

# RECEIVER

# R-S300

## SERVICE MANUAL

### IMPORTANT NOTICE

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

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

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

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

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

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

R-S300

## ■ CONTENTS

TO SERVICE PERSONNEL .....	2	AMP ADJUSTMENT .....	30-31
IMPEDANCE SELECTOR .....	3	DISPLAY DATA .....	32-33
FRONT PANELS .....	4	IC DATA .....	34-36
REAR PANELS .....	5-6	BLOCK DIAGRAM .....	37
REMOTE CONTROL PANEL .....	7	PRINTED CIRCUIT BOARDS .....	38-53
SPECIFICATIONS .....	8-9	PIN CONNECTION DIAGRAMS .....	54
INTERNAL VIEW .....	10	SCHEMATIC DIAGRAMS .....	55-60
SERVICE PRECAUTIONS .....	10	REPLACEMENT PARTS LIST .....	61-71
DISASSEMBLY PROCEDURES .....	11-13	REMOTE CONTROL .....	72
UPDATING FIRMWARE .....	14-17	ADVANCED SETUP .....	73-74
SELF-DIAGNOSTIC FUNCTION .....	18-29		



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

## ■ TO SERVICE PERSONNEL

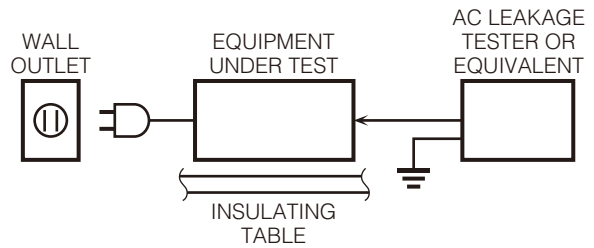
### 1. Critical Components Information

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.



### For U model "CAUTION"

"F1: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 5A, 125V FUSE."

### For C model CAUTION

F1: REPLACE WITH SAME TYPE 5A, 125V FUSE.

### ATTENTION

F1: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 5A, 125V.

## 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

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

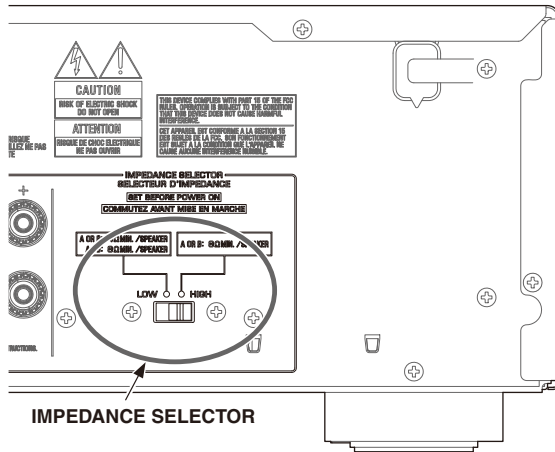
Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- 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.

## ■ IMPEDANCE SELECTOR

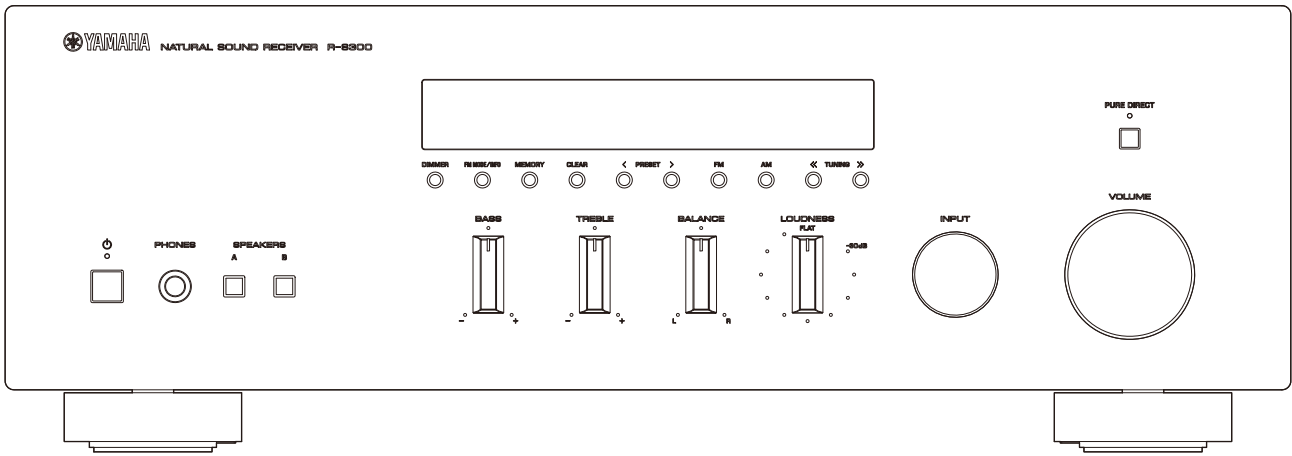


### WARNING:

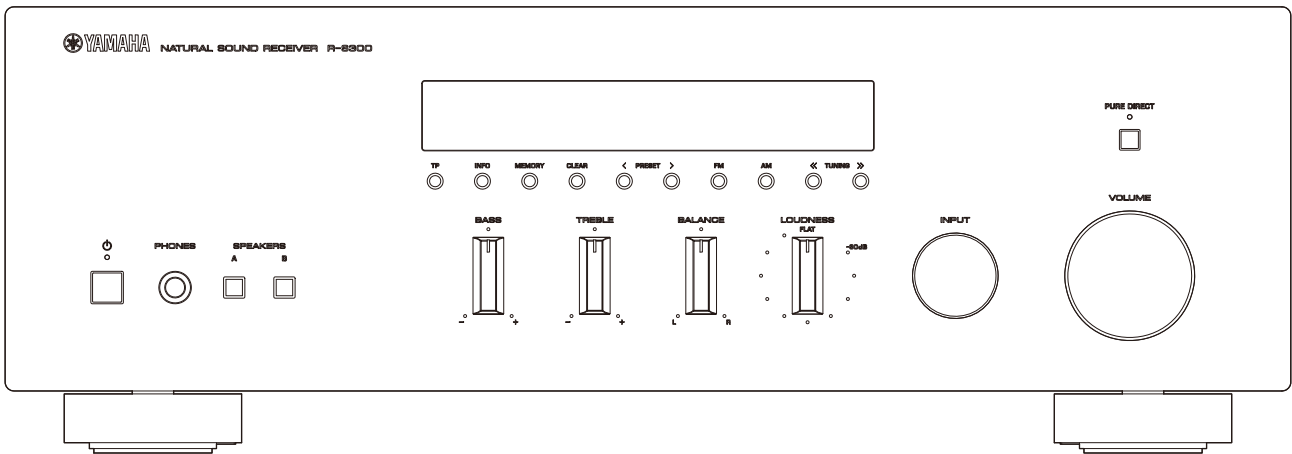
Do not change the setting of the IMPEDANCE SELECTOR switch when the unit power is switched on, as doing so may damage the unit.

## FRONT PANELS

R-S300 (U, C, R, A, L models)



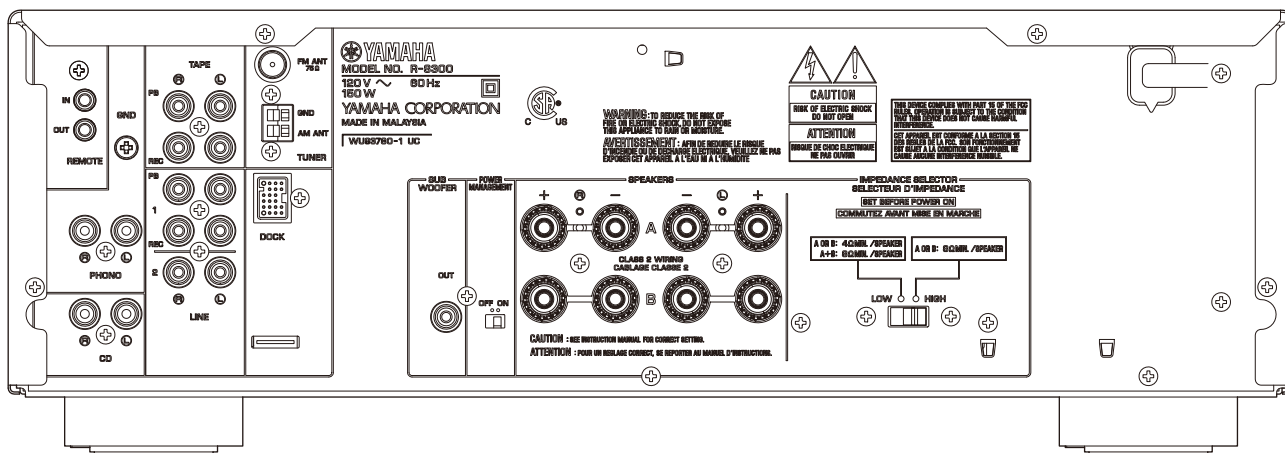
R-S300 (G model)



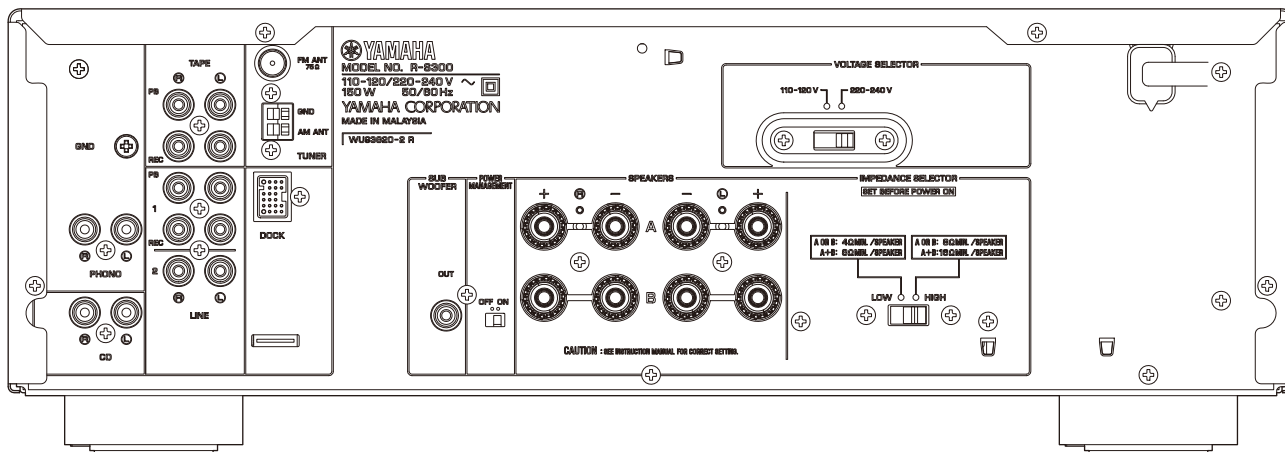


# REAR PANELS

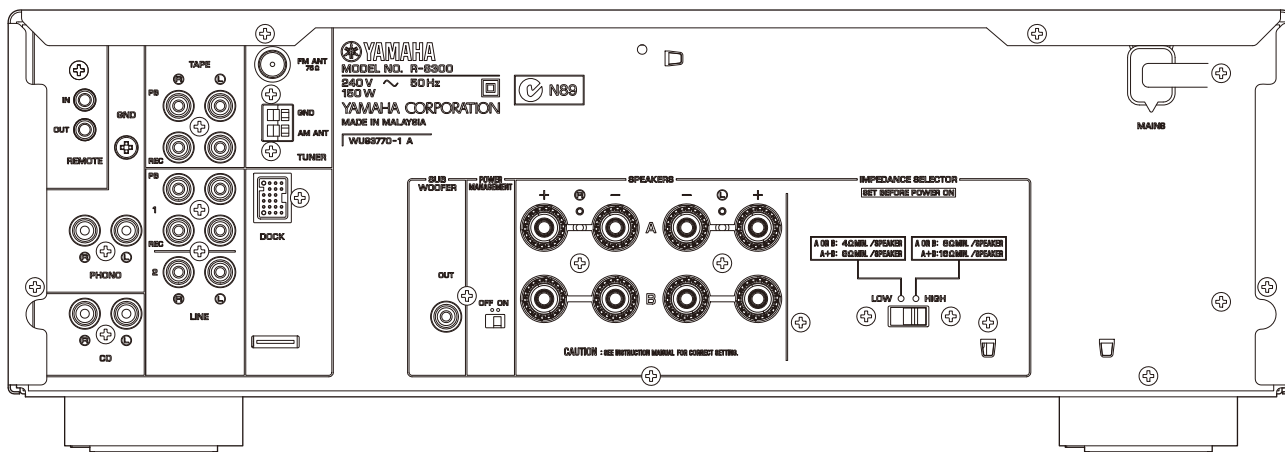
## R-S300 (U, C models)



## R-S300 (R model)

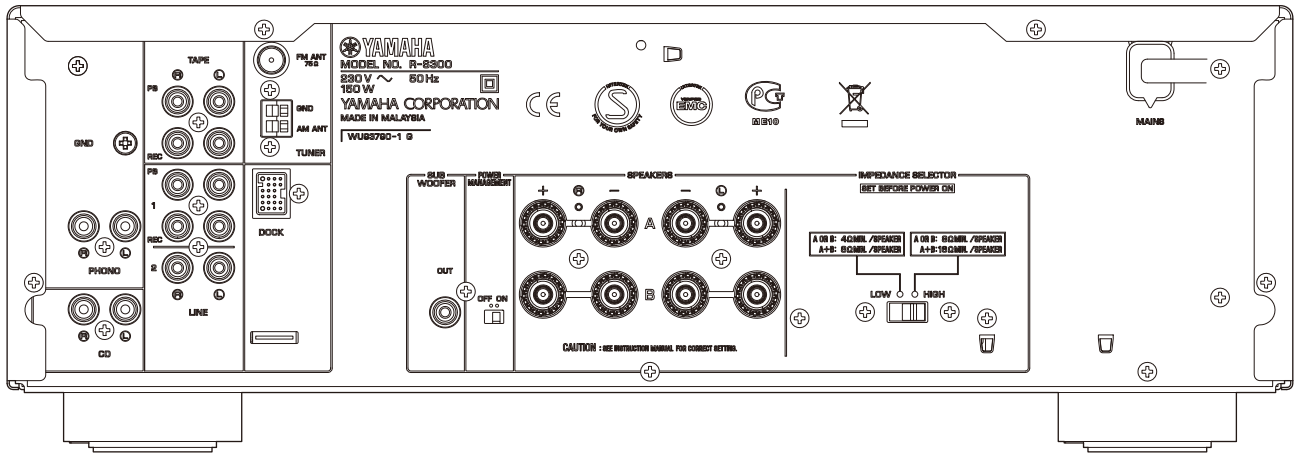


## R-S300 (A model)

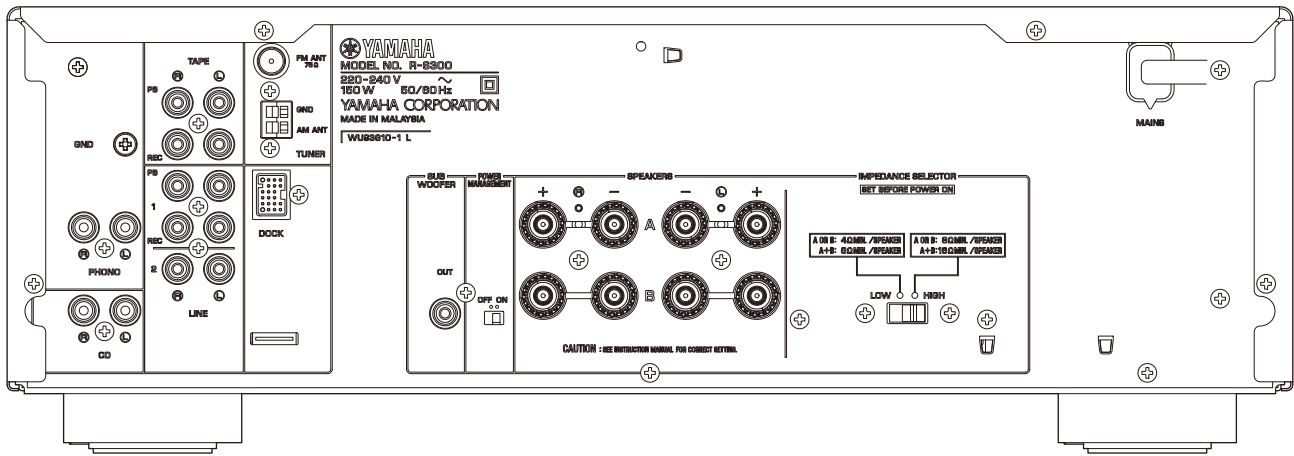


R-S300

R-S300 (G model)



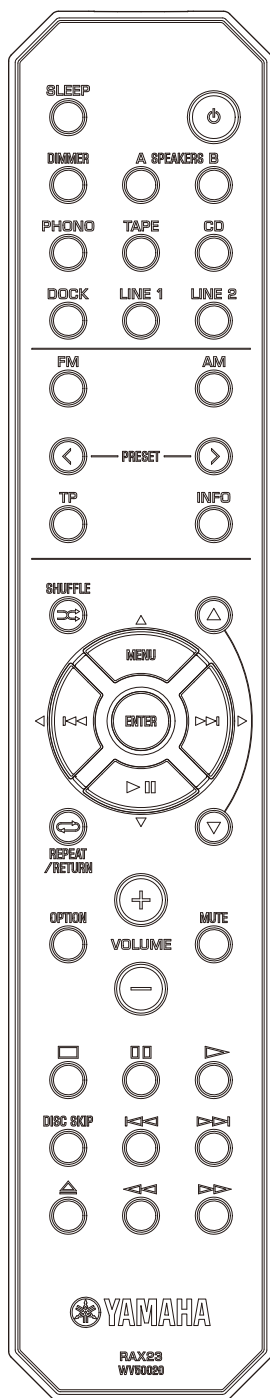
R-S300 (L model)



R-S300

# ■ REMOTE CONTROL PANEL

RAX23



R-S300

## ■ SPECIFICATIONS

### ■ Audio Section

#### Minimum RMS Output Power (Power Amp. Section)

(20 Hz to 20 kHz)  
(8 ohms, 0.04 % THD) ..... 50 W + 50 W

#### Dynamic Power Per Channel (IHF)

(8/6/4/2 ohms) ..... 70/77/89/100 W

#### MAX Power Per Channel (1 kHz, 0.7 % THD, 4 ohms)

G model ..... 55 W

#### IEC Power (1 kHz, 0.04 % THD, 8 ohms)

G model ..... 52 W

#### Power Band Width

(0.06 % THD, 25 W, 8 ohms) ..... 10 Hz to 50 kHz

#### Damping Factor (SPEAKER-A)

(1 kHz, 8 ohms) ..... 150 or more

#### Maximum Effective Output Power (1 kHz, 10 % THD, JEITA)

R, L models  
(8 ohms) ..... 85 W

#### Input Sensitivity/Input Impedance

PHONO (MM) ..... 3.5 mV / 47 k-ohms  
CD, etc. .... 200 mV / 47 k-ohms

#### Maximum Input Signal (1 kHz)

PHONO (MM) (0.003 % THD) ..... 60 mV or more  
CD, etc. (0.5 % THD) ..... 2.2 V or more

#### Output Level/Output Impedance

CD, etc. (Input, 1 kHz, 200 mV)  
REC OUT ..... 200 mV / 1.0 k-ohms  
CD, etc. (Input, 1 kHz, 200 mV, 8 ohms load)  
Headphone Jack ..... 340 mV / 470 ohms

#### Frequency Response

CD, etc. (20 Hz to 20 kHz)  
..... 0 ±0.5 dB  
CD, etc. Pure DIRECT ON (10 Hz to 100 kHz)  
..... 0 ±1.0 dB

#### RIAA Equalization Deviation

PHONO (MM) ..... ±0.5 dB

#### Total Harmonic Distortion (20 Hz to 20 kHz)

PHONO (MM) to REC OUT (3 V) ..... 0.025 % or less  
CD, etc. to SP OUT (25 W, 8 ohms) ..... 0.015 % or less

#### Signal to Noise Ratio (IHF-A Network)

PHONO (MM) (5 mV Input shorted)  
..... 87 dB or more  
CD, etc. (Pure DIRECT ON) (200 mV input shorted)  
..... 100 dB or more

#### Residual Noise (IHF-A Network)

..... 30 µV

#### Channel Separation

CD, etc. (Input 5.1 k-ohms shorted)  
1 kHz ..... 65 dB or more  
10 kHz ..... 50 dB or more

#### Tone Control Characteristics

BASS  
Boost/Cut (50 Hz) ..... ±10 dB  
Turnover frequency ..... 350 Hz  
TREBLE  
Boost/Cut (20 kHz) ..... ±10 dB  
Turnover frequency ..... 3.5 kHz

#### Continuous Loudness Control

Attenuation (1 kHz) ..... -30 dB

#### Gain Tracking Error

(0 to -99 dB) ..... 0.5 dB or less

### ■ FM Section

#### Tuning Range

U, C models ..... 87.5 to 107.9 MHz  
R, A, G, L models ..... 87.50 to 108.00 MHz

#### 50 dB Quieting Sensitivity (IHF)

(1 kHz, 100 % MOD.)  
Mono ..... 3.0 µV (20.8 dBf)

#### Signal to Noise Ratio (IHF)

Mono/Stereo ..... 74 dB/70 dB

#### Harmonic Distortion (1 kHz)

Mono/Stereo ..... 0.3 %

#### Antenna Input

..... 75 ohms unbalanced

### ■ AM Section

#### Tuning Range

U, C models ..... 530 to 1,710 kHz  
R, A, G, L models ..... 531 to 1,611 kHz

#### Antenna

..... Loop antenna

### ■ General

#### Power Supply

U, C models ..... AC 120 V, 60 Hz  
R model ..... AC 110-120/220-240 V, 50/60 Hz  
A model ..... AC 240 V, 50 Hz  
G model ..... AC 230 V, 50 Hz  
L model ..... AC 220-240 V, 50/60 Hz

#### Power Consumption

..... 150 W

#### Standby Power Consumption

..... 0.5 W or less

#### YID-W10 Standby Power Consumption (YID-W10 connect)

..... 1.2 W or less

#### iPod Charge Power Consumption

..... 30 W or less

#### Maximum Power Consumption (1 kHz, 8 ohms, 10 % THD)

R model ..... 280 W

#### Dimensions (W x H x D)

..... 435 x 151 x 387 mm (17-1/8" x 6" x 15-1/4")

#### Weight

..... 8.8 kg (19.4 lbs.)

#### Finish

Black color ..... U, C, R, A, G, L models  
Silver color ..... R, A, G, L models

#### Accessories

Remote control ..... x 1  
Indoor FM antenna (1.4 m) ..... x 1  
AM loop antenna (1.2 m) ..... x 1  
Batteries (R6, AA, UM-3) ..... x 2

\* Specifications are subject to change without notice.

U.....U.S.A. model

A.....Australian model

C.....Canadian model

G.....European model

R.....General model

L.....Singapore model

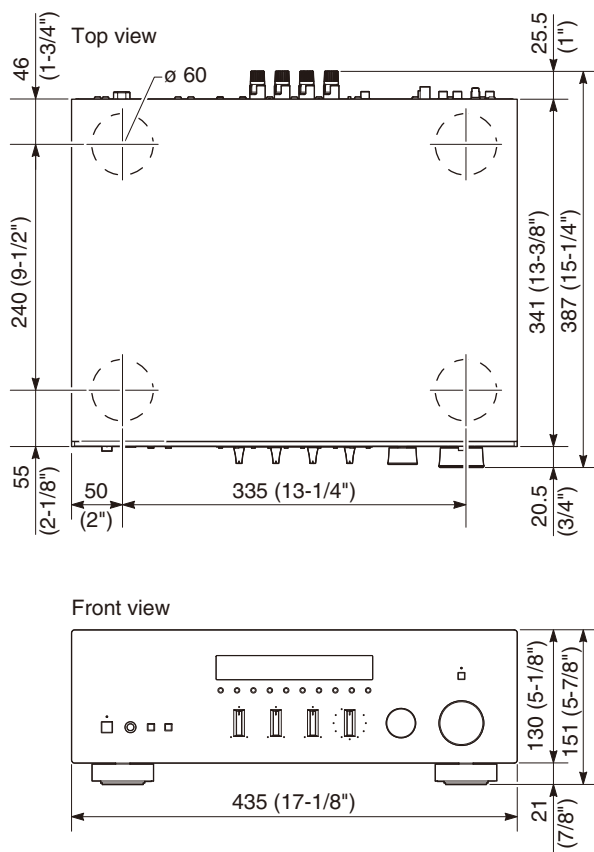
**iPhone, iPod**

iPhone, iPod, iPod classic, iPod nano and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries.

**Bluetooth™**

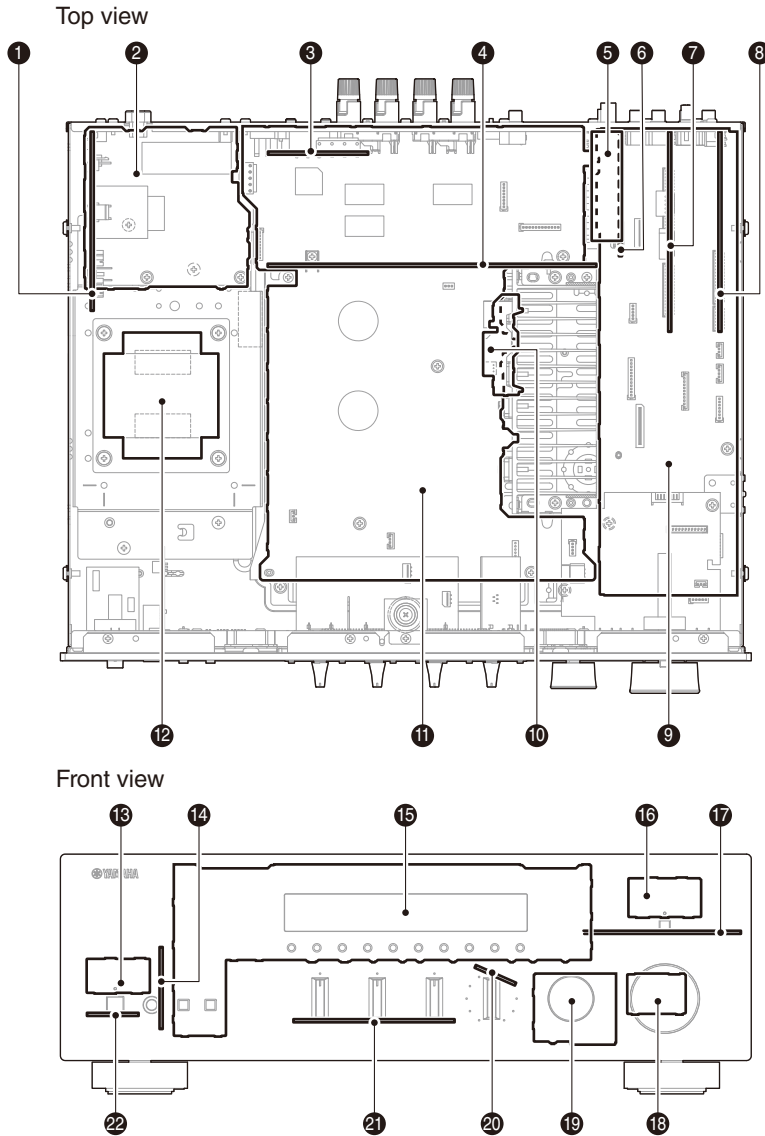
Bluetooth is a registered trademark of the Bluetooth SIG and is used by Yamaha in accordance with a license agreement.

• **DIMENSIONS**



Unit: mm (inch)

## INTERNAL VIEW



- ① OPERATION (12) P.C.B.
- ② OPERATION (13) P.C.B.
- ③ OPERATION (14) P.C.B. (R model)
- ④ MAIN (3) P.C.B.
- ⑤ AM/FM TUNER
- ⑥ DOCK P.C.B.
- ⑦ FUNCTION (2) P.C.B.
- ⑧ FUNCTION (3) P.C.B.
- ⑨ FUNCTION (1) P.C.B.
- ⑩ MAIN (2) P.C.B.
- ⑪ MAIN (1) P.C.B.
- ⑫ POWER TRANSFORMER
- ⑬ OPERATION (11) P.C.B.
- ⑭ OPERATION (6) P.C.B.
- ⑮ OPERATION (1) P.C.B.
- ⑯ OPERATION (10) P.C.B.
- ⑰ OPERATION (2) P.C.B.
- ⑱ OPERATION (7) P.C.B.
- ⑲ OPERATION (5) P.C.B.
- ⑳ OPERATION (4) P.C.B.
- ㉑ OPERATION (3) P.C.B.
- ㉒ OPERATION (8) P.C.B.

## SERVICE PRECAUTIONS

### Safety measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there.  
Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.

C135, C136 on MAIN (1) P.C.B.

For details, refer to "PRINTED CIRCUIT BOARDS: MAIN (1) P.C.B."

## ■ DISASSEMBLY PROCEDURES

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

### 1. Removal of Top Cover

- Remove 4 screws (①), 4 screws (②) and screw (③). (Fig. 1)
- Remove the top cover. (Fig. 1)

### 2. Removal of Front Panel Unit

- Remove screw (④) and then remove the support top. (Fig. 1)
- Pull out the knobs and caps. (Fig. 1)
- Remove 7 screws (⑤). (Fig. 1)
- Remove the front panel unit. (Fig. 1)

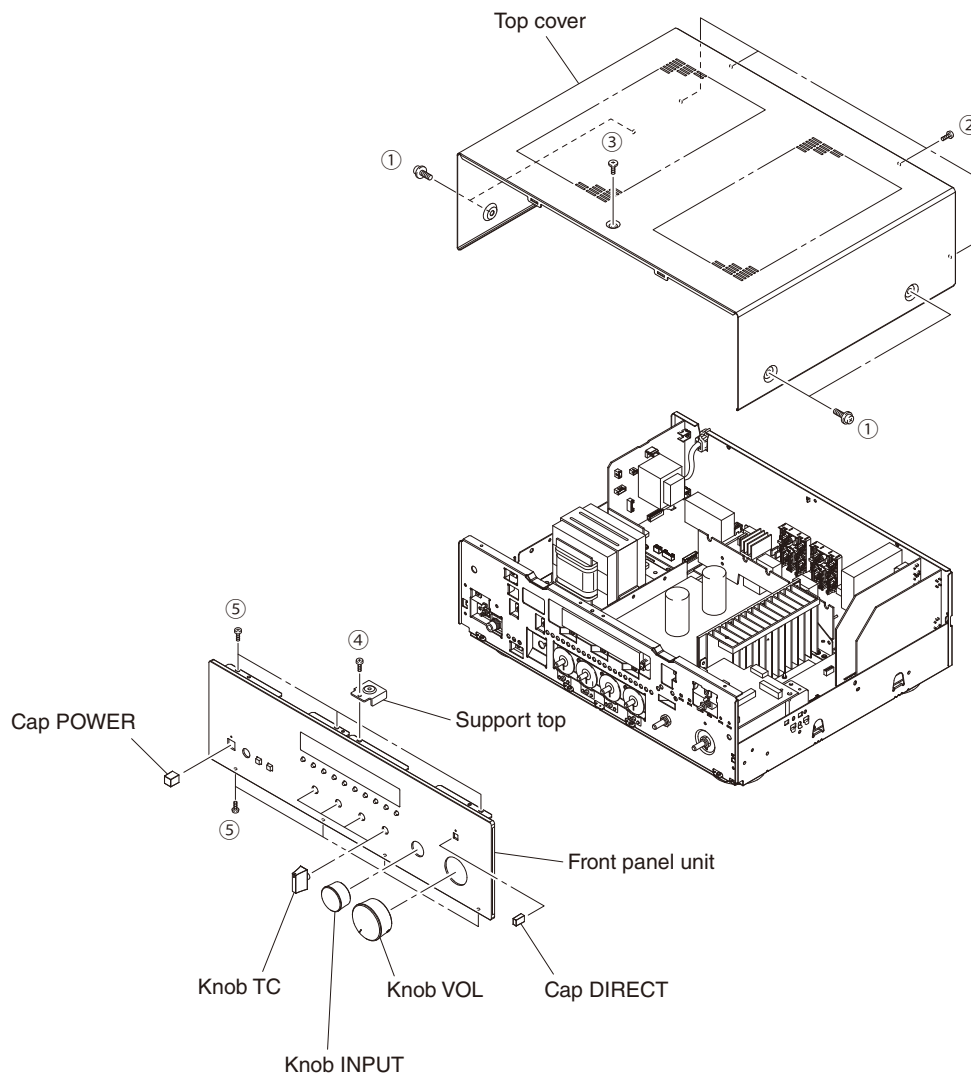


Fig. 1

### 3. Removal of Sub-chassis Unit

- Remove 2 screws (⑥) and screw (⑦). (Fig. 2)
- Remove CB11, CB101, CB503–505, CB513, CB706, CB801 and CB805. (Fig. 2)
- Release 2 hooks and then remove the sub-chassis unit. (Fig. 2)

### 4. Removal of AM/FM Tuner

- Remove 2 screws (⑧). (Fig. 3)
- Remove CB403. (Fig. 2)
- Remove the AM/FM tuner. (Fig. 2)

### 5. Removal of FUNCTION (1)–(3) and DOCK P.C.B.s

- Remove 7 screws (⑨). (Fig. 3)
- Remove screw (⑩) and screw (⑪). (Fig. 2)
- Remove CB2, CB14, CB21 and CB506. (Fig. 2)
- Remove the FUNCTION (1)–(3) P.C.B.s and DOCK P.C.B. together. (Fig. 2)

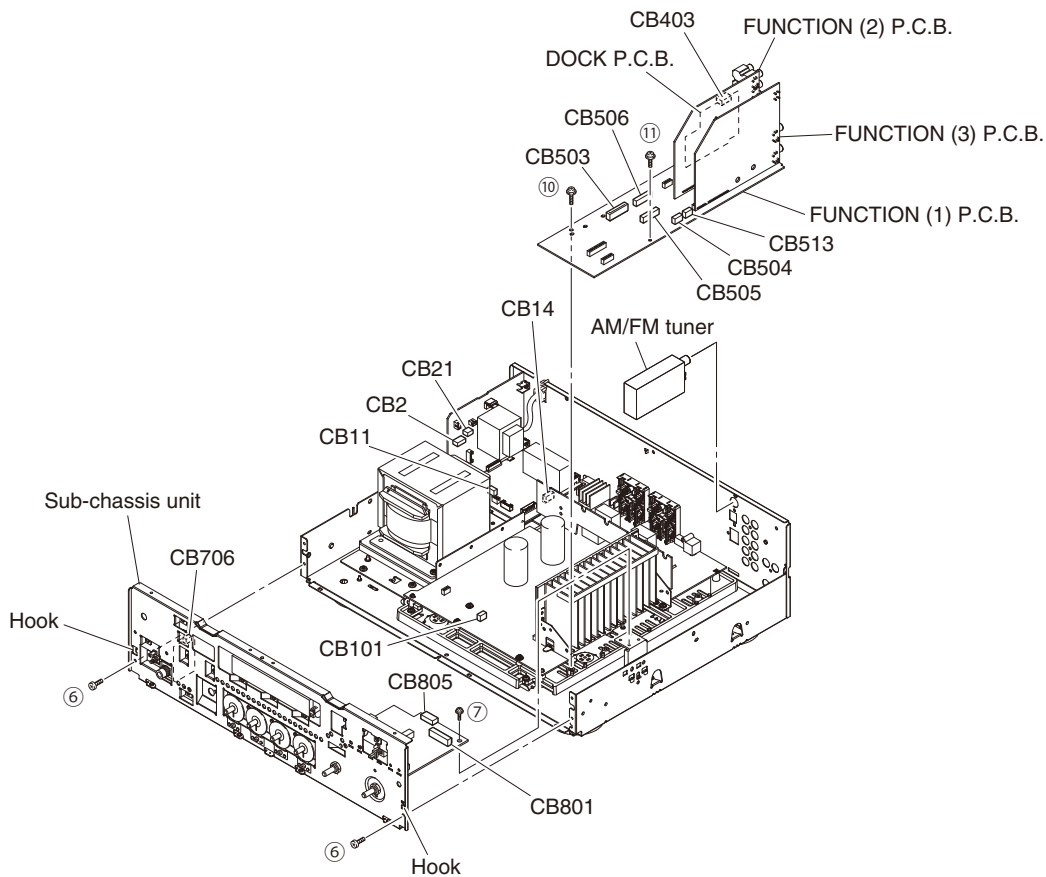


Fig. 2

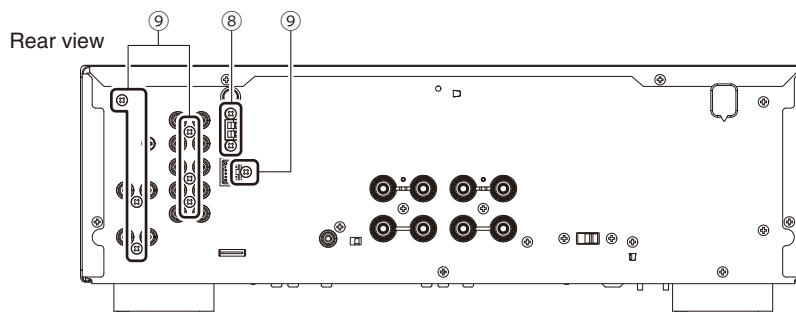


Fig. 3



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

- Put the rubber sheet and cloth over this unit. Then place the sub-chassis unit on the cloth and check it. (Fig. 4)
- Connect the ground point of the sub-chassis unit to the chassis with a ground lead or the like. (Fig. 4)
- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flexible flat cable, be careful with polarity.

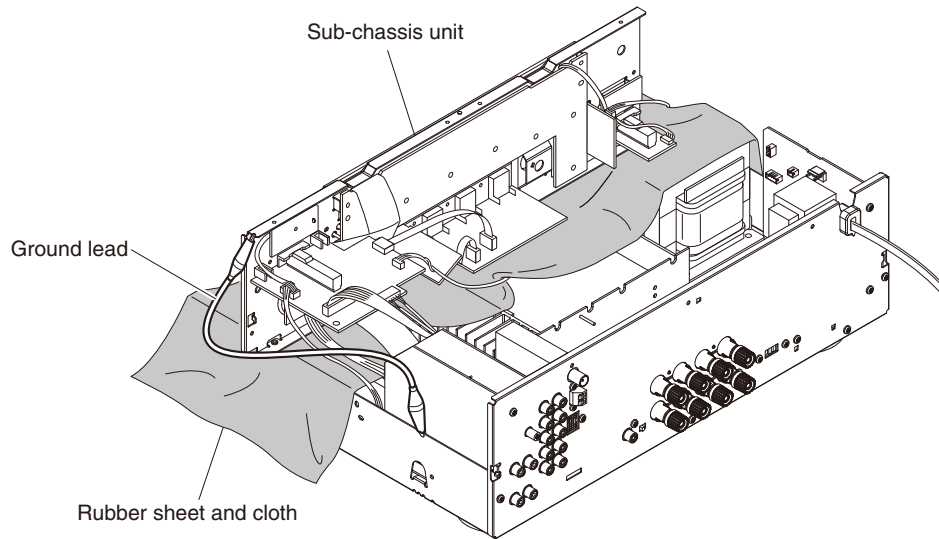


Fig. 4

**When checking the MAIN (1) P.C.B.:**

- Spread the rubber sheet and the cloth. Then place this unit upside down. (Fig. 5)
- Remove 6 screws (12) and then remove the chassis cover. (Fig. 5)

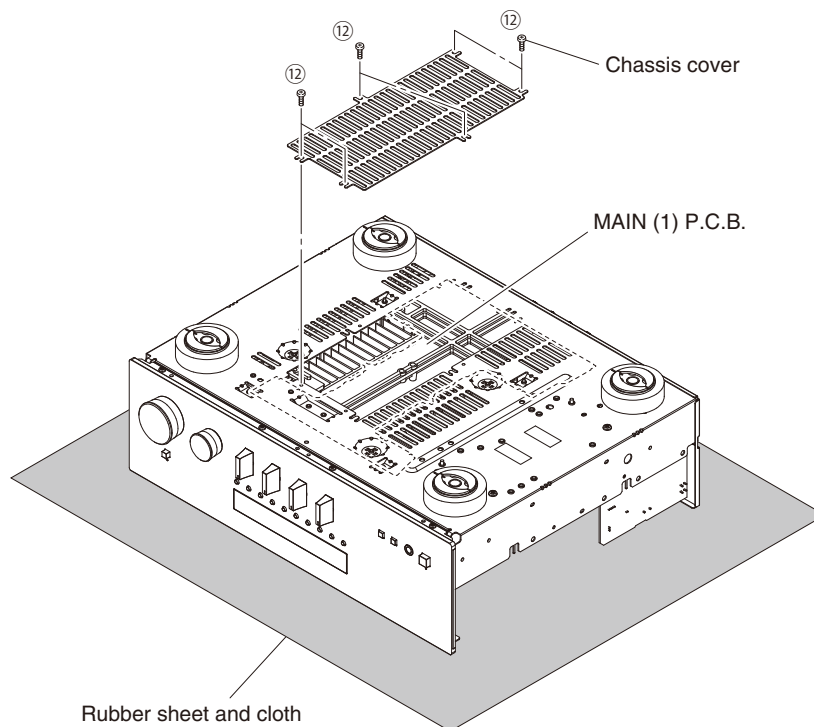


Fig. 5

## ■ UPDATING FIRMWARE

When the following parts are replaced, the firmware must be updated to the latest version.

FUNCTION P.C.B.

Microprocessor (IC502 on FUNCTION P.C.B.)

### ● Confirmation of firmware version and checksum

Before and after updating the firmware, check the firmware version and checksum by using the self-diagnostic function menu.

Start up the self-diagnostic function and select "1. FIRMWARE VERSION" menu.

Using the sub-menu, have the firmware version and checksum displayed, and note them down.

(See "SELF-DIAGNOSTIC FUNCTION")

\* When the firmware version is different from written one, perform the UPDATING FIRMWARE from the beginning.

### ● Initializing the back-up IC (EEPROM: IC503 on FUNCTION P.C.B.)

After updating the firmware, the back-up IC MUST be initialized by the following procedure to have proper memorization of the set up information.

Start up the self-diagnostic function and select "3. FACTORY PRESET" menu.

(See "SELF-DIAGNOSTIC FUNCTION")

Select "3. PRESET RSRV", press the "⏻" (Power) key to turn off the power once and turn on the power again. Then the back-up IC is initialized.

### ● Required Tools

- Firmware downloader program  
..... FlashSta.exe
- Firmware  
..... RSx00\_xxx.mot  
..... RSx00\_xxx.id
- RS-232C 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
- RS-232C conversion adaptor (Part No.: WR492800)

### ● Preparation and precautions

- Download the firmware downloader program and the latest firmware from the specified download source to the same folder of the PC.
- Prepare the above specified RS-232C cross cable.
- While writing the firmware, keep the other application software on the PC closed. It is also recommended to keep the software on the task tray closed as well.

## ● Connection

- \* Disconnect the power cable of this unit from the AC outlet.
- Set the switch (SW7) of RS-232C conversion adaptor to the “FLASH UCOM” position. (Fig. 1)
- Connect the writing port (CB509 on FUNCTION P.C.B.) located on the rear panel of this unit to the serial port (RS-232C) of the PC with RS-232C cross cable, RS-232C conversion adaptor and flexible flat cable as shown below. (Fig. 1)

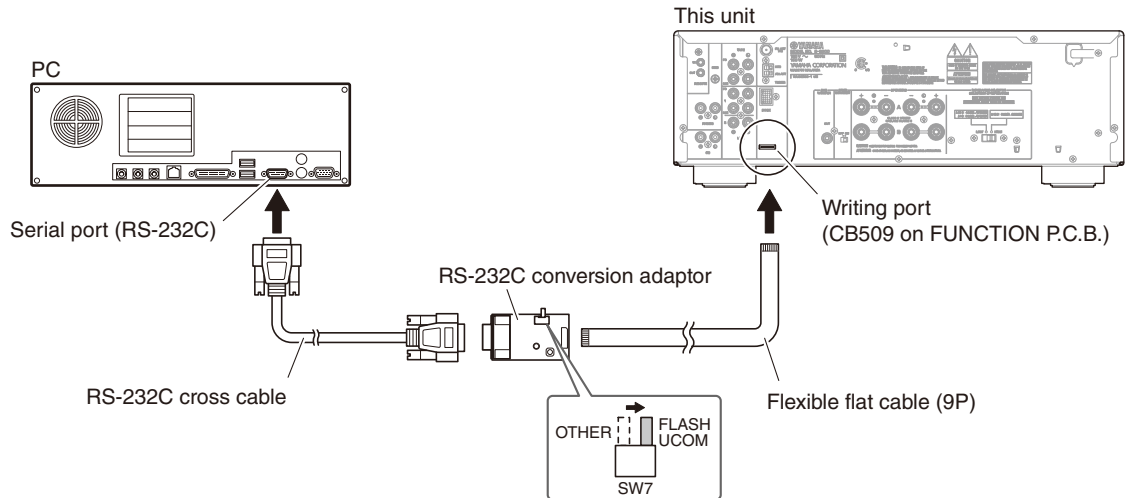


Fig. 1

## ● Operation procedure

1. Connect the power cable of this unit to the AC outlet.  
The power to this unit is supplied and the microprocessor is in the writing mode.
  2. Start up FlashSta.exe.  
The screen appears as shown below. (Fig. 2)
  3. Select the data to be transmitted and port. (Fig. 2)
    - Select Program  
Select Internal flash memory.
    - RS-232C  
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.

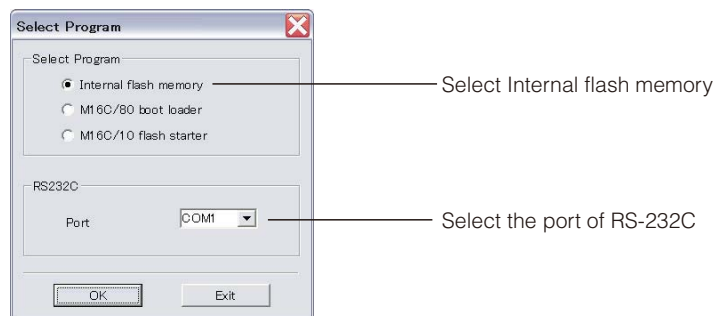


Fig. 2

4. Click [Refer...] and select the firmware name. (Fig. 3)

\* The ID and MCU Type are loaded automatically when the file is selected. (Fig. 3)  
Click [OK]. (Fig. 3)

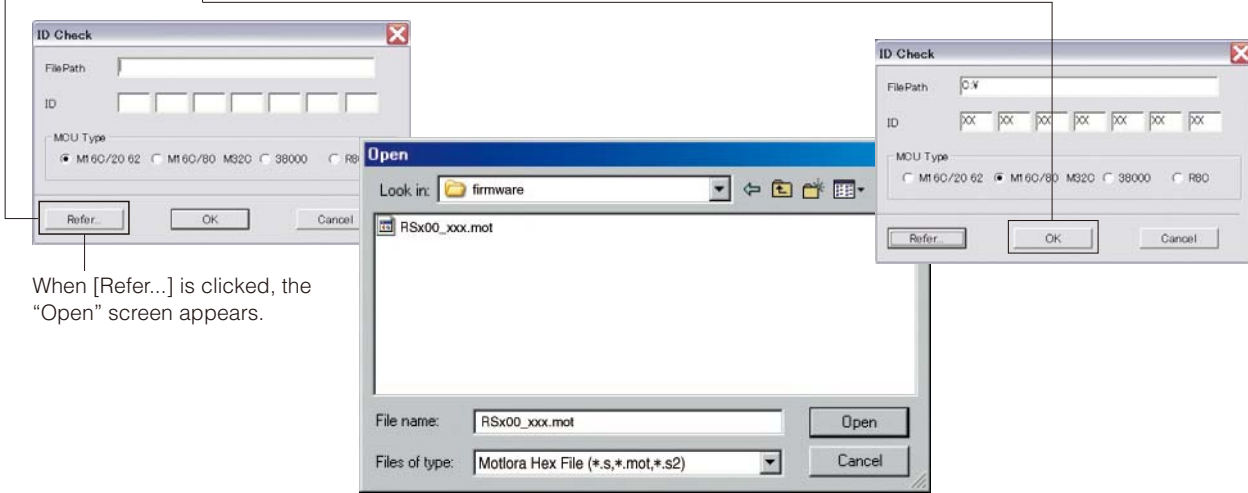


Fig. 3

5. Click [Setting], and set the baud rate. (Fig. 4)

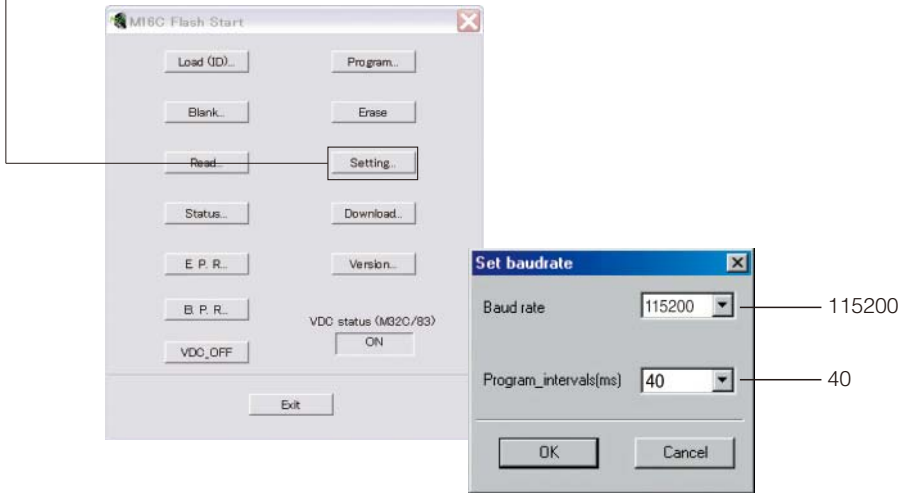


Fig. 4

6. Click [E.P.R.], then the “Erase” screen appears. (Fig. 5)

7. Click [OK] to start writing. (Fig. 5)

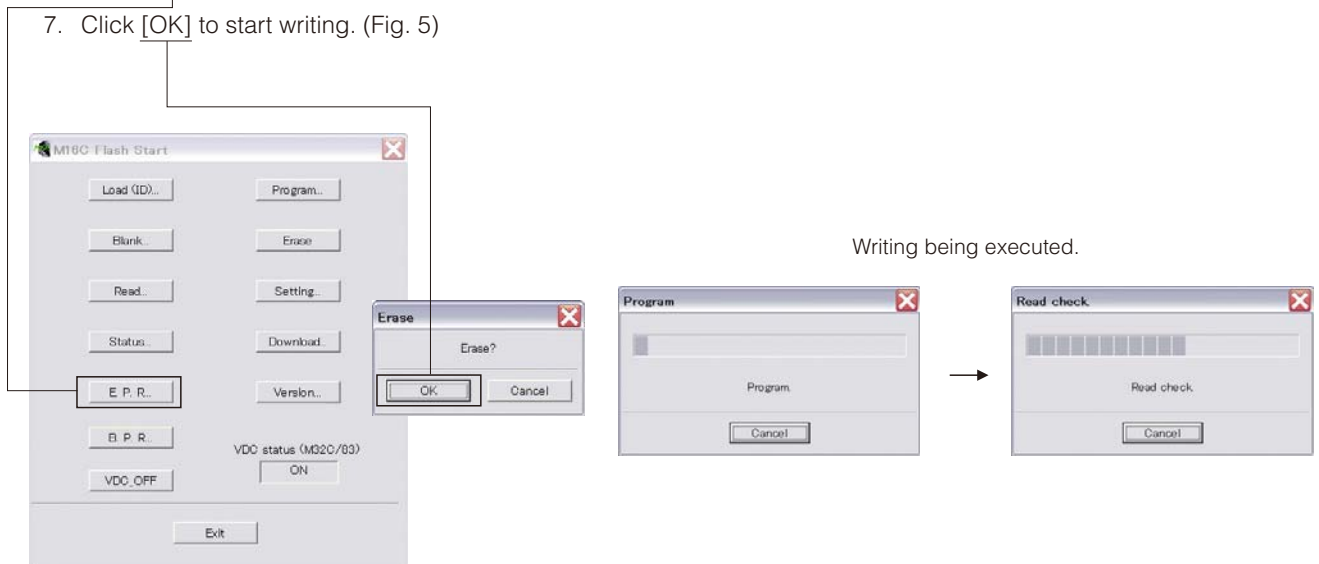


Fig. 5

8. When writing of the firmware is completed, the screen appears as shown below. (Fig. 6)

Click [OK]. (Fig. 6)

9. Click [Exit] to end FlashSta.exe. (Fig. 6)

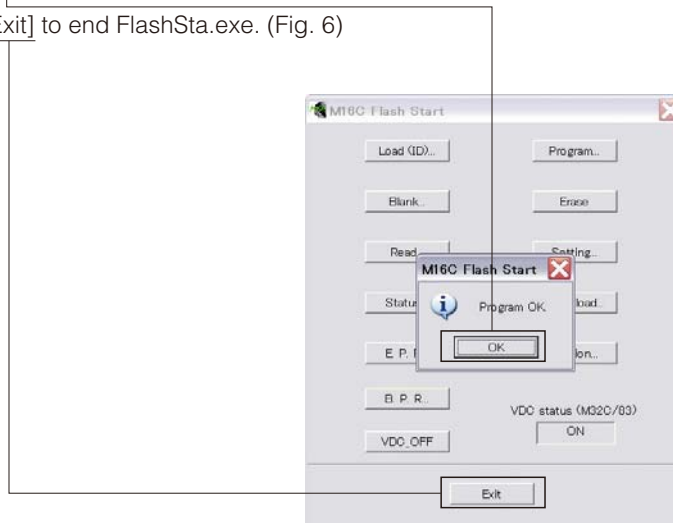


Fig. 6

10. Disconnect the power cable of this unit from the AC outlet.

11. Remove the RS-232C conversion adaptor and flexible flat cable from the writing port of this unit.

12. Connect the power cable of this unit to the AC outlet, start up the self-diagnostic function and check that the firmware version and checksum are the same as written ones. (See “Confirmation of firmware version and checksum”)

## ■ SELF-DIAGNOSTIC FUNCTION

This unit has self-diagnostic functions that are intended for inspection, measurement and location of faulty point.

There are 8 main menu items, each of which has sub-menu items.

Listed in the table below are main menu items and sub-menu items.

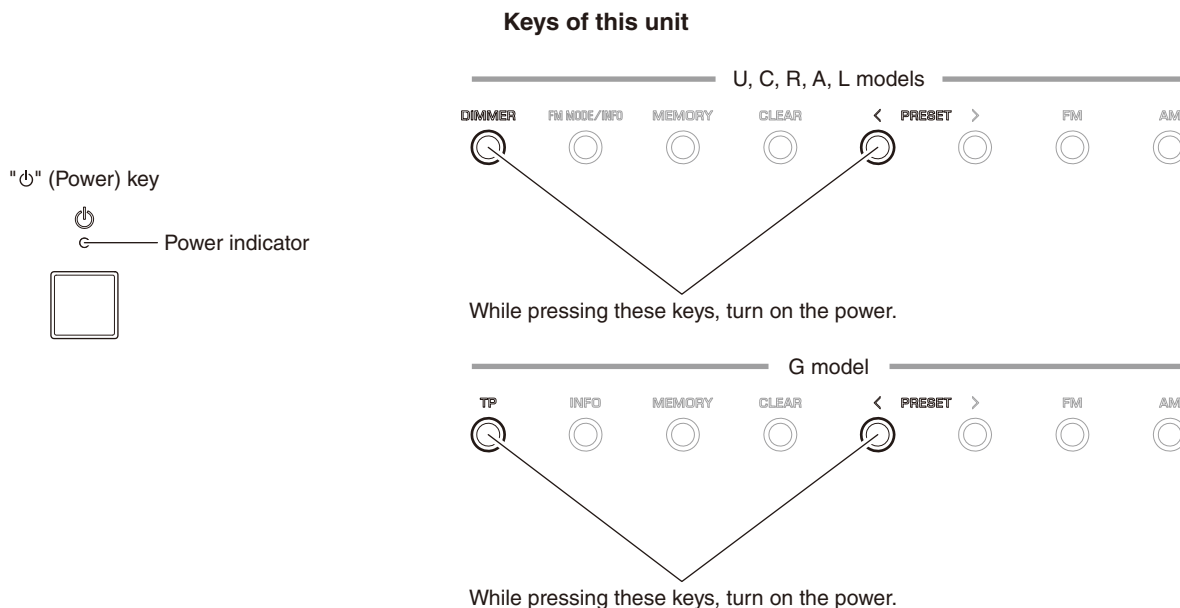
Note that not all menu items listed will apply to the models covered in this service manual.

No.	Main menu	No.	Sub-menu
1	VERSION	1	FIRMWARE VERSION
		2	FIRMWARE CHECKSUM
		3	SIRIUS VERSION (U model)
		4	MODEL/DESTINATION
		5	VERIFY ERROR (Not for service )
2	DISPLAY	1	VFD CHECK
		2	ALL SEGMENT OFF
		3	ALL SEGMENT ON
		4	ALL SEGMENT DIMMER
		5	CHECK PATTERN
3	FACTORY PRESET	1	PRESET INHIBIT
		2	PRESET RESERVE
4	AD DATA	1	PS/DC
		2	TA/TB
		3	KEY 0/KEY 1
		4	REC OUT SWITCH/DOCK TYPE
		5	MODEL/DESTINATION
5	DOCK	1	LOOP BACK CHECK
		2	BT VERSION
6	PROTECTION HISTORY	1	HISTORY 1
		2	HISTORY 2
		3	HISTORY 3
		4	HISTORY 4
7	SIRIUS (Not for service)	1	SIRIUS
		2	SR
		3	SSP
		4	MAC
		5	ADP
		6	PRDID
		7	SEQID
8	POWER OFF FACTOR HISTORY	1	LAST
		2	HISTORY 1
		3	HISTORY 2
		4	HISTORY 3
		5	HISTORY 4

## ● Starting Self-Diagnostic Function

While pressing the “DIMMER” (U, C, R, A, L models) / “TP” (G model) and “PRESET <” keys, press the “⏻” (Power) key to turn on the power.

The self-diagnostic function mode is activated.



## ● Starting Self-Diagnostic Function in the protection cancel mode

If the protection function works and causes hindrance to trouble shoot, cancel the protection function as described below, and it will be possible to enter the self-diagnostic function mode. The protection functions other than the excess current detect function will be disabled.

While pressing the “DIMMER” (U, C, R, A, L models) / “TP” (G model) and “PRESET <” keys as shown in the figure above, press the “⏻” (Power) key to turn on the power and keep pressing those 2 keys for 3 seconds or longer.

The self-diagnostic function mode is activated with the protection functions disabled.

In this mode, the “SLEEP” segment of the FL display flashes to indicate that the mode is self-diagnostic function mode with the protection functions disabled.

### CAUTION!

Using this product with the protection function disabled may cause further damage to this unit. Use special care for this point when using this mode.

## ● Canceling Self-Diagnostic Function

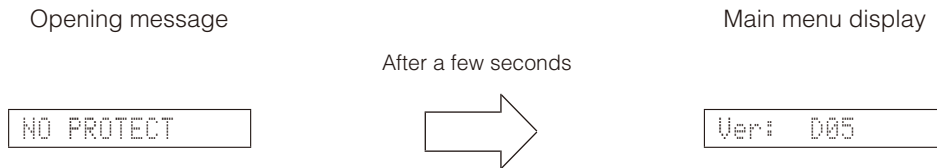
1. Before canceling self-diagnostic function, execute setting for FACTORY PRESET of main menu No. 3. (Memory initialization inhibited or Memory initialized).
  - \* In order to keep the user memory preserved, be sure to select PRESET INHIBIT (Memory initialization inhibited).
2. Press the “⏻” (Power) key to turn off the power.

## ● Display provided when Self-Diagnostic Function started

The display is as described below depending on the situation the last time the power to this unit is turned off.

### 1. When the power is turned off by usual operation:

“NO PROTECT” is displayed. Then the “1-1. FIRMWARE VERSION” menu is displayed in a few seconds.



### 2. When the protection function worked to turn off the power:

The data of protection function which worked at the moment is displayed. Then “1-1. FIRMWARE VERSION” menu is displayed in a few seconds.

Note: At that time if you reactivate the self-diagnostic function after turning off the power once by pressing the “⏻” (Power) key, “NO PROTECT” will be displayed because that situation is equal to “1. When the power is turned off by usual operation.” described above.

However the protection function history is stored in a back-up IC with a backup. For details, refer to main menu “6. PROTECTION HISTORY.”

#### 2-1. When there is a history of protection function due to excess current.

I PROTECT

**Display:** The Power indicator is flashing.

**Cause:** An excessive current flowed through the power amplifier.

**Supplementary information:** As current of the power amplifier is detected, the abnormal channel can be identified by checking the current detect transistor.

Turning on the power without correcting the abnormality will cause the protection function to work immediately and the power supply will instantly be shut off.

#### Notes)

- Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if protection function due to excess current works 1 time, the power will not turn on even when the “⏻” (Power) key is pressed. In order to turn on the power again, disconnect the power cable of this unit from the AC outlet once and then reconnect it again.
- The output transistors in each amplifier channel should be checked for damage before applying power to this unit.
- Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.



## 2-2. When the protection function worked due to abnormal DC output.

DC FRT:xxxH

AD conversion value when the protection function is working

**Cause:** DC output of the power amplifier is abnormal.

**Supplementary information:** The protection function worked due to a DC voltage appearing at the speaker terminal. A cause could be a defect in the amplifier.

Turning on the power without correcting the abnormality will cause the protection function to work in 3 seconds and the power supply will be shut off.

## 2-3. When the protection function worked due to abnormal voltage in the power supply section.

PS FRT:xxxL

AD conversion value when the protection function is working

**Cause:** The voltage in the power supply section is abnormal.

**Supplementary information:** The protection function worked due to a defect or overload in the power supply.

Turning on the power without correcting the abnormality will cause the protection function to work in 1 seconds and the power supply will be shut off.

### Notes)

- Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if “PS” and “DC” protection function works 3 times consecutively, the power will not turn on even when the “ $\phi$ ” (Power) key is pressed. In order to turn on the power again, disconnect the power cable of this unit from the AC outlet once and then reconnect it again.
- The output transistors in each amplifier channel should be checked for damage before applying power to this unit.
- Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.

## 2-4. When the protection function worked due to excessive heatsink temperature.

THA FRT:xxxH

AD conversion value when the protection function is working

**Cause:** The temperature of the heatsink is excessive.

**Supplementary information:** The protection function worked due to the temperature limit being exceeded. Causes could be poor ventilation or a defect related to the thermal sensor.

Turning on the power without correcting the abnormality will cause the protection function to work in 1 seconds and the power supply will be shut off.

### ● History of protection function

When the protection function has worked, its history is stored in memory with a backup.

Even if no abnormality is noted while servicing the unit, an abnormality which has occurred previously can be defined as long as the backup data has been stored.

For details, refer to main menu 6 PROTECTION HISTORY.

## ● Operation procedure of Main menu and Sub-menu

There are 8 main menu items, each of which has sub-menu items.

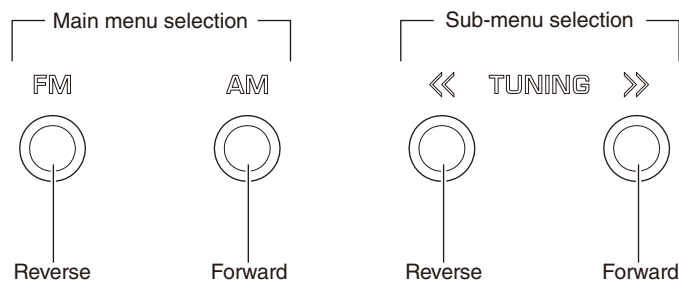
### Main menu selection

Select the main menu using "AM" (forward) and "FM" (reverse) keys.

### Sub-menu selection

Select the sub-menu using "TUNING >>" (forward) and "TUNING <<" (reverse) keys.

#### Keys of this unit



## ● Functions in Self-Diagnostic Function mode

In addition to the self-diagnostic function menu items, functions as listed below are available.

- Power ON/OFF
- Master volume
- Tone control
- PURE DIRECT ON/OFF

\* Functions related to the tuner and the set menu are not available.

## ● Initial settings when Self-Diagnostic Function started

The following initial settings are used when starting self-diagnostic function.

When self-diagnostic function is canceled, these settings are restored to those before starting self-diagnostic function.

- Master volume:        -20 dB
- Input:                 CD
- SPEAKER:            SP A on

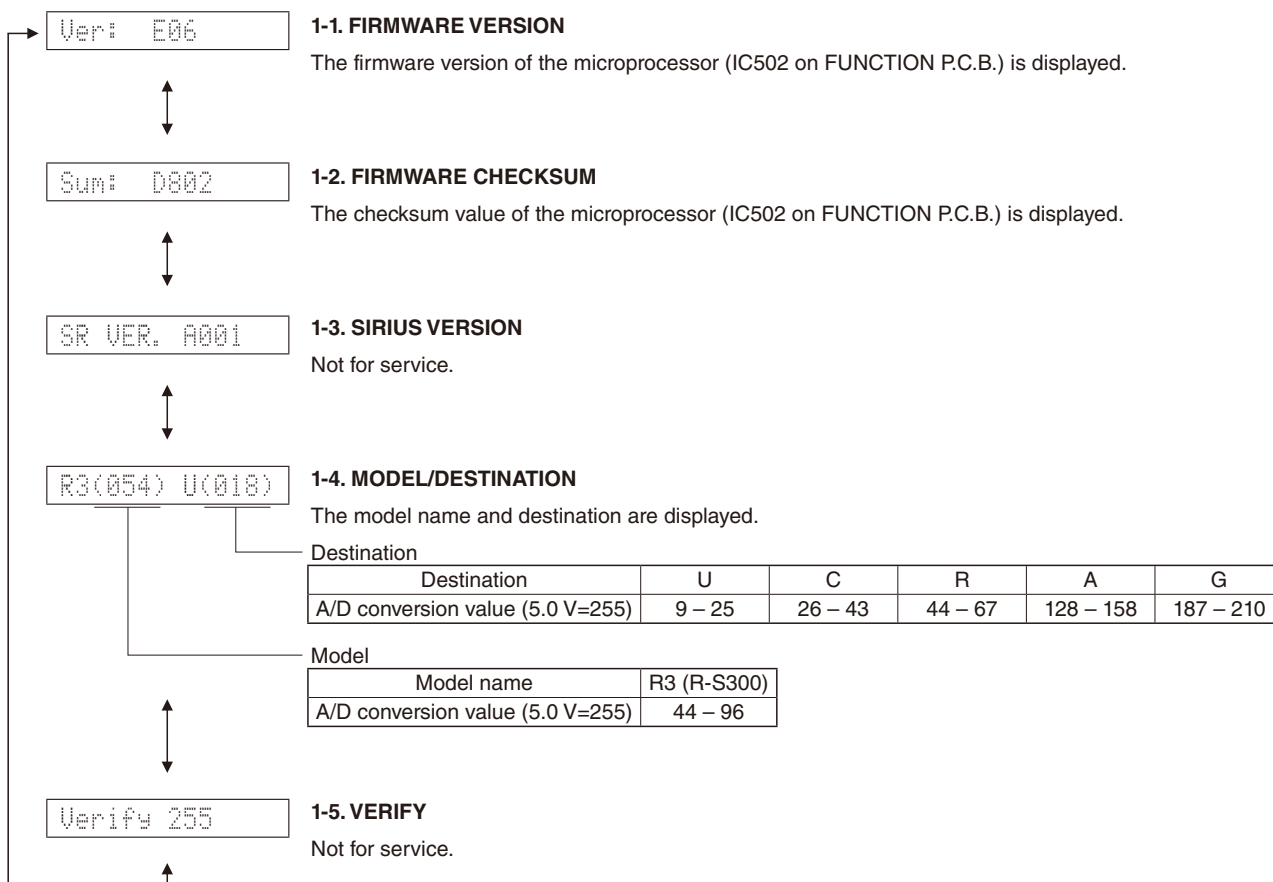
## ● Details of Self-Diagnostic Function menu

### 1. VERSION

The firmware version and checksum values are displayed.

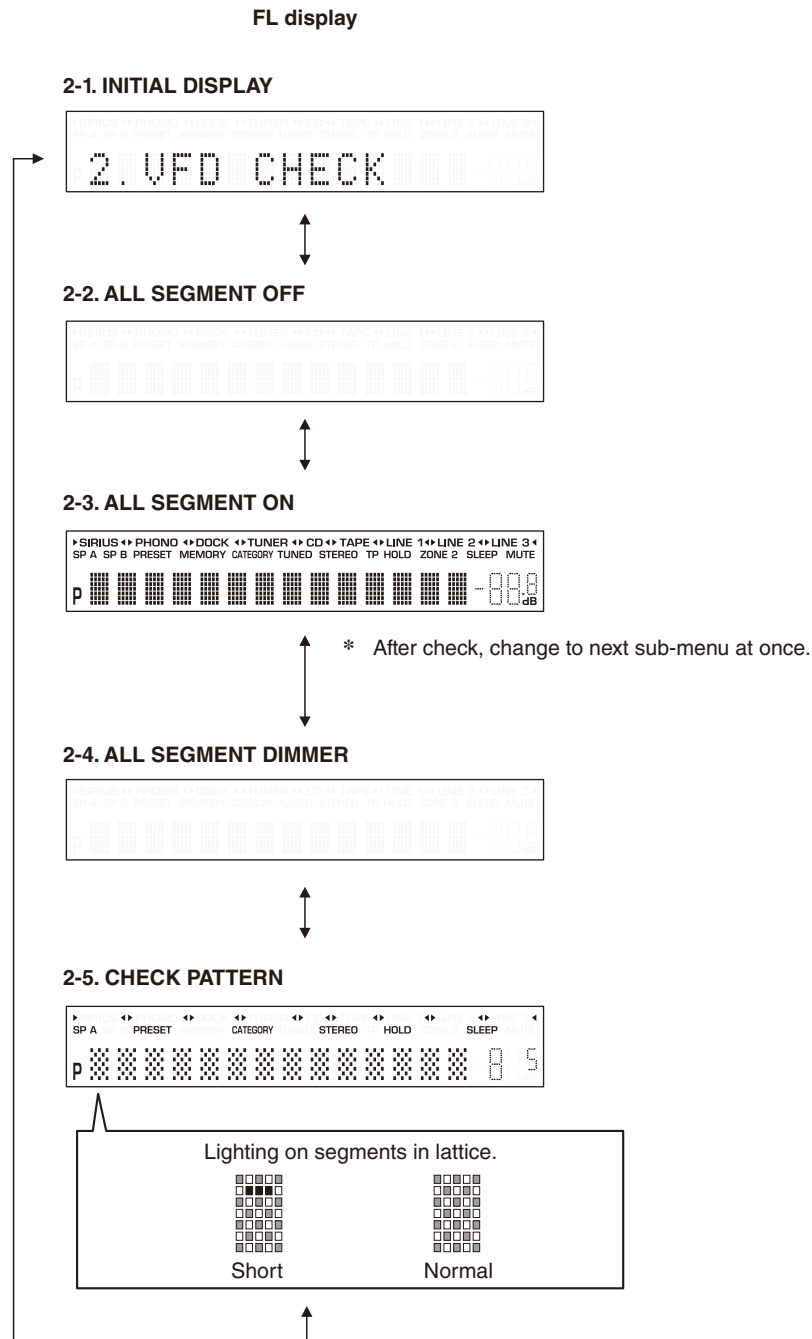
The checksum is obtained by adding the data at every 8-bit and expressing the result as a 4-figure hexadecimal notation.

\* Numeric values in the figure are given as reference only.



## 2. DISPLAY

This menu is used to check the FL display.



Segment conditions of the FL driver and the FL tube are checked by turning ON and OFF all segments.

Next, the operation of the FL driver is checked by using the dimmer control.

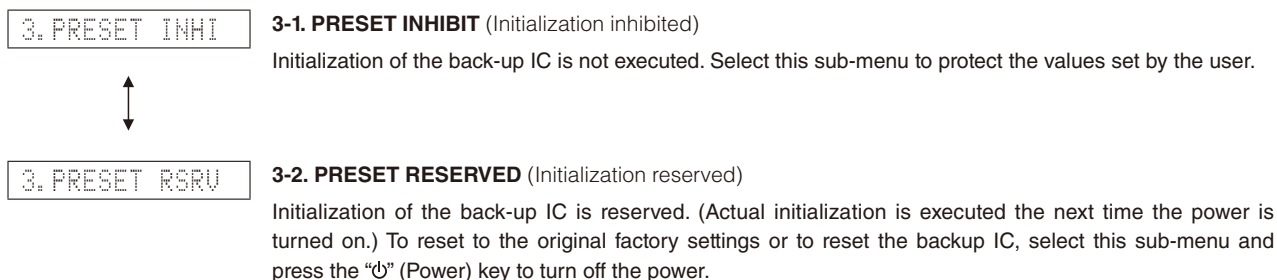
Then a short between segments next to each other is checked by turning ON and OFF all segments alternately (in lattice).

(In the above example, the segments in the second row from the top are shorted.)

R-S300

### 3. FACTORY PRESET

This menu is used to reserve/inhibit initialization of the back-up IC (EEPROM: IC503 on FUNCTION P.C.B.).



**CAUTION:** Before setting to the PRESET RESERVED, write down the existing preset memory content of the tuner. (This is because setting to the PRESET RESERVED will cause the user memory content to be erased.)

### 4. AD DATA

This menu is used to display the A/D conversion value of the microprocessor which detects panel keys and protection functions by using the sub-menu.

When "4-3. KEY 0/KEY 1" sub-menu is selected, keys become non-operable due to detection of the values of all keys. However, it is possible to advance to the next sub-menu by turning the "INPUT" knob.

\* Numeric values in the figure are given as reference only.

#### 4-1. PS/DC

**PS:** Power supply voltage protection detection

The voltage at 93 pin (PRV) of the IC502 is displayed.

Voltage detects:

PS: ACL, AC15, ±15, +5S, +15UNREG (R model)

Normal value:

PS: 36 to 77 (Reference voltage: 5.0 V=255)

\* If PS becomes out of the normal value range, the protection function works to turn off the power.

**DC:** Power amplifier DC (DC voltage) output is detected.

The voltage at 89 pin (PRD) of the IC502 is displayed.

Normal value: 48 to 128 (Reference voltage: 5.0 V=255)

\* If DC becomes out of the normal value range, the protection function works to turn off the power.

PS:057 DC:090

**4-2. TA/TB**

Temperature of the heatsink is detected.

TA: The voltage at 84 pin (THM\_L) of the IC502 is displayed.

TB: Not for service.

Normal value: TA 10 to 85 (Reference voltage: 5.0 V=255)

\* If TA becomes out of the normal value range, the protection function works to turn off the power.


**4-3. KEY 0/KEY 1**

Panel key is detected.

KEY 0: The voltage at 95 pin (KEY0) of the IC502 is displayed.

KEY 1: The voltage at 94 pin (KEY1) of the IC502 is displayed.

(Reference voltage: 5.0 V=255)

When the A/D conversion value of the panel key becomes out of the specified range, normal operation will not be available.

In that case, check the constant of voltage dividing resistor, solder condition, etc. Refer to table.

\* When "4-3. KEY 0/KEY 1" sub-menu is selected, keys become non-operable due to detection of the values of all keys. However, it is possible to advance to the next sub-menu by turning the "INPUT" knob of this unit.

(Reference voltage: 5.0 V=255)



KEY1

KEY0

Display	K0
0 – 11	DIMMER (U, C, R, A, L models)
	TP (G model)
12 – 32	FM MODE / INFO
33 – 54	MEMORY
55 – 79	CLEAR
80 – 107	–
108 – 134	SPEAKERS A
135 – 156	SPEAKERS B
157 – 255	Key off

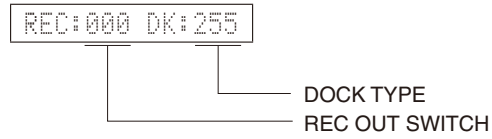
Display	K1
0 – 11	PRESET <
12 – 32	PRESET >
33 – 54	FM
55 – 79	AM
80 – 107	TUNING <<
108 – 134	TUNING >>
135 – 156	–
157 – 255	Key off

#### 4-4. REC OUT SWITCH/DOCK TYPE

**REC OUT SWITCH:** Not for service.

**DOCK TYPE:** DOCK type is detected.

The voltage at 69 pin (DOCK\_TYP) of the IC502 is displayed. (Reference voltage: 5.0 V=255)



##### DOCK TYPE

DOCK type	Bluetooth (YBA-10)	Wireless iPod (YID-W10)	iPod		No connected
			(YDS-11/12 (B*))	(YDS-12 (A*))	
A/D conversion value (5.0 V=255)	0 – 32	82 – 109	110 – 146	147 – 175	238 – 255

\* Mode switch setting of the YDS-12

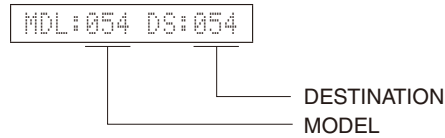
#### 4-5. MODEL/DESTINATION

**MODEL:** Model name is detected.

The voltage at 72 pin (MODEL) of the IC502 is displayed. (Reference voltage: 5.0 V=255)

**DESTINATION:** Destination is detected.

The voltage at 71 pin (DEST) of the IC502 is displayed. (Reference voltage: 5.0 V=255)



##### MODEL

A/D conversion value (5.0 V=255)	44 – 96
Model name	R-S300

##### DESTINATION

A/D conversion value (5.0 V=255)	9 – 25	26 – 43	44 – 67	128 – 158	187 – 210
Destination	U	C	R, L	A	G

## 5. DOCK

### 5-1. LOOP BACK CHECK

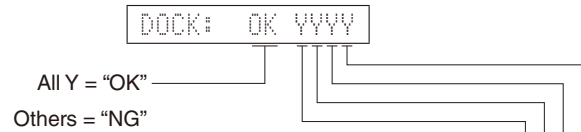
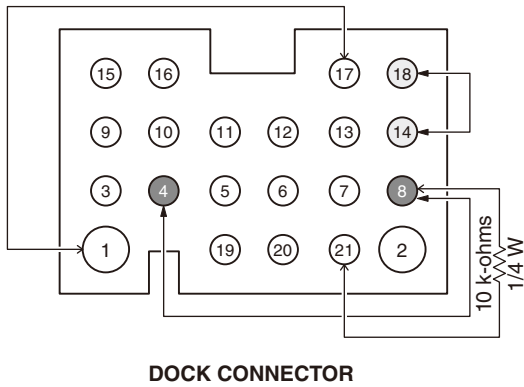
This menu is used to check the DOCK connector without the iPod itself.

With the power turned off, short the pins of the DOCK connector as shown in the figure below.

Start up the self-diagnostic function and select this menu.

The check result is displayed according to the following display specifications.

**Note) Be sure to return the shorted pins to their original condition after executing this test.**



Check item	Result		Display
UART loop back test	OK		Y
	NG		N
IPD_N_APDET (iPod accessory power) detection	IC502 pin No. 23	Low = YES	Y
		High = NO	N
IPD_N_DET (iPod installation to DOCK) detection	IC502 pin No. 68	Low = installed	Y
		High = not installed	N
DOCK_TYP (DOCK ID) detection	IC502 pin No. 69	10 k-ohms, 1/4 W pull down	Y
		Other	N

### 5-2. BT VERSION

The DOCK (Bluetooth module: YBA-10) version is displayed.

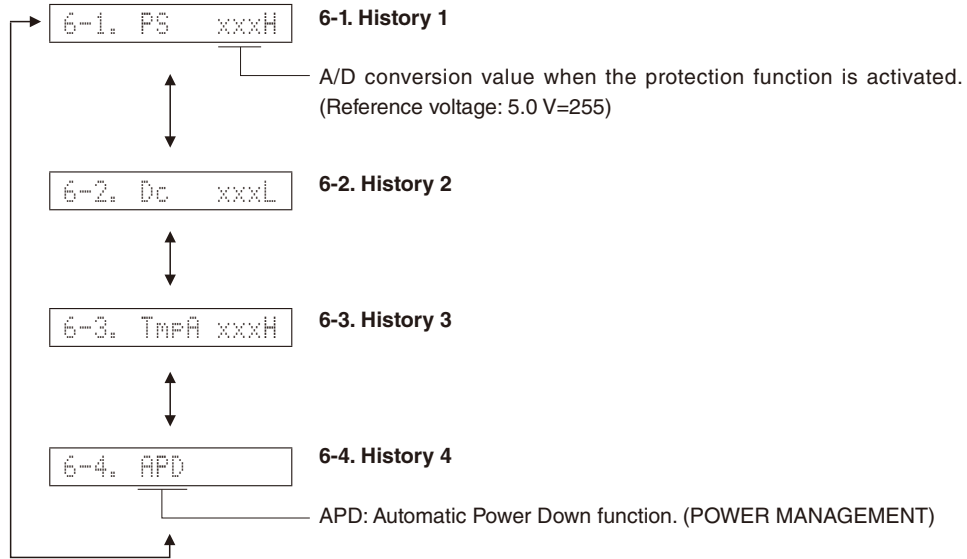




### 6. PROTECTION HISTORY

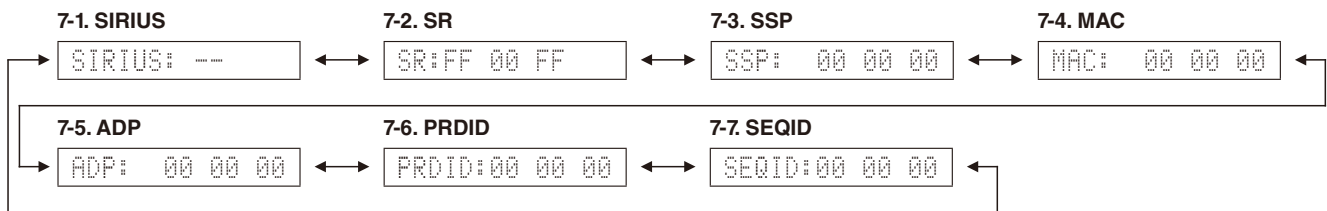
This menu is used to display the history of protection function.  
All history of protection function will be erased by pressing the "CLEAR" key.

\* Numeric values in the figure are given as reference only.



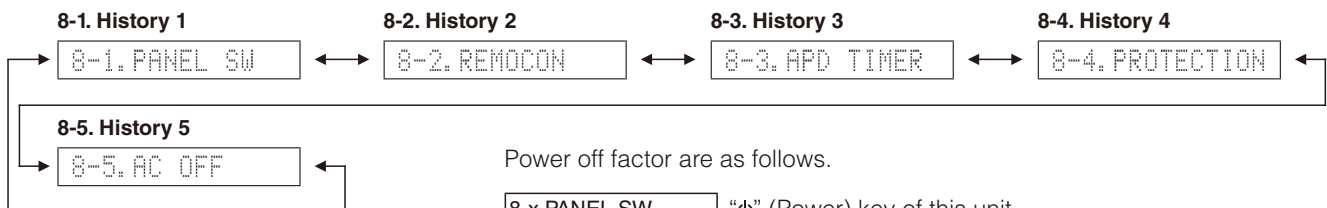
### 7. SIRIUS

Not for service.



### 8. POWER OFF FACTOR HISTORY

This menu is used to display the history of power off factor.



Power off factor are as follows.

8-x PANEL SW	"⏻" (Power) key of this unit
8-x REMOCON	"RECEIVER ⏻" key on the remote control
8-x SLEEP	SLEEP timer
8-x APD TIMER	POWER MANAGEMENT (Automatic Power Down) timer
8-x PROTECTION	Protection
8-x AC OFF	AC OFF
8-x NO HISTORY	No history

## ■ AMP ADJUSTMENT

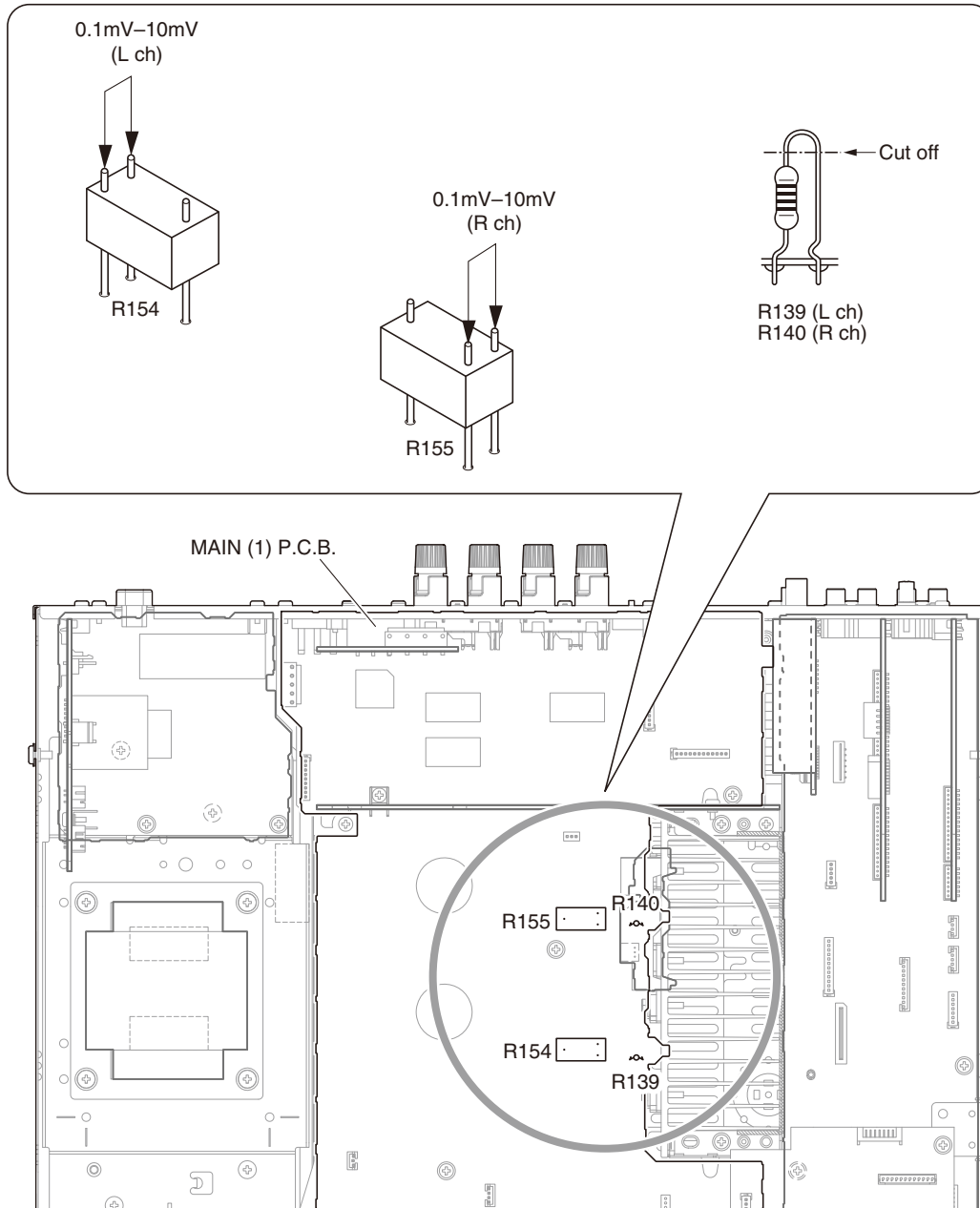
### ● CONFIRMATION OF IDLING CURRENT

1. Right after power is turned on, confirm that the voltage across the terminals of R154 (L ch) and R155 (R ch) are between 0.1 mV and 10 mV.
2. If measured voltage exceeds 10 mV, open (cut off) R139 (L ch), R140 (R ch) and reconfirm the voltage.

#### Attention

If the measured voltage exceeds 10 mV after repairing the power amplifier, check other parts again for any possible defect before cutting the resistor.

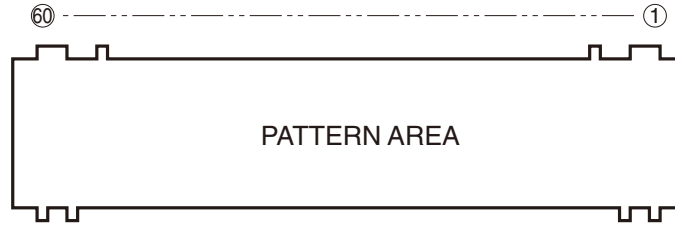
3. Confirm that the voltage is between 0.2 mV and 15 mV after 60 minutes.





## ■ DISPLAY DATA

### ● V701 : 16-BT-164GNK (OPERATION P.C.B.)



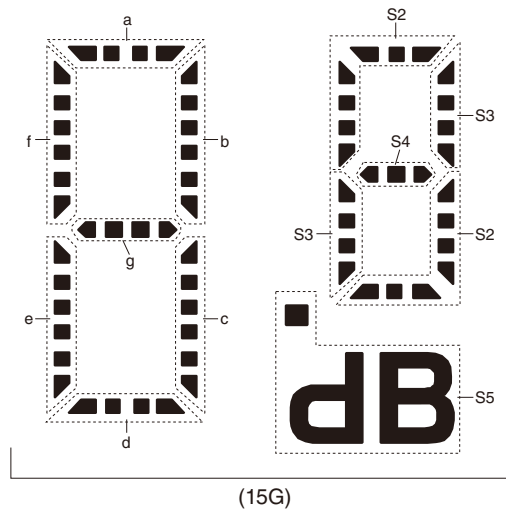
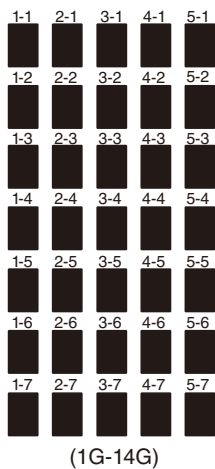
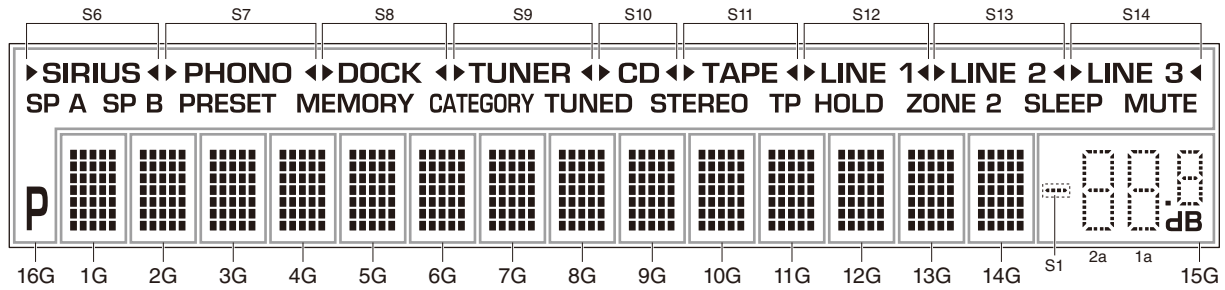
### ● PIN CONNECTION

Pin No.	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
Connection	F2	NX	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31

Pin No.	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	P32	P33	P34	P35	NX	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NX	F1

Note : 1) F1, F2 ..... Filament pin 2) NP ..... No pin 3) NX ..... No extend pin 4) DL ..... Datum line 5) 1G-16G ..... Grid pin

### ● GRID ASSIGNMENT



R-S300

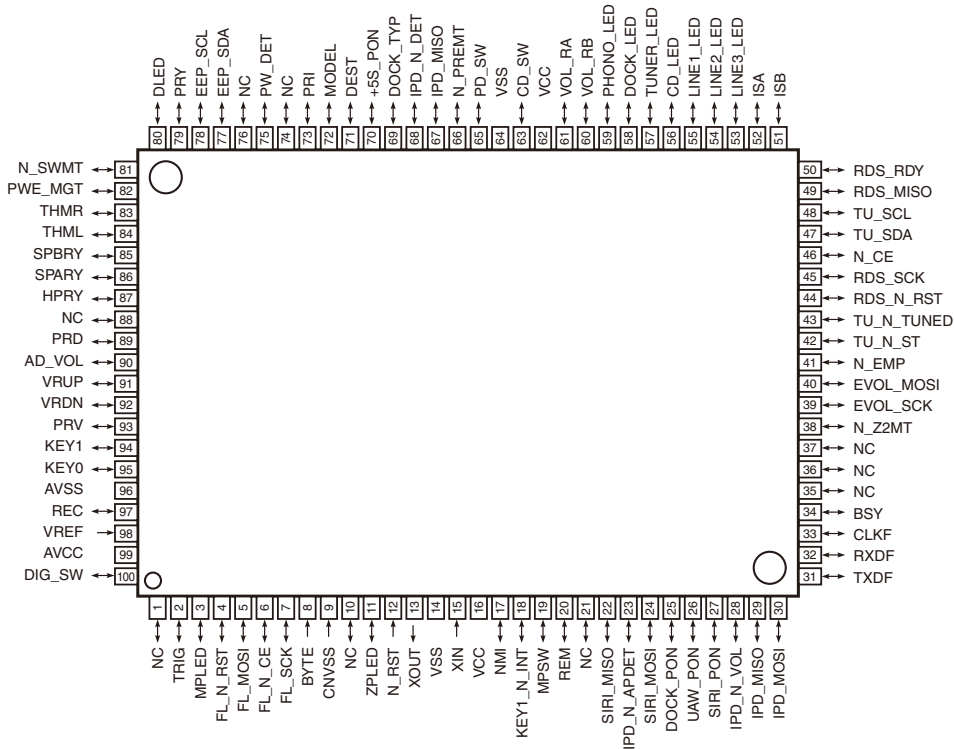
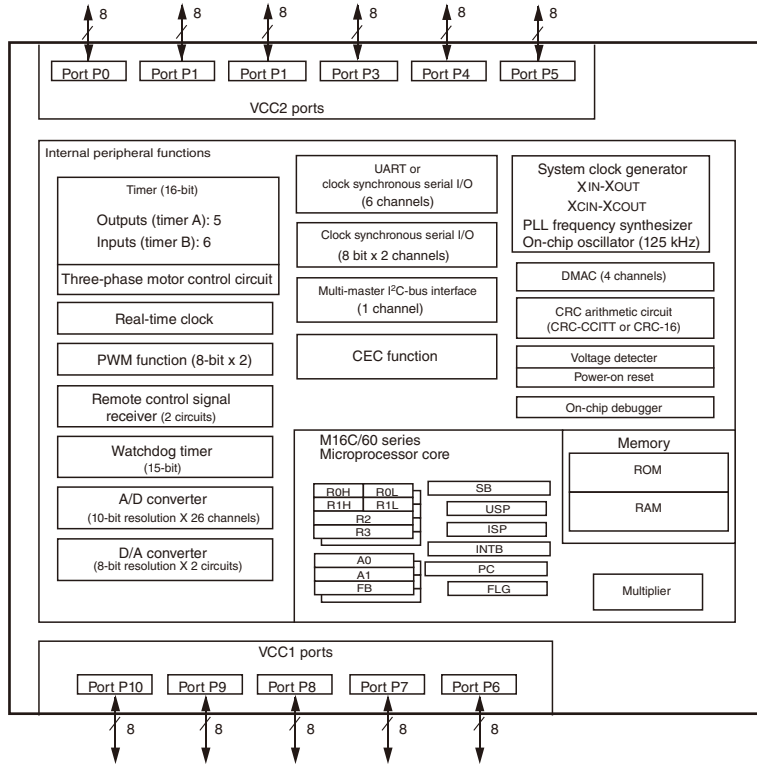
## ● ANODE CONNECTION

	1G-14G	15G	16G
P1	1-1	–	<b>SP A</b>
P2	2-1	–	<b>SP B</b>
P3	3-1	–	<b>PRESET</b>
P4	4-1	–	<b>MEMORY</b>
P5	5-1	–	<b>CATEGORY</b>
P6	1-2	–	<b>TUNED</b>
P7	2-2	–	<b>STEREO</b>
P8	3-2	–	<b>TP</b>
P9	4-2	–	<b>HOLD</b>
P10	5-2	S1	<b>ZONE 2</b>
P11	1-3	2a	<b>SLEEP</b>
P12	2-3	1a	<b>MUTE</b>
P13	3-3	2f	S6
P14	4-3	1f	<b>SIRIUS</b>
P15	5-3	2b	S7
P16	1-4	1b	<b>PHONO</b>
P17	2-4	2g	S8
P18	3-4	1g	<b>DOCK</b>
P19	4-4	2e	S9
P20	5-4	1e	<b>TUNER</b>
P21	1-5	2c	S10
P22	2-5	1c	<b>CD</b>
P23	3-5	2d	S11
P24	4-5	1d	<b>TAPE</b>
P25	5-5	S2	S12
P26	1-6	S3	<b>LINE 1</b>
P27	2-6	S4	S13
P28	3-6	S5	<b>LINE 2</b>
P29	4-6	–	S14
P30	5-6	–	<b>LINE 3</b>
P31	1-7	–	<b>P</b>
P32	2-7	–	–
P33	3-7	–	–
P34	4-7	–	–
P35	5-7	–	–

# IC DATA

**IC502:** R5F364AENFA (FUNCTION P.C.B.)

Single chip 16-bit microprocessor



R-S300

Pin No.	Port Name	Function Name (P.C.B.)	I/O			Detail of Function
			Power On	Standby	MCU Sleep [AC OFF]	
1	P9_6/ANEX1/SOUT4	NC	O	O	O	
2	P9_5/ANEX0/CLK4	TRIG	O	O	O	CONTROL +12V control
3	P9_4/DA1/TB4IN	MPLD	O	O	O	LED control for MAIN POWER ON display
4	P9_3/DA0/TB3IN	FL_N_RST	O	O	O	FL initial clear control
5	P9_2/TB2IN/SOUT3	FL_MOSI	SO	O	O	FL communication serial data
6	P9_1/TB1IN/SIN3	FL_N_CE	O	O	O	FL communication chip select
7	P9_0/TB0IN/CLK3	FL_SCK	SO	O	O	FL communication serial clock
8	BYTE	BYTE	MCU	MCU	MCU	Connect to Vss when in the single chip mode (External data bus width change: 16 bit) Low: processor mode select: single chip mode Hi: To the FLASH included boot mode
9	CNVss	CNVSS	MCU	MCU	MCU	
10	P8_7/XCIN	NC	O	O	O	
11	P8_6/XCOUT	ZPLED	O	O	O	
12	RESET	N_RST	MCU	MCU	MCU	Reset input
13	Xout	XOUT	MCU	MCU	MCU	Main clock 20MHz output
14	Vss	VSS	MCU	MCU	MCU	
15	Xin	XIN	MCU	MCU	MCU	Main clock 20MHz input
16	Vcc1	VCC	MCU	MCU	MCU	
17	P8_5/NMI/SD * Nch Open Drain	NMI	MCU	MCU	MCU	Unused, Pull Up
18	P8_4/INT2/ZP	KEY1_N_INT	IRQ	IRQ	I	Tuner control SW/ZONE2 POWER SW detection interrupt input With this interrupt, the KEY 1 voltage is read
19	P8_3/INT1	MPSW	I	IRQ	I	MAIN POWER SW detection interrupt input
20	P8_2/INT0	REM	IRQ	IRQ	I	Remote control pulse input detection interrupt input
21	P8_1/TA4IN/U/CTS5/ RTS5	NC	O	O	O	Free terminal
22	P8_0/TA4OUT/U// RXD5/SCL5	SIRI_MISO	SI	O	O	SIRIUS UART communication
23	P7_7/TA3IN/CLK5	IPD_N_APDET	I	I	I	iPod accessory power control
24	P7_6/TA3OUT/TXD5/ SDA5	SIRI_MOSI	SO	O	O	SIRIUS UART communication
25	P7_5/TA2IN/W	DOCK_PON	O	O	O	DOCK power supply ON/OFF control Hi = ON, Low = Off
26	P7_4/TA2OUT/W	UAW_PON	O	O	O	UAW power supply ON/OFF control Hi = ON, Low = Off
27	P7_3/CTS2/RTS2/ TA1IN/V	SIRI_PON	O	O	O	SIRIUS power supply ON/OFF control Hi = ON, Low = Off
28	P7_2/CLK2/TA1OUT/ V	IPD_N_VON	O	O	O	
29	P7_1/RXD2/SCL2/ TA0IN/TB5IN * Nch Open Drain	IPD_MISO	SI	IRQ	I	iPod UART communication iPod communication detection interrupt input when in the standby mode
30	P7_0/TXD2/SDA2/ TA0OUT * Nch Open Drain	IPD_MOSI	SO	O	O	iPod UART communication
31	P6_7/TXD1/SDA1	TXDF	SO	SO	[MCU]	For easy emulation For writing FLASH (Rx)
32	P6_6/RXD1/SCL1	RXDF	SI	SI	[MCU]	For easy emulation For writing FLASH (Tx)
33	P6_5/CLK1	CLKF	SO	SO	[MCU]	For easy emulation For writing FLASH (Clock)
34	P6_4/CTS1/RTS1/ CTS0/CLKS1	BSY	O	O	[MCU]	For easy emulation BUSY signal output for writing FLASH
35	P6_3/TXD0/SDA0	NC	O	O	O	
36	P6_2/RXD0/SCL0	NC	O	O	O	
37	P6_1/CLK0	NC	O	O	O	
38	P6_0/CTS0/RTS0	N_Z2MT	O	O	O	
39	P5_7/RDY/CLKOUT	EVOL_SCK	O	O	O	Electronic VOLUME control serial clock
40	P5_6/ALE	EVOL_MOSI	O	O	O	Electronic VOLUME control serial data
41	P5_5/HOLD	N_EPM	I	-	-	For writing FLASH (Low) Pull it down as it may fall in the Hiz state while the emulator is working
42	P5_4/HLDA	TU_N_ST	I	I	I	TUNER STEREO detection input
43	P5_3/BCLK	TU_N_TUNED	I	I	I	TUNER TUNED input
44	P5_2/RD	RDS_N_RST	O	O	O	RDS preset control
45	P5_1/WRH/BHE	RDS_SCK	O	O	O	Serial clock for RDS communication
46	P5_0/WRL/WR	N_CE	I	-	-	For writing FLASH (Hi)
47	P4_7/TXD7/SDA7/ /CS3	TU_SDA	SIO	O	O	TUNER communication I2C bus data
48	P4_6/RXD7/SCL7/ CS2	TU_SCL	SO	O	O	TUNER communication I2C bus clock
49	P4_5/CLK7/CS1	RDS_MISO	I	I	I	Serial data for RDS communication
50	P4_4/CTS7/RTS7/ CS0	RDS_RDY	I	I	I	RDS READY input terminal
51	P4_3/A19	ISB	I	I	I	Encoder phase detection input/output for Input selector
52	P4_2/A18	ISA	I	I	I	Encoder phase detection input/output for Input selector
53	P4_1/A17	LINE3_LED	O	O	O	
54	P4_0/A16	LINE2_LED	O	O	O	
55	P3_7/A15	LINE1_LED	O	O	O	
56	P3_6/A14	CD_LED	O	O	O	
57	P3_5/A13	TUNER_LED	O	O	O	
58	P3_4/A12	DOCK_LED	O	O	O	
59	P3_3/A11	PHONO_LED	O	O	O	
60	P3_2/A10	VOL_RB	I	I	I	Encoder input for VOLUME UP/DOWN
61	P3_1/A9	VOL_RA	I	I	I	Encoder input for VOLUME UP/DOWN

Pin No.	Port Name	Function Name (P.C.B.)	I/O			Detail of Function
			Power On	Standby	MCU Sleep [AC OFF]	
62	Vcc2	VCC	MCU	MCU	MCU	
63	P3_0/A8	CD_SW	I	I	I	
64	Vss	VSS	MCU	MCU	MCU	
65	P2_7/AN2_7/A7	PD_SW	I	I	I	Pure Direct detection
66	P2_6/AN2_6/A6	N_PREMT	O	O	O	PRE OUT MUTE control Low = MUTE ON
67	P2_5/INT7/AN2_5/A5	IPD_MISO	IRQ	IRQ	IRQ	iPod communication detection interrupt input when in the standby mode (Used when 29 pin common terminal is not available)
68	P2_4/INT6/AN2_4/A4	IPD_DET	IRQ	IRQ	IRQ	iPod detection interrupt input
69	P2_3/AN2_3/A3	DOCK_TYPE	AD	AD	AD	Equipment type detection AD value input
70	P2_2/AN2_2/A2	+5S_PON	O	O	O	+5S drive control
71	P2_1/AN2_1/A1	DEST	AD	AD	AD	Destination discrimination AD value input
72	P2_0/AN2_0/A0	MODEL	AD	AD	AD	MODEL discrimination AD value input
73	P1_7/INT5/D15	PRI	IRQ	IRQ	IRQ	POWER AMP current protection detection interrupt input Low = Normal, Hi = Abnormal
74	P1_6/INT4/D14	NC	O	O	O	Free terminal
75	P1_5/INT3/D13	PW_DET	IRQ	IRQ	IRQ	PW_DET detection interrupt input
76	P1_4/D12	NC	O	O	O	Free terminal
77	P1_3/TXD6/SDA6/D11	EEP_SDA	SO	O	O	EEPROM I2C communication bus data
78	P1_2/RXD6/SCL6/D10	EEP_SCL	SO	O	O	EEPROM I2C communication bus clock
79	P1_1/CLK6/D9	PRY	O	O	O	Power relay control
80	P1_0/CTS6/RTS6/D8	DLED	O	O	O	Direct LED power supply control
81	P0_7/AN0_7/D7	N_SWMT	O	O	O	SUBWOOFER MUTE control Low = MUTE ON
82	P0_6/AN0_6/D6	PWR_MGT	I	I	I	Power management detection input
83	P0_5/AN0_5/D5	THMR	AD	AD	AD	Right-hand side heatsink temperature detection AD value input
84	P0_4/AN0_4/D4	THML	AD	AD	AD	Left-hand side heatsink temperature detection AD value input
85	P0_3/AN0_3/D3	SPBRY	O	O	O	Speaker B relay control
86	P0_2/AN0_2/D2	SPARY	O	O	O	Speaker A relay control
87	P0_1/AN0_1/D1	HPRY	O	O	O	Headphone relay control
88	P0_0/AN0_0/D0	NC	O	O	O	Free terminal
89	P10_7/AN7/KI3	PRD	AD	AD	AD	DC protection detection
90	P10_6/AN6/KI2	AD_VOL	AD	AD	AD	
91	P10_5/AN5/KI1	VRUP	O	O	O	
92	P10_4/AN4/KI0	VRDN	O	O	O	
93	P10_3/AN3	PRV	AD	AD	AD	Protection voltage detection AD value taken input
94	P10_2/AN2	KEY1	AD	AD	AD	KEY1 AD value taken input
95	P10_1/AN1	KEY0	AD	AD	AD	
96	Avss	AVSS	MCU	MCU	MCU	
97	P10_0/AN0	REC	AD	AD	AD	REC OUT selector voltage detection AD value taken input
98	Vref	VREF	MCU	MCU	MCU	
99	Avcc	AVCC	MCU	MCU	MCU	
100	P9_7/ADTRG/SIN4	DIG_SW	I	I	I	DIG_SW input

Key detection for A/D port

Key input (A/D) pull-up resistance 10 k-ohms

Ohm	0	+ 1.0 k	+ 1.0 k	+ 1.5 k	+ 2.2 k	+ 3.3 k	+ 4.7 k
V	0 – 0.22	0.23 – 0.64	0.65 – 1.06	1.07 – 1.55	1.56 – 2.09	2.10 – 2.62	2.63 – 3.94
A/D conversion value (5.0 V=255)	0 – 11	12 – 32	33 – 54	55 – 79	80 – 107	108 – 134	135 – 156
KEY0 (95 pin of the microprocessor)	DIMMER (U, C, R, A, L models) TP (G model)	FM MODE INFO	MEMORY	CLEAR	-	SPEAKERS A	SPEAKERS B

Ohm	0	+ 1.0 k	+ 1.0 k	+ 1.5 k	+ 2.2 k	+ 3.3 k	+ 4.7 k
V	0 – 0.22	0.23 – 0.64	0.65 – 1.06	1.07 – 1.55	1.56 – 2.09	2.10 – 2.62	2.63 – 3.94
A/D conversion value (5.0 V=255)	0 – 11	12 – 32	33 – 54	55 – 79	80 – 107	108 – 134	135 – 156
KEY1 (94 pin of the microprocessor)	PRESET <	PRESET >	FM	AM	TUNING <<	TUNING >>	-

Destination detection for AD port

Pull-up resistance 10 k-ohms

R550 (FUNCTION P.C.B.)	820	1.5 k	2.7 k	12 k	33 k
V	0.15 – 0.49	0.5 – 0.84	0.85 – 1.88	1.89 – 3.29	3.3 - 4.47
Destination	U	C	R, L	A	G
A/D conversion value (5.0 V=255)	9 – 25	26 – 43	44 – 67	128 – 158	187 – 210

Model detection for A/D port

Model input (A/D) pull-up resistance 10 k-ohms

R516 (FUNCTION P.C.B.)	2.7 k
V	0.85 – 1.88
Model name	R3 (R-S300)
A/D conversion value (5.0 V=255)	44 – 96

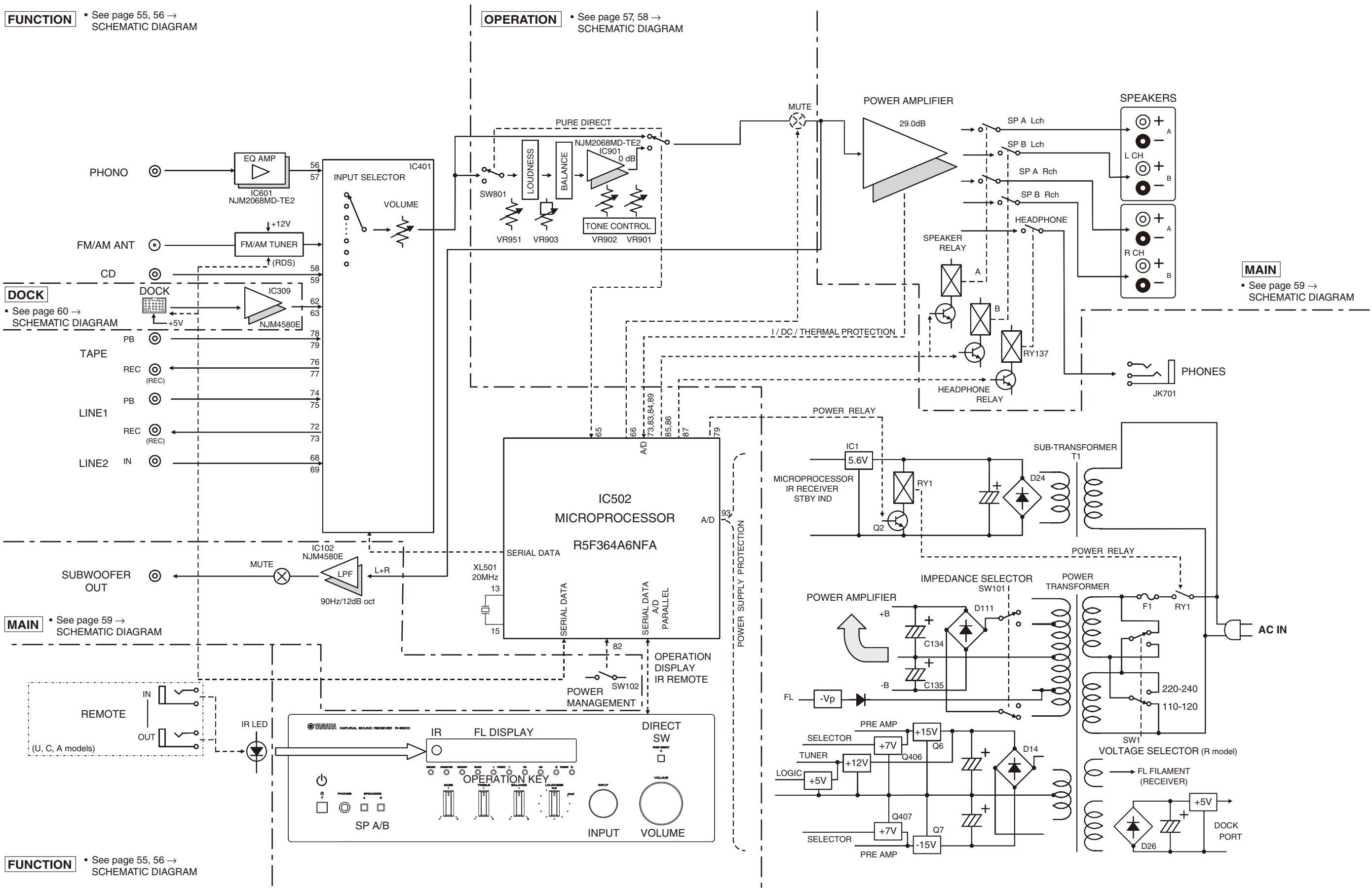


# 1 ■ BLOCK DIAGRAM

**FUNCTION** • See page 55, 56 → SCHEMATIC DIAGRAM

**OPERATION** • See page 57, 58 → SCHEMATIC DIAGRAM

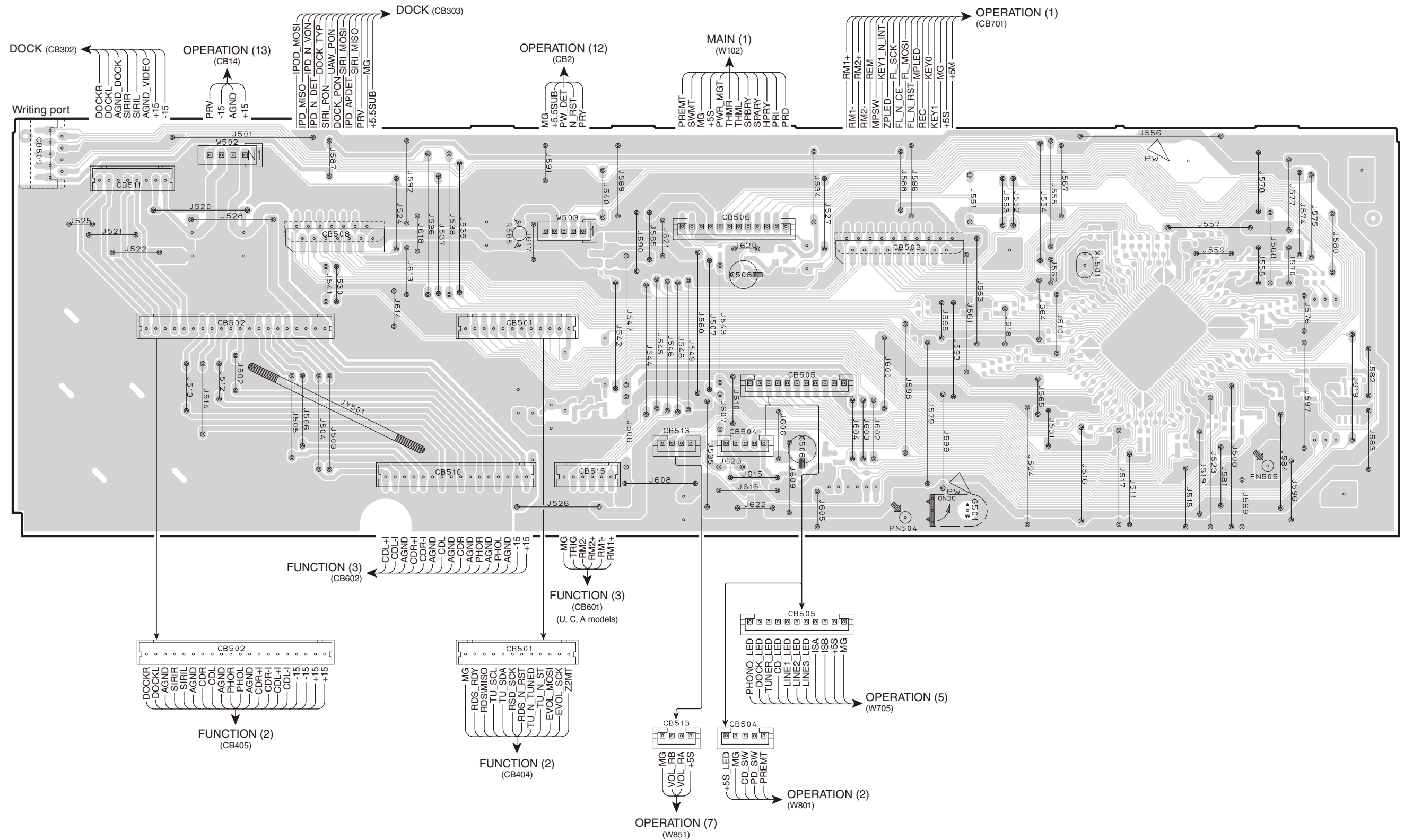
**MAIN** • See page 59 → SCHEMATIC DIAGRAM



**FUNCTION** • See page 55, 56 → SCHEMATIC DIAGRAM

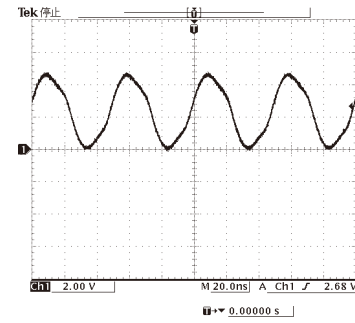
# PRINTED CIRCUIT BOARDS

## FUNCTION (1) P.C.B. (Side A)

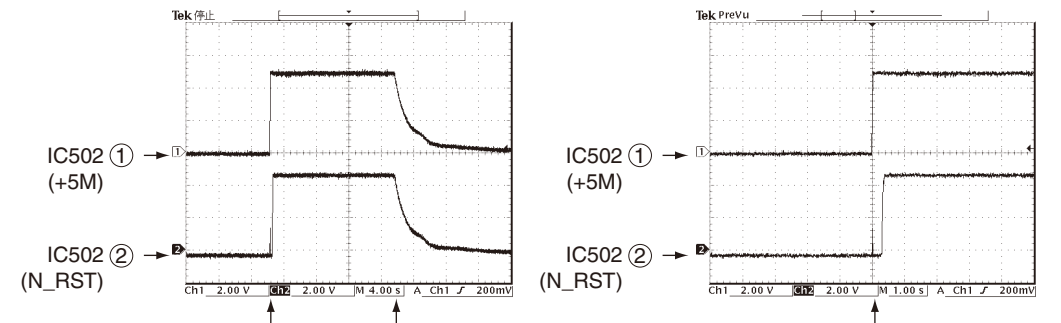


**FUNCTION (1) P.C.B.** (Side B)

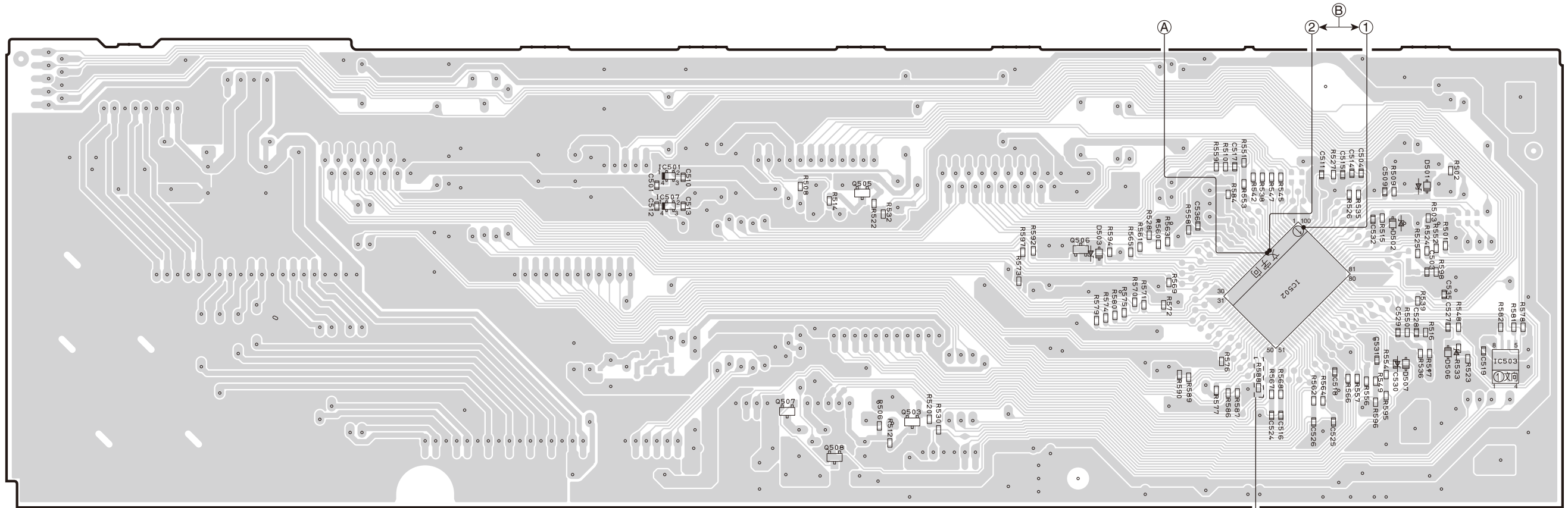
**POINT (A)** XL501 (Pin 13 of IC502)



**POINT (B)** ①/ IC502 (99 pin, +5M), ②/ IC502 (12 pin, N\_RST)



AC POWER ON (Connect the power cable)      AC POWER OFF (Disconnect the power cable)      AC POWER ON (Connect the power cable)

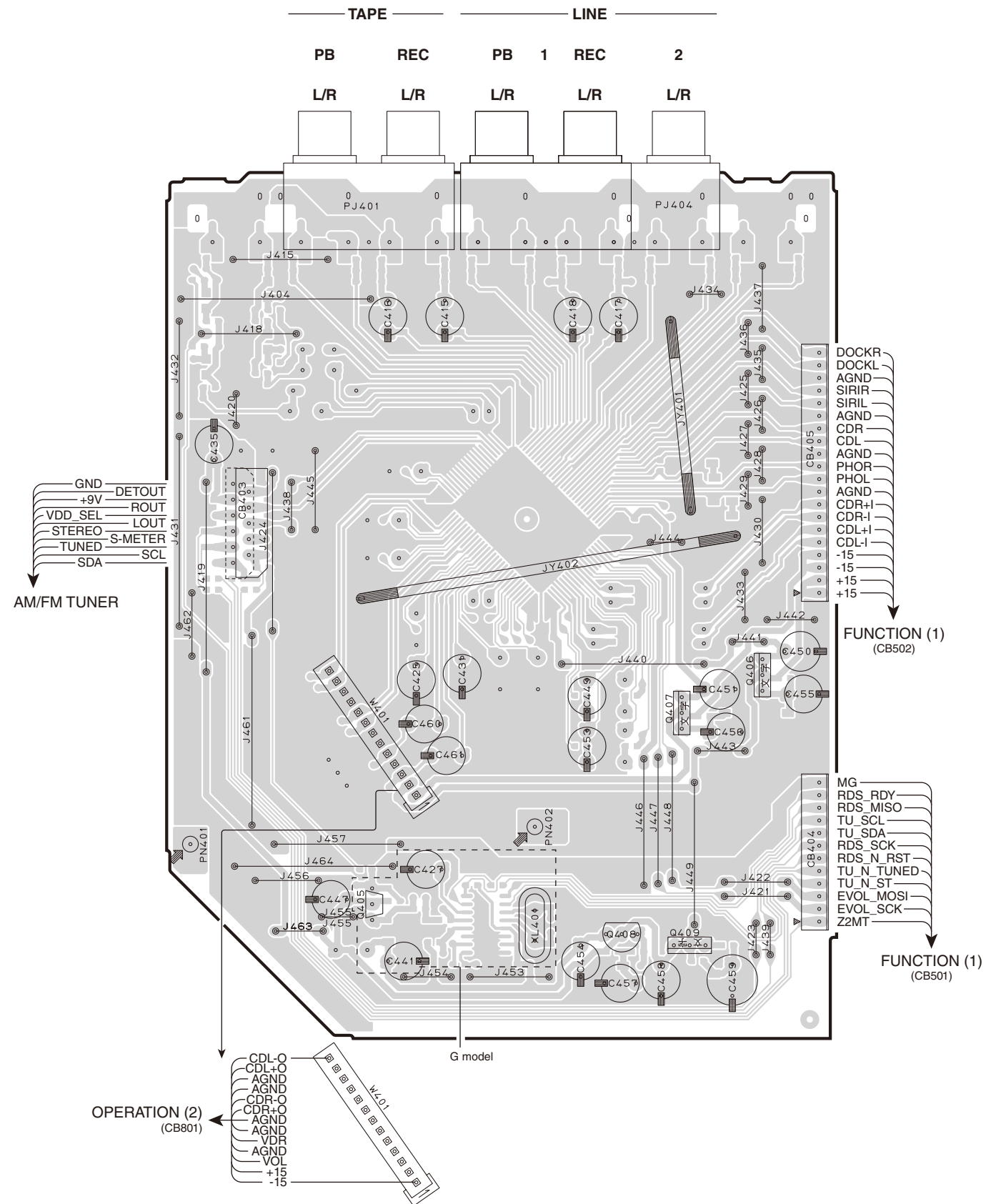


G model

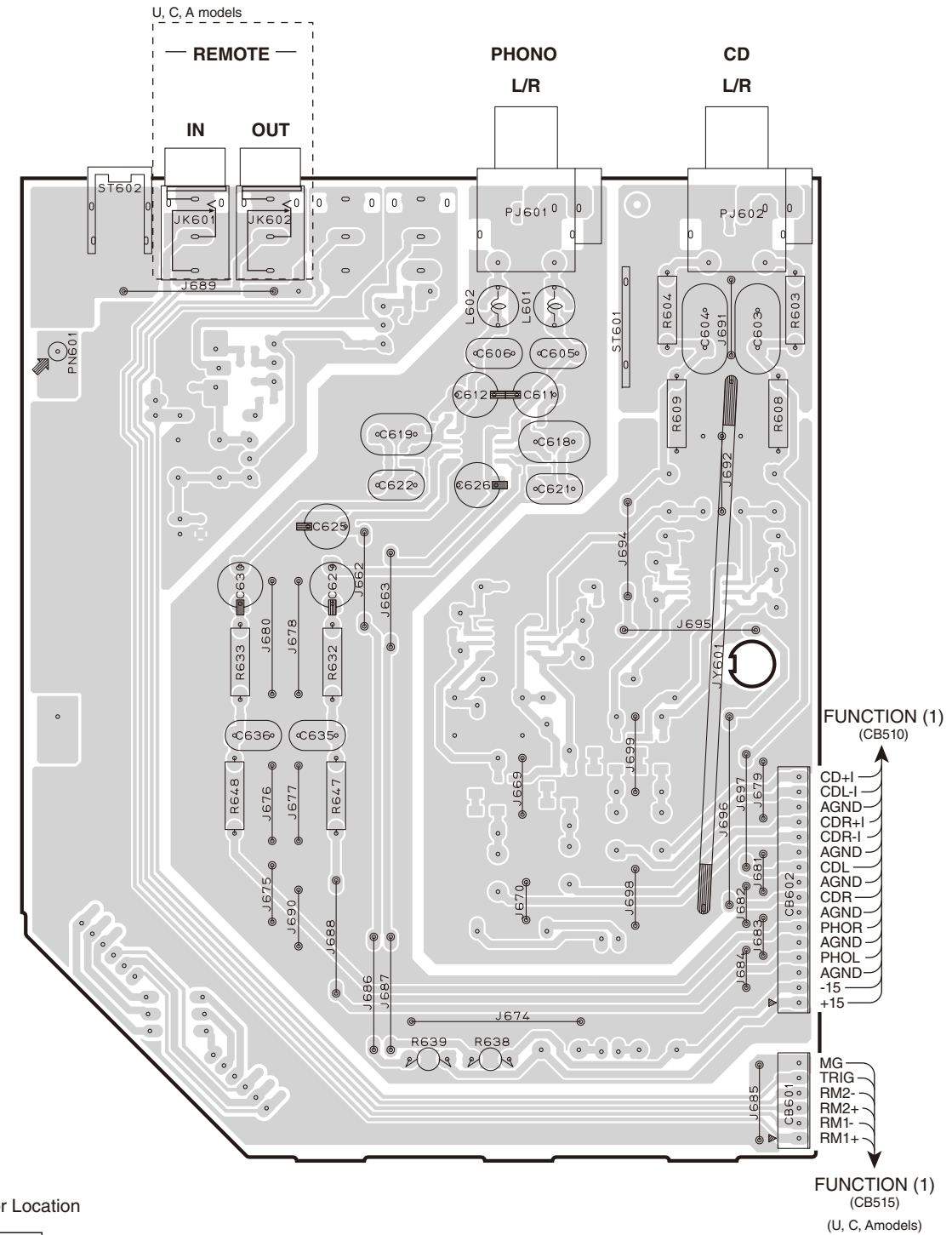
• Semiconductor Location

Ref no.	Location
D501	I3
D502	I4
D503	G4
D506	I4
D507	I4
IC501	E3
IC502	H4
IC503	I4
IC507	E3
Q503	F5
Q504	E4
Q505	F3
Q506	G4
Q507	E5
Q508	F5

**FUNCTION (2) P.C.B. (Side A)**



**FUNCTION (3) P.C.B. (Side A)**

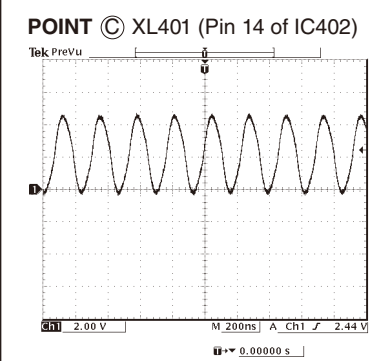
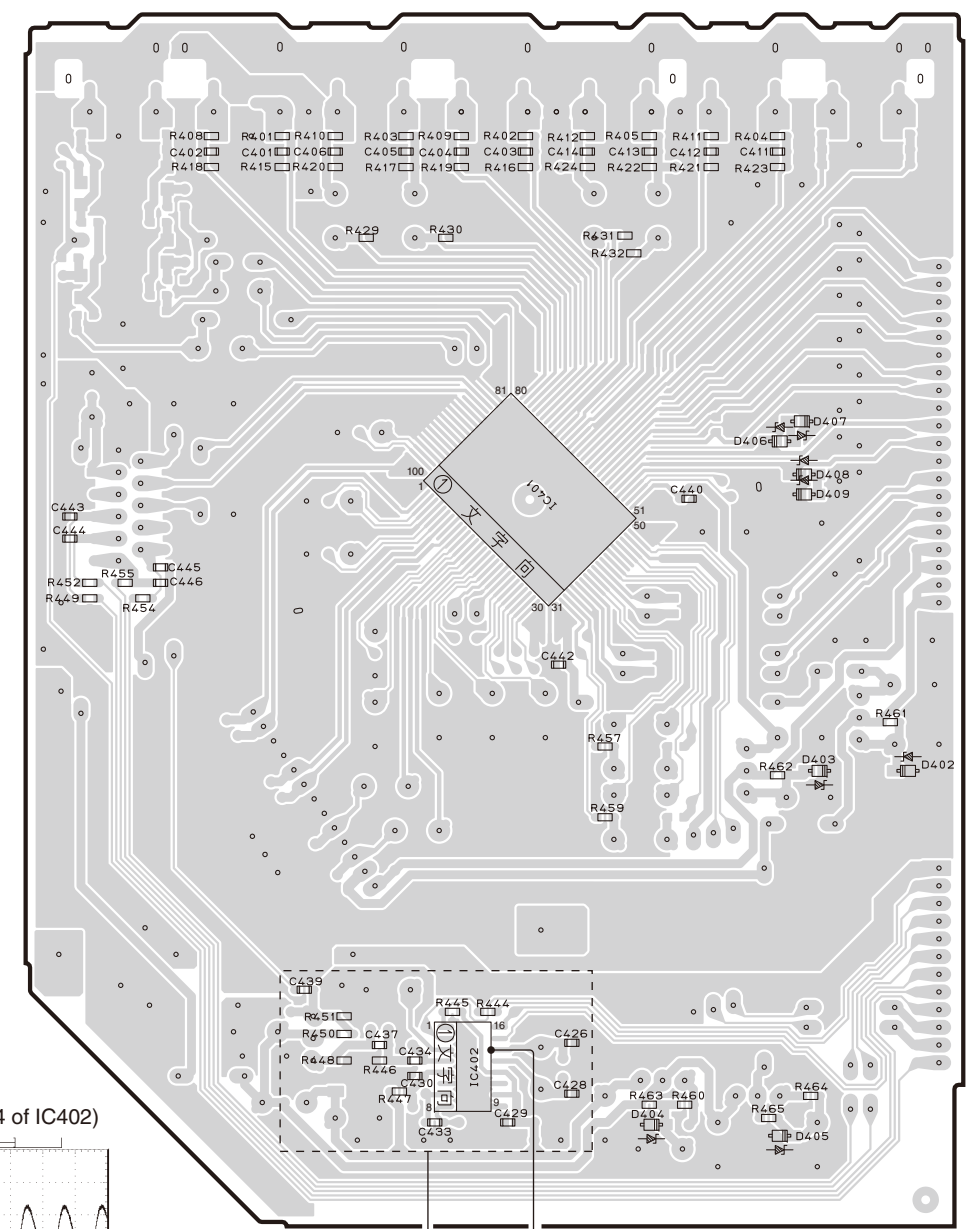


• Semiconductor Location

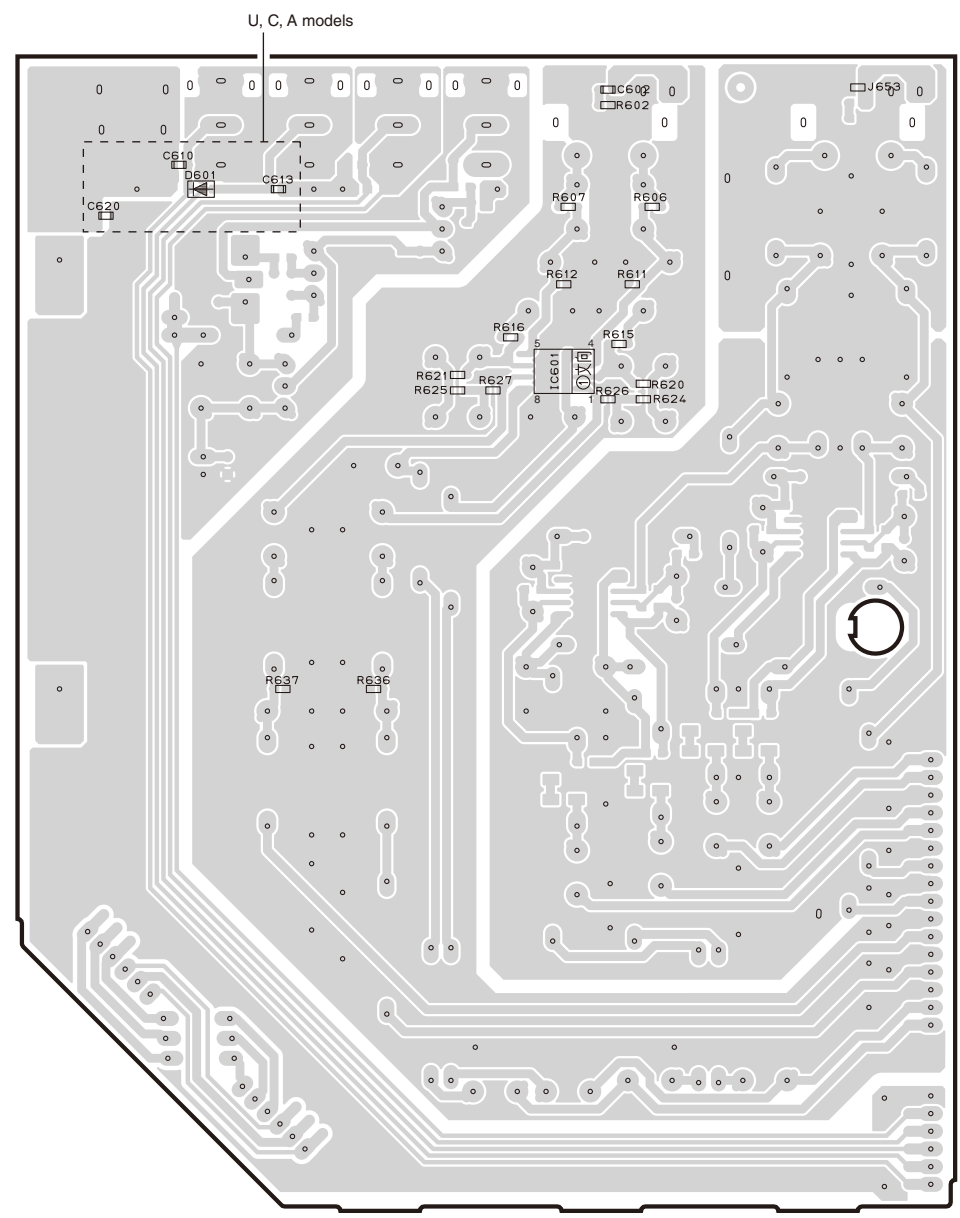
Ref no.	Location
Q405	C6
Q406	D5
Q407	D5
Q408	D6
Q409	D6

1  
2  
3  
4  
5  
6  
7

**FUNCTION (2) P.C.B.** (Side B)



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

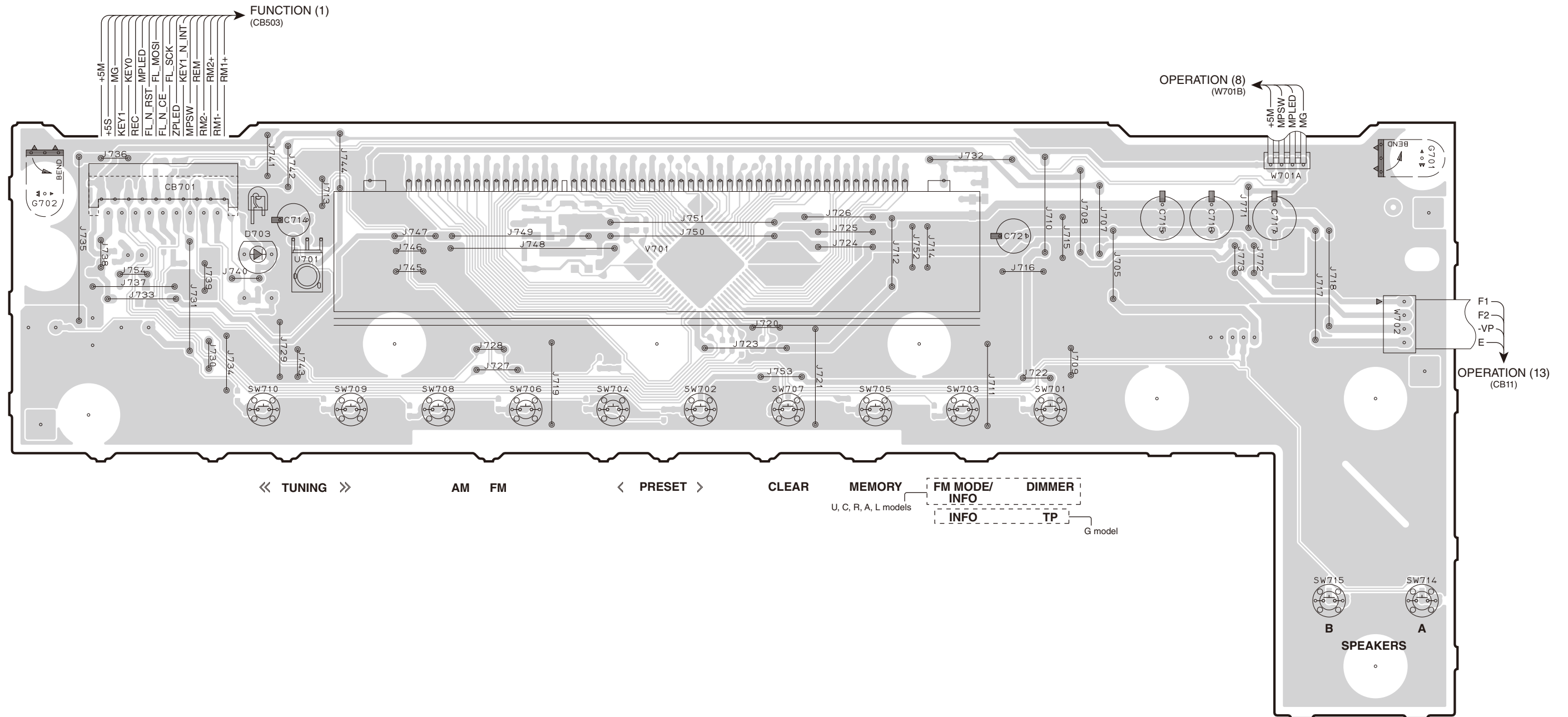


• Semiconductor Location

Ref no.	Location	Ref no.	Location
D401	C6	D408	D4
D402	E5	D409	D4
D403	D5	D601	G3
D404	D6	IC401	C4
D405	D6	IC402	C6
D406	D4	IC601	H4
D407	D4		



**OPERATION (1) P.C.B. (Side A)**



• Semiconductor Location

Ref no.	Location
D703	C3

1

**OPERATION (1) P.C.B.** (Side B)

2

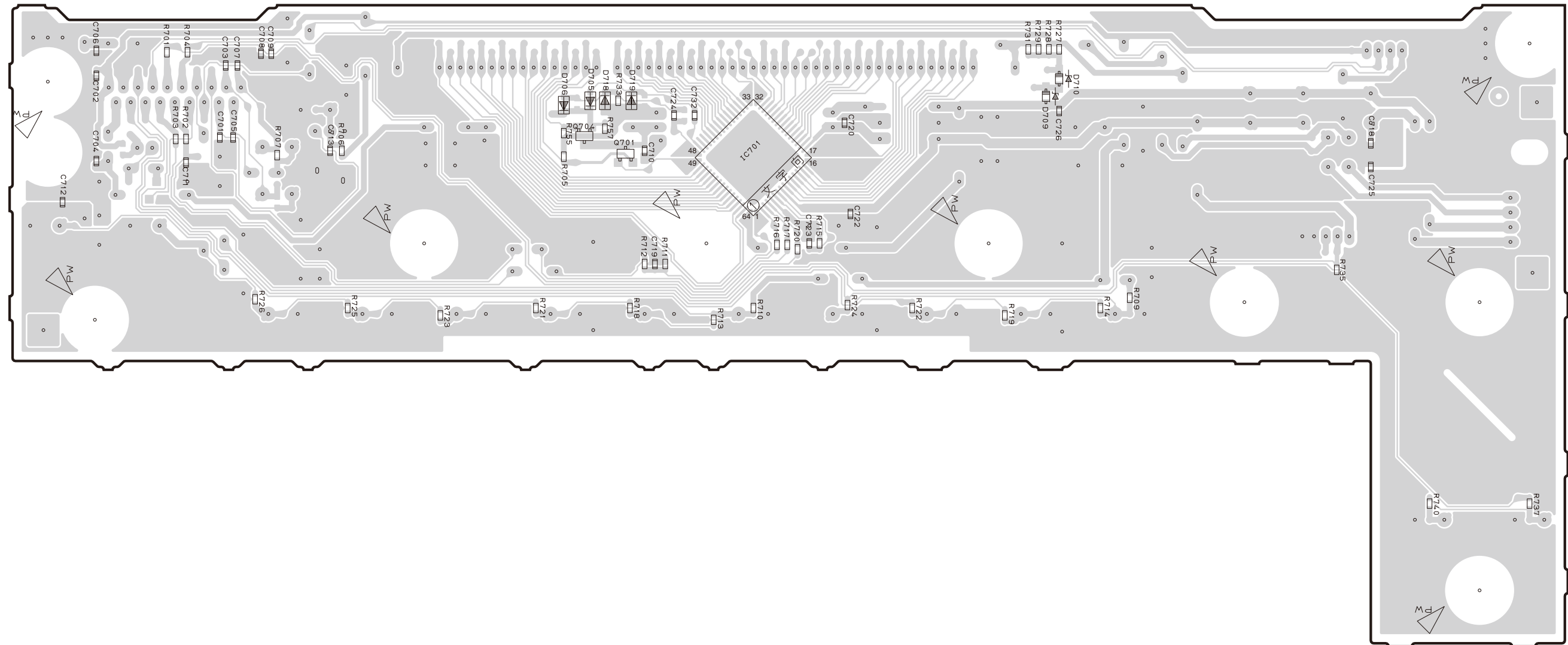
3

4

5

6

7

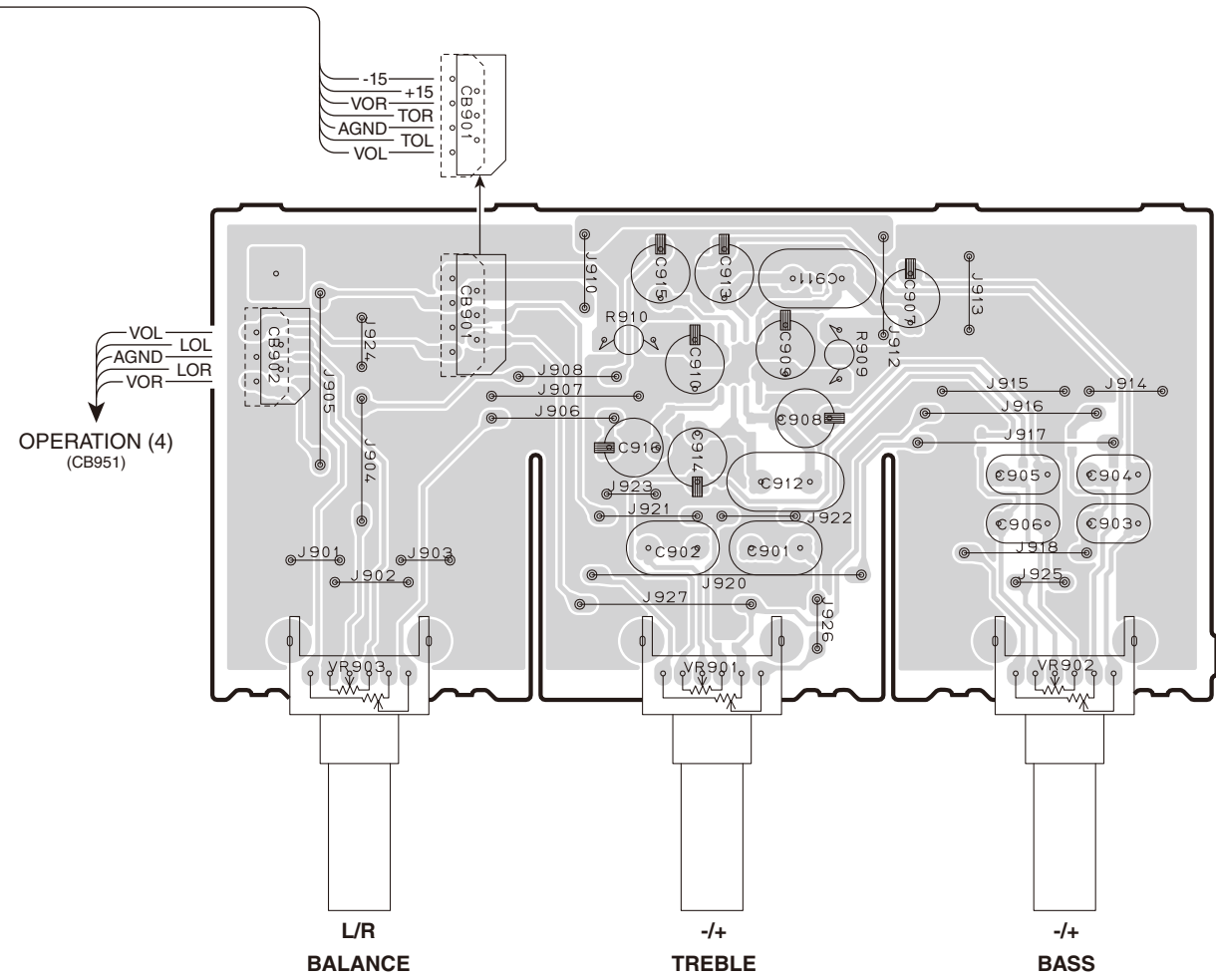
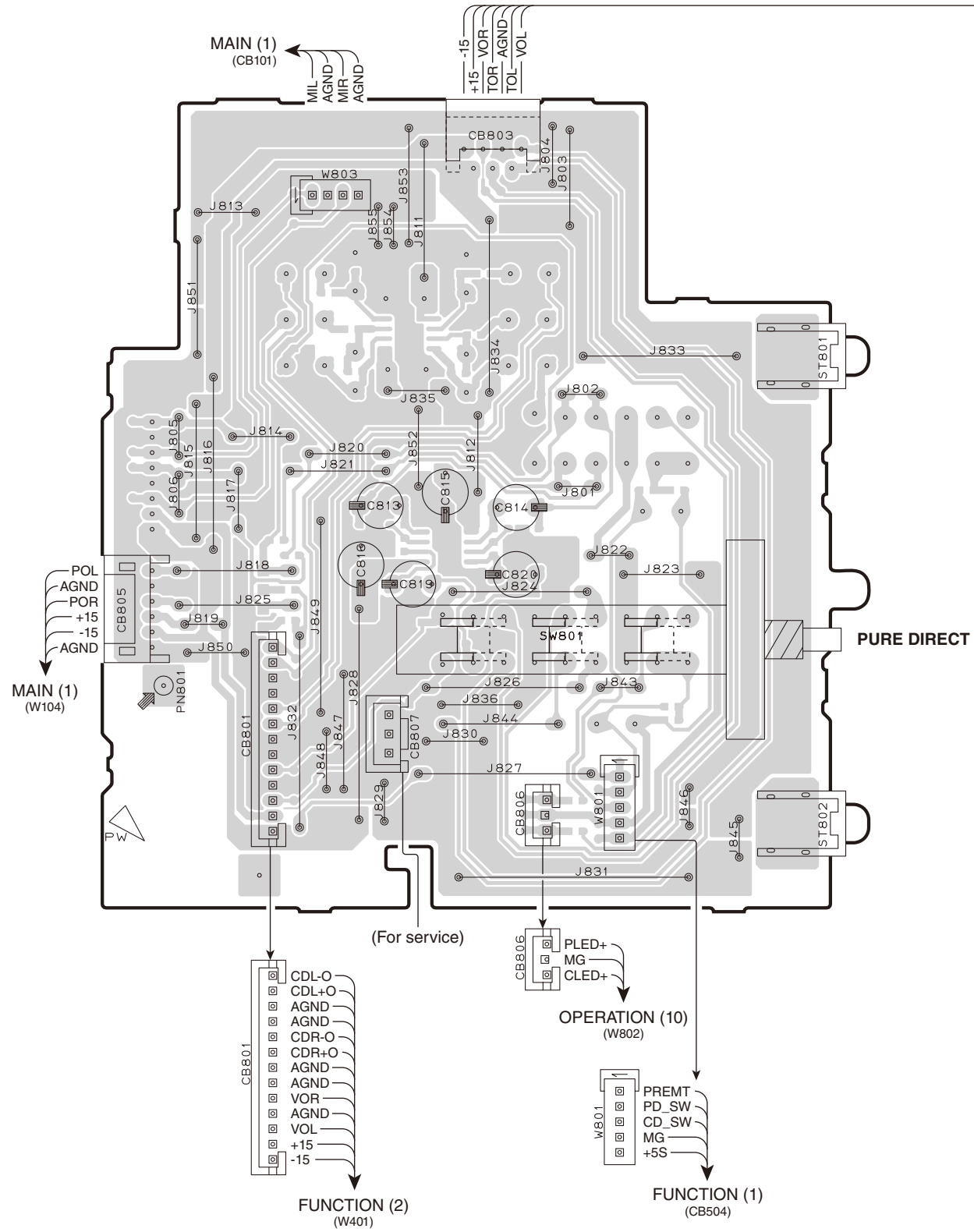


## • Semiconductor Location

Ref no.	Location
D705	D3
D706	D3
D709	G3
D710	G3
D718	E3
D719	E3
IC701	E3
Q701	E3
Q704	D3

**OPERATION (2) P.C.B. (Side A)**

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





1

**OPERATION (2) P.C.B.** (Side B)

2

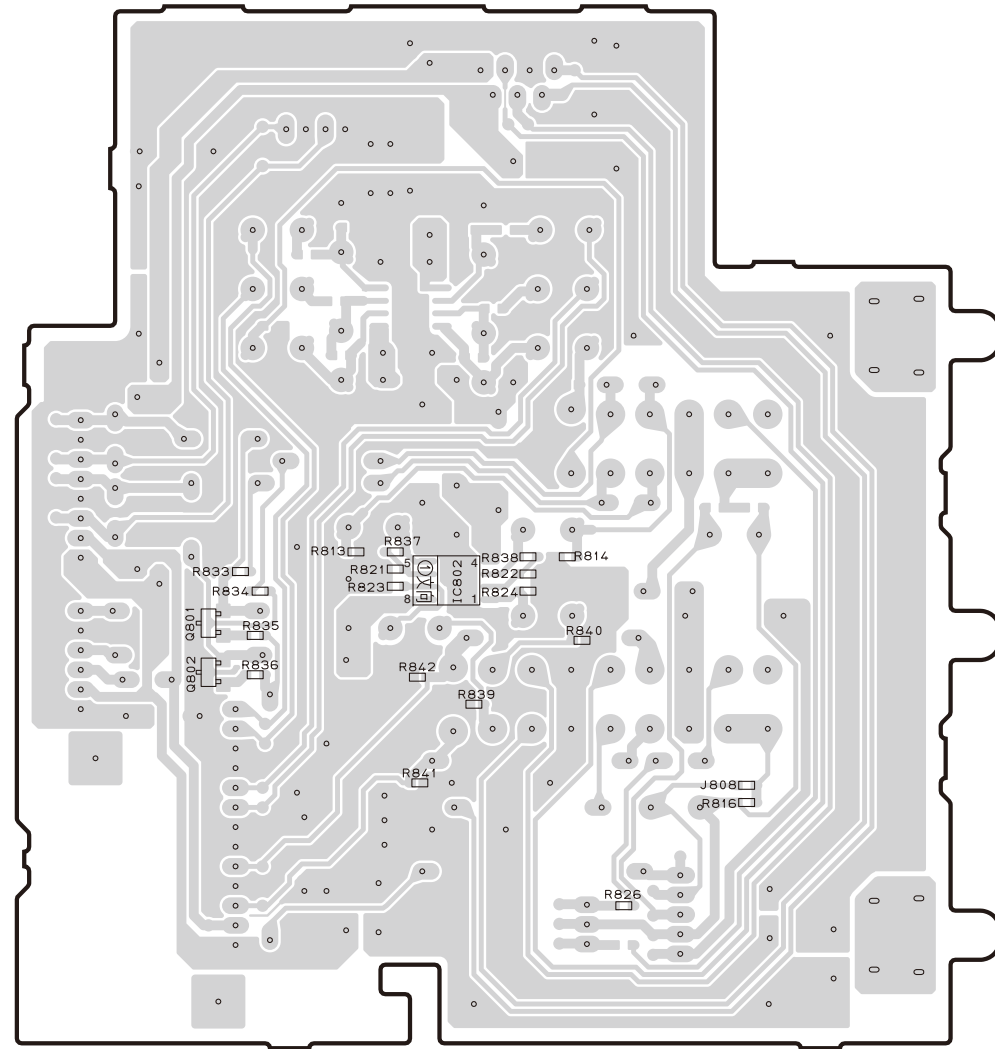
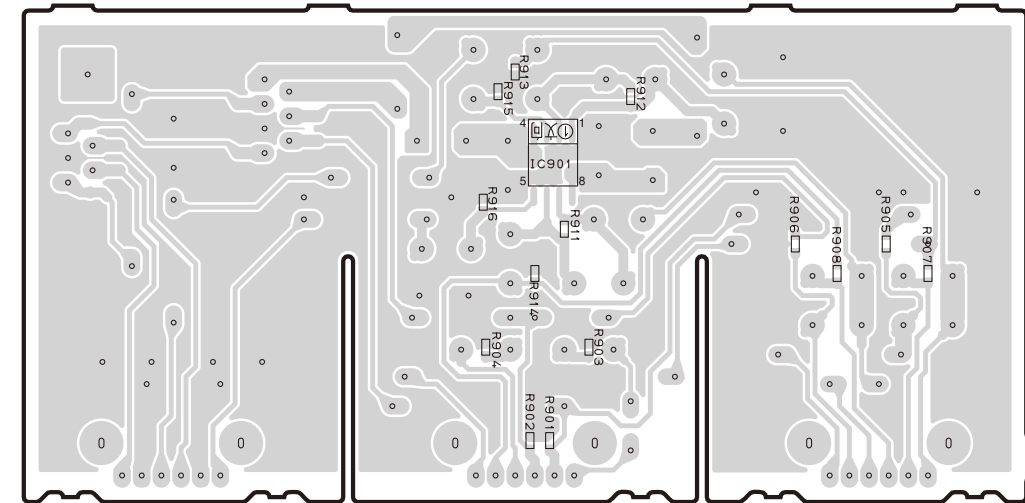
3

4

5

6

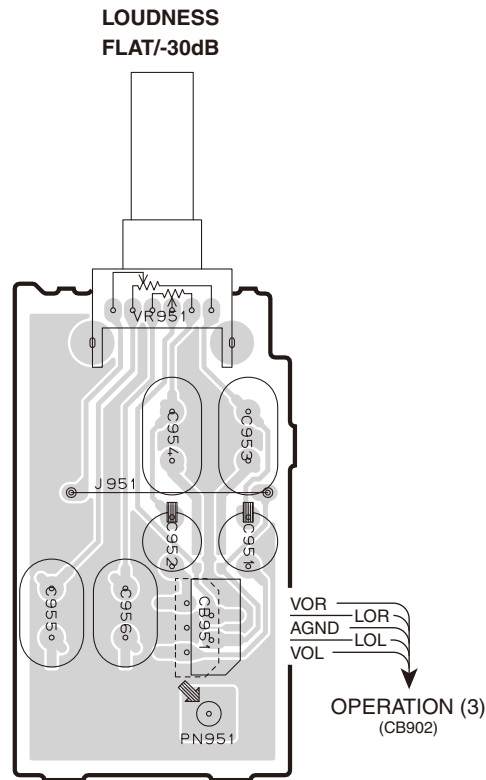
7

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

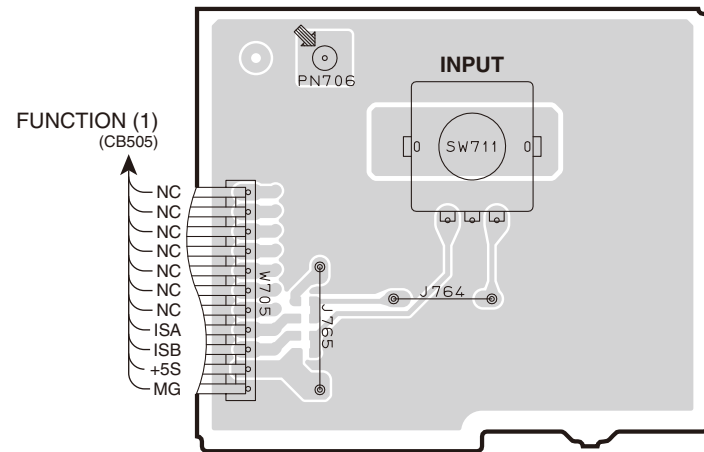
## • Semiconductor Location

Ref no.	Location
IC802	C4
IC901	H3
Q801	B4
Q802	B5

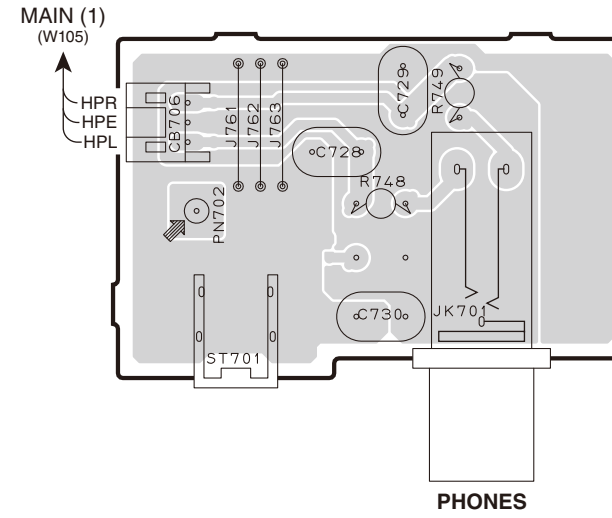
**OPERATION (4) P.C.B.** (Side A)



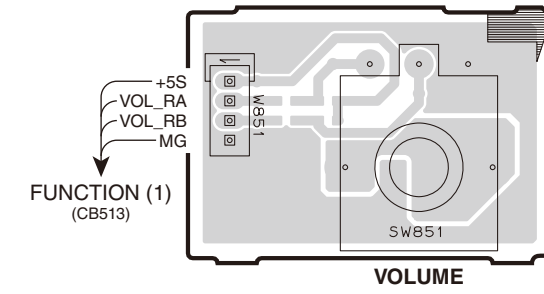
**OPERATION (5) P.C.B.** (Side A)



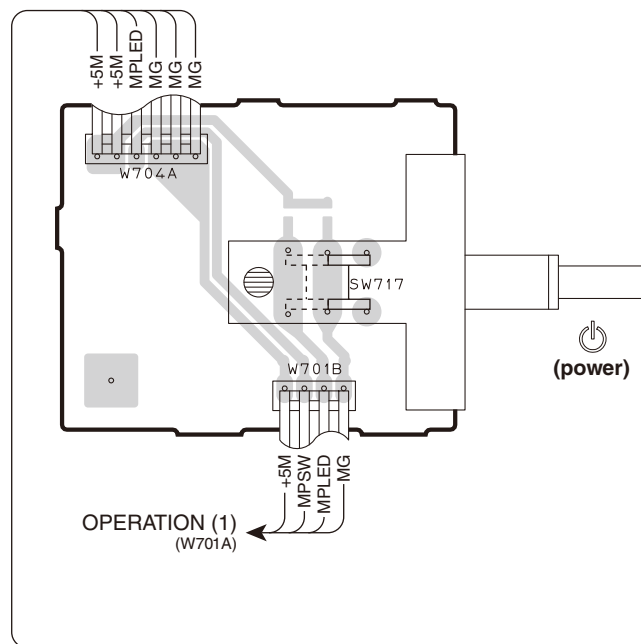
**OPERATION (6) P.C.B.** (Side A)



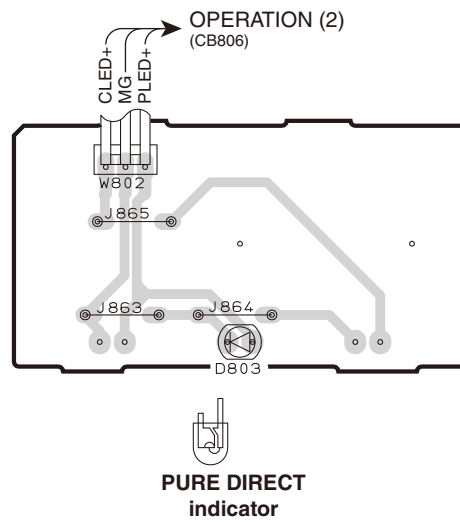
**OPERATION (7) P.C.B.** (Side A)



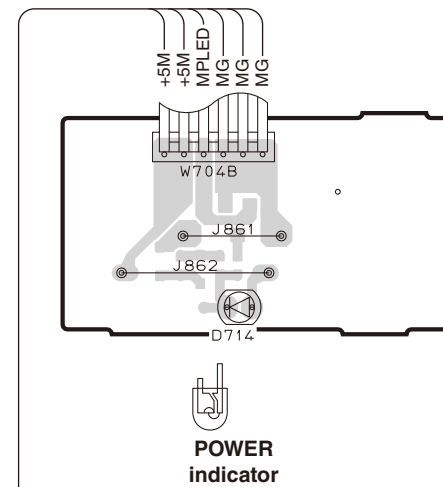
**OPERATION (8) P.C.B.** (Side A)



**OPERATION (10) P.C.B.** (Side A)



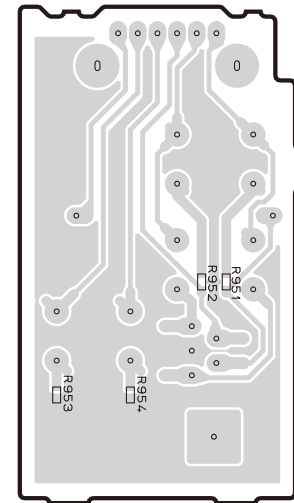
**OPERATION (11) P.C.B.** (Side A)



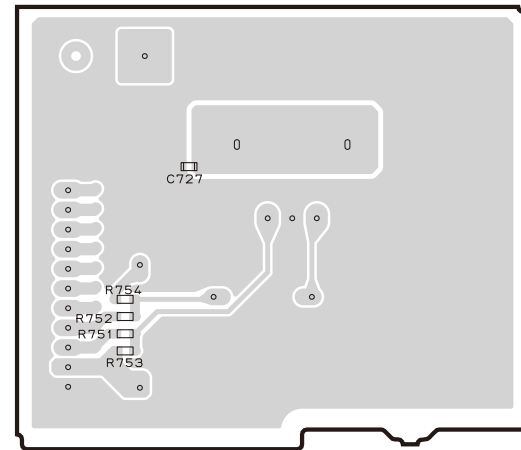
• Semiconductor Location

Ref no.	Location
D714	G6
D803	E6

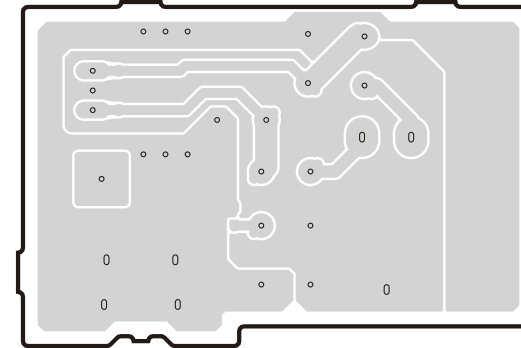
1

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

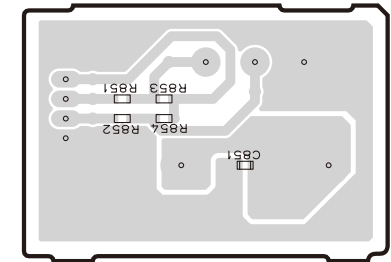
2

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

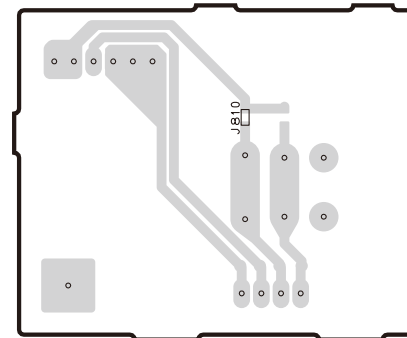
3

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

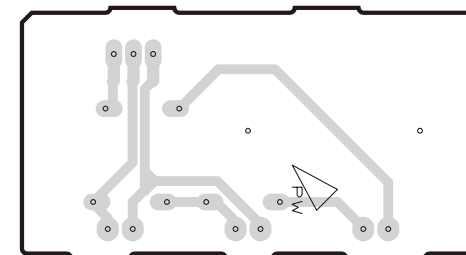
4

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

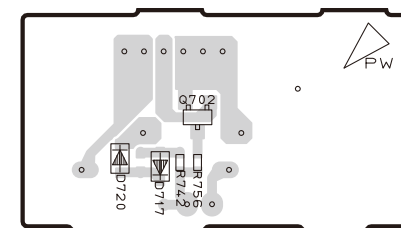
5

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

6

**OPERATION (10) P.C.B.** (Side B)

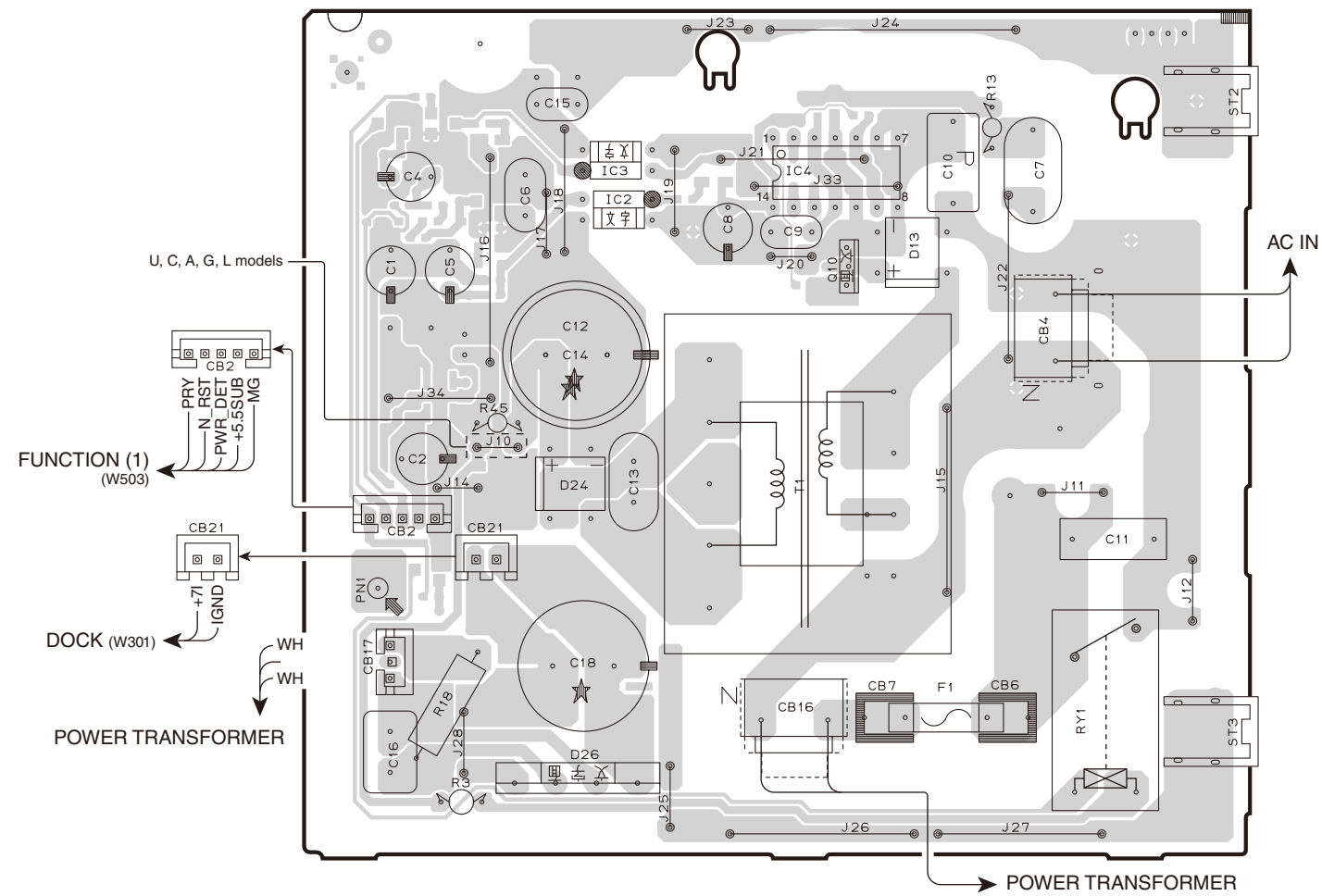
7

**OPERATION (11) P.C.B.** (Side B)

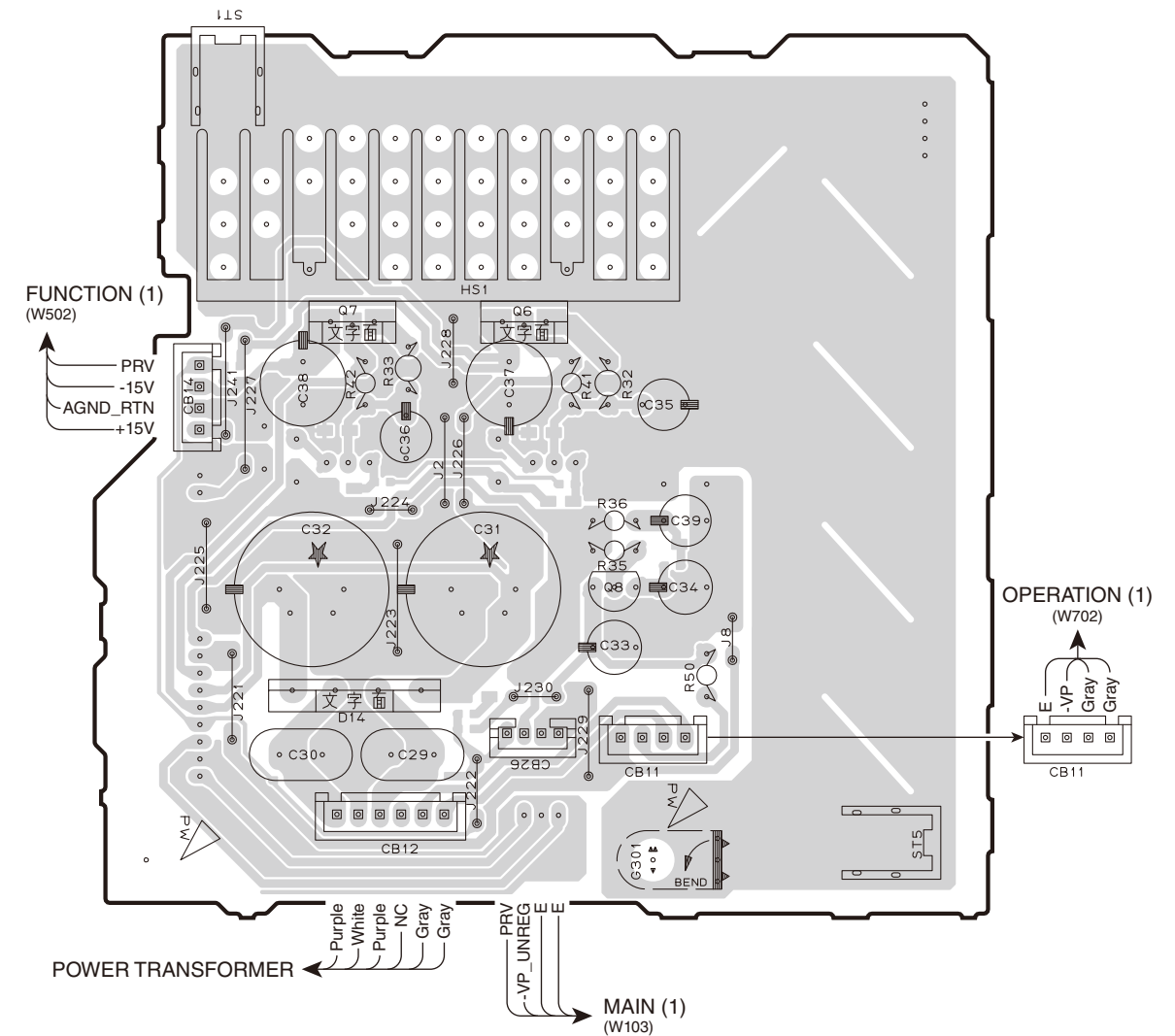
## • Semiconductor Location

Ref no.	Location
D717	F6
D720	F6
Q702	G6

**OPERATION (12) P.C.B. (Side A)**

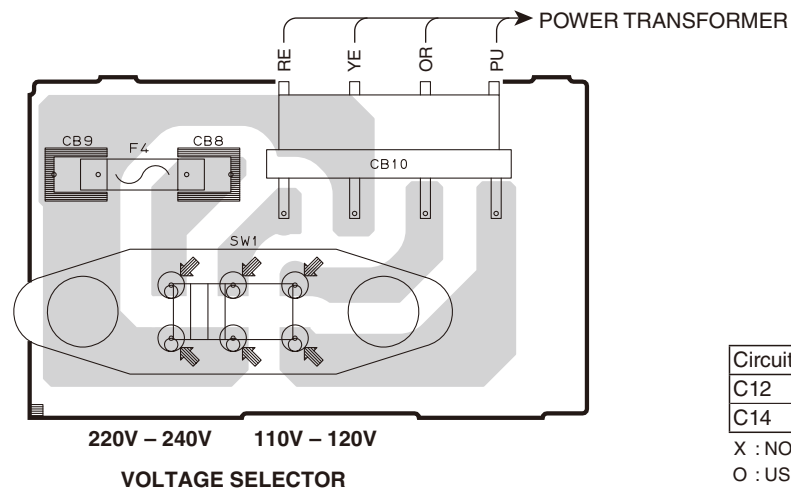


**OPERATION (13) P.C.B. (Side A)**



**OPERATION (14) P.C.B. (Side A)**

R model



Circuit No.	U, C, A, G, L	R
C12	X	O
C14	O	X

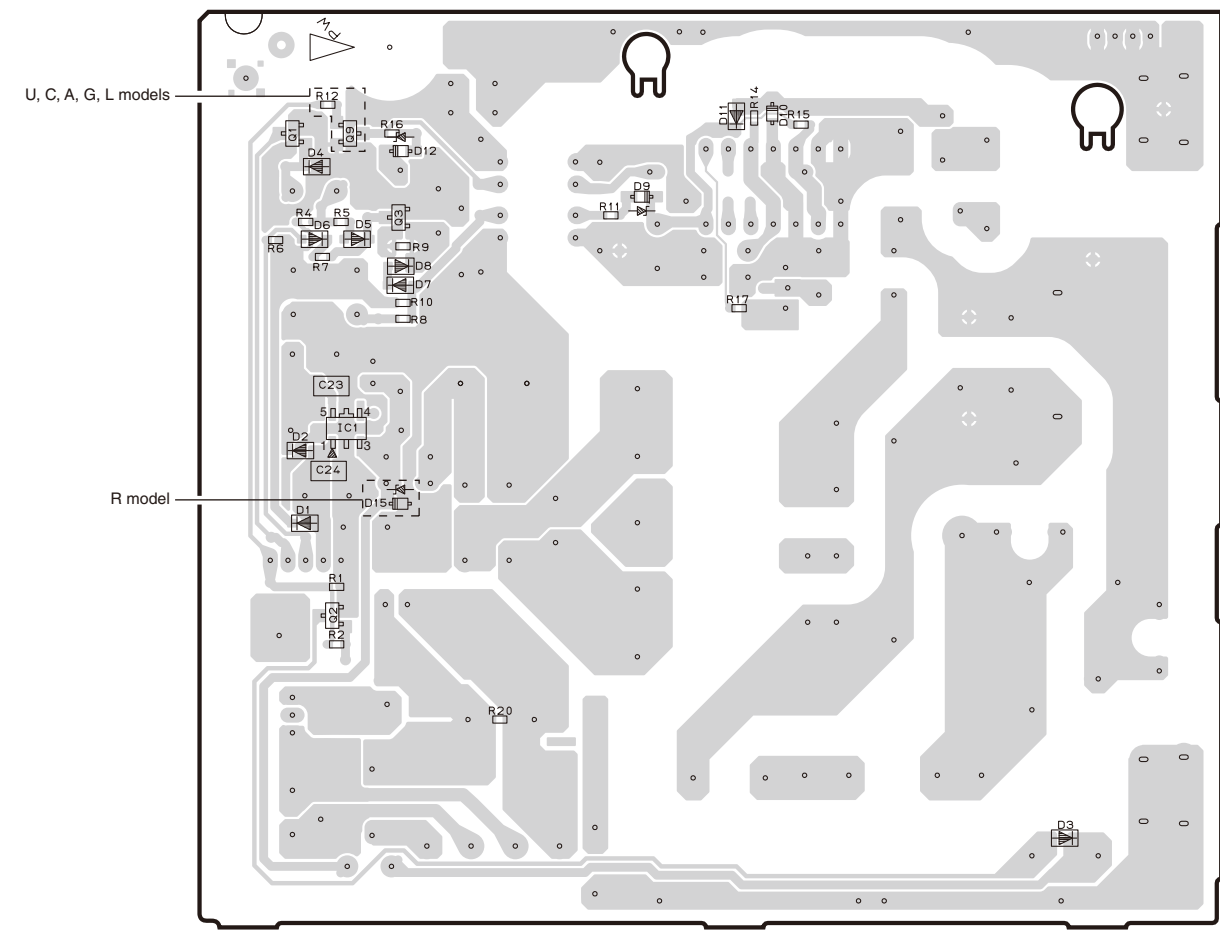
X : NOT USED  
O : USED/APPLICABLE

• Semiconductor Location

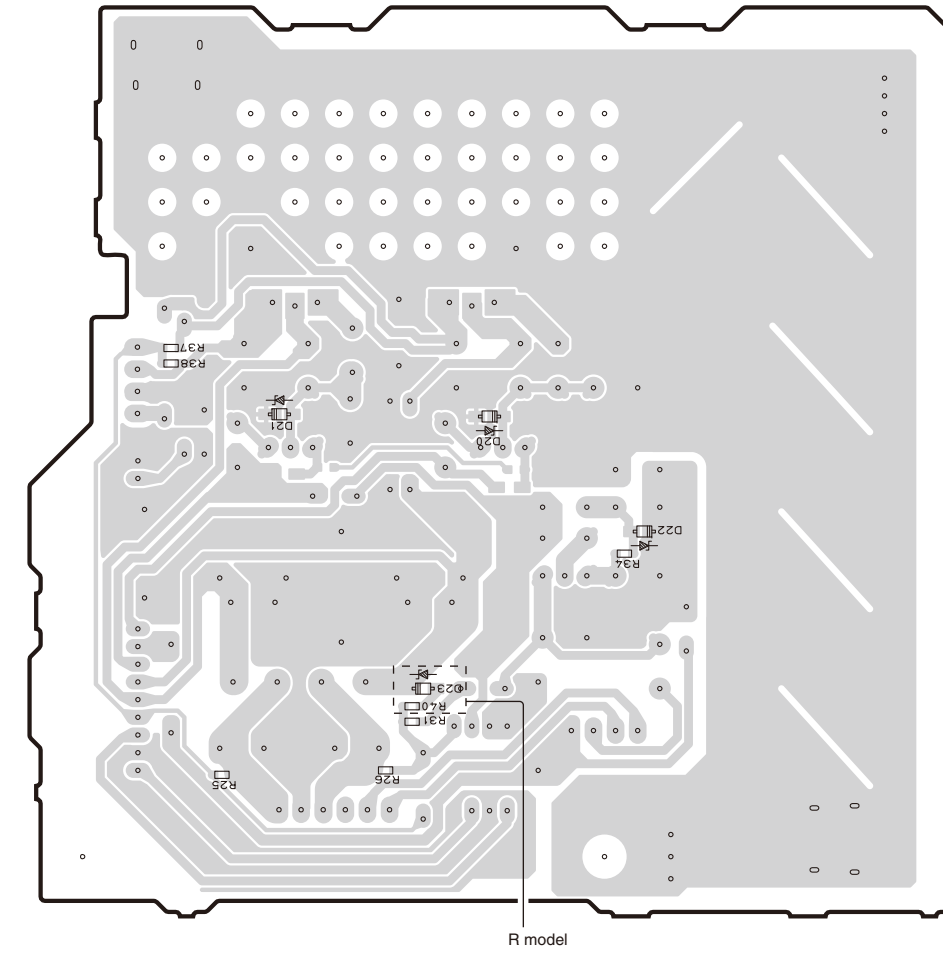
Ref no.	Location
D13	D3
D14	G4
D24	C4
D26	C5
IC2	C3
IC3	C2
IC4	D3
Q6	H3
Q7	G3
Q8	H4
Q10	D3

1  
2  
3  
4  
5  
6  
7

**OPERATION (12) P.C.B. (Side B)**

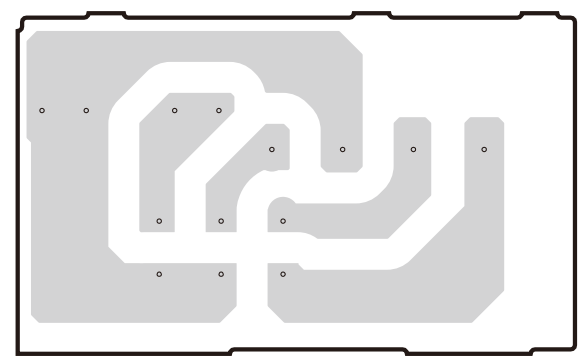


**OPERATION (13) P.C.B. (Side B)**



**OPERATION (14) P.C.B. (Side B)**

R model



• Semiconductor Location

Ref no.	Location	Ref no.	Location
D1	B4	D12	C2
D2	B3	D15	C4
D3	E5	D20	H3
D4	B2	D21	G3
D5	B3	D22	I4
D6	B3	D23	H4
D7	C3	IC1	B3
D8	C3	Q1	B2
D9	C3	Q2	B4
D10	D2	Q3	C3
D11	D2	Q9	B2

Notes)

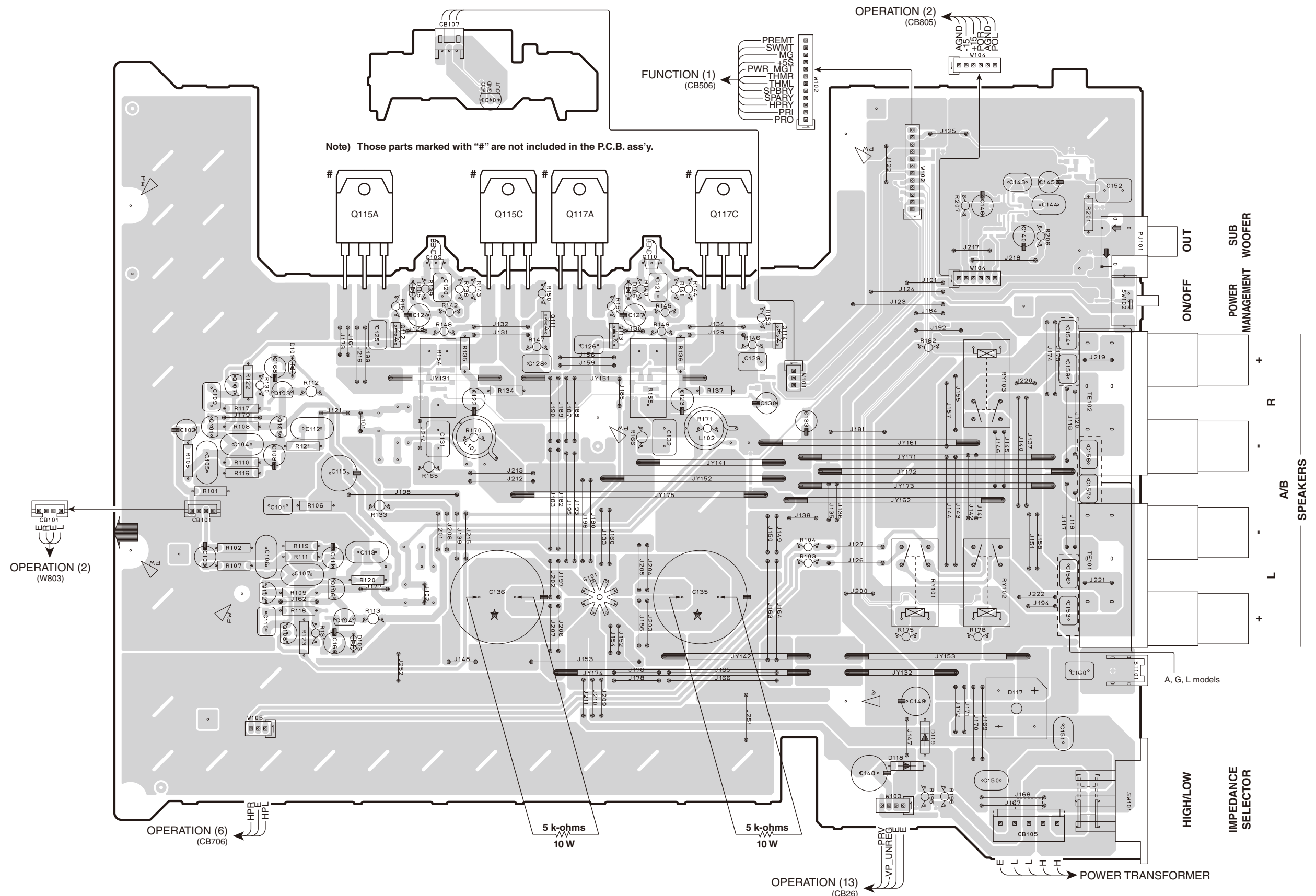
Safety measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.  
C135, C136 on MAIN (1) P.C.B.

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

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

Note) Those parts marked with “#” are not included in the P.C.B. ass’y.



• Semiconductor Location

Ref no.	Location
D101	D4
D103	D6
D105	E3
D106	F3
D117	H6
D118	H6
D119	H6
IC101	E2
Q101	C4
Q102	D5
Q103	D4
Q104	D5
Q105	D4
Q106	D5
Q107	C4
Q108	D6
Q109	E3
Q110	F3
Q111	E4
Q112	E4
Q113	F4
Q114	G4
Q115A	E3
Q116C	D3
Q117C	F3
Q118A	G3

1

**MAIN (1) P.C.B.** (Side B)**MAIN (2) P.C.B.** (Side B)

2

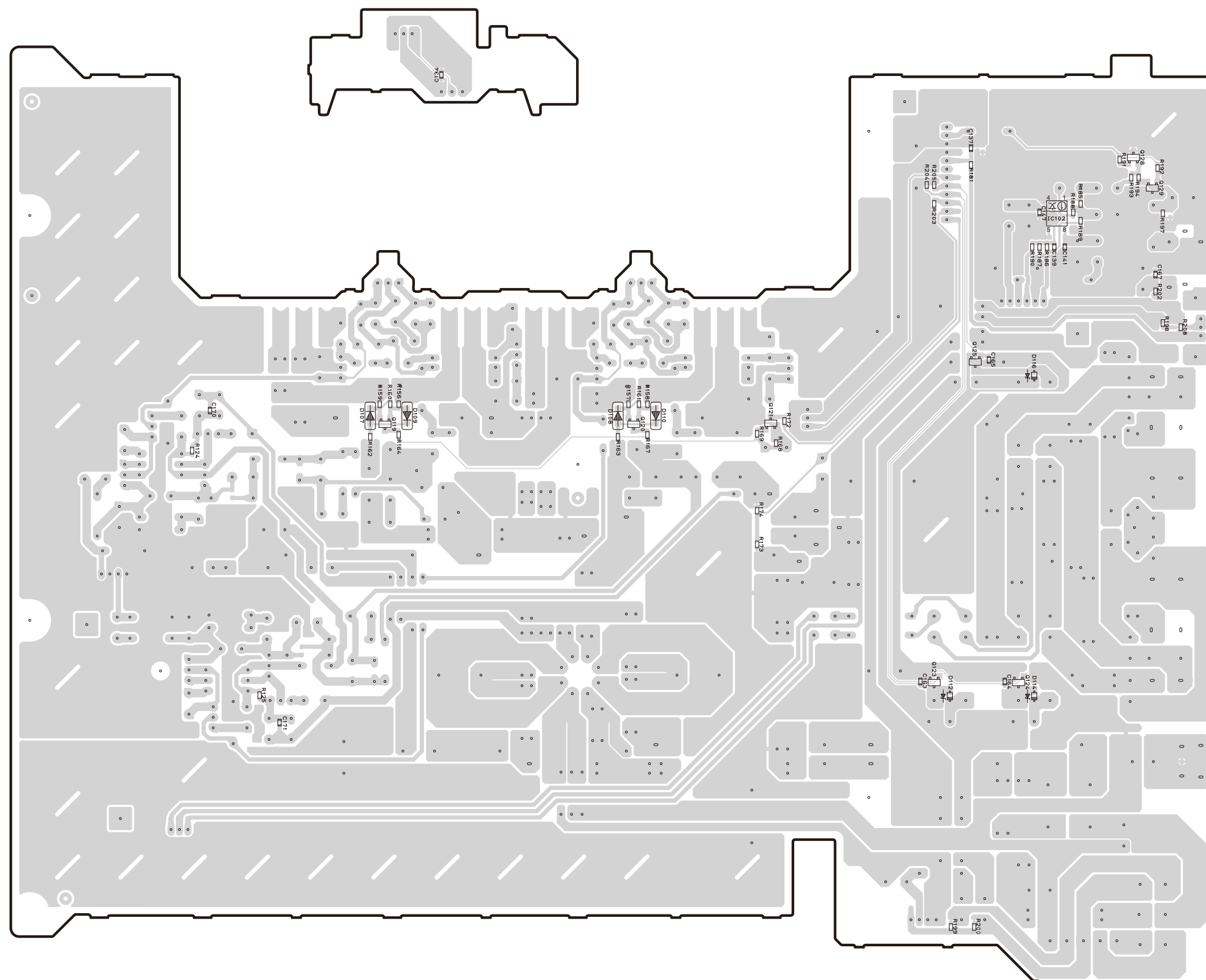
3

4

5

6

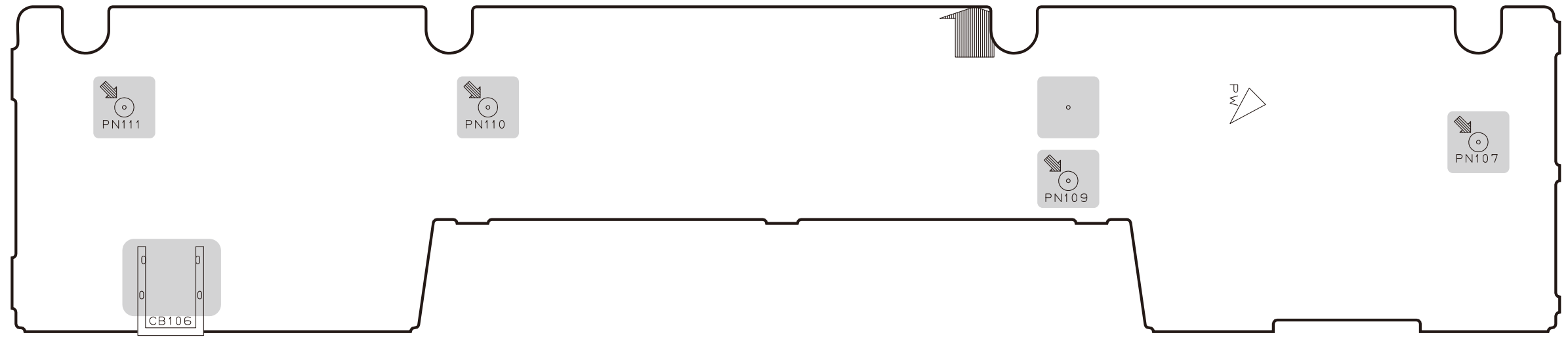
7



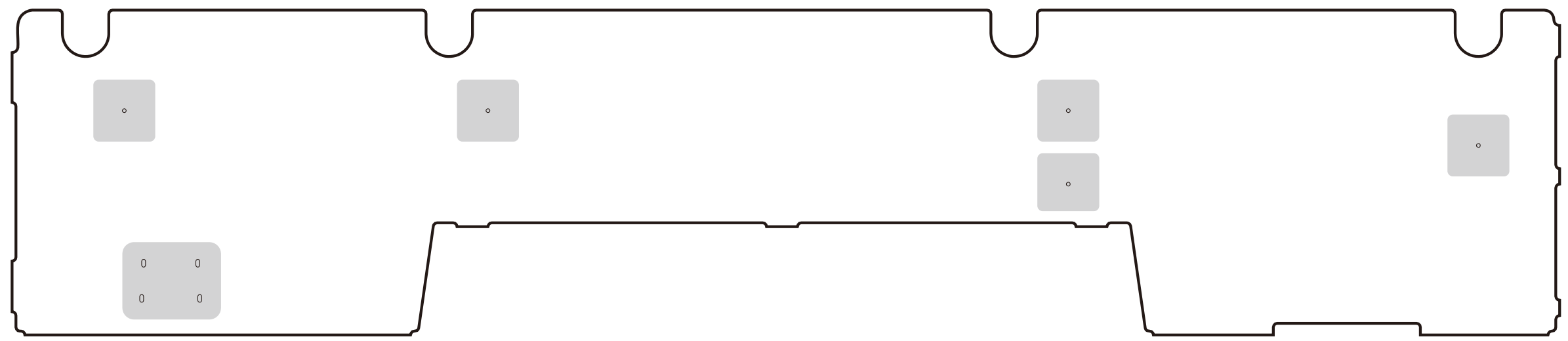
• Semiconductor Location

Ref no.	Location
D107	D4
D108	F4
D109	E4
D110	F4
D112	H5
D114	H5
D116	H4
IC102	H3
Q119	E4
Q120	F4
Q121	G4
Q123	H5
Q124	H5
Q125	H4
Q128	I3
Q129	I3

**MAIN (3) P.C.B.** (Side A)



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







## PIN CONNECTION DIAGRAMS

### • ICs

LC72725KM-UY-TLM-E 	LE24C023M-TLM-E 	LM61CIZ 	NJM2068MD-TE2 	NJM2388F05  1. V <sub>IN</sub> 2. V <sub>OUT</sub> 3. GND 4. ON/OFF CONTROL
NJM4580E 	NJM5532M-D 	M66003-0131FP-R 	R1190H055B-T1-FE 	R2A15220FP 
R5F364AENFA 	RP130Q501D-TR-F 	TC4013BP 	TC7SET32FU 	

### • Transistors

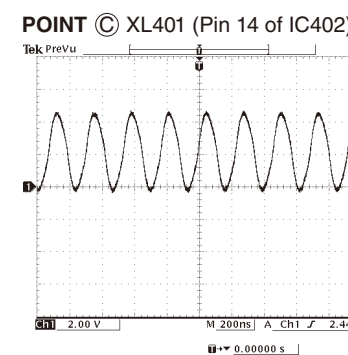
2SA1015-Y 	2SA1037K 	2SA1145 	2SA1358 O,Y 2SC3421 O,Y 	2SA1694 O,P,Y 2SC4467 O,P,Y 	2SA1708 2SC4488 	2SA970-GR, BL 		
2SA2220 	2SB1257 	2SC1740S 	2SC1815 Y 	2SC2412K 	2SC2705 	2SD2014 	2SD2704 K 	2SD2705S TP 
2SK3850 	2N5401C-AT/P 	DTA143EKA DTA144EKA DTC114EKA 	KRC104S-RTK 	KTA1046-Y-U/P 	KTA1517S KTC3875S KTC3911S 	MCH6336-TL-E  1. Drain 2. Drain 3. Gate 4. Source 5. Drain 6. Drain		

### • Diodes

1SS133 1SS176 	1T2 	DB105 	HSU119TRF 	HZU3.3B2 TRF-E HZU5.1B2 TRF-E HZU5.6B1 TRF-E HZU5.6B2 TRF-E HZU6.2B3 TRF-E HZU6.8B2 TRF-E HZU7.5B1 TRF-E HZU7.5B3 TRF-E 	HZU10B1 TRF-E HZU10B2 HZU15B3 TRF-E HZU16B2 TRF-E HZU22B3 TRF-E HZU30B TRF-E 
MTZJ5.1C MTZJ9.1C MTZJ10A 	RLS245 	RR264M-400TR 	RS203M-B-C-J80 	S4VB60 	UDZS3.0B 3.0V UDZS30B 30V 



**SCHEMATIC DIAGRAMS**  
FUNCTION 1/2

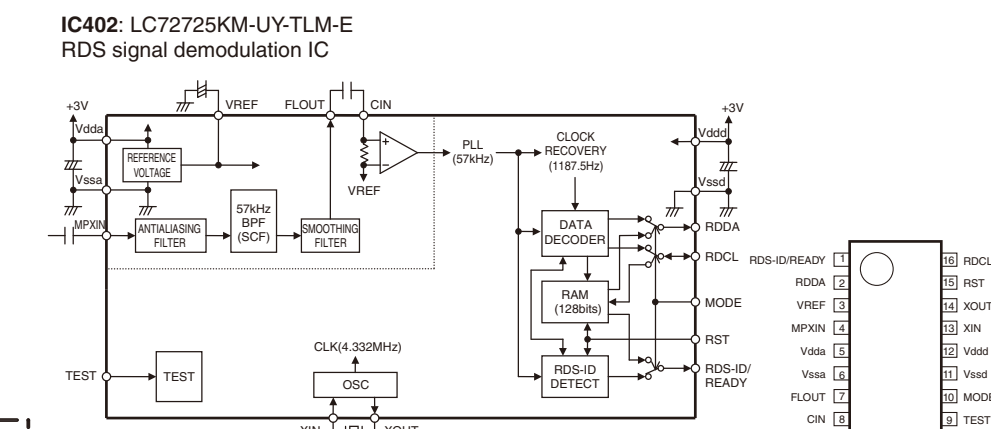


FFC connector 1.25mm Pitch  
to TUNER PACK  
CB403  
to AM/FM TUNER

Page 57 [B5]  
to OPERATION (2)\_W801  
to OPER(2)

Page 57 [B9]  
to OPERATION (1)\_CB701  
to OPER(1)

Page 57 [I8]  
to OPERATION (5)\_W705  
to OPER(5)



Page 57 [J5]  
to OPERATION (7)\_W851  
to MAINS (1)

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

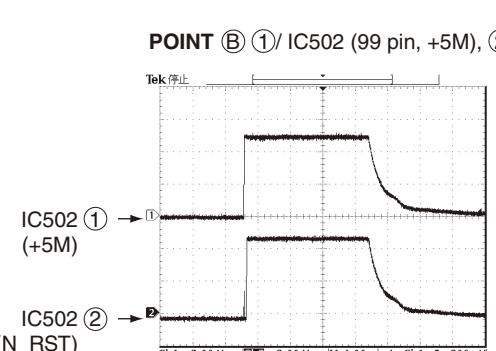
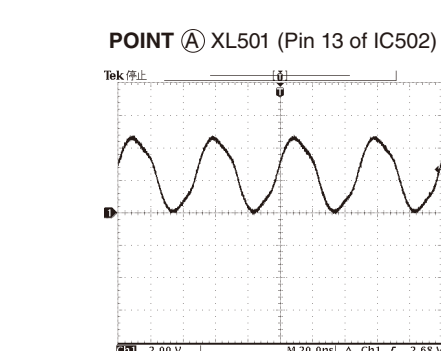
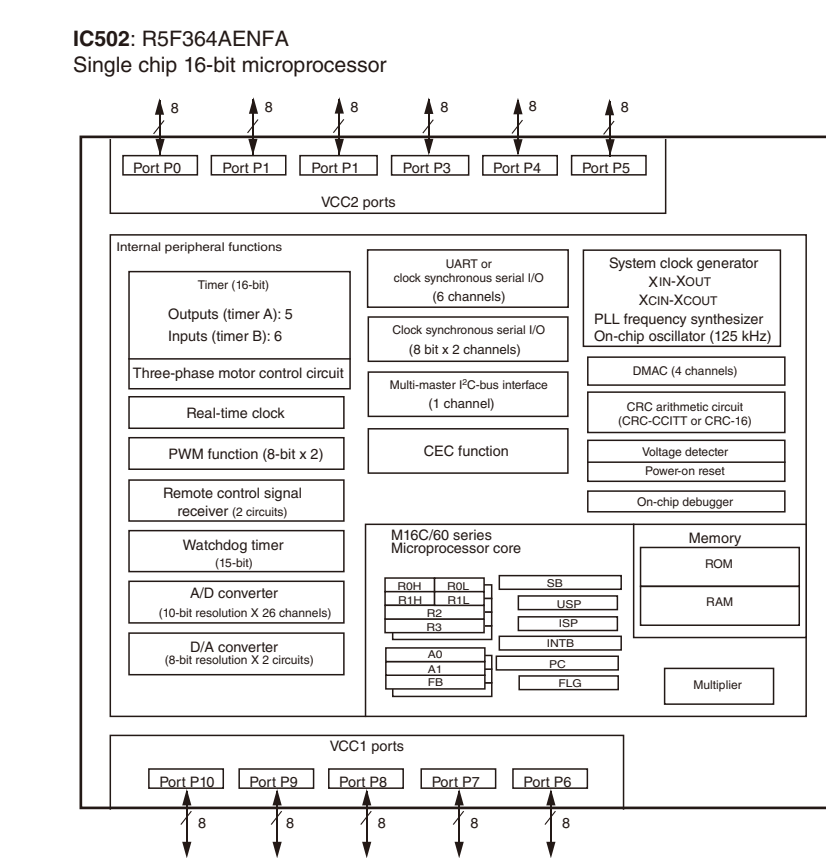
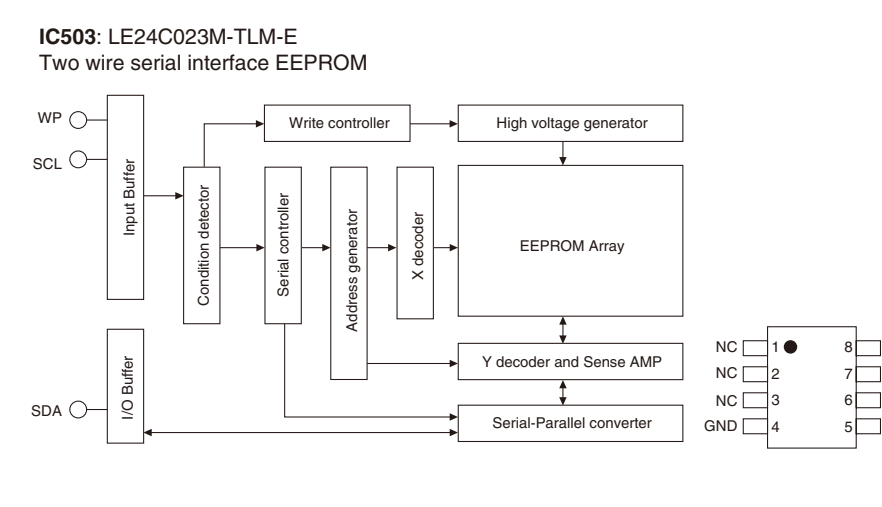
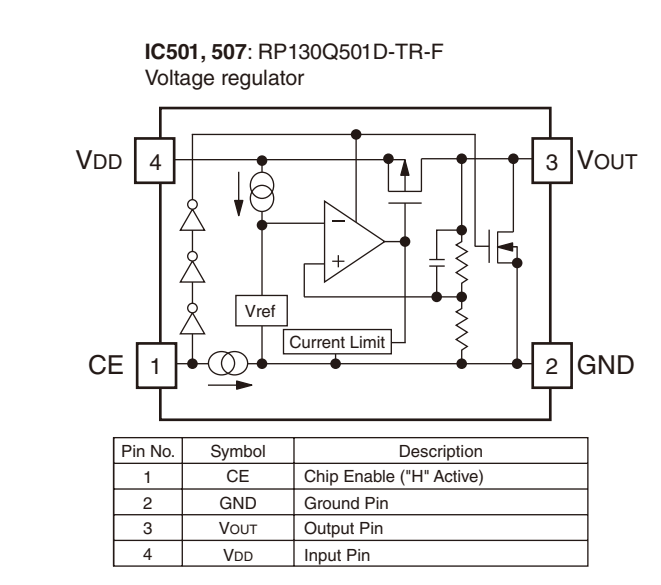
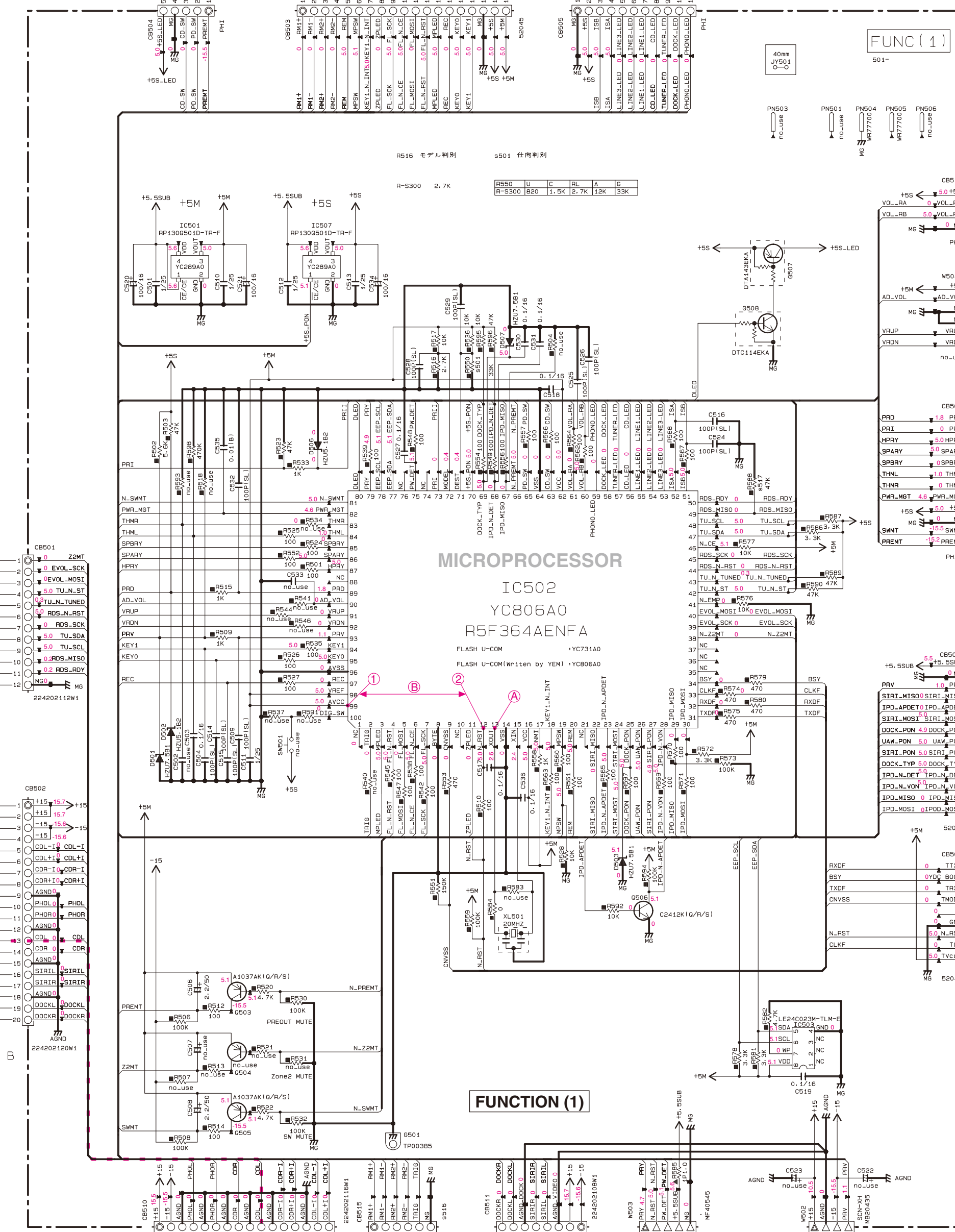
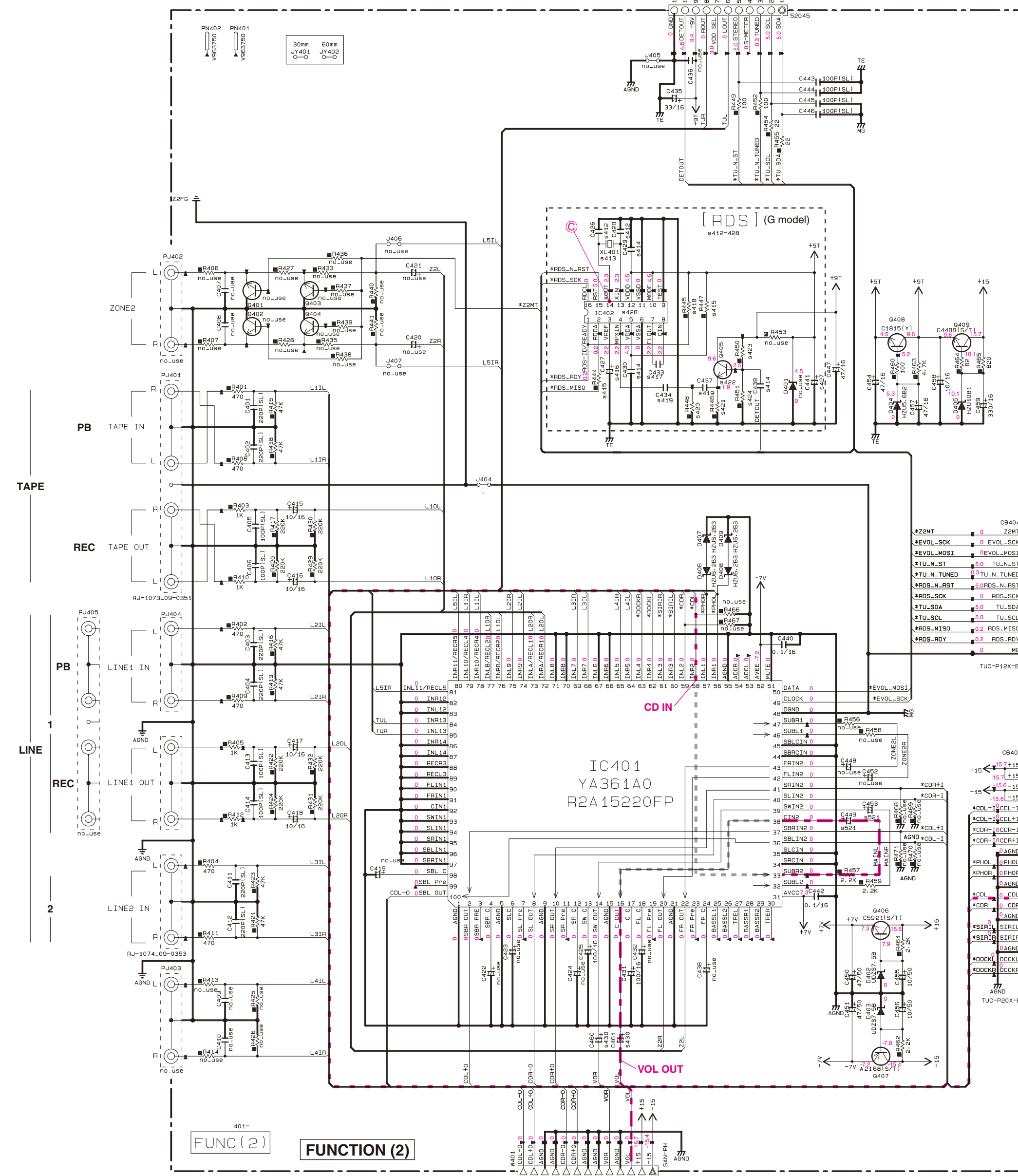
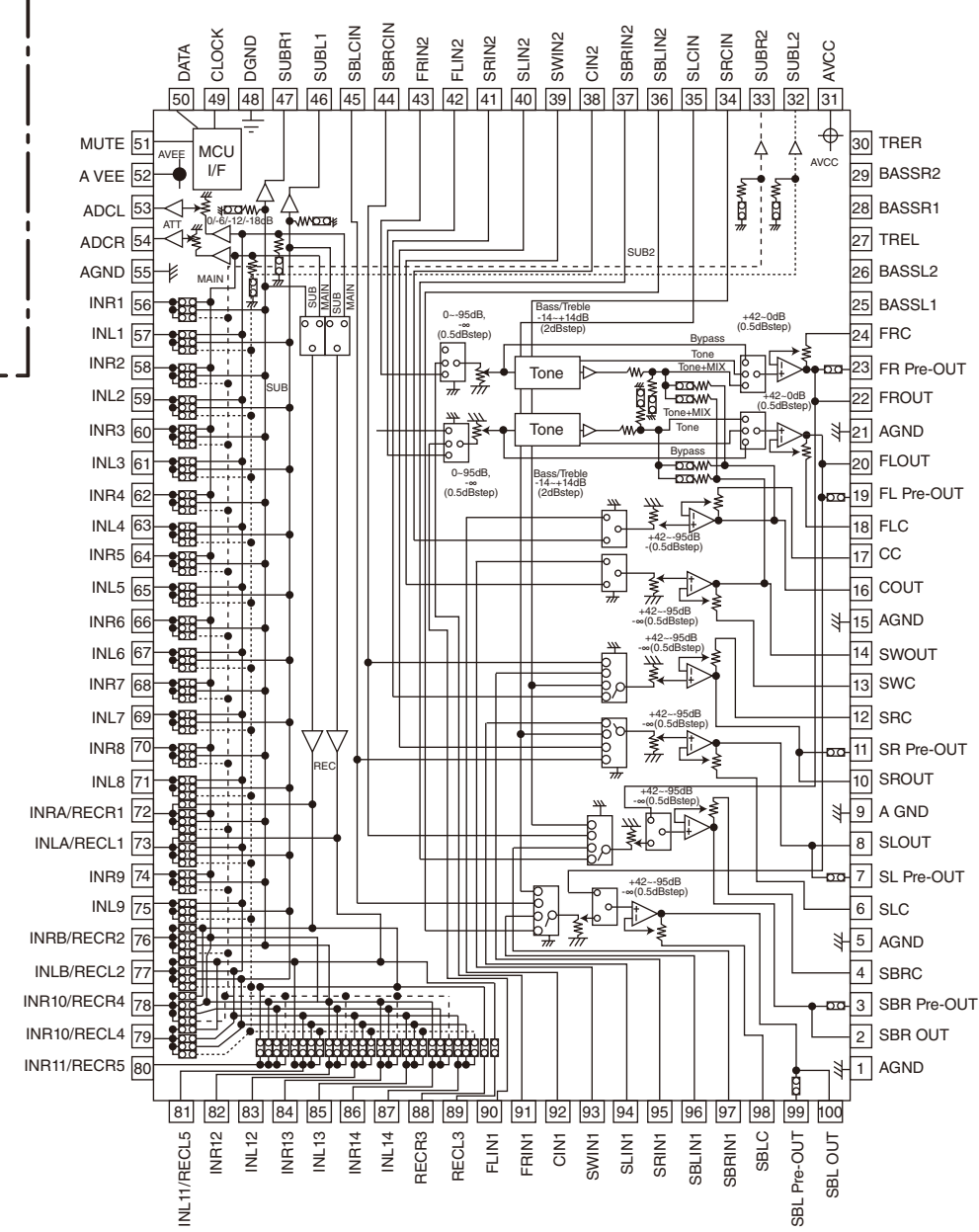
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊞	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊞	CERAMIC TUBULAR CAPACITOR
⊞	POLYESTER FILM CAPACITOR
⊞	POLYETHYLENE FILM CAPACITOR
⊞	MICA CAPACITOR
⊞	POLYPROPYLENE FILM CAPACITOR
⊞	POLYETHYLENE SULFIDE FILM CAPACITOR

Page 59 [J10]  
to MAIN (1)\_W102

Page 60 [I3]  
to DOCK\_CB303

Writing port  
(FLASH)

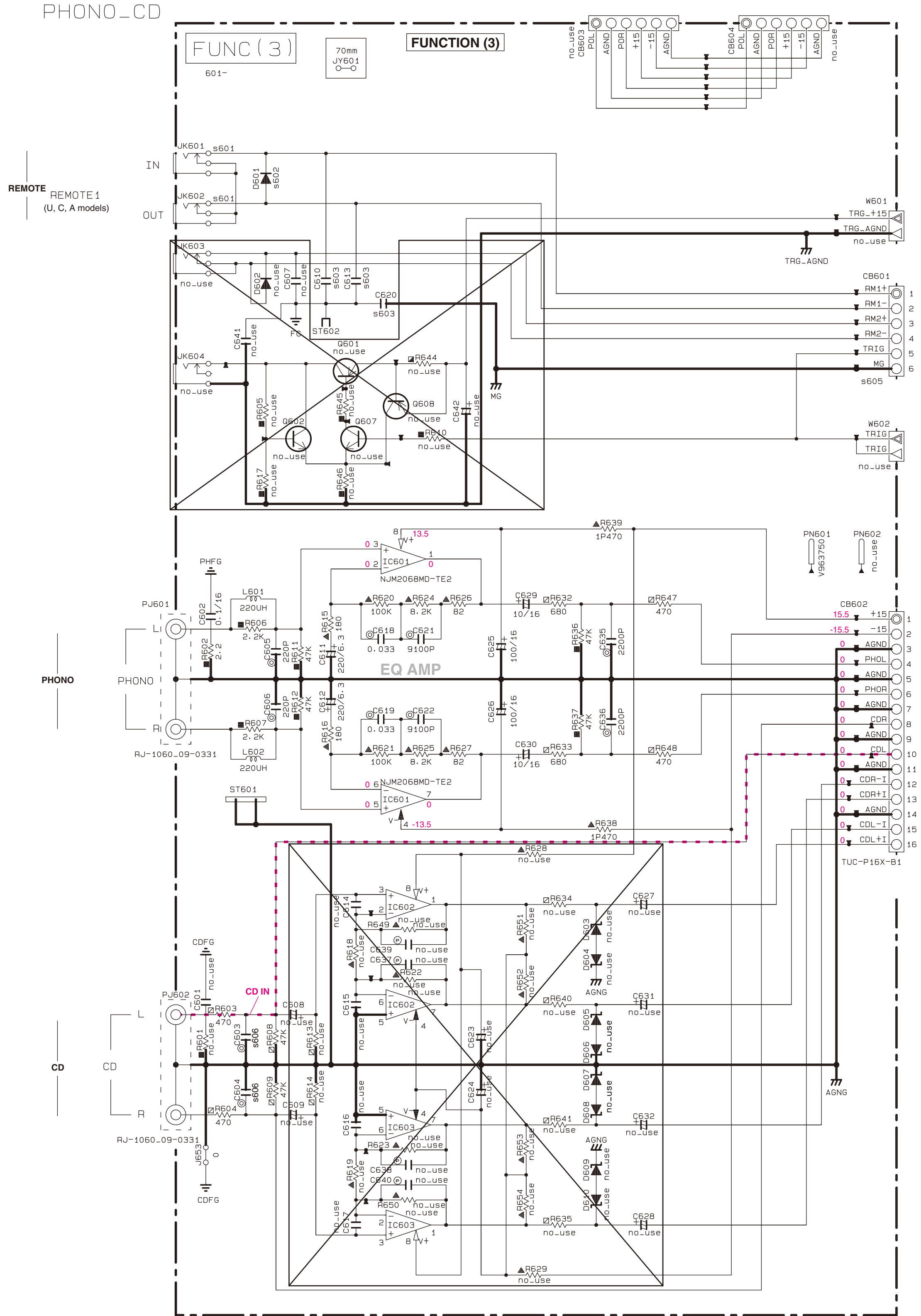
IC401: R2A15220FP  
8-channel electronic volume with 11 input selector and tone control



\* All voltages are measured with a 10MΩV 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.



FUNCTION 2/2



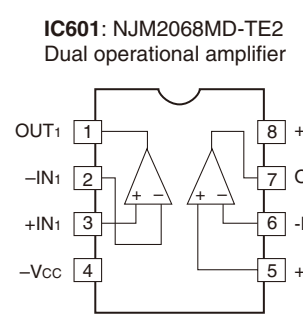
450mm

TO FUNC (1)

TO FUNC (1)

Page 55 [18]  
to FUNCTION (1), CB515  
(U, C, A models)

Page 55 [18]  
to FUNCTION (1), CB510



Destination Part List

P.C.B.	sXX	LOC	U	C	R	A	G	L
(2)	s412	C426 C428	X	X	X	X	US06127 27P/50 (B)	X
	s413	XL401	X	X	X	X	V273110 4.332MHZ	X
	s414	C429 C430 C439	X	X	X	X	US03510 0.1/16V (B)	X
	s415	R444 R447	X	X	X	X	RD35510 100	X
	s416	C427	X	X	X	X	UR03710 10/16	X
	s417	C433	X	X	X	X	US06256 560P/50	X
	s418	R445	X	X	X	X	RD35651 5.1K	X
	s419	C434 C437	X	X	X	X	US06233 330P/50	X
	s420	R446	X	X	X	X	RD35722 22K	X
	s421	R448	X	X	X	X	RD35633 3.3K	X
	s422	Q405	X	X	X	X	IC17402 2SC1740S (Q/R/S)	X
	s423	R450	X	X	X	X	RD35810 100K	X
	s424	R451	X	X	X	X	RD35733 33K	X
	s427	C441	X	X	X	X	UR03747 47/16	X
	s428	IC402	X	X	X	X	X8235A0 LC72725KM	X
	s429	C449 C453	UR26710 10/50	UR26710 10/50	UR26710 10/50	UR26710 10/50	UU23710 10/16	UR26710 10/50
	s430	C460 C461	UR23710 10/16	UR23710 10/16	UR23710 10/16	UR23710 10/16	UU23710 10/16	UR23710 10/16
(1)	s501	R550	RD35582 820	RD35615 1.5K	RD35627 2.7K	RD35712 12K	RD35733 33K	RD35627 2.7K
	s516	CB515	V782560 224202106W1	V782560 224202106W1	X	V782560 224202106W1	X	X
	s517	R588	X	X	X	X	RD35747 47K	X
(3)	s601	JK601	WE26000	WE26000	X	WE26000	X	X
	s602	JK602	LGY6501-0900FC	LGY6501-0900FC	X	LGY6501-0900FC	X	X
	s603	C610 C613 C620	V959920 HSU119 US06310 1000P/50 (B)	V959920 HSU119 US06310 1000P/50 (B)	X	V959920 HSU119 US06310 1000P/50 (B)	X	X
	s605	CB601	V782730 TUC-P06X-B1	V782730 TUC-P06X-B1	X	V782730 TUC-P06X-B1	X	X
	s606	C603 C604	WJ60310 220P/50	WJ60310 220P/50	WJ60310 220P/50	WJ60310 220P/50	WJ60830 220P/100	WJ60310 220P/50

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
⊙	POLYPHENYLENE SULFIDE FILM 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  
(P)..... LATIN AMERICA  
(S)..... BRAZIL

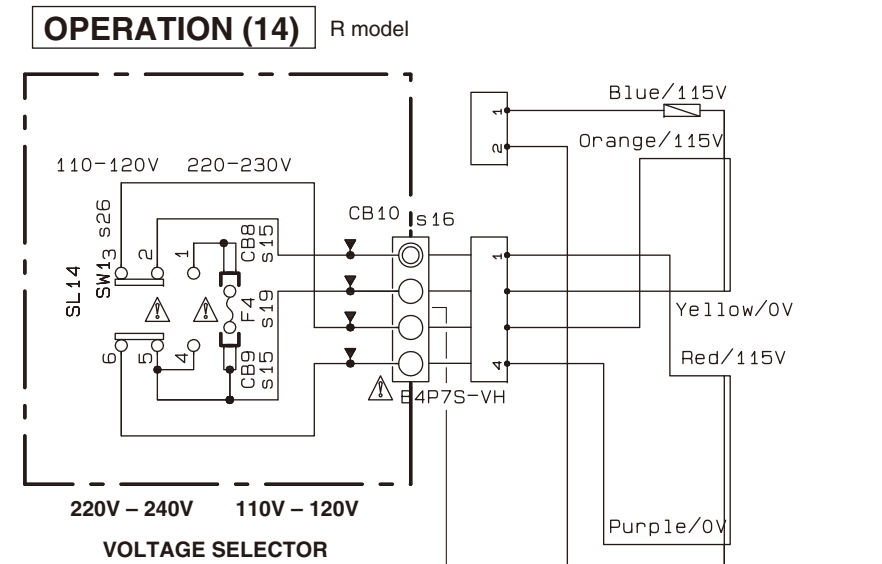
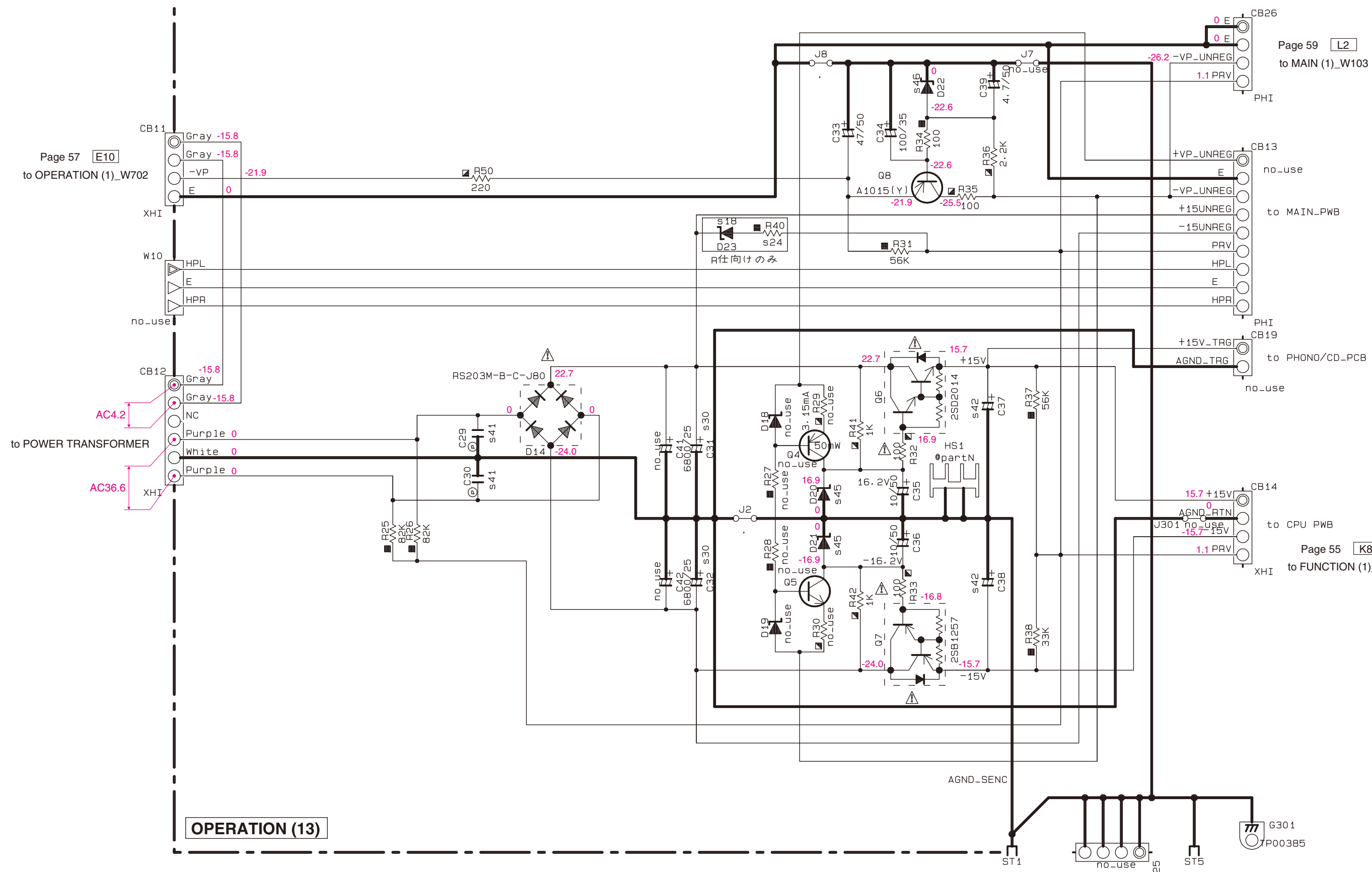
\* All voltages are measured with a 10MΩ/V DC electronic voltmeter.  
\* Components having special characteristics are marked Δ, and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.





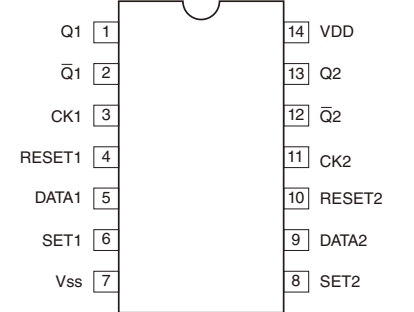
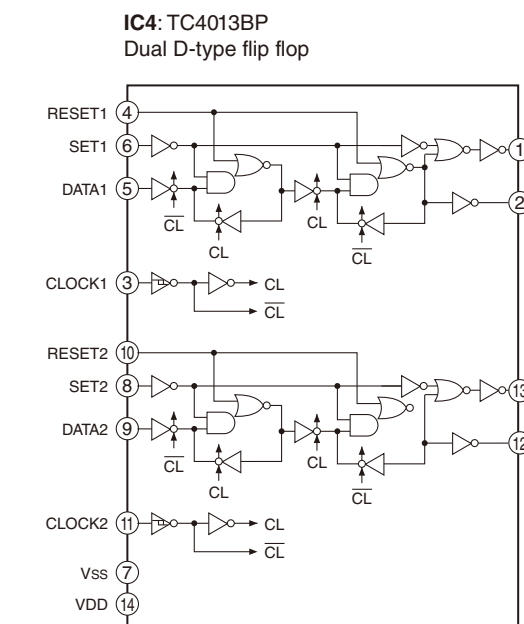
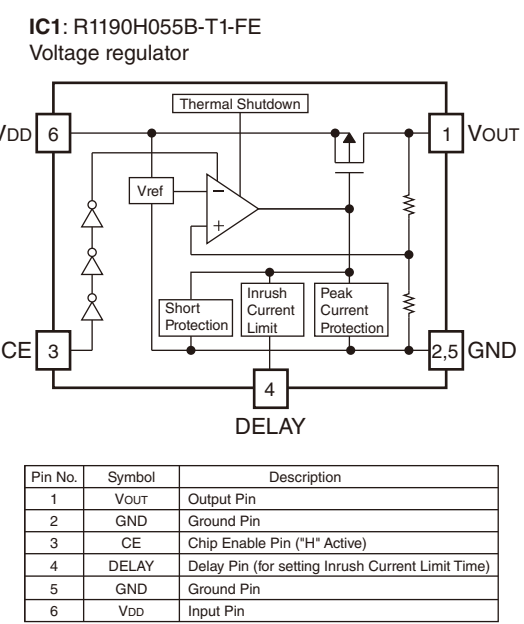
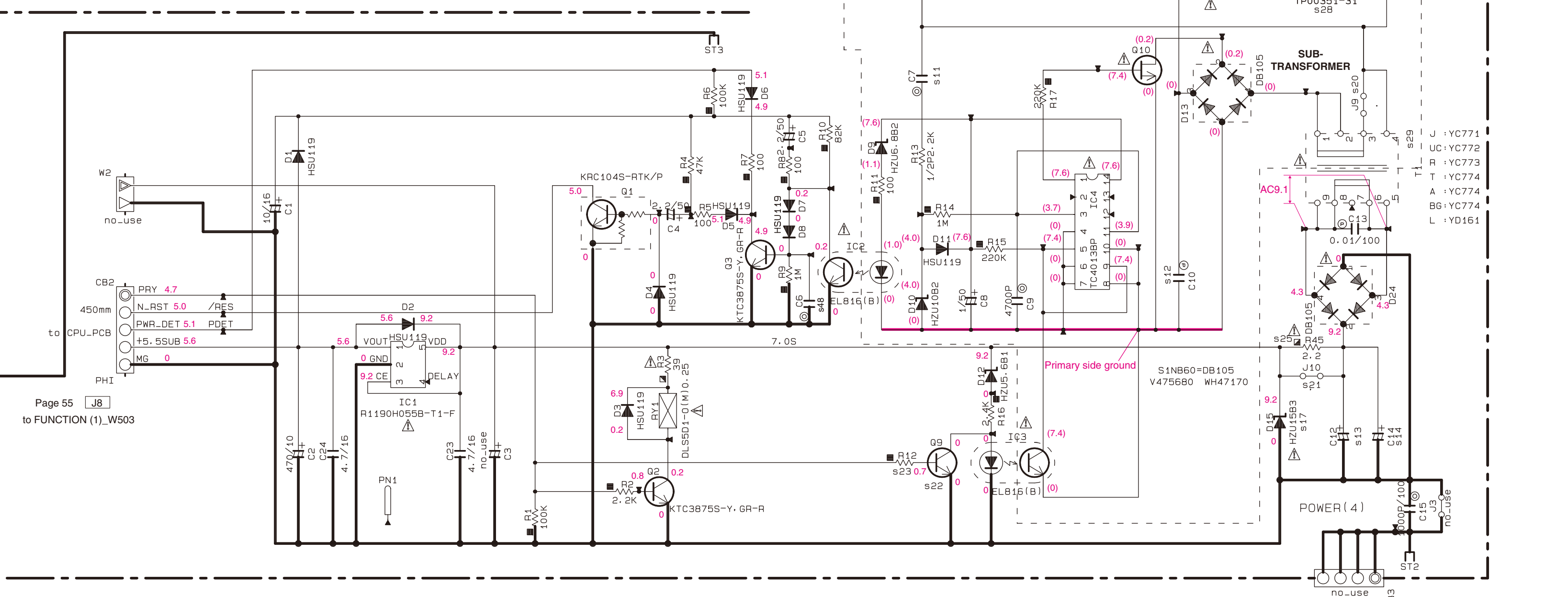
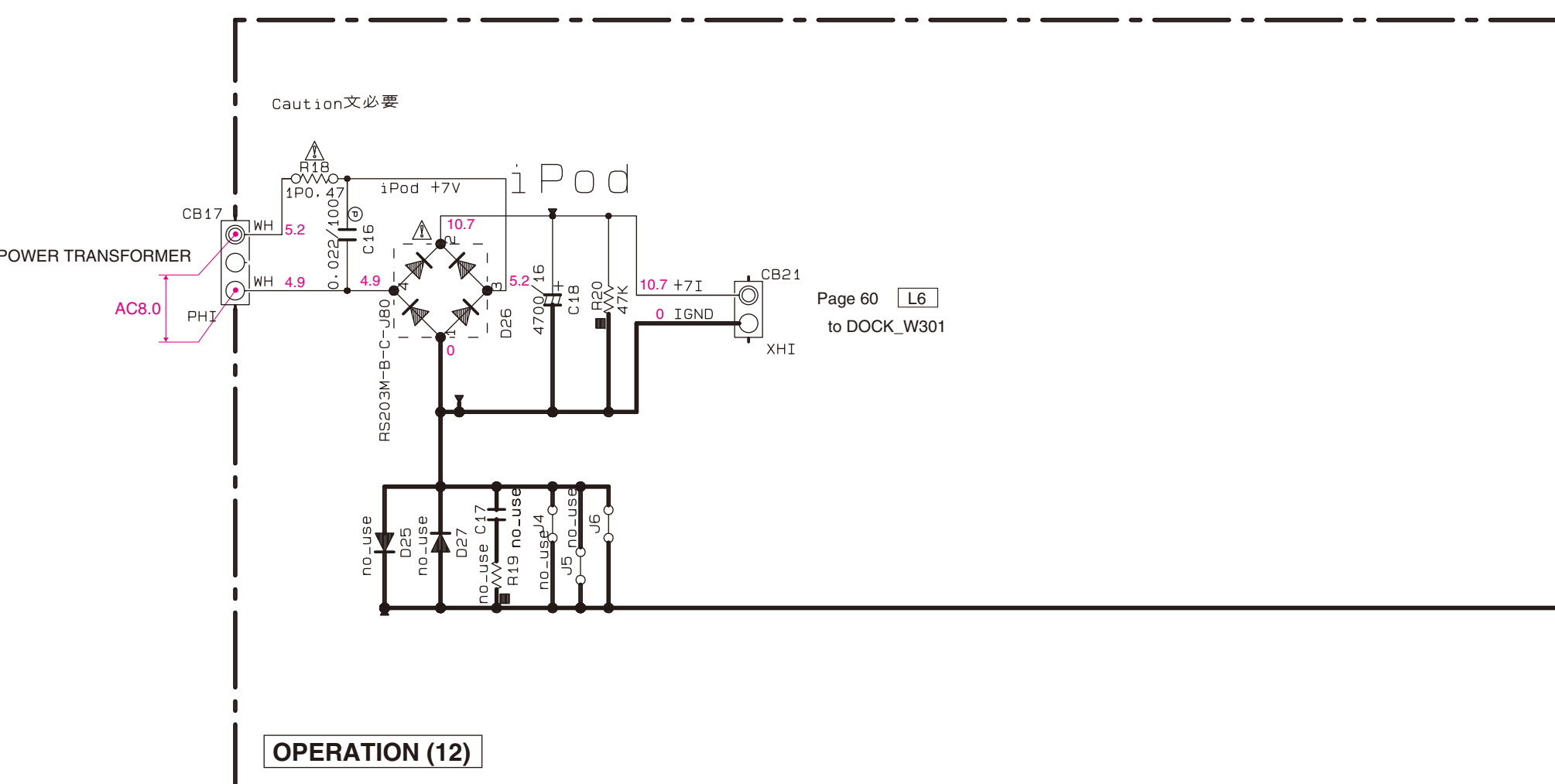
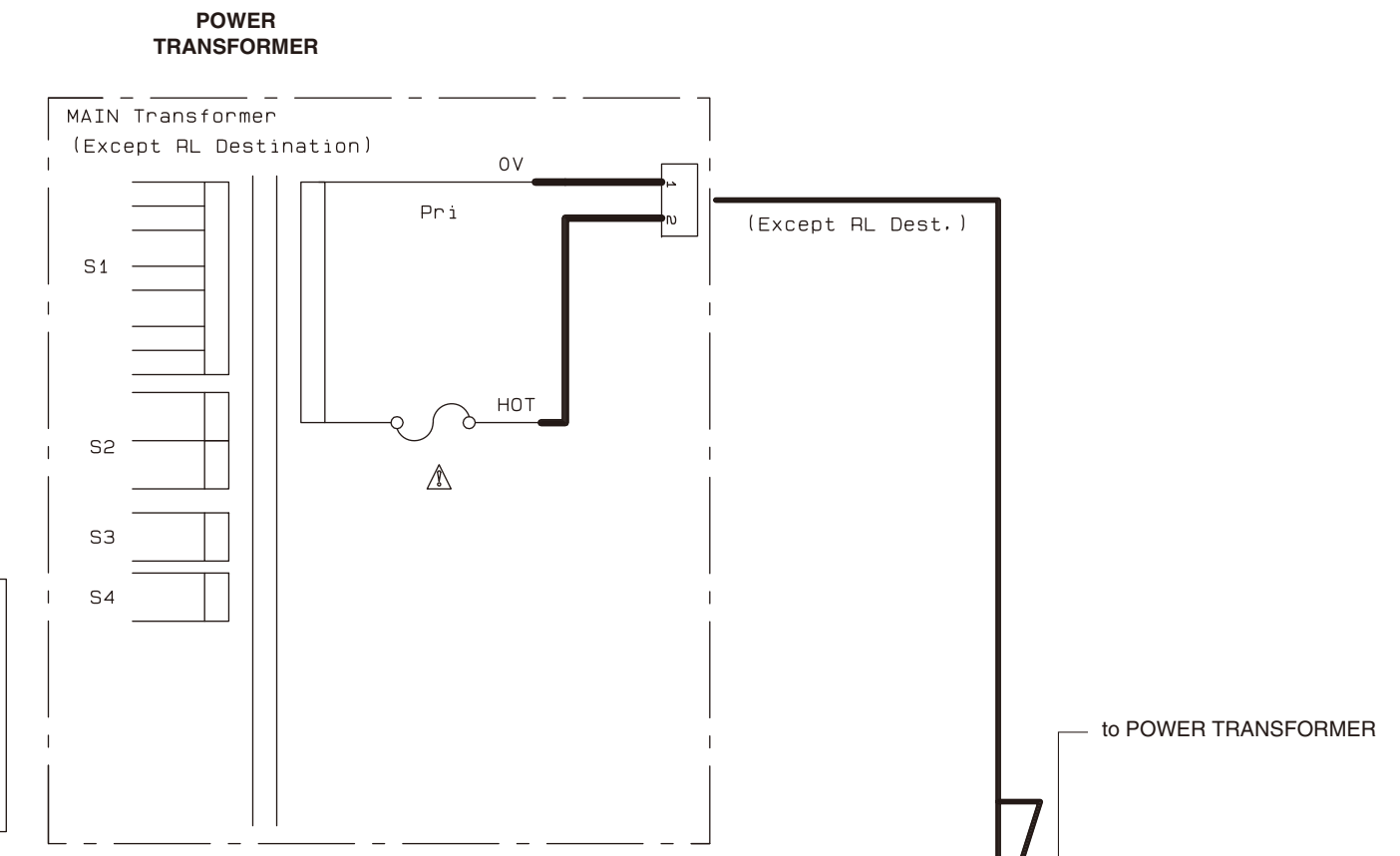


OPERATION 2/2



ヒューズ

機種名	定格	部品番号	定格	部品番号
R-S700	T8A125	WG21110	T4AL250	VV07180
R-S500	T8A125	WG21110	T4AL250	VV07180
R-S300	T5A125	WB22110	T2.5AL250	VV07160
A-S500	T8A125	WG21110	T4AL250	VV07180
A-S300	T6A125	WB22110	T2.5AL250	VV07160



RESET	SET	DATA	CK	Qn	Qn+1	Qn+1
L	H	-	-	-	H	L
H	L	-	-	-	L	H
H	H	-	-	-	H	H
L	L	-	-	-	L	L
L	L	-	L	-	L	L
L	L	-	L	Qn	Qn	Qn

\* Don't care  
Δ: Level change  
: No change

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
△	FINE PROF. 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
△	MICA CAPACITOR
△	POLYPROPYLENE FILM CAPACITOR
△	SEMICONDUCTIVE CERAMIC CAPACITOR
△	POLYPHENYLENE SULFIDE FILM CAPACITOR

NOTICE (model)

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

\* 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.

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

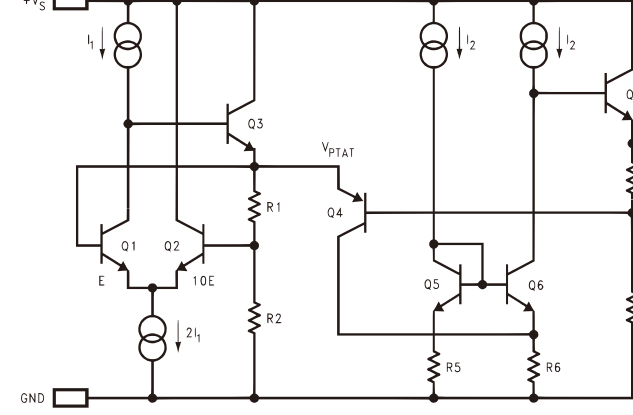
LOC	UC	R	A	G	L
S101	TE101	WU8700	WU8700	WU8700	WU8700
S102	TE102	WU8650	WU8650	WU8650	WU8650
C103		X	X	X	X
C104		X	X	X	X
C105		X	X	X	X
C106		X	X	X	X
C107		X	X	X	X
C108		X	X	X	X
C109		X	X	X	X
C110		X	X	X	X
C111		X	X	X	X
C112		X	X	X	X
C113		X	X	X	X
C114		X	X	X	X
C115		X	X	X	X
C116		X	X	X	X
C117		X	X	X	X
C118		X	X	X	X
C119		X	X	X	X
C120		X	X	X	X
C121		X	X	X	X
C122		X	X	X	X
C123		X	X	X	X
C124		X	X	X	X
C125		X	X	X	X
C126		X	X	X	X
C127		X	X	X	X
C128		X	X	X	X
C129		X	X	X	X
C130		X	X	X	X
C131		X	X	X	X
C132		X	X	X	X
C133		X	X	X	X
C134		X	X	X	X
C135		X	X	X	X
C136		X	X	X	X
C137		X	X	X	X
C138		X	X	X	X
C139		X	X	X	X
C140		X	X	X	X
C141		X	X	X	X
C142		X	X	X	X
C143		X	X	X	X
C144		X	X	X	X
C145		X	X	X	X
C146		X	X	X	X
C147		X	X	X	X
C148		X	X	X	X
C149		X	X	X	X
C150		X	X	X	X
C151		X	X	X	X
C152		X	X	X	X
C153		X	X	X	X
C154		X	X	X	X
C155		X	X	X	X
C156		X	X	X	X
C157		X	X	X	X
C158		X	X	X	X
C159		X	X	X	X
C160		X	X	X	X
C161		X	X	X	X
C162		X	X	X	X
C163		X	X	X	X
C164		X	X	X	X
C165		X	X	X	X
C166		X	X	X	X
C167		X	X	X	X
C168		X	X	X	X
C169		X	X	X	X
C170		X	X	X	X

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

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

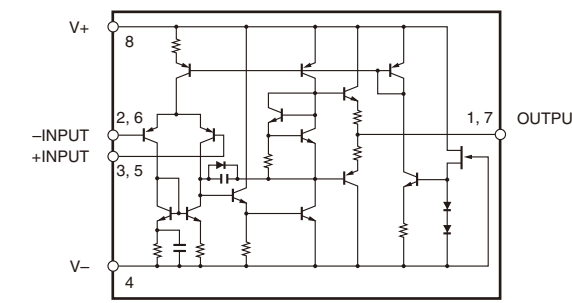
IC101: LM61CIZ

Temperature sensor



IC102: NJM4580E

Dual operational amplifier

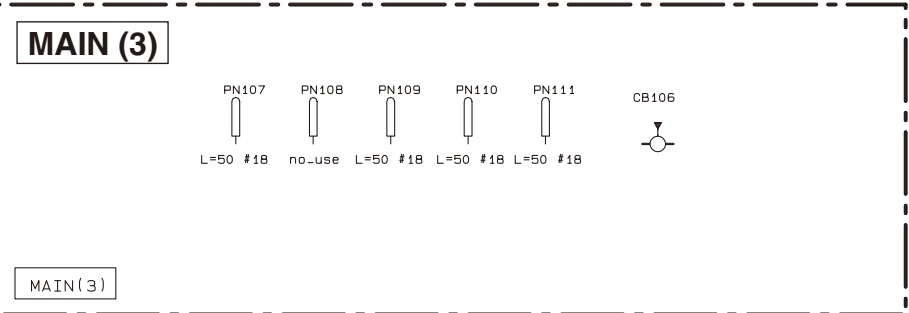
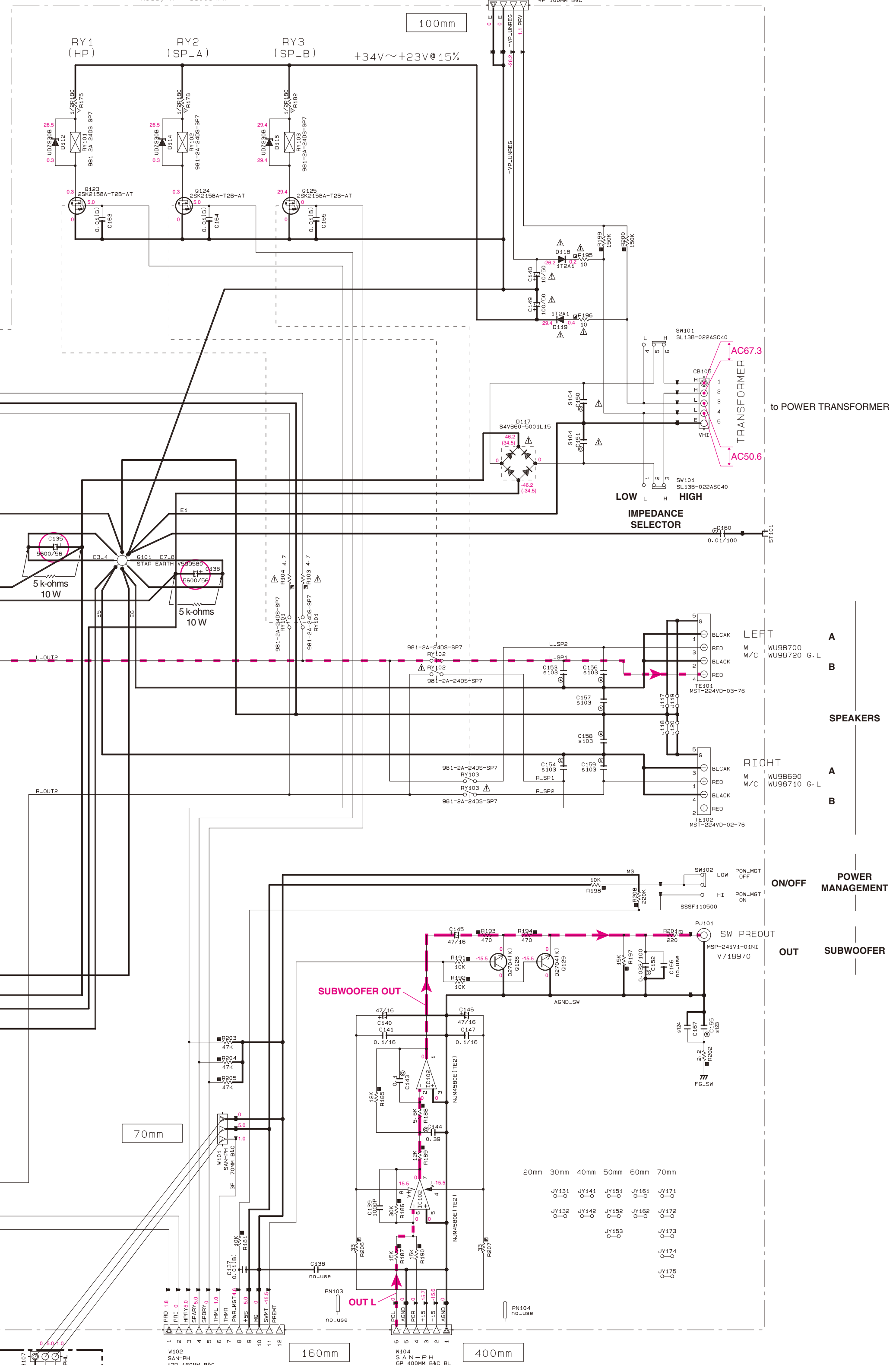


Notes

Safety measures

- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there.
- Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
- C135, C136 on MAIN (1) P.C.B.

Page 58 [G2]  
 to OPERATION (13)\_CB26  
 TO OPE (13)



MAIN (1)

MAIN (2)

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

Page 57 [J8]  
 to OPERATION (6)\_CB706

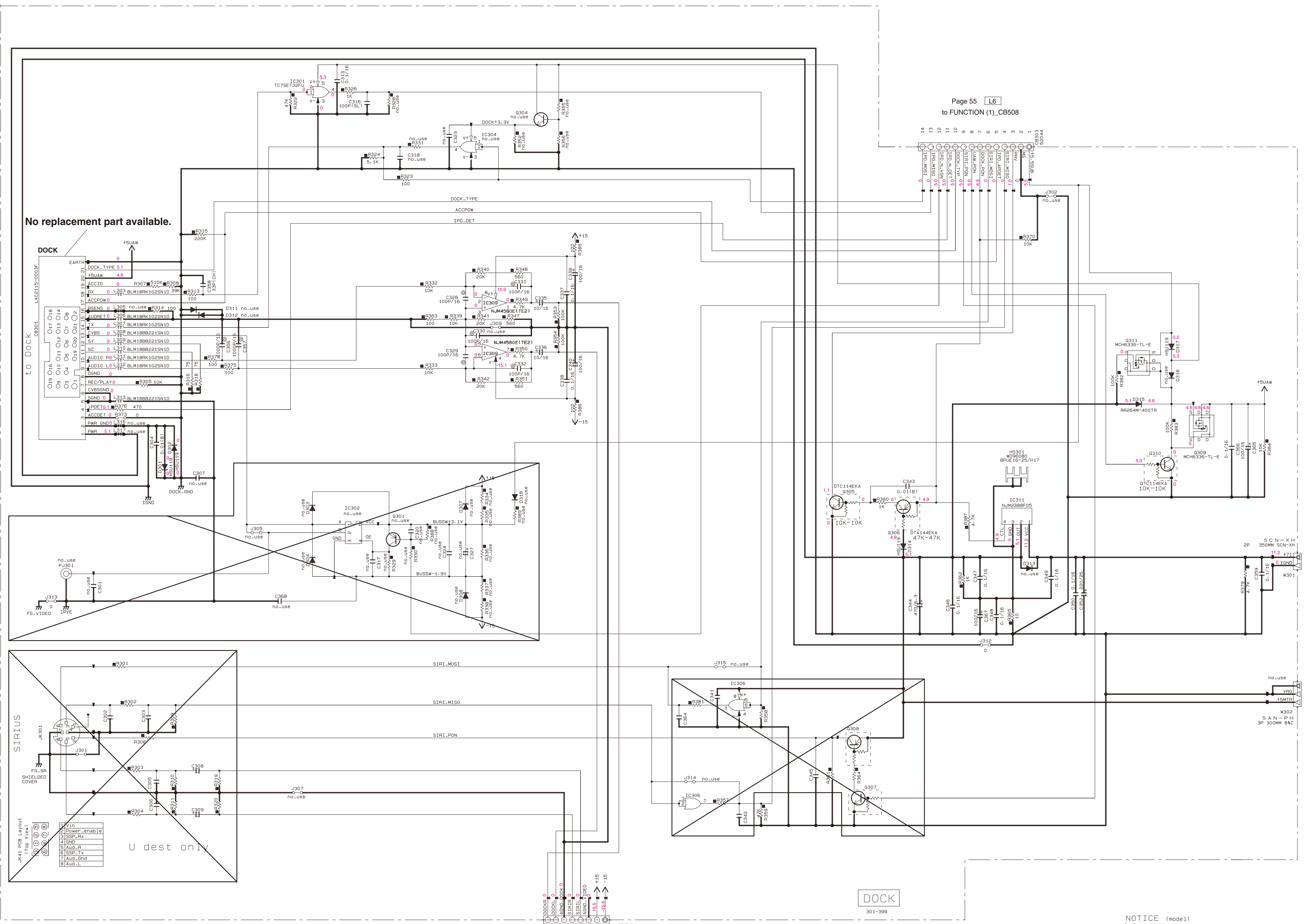
Page 57 [E5]  
 to OPERATION (2)\_W803

TO FUNC (1)  
 Page 55 [L4]  
 to FUNCTION (1)\_CB506

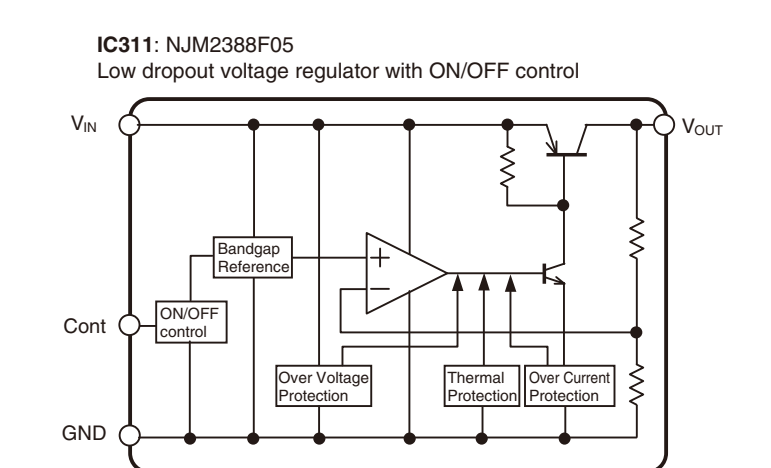
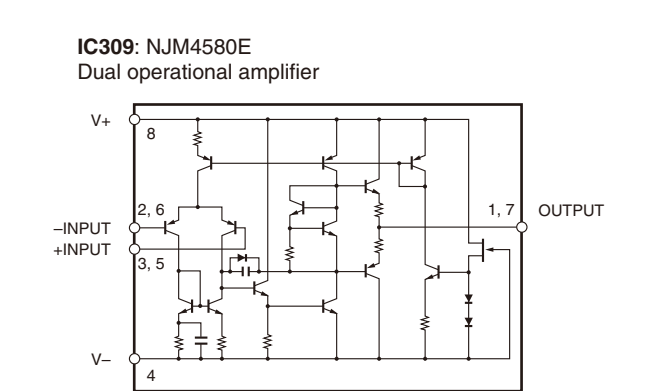
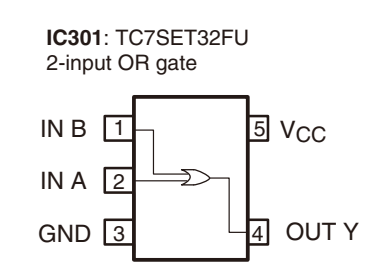
TO OPE (2)  
 Page 57 [F4]  
 to OPERATION (2)\_CB805

- 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.





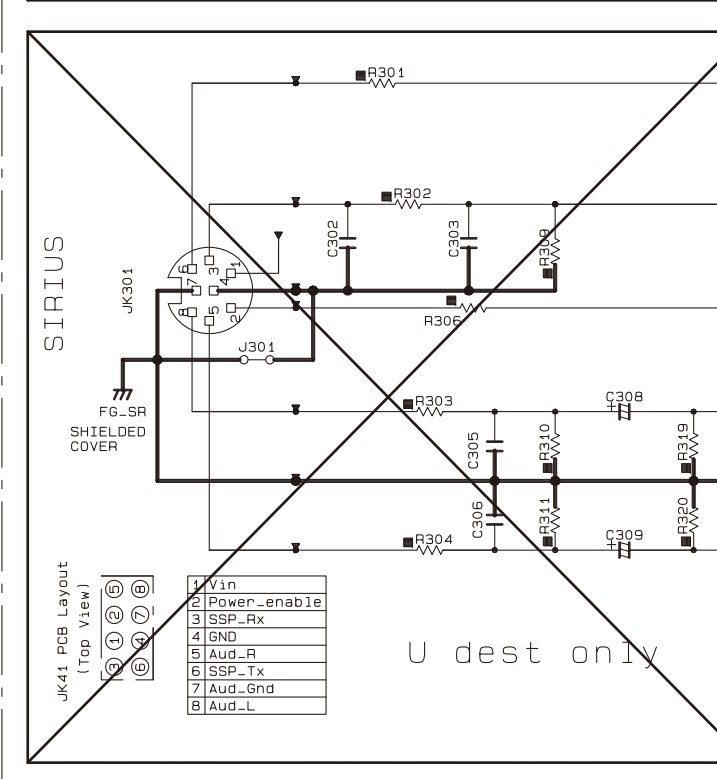
Page 55 [L6]  
to FUNCTION (1)\_CB508



Page 58 [C7]  
to OPERATION (12)\_CB21

TO OPE (12)  
TO OPE (2)

No replacement part available.



U dest only

DOCK  
301-399

TO FUNC (1)

Page 55 [I8]  
to FUNCTION (1)\_CB511

NOTICE (mode1)  
(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  
(P)..... LATIN AMERICA  
(S)..... BRAZIL

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

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

\* 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.



## ■ 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.

#### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	JUMPER.TST	: JUMPER,TEST POINT
C.CE	: CERAMIC CAP	L.DTCT	: LIGHT DETECTING MODULE
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.CHP	: CHIP LED
C.CE.CHP	: CHIP CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	LED.INFRD	: LED,INFRARED
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.EL	: ELECTROLYTIC CAP	PHOT.TR	: PHOTO TRANSISTOR
C.EL.BP	: BIPOLAR ELECTROLYTIC CAP	PIN.TEST	: PIN,TEST POINT
C.EL.CHP	: CHIP 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 POLYESTER FILM CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.CEMENT	: CEMENT RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.FUS	: FUSIBLE RESISTOR
C.NIOB.OXD	: NIOBIUM OXIDE 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.PP	: POLYPROPYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP.CHP	: CHIP POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	SCR.BND.HD	: BIND HEAD B-TIGHT SCREW
C.TNTL.CHP	: CHIP TANTALUM CAP	SCR.TERM	: SCREW TERMINAL
C.TRIM	: TRIMMER CAP	SCR.TR	: SCREW,TRANSISTOR
CN	: CONNECTOR	SURG.PRTCT	: SURGE PROTECTOR
CN.BS.PIN	: CONNECTOR,BASE PIN	SUPRT.PCB	: P.C.B. SUPPORT
CN.CANNON	: CONNECTOR,CANNON	SW.LEVER	: LEVER SWITCH
CN.DIN	: CONNECTOR,DIN	SW.MICRO	: MICRO SWITCH
CN.FLAT	: CONNECTOR,FLAT CABLE	SW.LEAF	: LEAF SWITCH
CN.FFC	: CONNECTOR,FLEXIBLE FLAT CABLE	SW.PUSH	: PUSH SWITCH
CN.HDMI	: HDMI CONNECTOR	SW.RT	: ROTARY SWITCH
CN.PHOTO.R	: PHOTO FIBER SENSOR,RECEIVED	SW.RT.ENC	: ROTARY ENCODER
CN.PHOTO.T	: PHOTO FIBER SENSOR,TRANSMITTED	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.ARRAY	: DIODE ARRAY	SW.SLIDE	: SLIDE SWITCH
DIODE.BRG	: DIODE BRIDGE	SW.TACT	: TACT SWITCH
DIODE.CHP	: CHIP DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.VAR	: VARACTOR DIODE	TERM.WRAP	: WRAPPING TERMINAL
DIODE.ZENR	: ZENER DIODE	THRMST.CHP	: CHIP THERMISTOR
DIODE.Z.CHP	: CHIP ZENER DIODE	TR	: TRANSISTOR
DIODE.SCHOTTKY	: SCHOTTKY BARRIER DIODE	TR.CHP	: CHIP TRANSISTOR
DIODE.PHOT	: PHOTO DIODE	TR.DGT	: DIGITAL TRANSISTOR
FER.BEAD	: FERRITE BEADS	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FER.CORE	: FERRITE CORE	TR.PAIR	: PAIR TRANSISTOR
FET.CHP	: CHIP FET	TRANS	: TRANSFORMER
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS.PULS	: PULSE TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PWR	: POWER TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	VOLT.SELCT	: VOLTAGE SELECTOR
FLTR.LC.RF	: LC FILTER,EMI	VR	: ROTARY POTENTIOMETER
FUSE.CHP	: CHIP FUSE	VR.MTR	: POTENTIOMETER WITH MOTOR
GND.MTL	: GROUND PLATE	VR.SLIDE	: SLIDE POTENTIOMETER
GND.TERM	: GROUND TERMINAL	VR.SW	: POTENTIOMETER WITH SWITCH
JUMPER.CN	: JUMPER CONNECTOR	VR.TRIM	: TRIMMER POTENTIOMETER

**P.C.B. FUNCTION**

Ref No.	Part No.	Description	Markets
*	WV015300	P. C. B. FUNCTION	U
*	WV015400	P. C. B. FUNCTION	C
*	WV015500	P. C. B. FUNCTION	RL
*	WV015700	P. C. B. FUNCTION	A
*	WV015800	P. C. B. FUNCTION	G
CB403	VM859500	CN. BS. PIN 11P	
CB404	V7827900	SOCKET 12P TE TUC SERIES	
CB405	V7828700	SOCKET 20P SE TUC SERIES	
CB501	V7826200	CN 12P TE TUC SERIES	
CB502	V7827000	CN 20P TE TUC SERIES	
CB503	VQ047400	CN. BS. PIN 19P	
CB504	VB390100	CN. BS. PIN 5P	
CB505	VB390700	CN. BS. PIN 11P	
CB506	VB390800	CN. BS. PIN 12P	
CB508	VN394900	CN. BS. PIN 14P	
CB509	VQ044400	CN. BS. PIN 9P	
CB510	V7826600	CN 16P TE TUC SERIES	
CB511	V7825800	CN 8P TE TUC SERIES	
CB513	VB390000	CN. BS. PIN 4P	
CB515	V7825600	CN 6P TE TUC SERIES	UCA
CB601	V7827300	SOCKET 6P TE TUC SERIES	UCA
CB602	V7828300	SOCKET 16P TE TUC SERIES	
C401-404	US062220	C. CE. CHP 220pF 50V B	
C405-406	US062100	C. CE. CHP 100pF 50V B	
C411-412	US062220	C. CE. CHP 220pF 50V B	
C413-414	US062100	C. CE. CHP 100pF 50V B	
C415-418	UR237100	C. EL 10uF 16V	
C425	UR238100	C. EL 100uF 16V	
C426	US061270	C. CE. CHP 27pF 50V B	G
C427	UR037100	C. EL 10uF 16V	G
C428	US061270	C. CE. CHP 27pF 50V B	G
C429-430	US035100	C. CE. CHP 0. 1uF 16V B	G
C431	UR238100	C. EL 100uF 16V	
C433	US062560	C. CE. CHP 560pF 50V B	G
C434	US062330	C. CE. CHP 330pF 50V B	G
*C435	UR037330	C. EL 33uF 16V	
C437	US062330	C. CE. CHP 330pF 50V B	G
C439	US035100	C. CE. CHP 0. 1uF 16V B	G
C440	US035100	C. CE. CHP 0. 1uF 16V B	
C441	UR037470	C. EL 47uF 16V	G
C442	US035100	C. CE. CHP 0. 1uF 16V B	
C443-446	US062100	C. CE. CHP 100pF 50V B	
C447	UR037470	C. EL 47uF 16V	
C449	UR267100	C. EL 10uF 50V	UCRAL
C449	UU237100	C. EL 10uF 16V	G
C450-451	UR067470	C. EL 47uF 50V	
C453	UR267100	C. EL 10uF 50V	UCRAL
C453	UU237100	C. EL 10uF 16V	G
C454	UR037470	C. EL 47uF 16V	
C455-456	UR067100	C. EL 10uF 50V	
C457	UR037470	C. EL 47uF 16V	
C458	UR037100	C. EL 10uF 16V	
*C459	UR038330	C. EL 330uF 16V	
C460	UR237100	C. EL 10uF 16V	UCRAL
C460	UU237100	C. EL 10uF 16V	G
C461	UR237100	C. EL 10uF 16V	UCRAL
C461	UU237100	C. EL 10uF 16V	G

\* New Parts

Ref No.	Part No.	Description	Markets
C501	US046100	C. CE. CHP 1uF 25V	
C503	US135100	C. CE. CHP 0. 1uF 16V	
C504	US062100	C. CE. CHP 100pF 50V B	
C506	UR066220	C. EL 2. 2uF 50V	
C508	UR066220	C. EL 2. 2uF 50V	
C509	US062100	C. CE. CHP 100pF 50V B	
C510-513	US046100	C. CE. CHP 1uF 25V	
C514-516	US062100	C. CE. CHP 100pF 50V B	
C517-519	US135100	C. CE. CHP 0. 1uF 16V	
C520-521	UR038100	C. EL 100uF 16V	
C524-526	US062100	C. CE. CHP 100pF 50V B	
C527	US135100	C. CE. CHP 0. 1uF 16V	
C528-529	US062100	C. CE. CHP 100pF 50V B	
C530-531	US135100	C. CE. CHP 0. 1uF 16V	
C532	US062100	C. CE. CHP 100pF 50V B	
C534	UR038100	C. EL 100uF 16V	
C535	US064100	C. CE. CHP 0. 01uF 50V B	
C536	US035100	C. CE. CHP 0. 1uF 16V B	
C602	US135100	C. CE. CHP 0. 1uF 16V	
C603	WJ603100	C. MYLAR 220pF 50V	UCRLA
C603	WJ608300	C. MYLAR 220pF 100V	G
C604	WJ603100	C. MYLAR 220pF 50V	UCRLA
C604	WJ608300	C. MYLAR 220pF 100V	G
C605-606	WJ603100	C. MYLAR 220pF 50V	
C610	US063100	C. CE. CHP 1000pF 50V B	UCA
C611-612	UR218220	C. EL 220uF 6. 3V	
C613	US063100	C. CE. CHP 1000pF 50V B	UCA
*C618-619	WJ605600	C. MYLAR 0. 033uF 50V	
C620	US063100	C. CE. CHP 1000pF 50V B	UCA
*C621-622	WJ604900	C. MYLAR 9100pF 50V	
C625-626	UR038100	C. EL 100uF 16V	
C629-630	UR237100	C. EL 10uF 16V	
*C635-636	WJ604100	C. MYLAR 2200pF 50V	
D402-403	VU172300	DIODE. ZENR UDS7. 5B 7. 5V	
*D404	WS694400	DIODE. ZENR HZU5. 6B2 TRF-E	
*D405	WS696600	DIODE. ZENR HZU10B1 TRF-E	
*D406-409	WS694900	DIODE. ZENR HZU6. 2B3 TRF-E	
D501	WS695500	DIODE. ZENR HZU7. 5B1 TRF-E	
*D502	WS694000	DIODE. ZENR HZU5. 1B2 TRF-E	
D503	WS695500	DIODE. ZENR HZU7. 5B1 TRF-E	
*D506	WS694000	DIODE. ZENR HZU5. 1B2 TRF-E	
D507	WS695500	DIODE. ZENR HZU7. 5B1 TRF-E	
*D601	V9599200	DIODE. CHP HSU119 TRF-E	UCA
*IC401	YA361A00	IC R2A15220FP	
IC402	X8235A00	IC LC72725KM	G
*IC501	YC289A00	IC RP130Q501D-TR	
*IC502	YC731A00	IC. CPU R5F364AENFA	(unwritten)
*IC503	YA765A00	IC LE24C023M	
*IC507	YC289A00	IC RP130Q501D-TR	
IC601	X3505A00	IC NJM2068MD-TE2	
JK601-602	WE260000	JACK. MNI LGY6501-0900FC	UCA
PJ401	WD195200	JACK. PIN 4P	
PJ404	WD195400	JACK. PIN 6P	
PJ601-602	WD195100	JACK. PIN 2P	
Q405	iC174020	TR 2SC1740S QRS	G
Q406	WG408900	TR 2SC5291 S, T	
Q407	WG408800	TR 2SA2168 S, T	

\* New Parts

**P.C.B. FUNCTION and P.C.B. OPERATION**

Ref No.	Part No.	Description	Markets
Q408	iC181510	TR	2SC1815 Y
Q409	VP872700	TR	2SC4488 S, T
Q503	VV556500	TR	2SA1037K Q, R, S
Q505	VV556500	TR	2SA1037K Q, R, S
Q506	VV556400	TR	2SC2412K Q, R, S
Q507	VV655200	TR. DGT	DTA143EKA
Q508	VV655400	TR. DGT	DTC114EKA
R585	V8070000	R. MTL. FLM	1Ω 1W
R638-639	V8071300	R. MTL. FLM	470Ω 1W
ST602	V4040500	SCR. TERM	M3
XL401	V2731100	RSNR. CRYST	4. 332M HC-49/U
XL501	WV402100	RSNR. CE	20MHz CSTLS20MOX51
*	WV018600	P. C. B.	OPERATION UC
*	WV018700	P. C. B.	OPERATION R
*	WV018800	P. C. B.	OPERATION A
*	WV018900	P. C. B.	OPERATION G
*	WV019000	P. C. B.	OPERATION L
△	CB2	VB390100	CN. BS. PIN 5P
△	CB4	VG879900	CN. BS. PIN 2P
	CB6-7	WN103000	CLIP. FUSE TP00351-31
	CB8-9	WN103000	CLIP. FUSE TP00351-31
△	CB10	V9377900	CN. BS. PIN 4P
	CB11	VL844800	CN. BS. PIN 4P
	CB12	VL845000	CN. BS. PIN 6P
	CB14	VL844800	CN. BS. PIN 4P
△	CB16	VG879900	CN. BS. PIN 2P
	CB17	VB389900	CN. BS. PIN 3P
	CB21	LB918020	CN. BS. PIN 2P
	CB26	VB390000	CN. BS. PIN 4P
	CB701	VQ044900	CN. BS. PIN 19P
	CB706	VB858200	CN. BS. PIN 3P
	CB801	VF283100	CN. BS. PIN 13P
	CB803	VQ044300	CN. BS. PIN 7P
	CB805	VB858500	CN. BS. PIN 6P
	CB806	VB389900	CN. BS. PIN 3P
	CB807	VL844700	CN. BS. PIN 3P
	CB901	VQ047100	CN. BS. PIN 7P
	CB902	VQ046900	CN. BS. PIN 5P
	CB951	VQ046900	CN. BS. PIN 5P
	C1	UR237100	C. EL 10uF 16V
	C2	URO38470	C. EL 470uF 16V
	C4	UU266220	C. EL 2. 2uF 50V
	C5	UR266220	C. EL 2. 2uF 50V
	C6	WJ605000	C. MYLAR 0. 01uF 50V J
	C6	WJ610200	C. MYLAR 0. 01uF 100V
	C7	WJ361200	C. POL. MTL 0. 047uF 400V
	C7	WD054200	C. POL. MTL 0. 047uF 630V
	C8	UU266100	C. EL 1uF 50V
*	C9	WJ604500	C. MYLAR 4700pF 50V
	C10	WB696300	C. POL. MTL 0. 1uF 400V
	C10	WF081500	C. PP 0. 047uF 630V J
	C10	WF081500	C. PP 0. 047uF 630V J
△	C11	V6185300	C. CE. SAFTY 0. 01uF 275V
	C12	WD047300	C. EL 3300uF 50V

\* New Parts

Ref No.	Part No.	Description	Markets
C13	WE102900	C. PP	0. 01uF 100V J
C14	UU249330	C. EL	3300uF 25V
C15	WJ608900	C. MYLAR	1000pF 100V
* C18	UR239470	C. EL	4700uF 16V
C23-24	WHO46700	C. CE. M. CHP	4. 7uF 16V
C29	WN165300	C. PP	0. 01uF 100V
C29	WJ610200	C. MYLAR	0. 01uF 100V
C30	WN165300	C. PP	0. 01uF 100V
C30	WJ610200	C. MYLAR	0. 01uF 100V
C31	URO49680	C. EL	6800uF 25V
* C31	UR259470	C. EL	4700uF 35V
C32	URO49680	C. EL	6800uF 25V
* C32	UR259470	C. EL	4700uF 35V
C33	URO67470	C. EL	47uF 50V
C34	URO58100	C. EL	100uF 35V
C35	UR267100	C. EL	10uF 50V
C35	URO67100	C. EL	10uF 50V
C36	UR267100	C. EL	10uF 50V
C36	URO67100	C. EL	10uF 50V
* C37	URO48330	C. EL	330uF 25V
C37	URO48470	C. EL	470uF 25V
* C38	URO48330	C. EL	330uF 25V
C38	URO48470	C. EL	470uF 25V
C39	URO66470	C. EL	4. 7uF 50V
C701	US063100	C. CE. CHP	1000pF 50V B
C703	US063100	C. CE. CHP	1000pF 50V B
C705	US063100	C. CE. CHP	1000pF 50V B
C707	US063100	C. CE. CHP	1000pF 50V B
C708-709	US062100	C. CE. CHP	100pF 50V B
C711	US062100	C. CE. CHP	100pF 50V B
C712-713	US035100	C. CE. CHP	0. 1uF 16V B
C714	UM397100	C. EL	10uF 16V
* C715-717	WQ711900	C. EL	47uF 35V
C719-720	US035100	C. CE. CHP	0. 1uF 16V B
C721	UM397470	C. EL	47uF 16V
C722	US035100	C. CE. CHP	0. 1uF 16V B
C723	US062100	C. CE. CHP	100pF 50V B
C724	US064150	C. CE. CHP	0. 015uF 50V B
C726	US064100	C. CE. CHP	0. 01uF 50V B
C728	WJ605000	C. MYLAR	0. 01uF 50V J
C728	WJ610200	C. MYLAR	0. 01uF 100V
C729	WJ605000	C. MYLAR	0. 01uF 50V J
C729	WJ610200	C. MYLAR	0. 01uF 100V
C730	WJ605000	C. MYLAR	0. 01uF 50V J
C730	WJ610200	C. MYLAR	0. 01uF 100V
C732	US064150	C. CE. CHP	0. 015uF 50V B
C813-814	UR237100	C. EL	10uF 16V
C815	URO38100	C. EL	100uF 16V
C815	URO38220	C. EL	220uF 16V
C816	URO38100	C. EL	100uF 16V
C816	URO38220	C. EL	220uF 16V
C819-820	UR237100	C. EL	10uF 16V
* C901-902	WJ605600	C. MYLAR	0. 033uF 50V
C903-906	VR168400	C. MYLAR	0. 12uF 50V
C907-908	UR237100	C. EL	10uF 16V
C909-910	URO38100	C. EL	100uF 16V
C911-912	WE100400	C. PP	47pF 630V K

\* New Parts

R-S300

**P.C.B. OPERATION and P.C.B. MAIN**

Ref No.	Part No.	Description	Markets
C913-914	UR266100	C. EL 1uF 50V	
C915-916	UR237100	C. EL 10uF 16V	
C951-952	UR237100	C. EL 10uF 16V	
C953-954	WE101500	C. PP 680pF 100V J	
*C955-956	WJ605900	C. MYLAR 0.056uF 50V	
*D1-8	V9599200	DIODE. CHP HSU119 TRF-E	
*D9	WS695200	DIODE. ZENR HZU6. 8B2 TRF-E	
*D10	V2425200	DIODE. ZENR HZU10B2	
*D11	V9599200	DIODE. CHP HSU119 TRF-E	
*D12	WS694300	DIODE. ZENR HZU5. 6B1 TRF-E	
△ D13	WH471700	DIODE. BRG DB105 1A 600V	
△ D14	WH487300	DIODE. BRG RS203M 2.0A 200V	
*△ D15	WS698200	DIODE. ZENR HZU15B3 TRF-E	R
*D20	WS698500	DIODE. ZENR HZU16B2 TRF-E	UCRAL
D20	VU173100	DIODE. ZENR UDZS16B 16V	G
*D21	WS698500	DIODE. ZENR HZU16B2 TRF-E	UCRAL
D21	VU173100	DIODE. ZENR UDZS16B 16V	G
*D22	WS699800	DIODE. ZENR HZU22B3 TRF-E	UCRAL
D22	VU173400	DIODE. ZENR UDZS22B 22V	G
*D23	WS700400	DIODE. ZENR HZU30B TRF-E	R
△ D24	WH471700	DIODE. BRG DB105 1A 600V	
△ D26	WH487300	DIODE. BRG RS203M 2.0A 200V	
D703	V2598200	LED SIR-505ST	
*D705-706	V9599200	DIODE. CHP HSU119 TRF-E	
D709-710	VU171300	DIODE. ZENR UDZS3.0B 3.0V	
D714	WA467800	LED SEL6910A-CD	
*D717-720	V9599200	DIODE. CHP HSU119 TRF-E	
D803	WA467800	LED SEL6910A-CD	
△ F1	WB221100	FUSE 5A 125V	UCR
△ F1	VV071600	FUSE 2.5A 250V	AGL
△ F4	VV071600	FUSE 2.5A 250V	R
*△ IC1	YC730A00	IC R1190H055B-T1-FE	
*△ IC2-3	WJ688100	PHOT. CPL EL816 (B)	
△ IC4	iG001180	IC TC4013BP FF	
IC701	X6386A00	IC M66003-0131FP	
IC802	X3505A00	IC NJM2068MD-TE2	UCRAL
IC802	X9127A00	IC NJM5532M-D	G
IC901	X3505A00	IC NJM2068MD-TE2	
JK701	V4478300	JACK. PHONE JY-6317Y-03-030	
Q1	WC435100	TR. DGT KRC104S-RTK	
Q2-3	WC529400	TR KTC3875S Y GR RTK	
△ Q6	WF691400	TR 2SD2014	
△ Q7	WF691300	TR 2SB1257	
Q8	iA101510	TR 2SA1015 Y	
Q9	WC529400	TR KTC3875S Y GR RTK	UCAGL
△ Q10	WC741200	FET 2SK3850	
Q701	VV556400	TR 2SC2412K Q, R, S	
Q702	VV655400	TR. DGT DTC114EKA	
Q704	VV556400	TR 2SC2412K Q, R, S	
Q801-802	WC883400	TR 2SD2704 K	
△ R3	HV754390	R. CAR. FP 39 Ω 1/4W	
R13	HF356220	R. CAR 2.2K Ω 1/2W	
△ R18	WH819500	R. FUS 0.47 Ω 1W	
△ R32-33	V8070900	R. MTL. FLM 100 Ω 1W	
R35	V8070900	R. MTL. FLM 100 Ω 1W	
R36	HV756220	R. CAR. FP 2.2K Ω 1/4W	
R41-42	V8071600	R. MTL. FLM 1K Ω 1W	

\* New Parts

Ref No.	Part No.	Description	Markets
△ R45	HV753220	R. CAR. FP 2.2 Ω 1/4W	R
R50	HV755220	R. CAR. FP 220 Ω 1/4W	
R748-749	V8071300	R. MTL. FLM 470 Ω 1W	
R909-910	V8070000	R. MTL. FLM 1 Ω 1W	
*△ RY1	WQ804100	RELAY DC DLS5D1-0 (M) 0.25	
ST1-3	V4040500	SCR. TERM M3	
ST5	V4040500	SCR. TERM M3	
ST701	WG095100	SCR. TERM M3	
ST801-802	WG095100	SCR. TERM M3	
△ SW1	VZ075500	SW. SLIDE SL14-22AM5F	R
SW701-710	WD483100	SW. TACT SKRGAAD010	
*SW711	WU974300	SW. RT. ENC XREB12505PVB25F INA	
*SW714-715	WD483100	SW. TACT SKRGAAD010	
*SW717	WQ270000	SW. PUSH SPUN122100	
*SW801	VV399800	SW. PUSH SPUN12	
*SW851	WU974000	SW. RT. ENC REB161 (9X7) PVB20F1	
*△ T1	YC772A00	TRANS. SUB	UC
*△ T1	YC773A00	TRANS. SUB	R
*△ T1	YC774A00	TRANS. SUB	AG
*△ T1	YD161A00	TRANS	L
U701	WK918500	L. DTCT GP1UE271RKVF	
V701	VW418900	FL. DSPLY 16-BT-164GNK	
*VR901	WP293500	VR G 25k Ω	(EVJC50FA36F4)
*VR902	WP293400	VR B 20k Ω	(EVJC50FA3B2)
*VR903	WP293600	VR BH 100k Ω	(EVJC50FA3375)
*VR951	WP293300	VR A 100k Ω	(EVJC20FA3A15)
*	WP324200	SHEET	
VR380100	SPACER	FL-T6	
WE774300	SCR. BND. HD 3x8	MFZN2W3	
WN440100	DAMPER 15x80	t=2	G
*WV022200	P. C. B.	MAIN	UC
*WV022300	P. C. B.	MAIN	R
*WV022500	P. C. B.	MAIN	A
*WV022600	P. C. B.	MAIN	G
*WV022700	P. C. B.	MAIN	L
CB101	VB390000	CN. BS. PIN 4P	
CB105	LB932050	CN. BS. PIN 5P	
CB106	WA246200	SCR. TERM 3.5	
CB107	VB858200	CN. BS. PIN 3P	
*C101	WP420700	C. PP 100pF 100V	UCRAL
C101	WJ608100	C. MYLAR 100pF 100V	G
C102	UR266470	C. EL 4.7uF 50V	UCRAL
C102	UU266470	C. EL 4.7uF 50V	G
C103	UR266470	C. EL 4.7uF 50V	UCRAL
C103	UU266470	C. EL 4.7uF 50V	G
C104-107	WE100400	C. PP 47pF 630V K	
C108	UR238100	C. EL 100uF 16V	UCRAL
C108	UU238100	C. EL 100uF 16V	G
*C109	WN164600	C. PP 1000pF 100V	UCRAL
C109	WJ608900	C. MYLAR 1000pF 100V	G
*C110	WN164600	C. PP 1000pF 100V	UCRAL
C110	WJ608900	C. MYLAR 1000pF 100V	G
C111	UR238100	C. EL 100uF 16V	UCRAL
C111	UU238100	C. EL 100uF 16V	G

\* New Parts

R-S300

**P.C.B. MAIN**

Ref No.	Part No.	Description	Markets
C112-113	WE100200	C. PP 22pF 630V K	
* C115	UR278330	C. EL 330uF 63V	UCRAL
C115	UR078470	C. EL 470uF 63V	G
C122-123	UR267470	C. EL 47uF 50V	
C124	UR267470	C. EL 47uF 50V	UCRAL
C124	UR348100	C. EL 100uF 25V	G
C125-126	WE100500	C. PP 100pF 630V K	
C127	UR267470	C. EL 47uF 50V	UCRAL
C127	UR348100	C. EL 100uF 25V	G
C128-129	WE100500	C. PP 100pF 630V K	
C130	UR866470	C. EL 4.7uF 50V	UCRAL
C130	UR266470	C. EL 4.7uF 50V	G
C131	WN165500	C. PP 0.022uF 100V	UCRAL
C131	WJ610600	C. MYLAR 0.022uF 100V	G
C132	WN165500	C. PP 0.022uF 100V	UCRAL
C132	WJ610600	C. MYLAR 0.022uF 100V	G
C133	UR818100	C. EL 100uF 6.3V	UCRAL
C133	URO38100	C. EL 100uF 16V	G
C134	US135100	C. CE. CHP 0.1uF 16V	
C135-136	WG399700	C. EL 5600uF 56V	
C137	US064100	C. CE. CHP 0.01uF 50V B	
C139	US163100	C. CE. CHP 1000pF 50V	UCRAL
C139	US062100	C. CE. CHP 100pF 50V B	G
C140	UR237470	C. EL 47uF 16V	UCRAL
C140	URO38100	C. EL 100uF 16V	G
C143	VR168300	C. MYLAR 0.1uF 50V	
C144	VR169100	C. MYLAR 0.39uF 50V	
C145	UR237470	C. EL 47uF 16V	
C146	UR237470	C. EL 47uF 16V	UCRAL
C146	URO38100	C. EL 100uF 16V	G
△ C148	UU268100	C. EL 100uF 50V	
△ C149	UR868100	C. EL 100uF 50V	UCRAL
△ C149	UU268100	C. EL 100uF 50V	G
△ C150	WJ611400	C. MYLAR 0.1uF 100V J	UC
△ C150	WJ611000	C. MYLAR 0.047uF 100V	RAL
△ C150	WJ610800	C. MYLAR 0.033uF 100V	G
△ C151	WJ611400	C. MYLAR 0.1uF 100V J	UC
△ C151	WJ611000	C. MYLAR 0.047uF 100V	RAL
△ C151	WJ610800	C. MYLAR 0.033uF 100V	G
△ C151	WJ610800	C. MYLAR 0.033uF 100V	G
C152	WN165500	C. PP 0.022uF 100V	UCRAL
C152	WJ610600	C. MYLAR 0.022uF 100V	G
C153	WN165300	C. PP 0.01uF 100V	AL
C153	WJ610200	C. MYLAR 0.01uF 100V	G
C154	WN165300	C. PP 0.01uF 100V	AL
C154	WJ610200	C. MYLAR 0.01uF 100V	G
C155	WJ608900	C. MYLAR 1000pF 100V	G
C156	WN165300	C. PP 0.01uF 100V	AL
C156	WJ610200	C. MYLAR 0.01uF 100V	G
C157	WN165300	C. PP 0.01uF 100V	AL
C157	WJ610200	C. MYLAR 0.01uF 100V	G
C158	WN165300	C. PP 0.01uF 100V	AL
C158	WJ610200	C. MYLAR 0.01uF 100V	G
C159	WN165300	C. PP 0.01uF 100V	AL
C159	WJ610200	C. MYLAR 0.01uF 100V	G
C160	WN165300	C. PP 0.01uF 100V	UCRAL
C160	WJ610200	C. MYLAR 0.01uF 100V	G
C167	US163100	C. CE. CHP 1000pF 50V	

\* New Parts

Ref No.	Part No.	Description	Markets
C168-169	UR237100	C. EL 10uF 16V	
D101	VG439300	D10DE. ZENR MTZJ9.1C 9.1V	
D103	VG439300	D10DE. ZENR MTZJ9.1C 9.1V	
D105-106	VG437500	D10DE. ZENR MTZJ5.1C 5.1V	
D107-110	VH282500	D10DE	RLS245
D112	VU173700	D10DE. ZENR	UDZS30B TE-17 30V
D114	VU173700	D10DE. ZENR	UDZS30B TE-17 30V
D116	VU173700	D10DE. ZENR	UDZS30B TE-17 30V
△ * D117	WV196100	D10DE. BRG	S4VB60 2.6A 600V
△ D118-119	VS997800	D10DE	1T2
G101	V5995800	PLATE. GND	
* IC101	X0515B00	IC	LM61C1Z THERMAL
IC102	X2331A00	IC	NUM4580E OP AMP
PJ101	V7189700	JACK. PIN	1P
△ Q101-102	iA097030	TR	2SA970 GR, BL
Q103-104	WC397700	TR	2N5401C-AT
△ Q105-106	iA097030	TR	2SA970 GR, BL
△ Q107-108	VR325600	TR	2SC2229 O, Y
△ Q109-110	iC174020	TR	2SC1740S QRS
Q111	VP872700	TR	2SC4488 S, T
△ Q112-113	VP872600	TR	2SA1708 S, T
△ Q114	VP872700	TR	2SC4488 S, T
# △ Q115	VV586400	TR. PAIR	2SA1695/C4468 OPY (XG30850/XG30860)
# △ Q117	VV586400	TR. PAIR	2SA1695/C4468 OPY (XG30850/XG30860)
Q119-120	WC139600	TR	KTC3911S GR BL
Q121	WH372100	TR	KTA1517S GR TP
* Q123-125	WV155200	FET	2SK2158A-T2B-AT
Q128-129	WC883400	TR	2SD2704 K
△ R103-104	HV753470	R. CAR. FP	4.7Ω 1/4W
* R112-113	WA622400	R. MTL. OXD	8.2KΩ 1W
△ R130-131	HL004470	R. MTL. OXD	47Ω 1/2W
△ R133	V8070700	R. MTL. FLM	47Ω 1W
R138	HL005270	R. MTL. OXD	270Ω 1/2W
R139-140	HL006100	R. MTL. OXD	1KΩ 1/2W
R141	HL005270	R. MTL. OXD	270Ω 1/2W
R142	HV756270	R. CAR. FP	2.7KΩ 1/4W
R142	HL006270	R. MTL. OXD	2.7KΩ 1/2W
R143-144	HL006100	R. MTL. OXD	1KΩ 1/2W
R145	HV756270	R. CAR. FP	2.7KΩ 1/4W
R145	HL006270	R. MTL. OXD	2.7KΩ 1/2W
R146-147	HV753470	R. CAR. FP	4.7Ω 1/4W
△ R148	HV755330	R. CAR. FP	330Ω 1/4W
△ R148	V8071200	R. MTL. OXD	330Ω 1W J
△ R149	HV755330	R. CAR. FP	330Ω 1/4W
△ R149	V8071200	R. MTL. OXD	330Ω 1W J
R150	HV753470	R. CAR. FP	4.7Ω 1/4W
R150	V8070200	R. MTL. FLM	4.7Ω 1W
R151	HV753470	R. CAR. FP	4.7Ω 1/4W
R151	V8070200	R. MTL. FLM	4.7Ω 1W
R152	HV753470	R. CAR. FP	4.7Ω 1/4W
R152	V8070200	R. MTL. FLM	4.7Ω 1W
R153	HV753470	R. CAR. FP	4.7Ω 1/4W
R153	V8070200	R. MTL. FLM	4.7Ω 1W
△ R154-155	V3873200	R. CEMENT	0.22Ω 3W
△ R165-166	V8070300	R. MTL. FLM	10Ω 1W
R170	HV754100	R. CAR. FP	10Ω 1/4W
R170	V8070300	R. MTL. FLM	10Ω 1W

\* New Parts

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

R-S300

**P.C.B. MAIN and P.C.B. DOCK**

Ref No.	Part No.	Description	Markets
R171	HV754100	R. CAR. FP 10Ω 1/4W	UCRAL
R171	V8070300	R. MTL. FLM 10Ω 1W	G
R175	HL005180	R. MTL. OXD 180Ω 1/2W	
R178	HL005180	R. MTL. OXD 180Ω 1/2W	
R182	HL005180	R. MTL. OXD 180Ω 1/2W	
△ R195	HV754100	R. CAR. FP 10Ω 1/4W	UCRAL
△ R195	V8070300	R. MTL. FLM 10Ω 1W	G
△ R196	HV754100	R. CAR. FP 10Ω 1/4W	UCRAL
△ R196	V8070300	R. MTL. FLM 10Ω 1W	G
R206	HV754330	R. CAR. FP 33Ω 1/4W	UCRAL
R206	V8070000	R. MTL. FLM 1Ω 1W	G
R207	HV754330	R. CAR. FP 33Ω 1/4W	UCRAL
R207	V8070000	R. MTL. FLM 1Ω 1W	G
△ RY101-103	WJ122400	RELAY 981-2A-24DS-SP7	
ST101	V4040500	SCR. TERM M3	
SW101	V4104200	SW. SLIDE SL13B-022-AMCS	
SW102	VF541200	SW. SLIDE SSSF11	
* TE101	WU987000	TERM. SP 4P MST-224VD-03	UCRA
* TE101	WU987200	TERM. SP 4P MST-224VD-03	GL
* TE102	WU986900	TERM. SP 4P MST-224VD-02	UCRA
* TE102	WU987100	TERM. SP 4P MST-224VD-02	GL
*	WV024700	P. C. B. DOCK	U
*	WV024800	P. C. B. DOCK	CRAGL
CB302	V7827500	SOCKET 8P SE TUC SERIES	
CB303	VF982200	CN. BS. PIN 14P	
C302-303	US062220	C. CE. CHP 220pF 50V B	U
C304	US064100	C. CE. CHP 0.01uF 50V B	
C305-306	US062220	C. CE. CHP 220pF 50V B	U
C308-309	UR837100	C. EL 10uF 16V	U
C313	US035100	C. CE. CHP 0.1uF 16V B	
C316	US062100	C. CE. CHP 100pF 50V B	
C328-332	WB570100	C. MYLA. CHP 0.0001uF 16V	
C335-336	UR237100	C. EL 10uF 16V	
C339-340	URO38100	C. EL 100uF 16V	
C341	US135100	C. CE. CHP 0.1uF 16V	U
C342	US062100	C. CE. CHP 100pF 50V B	U
C343	US064100	C. CE. CHP 0.01uF 50V B	
C344	URO18470	C. EL 470uF 6.3V	
C345	US135100	C. CE. CHP 0.1uF 16V	U
C346-349	US035100	C. CE. CHP 0.1uF 16V B	
C352	URO48220	C. EL 220uF 25V	
C356-357	WB571300	C. MYLA. CHP 0.001uF 16V	
C358	US061330	C. CE. CHP 33pF 50V B	
C364	US062100	C. CE. CHP 100pF 50V B	U
C365	URO38100	C. EL 100uF 16V	
C367	URO38100	C. EL 100uF 16V	
* D301-302	V9599200	DIODE. CHP HSU119 TRF-E	
* D314	V9599200	DIODE. CHP HSU119 TRF-E	
* D315	WR897300	DIODE RR264M-400TR	
* D317	V9599200	DIODE. CHP HSU119 TRF-E	
IC301	XW814A00	IC TC7SET32FU	
IC306	X8531A00	IC TC7WZ32FK	U
IC309	X2331A00	IC NJM4580E OP AMP	
IC311	X6143A00	IC NJM2388F05 5.0V	

\* New Parts

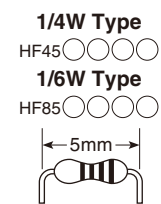
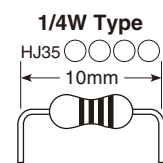
Ref No.	Part No.	Description	Markets
JK301	VV269500	CN 8P DIN	U
Q305	VV655400	TR. DGT DTC114EKA	
Q306	VV655300	TR. DGT DTA144EKA	
Q307	VV655400	TR. DGT DTC114EKA	U
Q308	VV655000	TR. DGT DTA114EKA	U
Q309	WQ381000	FET MCH6336-TL-E	
Q310	VV655400	TR. DGT DTC114EKA	
Q311	WQ381000	FET MCH6336-TL-E	
	WE774300	SCR. BND. HD 3x8 MFZN2W3	
	WK020500	DAMPER 15x40x2	

\* New Parts



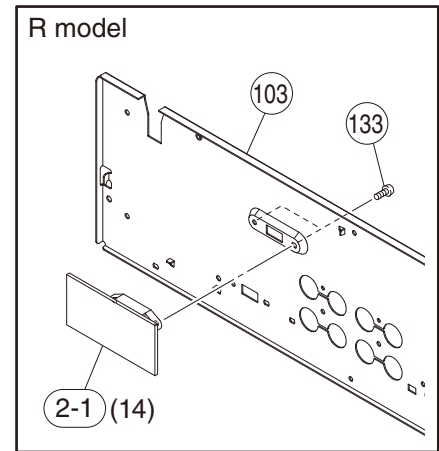
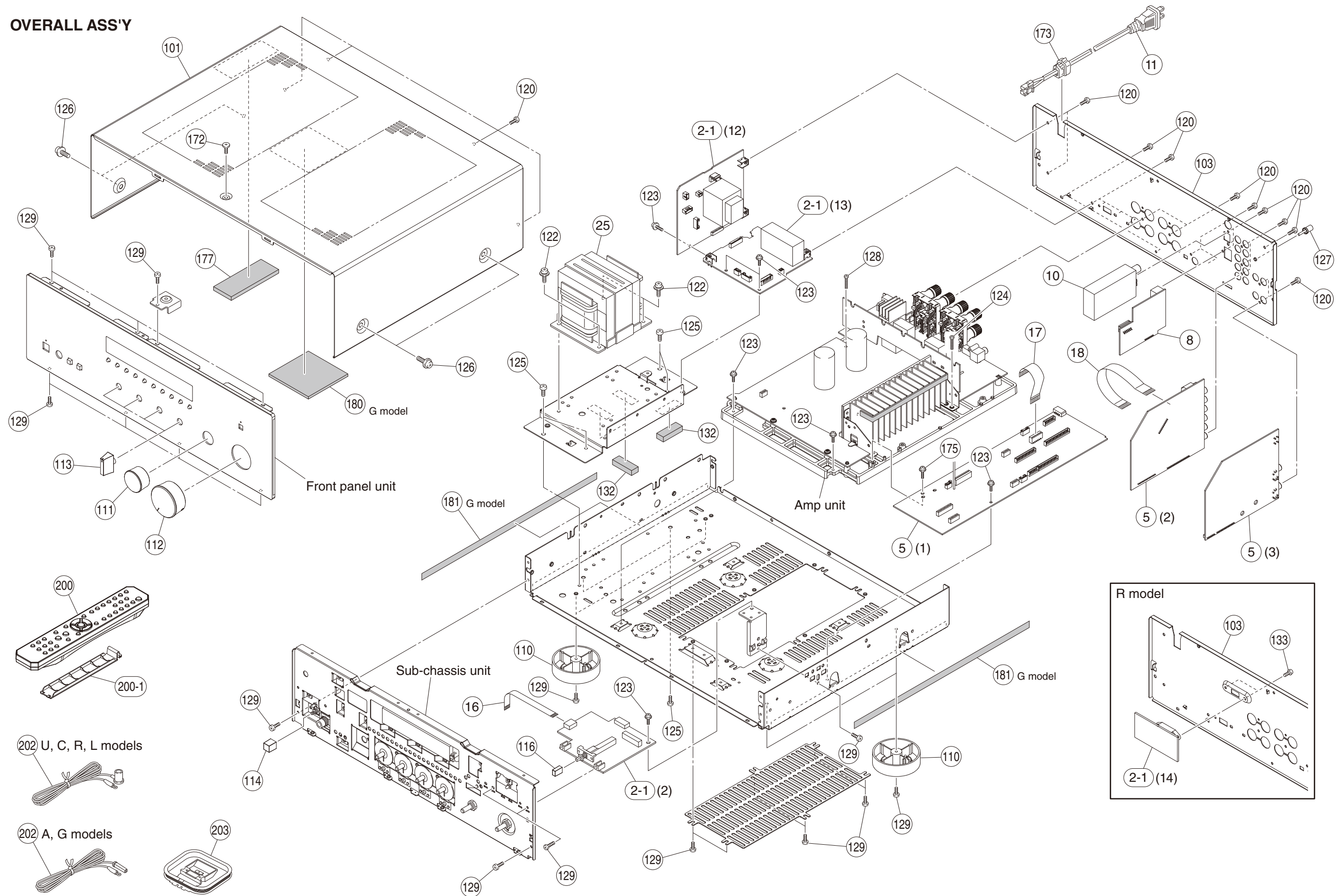
<b>Carbon Resistors</b>
-------------------------

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	*	130 kΩ	HF45 8130	*
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	*
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	*
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
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			



\* : Not available

• OVERALL ASS'Y





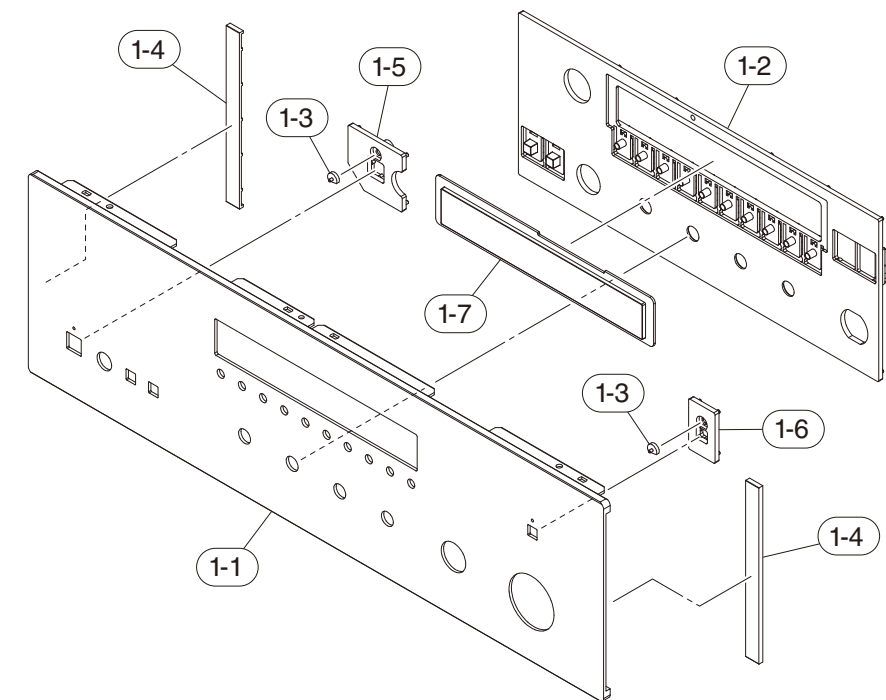
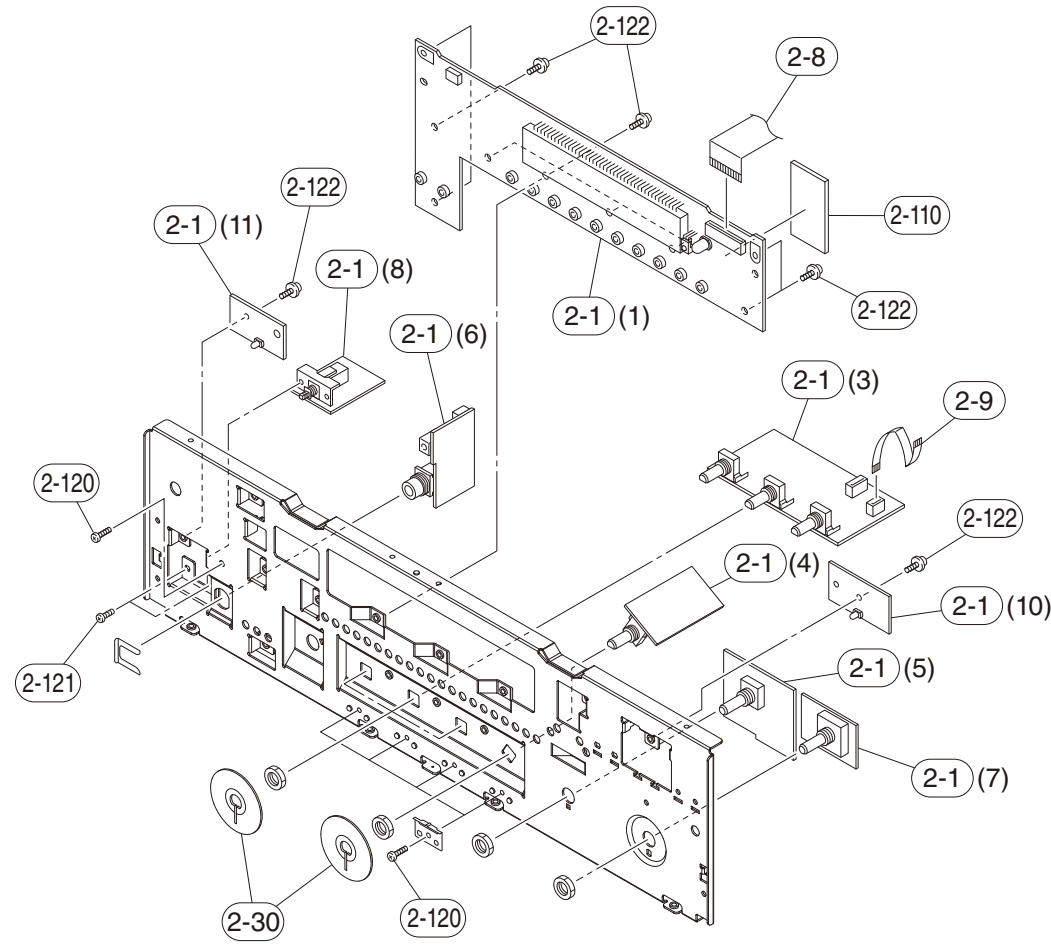
Ref No.	Part No.	Description	Remarks	Markets
* 2-1	WV018600	P. C. B. ASS' Y	OPERATION	UC
* 2-1	WV018700	P. C. B. ASS' Y	OPERATION	R
* 2-1	WV018800	P. C. B. ASS' Y	OPERATION	A
* 2-1	WV018900	P. C. B. ASS' Y	OPERATION	G
* 2-1	WV019000	P. C. B. ASS' Y	OPERATION	L
* 5	WV015300	P. C. B. ASS' Y	FUNCTION	U
* 5	WV015400	P. C. B. ASS' Y	FUNCTION	C
* 5	WV015500	P. C. B. ASS' Y	FUNCTION	RL
* 5	WV015700	P. C. B. ASS' Y	FUNCTION	A
* 5	WV015800	P. C. B. ASS' Y	FUNCTION	G
* 8	WV024700	P. C. B. ASS' Y	DOCK	U
* 8	WV024800	P. C. B. ASS' Y	DOCK	CRAGL
* 10	WQ756600	AM/FM TUNER	FAEH06-A	UCRL
* 10	WQ756700	AM/FM TUNER	FAEH06-E	AG
△	WB120500	POWER CABLE	2m	UC
△	WC992700	POWER CABLE	2m	R
△	WC743700	POWER CABLE	2m	A
△ *	WR336900	POWER CABLE	2m	GL
* 16	MF107140	FLEXIBLE FLAT CABLE	7P 140mm P=1.25	
17	MF114070	FLEXIBLE FLAT CABLE	14P 70mm P=1.25	
18	MF111100	FLEXIBLE FLAT CABLE	11P 100mm P=1.25	
△ *	YC892A00	POWER TRANSFORMER		UC
△ *	YC893A00	POWER TRANSFORMER		R
△ *	YC894A00	POWER TRANSFORMER		AL
△ *	YC895A00	POWER TRANSFORMER		G
101	WQ616500	TOP COVER		BL
101	WQ616600	TOP COVER		SI
* 103	WU937800	REAR PANEL		UC
* 103	WU938200	REAR PANEL		R
* 103	WU937700	REAR PANEL		A
* 103	WU937900	REAR PANEL		G
* 103	WU938100	REAR PANEL		L
* 110	WQ379900	LEG	D60 H21	
* 111	WV002800	KNOB	INPUT	BL
* 111	WV002700	KNOB	INPUT	SI
* 112	WV004900	KNOB	VOLUME	BL
* 112	WV004800	KNOB	VOLUME	SI
113	WP083200	KNOB	TC	BL
113	WP083100	KNOB	TC	SI
114	WP084000	CAP	POWER	BL
114	WP083900	CAP	POWER	SI
* 116	WU966400	CAP	DIRECT	BL
* 116	WU966300	CAP	DIRECT	SI
120	WE774100	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2B3	
122	WU048900	BIND HEAD S-TIGHT SCREW	4x10 MFZN2W3	
123	WF002600	PW HEAD B-TIGHT SCREW	3x8 MFZN2W3	
124	WE973300	BIND HEAD B-TIGHT SCREW	3x16 MFZN2B3	
125	WF821300	BIND HEAD S-TIGHT SCREW	4x7 MFZN2W3	
126	VH313200	PW HEAD S-TIGHT SCREW	4x8-10 MFN13BL	BL
126	VDO69600	PW HEAD S-TIGHT SCREW	4x8-10 MFN133	SI
127	AA627310	GROUND TERMINAL		
128	WE998100	BIND HEAD B-TIGHT SCREW	3x12 MFZN2B3	
129	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZN2W3	
132	WQ790900	DAMPER	15x35x10	
133	WE877900	BIND HEAD S-TIGHT SCREW	3x6 MFZN2W3	R
172	WE200500	DISH HEAD B-TIGHT SCREW	3x6 MFN13BL	BL
172	WE200400	DISH HEAD B-TIGHT SCREW	3x6 MFN133	SI
173	V2438700	CORD STOPPER	10P1	
175	VB770200	PW HEAD P-TIGHT SCREW	3x10-8 MFC2	
177	WT770800	DAMPER	30x90x8	

\* New Parts

Ref No.	Part No.	Description	Remarks	Markets
180	WT769600	DAMPER	70x70x2	G
181	WQ621800	DAMPER	10x310x2	G
		ACCESSORIES		
* 200	WV500200	REMOTE CONTROL	RAX23	000-219200010
* 200-1	WW471000	BATTERY HOLDER	CG-32929 Gray	10030-0057300
202	V6267000	INDOOR FM ANTENNA	1.4m 1pc	UCRL
202	VQ147100	INDOOR FM ANTENNA	1.4m 1pc	AG
203	VQ307400	AM LOOP ANTENNA	1.2m 1pc	
		BATTERY	R6, AA, UM-3 2pcs	
		SERVICE TOOL		
	WR492800	RS-232C CONVERSION ADAPTOR	3.3Vtype with FFC9P	

\* New Parts

• FRONT PANEL UNIT and SUB-CHASSIS UNIT



Ref No.	Part No.	Description	Remarks	Markets
* 1-1	WU983200	FRONT PANEL	BL	UCRAL
* 1-1	WU983000	FRONT PANEL	SI	RAL
* 1-1	WU983100	FRONT PANEL	BL	G
* 1-1	WU982900	FRONT PANEL	SI	G
* 1-2	WU965900	SUB-PANEL	BL	
* 1-2	WU965800	SUB-PANEL	SI	
1-3	WP080600	LED LENS		
1-4	WP081200	SIDE PLATE	BL	
1-4	WP081100	SIDE PLATE	SI	
* 1-5	WW649000	LENS SUPPORT	POWER	
* 1-6	WW649200	LENS SUPPORT	DIRECT	
* 1-7	WU961600	WINDOW PANEL LID		
* 2-1	WV018600	P. C. B. ASS'Y	OPERATION	UC
* 2-1	WV018700	P. C. B. ASS'Y	OPERATION	R
* 2-1	WV018800	P. C. B. ASS'Y	OPERATION	A
* 2-1	WV018900	P. C. B. ASS'Y	OPERATION	G
* 2-1	WV019000	P. C. B. ASS'Y	OPERATION	L
2-8	MF119350	FLEXIBLE FLAT CABLE	19P 350mm P=1.25	
* 2-9	MF105060	FLEXIBLE FLAT CABLE	5P 60mm P=1.25	
* 2-30	WU966500	DISC	tone control	
2-110	V3422200	DAMPER		
2-120	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZN2W3	
2-121	WE877900	BIND HEAD S-TIGHT SCREW	3x6 MFZN2W3	
2-122	WF002600	PW HEAD B-TIGHT SCREW	3x8 MFZN2W3	

\* New Parts

1

• AMP UNIT

2

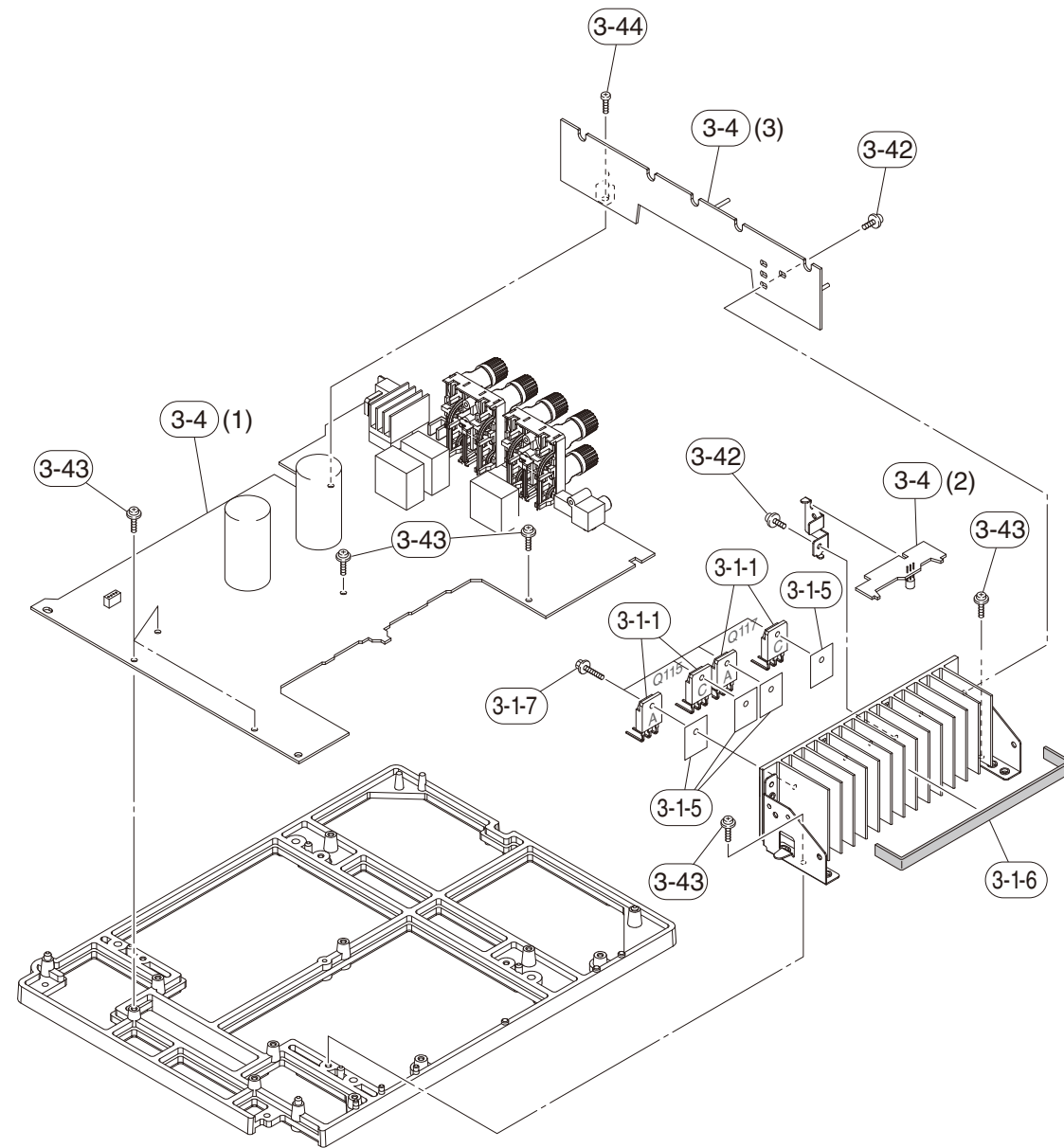
3

4

5

6

7



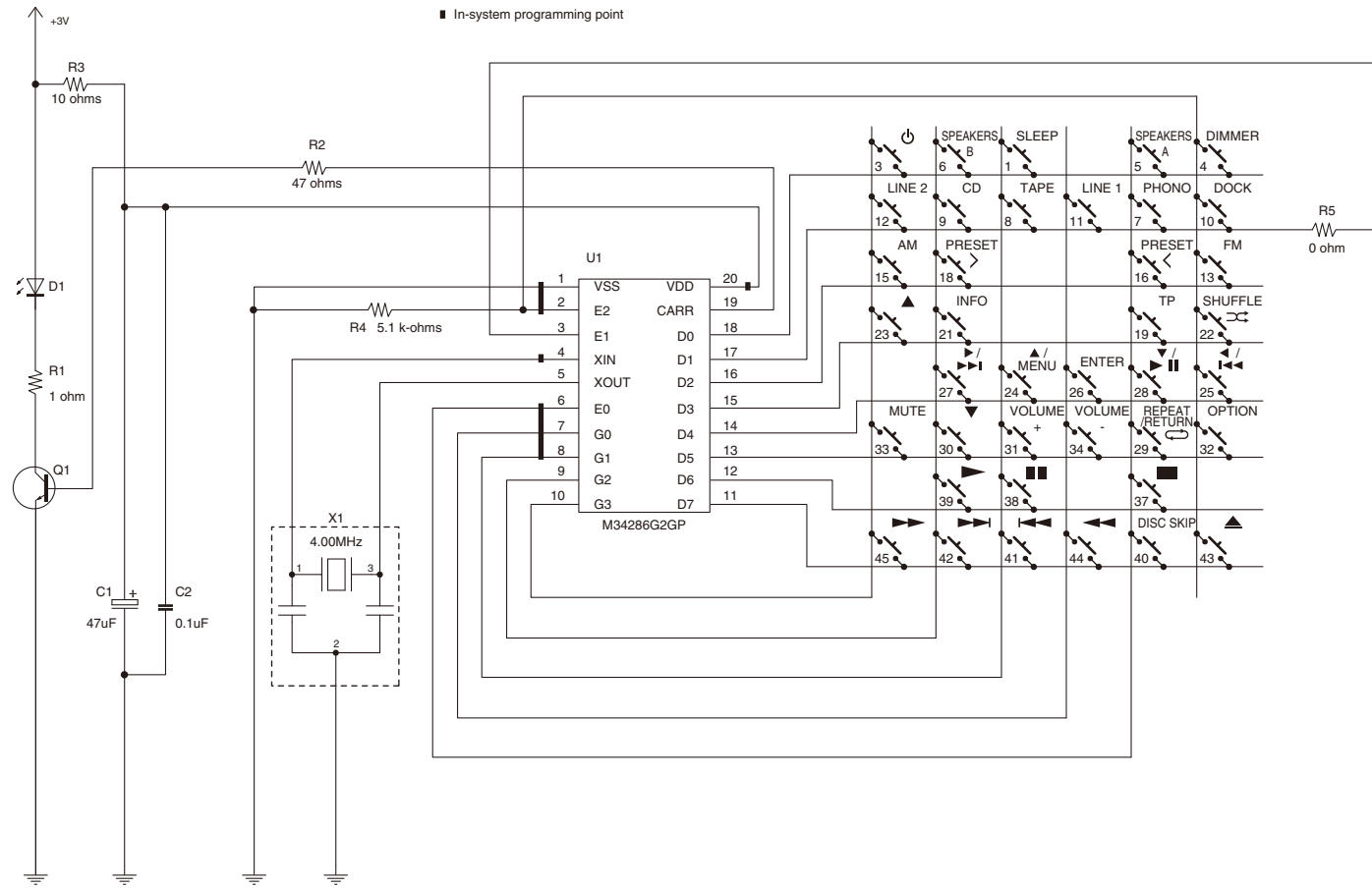
Ref No.	Part No.	Description	Remarks	Markets
# Δ 3-1-1	VV586400	PAIR TRANSISTOR	2SA1695/C4468 OPY	Q115, Q117
3-1-5	VV849300	RADIATION SHEET	19x24	
3-1-6	VP922500	DAMPER	2x10x170	
3-1-7	VK173200	TRANSISTOR SCREW	3x15 SP MFC2	
* 3-4	WV022200	P. C. B. ASS'Y	MAIN	UC
* 3-4	WV022300	P. C. B. ASS'Y	MAIN	R
* 3-4	WV022500	P. C. B. ASS'Y	MAIN	A
* 3-4	WV022600	P. C. B. ASS'Y	MAIN	G
* 3-4	WV022700	P. C. B. ASS'Y	MAIN	L
3-42	WF002600	PW HEAD B-TIGHT SCREW	3x8 MFZN2W3	
3-43	VB770200	PW HEAD P-TIGHT SCREW	3x10-8 MFC2	
3-44	WF268000	BIND HEAD P-TIGHT SCREW	3x10 MFZN2B3	

\* New Parts

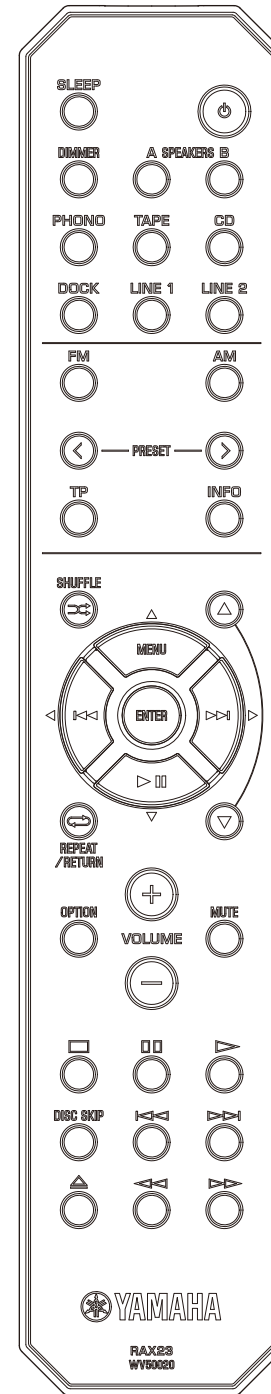
**Note)** Those parts marked with “#” are not included in the P.C.B. ass'y.

# REMOTE CONTROL

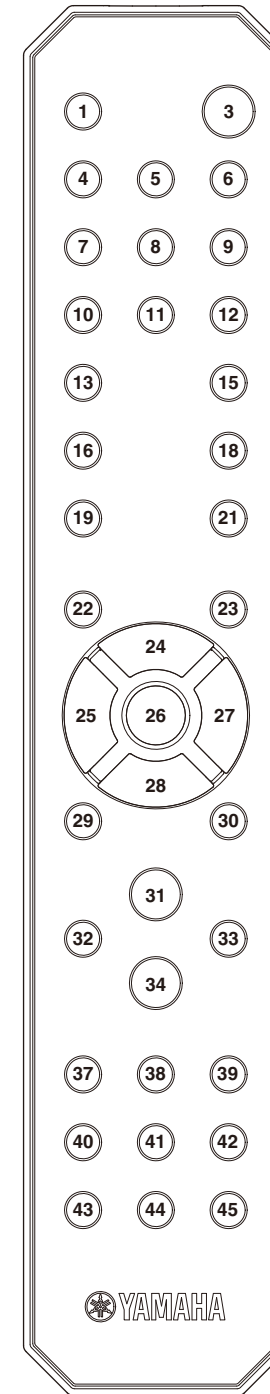
## SCHEMATIC DIAGRAM



## PANEL



## KEY NO. LAYOUT



## KEY CODE

Key No.	Function	Custom Code	Data Code
1	SLEEP	7A	30CE
3	⏻	7E	2AD4
4	DIMMER	7A	82FC
5	SPEAKERS A	7A	9A64
6	SPEAKERS B	7A	9B65
7	PHONO	7A	14EA
8	TAPE	7A	18E6
9	CD	7A	15EB
10	DOCK	7A01	4AB4
11	LINE 1	7A	19E7
12	LINE 2	7A	C13F
13	FM	7A01	5826
15	AM	7A01	552B
16	PRESET <	7F01	5E20
18	PRESET >	7F01	5B25
19	TP	7A	A55B
21	INFO	7A	2759
22	SHUFFLE	7F01	46B8
23	▲	7F01	619F
24	MENU	7A	9D63
25	⏮	7A	9F61
26	ENTER	7A	DE20
27	⏭	7A	9E60
28	▶	7A	9C62
29	REPEAT/RETURN	7A	AA54
30	▼	7F01	659B
31	VOLUME +	7A	1AE4
32	OPTION	7A	6B15
33	MUTE	7A	1CE2
34	VOLUME -	7A	1BE5
37	■	79	56
38	▬	79	55
39	▶	79	02
40	DISC SKIP	79	4F
41	⏮	79	04
42	⏭	79	07
43	▲	79	01
44	⏮	79	05
45	▶	79	06

## ■ ADVANCED SETUP

(U, C, A models)

### ■ ADVANCED SETUP menu parameters

Change the initial settings to reflect the needs of your listening environment.



The default settings are marked with “\*”.

#### APD (Automatic Power Down) TIMER

**Choices:** 4H (4 hours), 8H\* (8 hours), 12H (12 hours)

When the POWER MANAGEMENT switch on the rear panel of this unit is set to ON, this unit automatically enters standby mode if it is not operated for the specified amount of time.

#### Note

When the POWER MANAGEMENT switch is set to OFF, “APD TIMER -OFF” is displayed.

#### INITIALIZE

**Choices:** NO\*, YES

Resets all parameters to their factory presets.

- Select NO to cancel without resetting all parameters to their factory presets.
- Select YES to reset all parameters to their factory presets.

#### Note

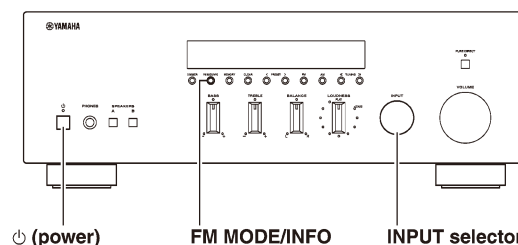
If “YES” is selected the parameters are reset the next time you turn on the power of this unit.

### Changing the ADVANCED SETUP menu parameters

The ADVANCED SETUP menu is displayed in the front panel display.



- Audio output is muted while setting parameters in the ADVANCED SETUP menu.
- While setting parameters in the ADVANCED SETUP menu, most controls on the front panel are disabled; only ⏻ (power), the INPUT selector and FM MODE/INFO are operational.



- 1 Press and hold FM MODE/INFO on the front panel, and then press ⏻ (power) inward.**  
This unit turns on, and the ADVANCED SETUP menu is displayed on the front panel display.
- 2 Rotate the INPUT selector on the front panel to select the parameter you want to change.**  
See “ADVANCED SETUP menu parameters” for a complete list of available parameters.
- 3 Press FM MODE/INFO on the front panel repeatedly to change the selected parameter setting.**  
To change other settings, repeat steps 2 and 3.
- 4 Press ⏻ (power) on the front panel outward to turn off this unit to confirm your setting.**

#### Note

The settings you made take effect the next time you turn on this unit.

ADVANCED  
OPERATION

R-S300

**(R, G, L models)****■ ADVANCED SETUP menu parameters**

Change the initial settings to reflect the needs of your listening environment.



The default settings are marked with “\*”.

**APD (Automatic Power Down) TIMER**

**Choices:** 4H (4 hours), 8H\* (8 hours), 12H (12 hours)

When the POWER MANAGEMENT switch on the rear panel of this unit is set to ON, this unit automatically enters standby mode if it is not operated for the specified amount of time.

**Note**

When the POWER MANAGEMENT switch is set to OFF, “APD TIMER -OFF” is displayed.

**INITIALIZE**

**Choices:** NO\*, YES

Resets all parameters to their factory presets.

- Select NO to cancel without resetting all parameters to their factory presets.
- Select YES to reset all parameters to their factory presets.

**Note**

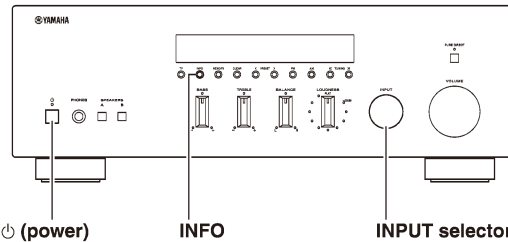
If “YES” is selected the parameters are reset the next time you turn on the power of this unit.

## Changing the ADVANCED SETUP menu parameters

The ADVANCED SETUP menu is displayed in the front panel display.



- Audio output is muted while setting parameters in the ADVANCED SETUP menu.
- While setting parameters in the ADVANCED SETUP menu, most controls on the front panel are disabled; only ⏻ (power), the INPUT selector and INFO are operational.

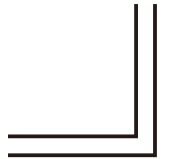
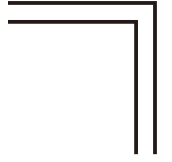
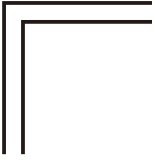


- 1 Press and hold INFO on the front panel, and then press ⏻ (power) inward.**  
This unit turns on, and the ADVANCED SETUP menu is displayed on the front panel display.
- 2 Rotate the INPUT selector on the front panel to select the parameter you want to change.**  
See “ADVANCED SETUP menu parameters” for a complete list of available parameters.
- 3 Press INFO on the front panel repeatedly to change the selected parameter setting.**  
To change other settings, repeat steps 2 and 3.
- 4 Press ⏻ (power) on the front panel outward to turn off this unit to confirm your setting.**

**Note**

The settings you made take effect the next time you turn on this unit.

MEMO



# R-S300

---

