HT-ST5
SA-ST5

SERVICE MANUAL

Ver. 1.1 2014.12

US Model
Canadian Model
Australian Model
Taiwan Model

- All of the units included in the HT-ST5 (SA-ST5/ SA-WST5/Remote control) are required to confirming operation of SA-ST5. Check in advance that you have all of the units.

Note:
Be sure to keep your PC used for service and checking of this unit always updated with the latest version of your anti-virus software.
In case a virus affected unit was found during service, contact your Service Headquarters.

Photo: SA-ST5

COMPONENT MODEL NAME

	HT-ST5
Bar Speaker (Active Speaker System)	SA-ST5
Subwoofer (Active Subwoofer)	SA-WST5

- Please refer to service manual separately issued for Subwoofer.

SPECIFICATIONS

Amplifier section

U.S. models:
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
(FTC)
Front L + Front R:
With 8 ohms loads, both channels driven, from 200 - 20,000 Hz; rated 15 Watts per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 milliwatts to rated output.
POWER OUTPUT (reference)
Front L/Front R speaker blocks: 40 Watts (per channel at 8 ohms, 1 kHz)
Center speaker block: 40 Watts (per channel at 8 ohms, 1 kHz)

Except US model:
POWER OUTPUT (rated)
Front L + Front R: 35 W + 35 W
(at 8 ohms, 1 kHz, 1% THD)
POWER OUTPUT (reference)
Front L/Front R speaker blocks: 40 Watts (per channel at 8 ohms, 1 kHz)
Center speaker block: 40 Watts (per channel at 8 ohms, 1 kHz)

Inputs
HDMI IN 1/2/3*
OPTICAL IN (OPT/TV)
ANALOG IN
* These 3 jacks are identical. Using any of them makes no difference.
Output
HDMI OUT (TV ARC)

BLUETOOTH section

Communication system
BLUETOOTH Specification version 3.0
Output
BLUETOOTH Specification Power Class 2
Maximum communication range
Line of sight approx. 10 m (33 ft) [1)]
Maximum number of devices to be registered
9 devices

Frequency band
2.4 GHz band (2.4000 GHz - 2.4835 GHz)
Modulation method
FHSS (Freq Hopping Spread Spectrum)
Compatible BLUETOOTH profiles [2)]
A2DP 1.2 (Advanced Audio Distribution Profile)
AVRCP 1.3 (Audio Video Remote Control Profile)
Supported Codecs [3)]
SBC [4)], AAC [5)], aptX
Transmission range (A2DP)
20 Hz - 20,000 Hz (Sampling frequency 44.1 kHz)

1) The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, cordless phone, reception sensitivity, operating system, software application, etc.
2) BLUETOOTH standard profiles indicate the purpose of BLUETOOTH communication between devices.
3) Codec: Audio signal compression and conversion format
4) Subband Codec
5) Advanced Audio Coding

Front L/Front R speaker blocks

Speaker system
2-way speaker system, Acoustic suspension
Speaker
Woofer: 60 mm (2 3/8 in) cone type
Tweeter: 20 mm (13/16 in) balanced drive type
Rated impedance
8 ohms

Center speaker block

Speaker system
Full range speaker system, Acoustic suspension
Speaker (5 speakers)
60 mm (2 3/8 in) cone type
Rated impedance
8 ohms

General

Power requirements
120 V AC, 60 Hz (US and Canadian models)
120 V AC, 50 Hz/60 Hz (Taiwan model)
220 V - 240 V AC, 50 Hz/60 Hz (Australian model)
Power consumption
On: 55 W
Standby mode: 0.5 W or less
BLUETOOTH Standby mode: 0.5 W or less
Dimensions (approx.) (w/h/d)
1,030 mm × 120 mm × 120 mm (40 5/8 in × 4 3/4 in × 4 3/4 in) (with stands)
1,030 mm × 101 mm × 116 mm (40 5/8 in × 4 in × 4 5/8 in) (without stands)
Mass (approx.)
6.1 kg (13 lb 7 1/8 oz)

Wireless transmitter section

Communication system
Wireless Sound Specification version 3.0
Frequency band
5.2 GHz (5.180 GHz - 5.240 GHz) (US, Canadian and Australian models only)
5.8 GHz (5.736 GHz - 5.814 GHz)
Modulation method
DSSS

Digital audio input formats supported by the system

Dolby Digital	DTS-HD Master Audio*
Dolby Digital Plus*	DTS-HD High-Resolution Audio*
Dolby TrueHD*	DTS-HD Low Bit Rate*
DTS	Linear PCM 2ch 48 kHz or less
DTS 96/24	Linear PCM Maximum 7.1ch 192 kHz or less*

* It is possible to input these formats only with HDMI connection.

– Continued on next page –

HT-ST5
SOUND BAR
SA-ST5
ACTIVE SPEAKER SYSTEM

9-896-025-02
2014L33-1

Sony Corporation
Published by Sony Techno Create Corporation

SONY®

Video formats supported by the system

Input/Output (HDMI Repeater block)

Format	2D	3D		
		Frame packing	Side-by-Side (Half)	Over-Under (Top-and-Bottom)
4096 × 2160p @ 59.94/60 Hz*1	○	–	–	–
4096 × 2160p @ 50 Hz*1	○	–	–	–
4096 × 2160p @ 23.98/24 Hz*2	○	–	–	–
3840 × 2160p @ 59.94/60 Hz*1	○	–	–	–
3840 × 2160p @ 50 Hz*1	○	–	–	–
3840 × 2160p @ 29.97/30 Hz*2	○	–	–	–
3840 × 2160p @ 25 Hz*2	○	–	–	–
3840 × 2160p @ 23.98/24 Hz*2	○	–	–	–
1920 × 1080p @ 59.94/60 Hz	○	–	○	○
1920 × 1080p @ 50 Hz	○	–	○	○
1920 × 1080p @ 29.97/30 Hz	○	○	○	○
1920 × 1080p @ 25 Hz	○	○	○	○
1920 × 1080p @ 23.98/24 Hz	○	○	○	○
1920 × 1080i @ 59.94/60 Hz	○	○	○	○
1920 × 1080i @ 50 Hz	○	○	○	○
1280 × 720p @ 59.94/60 Hz	○	○	○	○
1280 × 720p @ 50 Hz	○	○	○	○
1280 × 720p @ 29.97/30 Hz	○	○	○	○
1280 × 720p @ 23.98/24 Hz	○	○	○	○
720 × 480p @ 59.94/60 Hz	○	–	–	–
720 × 576p @ 50 Hz	○	–	–	–
640 × 480p @ 59.94/60 Hz	○	–	–	–

*1 YCbCr 4:2:0/Supported 8-bit only
*2 Supported 8-bit only

Accessories

Remote control (1)
R03 (size AAA) batteries (2)
Optical digital cable for a TV (1)
Startup Guide (1)
Operating Instructions (1)

Design and specifications are subject to change without notice.

Copyrights

Compatible iPod/iPhone models

The compatible iPod/iPhone models are as follows. Update your iPod/iPhone with the latest software before using with the system.

BLUETOOTH technology works with:
- iPhone
  iPhone 5s/iPhone 5c/iPhone 5/iPhone 4s/iPhone 4/iPhone 3GS
- iPod touch
  iPod touch (5th generation)/iPod touch (4th generation)

NOTES ON CHIP COMPONENT REPLACEMENT

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

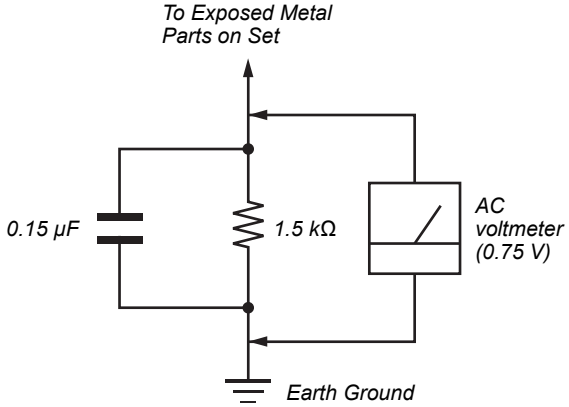


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

Accessories are given in the last of the electrical parts list.

SECTION 1
SERVICING NOTES

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(**Caution:** Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

ADVANCE PREPARATION WHEN CONFIRMING OPERATION

All of the units included in the HT-ST5 (SA-ST5/SA-WST5/Remote control) are required to confirming operation of SA-ST5. Check in advance that you have all of the units.

NOTE OF PERFORMING THE OPERATION CHECK IN THE STATE THAT HEAT SINK WAS REMOVED

When performing the operation check in the state that this unit was disassembled, it is possible to perform the operation check in the state that heat sink was removed. But don't perform the operation check in the long time, and perform the operation check in the volume state as low as possible.

"PRTECT (PROTECT)" APPEARS ON THE DISPLAY OF THE BAR SPEAKER

→ Press the **I**/⏻ (on/standby) button to turn off the system. After the lamp disappears, disconnect the AC power cord (mains lead) then ensure nothing is obstructing the ventilation holes of the system.

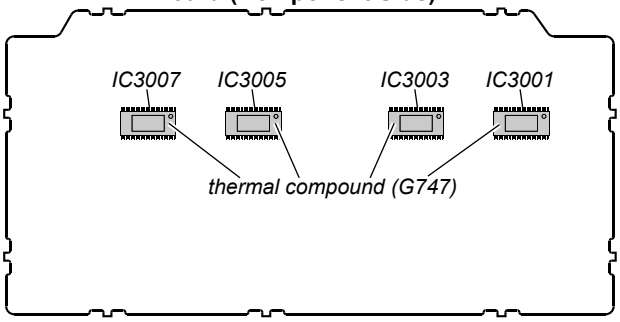
NOTE THE REPAIRING OF MAIN BOARD

When the MAIN board installed in this unit is defective, replace the complete mounted board. The mounted parts cannot replace with single.
Block diagram and printed wiring board that have been described on this service manual are for reference.
Schematic diagram have not described.

NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD

When IC3001, IC3003, IC3005 and IC3007 on the AMP board and the complete AMP board are replaced, it is necessary to spread the compound between the AMP board and the heat sink.
Spread the compound (THERMAL COMPOUND (G747)) referring to the figure below

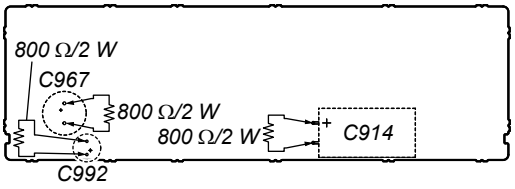
– AMP Board (Component Side) –



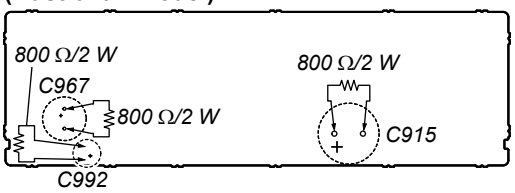
CAPACITOR ELECTRICAL DISCHARGE PROCESSING

When checking the board, for the electric shock prevention, connect the resistors to both ends of respective capacitor (C914 or C915, C967, C992) to discharge the capacitor (C914 or C915, C967, C992).

– POWER Board (Conductor Side) –
(US, Canadian and Taiwan models)



– POWER Board (Conductor Side) –
(Australian model)

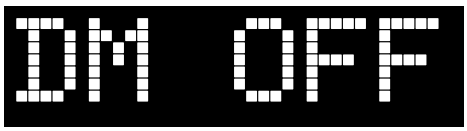


RELEASING METHOD OF DEMO MODE

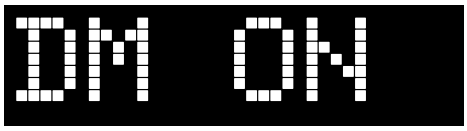
This unit is equipped with demonstration mode for sales promotion. When repairing this unit, release the demonstration mode if necessary.

Checking and releasing method of the demonstration mode state:

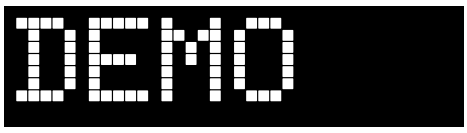
1. Press the two buttons of the [I/⏻] and [VOL–] on the main unit simultaneously for about five seconds, or press the buttons on the remote commander within five seconds in order of [RETURN] → [ENTER] → [INPUT] → [MUTING] → [INPUT] → [MUTING].
2. When the message "DM OFF" is displayed on the fluorescent indicator tube, this unit is the state of the normal mode.
   When the message "DM ON" is displayed on the fluorescent indicator tube, this unit is the state of the demonstration mode.
   Operate the step 1 again, and change that message "DM OFF" is displayed on the fluorescent indicator tube.



or



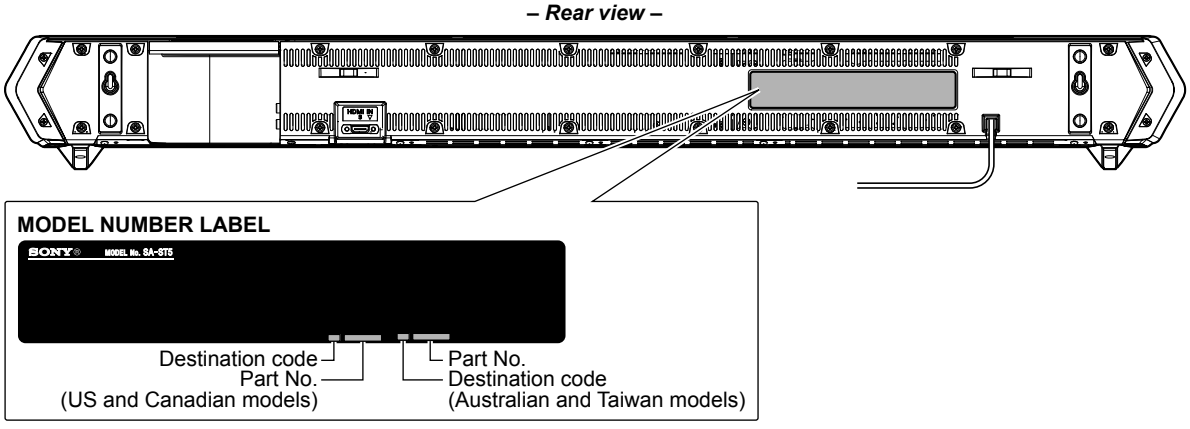
Information: When this unit is the state of the demonstration mode and insert the power cord to the AC outlet, the message "DEMO" is displayed on the fluorescent indicator tube momentarily and turn the power on automatically.



MODEL IDENTIFICATION

Distinguish by Part No. and destination code on the rear side of a main unit.

– Rear view –

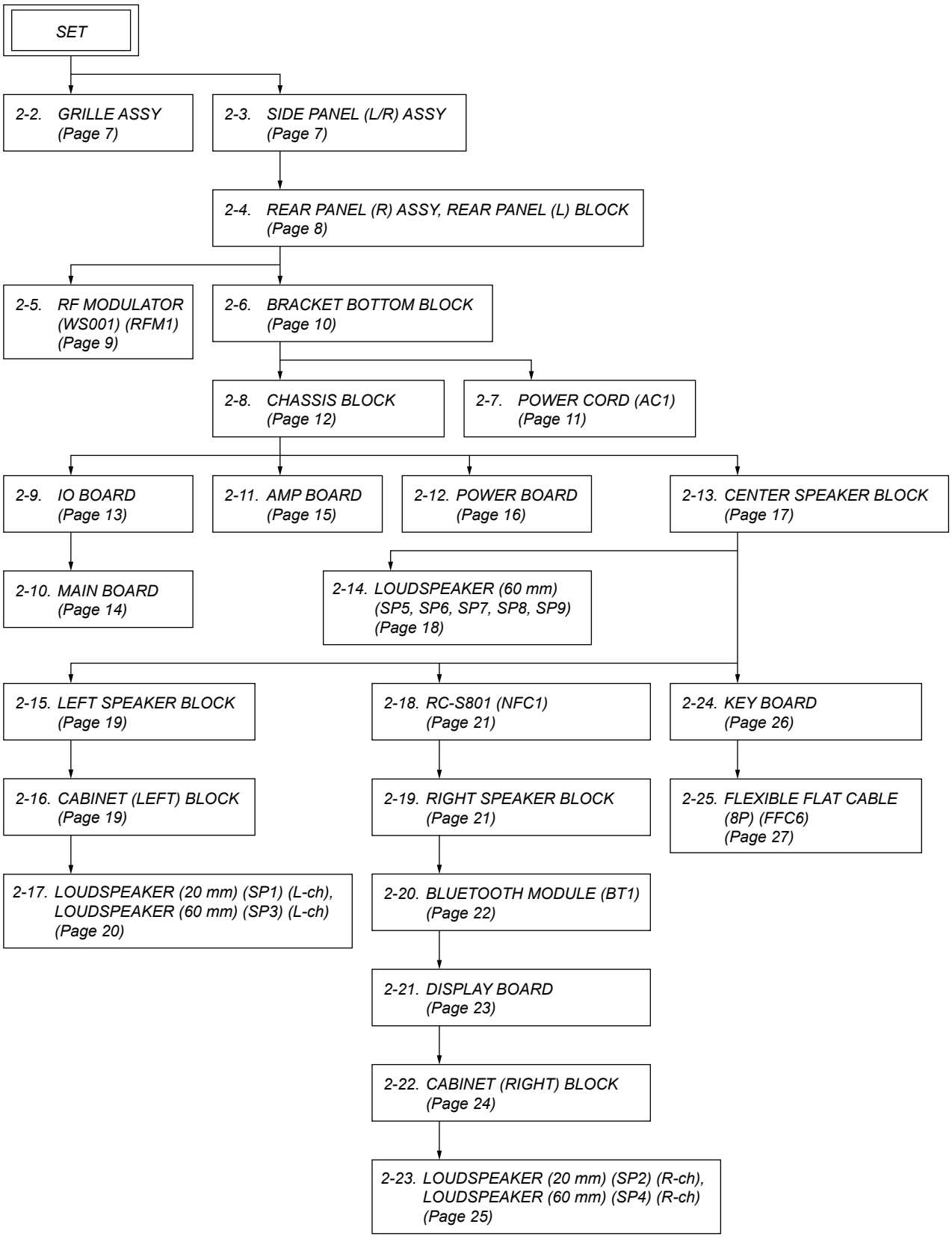


Destination	Part No.	Destination code
US, Canadian	4-543-310-0□	UC2
Australian	4-543-823-0□	AU1
Taiwan	4-543-824-0□	TW2

SECTION 2
DISASSEMBLY

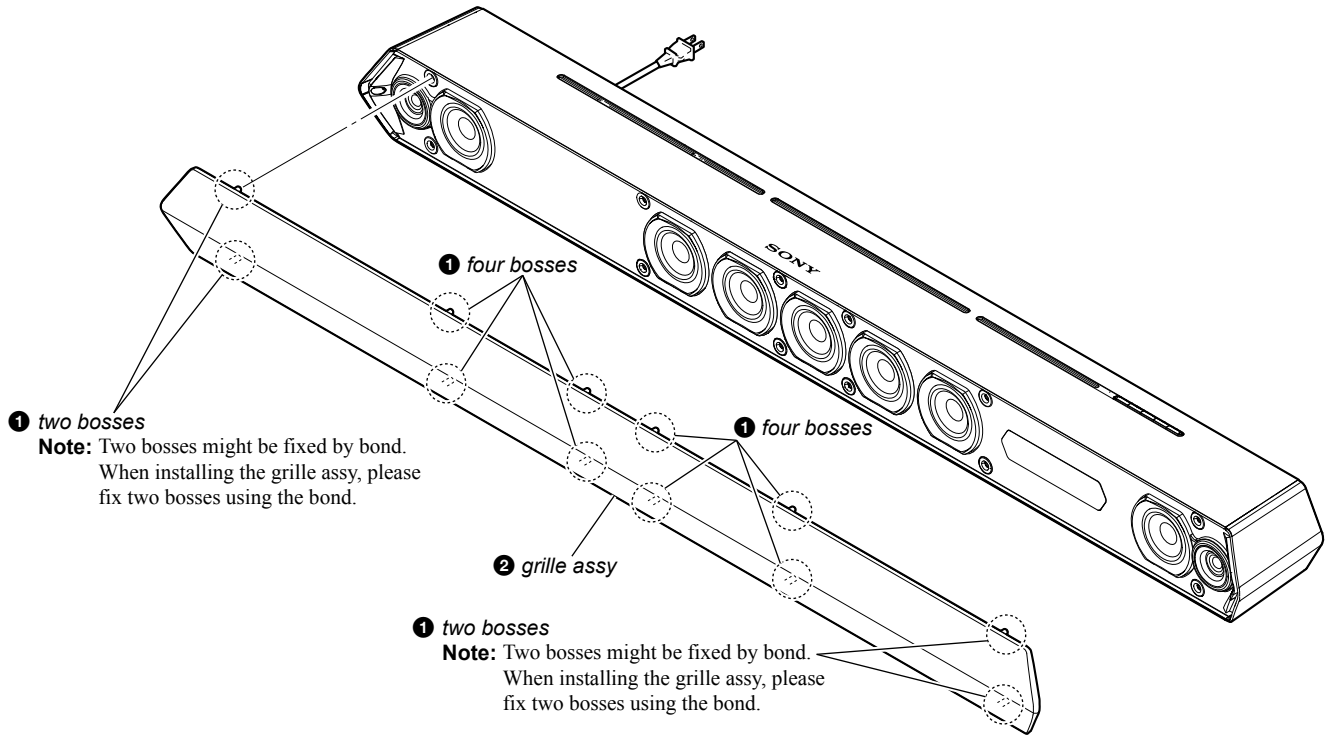
- This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

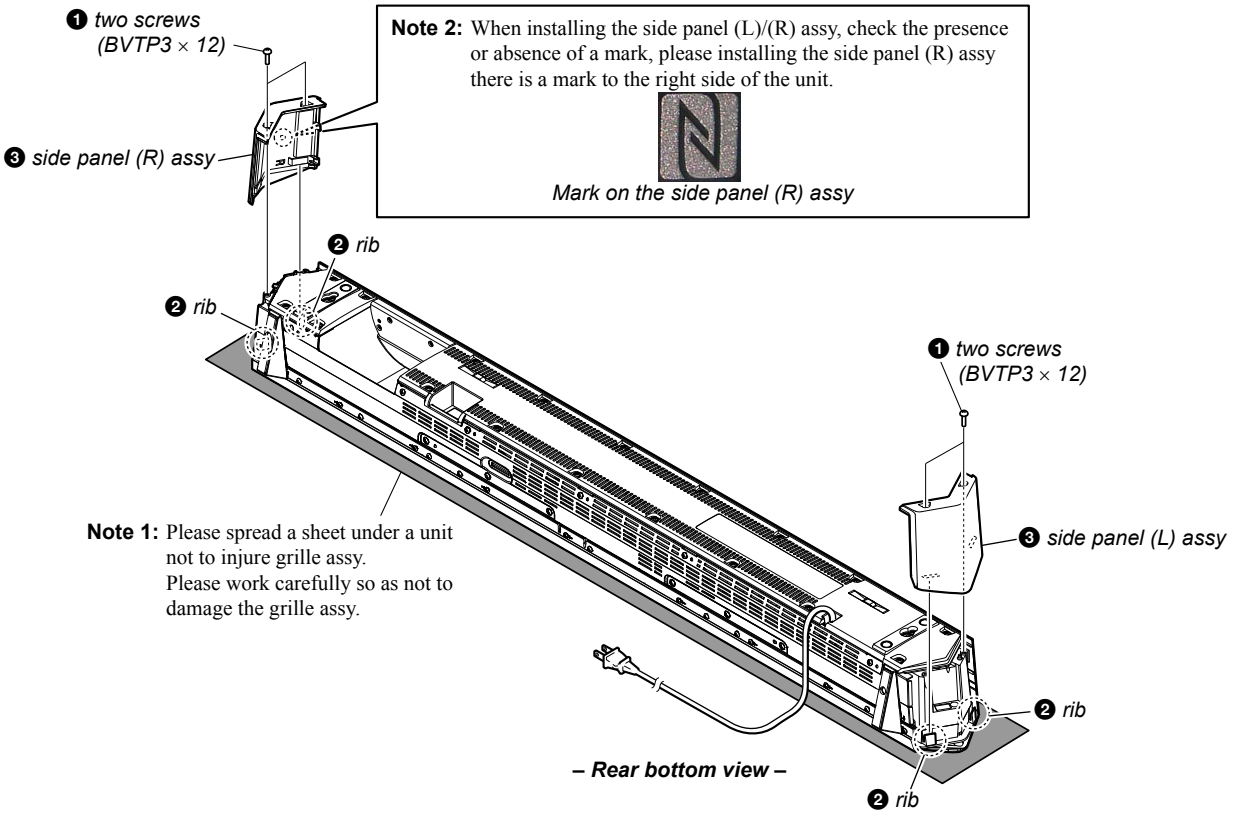


Note: Follow the disassembly procedure in the numerical order given.

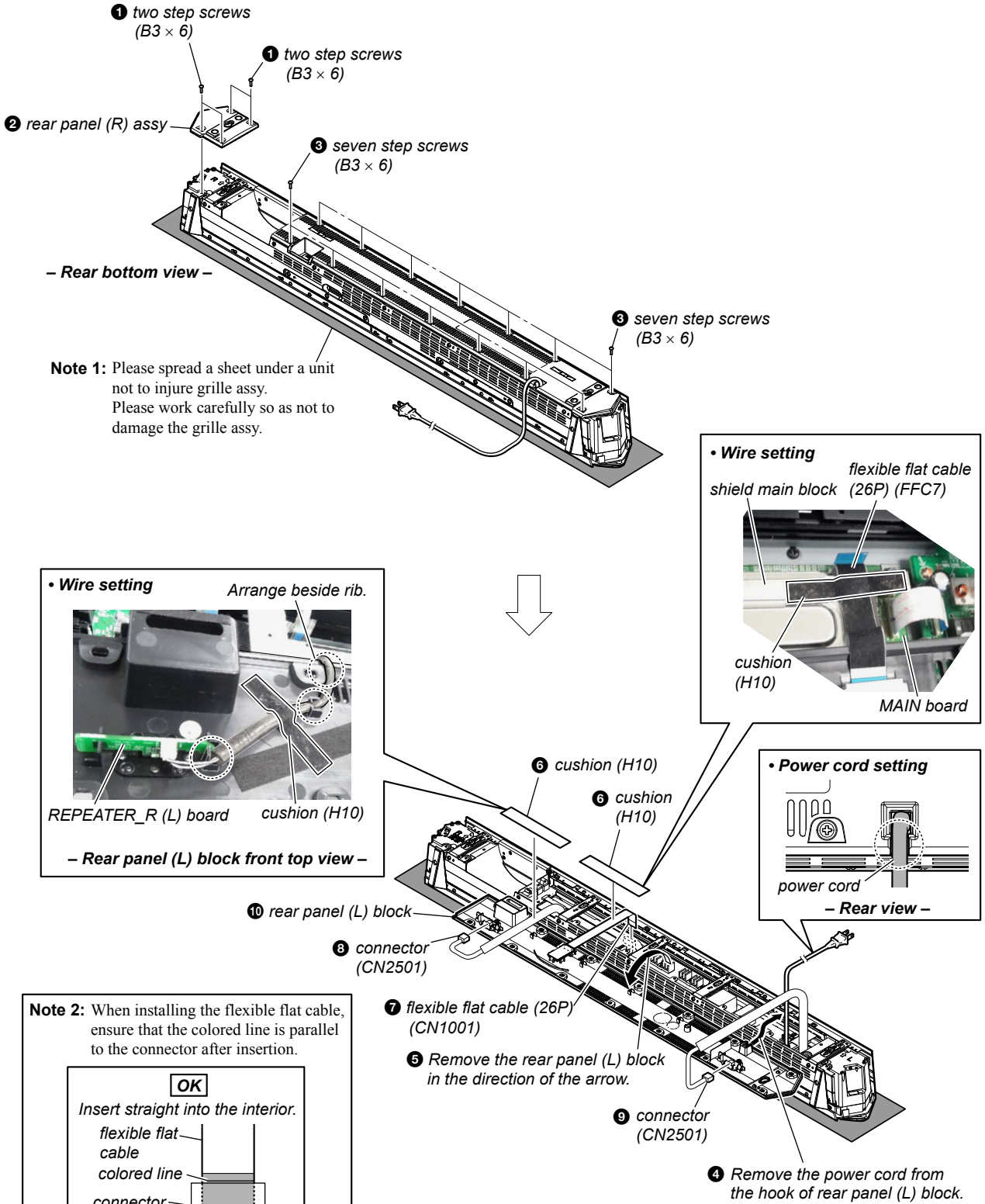
2-2. GRILLE ASSY



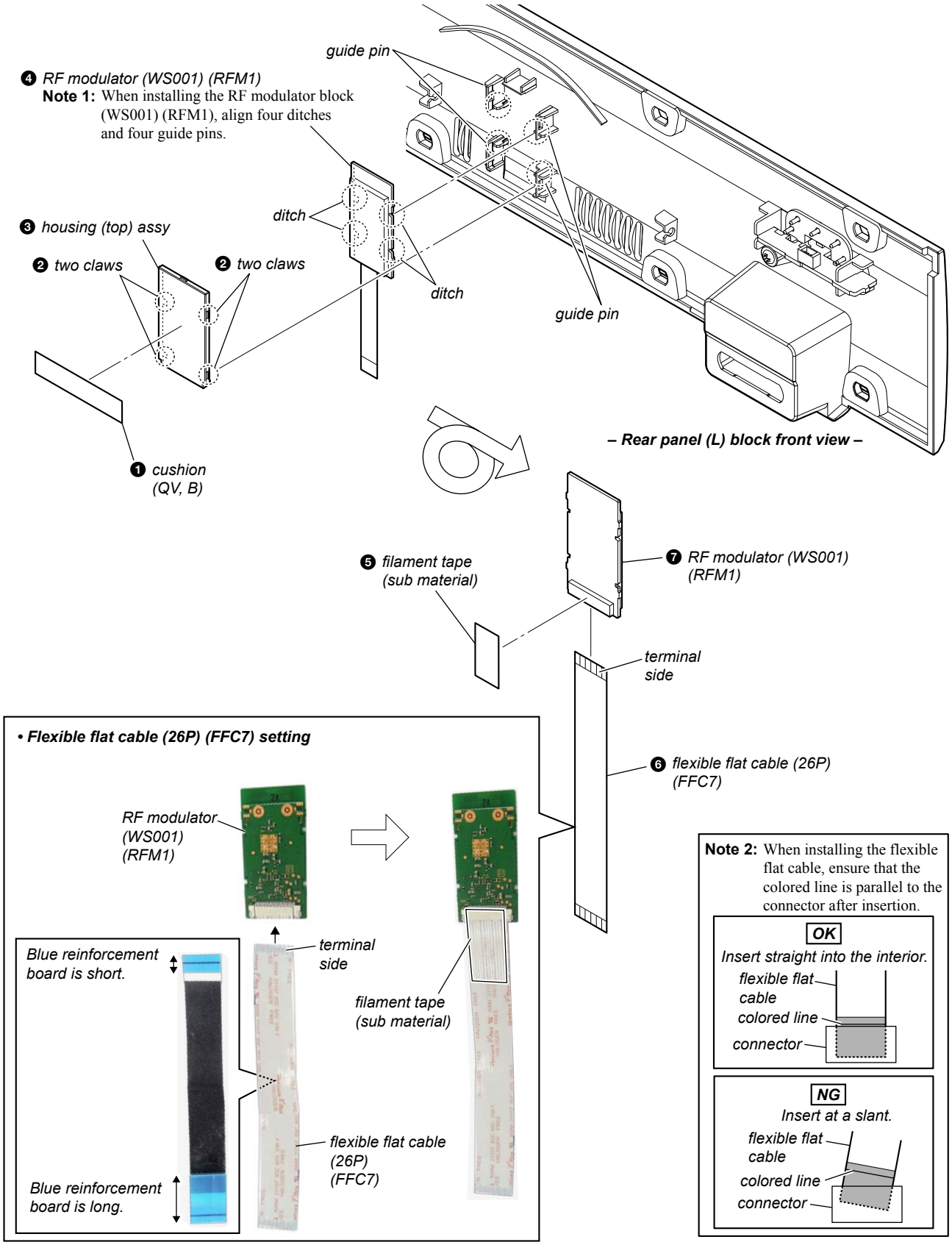
2-3. SIDE PANEL (L/R) ASSY



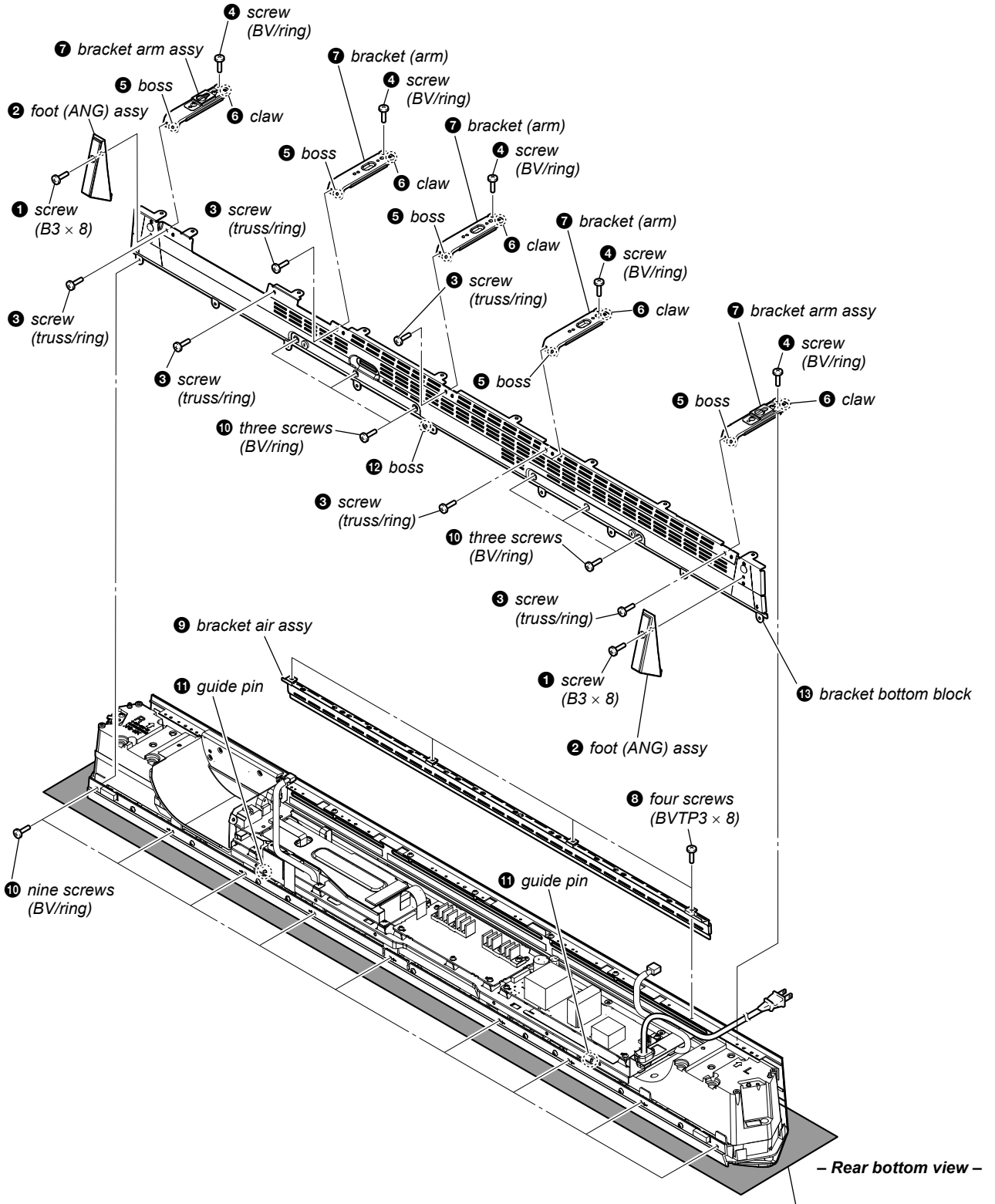
2-4. REAR PANEL (R) ASSY, REAR PANEL (L) BLOCK



2-5. RF MODULATOR (WS001) (RFM1)



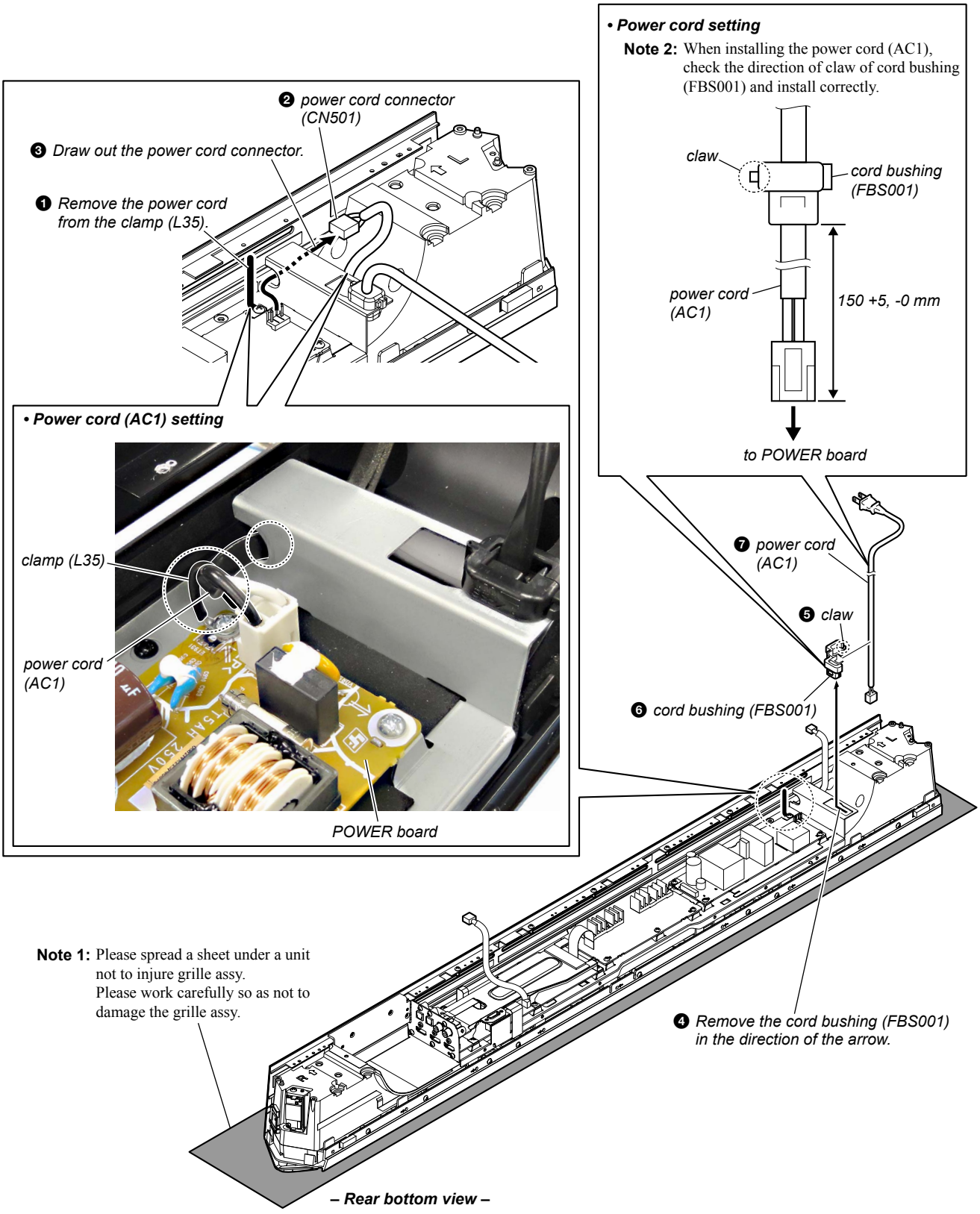
2-6. BRACKET BOTTOM BLOCK



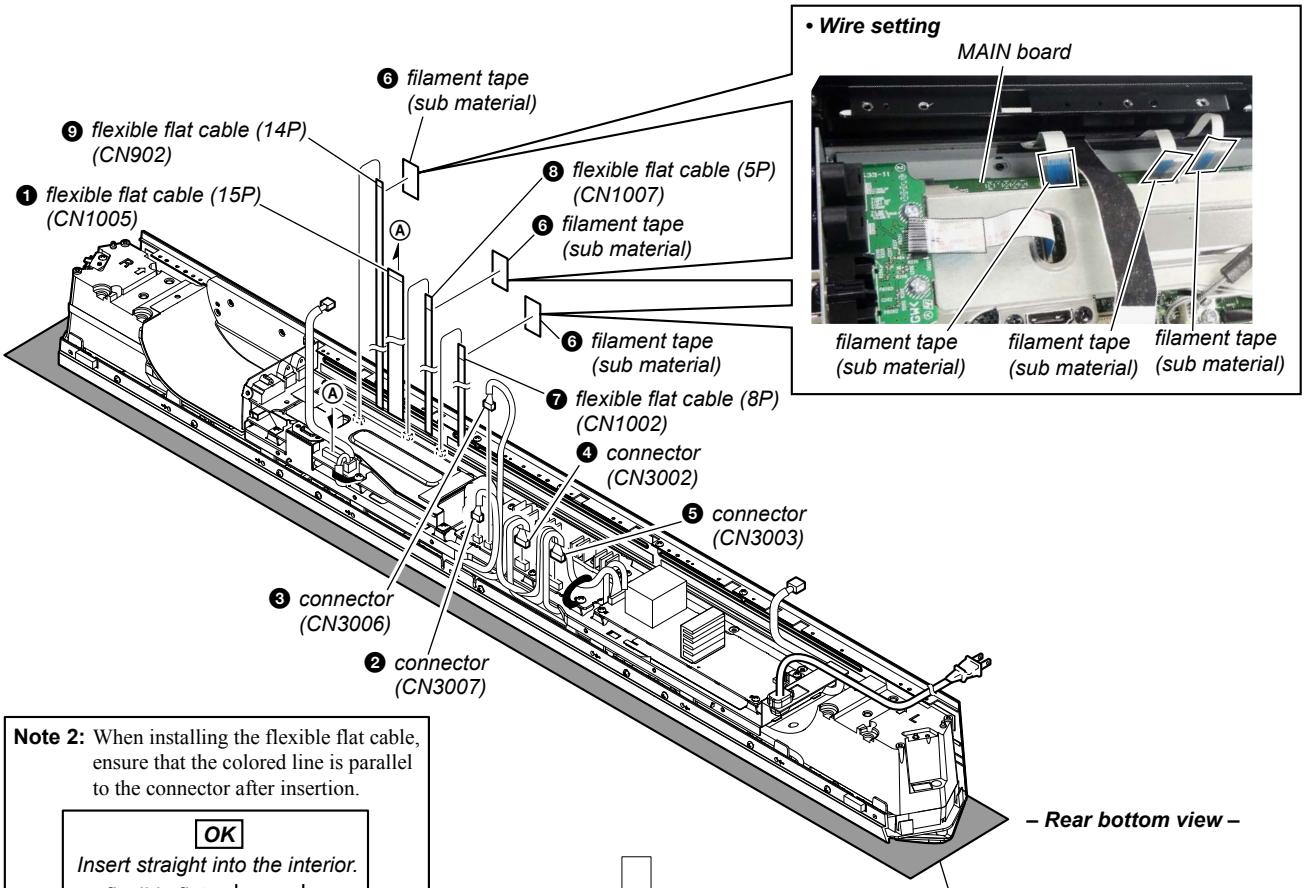
– Rear bottom view –

Note: Please spread a sheet under a unit not to injure grille assy.
Please work carefully so as not to damage the grille assy.

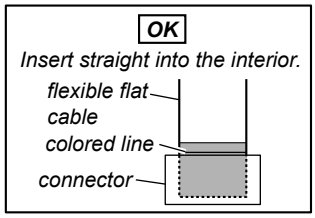
2-7. POWER CORD (AC1)



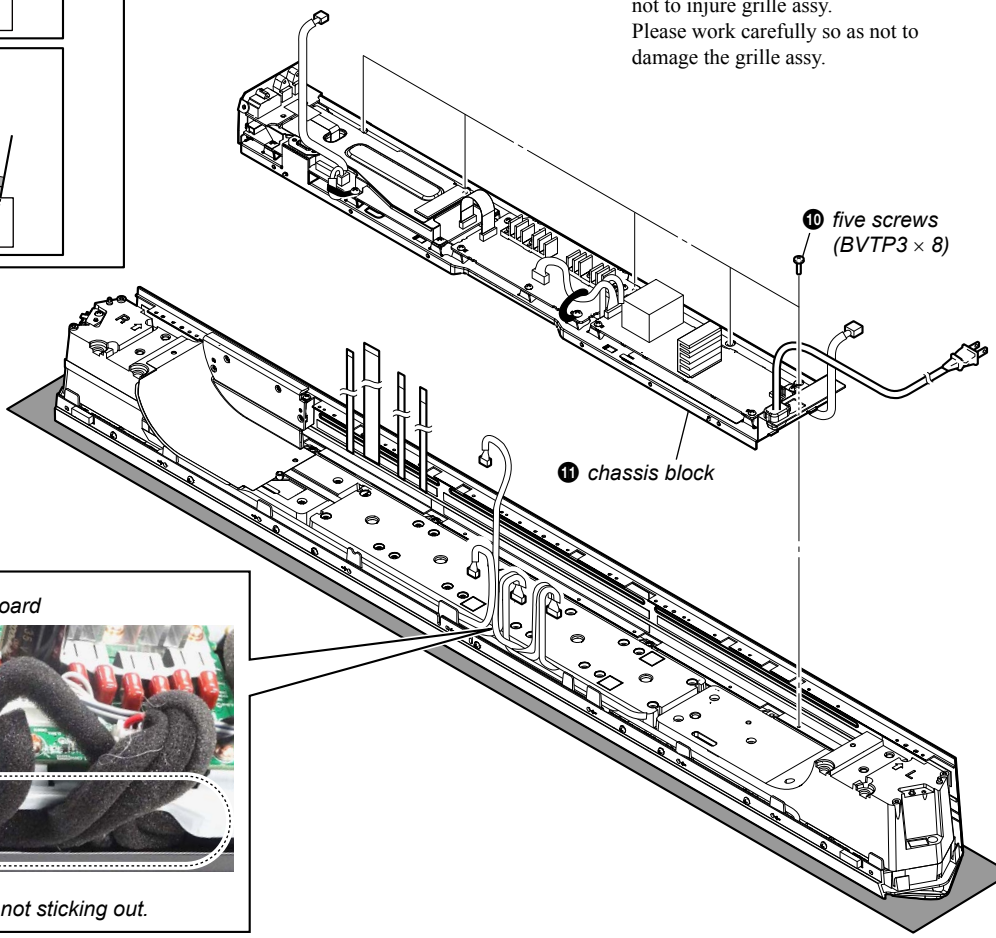
2-8. CHASSIS BLOCK

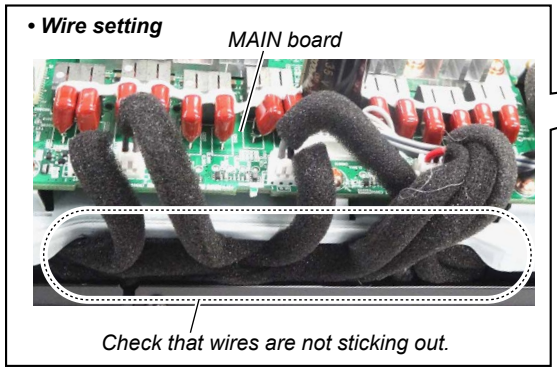


Note 2: When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.

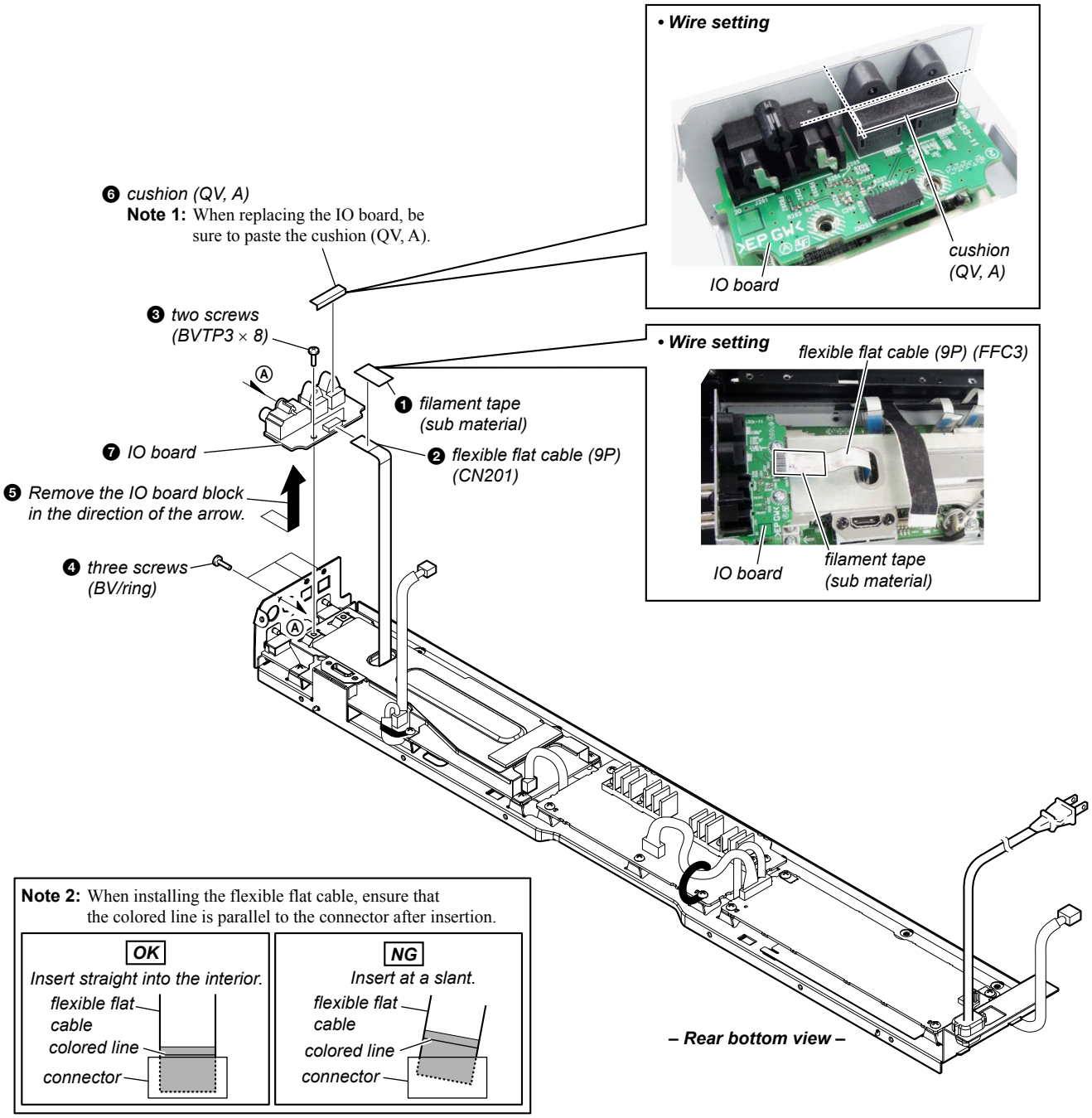


Note 1: Please spread a sheet under a unit not to injure grille assy.
Please work carefully so as not to damage the grille assy.

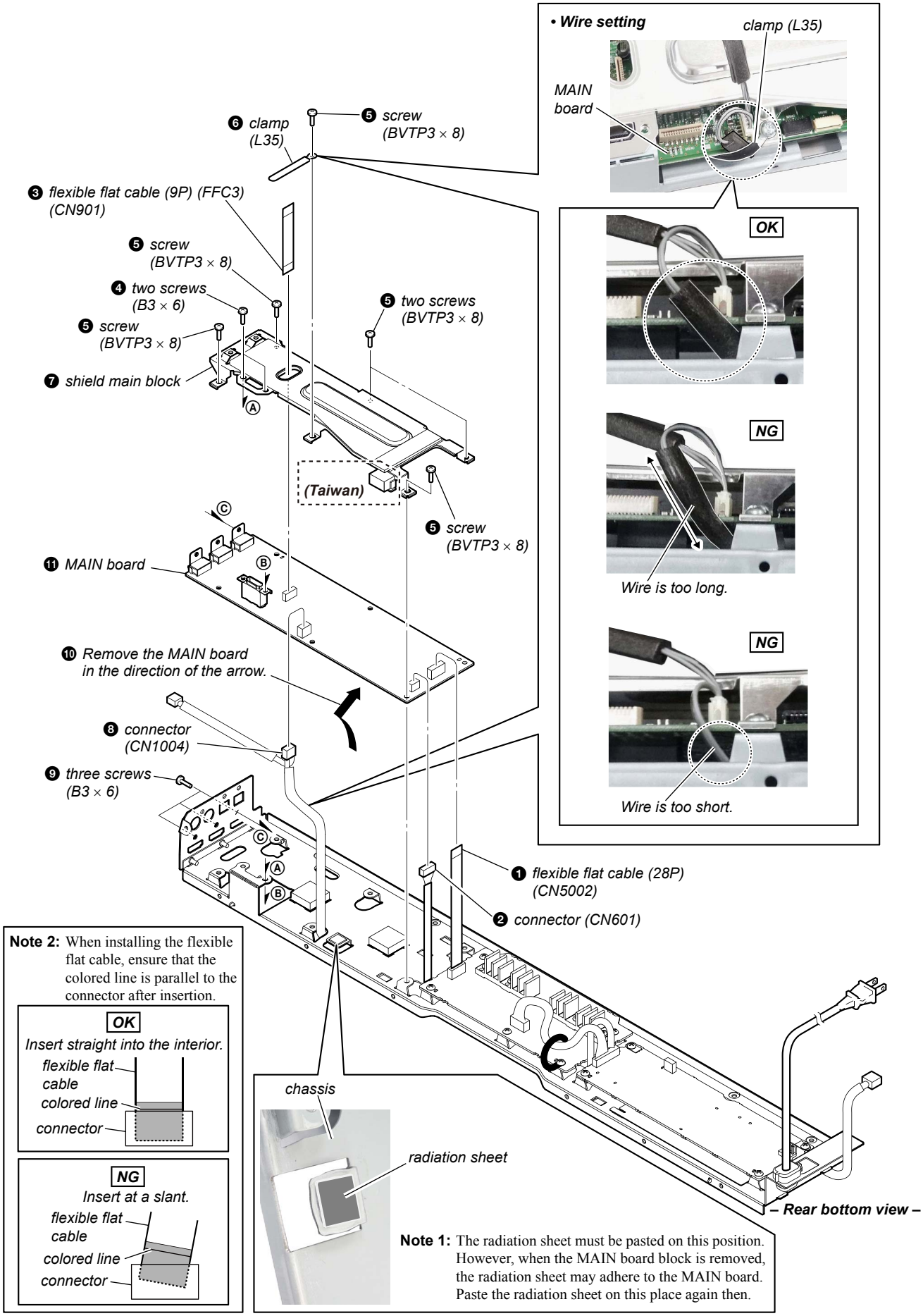




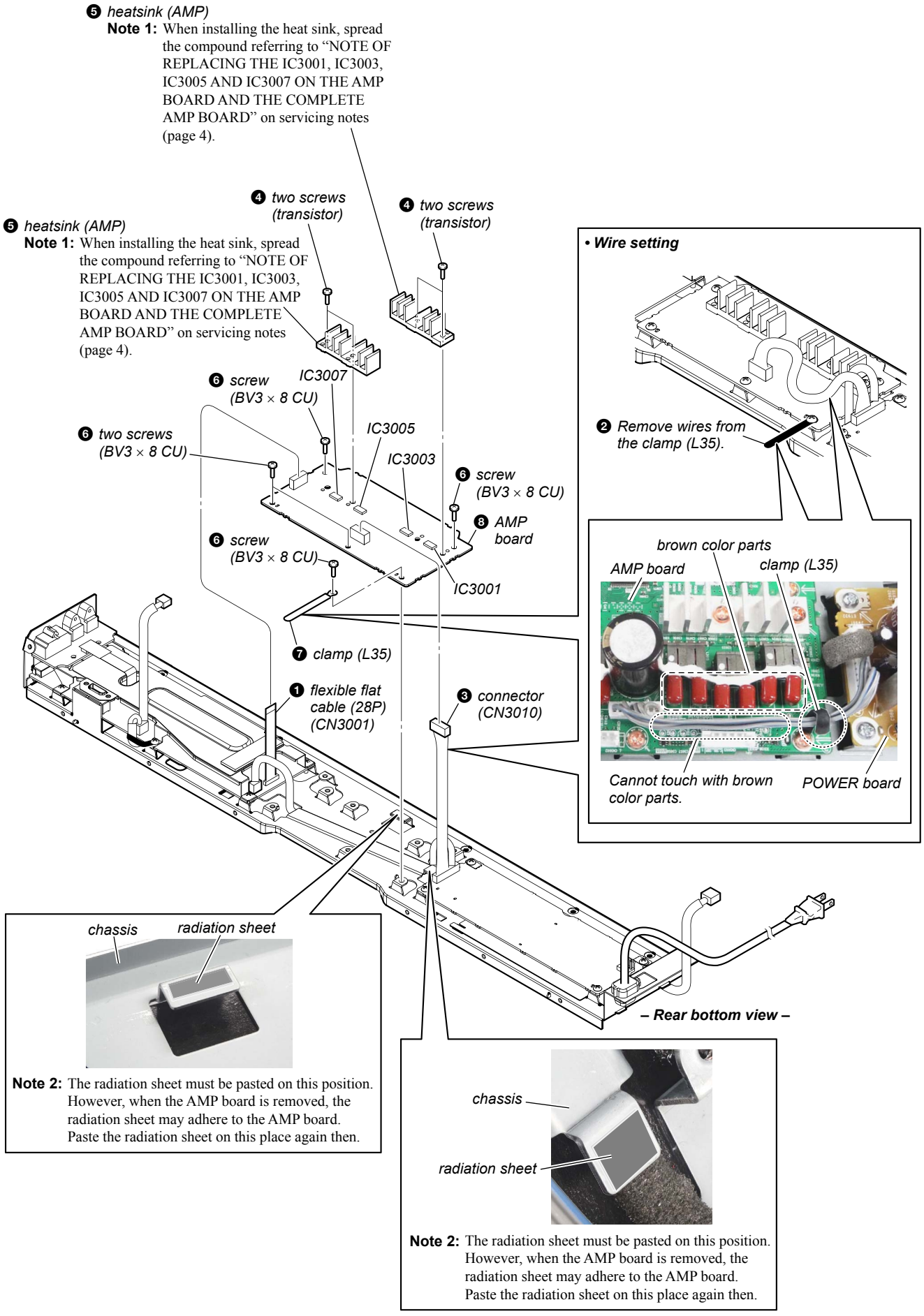
2-9. IO BOARD


• Wire setting
cushion (QV, A)
IO board
• Wire setting
flexible flat cable (9P) (FFC3)
IO board
filament tape (sub material)
❻ cushion (QV, A)
Note 1: When replacing the IO board, be sure to paste the cushion (QV, A).
❸ two screws (BVTP3 × 8)
❶ filament tape (sub material)
❼ IO board
❷ flexible flat cable (9P) (CN201)
❺ Remove the IO board block in the direction of the arrow.
❹ three screws (BV/ring)
– Rear bottom view –
Note 2: When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.
OK
Insert straight into the interior.
flexible flat cable
colored line
connector
NG
Insert at a slant.
flexible flat cable
colored line
connector

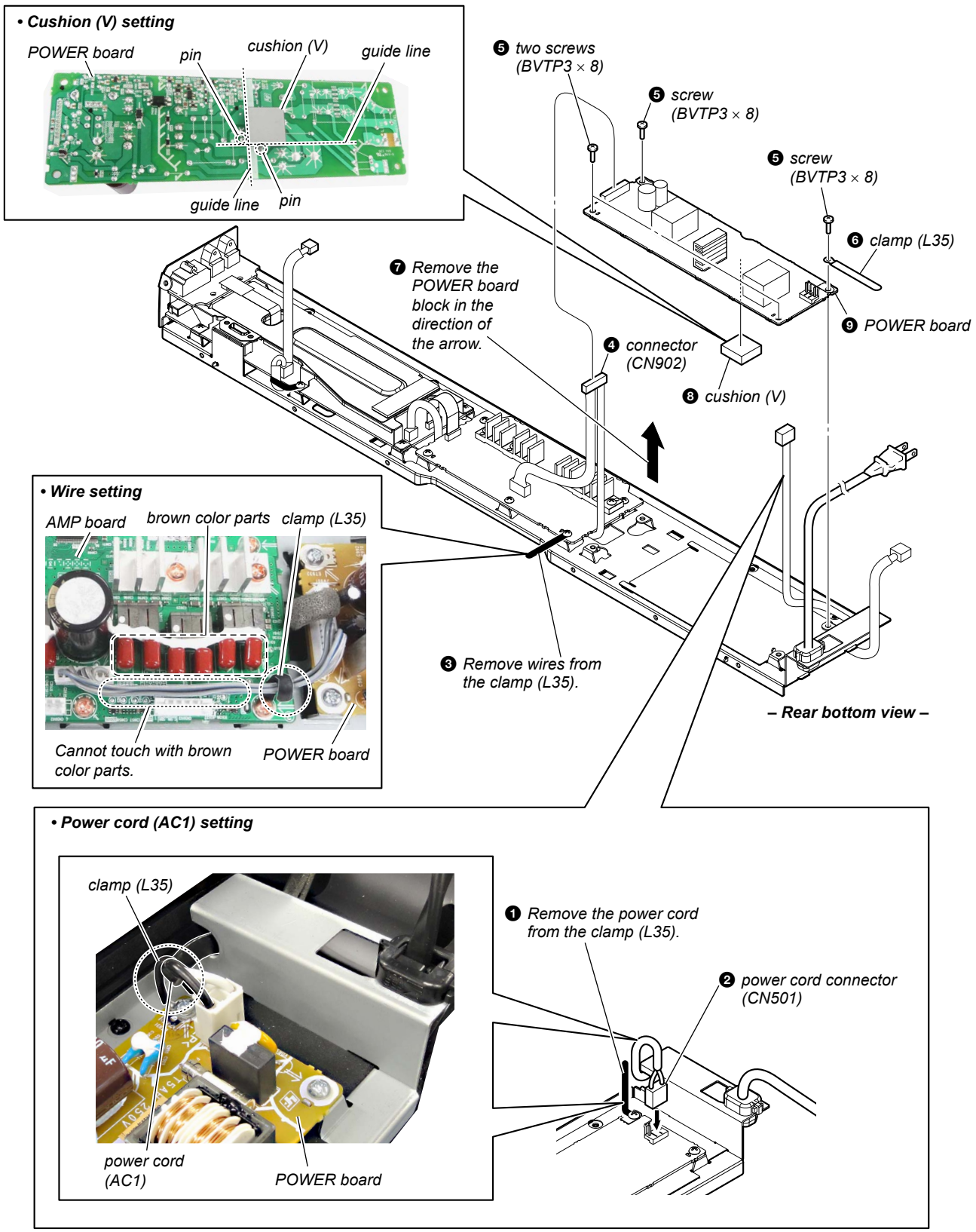
2-10. MAIN BOARD



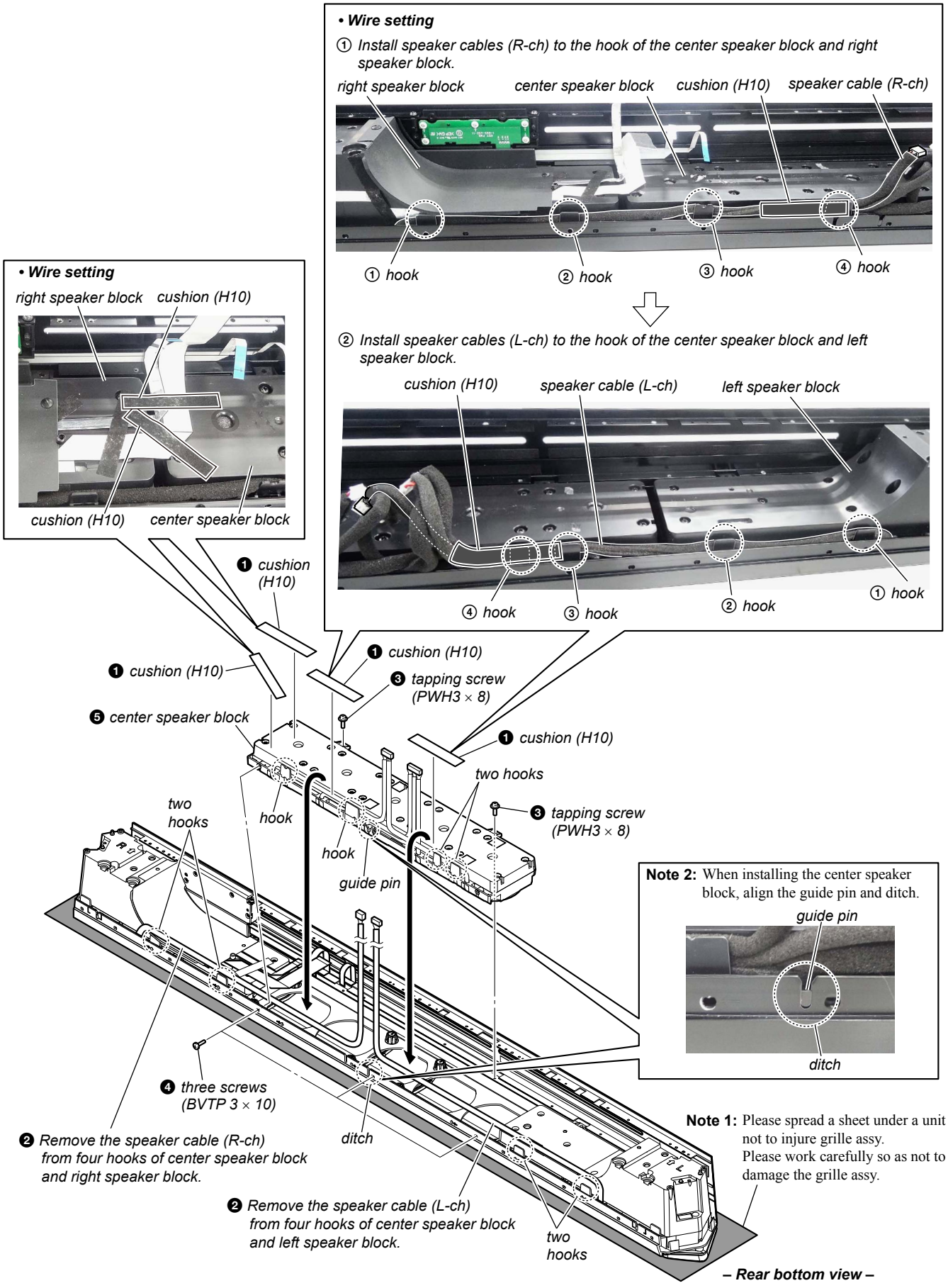
2-11. AMP BOARD



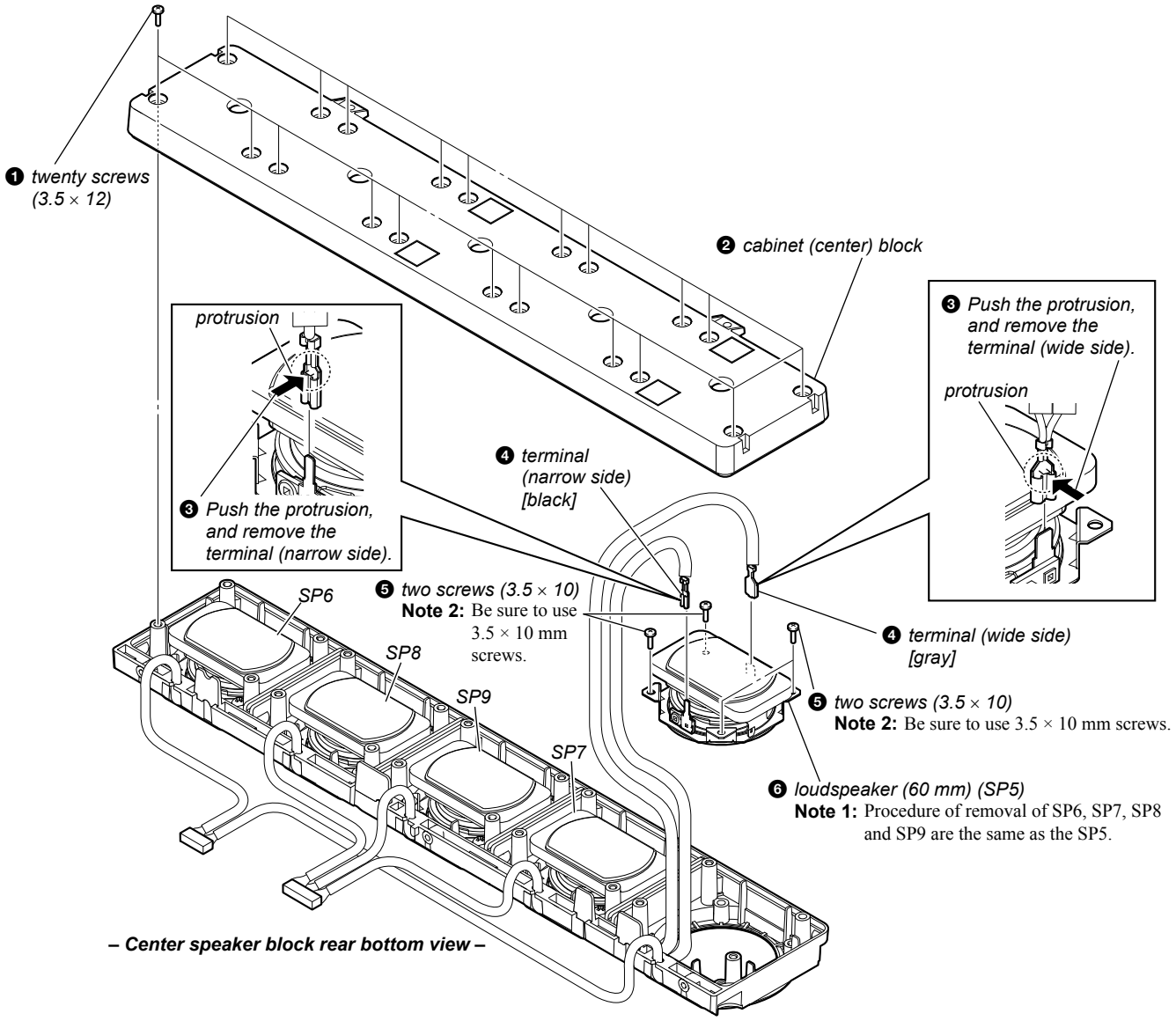
2-12. POWER BOARD

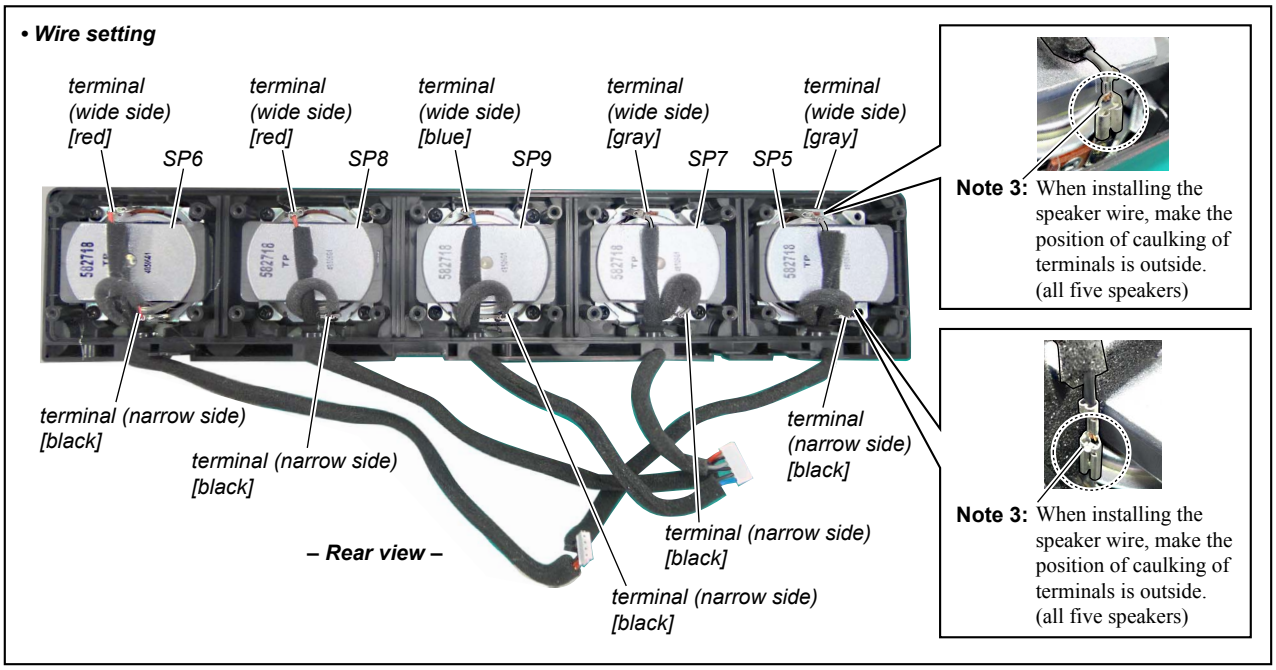


2-13. CENTER SPEAKER BLOCK

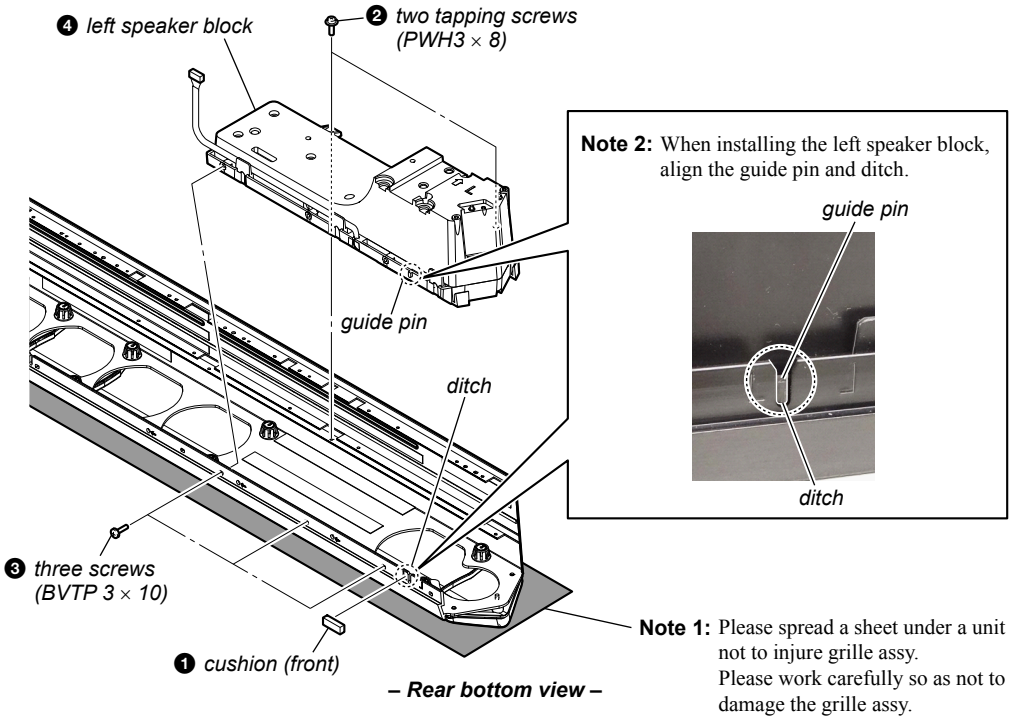


2-14. LOUDSPEAKER (60 mm) (SP5, SP6, SP7, SP8, SP9)

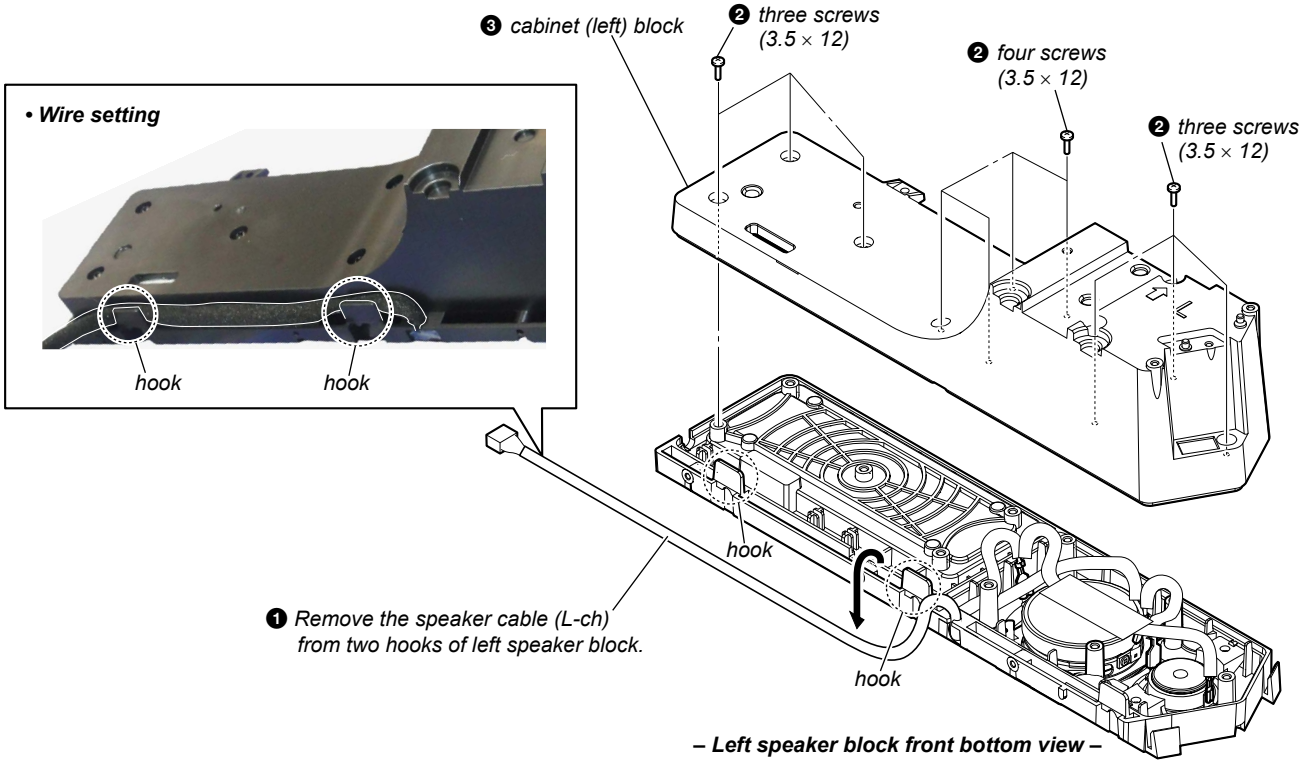




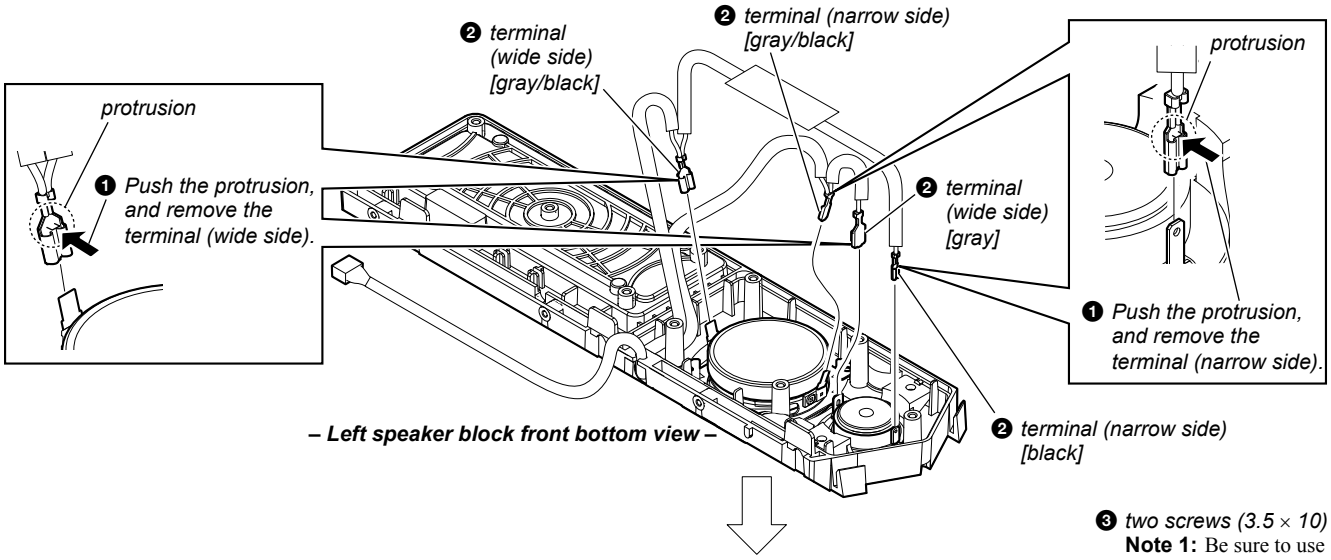
2-15. LEFT SPEAKER BLOCK

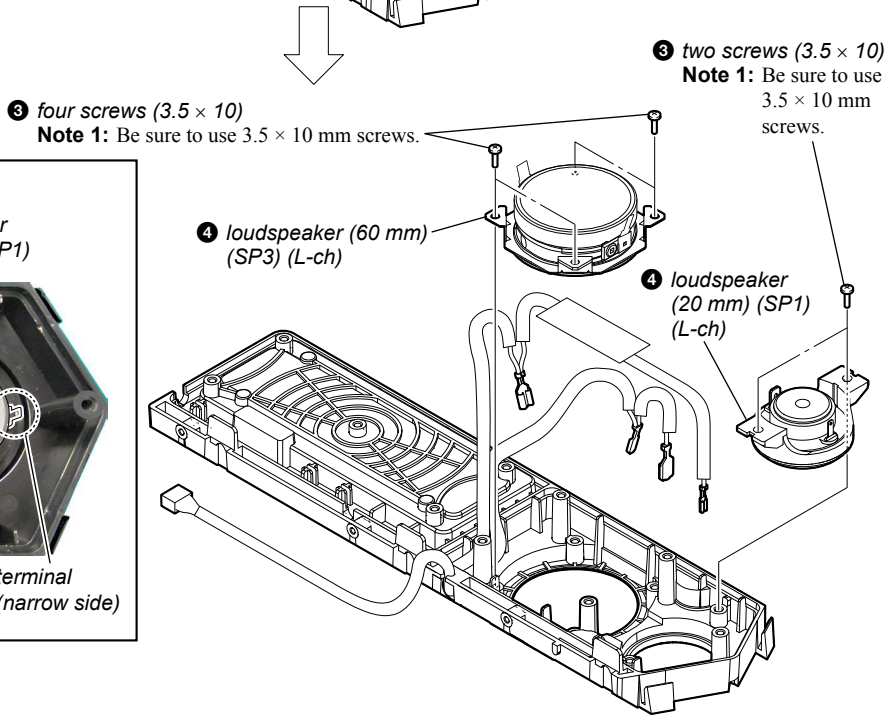


2-16. CABINET (LEFT) BLOCK

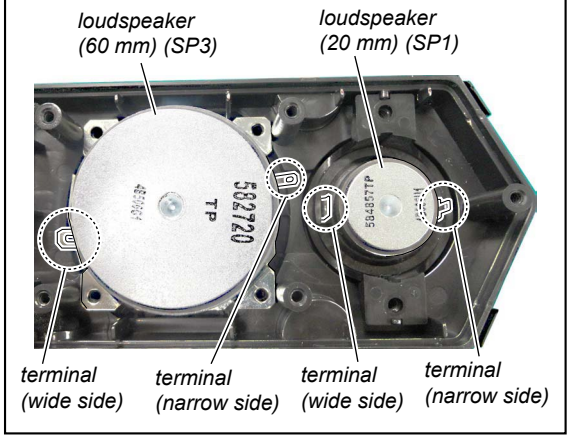


2-17. LOUDSPEAKER (20 mm) (SP1) (L-ch), LOUDSPEAKER (60 mm) (SP3) (L-ch)

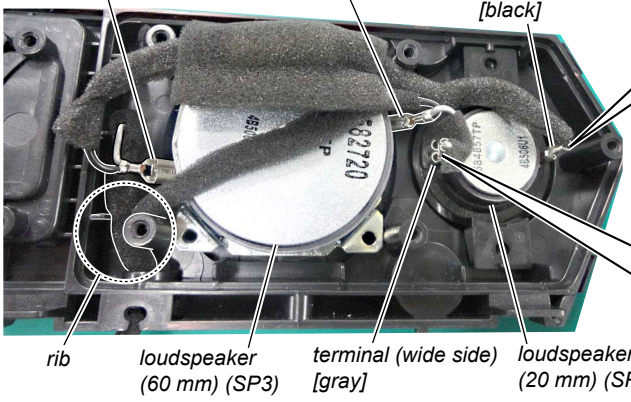


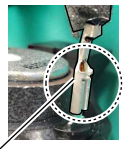


• Loudspeaker setting



• Wire setting

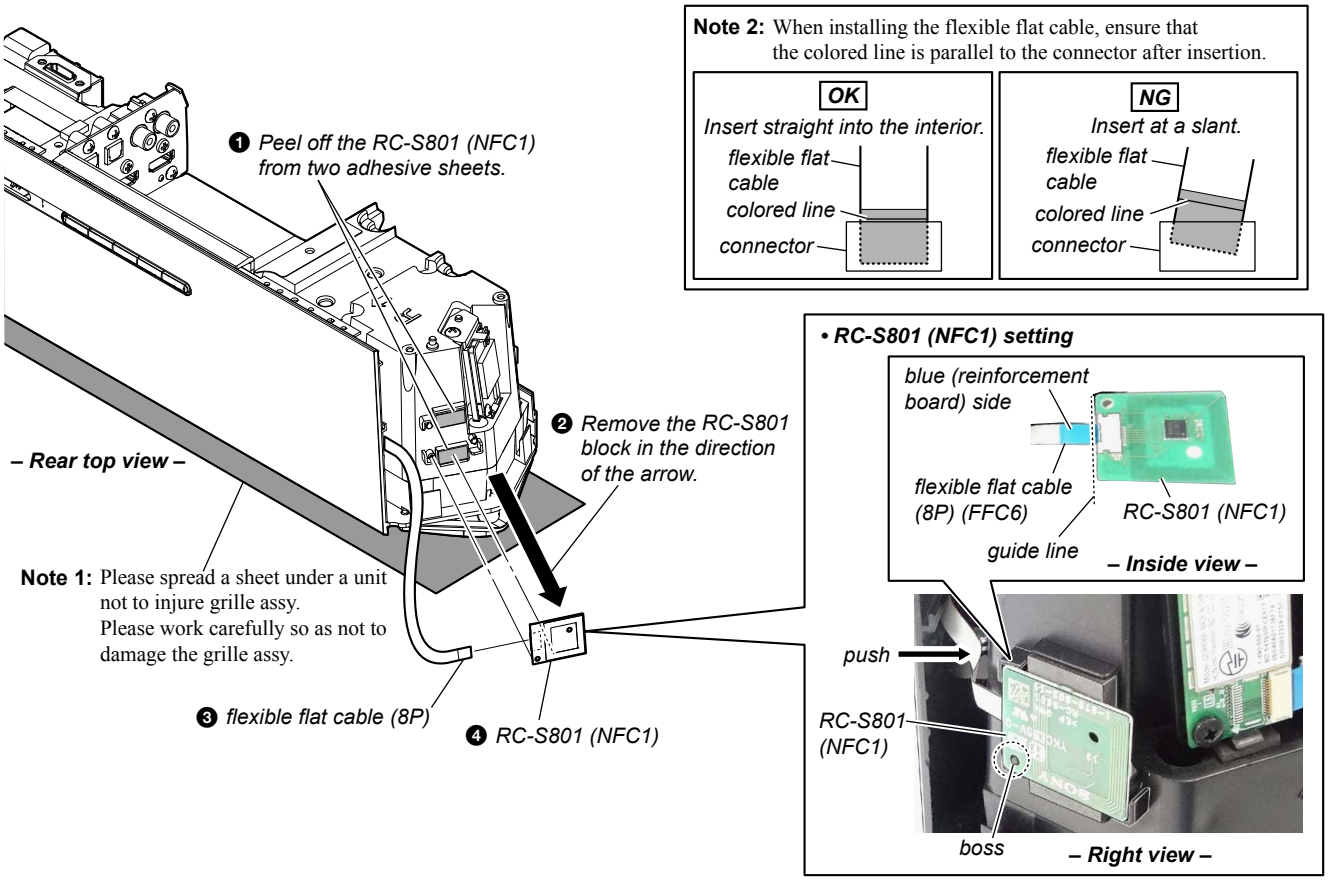




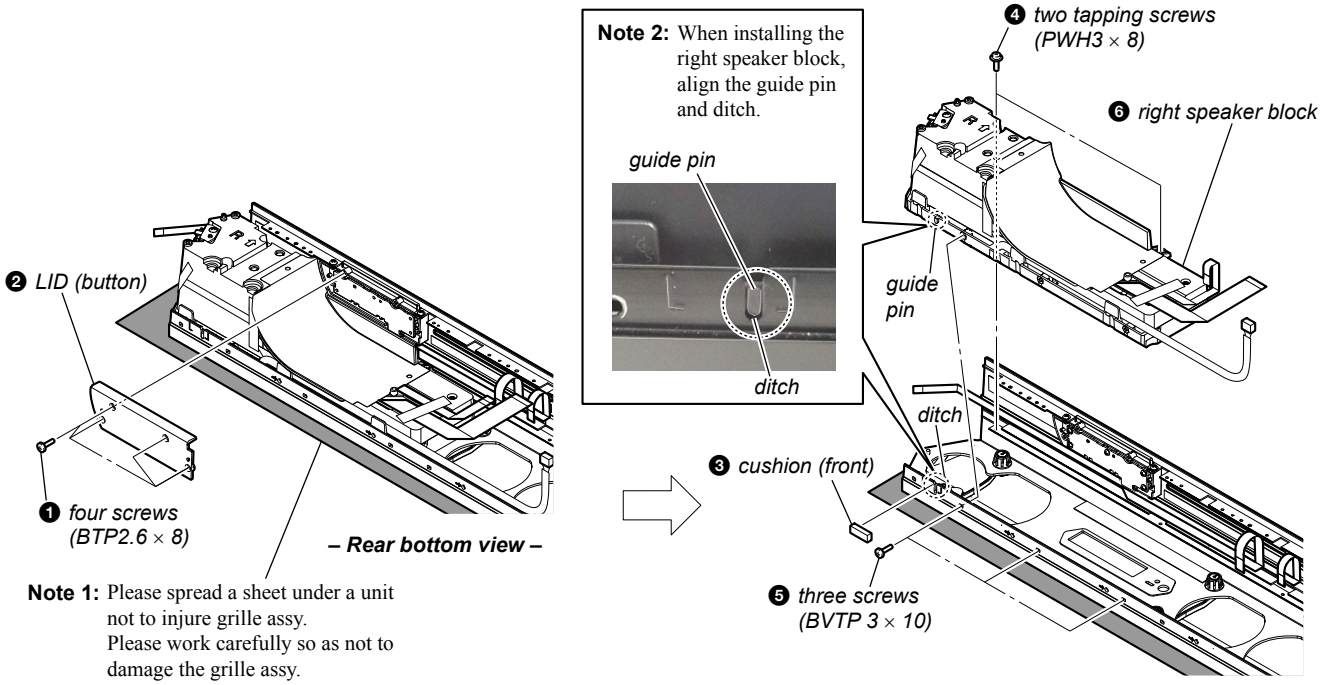
Note 3: When installing the speaker wire, make the position of caulking of terminals is outside.

Note 3: When installing the speaker wire, make the position of caulking of terminals is outside.

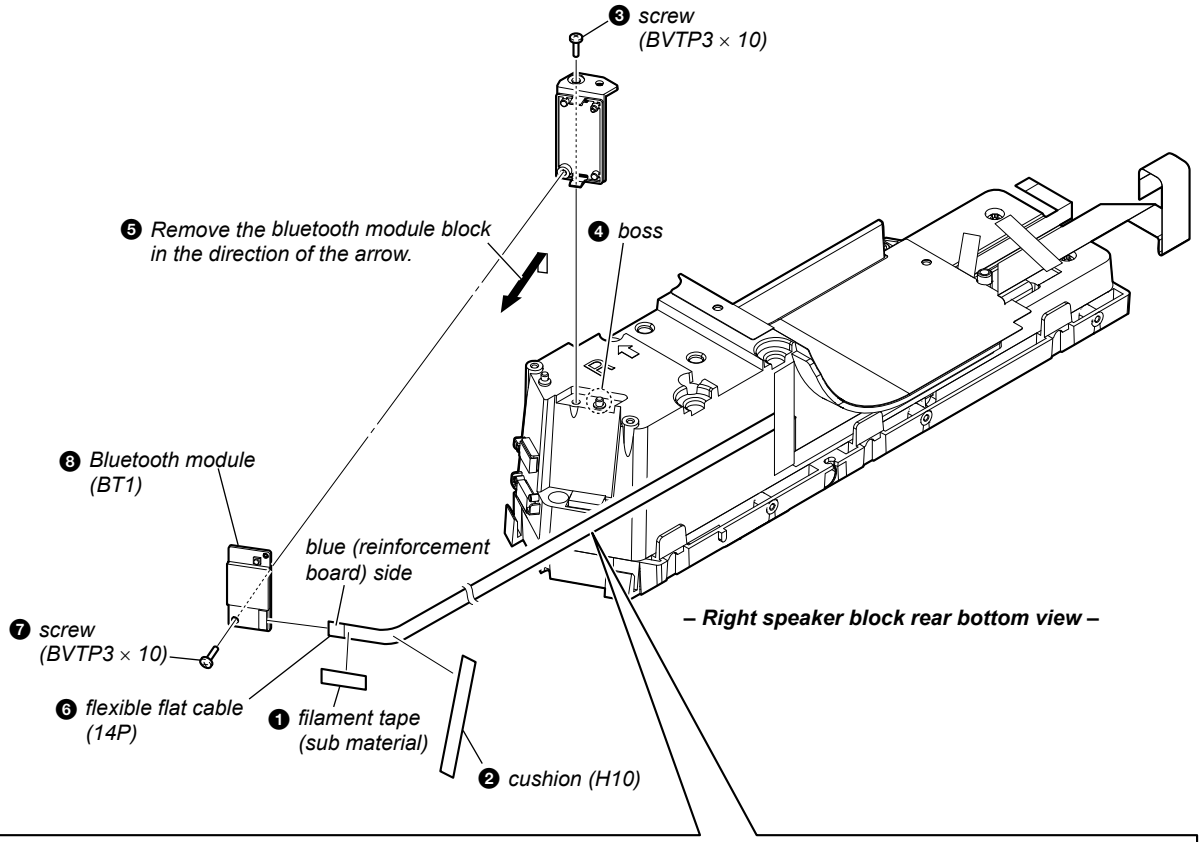
2-18. RC-S801 (NFC1)



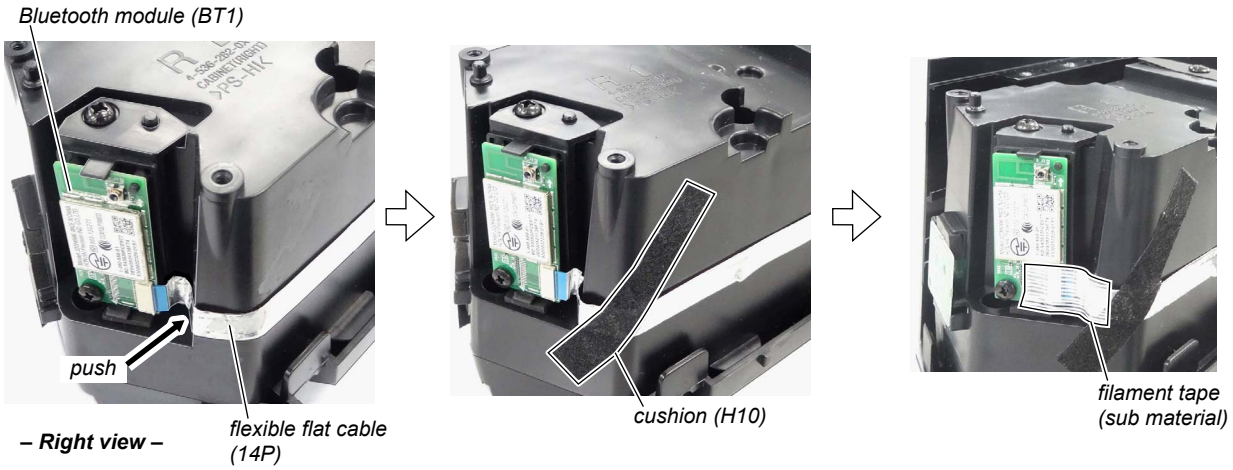
2-19. RIGHT SPEAKER BLOCK



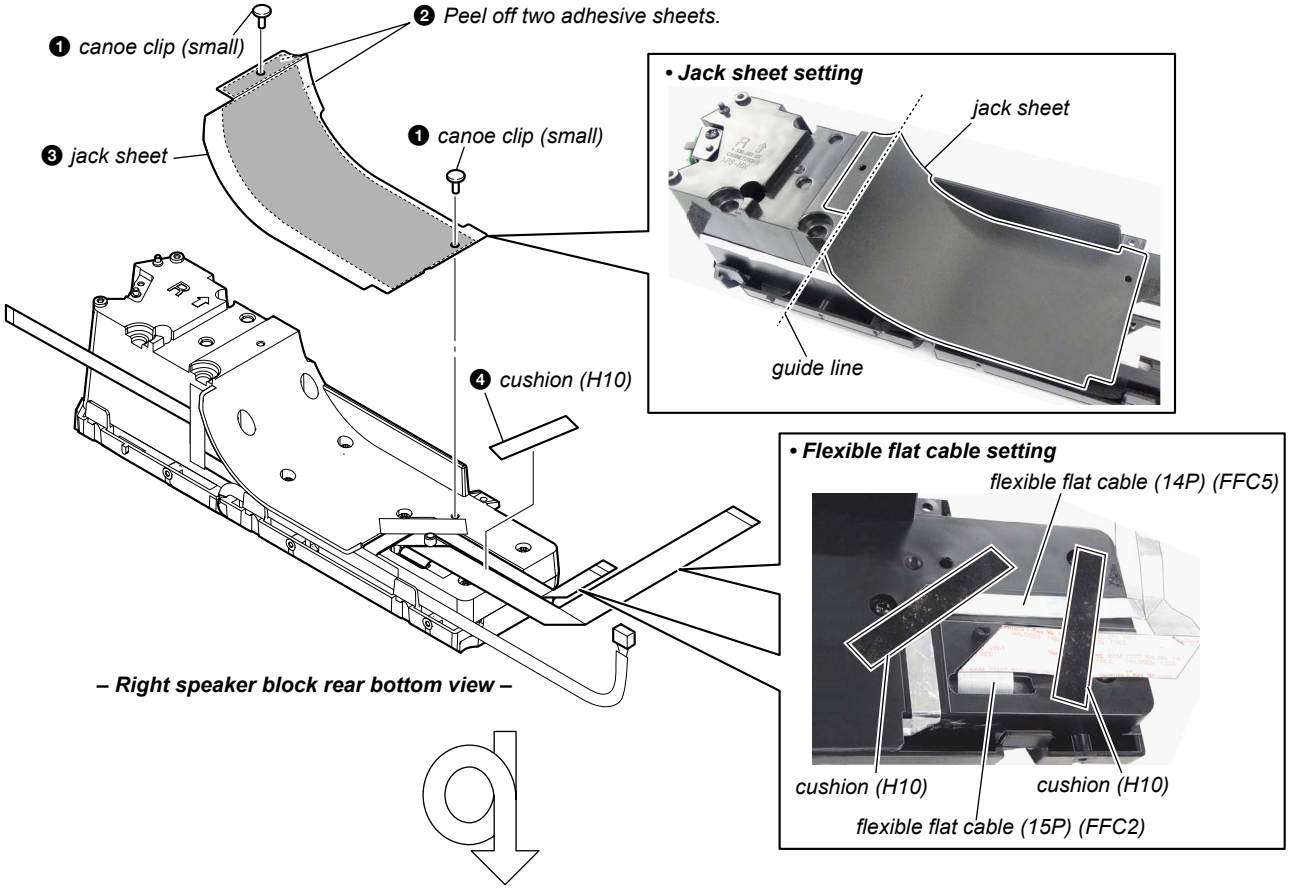
2-20. BLUETOOTH MODULE (BT1)



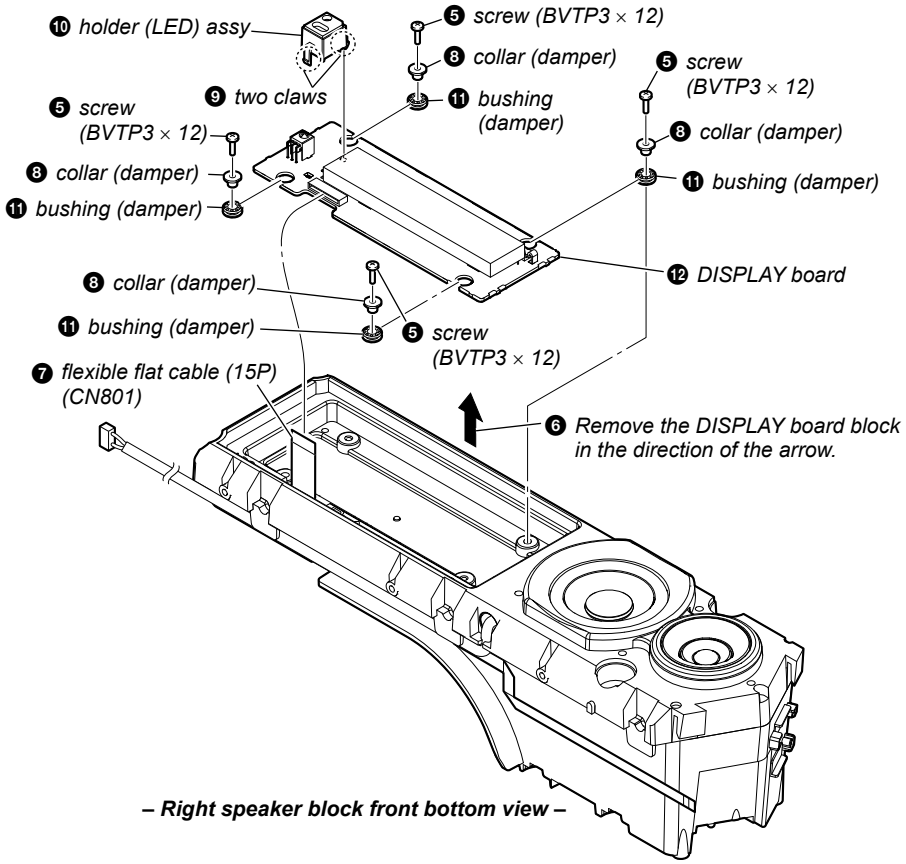
• ***Flexible flat cable (14P) setting***



2-21. DISPLAY BOARD

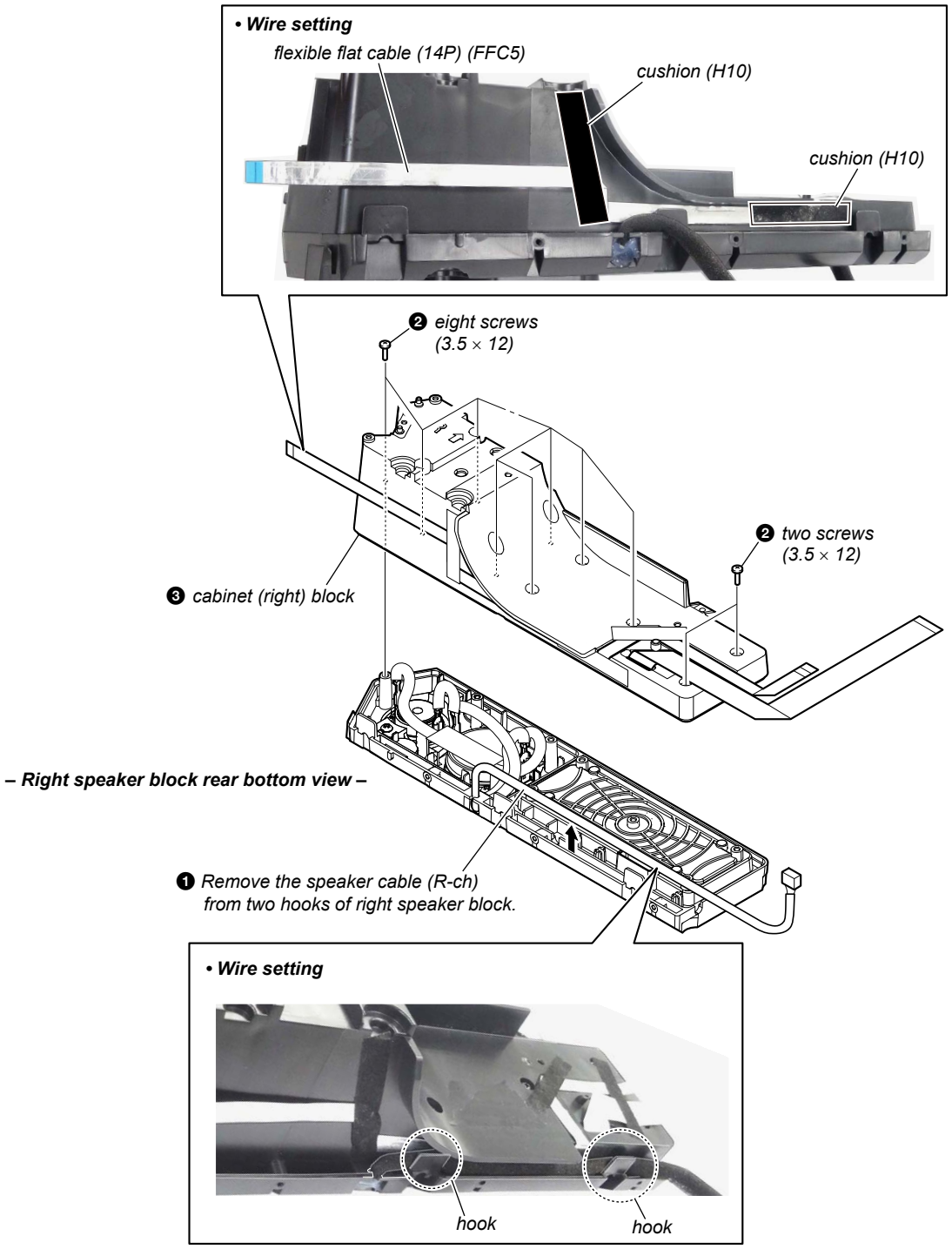


– Right speaker block rear bottom view –

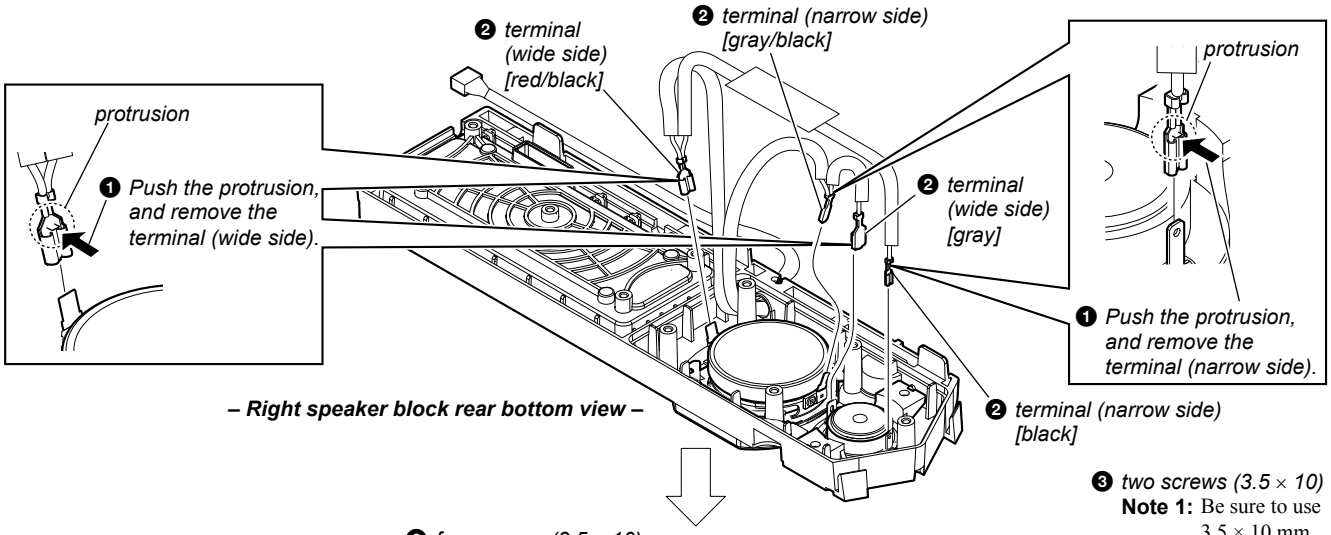


– Right speaker block front bottom view –

2-22. CABINET (RIGHT) BLOCK

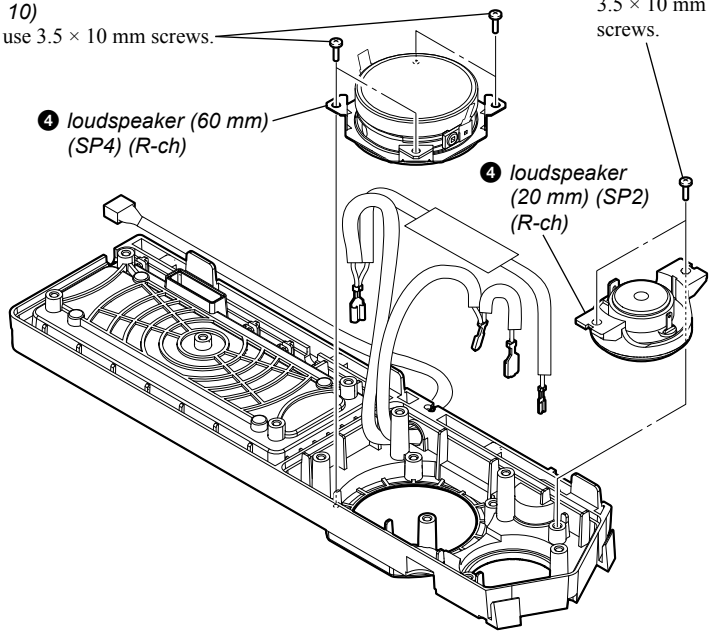


2-23. LOUDSPEAKER (20 mm) (SP2) (R-ch), LOUDSPEAKER (60 mm) (SP4) (R-ch)

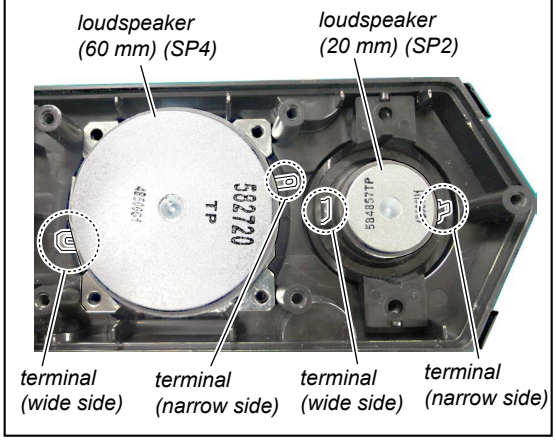


❸ four screws (3.5 × 10)
Note 1: Be sure to use 3.5 × 10 mm screws.

❸ two screws (3.5 × 10)
Note 1: Be sure to use 3.5 × 10 mm screws.



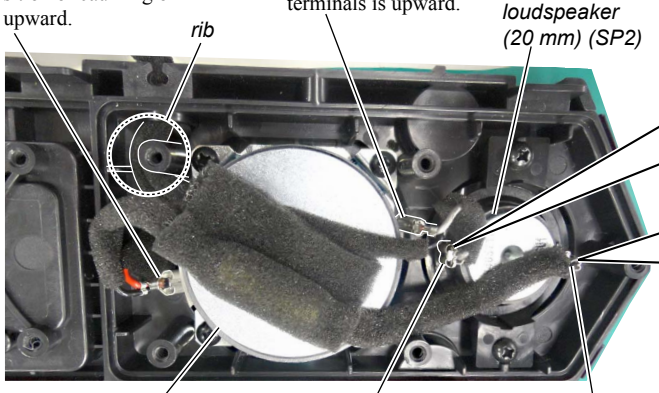
• Loudspeaker setting



• Wire setting

terminal (wide side) [red/black]
Note 2: When installing the speaker wire, make the position of caulking of terminals is upward.

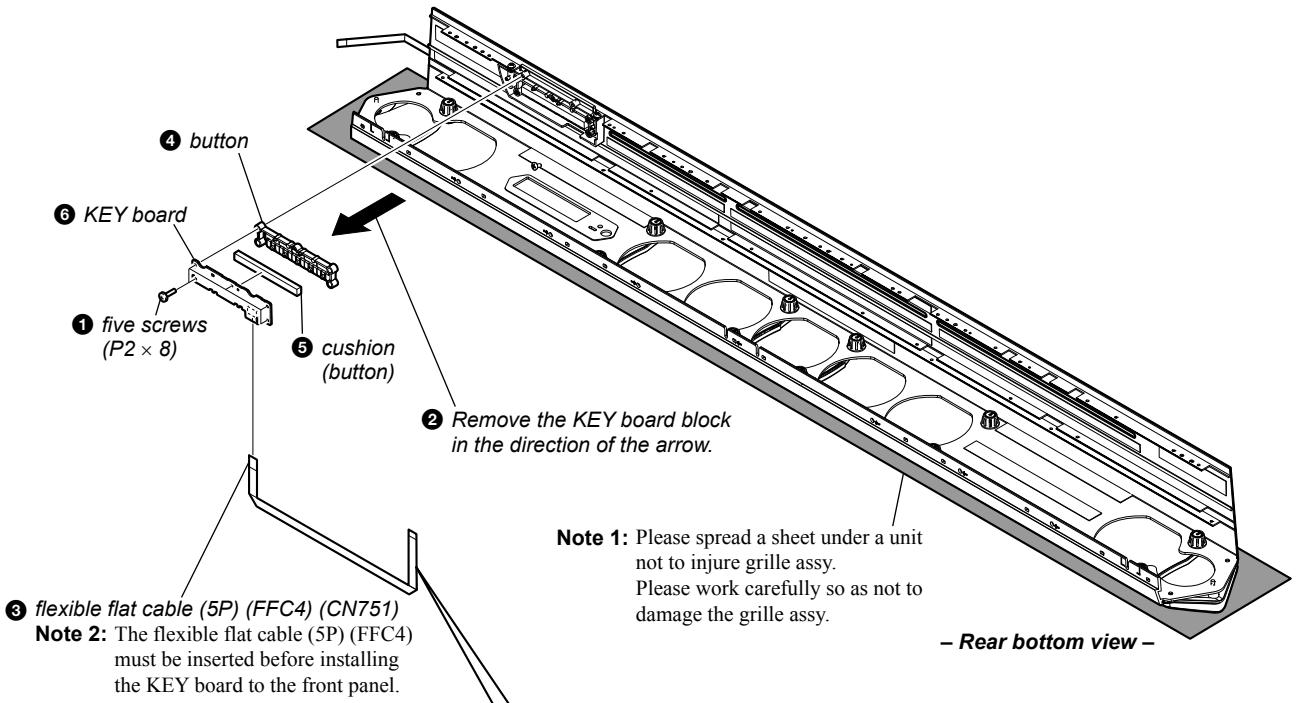
terminal (narrow side) [gray/black]
Note 2: When installing the speaker wire, make the position of caulking of terminals is upward.



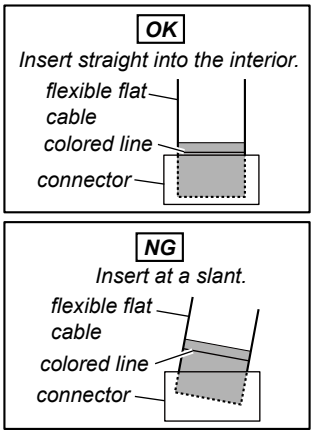
Note 3: When installing the speaker wire, make the position of caulking of terminals is outside.

Note 3: When installing the speaker wire, make the position of caulking of terminals is outside.

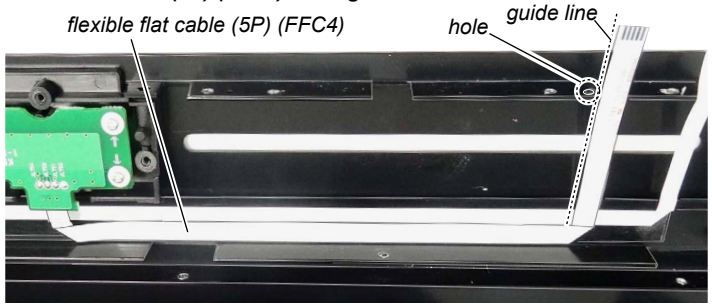
2-24. KEY BOARD



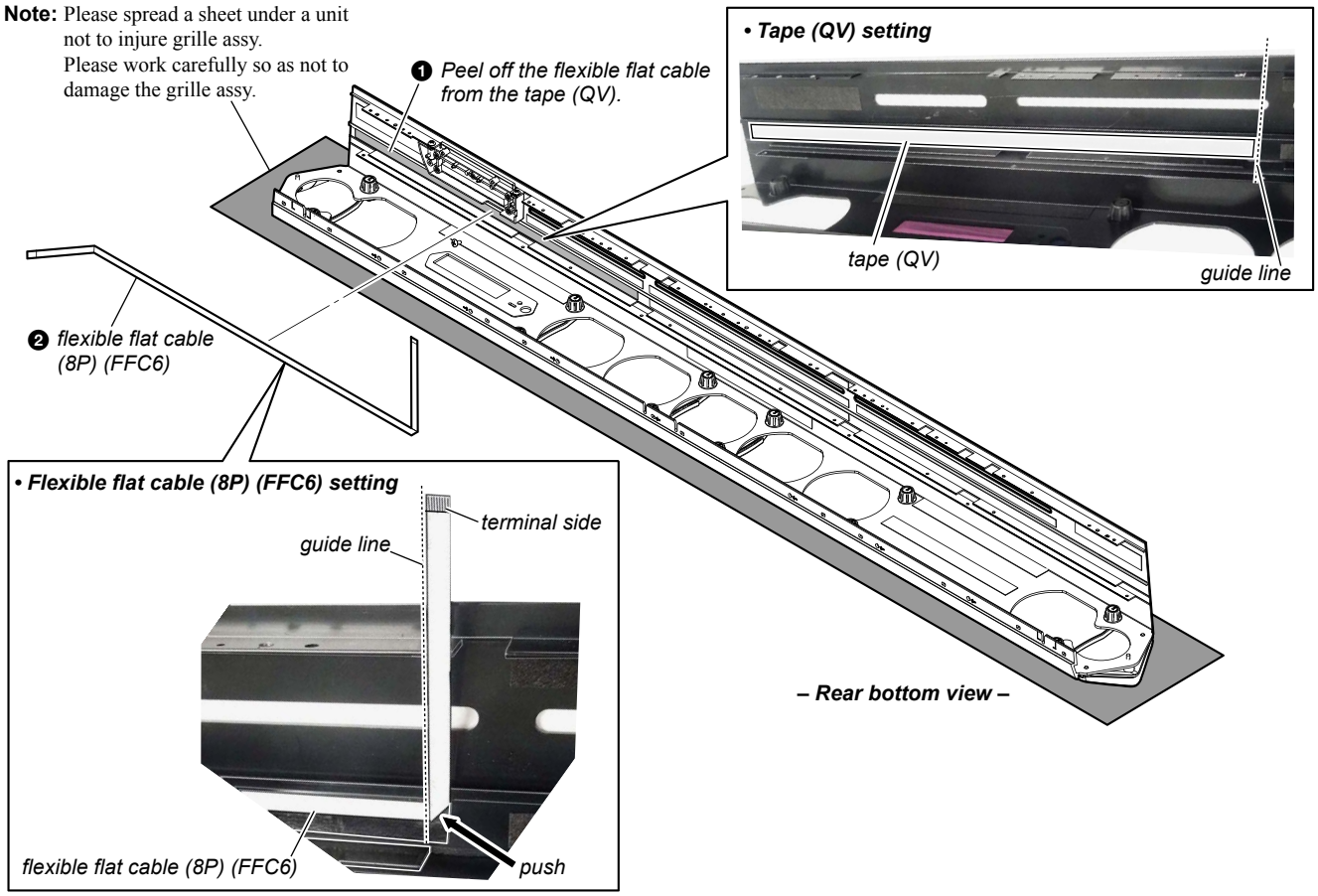
Note 3: When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.



• Flexible flat cable (5P) (FFC4) setting



2-25. FLEXIBLE FLAT CABLE (8P) (FFC6)



SECTION 3
TEST MODE

1. TEST MODES OTHER THAN THE TEST MODE MENU

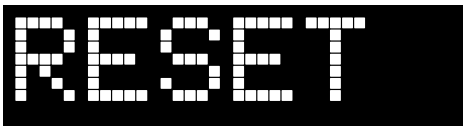
These are executable test mode even if not entering the test mode menu.

1-1. Cold Reset

It can initialize various backup information.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press the three buttons of the [INPUT], [VOL–] and [I/⏻] simultaneously.
3. The message "RESET" is displayed on the fluorescent indicator tube, then turn the power off.

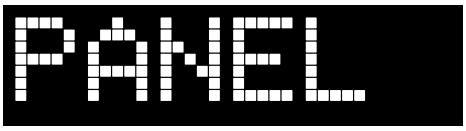


2. TEST MODES IN THE TEST MODE MENU

These are the test modes done in the test mode menu.

Setting method of the test mode menu:

1. Press the [I/⏻] button to turn the power on.
2. Press the two buttons of the [INPUT] and [VOL+] simultaneously for five seconds.
3. The message "PANEL" blinks on the fluorescent indicator tube and enter the test mode menu.



Releasing method of the test mode menu:

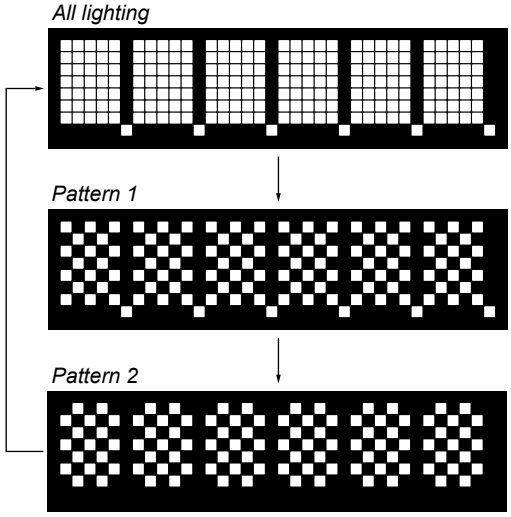
Press the [I/⏻] button to release the test mode menu.

2-1. Panel Test Mode

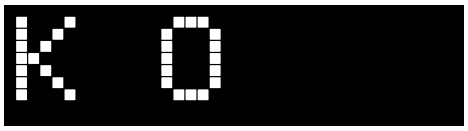
It can confirm the lighting of fluorescent indicator tube and LEDs, operation of buttons, display of model name, destination and software version.

Procedure:

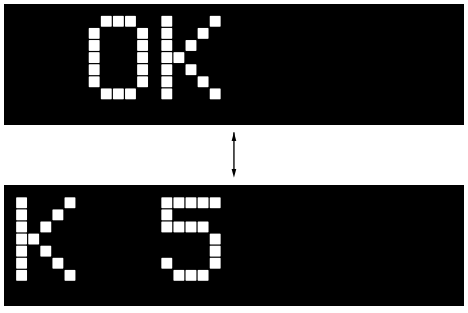
1. Enter the test mode menu.
   (Refer to "Setting method of the test mode menu")
2. In the state of blinking the "PANEL" on the fluorescent indicator tube, press the [INPUT] button.
3. All segments in the fluorescent indicator tube and all LEDs are lighted up.
4. When pressing the [VOL+] button, the display on the fluorescent indicator tube repeatedly changes in order from all lighting → pattern 1 (lamp LED (white color) is lighted up) → pattern 2 (lamp LED (blue color) are lighted up).



5. In the state of step 4, press the [VOL–] button and "K 0" is displayed on the fluorescent indicator tube.

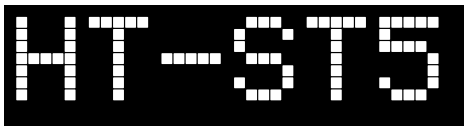


Each time a button is pressed, "K 0" value increases. However, once a button is pressed, it is no longer taken into account.
When pressing the all buttons, "OK" and "K 5" are alternately displayed on the fluorescent indicator tube.



– Continued on next page –

6. In the state of step 4, press the [INPUT] button and model name “HT-ST5” is displayed on the fluorescent indicator tube.

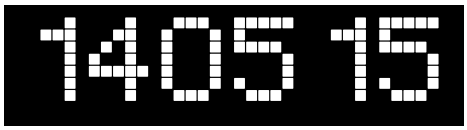


Each time the [VOL+] button is pressed, the display changes from destination → MC (µ-com) version → SY (system) version → UI version → TA (AMP) version → DS (DSP) version → BT (Bluetooth) version → NF (NFC) version → HD (HDMI) version, → CE (CEC) version → PF (platform) version → WS (wireless sound) version in this order, and returns to the model name display.

(Displayed values in the above figure are example)

Destination	Display
US and Canadian models	NA
Australian model	CE2
Taiwan model	Asia2

7. When [INPUT] button is pressed while the each version is displayed on the fluorescent indicator tube, year, month and day of the software creation is displayed on the fluorescent indicator tube.



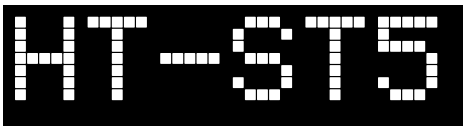
(Displayed values in the above figure are example)

When [INPUT] button is pressed again, the display returns to the each version display.

Releasing method:
Press the [I/⏻] button to release the test mode menu.
(When the “K 0” to “K 4” is displayed on the fluorescent indicator tube, press the [I/⏻] button on the remote commander to release the test mode menu)

2-2. Model Name Display Mode
It can display the model name.

Procedure:
1. Enter the test mode menu.
   (Refer to “Setting method of the test mode menu” on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the model name “HT-ST5”.



2-3. Destination Display Mode
It can display the destination.

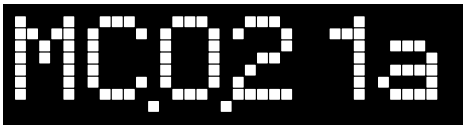
Procedure:
1. Enter the test mode menu.
   (Refer to “Setting method of the test mode menu” on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the destination.

(Displayed values in the above figure are example)

Destination	Display
US and Canadian models	NA
Australian model	CE2
Taiwan model	Asia2

2-4. MC Version Display Mode
It can display the MC (µ-com) version.

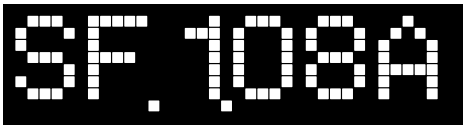
Procedure:
1. Enter the test menu.
   (Refer to “Setting method of the test mode menu” on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the “MC.X.XXX” (X.XXX: MC (µ-com) version).



(Displayed values in the above figure are example)

2-5. Serial Flash Version Display Mode
It can display the SF (serial flash) version.

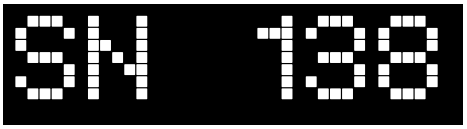
Procedure:
1. Enter the test menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "SF.X.XXX" (X.XXX: SF (serial flash) version).



(Displayed values in the above figure are example)

2-6. DSP Sound Number Display Mode
It can display the SN (DSP sound number) number.

Procedure:
1. Enter the test menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "SN XXX" (XXX: DSP sound number (000 to 998)).

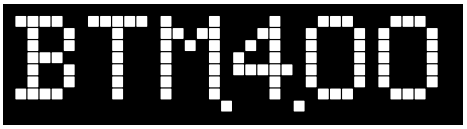


(Displayed values in the above figure are example)

Note: "SN ---" is displayed when the information of serial flash is not able to be acquired.

2-7. BT Module F/W Version Display Mode
It can display the BT (Bluetooth) module firmware version.

Procedure:
1. Enter the test menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "BTM.X.XX" (X.XX: BT (Bluetooth) module firmware version).



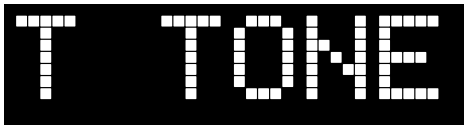
(Displayed values in the above figure are example)

2-8. AMP Test Mode
(It is displayed "AMP" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

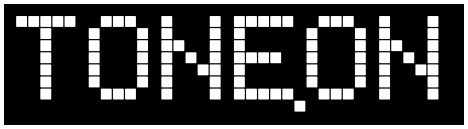
2-9. Tone Test Mode
It can confirm the test tone output from each speaker.

Preparation:
Connect the Bar Speaker (SA-ST5) and the Subwoofer (SA-WST5) by wireless.

Procedure:
1. Enter the test mode menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "T TONE", press the [INPUT] button.



3. The message "TONE.ON" is displayed on the fluorescent indicator tube momentarily and enter the tone test mode.



4. The output speaker is displayed on the fluorescent indicator tube. At the same time, test tone is output from speaker.
   (The output speaker repeatedly changes automatically in following order)

Output speaker	Display
Front L-ch	L3
Surround Back R-ch	R1
Surround L-ch	L2
Surround R-ch	R2
Surround Back L-ch	L1
Front R-ch	R3
Center	C
Subwoofer	SW

Releasing method:
Press the [I/⏻] button to release the test mode menu.

2-10. Speaker Test Mode
(It is displayed "SPK.TST" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-11. VACS Display Mode
(It is displayed "V. DISP" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-12. VACS ON/OFF Mode
(It is displayed "V.ONOFF" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-13. DSP Halt Mode
(It is displayed "DSP.HLT" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-14. User Update Mode
(It is displayed "UPDATE" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-15. HDCP Key Read Mode
(It is displayed "HDCP" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

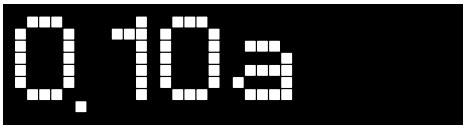
2-16. NFC Test Mode
(It is displayed "NFC.TST" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-17. Auto Standby Test Mode
(It is displayed "T. STBY" on the fluorescent indicator tube)
Not used for the servicing.
Press the [I/⏻] button if having entered this mode.

2-18. Wireless Sound Test Mode
It can display the μ-com version of Subwoofer (SA-WST5).
Note: More than one item may be displayed on the fluorescent indicator tube, but it is not used for the servicing other than "VER".

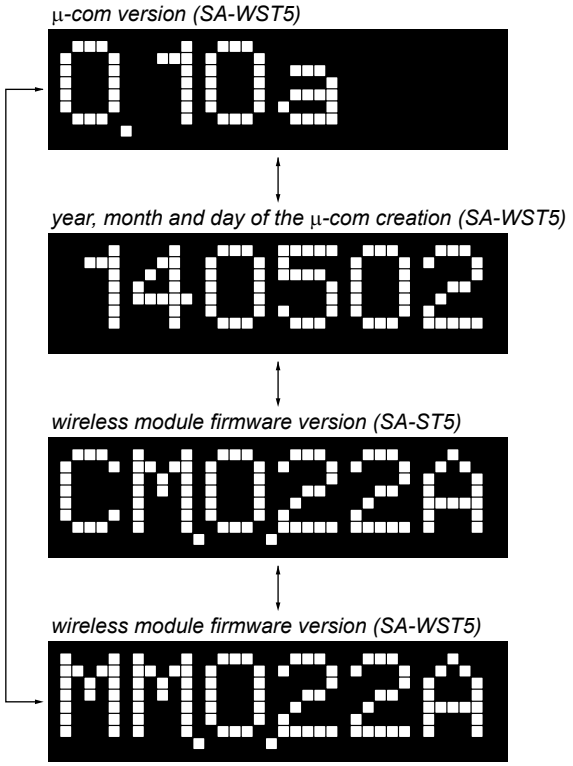
Preparation:
- Prepare the remote commander (RM-ANU207) attached to this unit.
- Connect the Bar Speaker (SA-ST5) and the Subwoofer (SA-WST5) by wireless.

Procedure:
1. Enter the test mode menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "WS TST", press the [INPUT] button.
3. The message "FACTRY" is displayed on the fluorescent indicator tube and enter the wireless sound test mode.
4. Press the [▲]/[▼] buttons on the remote commander, select the "VER", and press the [ENTER] button on the remote commander.
5. The μ-com version of Subwoofer (SA-WST5) is displayed on the fluorescent indicator tube.



(Displayed values in the above figure are example)

6. Each time the [▲]/[▼] buttons on the remote commander is pressed the display changes μ-com version of Subwoofer (SA-WST5) ↔ year, month and day of the μ-com creation of Subwoofer (SA-WST5) ↔ wireless module firmware version of Bar Speaker (SA-ST5) ↔ wireless module firmware version of Subwoofer (SA-WST5) in this order.



(Displayed values in the above figure are example)

Releasing method:
Press the [I/⏻] button to release the test mode menu.

2-19. Wireless Sound Cold Reset

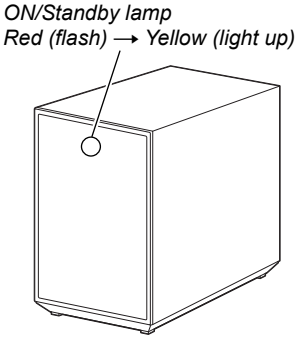
It can initialize various backup information of Subwoofer (SA-WST5).

Preparation:

Connect the Bar Speaker (SA-ST5) and the Subwoofer (SA-WST5) by wireless.

Procedure:

1. Enter the test mode menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "WS RST", press the [INPUT] button.
3. The on/standby lamp on the Subwoofer (SA-WST5) turns red and flashes, then turns on yellow.



– Front view –

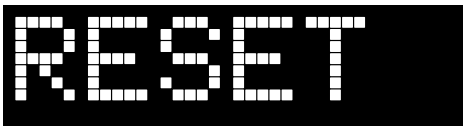
4. Pull out the power cord on the Subwoofer (SA-WST5) from an outlet and insert the power cord again.

2-20. Cold Reset

It can initialize various backup information.

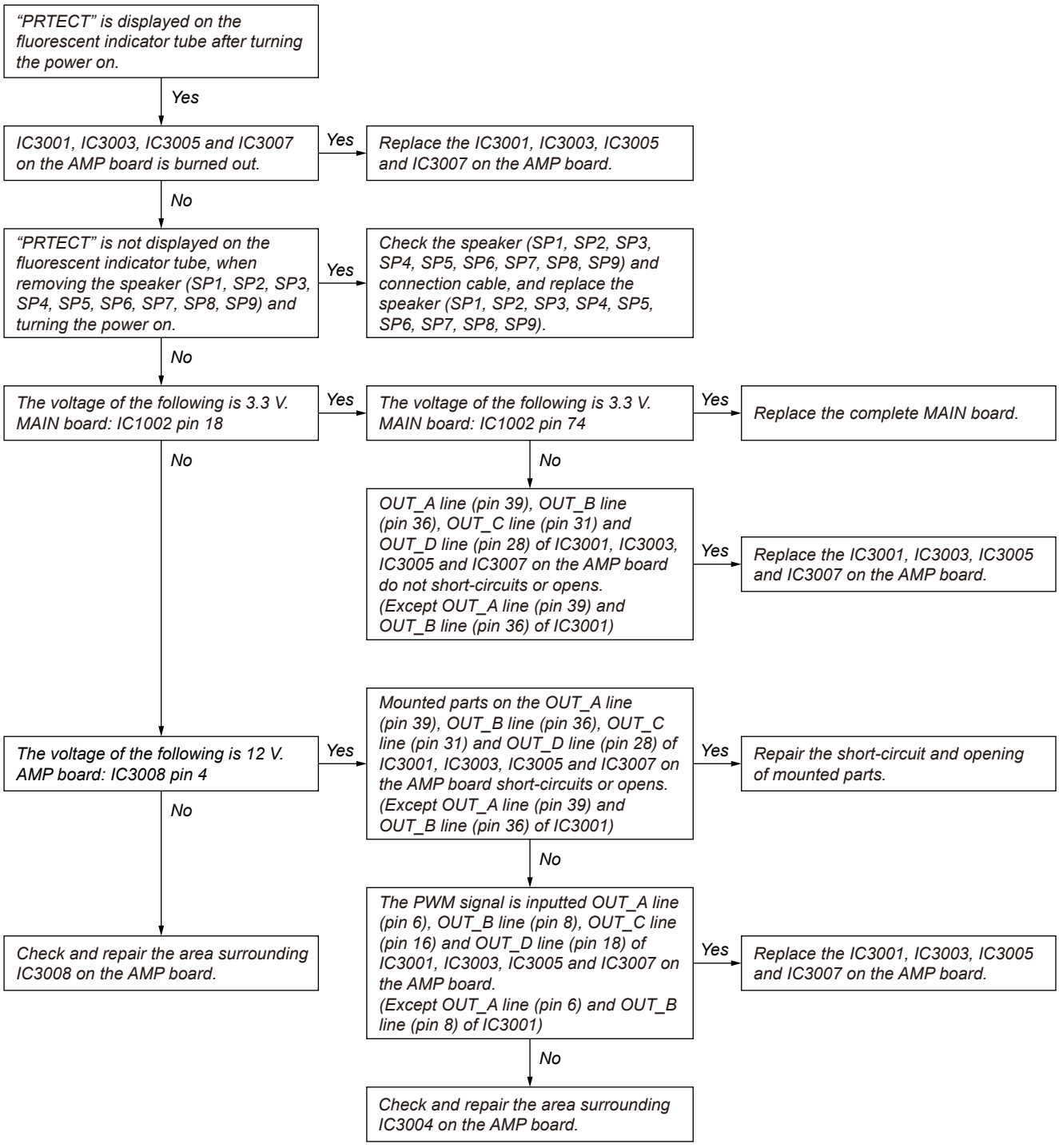
Procedure:

1. Enter the test mode menu.
   (Refer to "Setting method of the test mode menu" on page 28)
2. Press the [VOL+]/[VOL–] buttons to select the "RESET", press the [INPUT] button.
3. The message "RESET" is displayed on the fluorescent indicator tube, then turn the power off.

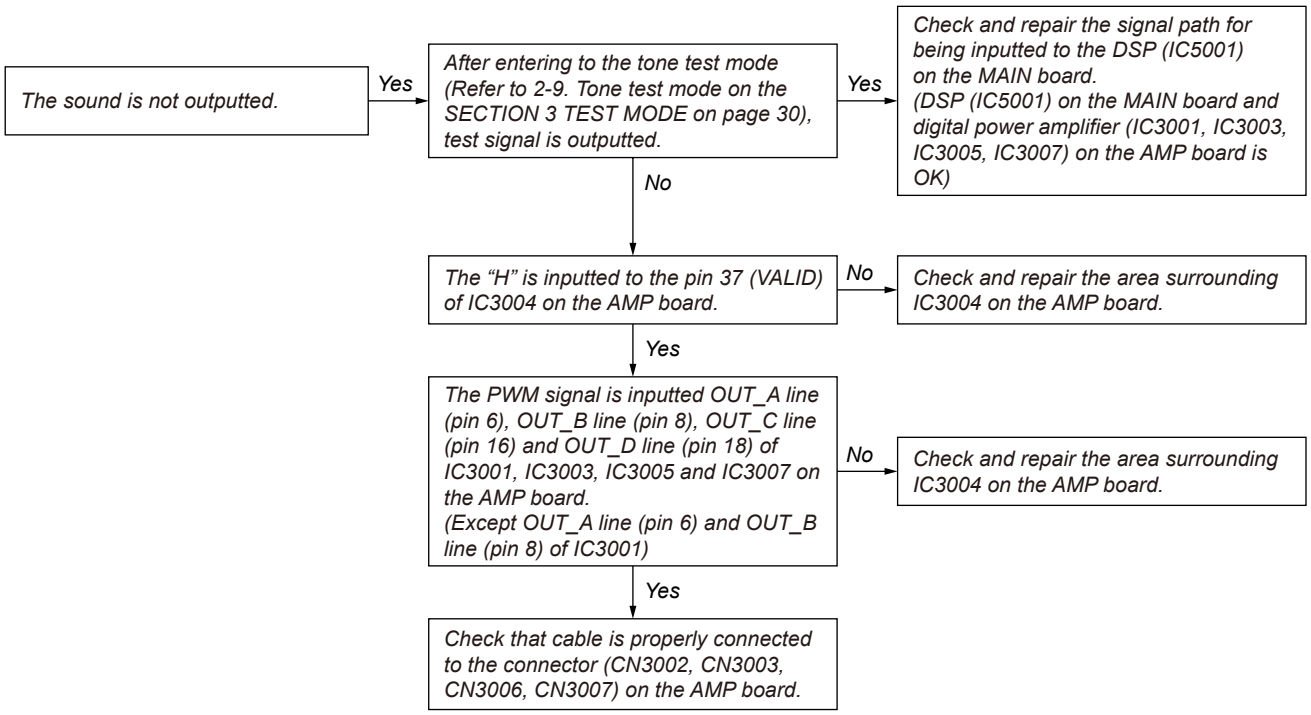


SECTION 4
TROUBLESHOOTING

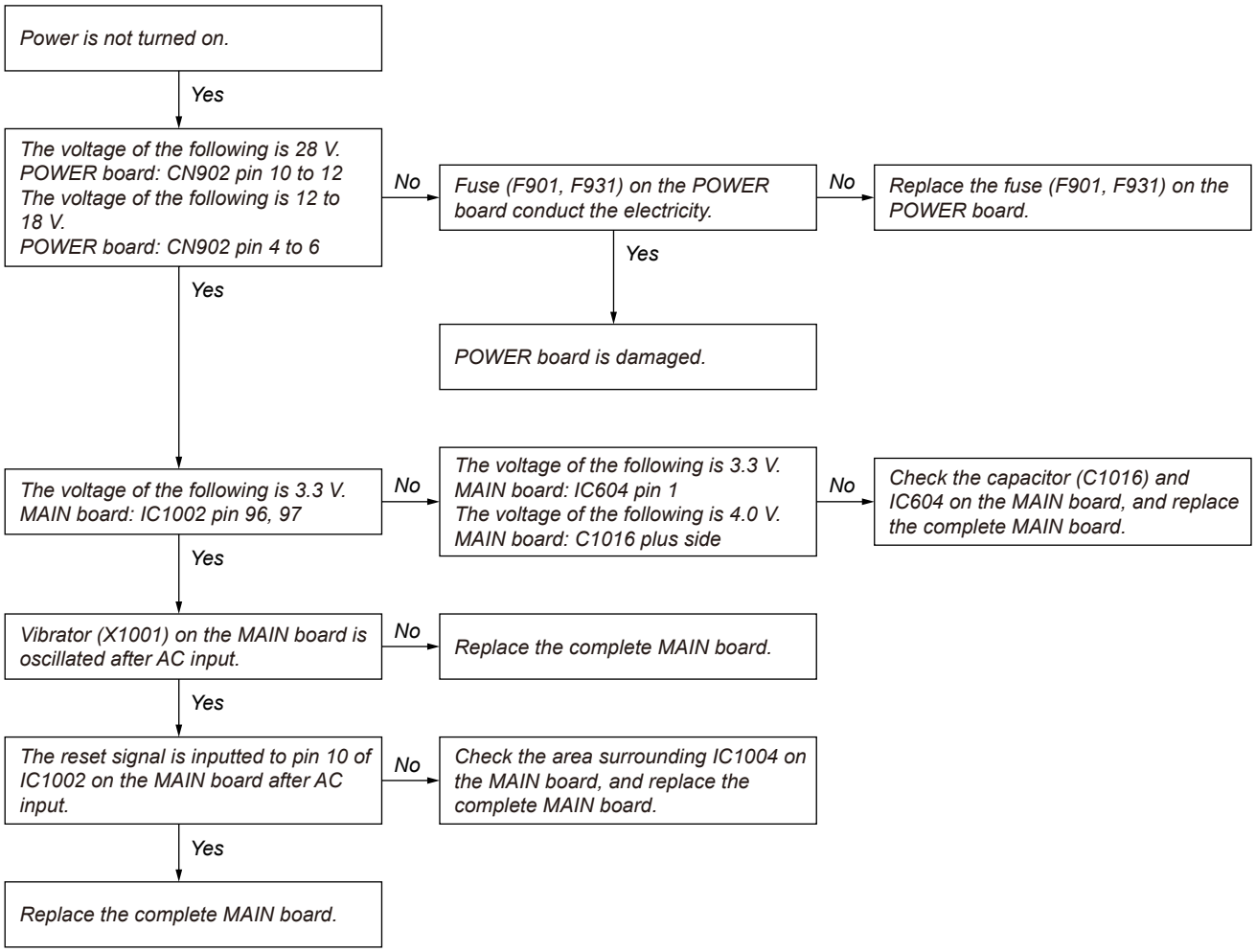
1. "PRTECT" is displayed on the fluorescent indicator tube after turning the power on



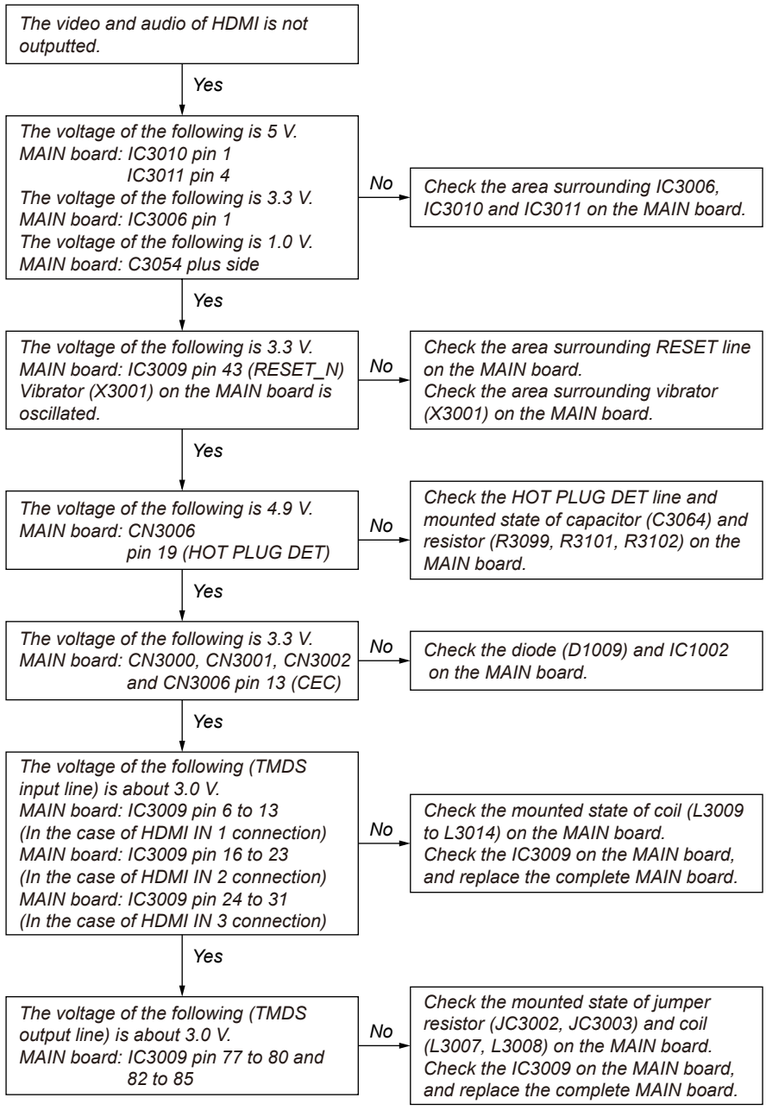
2. The sound is not outputted



3. Power is not turned on

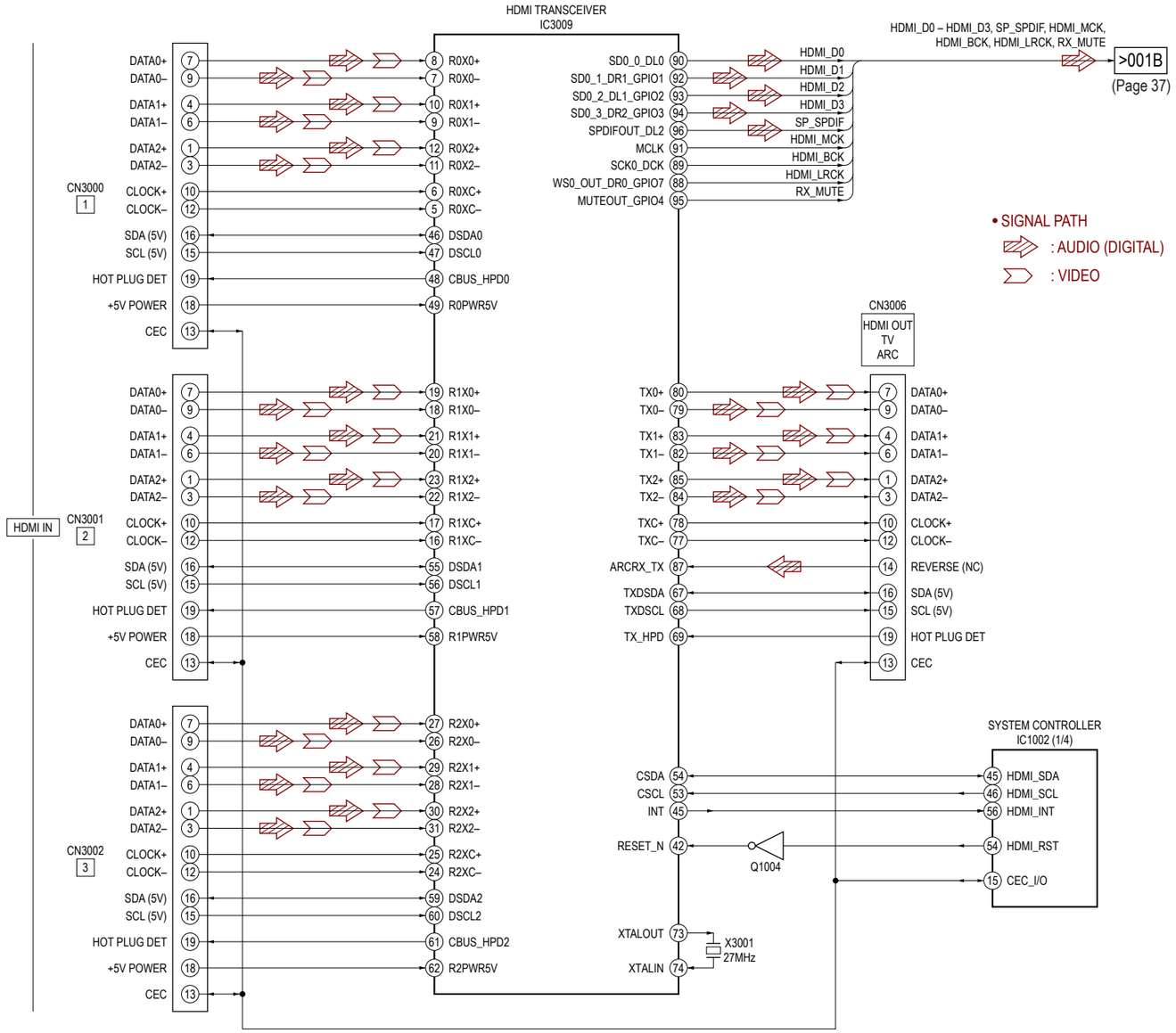


4. The video and audio of HDMI is not outputted

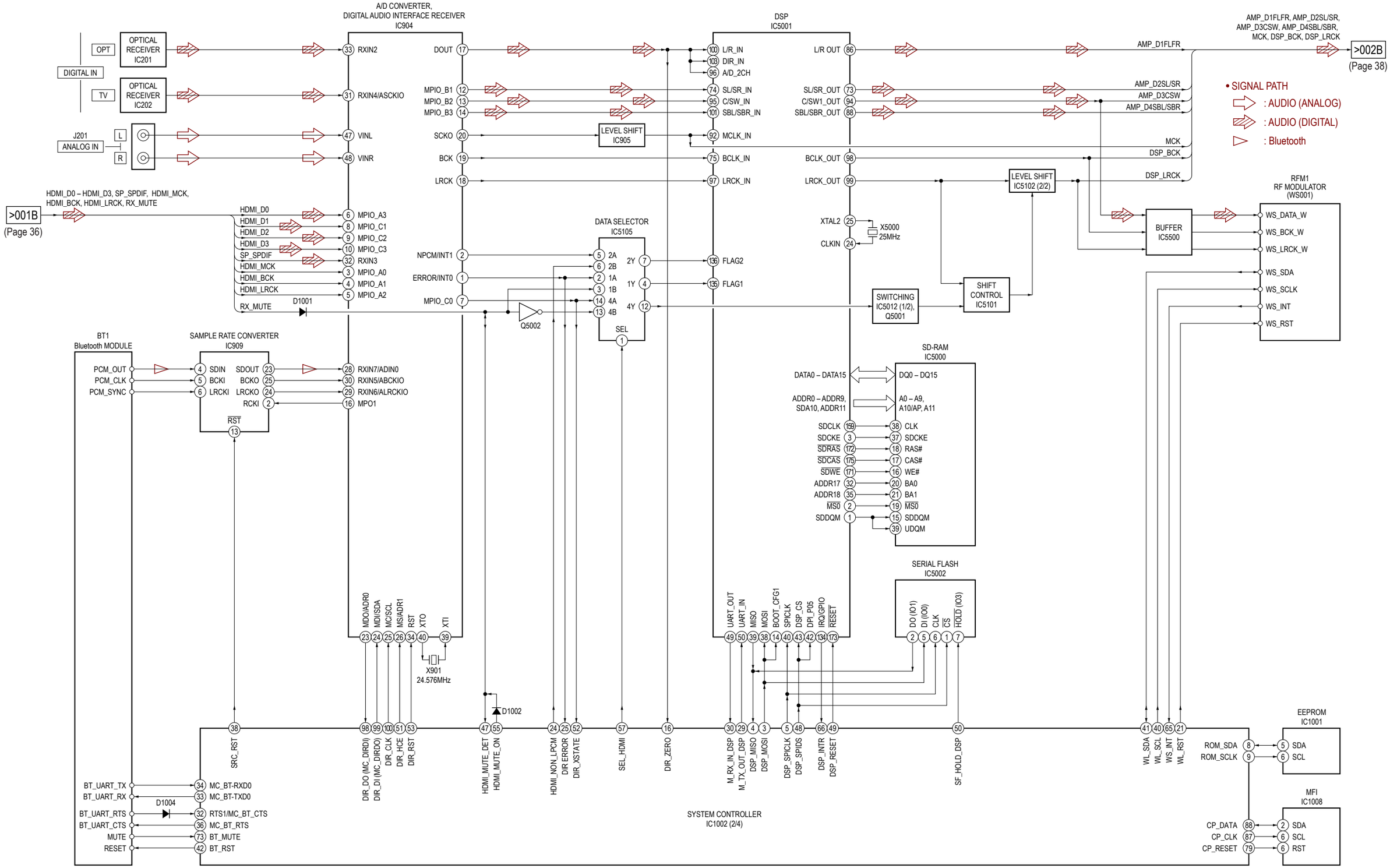


SECTION 5
DIAGRAMS

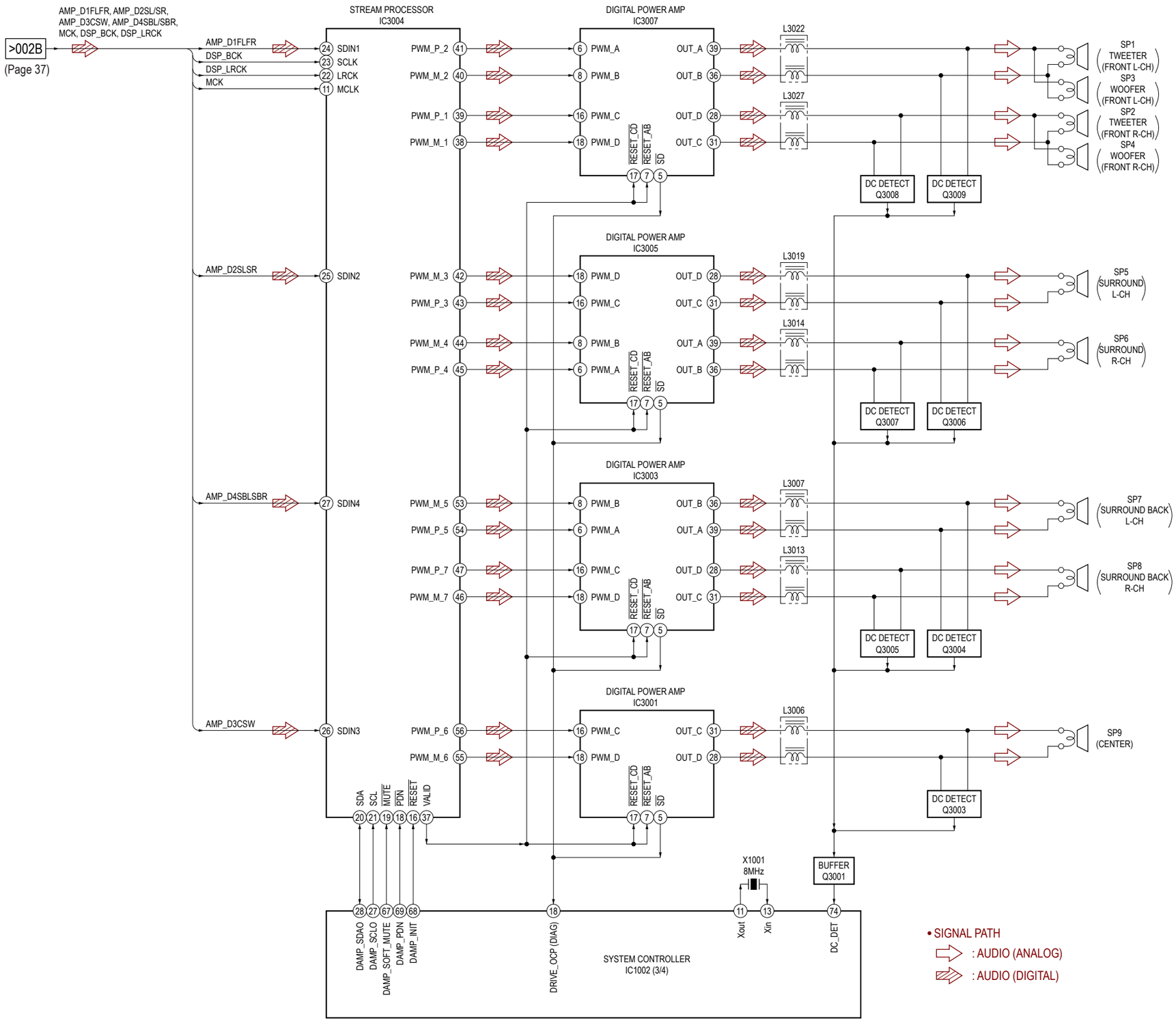
5-1. BLOCK DIAGRAM - HDMI Section -



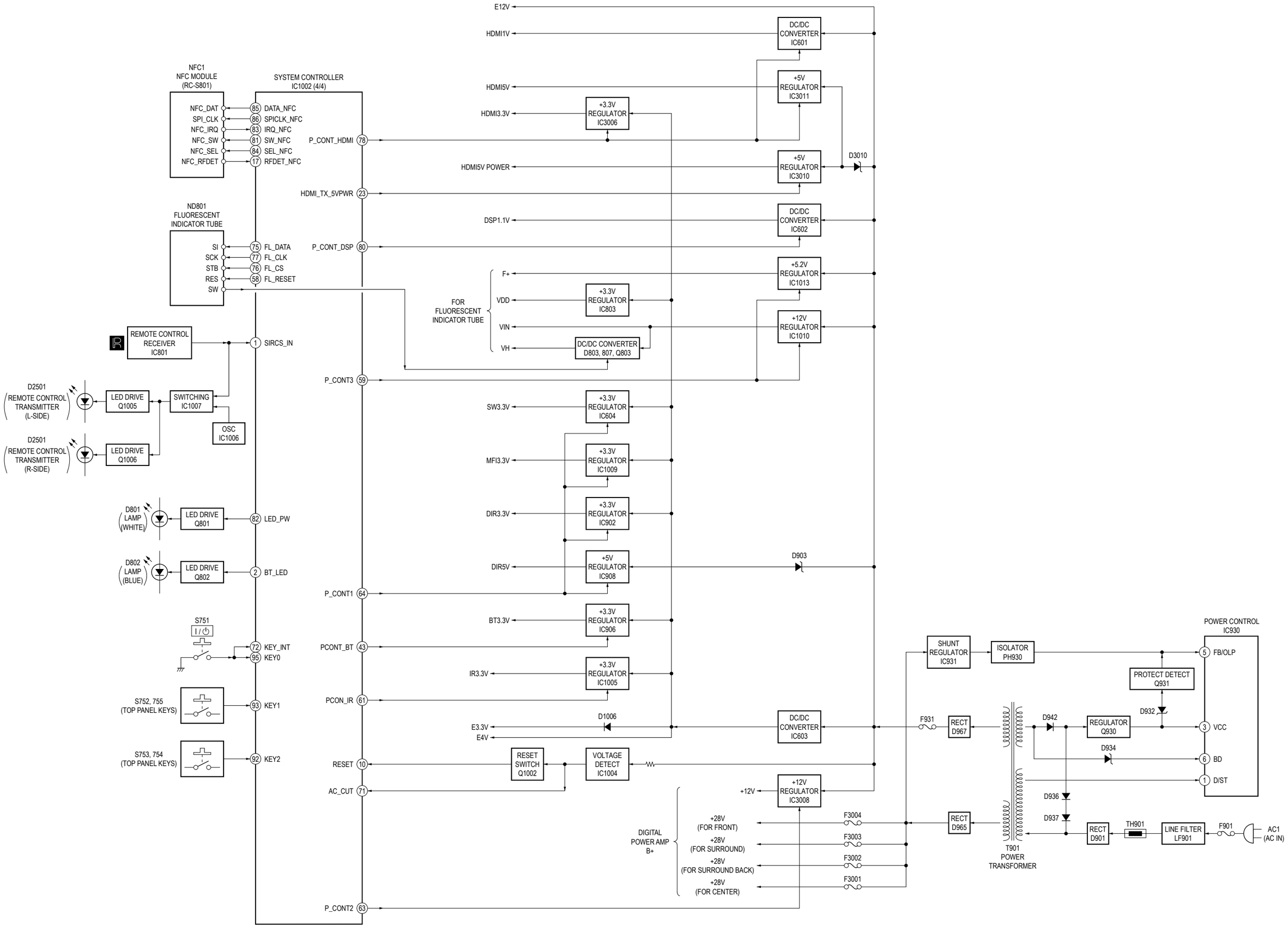
5-2. BLOCK DIAGRAM - MAIN Section -



5-3. BLOCK DIAGRAM - AMP Section -



5-4. BLOCK DIAGRAM - PANEL/POWER SUPPLY Section -



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Printed Wiring Boards.

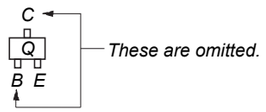
Note:

- o——: Parts extracted from the component side.
- ——: Parts extracted from the conductor side.
- △ : Internal component.
- : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Caution:	
Pattern face side: (SIDE B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (SIDE A)	Parts on the parts face side seen from the parts face are indicated.

- MAIN board is multi-layer printed board. However, the patterns of intermediate layers have not been included in diagrams.
- Indication of transistor.



- Abbreviations
  AUS : Australian model
  CND : Canadian model
  TW : Taiwan model

Note 1: When the MAIN board is defective, replace the complete mounted board.

Note 2: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

For Schematic Diagrams.

Note:

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : Nonflammable resistor.
- : Fusible resistor.
- : Panel designation.

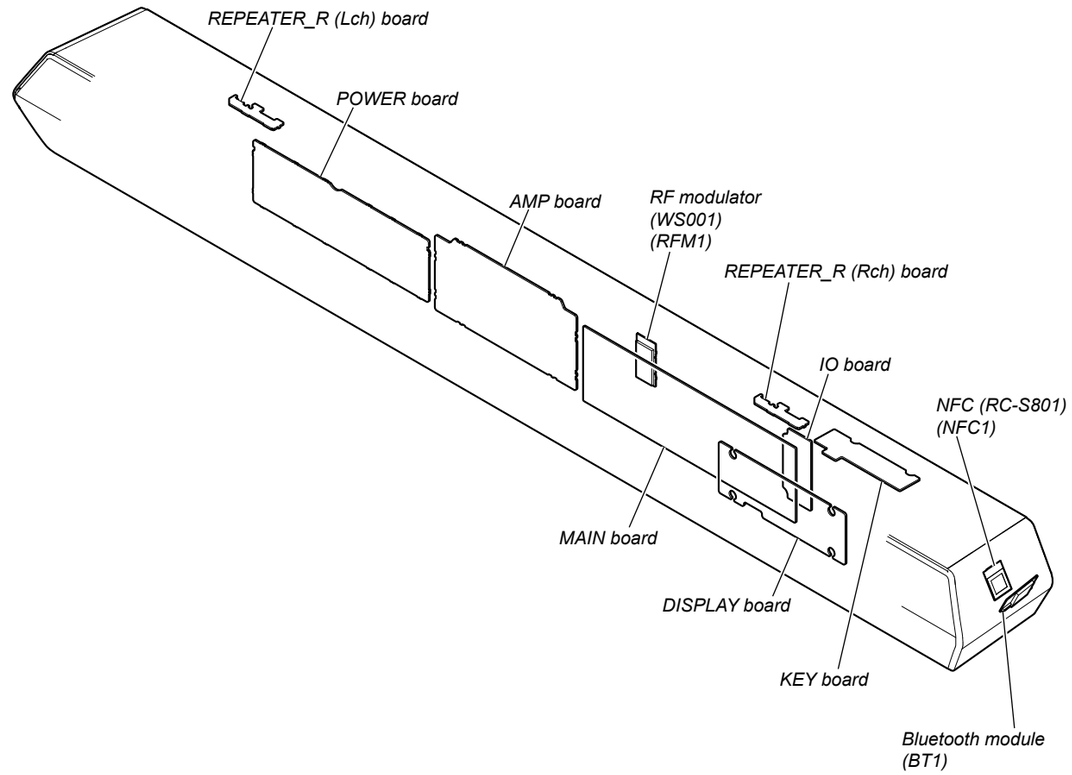
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: POWER ON
- Voltages are taken with VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO (ANALOG)
  : AUDIO (DIGITAL)
- Abbreviations
  AUS : Australian model
  CND : Canadian model
  TW : Taiwan model

Note 1: When the MAIN board is defective, replace the complete mounted board.

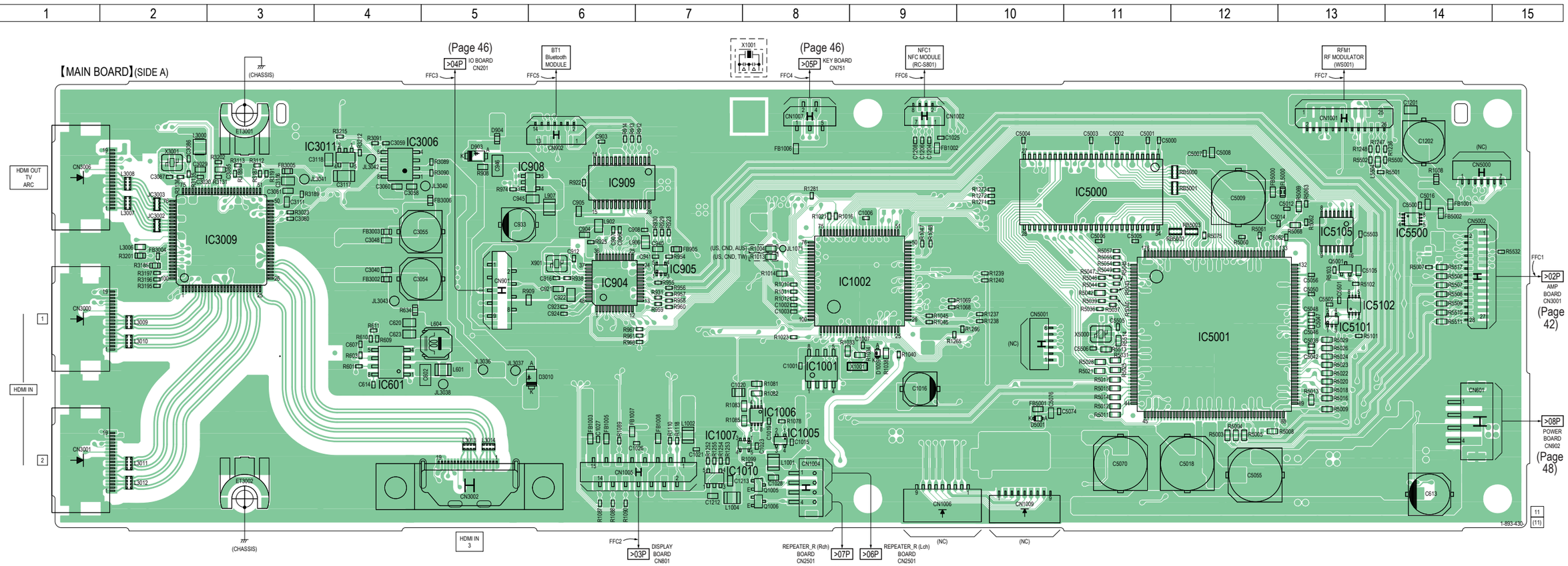
Note 2: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

- **Circuit Boards Location**

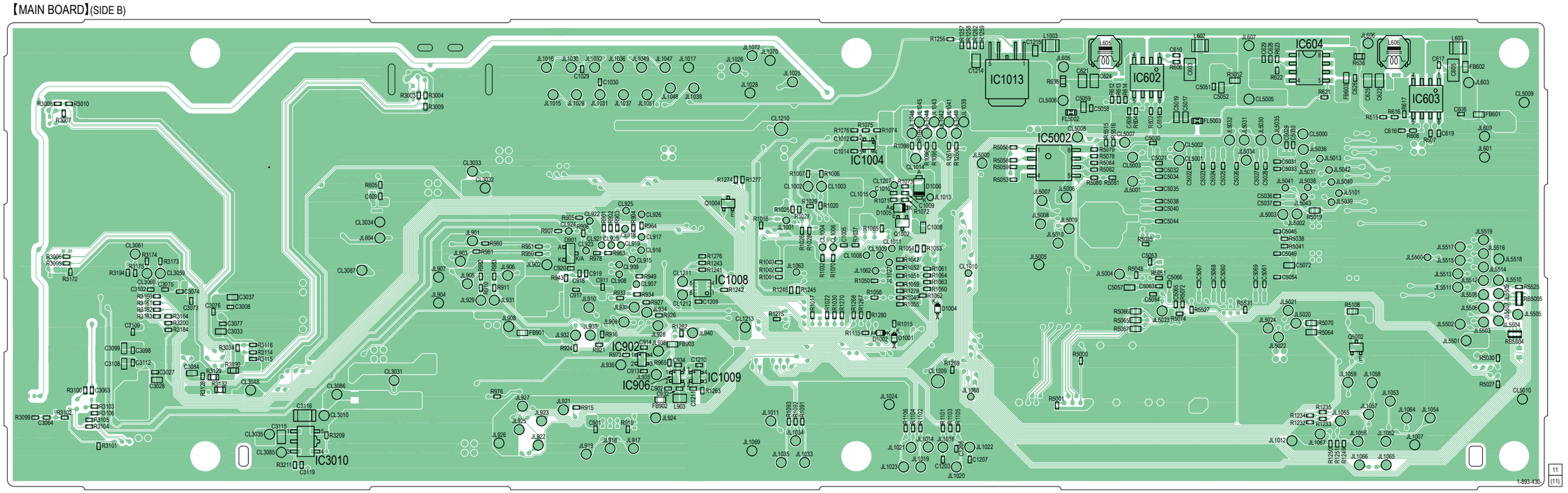


5-5. PRINTED WIRING BOARD - MAIN Board - • See page 40 for Circuit Boards Location. • : Uses unleaded solder.

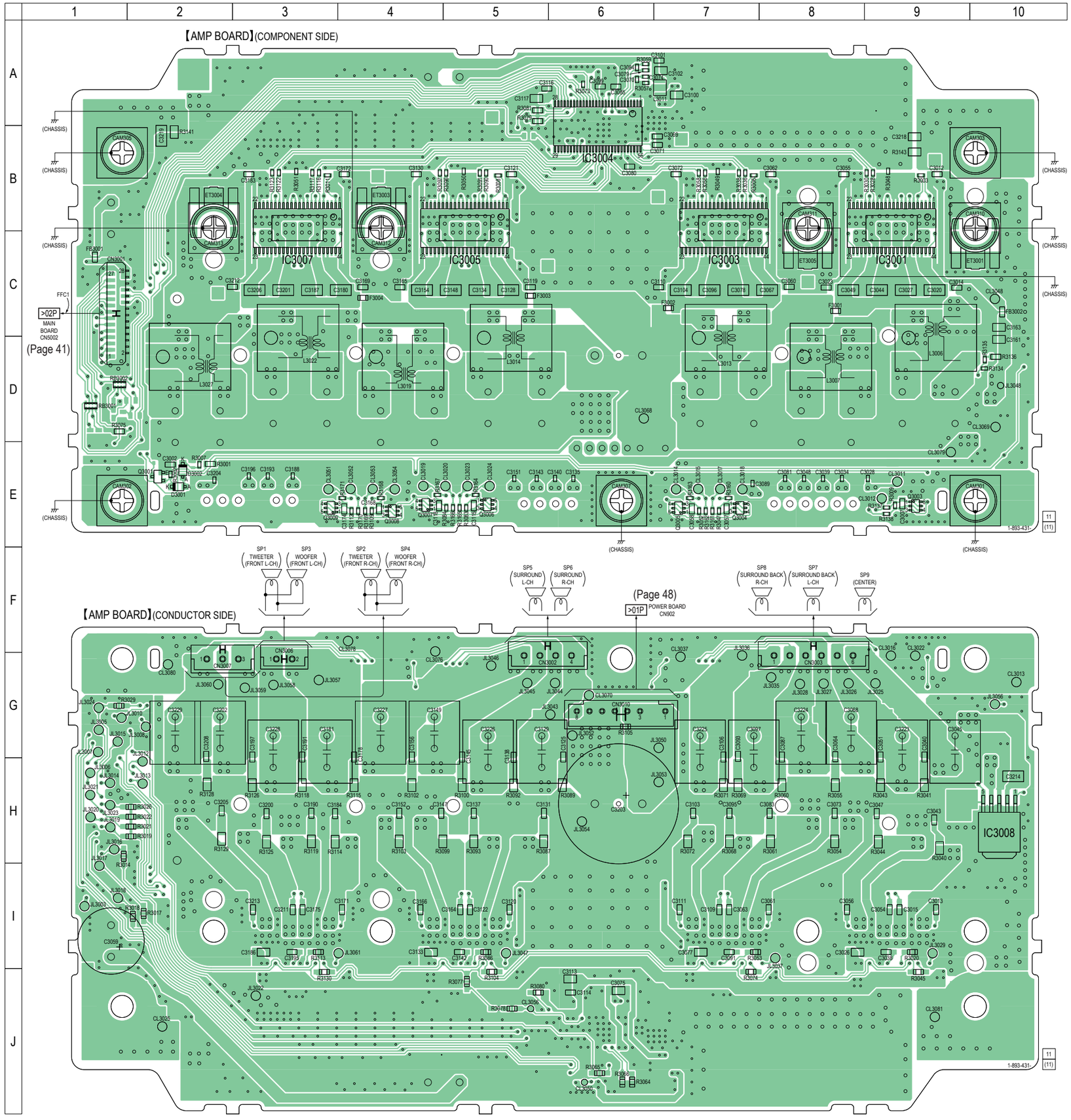
【MAIN BOARD】(SIDE A)



【MAIN BOARD】(SIDE B)

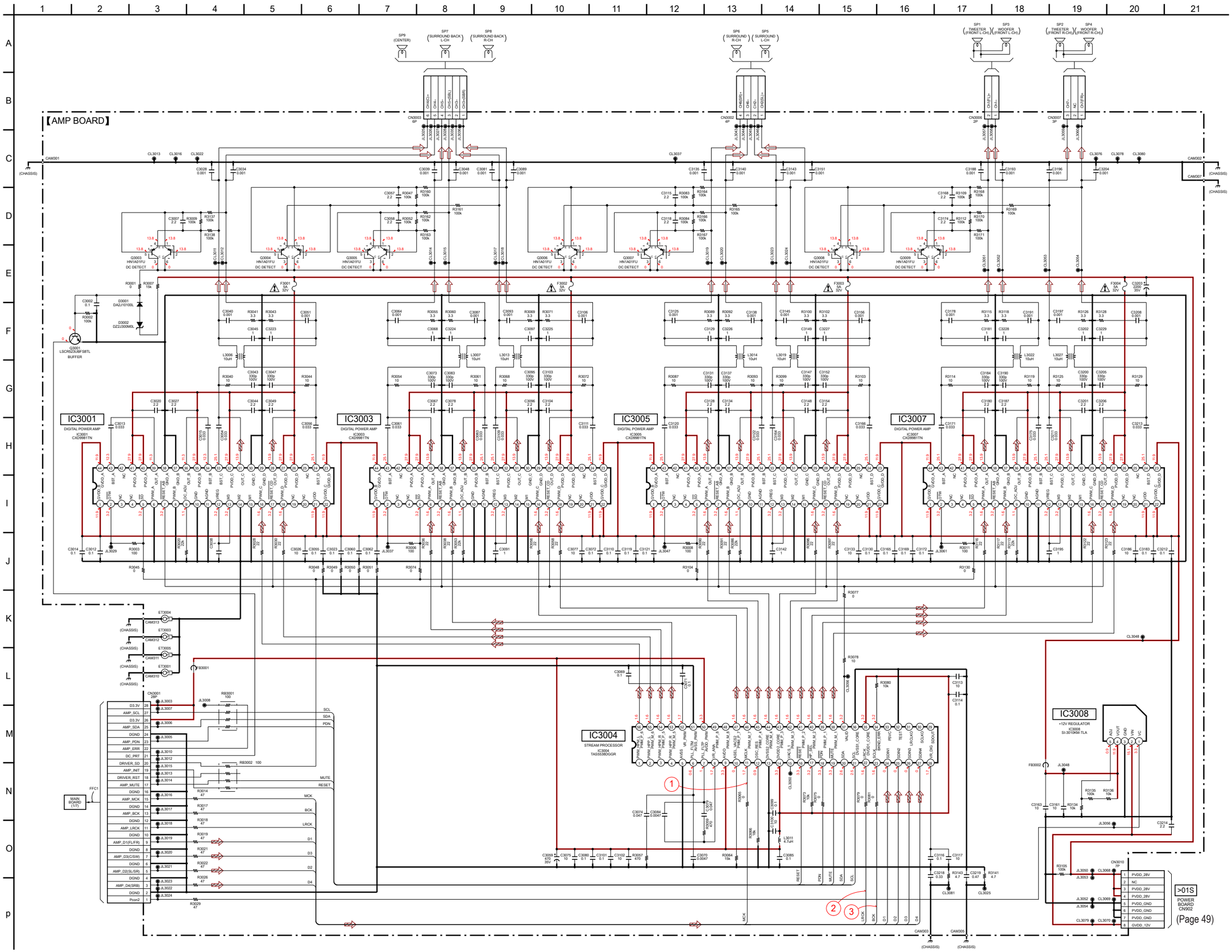


5-6. PRINTED WIRING BOARD - AMP Board - • See page 40 for Circuit Boards Location. • : Uses unleaded solder.



Note: When the IC3001, IC3003, IC3005 and IC3007 on the AMP board are replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

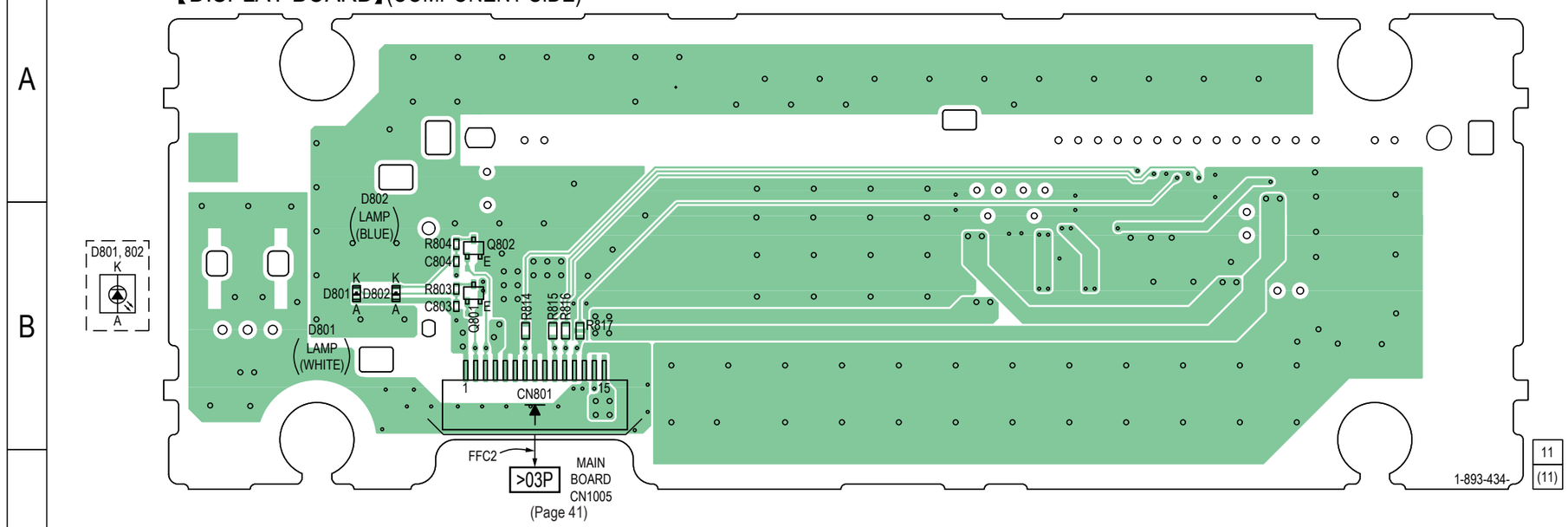
5-7. SCHEMATIC DIAGRAM - AMP Board - • See page 50 for Waveforms. • See page 50 for IC Block Diagrams.



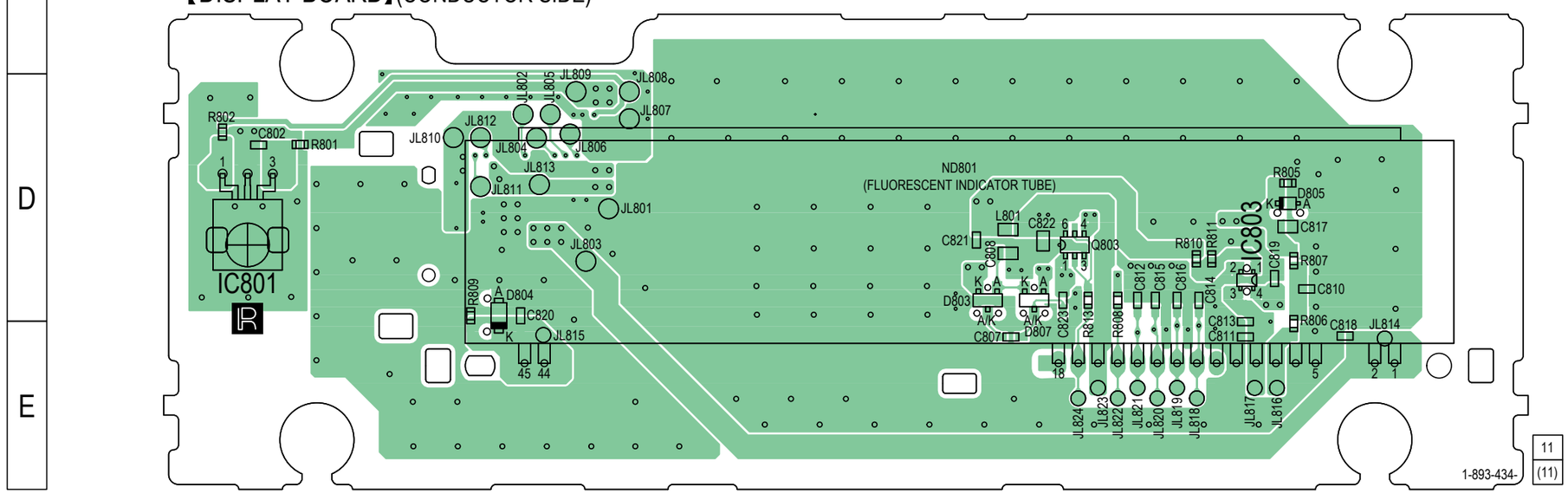
5-8. PRINTED WIRING BOARD - DISPLAY Board -

• See page 40 for Circuit Boards Location. • : Uses unleaded solder.

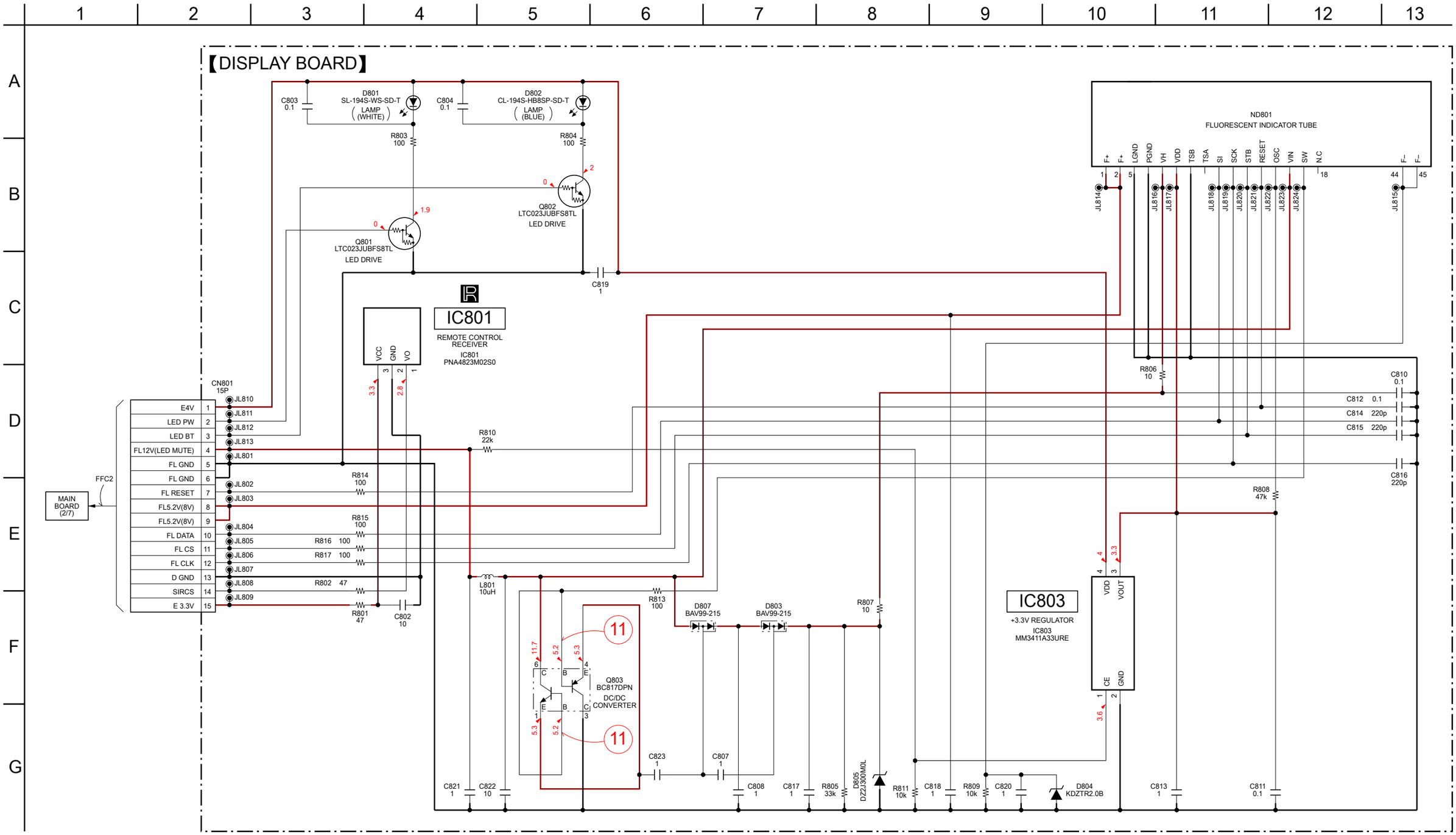
【DISPLAY BOARD】(COMPONENT SIDE)



【DISPLAY BOARD】(CONDUCTOR SIDE)



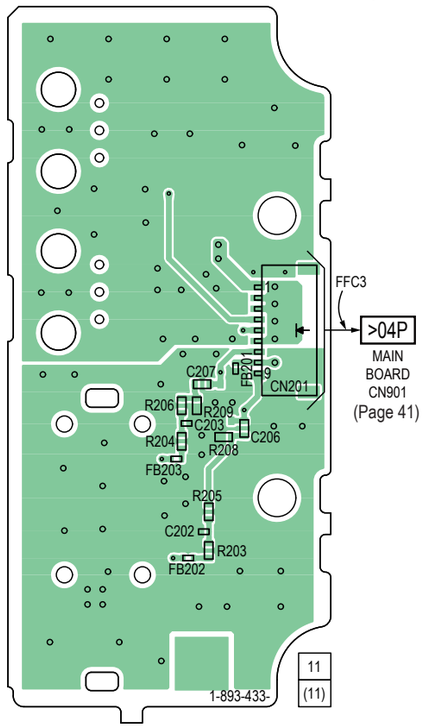
5-9. SCHEMATIC DIAGRAM - DISPLAY Board - • See page 50 for Waveforms. • See page 50 for IC Block Diagrams.



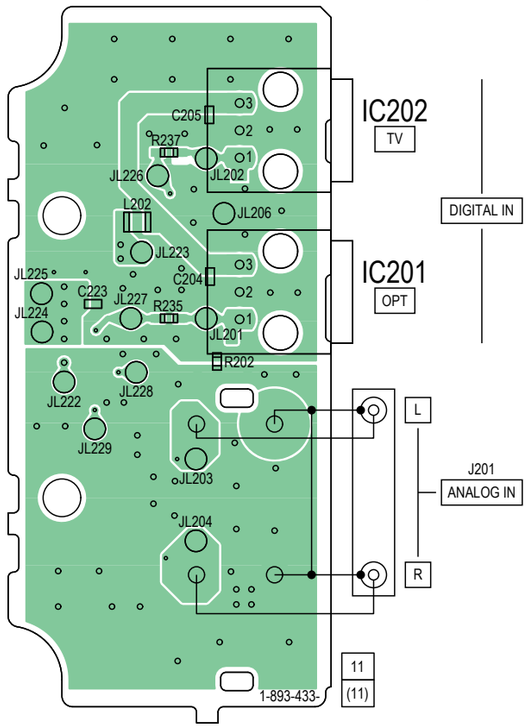
5-10. PRINTED WIRING BOARDS - IO, KEY, REPEATER_R (Lch)/(Rch) Boards -

• See page 40 for Circuit Boards Location. • : Uses unleaded solder.

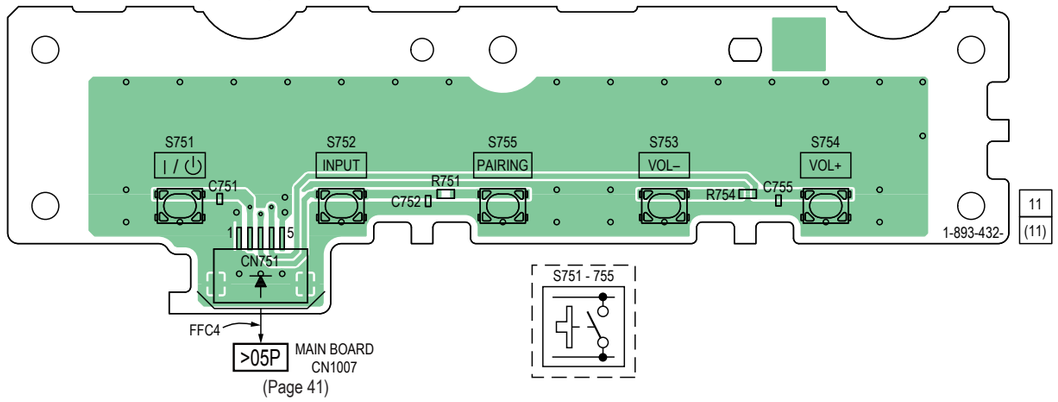
【IO BOARD】(COMPONENT SIDE)



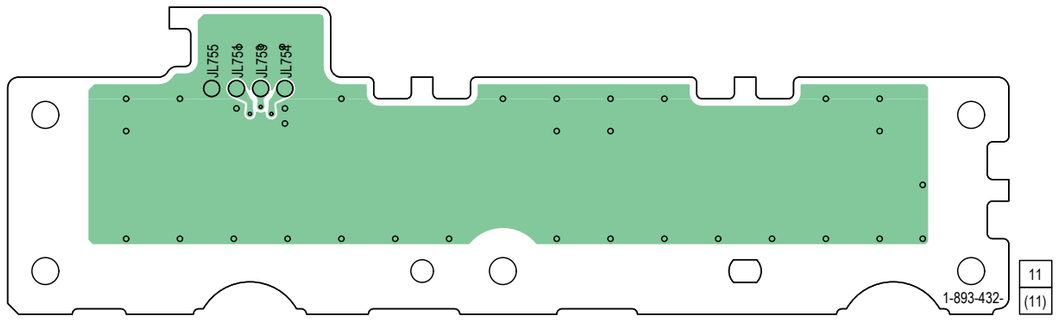
【IO BOARD】(CONDUCTOR SIDE)



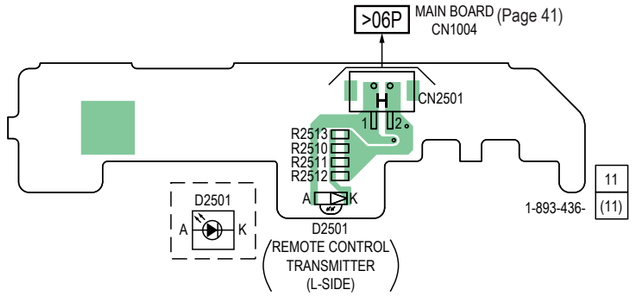
【KEY BOARD】(SIDE A)



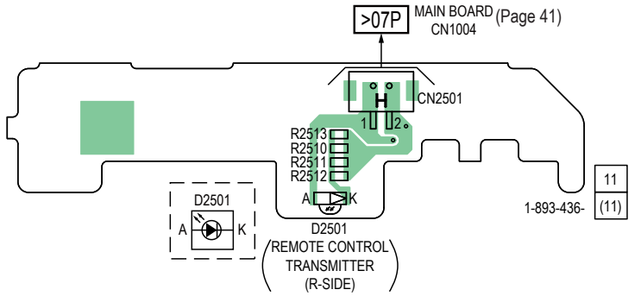
【KEY BOARD】(SIDE B)



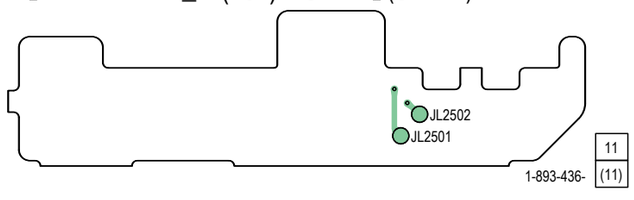
【REPEATER _R (Lch) BOARD】(SIDE A)



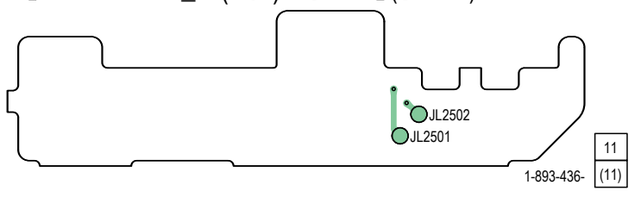
【REPEATER _R (Rch) BOARD】(SIDE A)



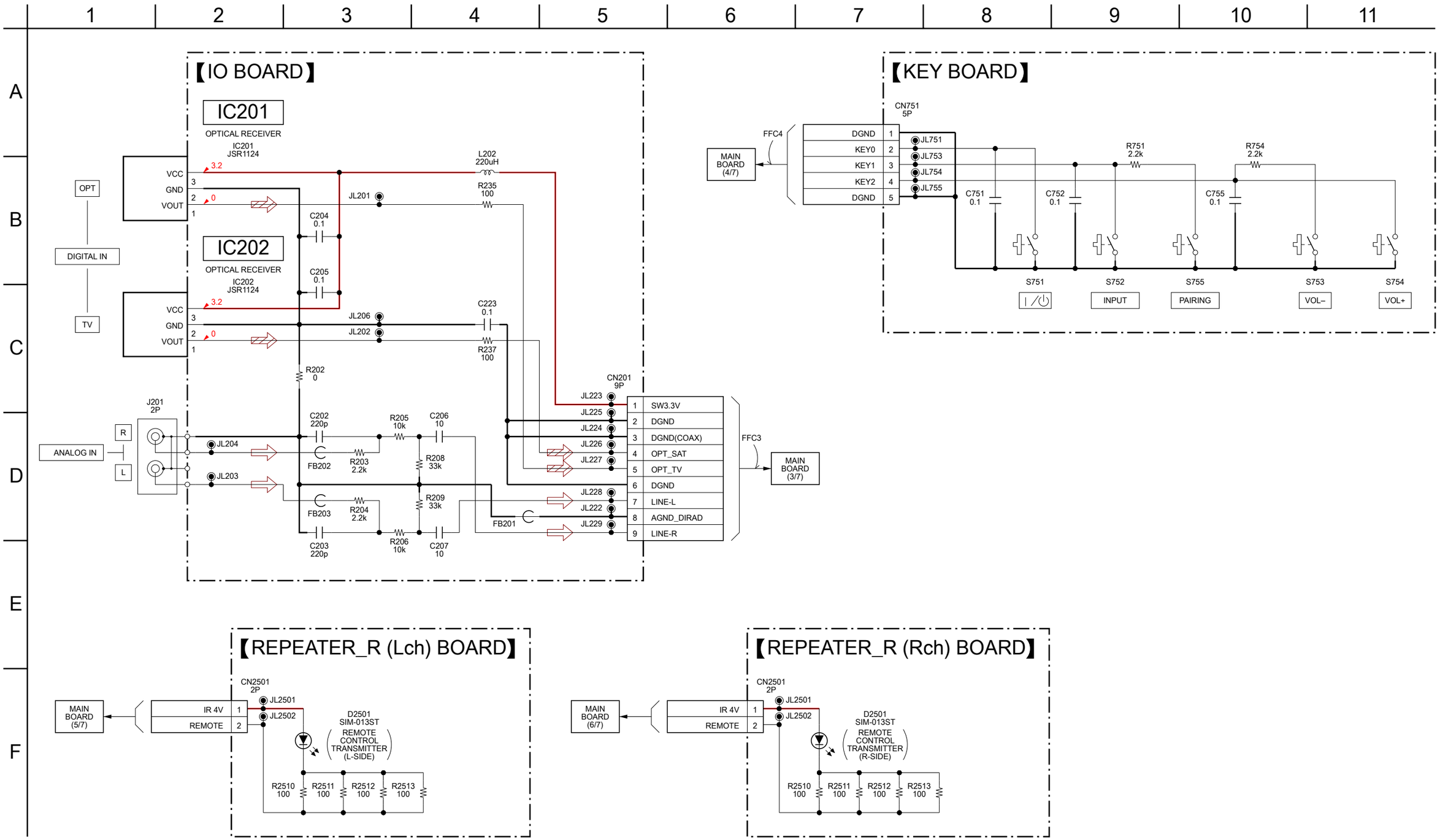
【REPEATER _R (Lch) BOARD】(SIDE B)



【REPEATER _R (Rch) BOARD】(SIDE B)



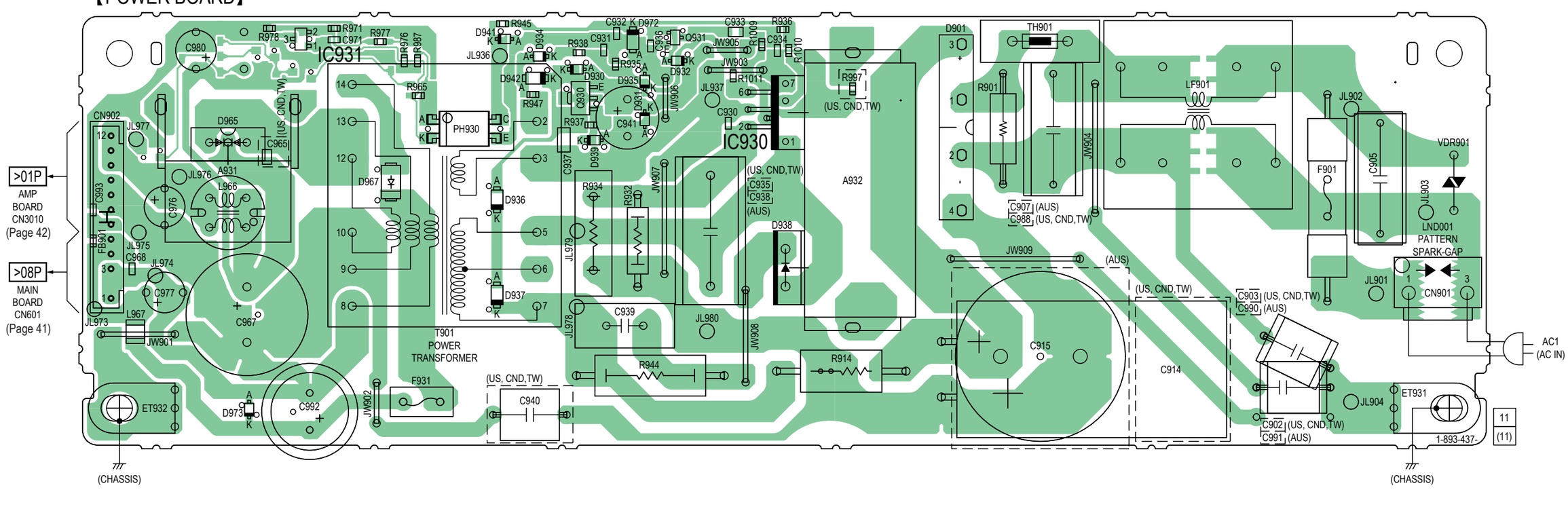
5-11. SCHEMATIC DIAGRAM - IO, KEY, REPEATER_R (Lch)/(Rch) Boards -



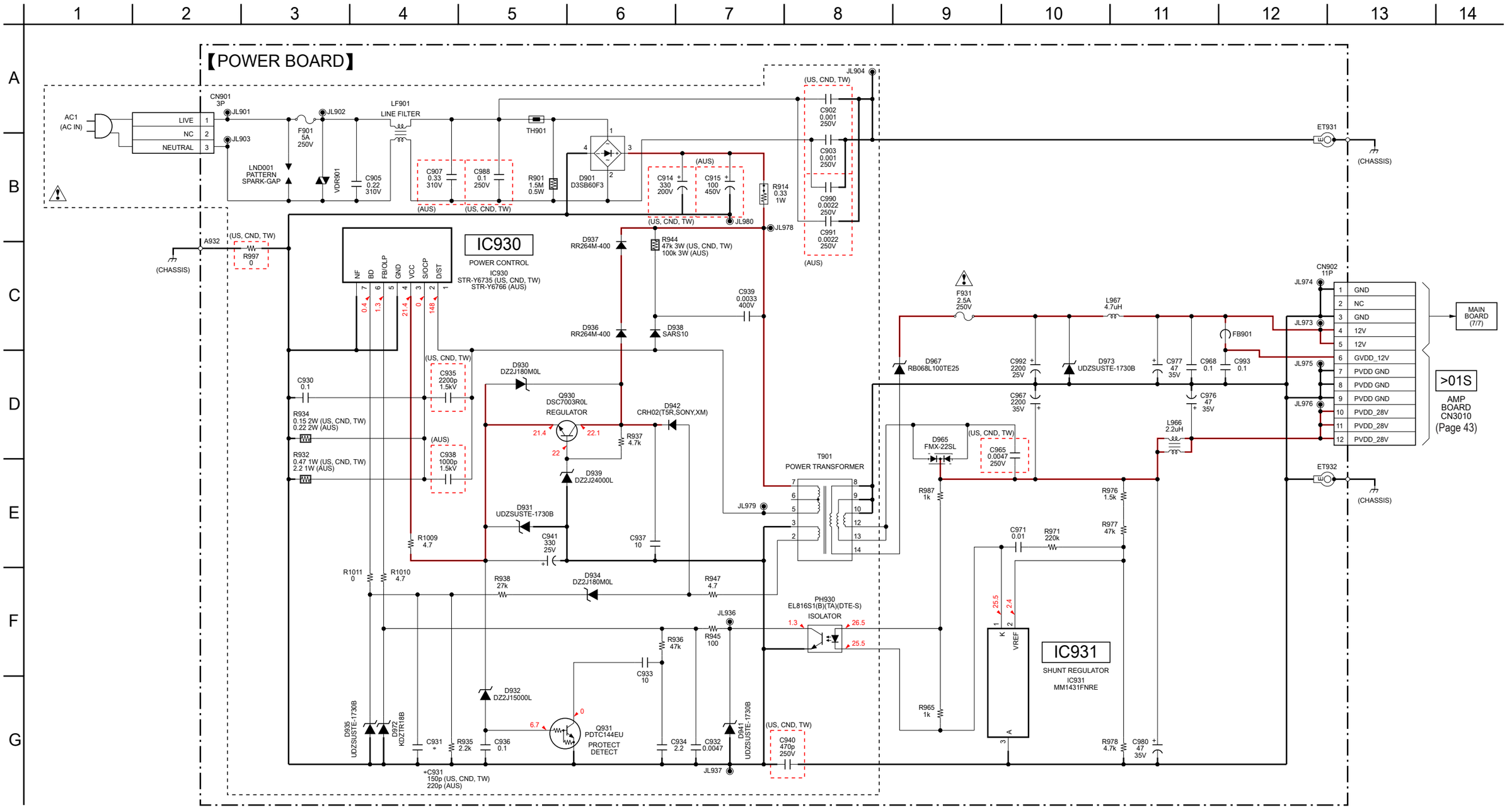
5-12. PRINTED WIRING BOARD - POWER Board -

• See page 40 for Circuit Boards Location. • : Uses unleaded solder.

【POWER BOARD】



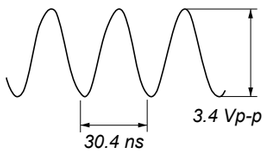
5-13. SCHEMATIC DIAGRAM - POWER Board - • See page 50 for IC Block Diagrams.



• **Waveforms**

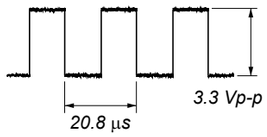
– AMP Board –

① **IC3004 ⑪ (MCLK)**



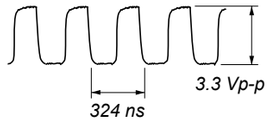
1 V/DIV, 20 ns/DIV

② **IC3004 ㉒ (LRCK)**



1 V/DIV, 5 µs/DIV

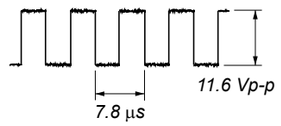
③ **IC3004 ㉓ (SCLK)**



1 V/DIV, 100 ns/DIV

– DISPLAY Board –

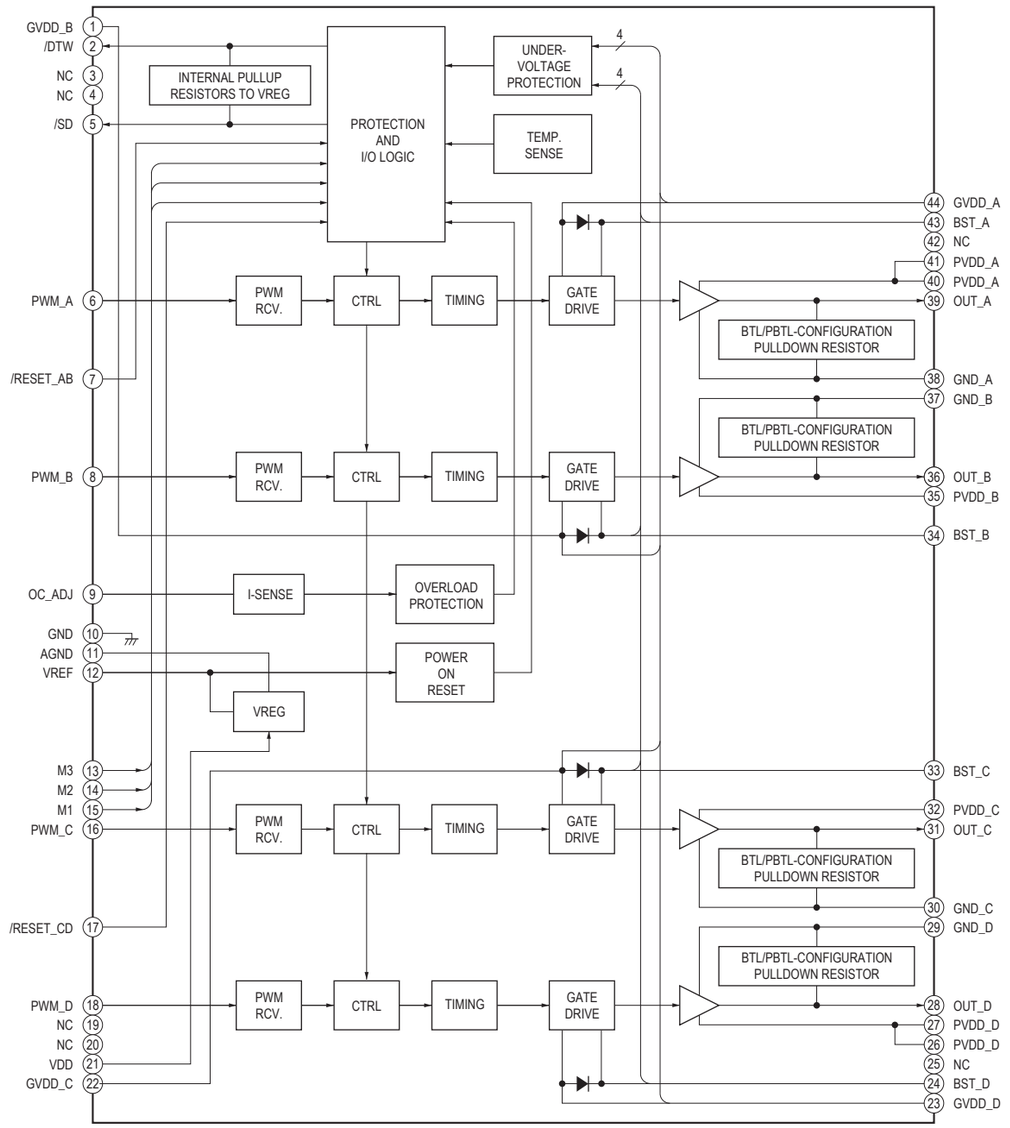
⑪ **Q803 ②, ⑤ (Base)**



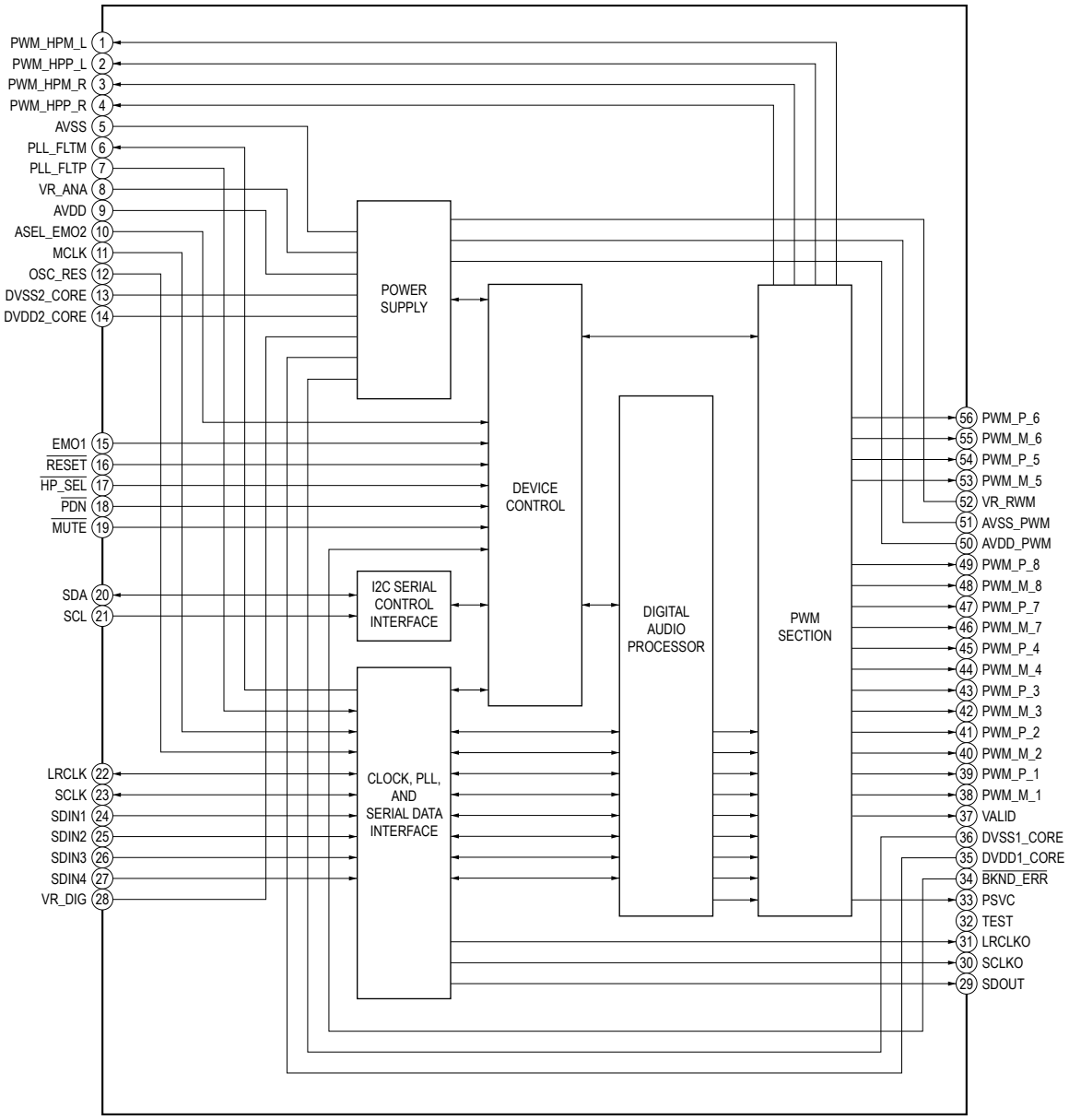
5 V/DIV, 5 µs/DIV

• **IC Block Diagrams**

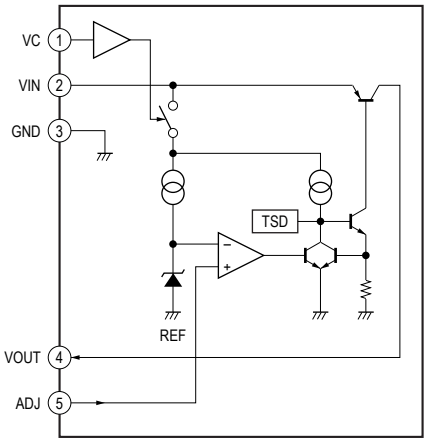
– AMP Board –
IC3001, 3003, 3005, 3007 CXD9981TN



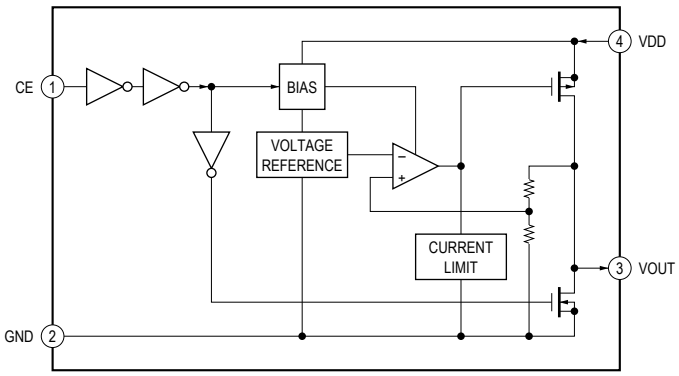
IC3004 TAS5538DGGR



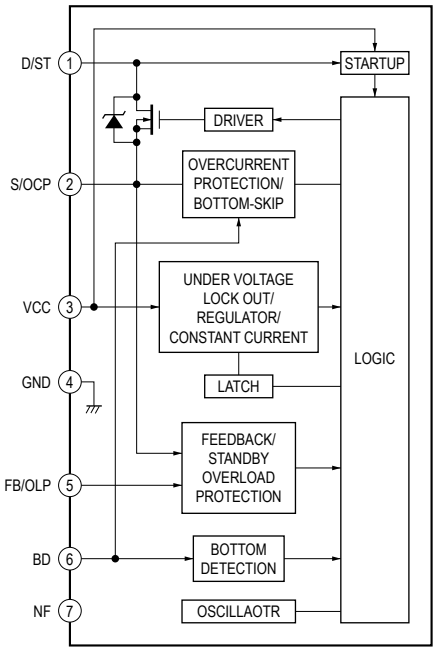
IC3008 SI-3010KM-TLA



– DISPLAY Board –
IC803 MM3411A33URE



– POWER Board –
IC930 STR-Y6735 (US, Canadian and Taiwan models)
IC930 STR-Y6766 (Australian model)



SECTION 6
EXPLODED VIEWS

Note:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Abbreviations
  AUS : Australian model
  CND : Canadian model
  TW : Taiwan model

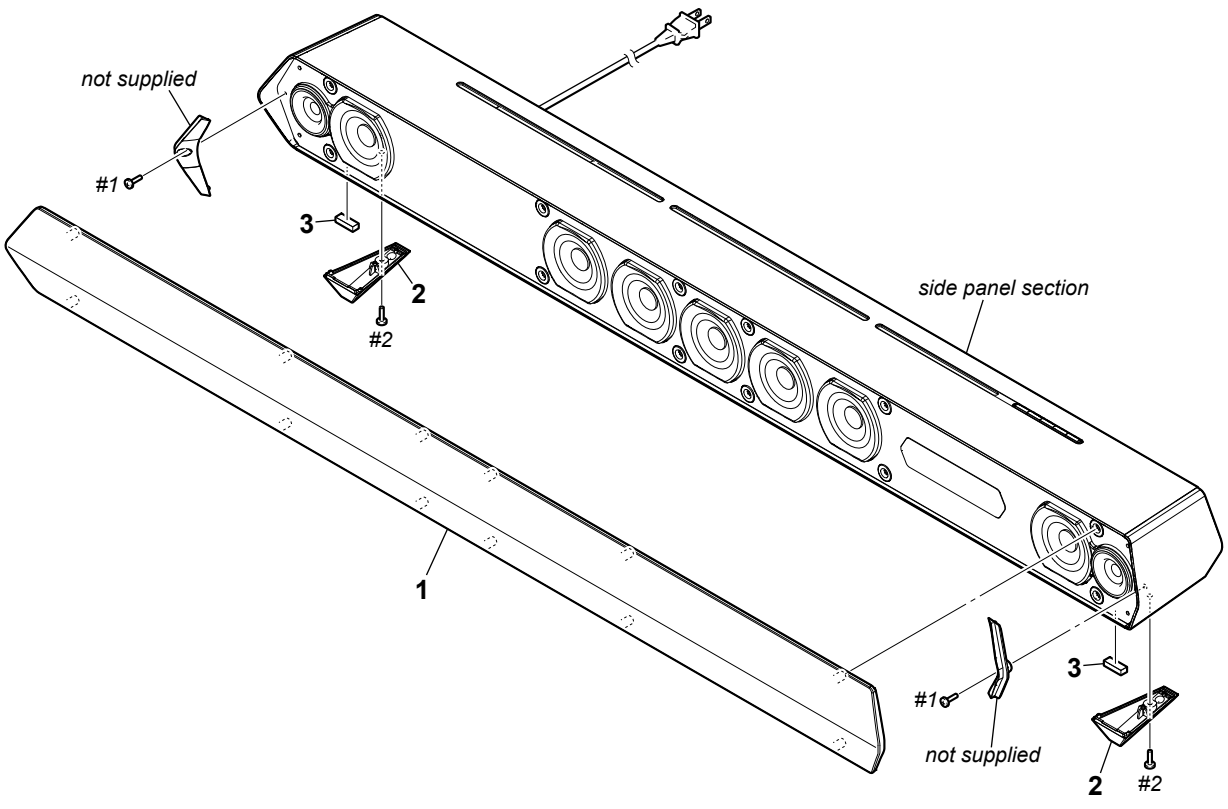
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

Les composants identifiés par la marque 🔒 contiennent des informations confidentielles.
Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

6-1. GRILLE SECTION

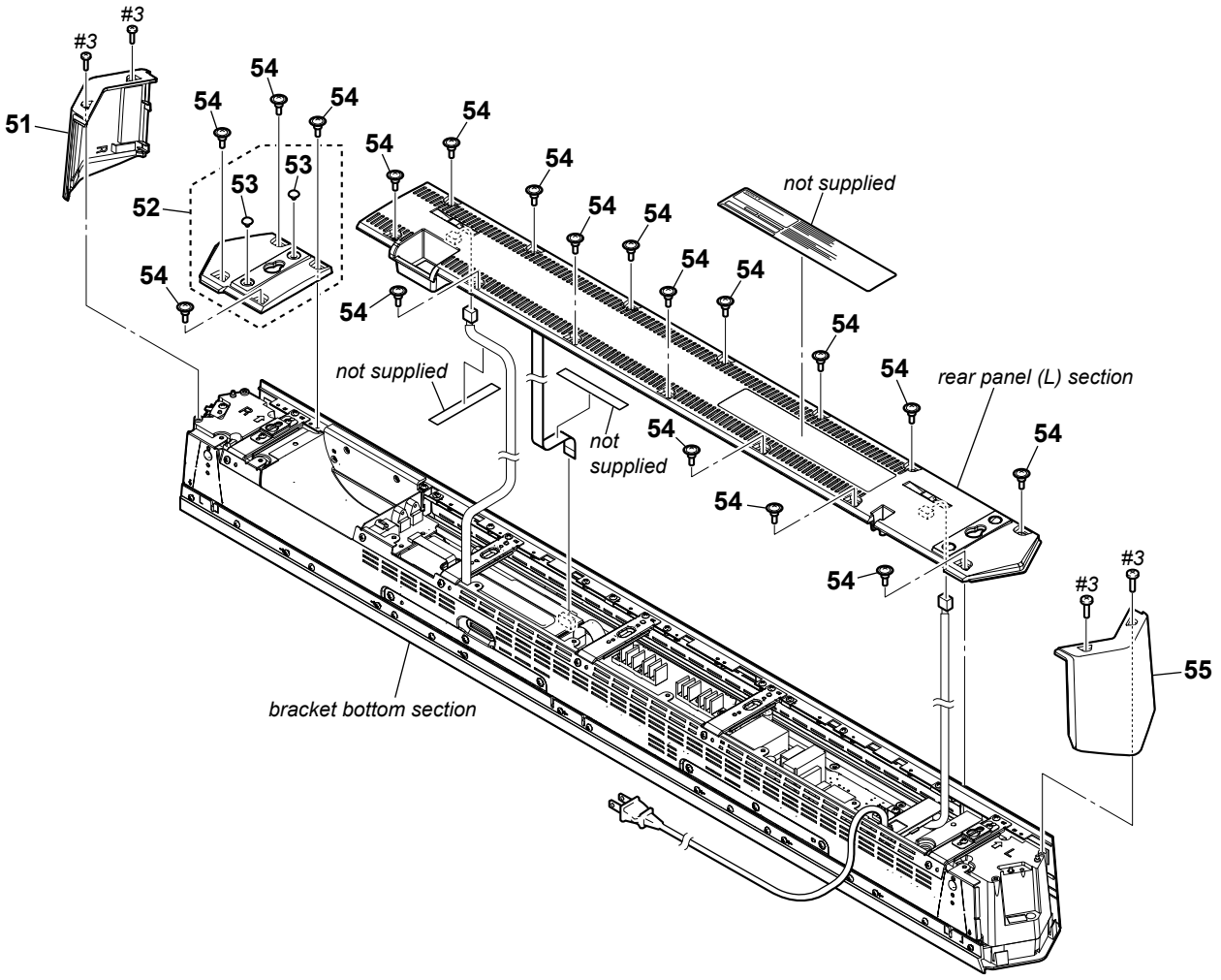


Ref. No.	Part No.	Description	Remark
1	X-2590-059-1	GRILLE ASSY	
2	X-2589-754-1	FOOT (ANG) ASSY	
3	4-542-333-01	CUSHION (FRONT)	

Ref. No.	Part No.	Description	Remark
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#2	7-682-548-09	SCREW +B 3X8	

6-2. SIDE PANEL SECTION

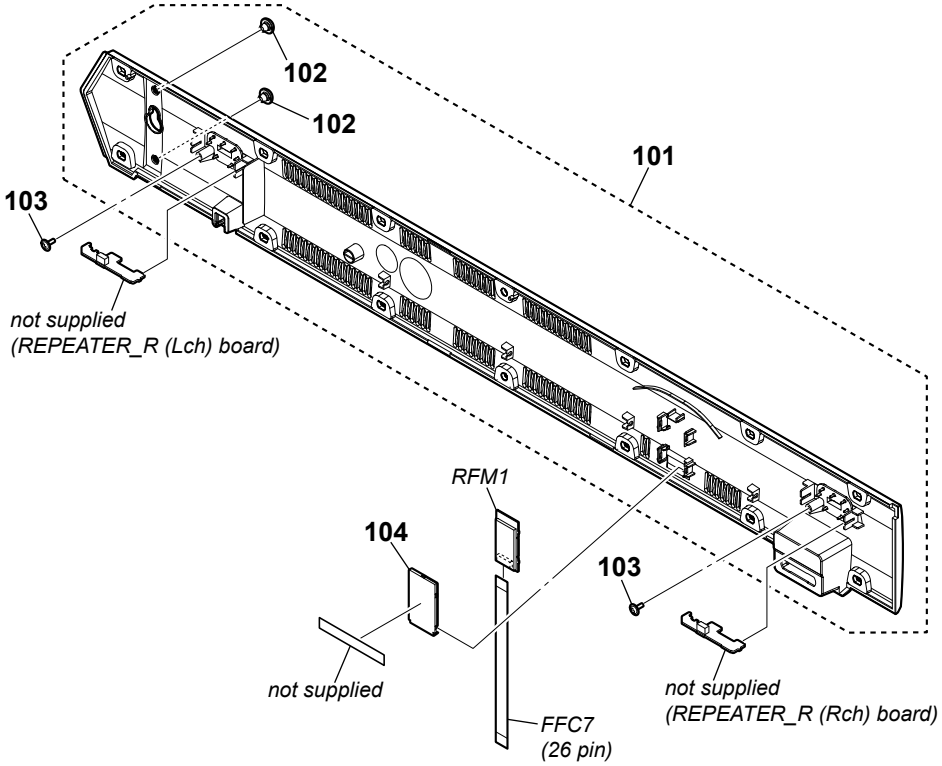
• Rear bottom view



Ref. No.	Part No.	Description	Remark
51	X-2590-027-1	SIDE PANEL (R) ASSY (for R-ch)	
52	X-2590-030-2	REAR PANEL (R) ASSY	
53	4-536-279-01	FOOT (M)	
54	4-537-542-01	STEP SCREW B3X6	

Ref. No.	Part No.	Description	Remark
55	X-2590-026-1	SIDE PANEL (L) ASSY (for L-ch)	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	

6-3. REAR PANEL (L) SECTION



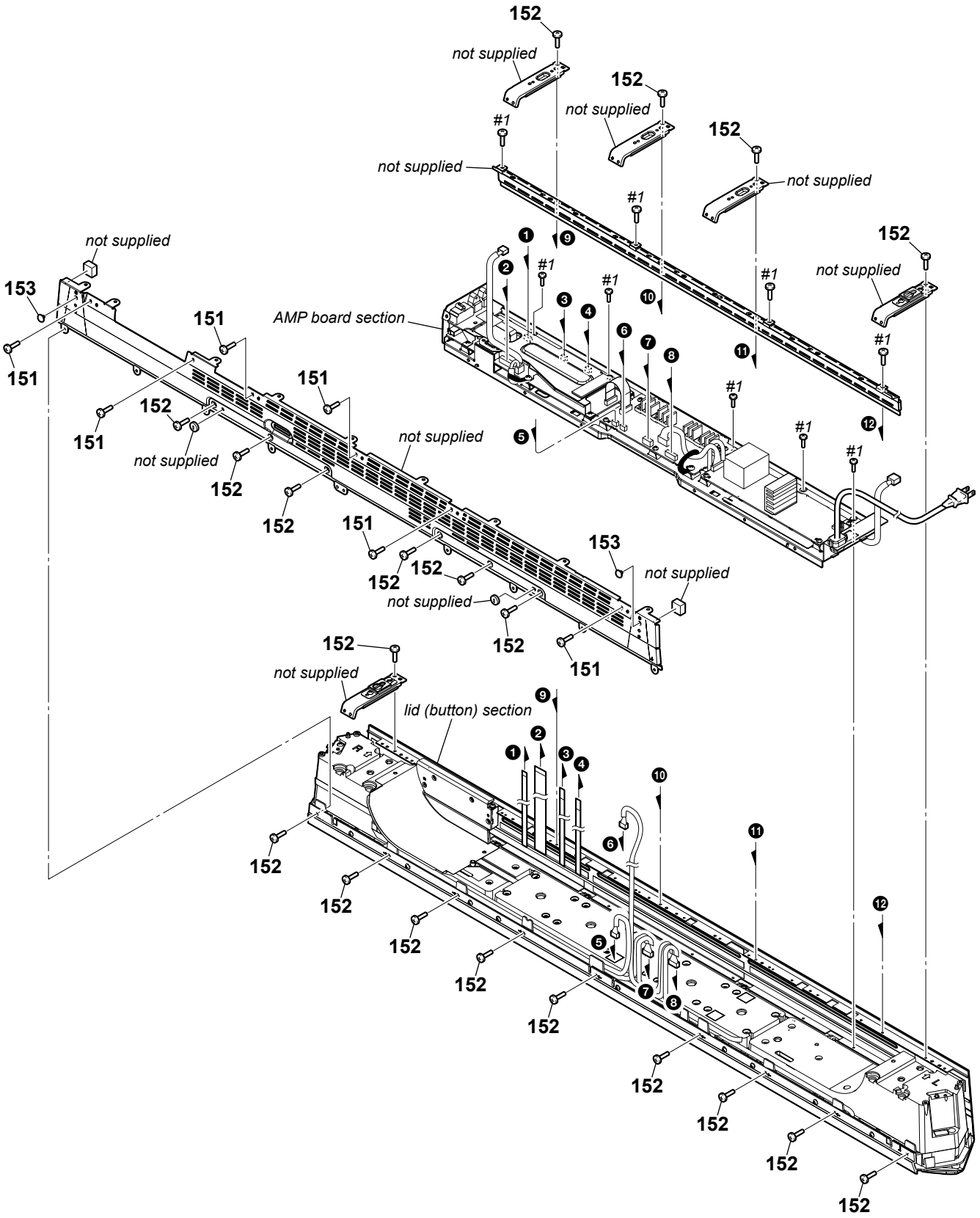
Note: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
101	X-2589-836-3	REAR PANEL (L) ASSY (US, CND)	
101	X-2590-028-3	REAR PANEL (L) ASSY (AUS, TW)	
102	4-536-279-01	FOOT (M)	
103	4-218-254-02	SCREW, +PWH B2.6	

Ref. No.	Part No.	Description	Remark
104	X-2590-195-1	HOUSING (TOP) ASSY	
FFC7	9-833-606-61	WIRE KIT (FFC) (26 pin) (See Note)	
RFM1	1-492-700-61	RF MODULATOR (WS001)	

6-4. BRACKET BOTTOM SECTION

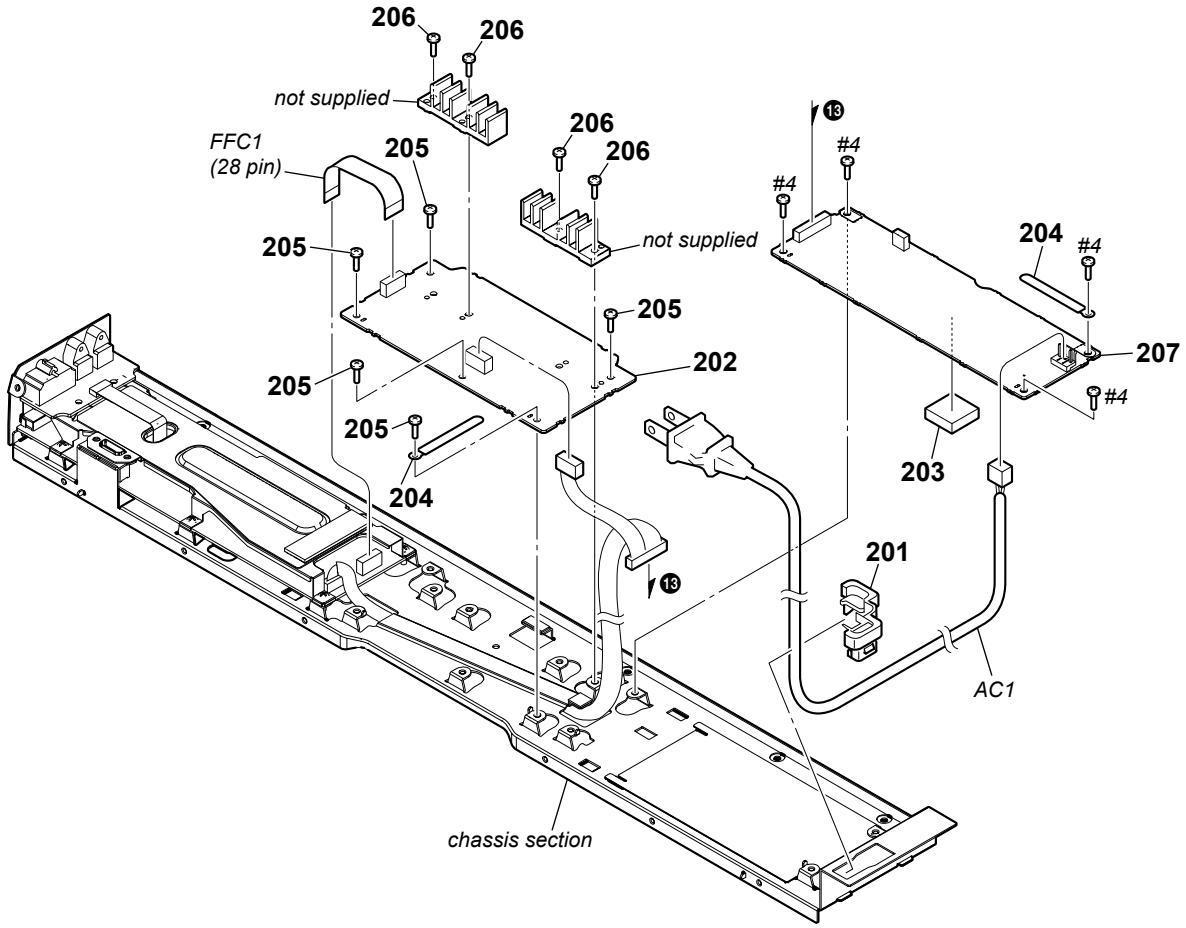
• Rear bottom view



Ref. No.	Part No.	Description	Remark
151	4-545-347-01	SCREW (TRUSS/RING)	
152	3-704-515-22	SCREW (BV/RING)	
153	4-536-279-01	FOOT (M)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

6-5. AMP BOARD SECTION

• Rear bottom view



Note 1: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

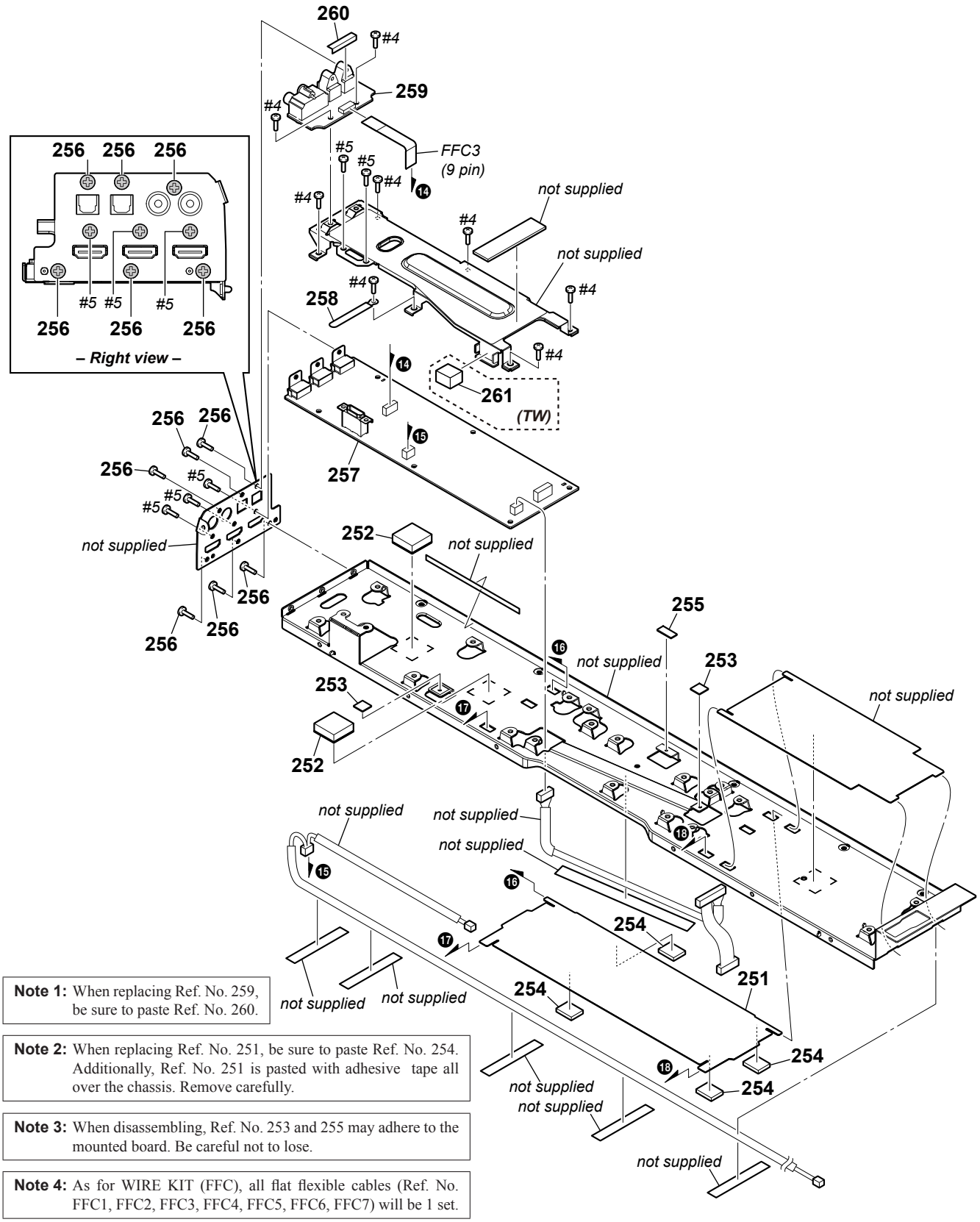
Note 2: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
⚠ 201	4-966-267-12	BUSHING (FBS001), CORD	
202	A-2046-038-A	AMP BOARD, COMPLETE (See Note 1)	
203	4-540-479-02	CUSHION (V)	
204	4-237-065-01	CLAMP (L35)	
205	4-974-510-11	SCREW (+BV 3X8 CU)	
206	3-905-609-13	SCREW (TRANSISTOR)	
207	A-2046-046-A	POWER BOARD, COMPLETE (US, CND, TW)	

Ref. No.	Part No.	Description	Remark
207	A-2046-094-A	POWER BOARD, COMPLETE (AUS)	
⚠ AC1	1-835-068-21	CORD, POWER (AUS)	
⚠ AC1	1-837-308-11	CORD, POWER-SUPPLY (US, CND)	
⚠ AC1	1-837-345-11	CORD, POWER-SUPPLY (TW)	
FFC1	9-833-606-61	WIRE KIT (FFC) (28 pin) (See Note 2)	
#4	7-685-646-71	SCREW +BVTP 3X8 TYPE2 IT-3	

6-6. CHASSIS SECTION

• Rear bottom view



Note 1: When replacing Ref. No. 259, be sure to paste Ref. No. 260.

Note 2: When replacing Ref. No. 251, be sure to paste Ref. No. 254. Additionally, Ref. No. 251 is pasted with adhesive tape all over the chassis. Remove carefully.

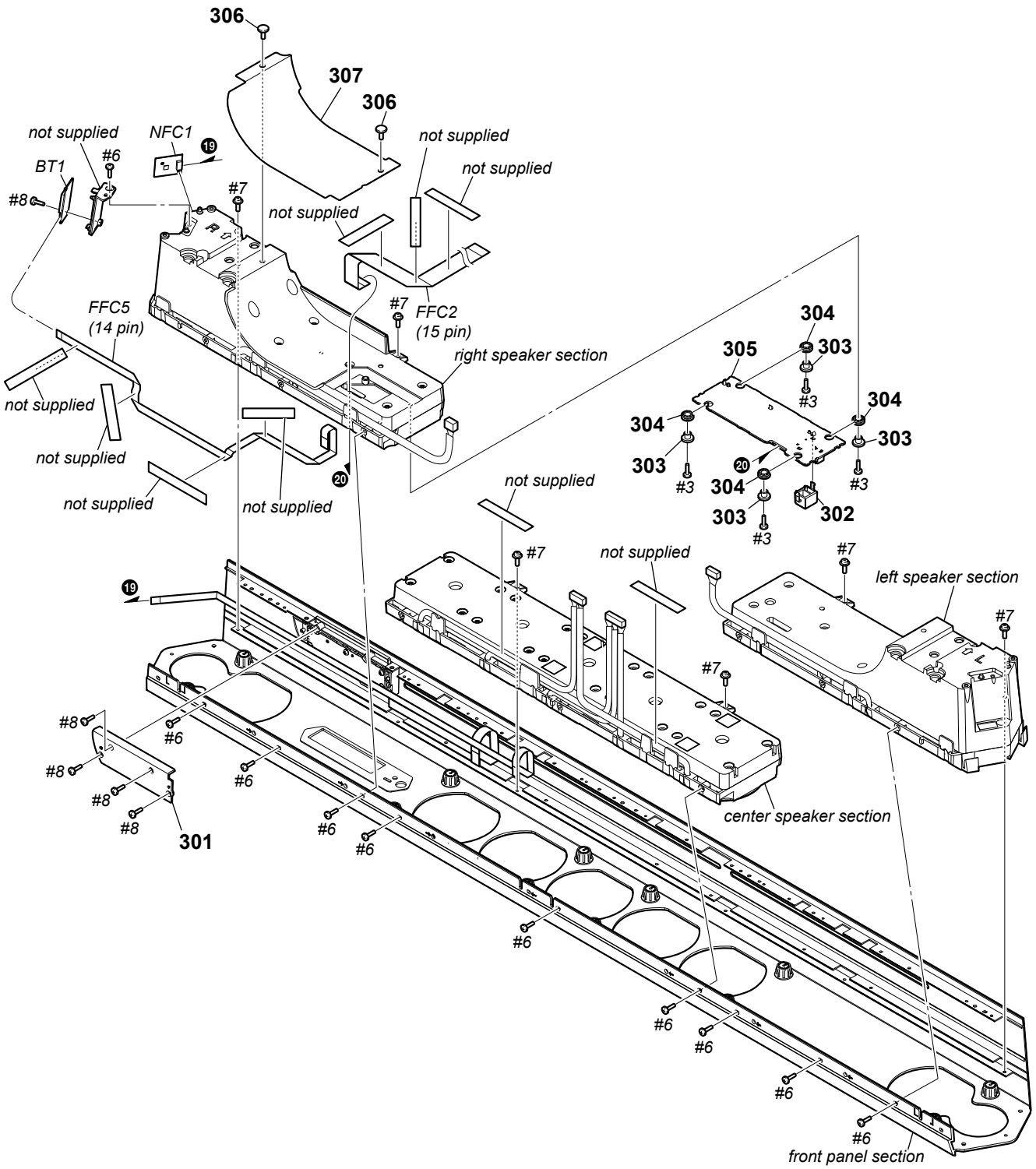
Note 3: When disassembling, Ref. No. 253 and 255 may adhere to the mounted board. Be careful not to lose.

Note 4: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
251	4-538-071-01	SHEET, INSULATION (B) (See Note 2)	
252	4-540-479-02	CUSHION (V)	
253	4-231-099-91	SHEET, RADIATION (See Note 3)	
254	4-453-275-01	CUSHION (CABINET) (See Note 2)	
255	4-544-258-01	SHEET, RADIATION (See Note 3)	
256	3-704-515-22	SCREW (BV/RING)	
257	A-2046-074-A	MAIN BOARD, COMPLETE (for SERVICE) (US, CND)	
257	A-2046-107-A	MAIN BOARD, COMPLETE (for SERVICE) (AUS)	
257	A-2046-168-A	MAIN BOARD, COMPLETE (for SERVICE) (TW)	
258	4-237-065-01	CLAMP (L35)	
259	A-2046-040-A	IO BOARD, COMPLETE (See Note 1)	
260	4-538-318-41	CUSHION (QV,A) (See Note 1)	
261	4-565-052-01	GASKET (TW)	
FFC3	9-833-606-61	WIRE KIT (FFC) (9 pin) (See Note 4)	
#4	7-685-646-71	SCREW +BVTP 3X8 TYPE2 IT-3	
#5	7-682-547-09	SCREW +B 3X6	

6-7. LID (BUTTON) SECTION

• Rear bottom view



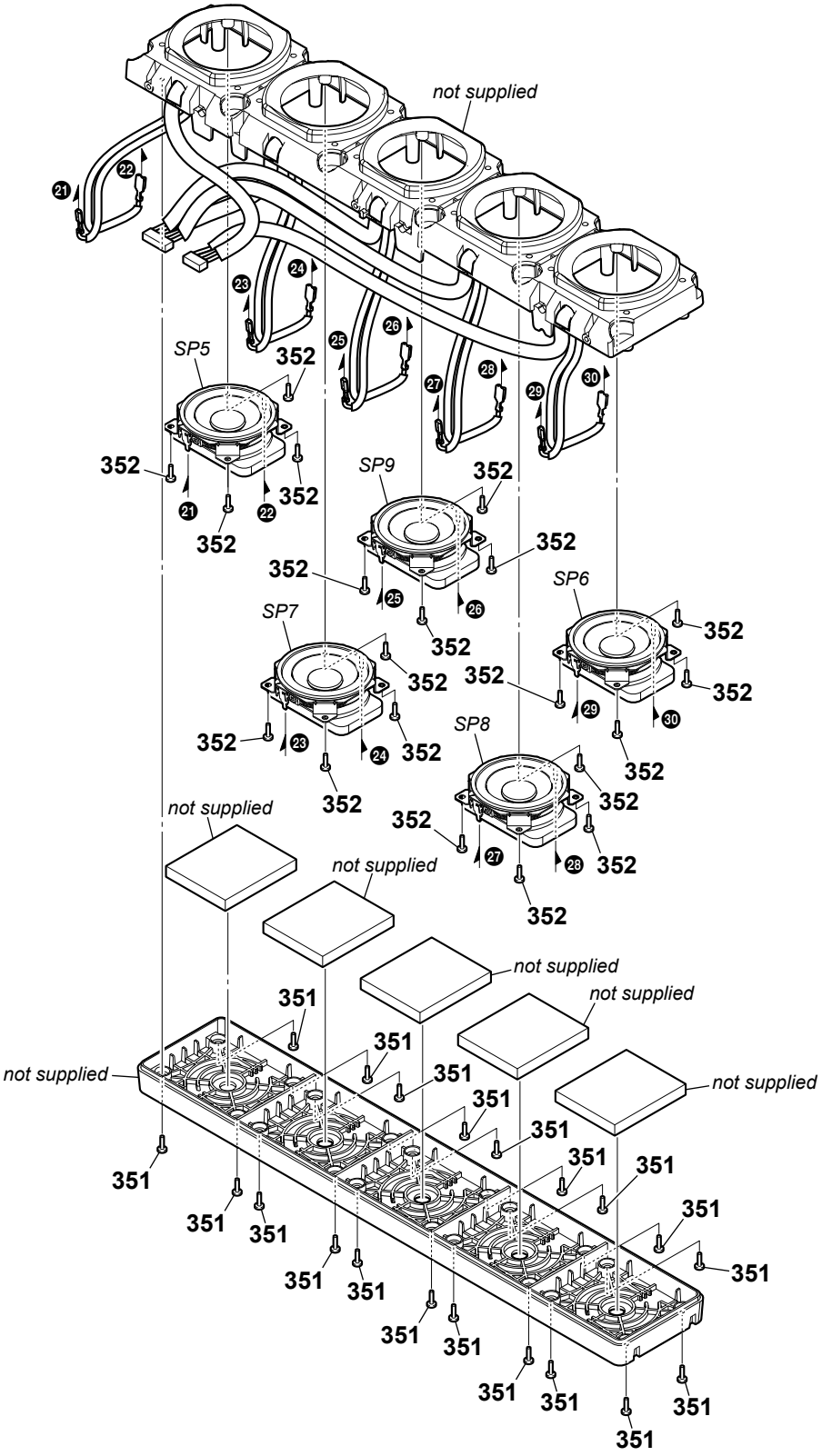
Note: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
301	4-536-286-01	LID (BUTTON)	
302	X-2587-419-1	HOLDER (LED) ASSY	
303	4-453-878-01	COLLAR (DAMPER)	
304	4-453-877-01	BUSHING (DAMPER)	
305	A-2046-041-A	DISPLAY BOARD, COMPLETE	
306	2-249-250-00	CLIP (SMALL), CANOE	
307	4-539-061-01	SHEET, JACK	
BT1	1-490-558-81	BLUETOOTH MODULE	

Ref. No.	Part No.	Description	Remark
FFC2	9-833-606-61	WIRE KIT (FFC) (15 pin) (See Note)	
FFC5	9-833-606-61	WIRE KIT (FFC) (14 pin) (See Note)	
NFC1	8-989-470-05	RC-S801 (NFC module)	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
#6	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#7	7-685-903-21	TAPPING +PWH 3X8 TYPE2 N-S	
#8	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	

6-8. CENTER SPEAKER SECTION

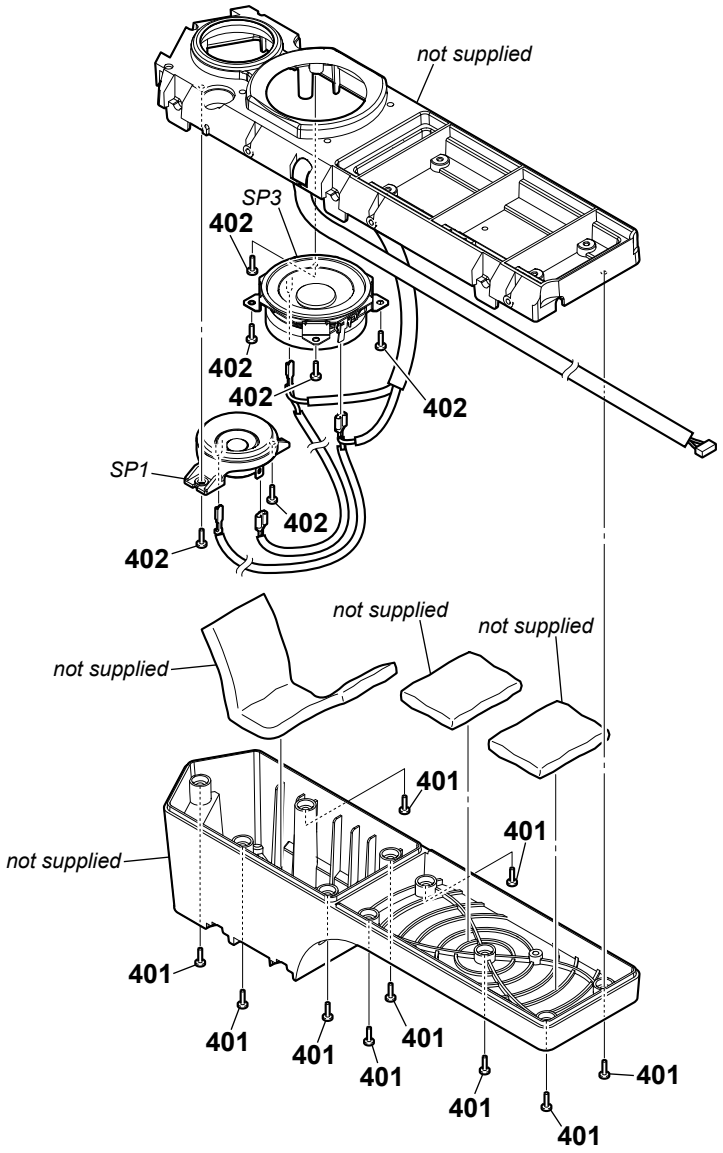
• Front bottom view



Ref. No.	Part No.	Description	Remark
351	4-986-971-21	SCREW (3.5) (size: 3.5X12)	
352	4-986-971-12	SCREW (3.5) (size: 3.5X10)	
SP5	1-859-046-21	LOUDSPEAKER (60 mm) (Surround) (L-ch)	
SP6	1-859-046-21	LOUDSPEAKER (60 mm) (Surround) (R-ch)	
SP7	1-859-046-21	LOUDSPEAKER (60 mm) (Surround Back) (L-ch)	
SP8	1-859-046-21	LOUDSPEAKER (60 mm) (Surround Back) (R-ch)	
SP9	1-859-046-21	LOUDSPEAKER (60 mm) (Center)	

6-9. LEFT SPEAKER SECTION

• Front bottom view

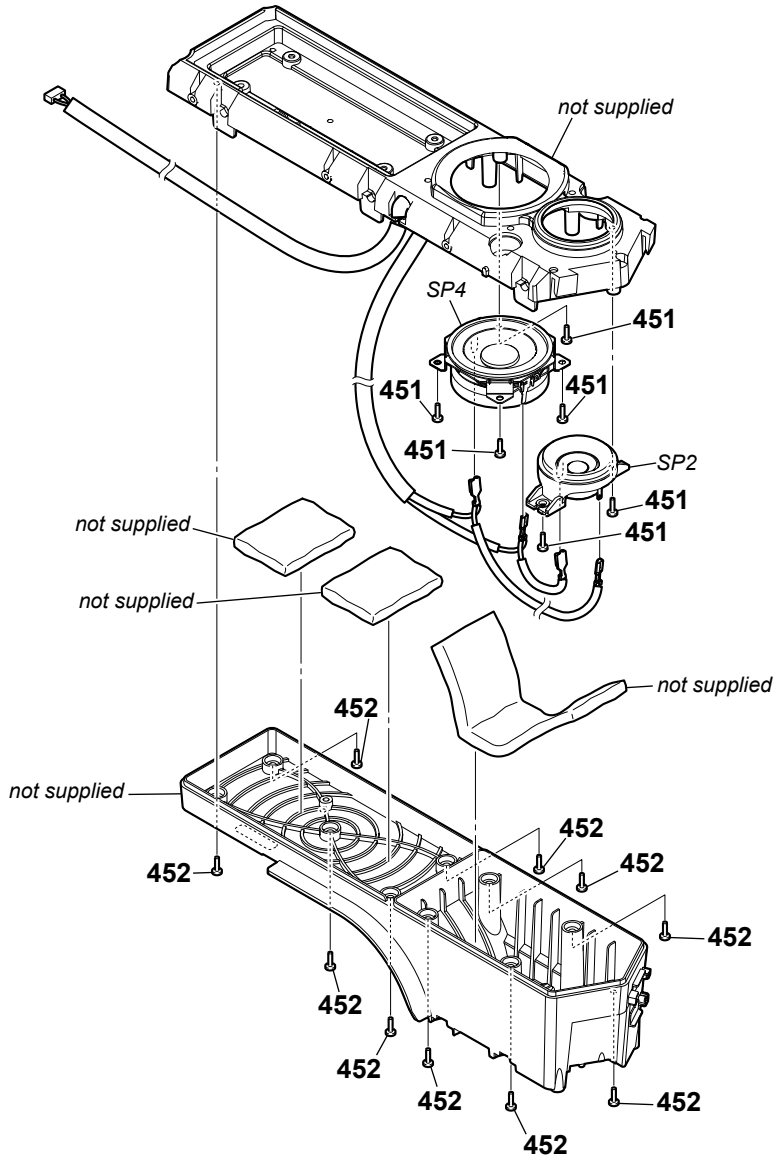


Ref. No.	Part No.	Description	Remark
401	4-986-971-21	SCREW (3.5) (size: 3.5X12)	
402	4-986-971-12	SCREW (3.5) (size: 3.5X10)	

Ref. No.	Part No.	Description	Remark
SP1	1-859-047-11	LOUDSPEAKER (20 mm) (Tweeter) (L-ch)	
SP3	1-859-046-11	LOUDSPEAKER (60 mm) (Woofer) (L-ch)	

6-10. RIGHT SPEAKER SECTION

• Front bottom view

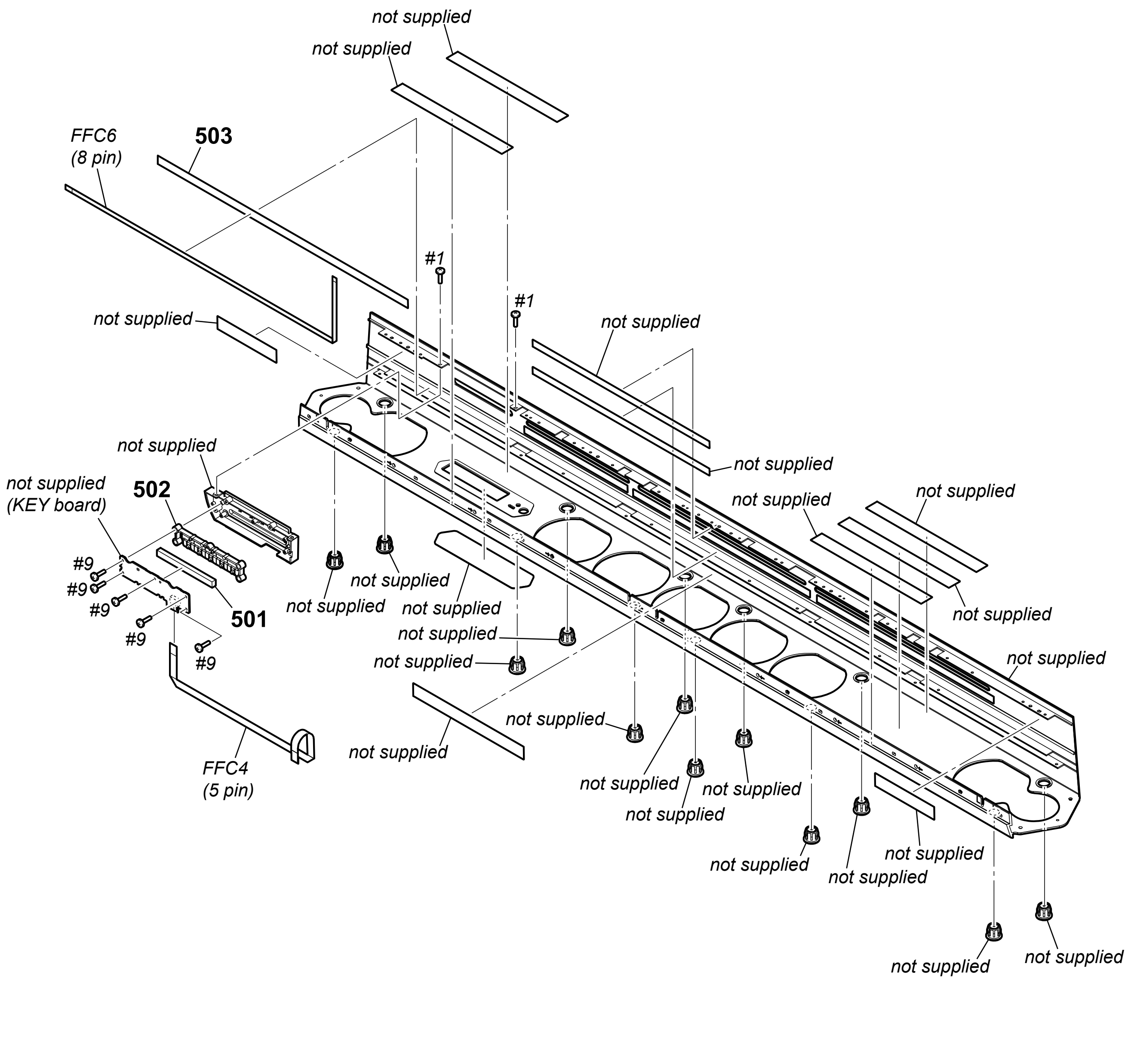


Ref. No.	Part No.	Description	Remark
451	4-986-971-12	SCREW (3.5) (size: 3.5X10)	
452	4-986-971-21	SCREW (3.5) (size: 3.5X12)	

Ref. No.	Part No.	Description	Remark
SP2	1-859-047-11	LOUDSPEAKER (20 mm) (Tweeter) (R-ch)	
SP4	1-859-046-11	LOUDSPEAKER (60 mm) (Woofer) (R-ch)	

6-11. FRONT PANEL SECTION

- Rear bottom view



Note: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
501	4-539-060-01	CUSHION (BUTTON)	
502	4-536-274-01	BUTTON	
503	4-538-320-01	TAPE (QV)	
FFC4	9-833-606-61	WIRE KIT (FFC) (5 pin) (See Note)	
FFC6	9-833-606-61	WIRE KIT (FFC) (8 pin) (See Note)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#9	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	

SECTION 7
ELECTRICAL PARTS LIST

Note:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . , uPA. . , µPA. . ,
  uPB. . : µPB. . , uPC. . , µPC. . ,
  uPD. . : µPD. .
- Abbreviations
  AUS : Australian model
  CND : Canadian model
  TW : Taiwan model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

Les composants identifiés par la marque 🔒 contiennent des informations confidentielles.
Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

Ref. No.	Part No.	Description			Remark
	A-2046-038-A	AMP BOARD, COMPLETE (See Note)			
		**********			
		< CAPACITOR >			
* C3002	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3007	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
* C3012	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3013	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
* C3014	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3015	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
C3020	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
* C3023	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3026	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
C3027	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3028	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3034	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3038	1-116-736-11	CERAMIC CHIP	1uF	10%	10V
C3039	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3040	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3043	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
C3044	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3045	1-131-704-11	FILM	1uF	5%	50V
C3047	1-118-353-11	CERAMIC CHIP	330PF	5%	100V
C3048	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3049	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3051	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3054	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
* C3055	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3056	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
C3057	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
C3058	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
C3059	1-112-251-21	ELECT	470uF	20%	35V
* C3060	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3061	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
* C3062	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3063	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
C3064	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3067	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3068	1-131-704-11	FILM	1uF	5%	50V
C3069	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3070	1-118-395-11	CERAMIC CHIP	0.0047uF	10%	50V
C3071	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V

Ref. No.	Part No.	Description			Remark
* C3072	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3073	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
C3074	1-118-388-11	CERAMIC CHIP	0.047uF	10%	25V
C3075	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C3077	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
C3078	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3079	1-118-388-11	CERAMIC CHIP	0.047uF	10%	25V
C3080	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3081	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3083	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
C3084	1-118-395-11	CERAMIC CHIP	0.0047uF	10%	50V
C3085	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3087	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3089	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C3091	1-116-736-11	CERAMIC CHIP	1uF	10%	10V
C3093	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3095	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
C3096	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3097	1-131-704-11	FILM	1uF	5%	50V
C3099	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3100	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C3101	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3102	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C3103	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
C3104	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3106	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3109	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
* C3110	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3111	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
C3113	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C3114	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3115	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
C3116	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C3117	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C3118	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
* C3119	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3120	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
* C3121	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C3122	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
C3125	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C3128	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
C3129	1-131-704-11	FILM	1uF	5%	50V

Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

	Ref. No.	Part No.	Description			Remark
*	C3130	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3131	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3133	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
	C3134	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3135	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3137	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3138	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3140	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3142	1-116-736-11	CERAMIC CHIP	1uF	10%	10V
	C3143	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3145	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3147	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3148	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3149	1-131-704-11	FILM	1uF	5%	50V
	C3151	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3152	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3154	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3156	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3161	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
	C3163	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
	C3164	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
*	C3165	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3166	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
	C3168	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
*	C3169	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3171	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
*	C3172	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3174	1-116-731-11	CERAMIC CHIP	2.2uF	20%	6.3V
	C3175	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
	C3178	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3180	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3181	1-131-704-11	FILM	1uF	5%	50V
*	C3183	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3184	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3186	1-116-716-11	CERAMIC CHIP	10uF	10%	16V
	C3187	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3188	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3190	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3191	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3193	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3195	1-116-736-11	CERAMIC CHIP	1uF	10%	10V
	C3196	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3197	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3200	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3201	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3202	1-131-704-11	FILM	1uF	5%	50V
	C3203	1-115-819-11	ELECT	0.0022F	20%	35V
	C3204	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
	C3205	1-100-154-91	CERAMIC CHIP	330PF	5%	100V
	C3206	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3208	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
	C3211	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
*	C3212	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
	C3213	1-118-367-11	CERAMIC CHIP	0.033uF	10%	50V
	C3214	1-114-817-11	CERAMIC CHIP	2.2uF	10%	50V
	C3218	1-114-814-11	CERAMIC CHIP	0.33uF	10%	25V
	C3219	1-118-012-11	CERAMIC CHIP	0.47uF	5%	25V
	C3223	1-131-704-11	FILM	1uF	5%	50V
	C3224	1-131-704-11	FILM	1uF	5%	50V
	C3225	1-131-704-11	FILM	1uF	5%	50V
	C3226	1-131-704-11	FILM	1uF	5%	50V
	C3227	1-131-704-11	FILM	1uF	5%	50V
	C3228	1-131-704-11	FILM	1uF	5%	50V
	C3229	1-131-704-11	FILM	1uF	5%	50V

< CONNECTOR >

	CN3001	1-820-841-31	CONNECTOR, FFC/FPC (LIF) 28P
*	CN3002	1-564-507-11	PLUG, CONNECTOR 4P
*	CN3003	1-564-509-11	PLUG, CONNECTOR 6P
	CN3006	1-564-505-11	PLUG, CONNECTOR 2P
*	CN3007	1-564-506-11	PLUG, CONNECTOR 3P
	CN3010	1-784-923-11	PIN, CONNECTOR 7P

< DIODE >

D3001	6-502-961-01	DIODE DA2J10100L
D3002	6-503-040-01	DIODE DZ2J300M0L

< LUG TERMINAL >

*	ET3001	1-780-408-11	TERMINAL, LUG
*	ET3003	1-780-408-11	TERMINAL, LUG
*	ET3004	1-780-408-11	TERMINAL, LUG
*	ET3005	1-780-408-11	TERMINAL, LUG

< FUSE >

⚠	F3001	1-523-144-31	FUSE (5 A/32 V)
⚠	F3002	1-523-144-31	FUSE (5 A/32 V)
⚠	F3003	1-523-144-31	FUSE (5 A/32 V)
⚠	F3004	1-523-144-31	FUSE (5 A/32 V)

< FERRITE BEAD >

FB3001	1-400-180-21	INDUCTOR, EMI FERRITE (1608)
FB3002	1-400-180-21	INDUCTOR, EMI FERRITE (1608)

< IC >

IC3001	6-714-477-01	IC CXD9981TN (See Note)
IC3003	6-714-477-01	IC CXD9981TN (See Note)
IC3004	6-718-103-01	IC TAS5538DGGR
IC3005	6-714-477-01	IC CXD9981TN (See Note)
IC3007	6-714-477-01	IC CXD9981TN (See Note)
IC3008	6-717-953-01	IC SI-3010KM-TLA

< COIL >

L3006	1-457-191-11	COIL, CHOKE	10uH
L3007	1-457-191-11	COIL, CHOKE	10uH
L3011	1-469-524-91	INDUCTOR	4.7uH
L3013	1-457-191-11	COIL, CHOKE	10uH
L3014	1-457-191-11	COIL, CHOKE	10uH
L3019	1-457-191-11	COIL, CHOKE	10uH
L3022	1-457-191-11	COIL, CHOKE	10uH
L3027	1-457-191-11	COIL, CHOKE	10uH

< TRANSISTOR >

Q3001	6-552-892-01	TRANSISTOR	LSCR523UBFS8TL
Q3003	8-729-013-22	TRANSISTOR	HN1A01FU
Q3004	8-729-013-22	TRANSISTOR	HN1A01FU
Q3005	8-729-013-22	TRANSISTOR	HN1A01FU
Q3006	8-729-013-22	TRANSISTOR	HN1A01FU
Q3007	8-729-013-22	TRANSISTOR	HN1A01FU
Q3008	8-729-013-22	TRANSISTOR	HN1A01FU
Q3009	8-729-013-22	TRANSISTOR	HN1A01FU

Note: When the IC3001, IC3003, IC3005 and IC3007 on the AMP board are replaced, refer to "NOTE OF REPLACING THE IC3001, IC3003, IC3005 AND IC3007 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

AMP **DISPLAY**

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R3001	1-216-864-11	SHORT CHIP	0		
R3002	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3003	1-218-941-81	METAL CHIP	100	5%	1/16W
R3006	1-218-941-81	METAL CHIP	100	5%	1/16W
R3007	1-218-967-11	METAL CHIP	15K	5%	1/16W
R3008	1-218-941-81	METAL CHIP	100	5%	1/16W
R3009	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3011	1-218-941-81	METAL CHIP	100	5%	1/16W
R3014	1-216-805-11	METAL CHIP	47	5%	1/10W
R3017	1-216-805-11	METAL CHIP	47	5%	1/10W
R3018	1-216-805-11	METAL CHIP	47	5%	1/10W
R3019	1-216-805-11	METAL CHIP	47	5%	1/10W
R3020	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3021	1-216-805-11	METAL CHIP	47	5%	1/10W
R3022	1-216-805-11	METAL CHIP	47	5%	1/10W
R3026	1-216-805-11	METAL CHIP	47	5%	1/10W
R3028	1-250-455-11	METAL CHIP	22	1%	1/16W
R3029	1-216-805-11	METAL CHIP	47	5%	1/10W
R3030	1-250-455-11	METAL CHIP	22	1%	1/16W
R3036	1-250-455-11	METAL CHIP	22	1%	1/16W
R3038	1-250-455-11	METAL CHIP	22	1%	1/16W
R3040	1-216-001-00	METAL CHIP	10	5%	1/10W
R3041	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3043	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3044	1-216-001-00	METAL CHIP	10	5%	1/10W
R3045	1-216-864-11	SHORT CHIP	0		
R3047	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3048	1-218-990-81	SHORT CHIP	0		
R3049	1-218-990-81	SHORT CHIP	0		
R3050	1-218-990-81	SHORT CHIP	0		
R3051	1-218-990-81	SHORT CHIP	0		
R3052	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3053	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3054	1-216-001-00	METAL CHIP	10	5%	1/10W
R3055	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3056	1-250-455-11	METAL CHIP	22	1%	1/16W
R3057	1-218-949-11	METAL CHIP	470	5%	1/16W
R3058	1-250-455-11	METAL CHIP	22	1%	1/16W
R3059	1-218-949-11	METAL CHIP	470	5%	1/16W
R3060	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3061	1-216-001-00	METAL CHIP	10	5%	1/10W
R3064	1-216-835-11	METAL CHIP	15K	5%	1/10W
R3065	1-216-864-11	SHORT CHIP	0		
R3066	1-250-646-11	METAL CHIP	18K	1%	1/10W
R3068	1-216-001-00	METAL CHIP	10	5%	1/10W
R3069	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3071	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3072	1-216-001-00	METAL CHIP	10	5%	1/10W
R3073	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3074	1-216-864-11	SHORT CHIP	0		
R3075	1-216-864-11	SHORT CHIP	0		
R3077	1-216-864-11	SHORT CHIP	0		
R3078	1-216-797-11	METAL CHIP	10	5%	1/10W
R3079	1-216-864-11	SHORT CHIP	0		
R3080	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3081	1-216-864-11	SHORT CHIP	0		
R3083	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3084	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3086	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3087	1-216-001-00	METAL CHIP	10	5%	1/10W
R3089	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3090	1-250-455-11	METAL CHIP	22	1%	1/16W
R3091	1-250-455-11	METAL CHIP	22	1%	1/16W
R3092	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3093	1-216-001-00	METAL CHIP	10	5%	1/10W
R3096	1-250-455-11	METAL CHIP	22	1%	1/16W
R3097	1-250-455-11	METAL CHIP	22	1%	1/16W
R3099	1-216-001-00	METAL CHIP	10	5%	1/10W
R3100	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3102	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3103	1-216-001-00	METAL CHIP	10	5%	1/10W
R3104	1-216-864-11	SHORT CHIP	0		
R3105	1-216-845-11	METAL CHIP	100K	5%	1/10W
R3109	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3112	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3113	1-216-837-11	METAL CHIP	22K	5%	1/10W
R3114	1-216-001-00	METAL CHIP	10	5%	1/10W
R3115	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3116	1-250-455-11	METAL CHIP	22	1%	1/16W
R3117	1-250-455-11	METAL CHIP	22	1%	1/16W
R3118	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3119	1-216-001-00	METAL CHIP	10	5%	1/10W
R3122	1-250-455-11	METAL CHIP	22	1%	1/16W
R3123	1-250-455-11	METAL CHIP	22	1%	1/16W
R3125	1-216-001-00	METAL CHIP	10	5%	1/10W
R3126	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3128	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R3129	1-216-001-00	METAL CHIP	10	5%	1/10W
R3130	1-216-864-11	SHORT CHIP	0		
R3134	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3135	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3136	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3137	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3138	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3141	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R3143	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R3160	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3161	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3162	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3163	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3164	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3165	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3166	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3167	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3168	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3169	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3170	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3171	1-218-977-11	METAL CHIP	100K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB3001	1-234-372-11	RES, NETWORK 100 (1005X4)			
RB3002	1-234-372-11	RES, NETWORK 100 (1005X4)			
**********					
	A-2046-041-A	DISPLAY BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
* C802	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C803	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C804	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C807	1-118-039-11	CERAMIC CHIP	1uF	10%	25V
C808	1-118-952-11	CERAMIC CHIP	1uF	10%	50V
C810	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
* C811	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
* C812	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
C813	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C814	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C815	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C816	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C817	1-118-952-11	CERAMIC CHIP	1uF	10%	50V
C818	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C819	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C820	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C821	1-118-039-11	CERAMIC CHIP	1uF	10%	25V
C822	1-118-047-11	CERAMIC CHIP	10uF	10%	16V
C823	1-118-039-11	CERAMIC CHIP	1uF	10%	25V
		< CONNECTOR >			
CN801	1-842-042-51	CONNECTOR, FFC/FPC 15P			
		< DIODE >			
D801	6-502-395-01	LED SL-194S-WS-SD-T (LAMP (WHITE))			
D802	6-503-196-01	LED CL-194S-HB8SP-SD-T (LAMP (BLUE))			
D803	6-500-400-01	DIODE BAV99-215			
D804	6-502-241-01	DIODE KDZTR2.0B			
D805	6-503-040-01	DIODE DZ2J300M0L			
D807	6-500-400-01	DIODE BAV99-215			
		< IC >			
IC801	6-600-767-01	IC PNA4823M02S0 (R)			
IC803	6-719-198-01	IC MM3411A33URE			
		< COIL >			
L801	1-481-524-11	INDUCTOR	10uH		
		< FLUORESCENT INDICATOR TUBE >			
ND801	1-483-520-11	VACUUM FLUORESCENT DISPLAY			
		< TRANSISTOR >			
Q801	6-552-941-01	TRANSISTOR	LTC023JUBFS8TL		
Q802	6-552-941-01	TRANSISTOR	LTC023JUBFS8TL		
Q803	6-553-291-01	TRANSISTOR	BC817DPN		
		< RESISTOR >			
R801	1-216-805-11	METAL CHIP	47	5%	1/10W
R802	1-216-805-11	METAL CHIP	47	5%	1/10W
R803	1-218-941-81	METAL CHIP	100	5%	1/16W
R804	1-218-941-81	METAL CHIP	100	5%	1/16W
R805	1-216-839-11	METAL CHIP	33K	5%	1/10W
R806	1-216-797-11	METAL CHIP	10	5%	1/10W
R807	1-216-797-11	METAL CHIP	10	5%	1/10W
R808	1-250-656-11	METAL CHIP	47K	1%	1/10W
R809	1-216-833-11	METAL CHIP	10K	5%	1/10W
R810	1-216-837-11	METAL CHIP	22K	5%	1/10W
R811	1-216-833-11	METAL CHIP	10K	5%	1/10W
R813	1-216-809-11	METAL CHIP	100	5%	1/10W
R814	1-216-809-11	METAL CHIP	100	5%	1/10W
R815	1-216-809-11	METAL CHIP	100	5%	1/10W
R816	1-216-809-11	METAL CHIP	100	5%	1/10W
R817	1-216-809-11	METAL CHIP	100	5%	1/10W

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	A-2046-040-A	IO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C202	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
C203	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
* C204	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
* C205	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
* C206	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
* C207	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
* C223	1-118-360-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN201	1-784-861-51	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			
		< FERRITE BEAD >			
FB201	1-400-834-21	FERRITE, EMI (SMD) (1005)			
FB202	1-400-834-21	FERRITE, EMI (SMD) (1005)			
FB203	1-400-834-21	FERRITE, EMI (SMD) (1005)			
		< IC >			
IC201	6-600-827-01	IC JSR1124 (DIGITAL IN (OPT))			
IC202	6-600-827-01	IC JSR1124 (DIGITAL IN (TV))			
		< JACK >			
J201	1-821-058-11	JACK, PIN 2P (ANALOG IN)			
		< COIL >			
L202	1-400-922-11	INDUCTOR	220uH		
		< RESISTOR >			
R202	1-216-864-11	SHORT CHIP	0		
R203	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R204	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R205	1-216-833-11	METAL CHIP	10K	5%	1/10W
R206	1-216-833-11	METAL CHIP	10K	5%	1/10W
R208	1-216-839-11	METAL CHIP	33K	5%	1/10W
R209	1-216-839-11	METAL CHIP	33K	5%	1/10W
R235	1-216-809-11	METAL CHIP	100	5%	1/10W
R237	1-216-809-11	METAL CHIP	100	5%	1/10W

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		KEY BOARD			
		**********			
		< CAPACITOR >			
C751	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C752	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C755	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN751	1-816-184-51	CONNECTOR, FFC/FPC 5P			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R751	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R754	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
		< SWITCH >			
S751	1-786-653-11	SWITCH, TACTILE (I/⏻)			
S752	1-786-653-11	SWITCH, TACTILE (INPUT)			
S753	1-786-653-11	SWITCH, TACTILE (VOL–)			
S754	1-786-653-11	SWITCH, TACTILE (VOL+)			
S755	1-786-653-11	SWITCH, TACTILE (PAIRING)			
**********					
🔒	A-2046-074-A	MAIN BOARD, COMPLETE (for SERVICE)			(US, CND)
🔒	A-2046-107-A	MAIN BOARD, COMPLETE (for SERVICE) (AUS)			
🔒	A-2046-168-A	MAIN BOARD, COMPLETE (for SERVICE) (TW)			
		**********			
When the MAIN board is defective, replace the complete mounted board.					
**********					
	A-2046-046-A	POWER BOARD, COMPLETE (US, CND, TW)			
	A-2046-094-A	POWER BOARD, COMPLETE (AUS)			
		**********			
	7-685-646-71	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
⚠ C902	1-112-870-51	CERAMIC	0.001uF	20%	250V (US, CND, TW)
⚠ C903	1-112-870-51	CERAMIC	0.001uF	20%	250V (US, CND, TW)
⚠ C905	1-114-594-21	FILM	0.22uF	10%	310V
⚠ C907	1-116-397-21	FILM	0.33uF	10%	310V (AUS)
⚠ C914	1-100-922-11	ELECT	330uF	20%	200V (US, CND, TW)
⚠ C915	1-118-715-11	ELECT (BLOCK)	100uF	20 %	450V (AUS)
⚠ C930	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
⚠ C931	1-164-217-91	CERAMIC CHIP	150PF	5%	50V (US, CND, TW)
⚠ C931	1-164-230-91	CERAMIC CHIP	220PF	5%	50V (AUS)
⚠ C932	1-162-968-91	CERAMIC CHIP	0.0047uF	10%	50V
⚠ C933	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
⚠ C934	1-116-729-11	CERAMIC CHIP	2.2uF	20%	10V
⚠ C935	1-117-824-11	FILM	2200PF	3%	1.5KV (US, CND, TW)
⚠ C936	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
⚠ C937	1-116-874-11	CERAMIC CHIP	10uF	10%	35V
⚠ C938	1-117-815-11	FILM	1000PF	3%	1.5KV (AUS)
⚠ C939	1-116-034-92	FILM	0.0033uF	5%	400V
⚠ C940	1-112-869-51	CERAMIC	470PF	10%	250V (US, CND, TW)
⚠ C941	1-112-235-21	ELECT	330uF	20%	25V
C965	1-112-723-21	CERAMIC CHIP	0.0047uF	10%	250V (US, CND, TW)
C967	1-114-994-11	ELECT	2200uF	20%	35V
C968	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C971	1-118-345-11	CERAMIC CHIP	0.01uF	10%	25V
C976	1-112-245-21	ELECT	47uF	20%	35V
C977	1-112-245-21	ELECT	47uF	20%	35V

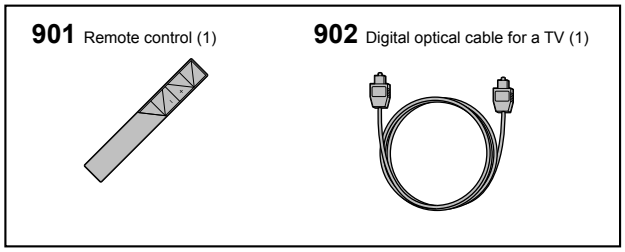
Ref. No.	Part No.	Description			Remark
C980	1-112-245-21	ELECT	47uF	20%	35V
⚠ C988	1-165-528-11	MYLAR	0.1uF	10%	250V (US, CND, TW)
⚠ C990	1-112-871-51	CERAMIC	0.0022uF	20%	250V (AUS)
⚠ C991	1-112-871-51	CERAMIC	0.0022uF	20%	250V (AUS)
C992	1-112-244-11	ELECT	2200uF	20%	25V
C993	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
		< CONNECTOR >			
⚠ *CN901	1-793-660-11	PIN, CONNECTOR (PC BOARD) 3P			
CN902	1-784-926-11	PIN, CONNECTOR 11P			
		< DIODE >			
⚠ D901	8-719-077-77	DIODE D3SB60F3			
⚠ D930	6-503-032-01	DIODE DZ2J180M0L			
⚠ D931	8-719-083-71	DIODE UDZSUSTE-1730B			
⚠ D932	6-502-975-01	DIODE DZ2J15000L			
⚠ D934	6-503-032-01	DIODE DZ2J180M0L			
⚠ D935	8-719-083-71	DIODE UDZSUSTE-1730B			
⚠ D936	6-501-119-01	DIODE RR264M-400			
⚠ D937	6-501-119-01	DIODE RR264M-400			
⚠ D938	6-503-731-01	DIODE SARS10			
⚠ D939	6-503-037-01	DIODE DZ2J24000L			
⚠ D941	8-719-083-71	DIODE UDZSUSTE-1730B			
⚠ D942	6-503-775-01	DIODE CRH02 (T5R, SONY, XM)			
D965	6-501-849-01	DIODE FMX-22SL			
D967	6-503-978-01	DIODE RB068L100TE25			
⚠ D972	6-502-264-01	DIODE KDZTR18B			
D973	8-719-083-71	DIODE UDZSUSTE-1730B			
		< FUSE >			
⚠ F901	1-523-067-51	FUSE (5 A/250 V)			
⚠ F931	1-523-085-11	FUSE (2.5 A/250 V)			
		< FERRITE BEAD >			
FB901	1-400-180-21	INDUCTOR, EMI FERRITE (1608)			
		< IC >			
⚠ IC930	6-716-855-01	IC STR-Y6766 (AUS)			
⚠ IC930	6-720-460-01	IC STR-Y6735 (US, CND, TW)			
IC931	6-716-865-01	IC MM1431FNRE			
		< COIL >			
L966	1-460-612-11	COIL, CHOKE	2.2uH		
L967	1-481-175-21	INDUCTOR	4.7uH		
		< LINE FILTER >			
⚠ LF901	1-445-944-11	TRANSFORMER, LINE FILTER (AUS)			
⚠ LF901	1-460-693-11	LINE FILTER TRANSFORMER (US, CND, TW)			
		< PHOTO COUPLER >			
⚠ PH930	6-600-883-01	PHOTO COUPLER EL816S1 (B) (TA) (DTE-S)			
		< TRANSISTOR >			
⚠ Q930	6-552-502-01	TRANSISTOR	DSC7003R0L		
⚠ *Q931	6-553-105-01	TRANSISTOR	PDTC144EU		

Ref. No.	Part No.	Description				Remark
		< RESISTOR >				
⚠ R901	1-240-938-51	METAL	1.5M	5%	0.5W	F
⚠ R914	1-248-270-15	FUSIBLE	0.33	10%	1W	F
⚠ R932	1-216-345-51	METAL OXIDE	0.47	5%	1W	F (US, CND, TW)
⚠ R932	1-216-353-51	METAL OXIDE	2.2	5%	1W	F (AUS)
⚠ R934	1-248-050-11	METAL	0.22	5%	2W	F (AUS)
⚠ R934	1-248-245-11	METAL	0.15	5%	2W	F (US, CND, TW)
⚠ R935	1-216-825-91	METAL CHIP	2.2K	5%	1/10W	
⚠ R936	1-216-841-91	METAL CHIP	47K	5%	1/10W	
⚠ R937	1-216-829-91	METAL CHIP	4.7K	5%	1/10W	
⚠ R938	1-216-838-91	METAL CHIP	27K	5%	1/10W	
⚠ R944	1-215-927-51	METAL OXIDE	47K	5%	3W	F (US, CND, TW)
⚠ R944	1-215-929-51	METAL OXIDE	100K	5%	3W	F (AUS)
⚠ R945	1-216-809-91	METAL CHIP	100	5%	1/10W	
⚠ R947	1-216-793-91	METAL CHIP	4.7	5%	1/10W	
R965	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R971	1-216-849-11	METAL CHIP	220K	5%	1/10W	
R976	1-216-823-11	METAL CHIP	1.5K	5%	1/10W	
R977	1-250-656-11	METAL CHIP	47K	1%	1/10W	
R978	1-250-632-11	METAL CHIP	4.7K	1%	1/10W	
R987	1-216-821-11	METAL CHIP	1K	5%	1/10W	
⚠ R997	1-216-864-91	SHORT CHIP	0 (US, CND, TW)			
⚠ R1009	1-216-793-91	METAL CHIP	4.7	5%	1/10W	
⚠ R1010	1-216-793-91	METAL CHIP	4.7	5%	1/10W	
⚠ R1011	1-216-864-91	SHORT CHIP	0			
		< TRANSFORMER >				
⚠ T901	1-697-326-11	CONVERTER TRANSFORMER (01C327) (AUS)				
⚠ T901	1-697-327-11	CONVERTER TRANSFORMER (01C313) (US, CND, TW)				
		< THERMISTOR >				
⚠ TH901	1-811-315-31	POWER THERMISTOR				
		< VARISTOR >				
⚠ VDR901	1-811-165-31	VARISTOR (TVR10471-D)				
**********						
		REPEATER_R (Lch) BOARD				
		**********				
		< CONNECTOR >				
* CN2501	1-695-320-21	PIN, CONNECTOR (1.5 mm) (SMD) 2P				
		< LED >				
D2501	6-503-658-01	LED SIM-013ST (REMOTE CONTROL TRANSMITTER (L-SIDE))				
		< RESISTOR >				
R2510	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2511	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2512	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2513	1-216-809-11	METAL CHIP	100	5%	1/10W	
**********						

Ref. No.	Part No.	Description				Remark
		REPEATER_R (Rch) BOARD				
		**********				
		< CONNECTOR >				
* CN2501	1-695-320-21	PIN, CONNECTOR (1.5 mm) (SMD) 2P				
		< LED >				
D2501	6-503-658-01	LED SIM-013ST (REMOTE CONTROL TRANSMITTER (R-SIDE))				
		< RESISTOR >				
R2510	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2511	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2512	1-216-809-11	METAL CHIP	100	5%	1/10W	
R2513	1-216-809-11	METAL CHIP	100	5%	1/10W	
**********						
		MISCELLANEOUS				
		**********				
⚠ AC1	1-835-068-21	CORD, POWER (AUS)				
⚠ AC1	1-837-308-11	CORD, POWER-SUPPLY (US, CND)				
⚠ AC1	1-837-345-11	CORD, POWER-SUPPLY (TW)				
BT1	1-490-558-81	BLUETOOTH MODULE				
FFC1	9-833-606-61	WIRE KIT (FFC) (28 pin) (See Note)				
FFC2	9-833-606-61	WIRE KIT (FFC) (15 pin) (See Note)				
FFC3	9-833-606-61	WIRE KIT (FFC) (9 pin) (See Note)				
FFC4	9-833-606-61	WIRE KIT (FFC) (5 pin) (See Note)				
FFC5	9-833-606-61	WIRE KIT (FFC) (14 pin) (See Note)				
FFC6	9-833-606-61	WIRE KIT (FFC) (8 pin) (See Note)				
FFC7	9-833-606-61	WIRE KIT (FFC) (26 pin) (See Note)				
NFC1	8-989-470-05	RC-S801 (NFC module)				
RFM1	1-492-700-61	RF MODULATOR (WS001)				
SP1	1-859-047-11	LOUDSPEAKER (20 mm) (Tweeter) (L-ch)				
SP2	1-859-047-11	LOUDSPEAKER (20 mm) (Tweeter) (R-ch)				
SP3	1-859-046-11	LOUDSPEAKER (60 mm) (Woofer) (L-ch)				
SP4	1-859-046-11	LOUDSPEAKER (60 mm) (Woofer) (R-ch)				
SP5	1-859-046-21	LOUDSPEAKER (60 mm) (Surround) (L-ch)				
SP6	1-859-046-21	LOUDSPEAKER (60 mm) (Surround) (R-ch)				
SP7	1-859-046-21	LOUDSPEAKER (60 mm) (Surround Back) (L-ch)				
SP8	1-859-046-21	LOUDSPEAKER (60 mm) (Surround Back) (R-ch)				
SP9	1-859-046-21	LOUDSPEAKER (60 mm) (Center)				
**********						

Note: As for WIRE KIT (FFC), all flat flexible cables (Ref. No. FFC1, FFC2, FFC3, FFC4, FFC5, FFC6, FFC7) will be 1 set.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES **********	
	4-538-290-12	QUICK START GUIDE (Startup Guide) (ENGLISH, FRENCH) (US, CND)	
	4-538-290-22	QUICK START GUIDE (Startup Guide) (ENGLISH) (AUS)	
	4-538-290-51	QUICK START GUIDE (Startup Guide) (TRADITIONAL CHINESE) (TW)	
	4-538-291-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (US, CND)	
	4-538-291-21	MANUAL, INSTRUCTION (ENGLISH) (AUS)	
	4-538-291-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TW)	
901	1-492-791-11	REMOTE COMMANDER (RM-ANU207) (Remote control)	
902	1-837-197-31	CORD, LIGHT PLUG (Optical digital cable for a TV)	



MEMO

REVISION HISTORY

Ver.	Date	Description of Revision
1.0	2014.07	New
1.1	2014.12	Addition of Taiwan model Addition of CUSHION (H10) on Page 17 and 59 (not supplied) Change of Part No. for RF MODULATOR (Ref. No. RFM1) Change of Part No. for REAR PANEL (L) ASSY (Ref. No. 101) Change of Part No. for CUSHION (V) (Ref. No. 203, 252) (SMR-14040)

How to search for a contact point of signal lines or the like in DIAGRAMS SECTION

If a contact point of a BLOCK DIAGRAM, PRINTED WIRING BOARD or SCHEMATIC DIAGRAM is shown in a different page, use the PDF file search function to find one.

e.g.) If a contact point is shown as >001Z, follow the procedure below.

Procedure:

1. Press the [F] key while pressing the [Ctrl] key.
2. Input ">001Z" in the search box and press the [Enter] key.
3. The relevant part (page), where the contact point is shown, appears.

Note: If you still see the original page, press the [Enter] key again.