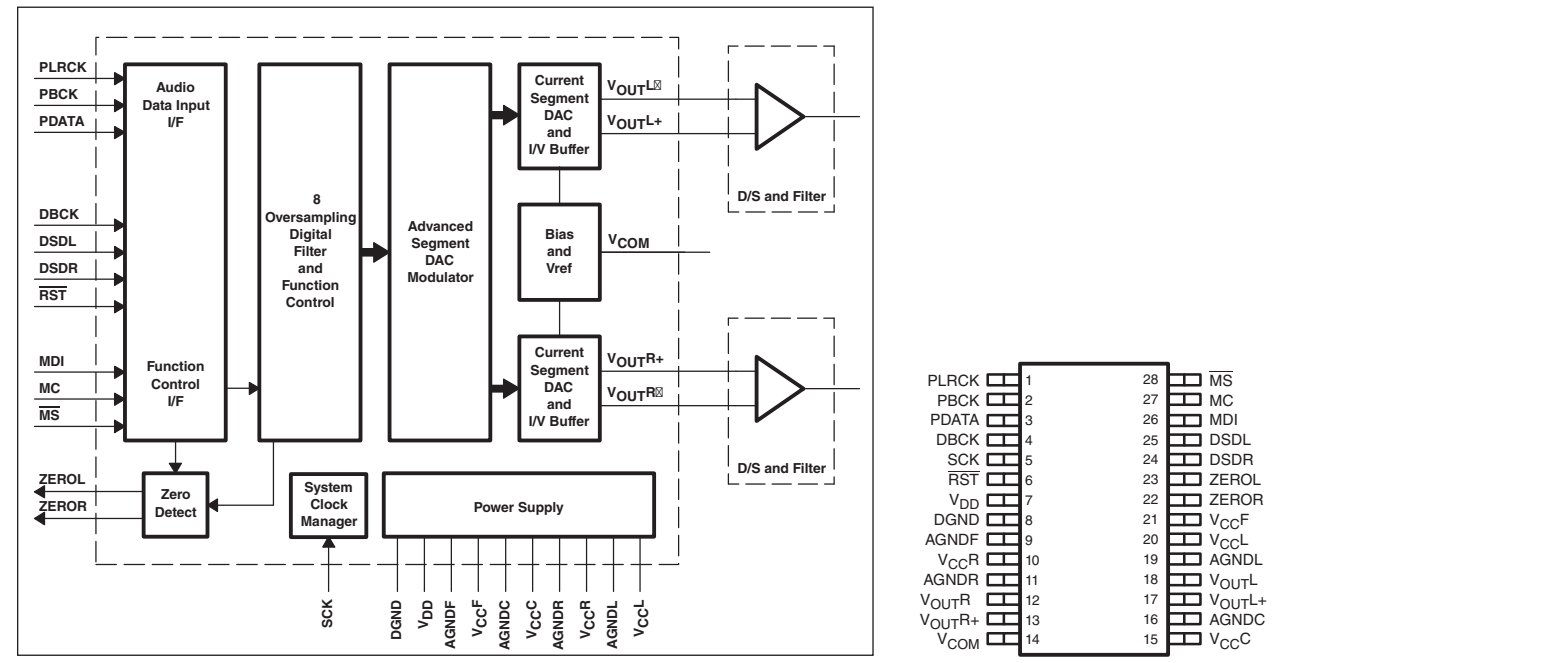
| Mark | Reference Parts Number | Parts Name                          |
|------|------------------------|-------------------------------------|
| A1   | D3-4                   | LSB300<br>MSJ11100L<br>KDS160-RTK/P |
| A2   | Q106-107               | DTA144EXA<br>KRC104S-RTK/P          |
| A3   | Q22-24-103-105         | DTA144EXA<br>KRC104S-RTK/P          |
| A4   | IC4                    | PQ033ES3MXP<br>PQ033ES1MXP          |



D/A CONVERTER

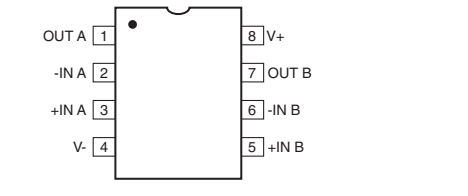


IC1: DSD1791DBR  
24-bit, 192 kHz sampling, advanced segment, audio stereo digital-to-analog converter

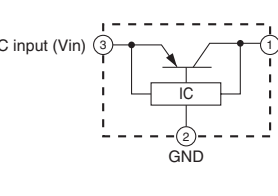


Page 40 D7 to DIGITAL (1)\_CB301

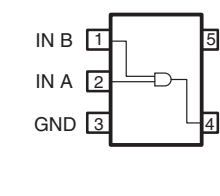
IC2: OP275GSR  
Dual bipolar/JFET, audio operational amplifier



IC4: PQ033ES3MXP  
Low power loss regulator



IC802: TC7SH08F  
2-input AND gate



Page 43 J3 to OPERATION (4)\_CB206

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.  
★ 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.

● 電圧は、内部抵抗 10MΩ の電圧計で測定したものです。  
● △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。

OPERATION 2/2

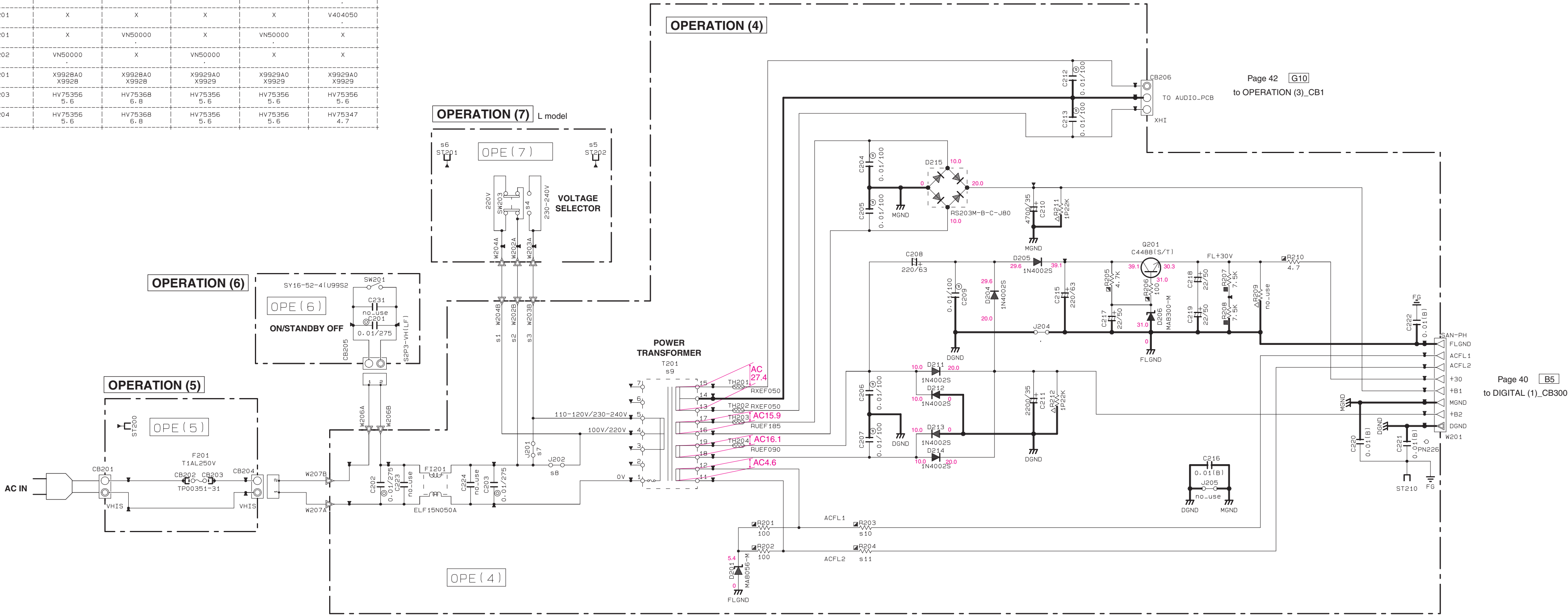
| Destination Part List |                |                  |                  |                  |                  |                       |
|-----------------------|----------------|------------------|------------------|------------------|------------------|-----------------------|
| sXX                   | LOC            | J                | U                | TK               | AG               | L                     |
| s1                    | W204B<br>W204A | X                | X                | X                | X                | MH14030               |
| s2                    | W202B<br>W202A | X                | X                | X                | X                | MH18030               |
| s3                    | W203B<br>W203A | X                | X                | X                | X                | MH11030               |
| s4                    | SW203          | X                | X                | X                | X                | WC90670<br>SDKPA40300 |
| s5                    | ST202          | X                | X                | X                | X                | V404050               |
| s6                    | ST201          | X                | X                | X                | X                | V404050               |
| s7                    | J201           | X                | VN50000          | X                | VN50000          | X                     |
| s8                    | J202           | VN50000          | X                | VN50000          | X                | X                     |
| s9                    | T201           | X9928A0<br>X9928 | X9928A0<br>X9928 | X9929A0<br>X9929 | X9929A0<br>X9929 | X9929A0<br>X9929      |
| s10                   | R203           | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>5.6        |
| s11                   | R204           | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>5.6   | HV75356<br>4.7        |

| REMARKS | PARTS NAME                       |    |
|---------|----------------------------------|----|
| NO MARK | ELECTROLYTIC CAPACITOR           | II |
| ⊗       | TANTALUM CAPACITOR               |    |
| NO MARK | CERAMIC CAPACITOR                |    |
| ●       | CERAMIC TUBULAR CAPACITOR        |    |
| ⊙       | POLYESTER FILM CAPACITOR         |    |
| ○       | POLYSTYRENE FILM CAPACITOR       |    |
| ①       | MICA CAPACITOR                   |    |
| ⊖       | POLYPROPYLENE FILM CAPACITOR     |    |
| ⊙       | SEMICONDUCTIVE CERAMIC CAPACITOR |    |

NOTICE (model)

(J)..... JAPAN  
(U)..... U.S.A  
(C)..... CANADA  
(R)..... GENERAL  
(T)..... CHINA  
(K)..... KOREA  
(A)..... AUSTRALIA  
(B)..... BRITISH  
(G)..... EUROPE  
(L)..... SINGAPORE  
(E)..... SOUTH EUROPE  
(V)..... TAIWAN  
(F)..... RUSSIAN

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| ⊠       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| △       | METAL FILM RESISTOR             |
| ⊠       | METAL PLATE RESISTOR            |
| ⊠       | FIRE PROOF CARBON FILM RESISTOR |
| ⊠       | CEMENT MOLDED RESISTOR          |
| ⊠       | SEMI VARIABLE RESISTOR          |
| ⊠       | CHIP RESISTOR                   |



Page 40 **M4**  
to DIGITAL (1)\_CB303

DIGITAL

Page 42 **A2**  
to OPERATION (1)\_CB101

F/PANEL

Page 40 **B5**  
to DIGITAL (1)\_CB300

★ All voltages are measured with a 10MΩ/V DC electronic voltmeter.  
★ 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.

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## ■ REPLACEMENT PARTS LIST

### • ELECTRICAL COMPONENT PARTS

#### WARNING

- Components having special characteristics are marked  $\Delta$  and must be replaced with parts having specifications equal to those originally installed.
- $\Delta$ 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. DIGITAL

| Ref No.  | Part No. | Description   | Remarks        | Markets | 部 品 名               | ランク |
|----------|----------|---------------|----------------|---------|---------------------|-----|
| *        | WQ596900 | P. C. B.      | DIGITAL        |         | P C B D I G I T A L |     |
| CB300    | VB390400 | CN. BS. PIN   | 8P             |         | ベースピン               | 01  |
| CB301    | VE352600 | CN. BS. PIN   | 14P            |         | コネクタベースポスト          | 01  |
| CB303    | VQ045600 | CN. BS. PIN   | 27P SE         |         | F F Cコネクタ           | 03  |
| CB304    | VP682300 | CN. BS. PIN   | 8P             |         | F F Cコネクタ           | 01  |
| CB601    | WQ289300 | CN            | 24P TE         |         | F F C / F P Cコネクタ   |     |
| CB602    | VB390200 | CN. BS. PIN   | 6P             |         | コネクタベースポスト          | 01  |
| CB603    | VB390100 | CN. BS. PIN   | 5P             |         | ベースピン               | 01  |
| CB606    | VB390200 | CN. BS. PIN   | 6P             |         | コネクタベースポスト          | 01  |
| CB608    | VB390100 | CN. BS. PIN   | 5P             |         | ベースピン               | 01  |
| CB609    | VB858400 | CN. BS. PIN   | 5P             |         | ベースピン               | 01  |
| * CB801  | WQ601000 | CN            | 10P TE         |         | FMNコネクタ             |     |
| * CB901  | WQ601000 | CN            | 10P TE         |         | FMNコネクタ             |     |
| C300     | WM489900 | C. CE. CHP    | 10uF 35V       |         | チップセラコン             |     |
| C302     | WM489900 | C. CE. CHP    | 10uF 35V       |         | チップセラコン             |     |
| C303     | UR259100 | C. EL         | 1000uF 35V     |         | ケミコン                |     |
| C304-305 | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C306     | WG782400 | C. EL         | 22uF 50V       |         | ケミコン                |     |
| C307     | WK004400 | C. CE. M. CHP | 10uF 16V       |         | チップ積層セラコン           | 01  |
| C309     | WK004400 | C. CE. M. CHP | 10uF 16V       |         | チップ積層セラコン           | 01  |
| C313     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C315     | WG251600 | C. CE. CHP    | 4. 7uF 6. 3V   |         | チップセラコン             | 01  |
| * C317   | WP882000 | C. CE. CHP    | 10uF 6. 3V     |         | チップセラコン             |     |
| C318-320 | US135100 | C. CE. CHP    | 0. 1uF 16V     |         | チップセラコン             | 01  |
| C321-322 | US126100 | C. CE. CHP    | 1uF 10V        |         | チップセラコン             | 01  |
| C323     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C324     | UF418100 | C. EL. CHP    | 100uF 6. 3V    |         | チップケミコン             | 01  |
| C325     | US061330 | C. CE. CHP    | 33pF 50V B     |         | チップセラコン             | 01  |
| C326     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C329-330 | US135100 | C. CE. CHP    | 0. 1uF 16V     |         | チップセラコン             | 01  |
| C337     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C339     | US061330 | C. CE. CHP    | 33pF 50V B     |         | チップセラコン             | 01  |
| C341     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C343-344 | US061330 | C. CE. CHP    | 33pF 50V B     |         | チップセラコン             | 01  |
| C346     | US061330 | C. CE. CHP    | 33pF 50V B     |         | チップセラコン             | 01  |
| C347     | US064150 | C. CE. CHP    | 0. 015uF 50V B |         | チップセラコン             | 01  |
| C349-350 | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C353     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C356     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C357-358 | UF418100 | C. EL. CHP    | 100uF 6. 3V    |         | チップケミコン             | 01  |
| C363     | UR259100 | C. EL         | 1000uF 35V     |         | ケミコン                |     |
| C370     | US064100 | C. CE. CHP    | 0. 01uF 50V B  |         | チップセラコン             | 01  |
| C380-381 | WM489900 | C. CE. CHP    | 10uF 35V       |         | チップセラコン             |     |
| C382-383 | WK004400 | C. CE. M. CHP | 10uF 16V       |         | チップ積層セラコン           | 01  |
| C384     | WF456400 | C. CE. M. CHP | 4. 7uF 16V     |         | チップ積層セラコン           | 01  |
| * C385   | WP882000 | C. CE. CHP    | 10uF 6. 3V     |         | チップセラコン             |     |
| C605     | US063100 | C. CE. CHP    | 1000pF 50V B   |         | チップセラコン             | 01  |
| C606     | UF138470 | C. EL. CHP    | 470uF 16V      |         | チップケミコン             | 02  |
| C607     | UF437470 | C. EL. CHP    | 47uF 16V       |         | チップケミコン             | 01  |
| C608     | US135100 | C. CE. CHP    | 0. 1uF 16V     |         | チップセラコン             | 01  |
| C610     | UF138470 | C. EL. CHP    | 470uF 16V      |         | チップケミコン             | 02  |
| C611     | US135100 | C. CE. CHP    | 0. 1uF 16V     |         | チップセラコン             | 01  |
| C612-613 | US063220 | C. CE. CHP    | 2200pF 50V B   |         | チップセラコン             | 01  |
| C614-615 | US063150 | C. CE. CHP    | 1500pF 50V B   |         | チップセラコン             | 01  |
| C616     | UF438100 | C. EL. CHP    | 100uF 16V      |         | チップケミコン             | 01  |
| C617     | US135100 | C. CE. CHP    | 0. 1uF 16V     |         | チップセラコン             | 01  |
| C619     | US135220 | C. CE. CHP    | 0. 22uF 16V    |         | チップセラコン             | 01  |

\* New Parts \* 新規部品

## P.C.B. DIGITAL

| Ref No.    | Part No. | Description | Remarks  | Markets | 部 品 名   | ランク |
|------------|----------|-------------|----------|---------|---------|-----|
| C620       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C621       | US062680 | C. CE. CHP  | 680pF    | 50V B   | チップセラコン | 01  |
| C622       | US044220 | C. CE. CHP  | 0. 022uF | 25V B   | チップセラコン | 01  |
| C623       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C624       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C625       | US034820 | C. CE. CHP  | 0. 082uF | 16V K   | チップセラコン | 01  |
| C626       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C627       | US135330 | C. CE. CHP  | 0. 33uF  | 16V     | チップセラコン | 01  |
| C628       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C629       | WG251600 | C. CE. CHP  | 4. 7uF   | 6. 3V   | チップセラコン | 01  |
| C630       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C631       | US044220 | C. CE. CHP  | 0. 022uF | 25V B   | チップセラコン | 01  |
| C632       | US063330 | C. CE. CHP  | 3300pF   | 50V B   | チップセラコン | 01  |
| C633       | US135330 | C. CE. CHP  | 0. 33uF  | 16V     | チップセラコン | 01  |
| C634       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C635       | US135150 | C. CE. CHP  | 0. 15uF  | 16V     | チップセラコン | 01  |
| C642       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C643       | UF417470 | C. EL. CHP  | 47uF     | 6. 3V   | チップケミコン | 01  |
| C644       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C645       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C646-647   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C648       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C649       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C650       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C651       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C652       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| * C653     | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C654-656   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| * C658     | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C659-660   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| * C661     | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C662       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| * C663     | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C664       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C665-669   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C670       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C671-672   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C673       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C674-676   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C677-678   | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C679       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C680-682   | UF417470 | C. EL. CHP  | 47uF     | 6. 3V   | チップケミコン | 01  |
| C683-684   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C685       | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| C686       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C687-688   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C697       | WJ881200 | C. CE. CHP  | 1uF      | 16V     | チップセラコン | 01  |
| C698       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C703       | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| C705-707   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |
| * C708     | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C709-714   | US063100 | C. CE. CHP  | 1000pF   | 50V B   | チップセラコン | 01  |
| * C719-720 | WP882000 | C. CE. CHP  | 10uF     | 6. 3V   | チップセラコン | 01  |
| C721-722   | US064100 | C. CE. CHP  | 0. 01uF  | 50V B   | チップセラコン | 01  |
| C723-724   | US061180 | C. CE. CHP  | 18pF     | 50V B   | チップセラコン | 01  |
| C725       | UF418100 | C. EL. CHP  | 100uF    | 6. 3V   | チップケミコン | 01  |
| C801-802   | US135100 | C. CE. CHP  | 0. 1uF   | 16V     | チップセラコン | 01  |

\* New Parts \* 新規部品

## P.C.B. DIGITAL

| Ref No.  | Part No. | Description  | Remarks             | Markets   | 部 品 名       | ランク |
|----------|----------|--------------|---------------------|-----------|-------------|-----|
| C803     | US064100 | C. CE. CHP   | 0.01uF 50V B        |           | チップセラコン     | 01  |
| C806-807 | US064100 | C. CE. CHP   | 0.01uF 50V B        |           | チップセラコン     | 01  |
| C808-810 | US135100 | C. CE. CHP   | 0.1uF 16V           |           | チップセラコン     | 01  |
| C817     | US063220 | C. CE. CHP   | 2200pF 50V B        |           | チップセラコン     | 01  |
| C901-909 | US064100 | C. CE. CHP   | 0.01uF 50V B        |           | チップセラコン     | 01  |
| C911     | US064100 | C. CE. CHP   | 0.01uF 50V B        |           | チップセラコン     | 01  |
| * C912   | WP882000 | C. CE. CHP   | 10uF 6.3V           |           | チップセラコン     |     |
| * D300   | WP292300 | DIODE        | RB050LA-40TR TP     |           | ダイオード       |     |
| * D302   | WP292300 | DIODE        | RB050LA-40TR TP     |           | ダイオード       |     |
| D303     | WM180900 | DIODE        | FM203-W TE          |           | ダイオード       | 01  |
| D304     | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D306-307 | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D308     | VV220700 | DIODE. SHOT  | RB501V-40           |           | ショットキーダイオード | 01  |
| D309     | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D312-313 | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D314     | WM180900 | DIODE        | FM203-W TE          |           | ダイオード       | 01  |
| D317     | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D601-602 | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D603-605 | VV220700 | DIODE. SHOT  | RB501V-40           |           | ショットキーダイオード | 01  |
| D802     | VT332900 | DIODE        | 1SS355              |           | ダイオード       | 01  |
| D902-903 | VU992300 | DIODE. ZENR  | MA8047-H 4.9V       |           | ツェナーダイオード   | 01  |
| F301-302 | WQ151600 | SW. POLY     | MINISMDC110F/24     |           | ポリスイッチ      | 03  |
| IC300    | X9850A00 | IC           | BD9870FPS           |           | 電源 I C      |     |
| IC302    | X9850A00 | IC           | BD9870FPS           |           | 電源 I C      |     |
| IC303    | X8897A00 | IC           | R1172S331B-E2-F     |           | 電源 I C      | 03  |
| IC304    | X9278A00 | IC. CPU      | M30302FAPFP CPU     | boot only | I C CPU     |     |
| * IC307  | YA514A00 | IC           | BD5229G-TR          |           | リセット I C    |     |
| IC308    | X3586B00 | IC           | TC74VHCT08AFT EL, K |           | ロジック I C    | 01  |
| IC311    | YA137A00 | IC           | RP131S501D-E2       |           | 電源 I C      | 03  |
| IC601    | X8685A00 | IC           | AN41010A-VF         |           | ドライバ I C    | 07  |
| * IC602  | YA331B00 | IC. CPU. CD  | MN6627971YC         | MASK ROM  | I C CPU CD  |     |
| IC604    | X9911A00 | IC. CPU. USB | MN103SFB5KYAA       | MASK ROM  | I C CPU     | 09  |
| IC605    | X5693B00 | IC           | M12L16161A-7TG      |           | メモリ I C 16M |     |
| IC606    | X8096A00 | IC           | R5523N001A-TR-F     |           | 電源 I C      | 03  |
| IC802    | X3586B00 | IC           | TC74VHCT08AFT EL, K |           | ロジック I C    | 01  |
| IC803    | X9117A00 | IC           | R1154N033B-TR-F     |           | 電源 I C      | 02  |
| IC901    | X3586B00 | IC           | TC74VHCT08AFT EL, K |           | ロジック I C    | 01  |
| JK901    | VV881000 | CN. DIN      | 8P CMS5008-0101     |           | 丸形ミニチャコネクタ  | 05  |
| PN301    | V8637500 | PIN          | L=50 #18            |           | スタイルピン      |     |
| Q300     | VV556500 | TR           | 2SA1037K Q, R, S    |           | トランジスタ      | 01  |
| Q601     | iB070900 | TR           | 2SB709A P, Q, R, S  |           | トランジスタ      | 01  |
| Q602     | VV556500 | TR           | 2SA1037K Q, R, S    |           | トランジスタ      | 01  |
| * Q803   | WQ780500 | FET          | MCH6612-TL-E        |           | F E T       |     |
| * Q804   | WR171000 | FET          | 5HP02C-TB-E         |           | F E T       |     |
| Q805     | VV655700 | TR. DGT      | DTC144EKA           |           | デジタルトランジスタ  | 01  |
| Q902     | VV556400 | TR           | 2SC2412K Q, R, S    |           | トランジスタ      | 01  |
| Q903     | VV655400 | TR. DGT      | DTC114EKA           |           | デジタルトランジスタ  | 01  |
| XL300    | V8222200 | RSNR. CE     | 10MHz CSTLS10MO     |           | セラミック振動子    | 01  |
| XL601    | WB872100 | RSNR. CRYST  | 16.9344MHz          |           | 水晶振動子       | 03  |
| * XL603  | WQ332600 | RSNR. CE     | 12MHz               |           | セラミック発振子    | 02  |

\* New Parts \* 新規部品

## P.C.B. OPERATION

| Ref No.   | Part No. | Description | Remarks       | Markets | 部 品 名         | ランク |
|-----------|----------|-------------|---------------|---------|---------------|-----|
| *         | WQ597000 | P. C. B.    | OPERATION     | J       | PCB OPERATION |     |
|           | WQ597100 | P. C. B.    | OPERATION     | U       | PCB OPERATION |     |
|           | WQ597200 | P. C. B.    | OPERATION     | TK      | PCB OPERATION |     |
|           | WQ597300 | P. C. B.    | OPERATION     | AG      | PCB OPERATION |     |
|           | WQ597400 | P. C. B.    | OPERATION     | L       | PCB OPERATION |     |
| CB1       | LB918030 | CN. BS. PIN | 3P            |         | ベース付ポスト       | 01  |
| CB101     | VQ045100 | CN. BS. PIN | 21P           |         | FFCコネクター      | 02  |
| CB151     | VQ047800 | CN. BS. PIN | 27P           |         | FFCコネクター      | 02  |
| CB152     | VQ047600 | CN. BS. PIN | 21P           |         | FFCコネクター      | 02  |
| CB161     | WG668100 | CN. USB     | USB 4P SE     |         | USBコネクター      | 04  |
| CB162     | VB390100 | CN. BS. PIN | 5P            |         | ベースピン         | 01  |
| CB201     | VG879900 | CN. BS. PIN | 2P            |         | ベースピン         | 01  |
| CB202-203 | WN103000 | CLIP. FUSE  | TP00351-31    |         | ヒューズクリップ      | 01  |
| CB204     | VG879900 | CN. BS. PIN | 2P            |         | ベースピン         | 01  |
| CB205     | VP245700 | CN. BS. PIN | VA 2P SE      |         | ベースツキポスト      | 01  |
| CB206     | LB918030 | CN. BS. PIN | 3P            |         | ベース付ポスト       | 01  |
| C2        | WE102900 | C. PP       | 0. 01uF 100V  |         | PPコン          |     |
| C4        | UR267470 | C. EL       | 47uF 50V      |         | ケミコン          | 01  |
| C5-6      | WE102900 | C. PP       | 0. 01uF 100V  |         | PPコン          |     |
| C8        | US063100 | C. CE. CHP  | 1000pF 50V B  |         | チップセラコン       | 01  |
| C9        | UR239100 | C. EL       | 1000uF 16V    |         | ケミコン          |     |
| C10       | WE102900 | C. PP       | 0. 01uF 100V  |         | PPコン          |     |
| C11       | UR266330 | C. EL       | 3. 3uF 50V    |         | ケミコン          |     |
| C12       | WE102900 | C. PP       | 0. 01uF 100V  |         | PPコン          |     |
| C13-14    | UU238100 | C. EL       | 100uF 16V     |         | ケミコン          | 01  |
| C15-16    | WQ691900 | C. EL       | 2200uF 35V    |         | ケミコン          |     |
| C18       | US065100 | C. CE. CHP  | 0. 1uF 50V B  |         | チップセラコン       | 01  |
| C21       | WE102900 | C. PP       | 0. 01uF 100V  |         | PPコン          |     |
| C22-25    | UU237100 | C. EL       | 10uF 16V      |         | ケミコン FW       | 01  |
| C27-28    | WE101400 | C. PP       | 560pF 100V    |         | PPコン          | 01  |
| C29-31    | UU238100 | C. EL       | 100uF 16V     |         | ケミコン          | 01  |
| C32       | US135330 | C. CE. CHP  | 0. 33uF 16V   |         | チップセラコン       | 01  |
| C33-34    | WE102700 | C. PP       | 6800pF 100V   |         | PPコン          | 01  |
| C35-38    | WE101300 | C. PP       | 470pF 100V    |         | PPコン          | 01  |
| C39       | UU237100 | C. EL       | 10uF 16V      |         | ケミコン FW       | 01  |
| C40       | US135330 | C. CE. CHP  | 0. 33uF 16V   |         | チップセラコン       | 01  |
| C42       | UU238100 | C. EL       | 100uF 16V     |         | ケミコン          | 01  |
| C44       | UU238100 | C. EL       | 100uF 16V     |         | ケミコン          | 01  |
| C53       | WQ331800 | C. EL       | 100uF 50V     |         | ケミコン          |     |
| C56       | WQ331800 | C. EL       | 100uF 50V     |         | ケミコン          |     |
| C57-58    | WE101700 | C. PP       | 1000pF 100V   |         | PPコン          |     |
| C60-61    | US065100 | C. CE. CHP  | 0. 1uF 50V B  |         | チップセラコン       | 01  |
| C101-102  | US064100 | C. CE. CHP  | 0. 01uF 50V B |         | チップセラコン       | 01  |
| C103      | US135100 | C. CE. CHP  | 0. 1uF 16V    |         | チップセラコン       | 01  |
| C104      | US062100 | C. CE. CHP  | 100pF 50V B   |         | チップセラコン       | 01  |
| C105      | US135100 | C. CE. CHP  | 0. 1uF 16V    |         | チップセラコン       | 01  |
| C106      | US062100 | C. CE. CHP  | 100pF 50V B   |         | チップセラコン       | 01  |
| C107      | WG780700 | C. EL       | 47uF 16V      |         | ケミコン          | 01  |
| C108      | US062100 | C. CE. CHP  | 100pF 50V B   |         | チップセラコン       | 01  |
| C109      | US065100 | C. CE. CHP  | 0. 1uF 50V B  |         | チップセラコン       | 01  |
| C110-112  | US064100 | C. CE. CHP  | 0. 01uF 50V B |         | チップセラコン       | 01  |
| C113      | US126100 | C. CE. CHP  | 1uF 10V       |         | チップセラコン       | 01  |
| C114      | US064100 | C. CE. CHP  | 0. 01uF 50V B |         | チップセラコン       | 01  |
| C116      | US065100 | C. CE. CHP  | 0. 1uF 50V B  |         | チップセラコン       | 01  |
| C118-120  | US135100 | C. CE. CHP  | 0. 1uF 16V    |         | チップセラコン       | 01  |
| C121      | WG780700 | C. EL       | 47uF 16V      |         | ケミコン          | 01  |
| C122      | US135100 | C. CE. CHP  | 0. 1uF 16V    |         | チップセラコン       | 01  |

\* New Parts \* 新規部品

## P.C.B. OPERATION

| Ref No.  | Part No. | Description  | Remarks            | Markets | 部 品 名       | ランク |
|----------|----------|--------------|--------------------|---------|-------------|-----|
| C123     | US064100 | C. CE. CHP   | 0. 01uF 50V B      |         | チップセラコン     | 01  |
| C151     | WG782400 | C. EL        | 22uF 50V           |         | ケミコン        |     |
| C152-153 | WG780700 | C. EL        | 47uF 16V           |         | ケミコン        | 01  |
| C162     | US064100 | C. CE. CHP   | 0. 01uF 50V B      |         | チップセラコン     | 01  |
| C201-203 | V6185300 | C. CE. SAFTY | 0. 01uF 275V       |         | 規格認定コンデンサ   | 01  |
| C204-207 | WN165300 | C. PP        | 0. 01uF 100V       |         | P P コン      | 01  |
| C208     | UR278220 | C. EL        | 220uF 63V          |         | ケミコン        |     |
| C209     | WN165300 | C. PP        | 0. 01uF 100V       |         | P P コン      | 01  |
| C210     | UU259470 | C. EL        | 4700uF 35V         |         | ケミコン        |     |
| C211     | UU259220 | C. EL        | 2200uF 35V         |         | ケミコン        | 03  |
| C212-213 | WE102900 | C. PP        | 0. 01uF 100V       |         | P P コン      |     |
| C215     | UR278220 | C. EL        | 220uF 63V          |         | ケミコン        |     |
| C216     | US064100 | C. CE. CHP   | 0. 01uF 50V B      |         | チップセラコン     | 01  |
| C217-219 | UR267220 | C. EL        | 22uF 50V           |         | ケミコン        | 01  |
| C220-222 | US064100 | C. CE. CHP   | 0. 01uF 50V B      |         | チップセラコン     | 01  |
| D1-2     | VV307700 | DIODE        | 1N4002S            |         | ダイオード       | 01  |
| D3-4     | VT332900 | DIODE        | 1SS355             |         | ダイオード       | 01  |
| D5       | VU991500 | DIODE. ZENR  | MA8039-H 4V        |         | ツェナーダイオード   | 01  |
| D6       | WK870400 | DIODE. BRG   | D4SBN20-7101 4A    |         | ダイオードブリッジ   | 04  |
| D7       | VV220700 | DIODE. SHOT  | RB501V-40          |         | ショットキーダイオード | 01  |
| D8       | VU993400 | DIODE. ZENR  | MA8062-M 6. 2V     |         | ツェナーダイオード   | 01  |
| D9-10    | VU996600 | DIODE. ZENR  | MA8130-M 13V       |         | ツェナーダイオード   | 01  |
| D12      | VV220700 | DIODE. SHOT  | RB501V-40          |         | ショットキーダイオード | 01  |
| D14-15   | VV220700 | DIODE. SHOT  | RB501V-40          |         | ショットキーダイオード | 01  |
| D101     | VU993000 | DIODE. ZENR  | MA8056-M 5. 6V     |         | ツェナーダイオード   | 01  |
| D102     | WA467800 | LED          | SEL6910A-CD        |         | L E D       | 01  |
| D104     | WP947300 | LED          | ORANGE/GREEN       |         | 2色 L E D    |     |
| D201     | VU993000 | DIODE. ZENR  | MA8056-M 5. 6V     |         | ツェナーダイオード   | 01  |
| D204-205 | VV307700 | DIODE        | 1N4002S            |         | ダイオード       | 01  |
| D206     | VU999900 | DIODE. ZENR  | MA8300-M 30V       |         | ツェナーダイオード   | 01  |
| D211-214 | VV307700 | DIODE        | 1N4002S            |         | ダイオード       | 01  |
| D215     | WH487300 | DIODE. BRG   | RS203M 2. 0A 200V  |         | ダイオードブリッジ   | 02  |
| F201     | KB001770 | FUSE         | T1A 250V           |         | ヒューズ        | 02  |
| IC1      | X7947A00 | IC           | DSD1791DBR         |         | D/Aコンバーター   | 07  |
| IC2      | XV763A00 | IC           | OP275GSR OP AMP    |         | アンプ I C     | 05  |
| IC4      | X9430A00 | IC           | PQ033ES3MXP        |         | 電源 I C      | 03  |
| IC802    | X2656A00 | IC           | TC7SH08F AND       |         | ロジック I C    | 01  |
| JY11     | WK849100 | BUS. BAR. 3P | 3P                 |         | バスバー 3 P    | 04  |
| PJ1-2    | WQ070200 | JACK. PIN    | 1P BLACK YKC21-391 |         | ピンジャック      | 03  |
| PN1      | V8637500 | PIN          | L=50 #18           |         | スタイルピン      |     |
| PN151    | V8637500 | PIN          | L=50 #18           |         | スタイルピン      |     |
| PN161    | V8637500 | PIN          | L=50 #18           |         | スタイルピン      |     |
| PN226    | V8637500 | PIN          | L=50 #18           |         | スタイルピン      |     |
| Q1       | VV556500 | TR           | 2SA1037K Q, R, S   |         | トランジスタ      | 01  |
| Q2-4     | VR043100 | FET          | 2SK208 Y           |         | チップ F E T   | 01  |
| Q5-6     | WF691400 | TR           | 2SD2014            |         | トランジスタ      | 03  |
| Q7       | WF691300 | TR           | 2SB1257            |         | トランジスタ      | 03  |
| Q14-17   | VZ725900 | TR           | 2SD1938F S, T      |         | トランジスタ      | 01  |
| Q21      | WH628700 | FET          | RSR025P03TL        |         | F E T       | 01  |
| Q22      | VV655700 | TR. DGT      | DTC144EKA          |         | デジタルトランジスタ  | 01  |
| Q23      | VV556500 | TR           | 2SA1037K Q, R, S   |         | トランジスタ      | 01  |
| Q24      | VV655700 | TR. DGT      | DTC144EKA          |         | デジタルトランジスタ  | 01  |
| Q25      | WF764200 | FET          | RSR025N03          |         | F E T       |     |
| Q101-102 | VV556400 | TR           | 2SC2412K Q, R, S   |         | トランジスタ      | 01  |
| Q103-105 | VV655700 | TR. DGT      | DTC144EKA          |         | デジタルトランジスタ  | 01  |
| Q106-107 | VV655300 | TR. DGT      | DTA144EKA          |         | デジタルトランジスタ  | 01  |
| Q201     | VP872700 | TR           | 2SC4488 S, T       |         | トランジスタ      | 01  |

\* New Parts \* 新規部品

P.C.B. OPERATION

| Ref No.   | Part No. | Description | Remarks           | Markets | 部 品 名      | ランク |
|-----------|----------|-------------|-------------------|---------|------------|-----|
| R12       | V8071600 | R. MTL. OXD | 1K Ω              | 1W      | 金属被膜抵抗     | 01  |
| R20       | HL006100 | R. MTL. OXD | 1K Ω              | 1/2W    | 酸化金属被膜抵抗   |     |
| R21-22    | HL004100 | R. MTL. OXD | 10 Ω              | 1/2W    | 酸化金属被膜抵抗   |     |
| R27-29    | HL005100 | R. MTL. OXD | 100 Ω             | 1/2W    | 酸化金属被膜抵抗   |     |
| R38       | V8072300 | R. MTL. OXD | 10K Ω             | 1W      | 酸化金属被膜抵抗   |     |
| R39       | V8071300 | R. MTL. FLM | 470 Ω             | 1W      | 金属被膜抵抗     |     |
| R54-55    | V8073000 | R. MTL. OXD | 100K Ω            | 1W      | 酸化金属被膜抵抗   |     |
| R58       | WA621700 | R. MTL. FLM | 270 Ω             | 1W      | 金属被膜抵抗     |     |
| R61       | WA621700 | R. MTL. FLM | 270 Ω             | 1W      | 金属被膜抵抗     |     |
| R64       | WA621700 | R. MTL. FLM | 270 Ω             | 1W      | 金属被膜抵抗     |     |
| R67       | WA621700 | R. MTL. FLM | 270 Ω             | 1W      | 金属被膜抵抗     |     |
| * R68-69  | WQ835800 | R. MTL. OXD | 100 Ω             | 1W      | 酸化金属被膜抵抗   |     |
| R201-202  | HV755100 | R. CAR. FP  | 100 Ω             | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R203      | HV753390 | R. CAR. FP  | 3. 9 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R203      | HV753560 | R. CAR. FP  | 5. 6 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R204      | HV753330 | R. CAR. FP  | 3. 3 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R204      | HV753560 | R. CAR. FP  | 5. 6 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R204      | HV753470 | R. CAR. FP  | 4. 7 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R205      | HV756470 | R. CAR. FP  | 4. 7K Ω           | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R206      | HV755100 | R. CAR. FP  | 100 Ω             | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R210      | HV753470 | R. CAR. FP  | 4. 7 Ω            | 1/4W    | 不燃化カーボン抵抗  | 01  |
| R211-212  | V8072500 | R. MTL. OXD | 22K Ω             | 1W      | 酸化金属被膜抵抗   | 01  |
| SW101-102 | WD483100 | SW. TACT    | SKRGAAD010        |         | タクト SW     | 01  |
| SW105-107 | WD483100 | SW. TACT    | SKRGAAD010        |         | タクト SW     | 01  |
| SW201     | V8377400 | SW. POWER   | SY16-52-4         |         | パワースイッチ    |     |
| SW203     | WC906700 | SW. SLIDE   | SDKPA40300        | L       | スライドSW     | 06  |
| * T201    | X9928A00 | TRANS. PWR  | JUC CD-S700ML     | JU      | 電源トランス     |     |
| * T201    | X9929A00 | TRANS. PWR  | TKAGBL CD-S700ML  | TKAGL   | 電源トランス     |     |
| TH201-202 | VV216100 | PROTECTOR   | RXE050 0. 50A 60V |         | ポリスイッチ     | 03  |
| TH203     | VU847300 | POSISTOR    | RUE185 1. 85A 30V |         | ポリスイッチ     | 03  |
| TH204     | VV457600 | SW. POLY    | RUE090 0. 90A 30V |         | ポリスイッチ     | 02  |
| U101      | WK918500 | L. DTCT     | GP1UE271RKVF      |         | リモコン受光ユニット | 03  |
| V101      | WK835500 | FL. DSPLY   | 13-ST-81GINK      |         | 蛍光表示管      | 11  |
|           | WM164600 | SHEET       |                   |         | シートF L     | 01  |
|           | V6203300 | SPACER      |                   |         | スペーサーF L   | 01  |

\* New Parts \* 新規部品

Carbon Resistors

| Value  | 1/4W Type Part No. | 1/6W Type Part No. | Value  | 1/4W Type Part No. | 1/6W Type Part No. |
|--------|--------------------|--------------------|--------|--------------------|--------------------|
| 1.0 Ω  | HJ35 3100          | HF85 3100          | 11 kΩ  | HF45 7110          | HF45 7110          |
| 1.8 Ω  | HJ35 3180          | ※                  | 12 kΩ  | HJ35 7120          | HF85 7120          |
| 2.2 Ω  | HJ35 3220          | HF85 3220          | 13 kΩ  | HF45 7130          | HF45 7130          |
| 3.3 Ω  | HJ35 3330          | HF85 3330          | 15 kΩ  | HF45 7150          | HF45 7150          |
| 4.7 Ω  | HJ35 3470          | HF85 3470          | 18 kΩ  | HF45 7180          | HF45 7180          |
| 5.6 Ω  | HJ35 3560          | HF85 3560          | 22 kΩ  | HF45 7220          | HF45 7220          |
| 10 Ω   | HF45 4100          | HF45 4100          | 24 kΩ  | HF45 7240          | HF45 7240          |
| 15 Ω   | HJ35 4150          | HF85 4150          | 27 kΩ  | HJ35 7270          | HF85 7270          |
| 22 Ω   | HF45 4220          | HF45 4220          | 30 kΩ  | HF45 7300          | HF45 7300          |
| 27 Ω   | HJ35 4270          | HF85 4270          | 33 kΩ  | HF45 7330          | HF45 7330          |
| 33 Ω   | HF45 4330          | HF45 4330          | 36 kΩ  | HF45 7360          | HF45 7360          |
| 39 Ω   | HJ35 4470          | HF85 4390          | 39 kΩ  | HF45 7390          | HF45 7390          |
| 47 Ω   | HF45 4470          | HF45 4470          | 47 kΩ  | HF45 7470          | HF45 7470          |
| 56 Ω   | HF45 4560          | HF45 4560          | 51 kΩ  | HF45 7510          | HF45 7510          |
| 68 Ω   | HF45 4680          | HF45 4680          | 56 kΩ  | HF45 7560          | HF45 7560          |
| 75 Ω   | HF45 4750          | HF45 4750          | 62 kΩ  | HF45 7620          | HF45 7620          |
| 82 Ω   | HF45 4820          | HF45 4820          | 68 kΩ  | HF45 7680          | HF45 7680          |
| 91 Ω   | HF45 4910          | HF45 4910          | 82 kΩ  | HF45 7820          | HF45 7820          |
| 100 Ω  | HF45 5100          | HF45 5100          | 91 kΩ  | HF45 7910          | HF45 7910          |
| 110 Ω  | HJ35 5110          | HF85 5110          | 100 kΩ | HF45 8100          | HF45 8100          |
| 120 Ω  | HF45 5120          | HF45 5120          | 110 kΩ | HF45 8110          | HF45 8110          |
| 150 Ω  | HF45 5150          | HF45 5150          | 120 kΩ | HF45 8120          | HF45 8120          |
| 160 Ω  | HJ35 5160          | ※                  | 150 kΩ | HF45 8150          | HF45 8150          |
| 180 Ω  | HF45 5180          | HF45 5180          | 180 kΩ | HF45 8180          | HF45 8180          |
| 200 Ω  | HF45 5200          | HF45 5200          | 220 kΩ | HJ35 8220          | HF85 8220          |
| 220 Ω  | HF45 5220          | HF45 5220          | 270 kΩ | HF45 8270          | HF45 8270          |
| 270 Ω  | HF45 5270          | HF45 5270          | 300 kΩ | HF45 8300          | HF45 8300          |
| 330 Ω  | HF45 5330          | HF45 5330          | 330 kΩ | HF45 8330          | HF45 8330          |
| 390 Ω  | HF45 5390          | HF45 5390          | 390 kΩ | HJ35 8390          | HF85 8390          |
| 430 Ω  | HF45 5430          | HF45 5430          | 470 kΩ | HF45 8470          | HF45 8470          |
| 470 Ω  | HF45 5470          | HF45 5470          | 560 kΩ | HJ35 8560          | HF85 8560          |
| 510 Ω  | HF45 5510          | HF45 5510          | 680 kΩ | HJ35 8680          | HF85 8680          |
| 560 Ω  | HF45 5560          | HF45 5560          | 820 kΩ | HJ35 8820          | HF85 8820          |
| 680 Ω  | HF45 5680          | HF45 5680          | 1.0 MΩ | HF45 9100          | HF45 9100          |
| 820 Ω  | HF45 5820          | HF45 5820          | 1.2 MΩ | HJ35 9120          | ※                  |
| 910 Ω  | HF45 5910          | HF45 5910          | 1.5 MΩ | HJ35 9150          | HF85 9150          |
| 1.0 k  | HF45 6100          | HF45 6100          | 1.8 MΩ | HJ35 9180          | HF85 9180          |
| 1.2 kΩ | HF45 6120          | HF45 6120          | 2.2 MΩ | HJ35 9220          | HF85 9220          |
| 1.5 kΩ | HF45 6150          | HF45 6150          | 3.3 MΩ | HJ35 9330          | HF85 9330          |
| 1.8 kΩ | HF45 6180          | HF45 6180          | 3.9 MΩ | HJ35 9390          | ※                  |
| 2.0 kΩ | HJ35 6200          | HF85 6200          | 4.7 MΩ | HJ35 9470          | HF85 9470          |
| 2.2 kΩ | HF45 6220          | HF45 6220          |        |                    |                    |
| 2.4 kΩ | HJ35 6240          | HF85 6240          |        |                    |                    |
| 2.7 kΩ | HF45 6270          | HF45 6270          |        |                    |                    |
| 3.0 kΩ | HF45 6300          | HF45 6300          |        |                    |                    |
| 3.3 kΩ | HF45 6330          | HF45 6330          |        |                    |                    |
| 3.6 kΩ | HJ35 6360          | HF85 6360          |        |                    |                    |
| 3.9 kΩ | HF45 6390          | HF45 6390          |        |                    |                    |
| 4.7 kΩ | HF45 6470          | HF45 6470          |        |                    |                    |
| 5.1 kΩ | HF45 6510          | HF45 6510          |        |                    |                    |
| 5.6 kΩ | HF45 6560          | HF45 6560          |        |                    |                    |
| 6.8 kΩ | HF45 6680          | HF45 6680          |        |                    |                    |
| 8.2 kΩ | HF45 6820          | HF45 6820          |        |                    |                    |
| 9.1 kΩ | HF45 6910          | HF45 6910          |        |                    |                    |
| 10 kΩ  | HF45 7100          | HF45 7100          |        |                    |                    |

1/4W Type

HF45○○○○

1/6W Type

HF85○○○○

1/4W Type

HJ35○○○○

← 10mm →

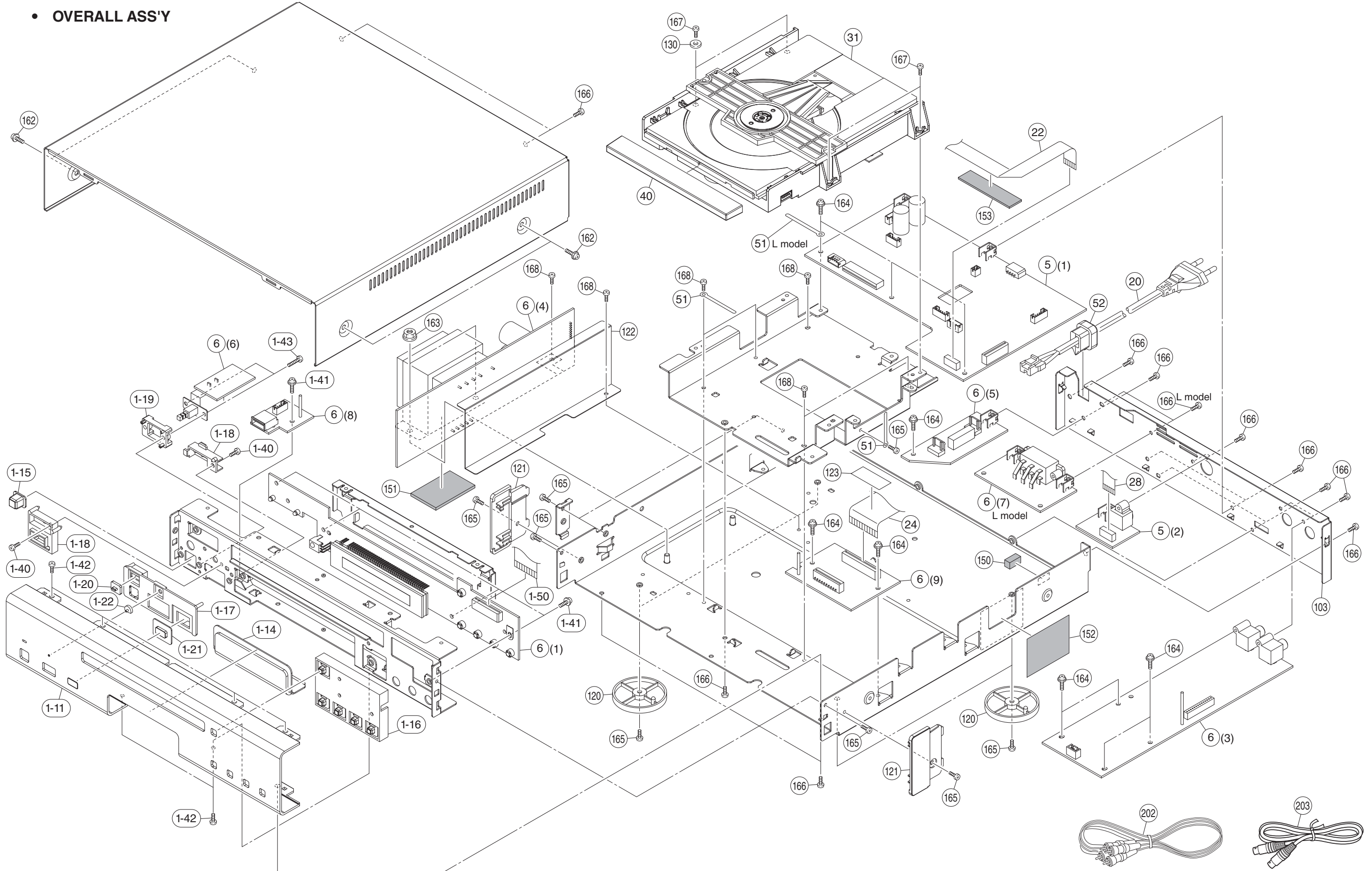
1/6W Type

HF85○○○○

← 5mm →

※ : Not available

• OVERALL ASS'Y



|   | Ref No. | Part No. | Description                  | Remarks          | Markets      | 部 品 名         | ランク |
|---|---------|----------|------------------------------|------------------|--------------|---------------|-----|
| * | 1-11    | WQ133500 | FRONT PANEL                  | BL               |              | フロントパネル       |     |
| * | 1-11    | WQ133100 | FRONT PANEL                  | SI               |              | フロントパネル       |     |
| * | 1-14    | WQ147300 | WINDOW                       |                  |              | ウィンドウ         |     |
| * | 1-15    | WQ147800 | BUTTON                       | POWER            | BL           | ボタン           |     |
| * | 1-15    | WQ147600 | BUTTON                       | POWER            | SI           | ボタン           |     |
| * | 1-16    | WQ148300 | BUTTON                       | 5P               | BL           | ボタン           |     |
| * | 1-16    | WQ148200 | BUTTON                       | 5P               | SI           | ボタン           |     |
| * | 1-17    | WQ149600 | SUPPORT LENS                 |                  |              | サポート レンズ      |     |
| * | 1-18    | WQ149900 | SUPPORT USB                  |                  |              | サポート USB      |     |
| * | 1-19    | WQ149800 | SUPPORT PSW                  |                  |              | サポート PSW      |     |
| * | 1-20    | WQ149500 | LENS POWER                   |                  |              | レンズ パワー       |     |
| * | 1-21    | WQ149400 | LENS RC                      | BL               |              | レンズ RC        |     |
| * | 1-21    | WQ149300 | LENS RC                      | SI               |              | レンズ RC        |     |
|   | 1-22    | WP080600 | LENS LED                     |                  |              | レンズLED        | 01  |
|   | 1-40    | WE936300 | BIND HEAD B-TIGHT SCREW      | 3x6 MFZN2W3      |              | バインドBタイトネジ    | 01  |
|   | 1-41    | WG959600 | PW HEAD TAPPING B-T. SCREW   | 3x6-8 MFZN2W3    |              | PWヘッドBタイトネジ   | 01  |
|   | 1-42    | WE774100 | BIND HEAD BONDING B-T. SCREW | 3x8 MFZN2B3      |              | ボンディングBタイトネジ  | 01  |
|   | 1-43    | WE998100 | BIND HEAD B-TIGHT SCREW      | 3x12 MFZN2B3     |              | バインドBタイトネジ    | 01  |
| * | 1-50    | WQ692000 | FLEXIBLE FLAT CABLE          | 21P 80mm P=1.25  |              | カード電線         |     |
| * | 5       | WQ596900 | P. C. B. ASS' Y              | DIGITAL          |              | PCB DIGITAL   |     |
| * | 6       | WQ597000 | P. C. B. ASS' Y              | OPERATION        | J            | PCB OPERATION |     |
| * | 6       | WQ597100 | P. C. B. ASS' Y              | OPERATION        | U            | PCB OPERATION |     |
| * | 6       | WQ597200 | P. C. B. ASS' Y              | OPERATION        | TK           | PCB OPERATION |     |
| * | 6       | WQ597300 | P. C. B. ASS' Y              | OPERATION        | AG           | PCB OPERATION |     |
| * | 6       | WQ597400 | P. C. B. ASS' Y              | OPERATION        | L            | PCB OPERATION |     |
| △ | 20      | WB211800 | POWER CABLE                  | 1.8m             | J            | 電源コード         | 07  |
| △ | 20      | WB120500 | POWER CABLE                  | 2m               | U            | 電源コード         |     |
| △ | 20      | WB120600 | POWER CABLE                  | 2m               | T            | 電源コード         |     |
| △ | 20      | WC753000 | POWER CABLE                  | 2m               | K            | 電源コード         |     |
| △ | 20      | WC743700 | POWER CABLE                  | 2m               | A            | 電源コード         |     |
| △ | 20      | WB212300 | POWER CABLE                  | 2m               | GL           | 電源コード         |     |
|   | 22      | WK899500 | FLEXIBLE FLAT CABLE          | 24P 240mm P=0.5  |              | カード電線         | 01  |
| * | 24      | WQ096800 | FLEXIBLE FLAT CABLE          | 27P 250mm P=1.25 |              | カード電線         | 04  |
| * | 28      | WQ849600 | FLEXIBLE FLAT CABLE          | 10P 90mm P=1     |              | カード電線         |     |
| * | 31      | WQ467000 | LOADER MECHANISM ASS' Y      |                  | 8829C+313AAM | ローダーメカASSY    |     |
| * | 40      | WQ148500 | LID                          |                  | BL           | リッド           |     |
| * | 40      | WQ148400 | LID                          |                  | SI           | リッド           |     |
|   | 51      | WD397500 | BINDING TIE                  | MSF-085          |              | 束線止め          | 01  |
|   | 52      | V2438700 | CORD STOPPER                 | 10P1             |              | コードストッパー      | 02  |
| * | 103     | WQ146300 | REAR PANEL                   |                  | J            | リヤパネル         |     |
| * | 103     | WQ146400 | REAR PANEL                   |                  | U            | リヤパネル         |     |
| * | 103     | WQ146500 | REAR PANEL                   |                  | T            | リヤパネル         |     |
| * | 103     | WQ146600 | REAR PANEL                   |                  | K            | リヤパネル         |     |
| * | 103     | WQ146700 | REAR PANEL                   |                  | A            | リヤパネル         |     |
| * | 103     | WQ146900 | REAR PANEL                   |                  | G            | リヤパネル         |     |
| * | 103     | WQ146800 | REAR PANEL                   |                  | L            | リヤパネル         |     |
| * | 120     | WQ150300 | LEG                          | D42/H7 Black     |              | レッグ           |     |
| * | 121     | WQ148700 | PLATE SIDE                   |                  | BL           | プレートサイド       |     |
| * | 121     | WQ148600 | PLATE SIDE                   |                  | SI           | プレートサイド       |     |
| * | 122     | WQ150100 | BARRIER POWER                |                  |              | バリア POWER     |     |
| * | 123     | WQ757600 | BARRIER FFC                  |                  |              | バリア FFC       |     |
|   | 130     | WN075900 | WASHER LID B                 |                  |              | ワッシャーLID B    | 01  |
|   | 150     | VQ390100 | DAMPER                       | 8x8x15           |              | ダンパー          | 01  |

\* New Parts \*新規部品

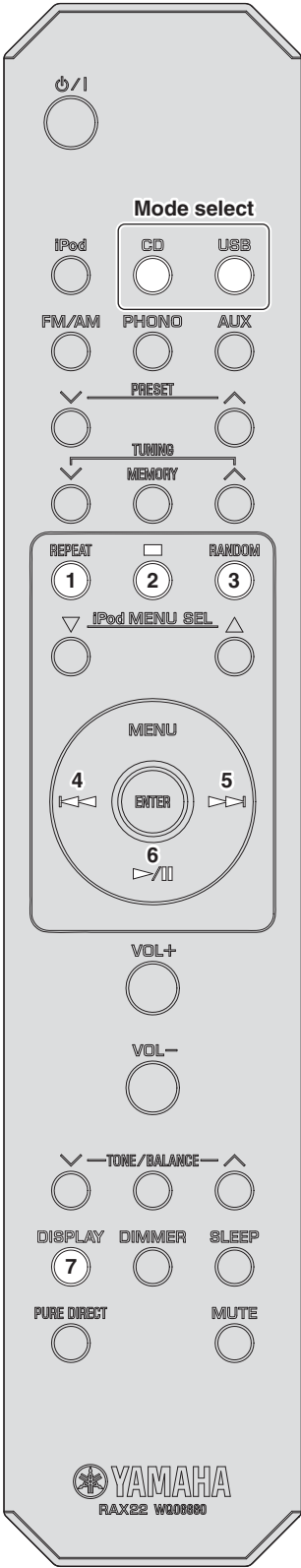
|   | Ref No. | Part No. | Description                  | Remarks                | Markets        | 部 品 名        | ランク |
|---|---------|----------|------------------------------|------------------------|----------------|--------------|-----|
| * | 151     | WQ606800 | DAMPER                       | 25x45x2                |                | ダンパー         | 01  |
| * | 152     | WR154600 | DAMPER CARD                  | 40x55                  |                | ダンパー カード     |     |
|   | 153     | WN440100 | DAMPER                       | 15x80 t=2              |                | ダンパー         | 01  |
|   | 162     | WE977900 | PW HEAD B-TIGHT SCREW        | 3x6-8 MFZN2B3          |                | PWヘッドBタイトネジ  | 01  |
|   | 162     | WG959600 | PW HEAD TAPPING B-T. SCREW   | 3x6-8 MFZN2W3          |                | PWヘッドBタイトネジ  | 01  |
|   | 163     | WF567000 | SPECIAL NUT                  | M4                     |                | 特殊ナット        | 01  |
|   | 164     | WG959600 | PW HEAD TAPPING B-T. SCREW   | 3x6-8 MFZN2W3          |                | PWヘッドBタイトネジ  | 01  |
|   | 165     | WE936300 | BIND HEAD B-TIGHT SCREW      | 3x6 MFZN2W3            |                | バインドBタイトネジ   | 01  |
|   | 166     | WE774100 | BIND HEAD BONDING B-T. SCREW | 3x8 MFZN2B3            |                | ボンディングBタイトネジ | 01  |
|   | 167     | WE774300 | BIND HEAD B-TIGHT SCREW      | 3x8 MFZN2W3            |                | バインドBタイトネジ   | 01  |
|   | 168     | WF304200 | BIND HEAD S-TIGHT SCREW      | 3x5 MFZN2B3            |                | バインドSタイトネジ   | 01  |
|   |         |          | ACCESSORIES                  |                        |                | 付属品          |     |
|   | 202     | VY952200 | AUDIO PIN CABLE              | 2P 1m 1pc              |                | ステレオピンケーブル   | 04  |
| * | 203     | WQ579900 | MINI PIN CABLE               | 8P 0.6m 1pc            |                | ミニピンケーブル     |     |
|   |         |          | SERVICE TOOL                 |                        |                | サービス用部品      |     |
|   |         | AAX88050 | RS232C CONVERSION ADAPTER    | with CABLE (8P, P=1.0) | CDS2000ADAPTER | RS232C変換アダプタ | 20  |

\* New Parts \*新規部品

■ REMOTE CONTROL

● Receiving Code / 受信コード

The remote control of the MCS-1330.



CD/USB mode

| Function |            | Code |    |
|----------|------------|------|----|
| 1        | REPEAT     | 78   | 0C |
| 2        | STOP       | 78   | 01 |
| 3        | RANDOM     | 78   | 07 |
| 4        | REVERSE    | 7F   | 1B |
| 5        | FORWARD    | 7F   | 1C |
| 6        | PLAY/PAUSE | 7F   | 1E |
| 7        | DISPLAY    | 78   | 0A |

CD-1330

