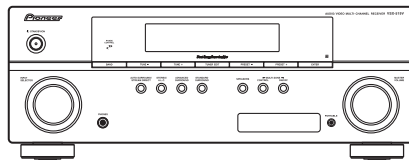


**Pioneer**

# Service Manual



VSX-519V-K

ORDER NO.  
**RRV3895**

**AUDIO/VIDEO MULTI-CHANNEL RECEIVER**

# VSX-519V-K

**THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).**

| Model      | Type   | Power Requirement | Remarks |
|------------|--------|-------------------|---------|
| VSX-519V-K | KUCXCN | AC 120 V          |         |



For details, refer to "Important Check Points for good servicing".

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# SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## WARNING

This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

## NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

## REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

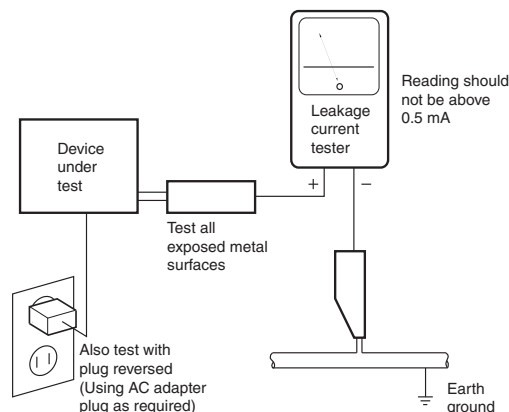
## (FOR USA MODEL ONLY)

### 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

#### LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.**

### 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\Delta$  on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol. Please be sure to confirm and follow these procedures.

### 1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris. Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs. In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages. If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries. Please pay attention to your surroundings and repair safely.

### 2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification. Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance. Make sure the proper amount is applied.

### 4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SERVICE PRECAUTIONS

## 1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.  
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:  
GYP1006 1.0 in dia.  
GYP1007 0.6 in dia.  
GYP1008 0.3 in dia.

## 1.2 CAUTION

- **Discharging**  
For more detail, please refer to “7. DISASSEMBLY - 1. Discharging”.
- **Notes on Ground Points Connection**  
For more detail, please refer to “7. DISASSEMBLY - 2. Notes on Ground Points Connection”.

2. SPECIFICATIONS

2.1 SPECIFICATIONS

- A
- Amplifier section
- Continuous average power output of 80 watts\* per channel, min., at 8 ohms, from 20 Hz to 20 000 Hz with no more than 0.2 %\*\* total harmonic distortion.
- Front (stereo) . . . . . 80 W + 80 W
- Power output (1 kHz, 8 Ω, 0.05 %) . . . . . 110 W per channel
- Guaranteed speaker impedance . . . . . 6 Ω to 16 Ω
- \* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers
- \*\* Measured by Audio Spectrum Analyzer
- B
- Audio Section
- Input (Sensitivity/Impedance)
- LINE . . . . . 200 mV/47 kΩ
- Output (Level/Impedance)
- REC. . . . . 200 mV/330 Ω
- ZONE 2 . . . . . 200 mV/1 kΩ
- Signal-to-Noise Ratio (IHF, short circuited, A network)
- LINE . . . . . 98 dB
- Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]
- LINE . . . . . 79 dB
- Tuner Section
- Frequency Range (FM) . . . . . 87.5 MHz to 108 MHz
- Antenna Input (FM) . . . . . 75 Ω unbalanced
- Frequency Range (AM) . . . . . 530 kHz to 1700 kHz
- Antenna (AM) . . . . . Loop antenna
- C
- Video Section
- Signal level
- Composite. . . . . 1 Vp-p (75 Ω)
- Component Video . . . . . Y: 1.0 Vp-p (75 Ω)
- PB, PR: 0.7 Vp-p (75 Ω)
- Corresponding maximum resolution
- Component Video . . . . . 1080p (1125p)
- D
- Digital I/O
- HDMI terminal . . . . . 19-pin (Not DVI)
- HDMI output type . . . . . 5 V, 100 mA
- Integrated control section
- Control (IR) terminal . . . . . ϕ 3.5 Mini-jack (MONO)
- IR signal . . . . . High Active (High Level : 2.0 V)
- 

- Miscellaneous
- Power Requirements . . . . . AC 120 V, 60 Hz
- Power Consumption . . . . . 245 W
- In standby. . . . . 0.5 W
- Dimensions . . . . . 420 mm (W) x 158 mm (H) x 347.7 mm (D)
- 16<sup>9</sup>/<sub>16</sub> in. (W) x 6<sup>1</sup>/<sub>4</sub> in. (H) x 13<sup>3</sup>/<sub>4</sub> in. (D)
- Weight (without package) . . . . . 8.8 kg (19 lb 7 oz)
- Furnished Parts
- Remote control . . . . . 1
- Dry cell batteries (AAA size IEC R03) . . . . . 2
- AM loop antenna . . . . . 1
- FM wire antenna . . . . . 1
- Operating instructions

-  **Note**
- Specifications and the design are subject to possible modifications without notice, due to improvements.

Manufactured under license from Dolby Laboratories. Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Surround are registered trademarks and the DTS logos, Symbol and DTS 96/24 are trademarks of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.

E

Accessories

F



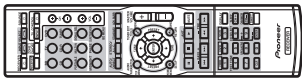
AM loop antenna  
(E601016000010-IL)



FM wire antenna  
(E605010070001-IL)



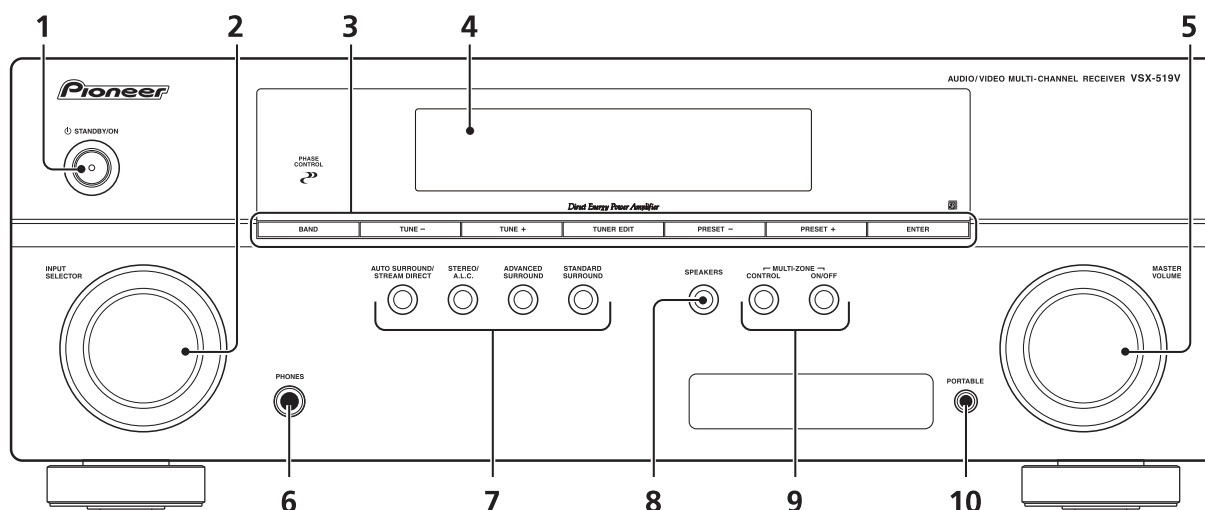
AAA size IEC R03  
Dry cell batteries (x2)



Remote control  
(8300753500010-IL)

## 2.2 PANEL FACILITIES

### Front panel



#### 1 **STANDBY/ON**

#### 2 **INPUT SELECTOR dial**

Selects an input source.

#### 3 **Tuner control buttons**

##### **BAND**

Switches between AM, FM ST (stereo) and FM MONO radio bands.

##### **TUNE +/-**

Used to find radio frequencies.

##### **TUNER EDIT**

Use with **TUNE +/-**, **PRESET +/-** and **ENTER** to memorize and name stations for recall.

##### **PRESET +/-**

Use to select preset radio stations.

#### 4 **Character display**

#### 5 **MASTER VOLUME dial**

#### 6 **PHONES jack**

Use to connect headphones.

#### 7 **Listening mode buttons**

**AUTO SURROUND/STREAM DIRECT**

Switches between Auto surround mode and Stream Direct playback. Stream Direct playback bypasses the tone controls for the most accurate reproduction of a source.

##### **STEREO/A.L.C.**

Switches between stereo playback, Auto level control stereo mode and Front Stage Surround Advance modes.

##### **ADVANCED SURROUND**

Switches between the various surround modes.

##### **STANDARD SURROUND**

Press for Standard decoding and to switch between the various **Pro Logic II** options.

#### 8 **SPEAKERS**

Use to change the speaker system on or off.

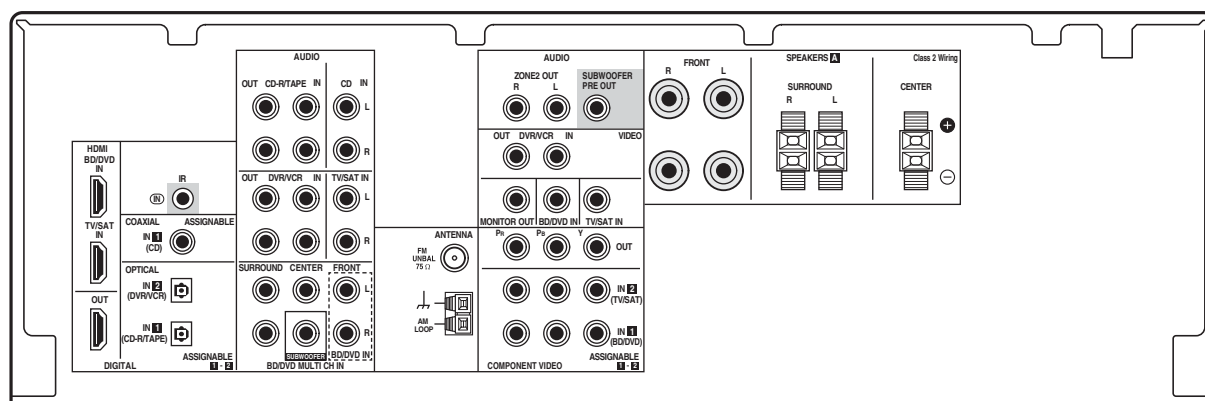
#### 9 **MULTI ZONE controls**

If you've made MULTI-ZONE connections use these controls to control the sub zone from the main zone.

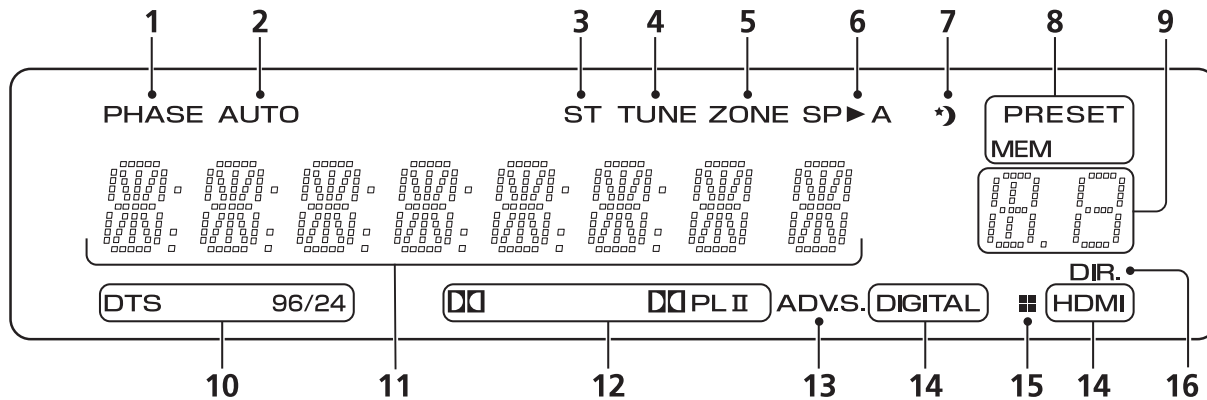
#### 10 **PORTABLE audio input jack**

Connect an auxiliary component using a stereo mini-jack cable.

### Rear panel



## A Display



### 1 PHASE

Lights when the Phase Control is switched on.

### 2 AUTO

Lights when the Auto Surround feature is switched on.

### 3 ST

Lights when a stereo FM broadcast is being received in auto stereo mode.

### 4 TUNE

Lights when a broadcast is being received.

### 5 ZONE

Lights when the MULTI-ZONE feature is active.

### 6 Speaker indicator

Shows if the speaker system is on or not.

**SP▶A** means the speakers are switched on.

**SP▶** means the speakers are switched off and sound is output from the headphone jack.

### 7 Sleep timer indicator

Lights when the receiver is in sleep mode.

### 8 Tuner preset indicators

#### PRESET

Shows when a preset radio station is registered or called.

#### MEM

Blinks when a radio station is registered.

### 9 PRESET information or input signal indicator

Shows the preset number of the tuner or the input signal type etc.

### 10 DTS indicators

#### DTS

Lights when a source with DTS encoded audio signals is detected.

#### 96/24

Lights when a source with DTS 96/24 encoded audio signals is detected.

### 11 Character display

Displays various system information.

### 12 Dolby Digital indicators

#### Dolby Digital

Lights when a Dolby Digital encoded signal is detected.

#### PLII

Lights to indicate Pro Logic II decoding.

### 13 ADV.S.

Lights when one of the Advanced Surround modes has been selected.

### 14 SIGNAL SELECT indicators

#### DIGITAL

Lights when a digital audio signal is selected.

Blinks when a digital audio signal is not selected.

#### HDMI

Lights when an HDMI signal is selected.

Blinks when an HDMI signal is not selected.

### 15 DIMMER indicator

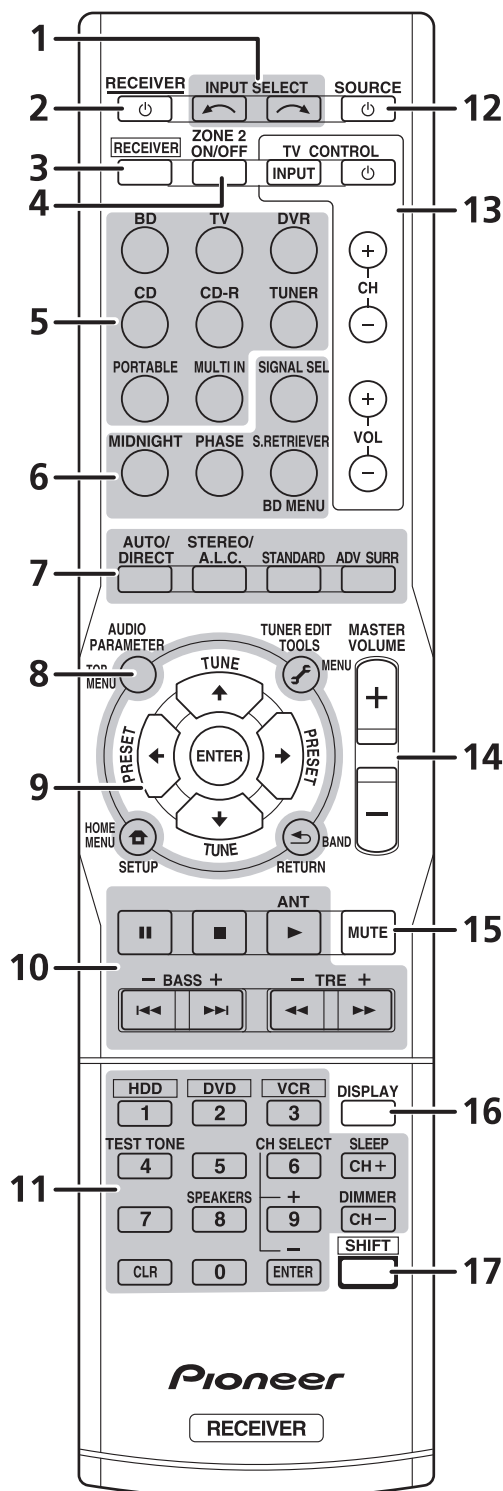
Shows when the display is set to turn off as the DIMMER setting.

### 16 DIR.

Lights when the **DIRECT** or **PURE DIRECT** mode is switched on.

## Remote control

As for operating other devices, the remote control codes for the Pioneer products are preset. The settings cannot be changed.



### 1 INPUT SELECT

Use to select the input source.

### 2 RECEIVER

Switches the receiver between standby and on.

### 3 RECEIVER

Switches the remote to control the receiver (used to select the white commands above the number buttons (**TEST TONE**, etc)). Also use this button to set up surround sound or Audio parameters.

### 4 ZONE 2 ON/OFF

Switches zone 2 of the multi-zone function between on and off.

### 5 MULTI CONTROL buttons

Press to select control of other components.

### 6 Receiver control buttons

#### SIGNAL SEL

Use to select an input signal.

#### MIDNIGHT

Switches to Midnight or Loudness listening.

#### PHASE

Press to switch on/off Phase Control.

#### S.RETRIEVER

Press to restore CD quality sound to compressed audio sources.

Press **BD** first to access:

#### BD MENU

Displays the disc menu of Blu-ray Discs.

### 7 Listening mode buttons

#### AUTO/DIRECT

Switches between Auto surround mode and Stream Direct playback. Stream Direct playback bypasses the tone controls for the most accurate reproduction of a source.

#### STEREO/A.L.C.

Switches between stereo playback, Auto level control stereo mode and Front Stage Surround Advance modes.

#### STANDARD

Press for Standard decoding and to switch between Pro Logic II options.

#### ADV SURR

Switches between the various surround modes.

### 8 System Setup and Component control buttons

The following button controls can be accessed after you have selected the corresponding **MULTI CONTROL** button (**BD**, **TV**, etc.).

Press **RECEIVER** first to access:

#### AUDIO PARAMETER

Use to access the Audio options.

#### SETUP

Press to access the System Setup menu.

#### RETURN

Confirm and exit the current menu screen.

Press **BD** or **DVR** first to access:

#### TOP MENU

- A Displays the disc 'top' menu of a BD/DVD.

#### HOME MENU

Displays the HOME MENU screen.

#### RETURN

Confirm and exit the current menu screen.

#### MENU

Displays the TOOLS menu of Blu-ray Disc player.

Press **TUNER** first to access:

#### T.EDIT

Memorizes/names stations for recall.

#### BAND

Switches between AM, FM ST (stereo) and FM MONO radio bands.

#### 9 ↑↓↔ (TUNE ↑/↓, PRESET ↔), ENTER

Use the arrow buttons when setting up your surround sound system. Also used to control BD/DVD menus/options.

Use the **TUNE** ↑/↓ buttons can be used to find radio frequencies and the **PRESET** ↔ buttons can be used to select preset radio stations.

#### 10 Component control buttons

The main buttons (▶, ■, etc.) are used to control a component after you have selected it using the input source buttons.

The controls above these buttons can be accessed after you have selected the corresponding input source button (for example **BD**, **DVR** or **TV**). These buttons also function as described below.

Press **RECEIVER** first to access:

#### BASS -/+

Use to adjust Bass<sup>1</sup>

#### TRE -/+

Use to adjust Treble<sup>1</sup>

- D Press **TV** first to access:

#### ANT

Use to select the VHF/UHF antennas or Cable TV.

#### 11 Number buttons and other component controls

Use the number buttons to directly select the tracks on a CD, DVD, etc. There are other buttons that can be accessed after the **RECEIVER** button is pressed. (For example **TEST TONE**, etc.)

#### HDD\*, DVD\*, VCR\*

These buttons switch between the hard disk, DVD and VCR controls for HDD/DVD/VCR recorders.

#### TEST TONE

Outputs the test tones on each channel. Use the ↑/↓ buttons to select the channel and use the ↔ buttons to adjust the level on each channel. Pressing **TEST TONE** again exits the test tone mode.

#### CH SELECT

Press repeatedly to select a channel, then use +/- to adjust the level.

#### CH SELECT +/-

Use to adjust the channel levels.

#### SPEAKERS

Use to change the speaker system on or off.

#### SLEEP

Press to change the amount of time before the receiver

switches into standby (**30 min – 60 min – 90 min – Off**). You can check the remaining sleep time at any time by pressing **SLEEP** once.

#### DIMMER

Dims or brightens the display. The brightness can be controlled in four steps.

#### 12 ⏻ SOURCE

Turns on or off the power of the Pioneer DVD/DVR units when **BD** or **DVR** is selected using the **MULTI CONTROL** buttons.

#### 13 TV CONTROL buttons

These buttons can control only be used with Pioneer flat panel TVs.

#### ⏻

Use to turn on/off the power of the TV.

#### INPUT

Use to select the TV input signal.

#### CH +/-

Use to select channels.

#### VOL +/-

Use to adjust the volume on your TV.

#### 14 MASTER VOLUME +/-

Use to set the listening volume.

#### 15 MUTE

Mutes/unmutes the sound.

#### 16 DISPLAY

Switches the display of this unit. The input name, listening mode or sound volume can be checked by selecting an input source.

#### 17 SHIFT

Press to access the 'boxed' commands (above the buttons) on the remote. These buttons are marked with an asterisk (\*) in this section. This button is also used for operating ZONE 2.



#### Note

<sup>1</sup> The tone controls are disabled when the listening mode is set to DIRECT or PURE DIRECT.

### 3. BASIC ITEMS FOR SERVICE

#### 3.1 CHECK POINTS AFTER SERVICING

##### Items to be checked after servicing / VSX, SC

To keep the product quality after servicing, confirm recommended check points shown below.

| No. | Procedures                                                                                                                                                                                               | Check points                                                                                 |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 1   | Confirm whether the customer complain has been solved.<br>If the customer complain occurs with the particular source, such as Dolby Digital, DTS, AAC, DVD-A and HDMI, input it for the operation check. | The customer complain must not be reappeared.<br>Video, Audio and operations must be normal. |
| 2   | Check the analog audio playback.<br>(Make the analog connections with a DVD player.)                                                                                                                     | Each channel audio and operations must be normal.                                            |
| 3   | Check the digital audio playback.<br>(Make the digital connections with a DVD player.)                                                                                                                   | Each channel audio and operations must be normal.                                            |
| 4   | Check surround playback.<br>(Select Surround mode and check the multichannel operations via the DSP circuit.)                                                                                            | Each channel audio and operations must be normal.                                            |
| 5   | Check the video outputs.<br>(Connect with a DVD player.)                                                                                                                                                 | Video and operations must be normal.                                                         |
| 6   | Check the tuner (AM and FM) operations.                                                                                                                                                                  | Audio and operations must be normal.                                                         |
| 7   | Check the sound from headphone output.                                                                                                                                                                   | Sound must be normal, without noise.                                                         |
| 8   | Check the appearance of the product.                                                                                                                                                                     | No scratches or dirt on its appearance after receiving it for service.                       |

See the table below for the items to be checked regarding video and audio.

| Item to be checked regarding video | Item to be checked regarding audio |
|------------------------------------|------------------------------------|
| Block noise                        | Distortion                         |
| Horizontal noise                   | Noise                              |
| Flicker                            | Volume too low                     |
| Disturbed image (video jumpiness)  | Volume too high                    |
| Too dark                           | Volume fluctuating                 |
| Too bright                         | Sound interrupted                  |
| Mottled color                      |                                    |



A

B

C

D

E

F

G

H

I

J

K

L

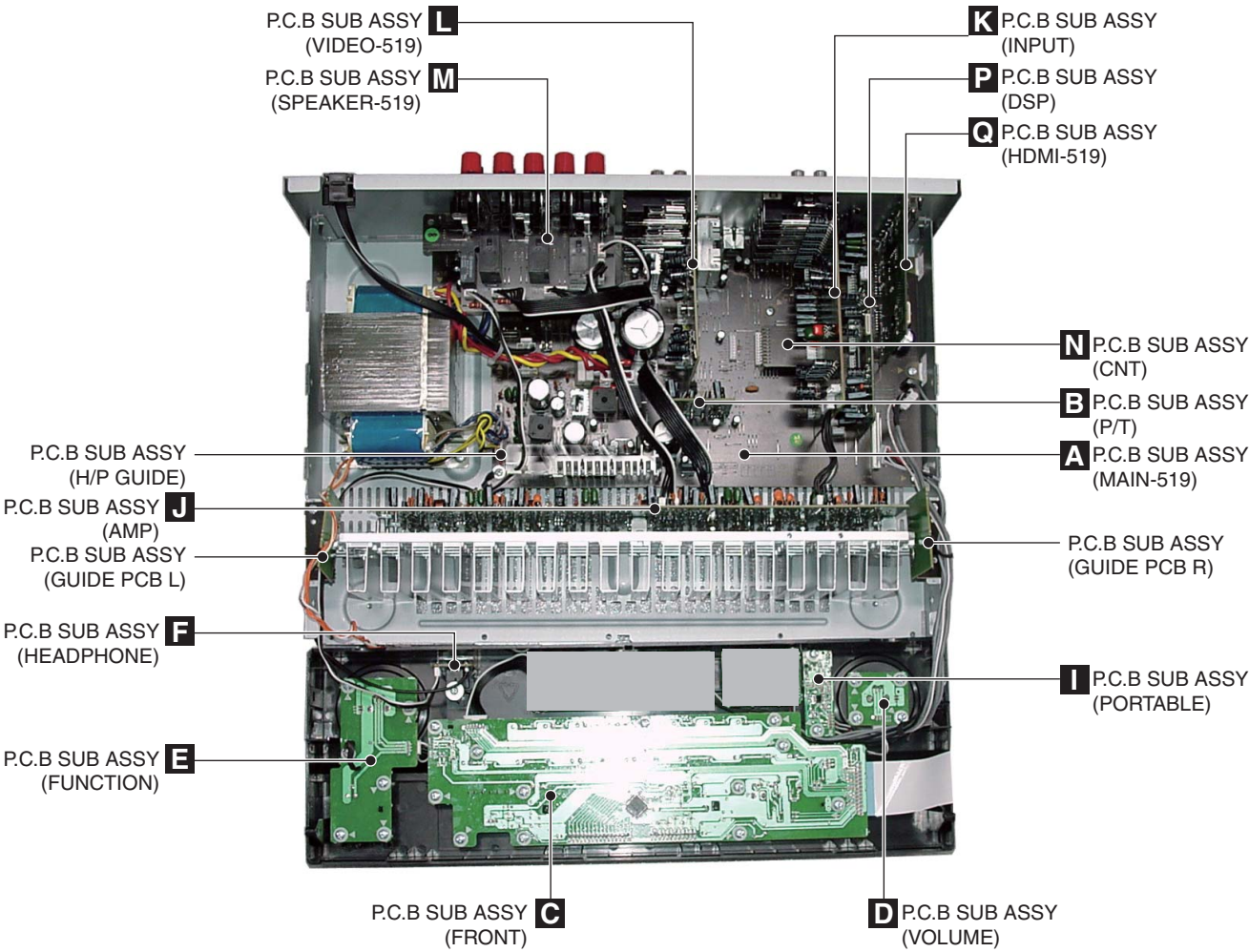
M

N

O

P

Q



NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.  
● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.  
Therefore, when replacing, be sure to use parts of identical designation.

| Mark               | No. | Description                     | Part No.         | Mark | No.                               | Description                 | Part No.         |
|--------------------|-----|---------------------------------|------------------|------|-----------------------------------|-----------------------------|------------------|
| LIST OF ASSEMBLIES |     |                                 |                  |      |                                   |                             |                  |
| ⚠ NSP              | 1.. | P.C.B TOTAL ASSY (AMP)          | 7025HK0811012-IL | NSP  | 1..                               | P.C.B TOTAL ASSY (HDMI-519) | 7025HK0812016-IL |
|                    | 2.. | P.C.B SUB ASSY (AMP)            | 7028067521010-IL |      | 2..                               | P.C.B SUB ASSY (HDMI-519)   | 7028067581010-IL |
| E                  | NSP | 1..P.C.B TOTAL ASSY (FRONT)     | 7025HK0812011-IL | NSP  | 1..P.C.B TOTAL ASSY (MAIN-519)    | 7025HK0812020-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (FRONT)          | 7028067511020-IL |      | 2..P.C.B SUB ASSY (MAIN-519)      | 7028067501080-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (HEADPHONE)      | 7028067512010-IL |      | 2..P.C.B SUB ASSY (GUIDE-L)       | 7028067502010-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (VOLUME)         | 7028067513010-IL |      | 2..P.C.B SUB ASSY (GUIDE-R)       | 7028067503010-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (FUNCTION)       | 7028067514010-IL |      | 2..P.C.B SUB ASSY (CNT)           | 7028067504010-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (PORTABLE)       | 7028067518010-IL |      | 2..P.C.B SUB ASSY (P/T)           | 7028067505010-IL            |                  |
|                    | NSP | 1..P.C.B TOTAL ASSY (INPUT)     | 7025HK0812013-IL |      | 2..P.C.B SUB ASSY (H/P GUIDE)     | 7028067506010-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (INPUT)          | 7028067531020-IL | NSP  | 1..P.C.B TOTAL ASSY (SPEAKER-519) | 7025HK0812021-IL            |                  |
|                    | NSP | 1..P.C.B TOTAL ASSY (VIDEO-519) | 7025HK0812014-IL |      | 2..P.C.B SUB ASSY (SPEAKER-519)   | 7028067601040-IL            |                  |
|                    | 2.. | P.C.B SUB ASSY (VIDEO-519)      | 7028067551010-IL |      |                                   |                             |                  |
| F                  | NSP | 1..P.C.B TOTAL ASSY (DSP)       | 7025HK0812015-IL |      |                                   |                             |                  |
|                    | 2.. | P.C.B SUB ASSY (DSP)            | 7028067561020-IL |      |                                   |                             |                  |



### 3.3 JIGS LIST

#### Jigs list

| Name                               | Jig No. | Remarks   |
|------------------------------------|---------|-----------|
| 10P extension jig cable            | GGD1628 | Diagnosis |
| 8P extension jig cable             | GGD1629 | Diagnosis |
| Board to board extension jig cable | GGD1630 | Diagnosis |

#### Lubricants and Glues list



| Name             | Lubricants and Glues No. | Remarks                         |
|------------------|--------------------------|---------------------------------|
| Silicon grease   | GEM1057                  | Refer to "9.2 EXTERIOR SECTION" |
| Silicon adhesive | GYA1011 (KE40RTV-W)      | Refer to "9.2 EXTERIOR SECTION" |

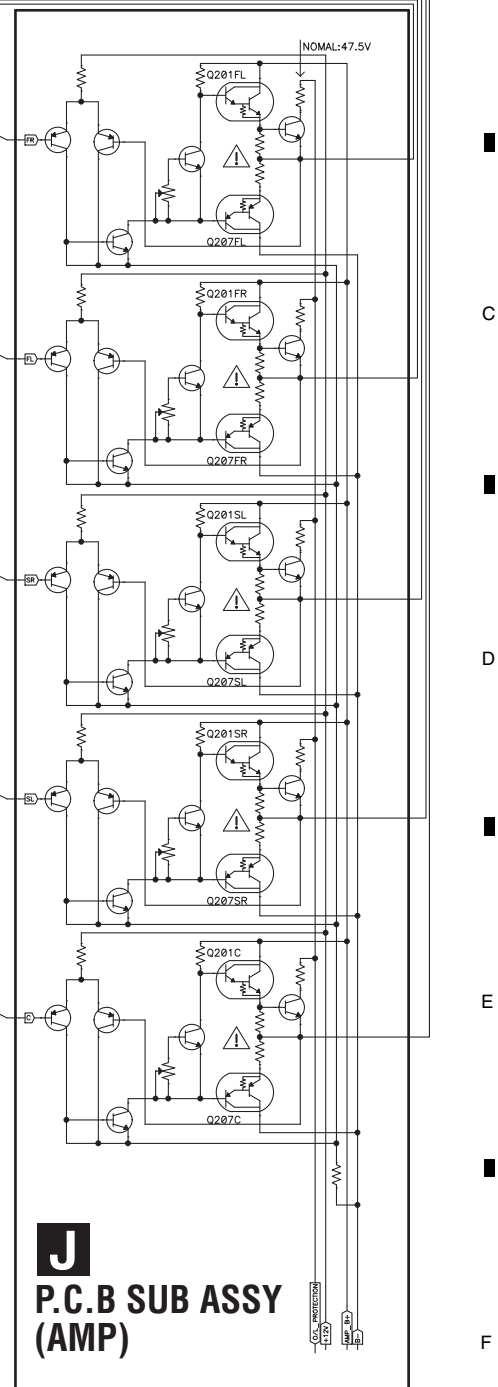
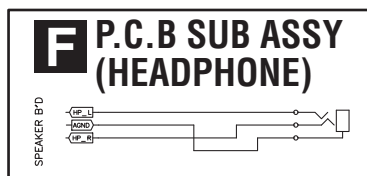
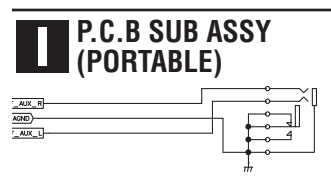
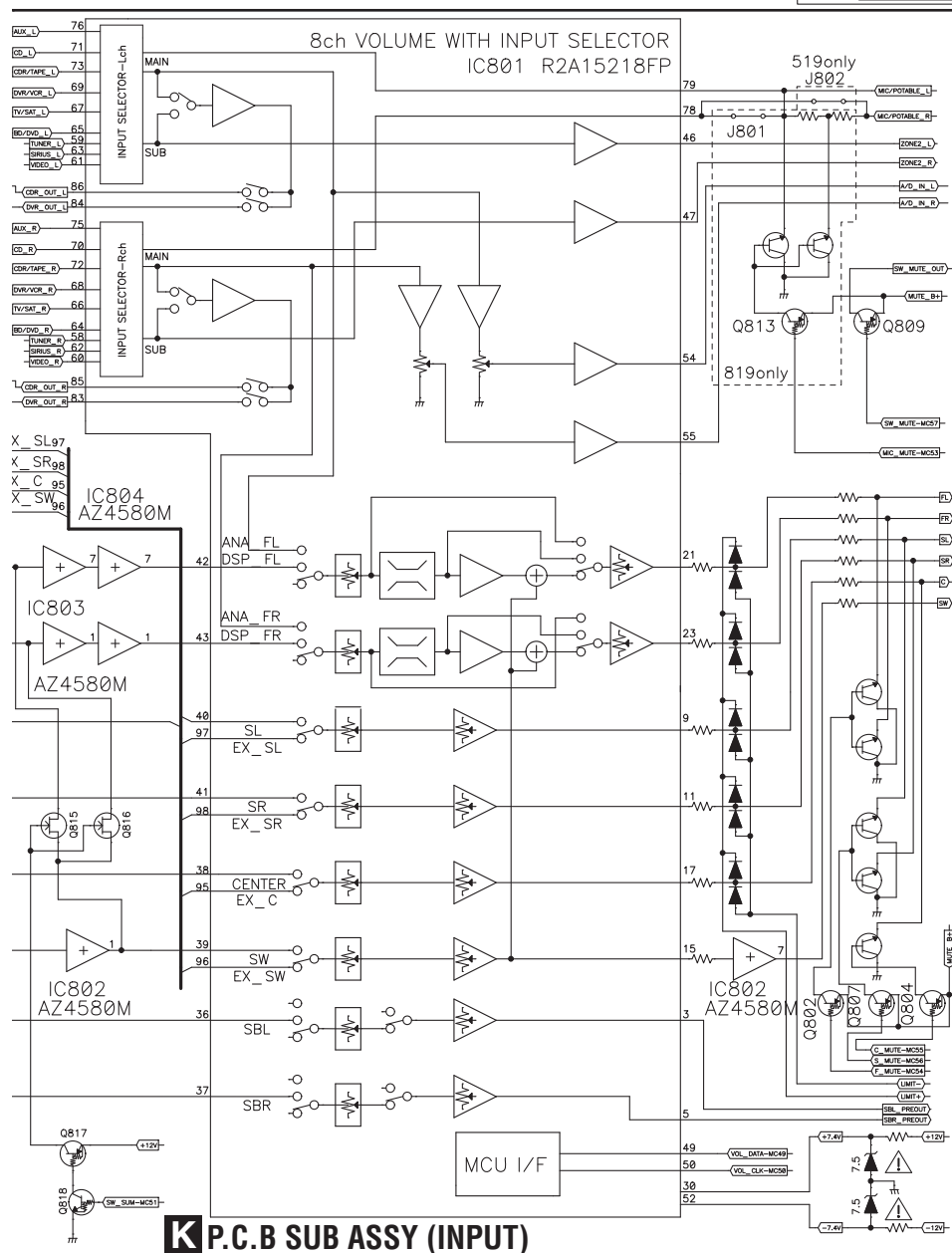
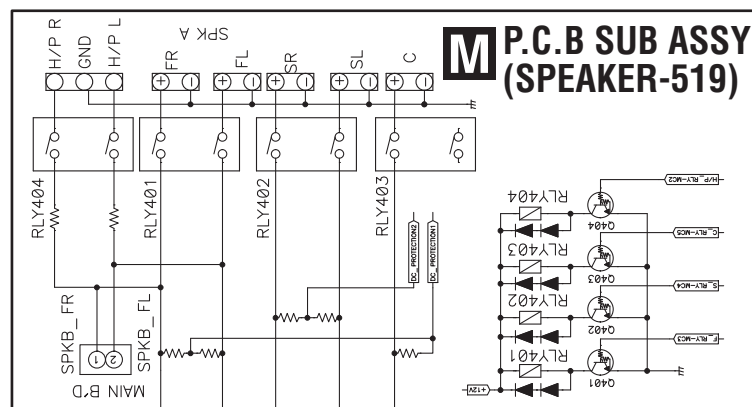
#### 4.1 OVERALL CONNECTION DIAGRAM





## 4





A

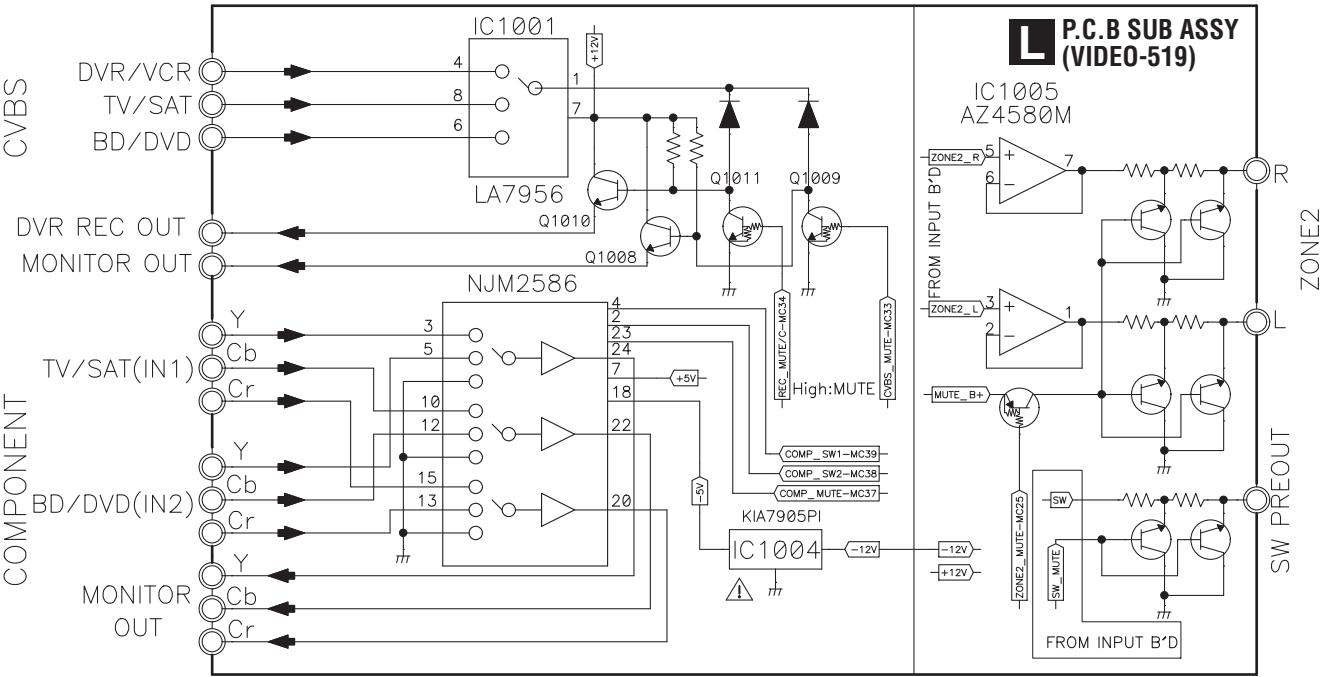
B

C

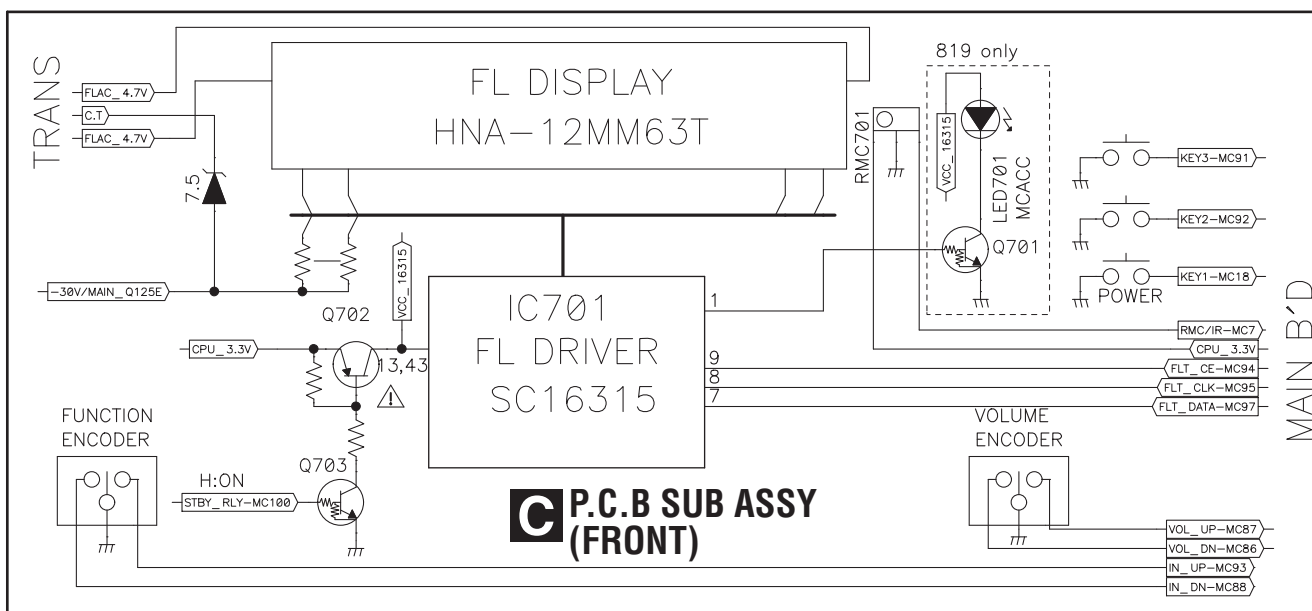
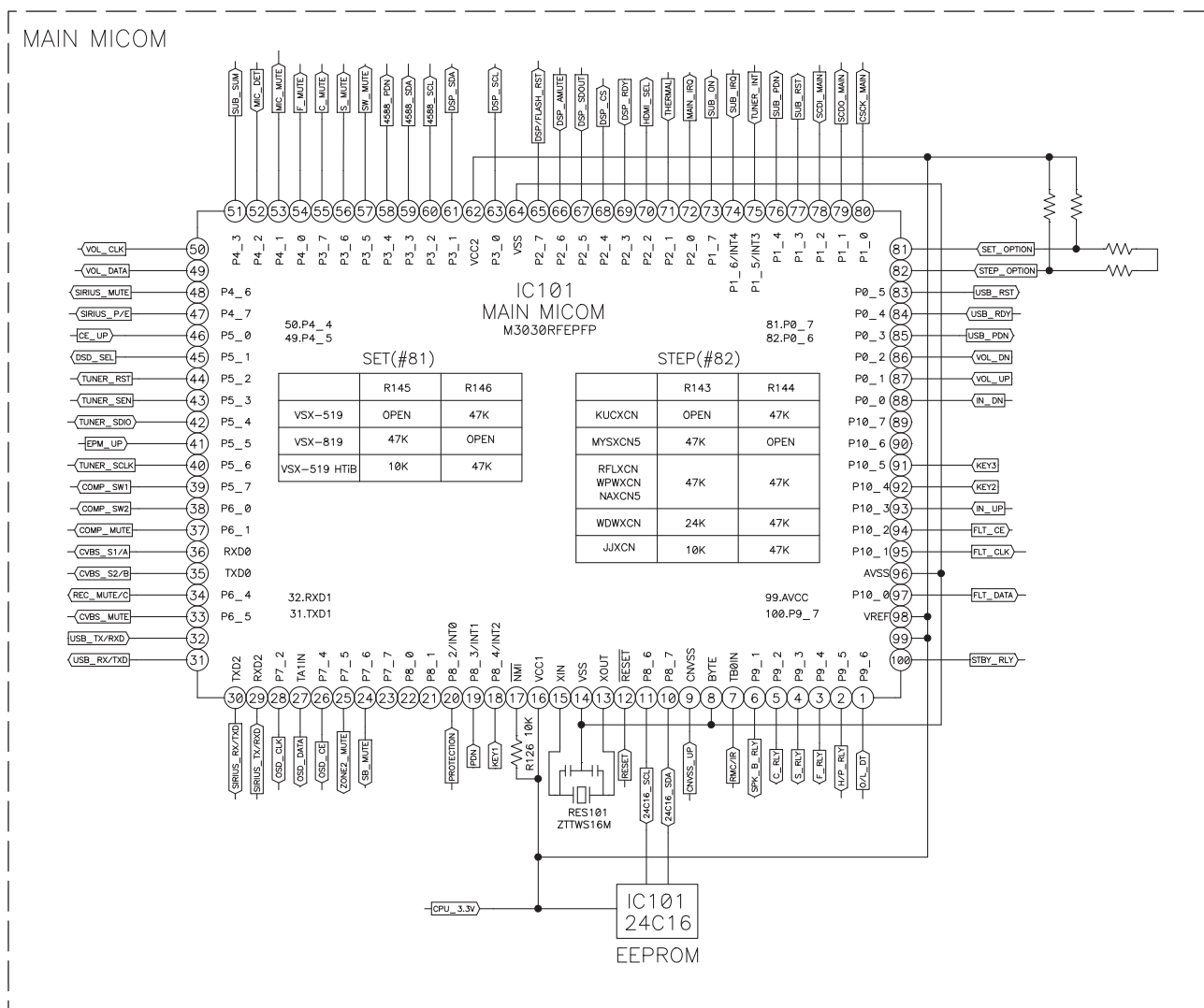
D

E

F



## 4.4 U-COM BLOCK DIAGRAM





△



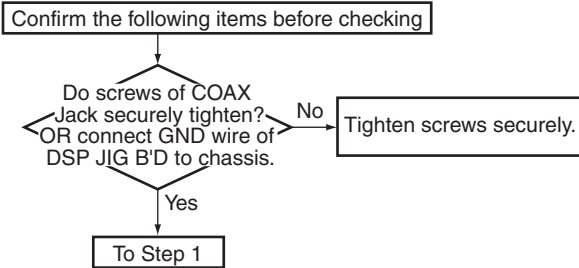
# 5. DIAGNOSIS

## 5.1 DIAGNOSIS FLOWCHART

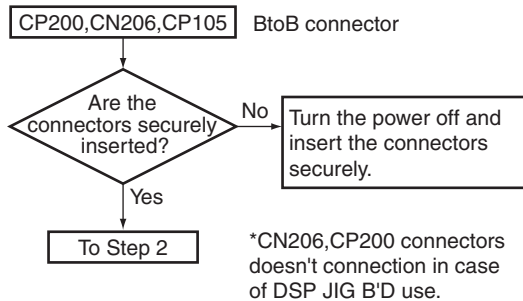
### [1] DSP TROUBLESHOOTING

#### ■ Troubleshooting

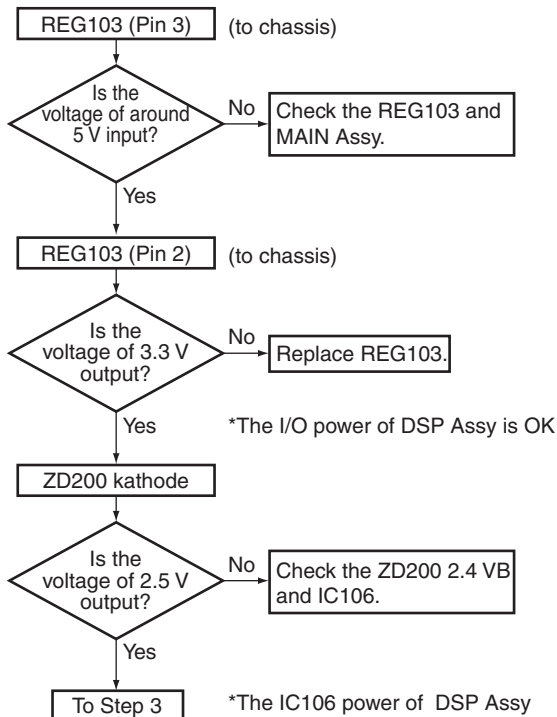
##### Step 0: Preliminary confirmation



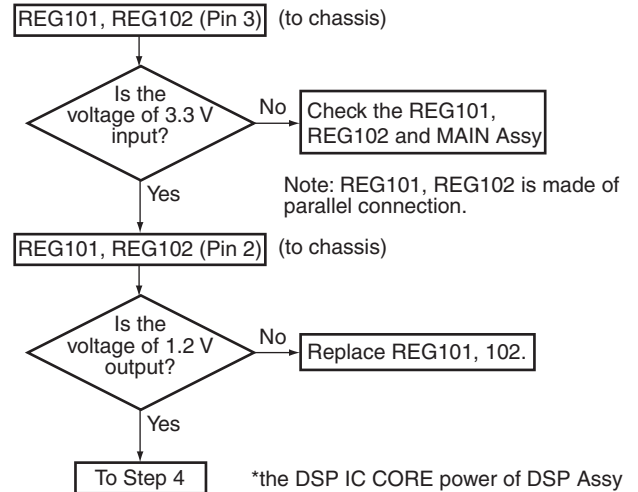
##### Step 1: BtoB connector



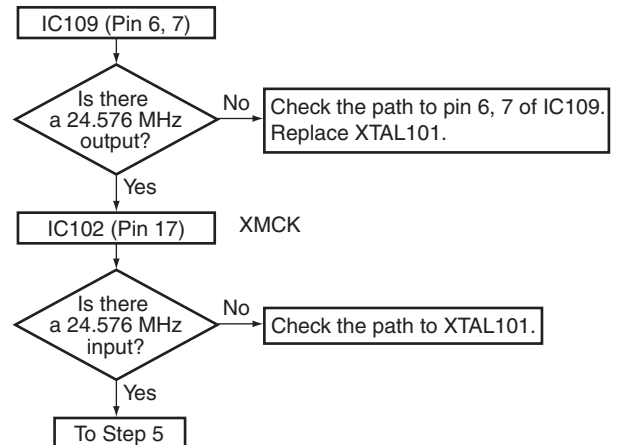
##### Step 2: Regulator IC



##### Step 3: Regulator IC

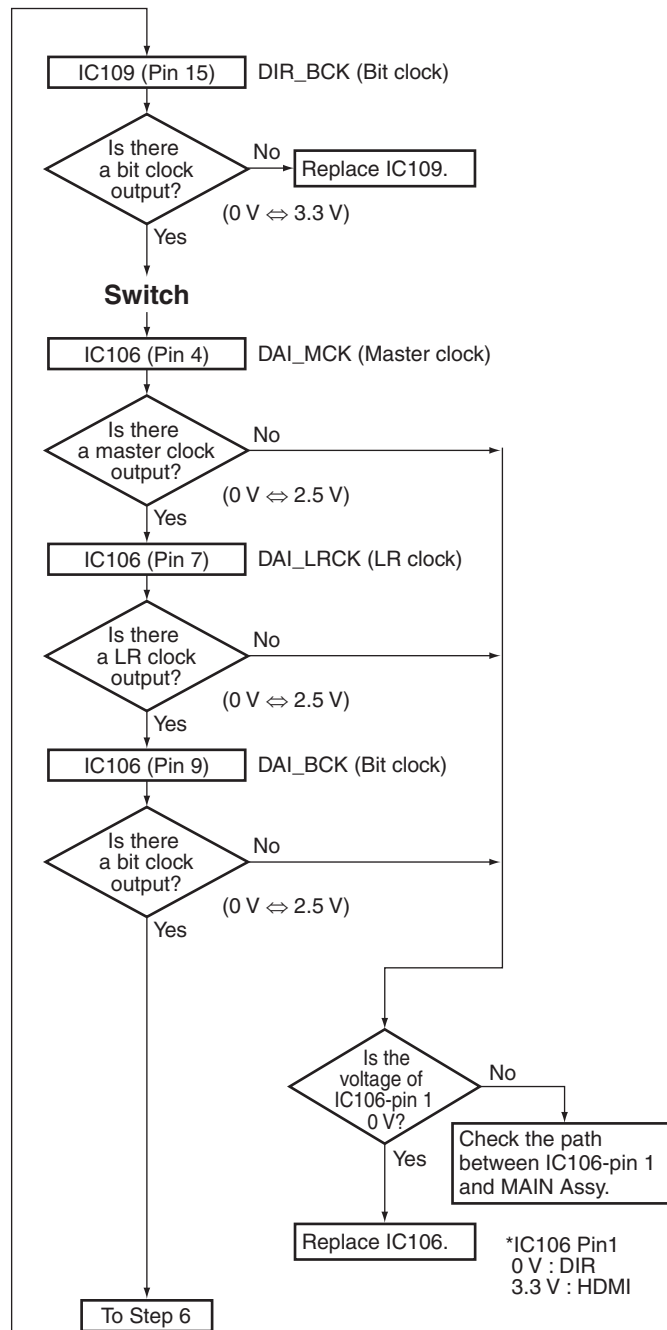
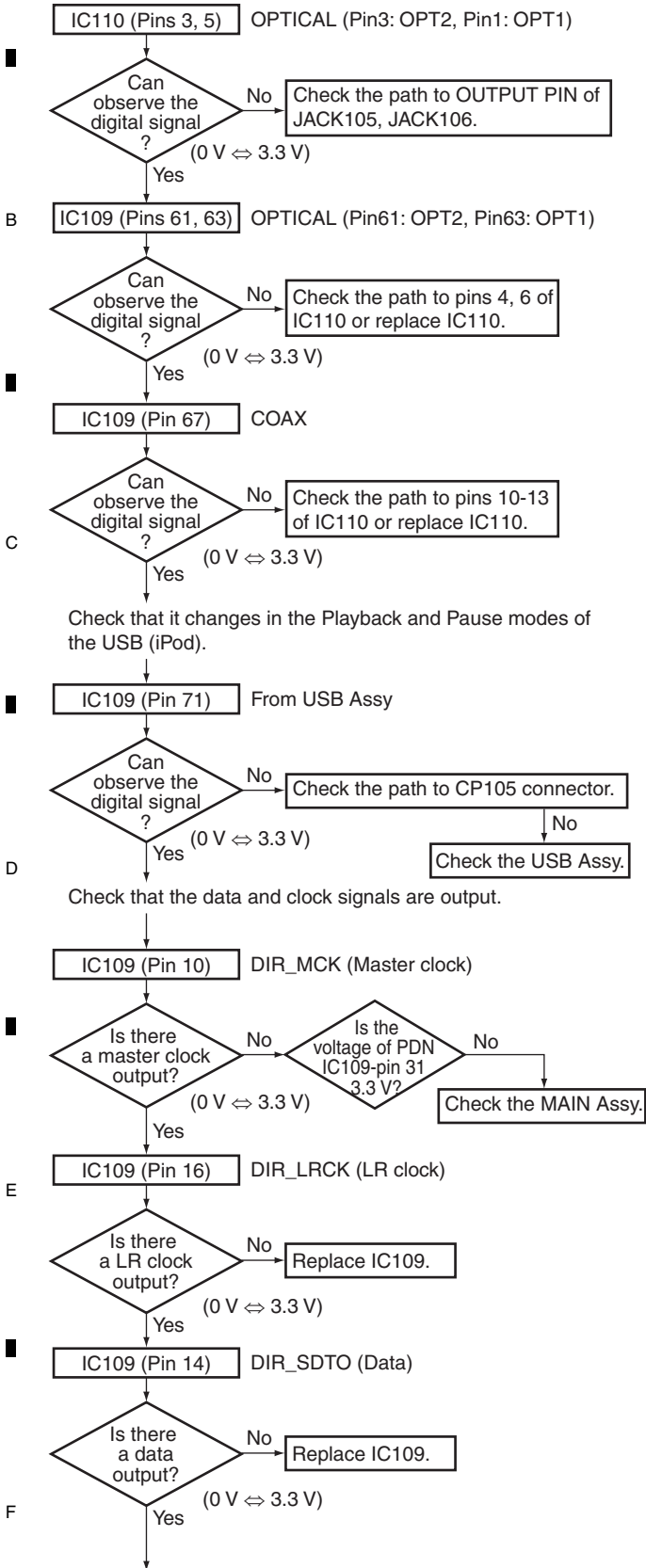


##### Step 4: X'tal



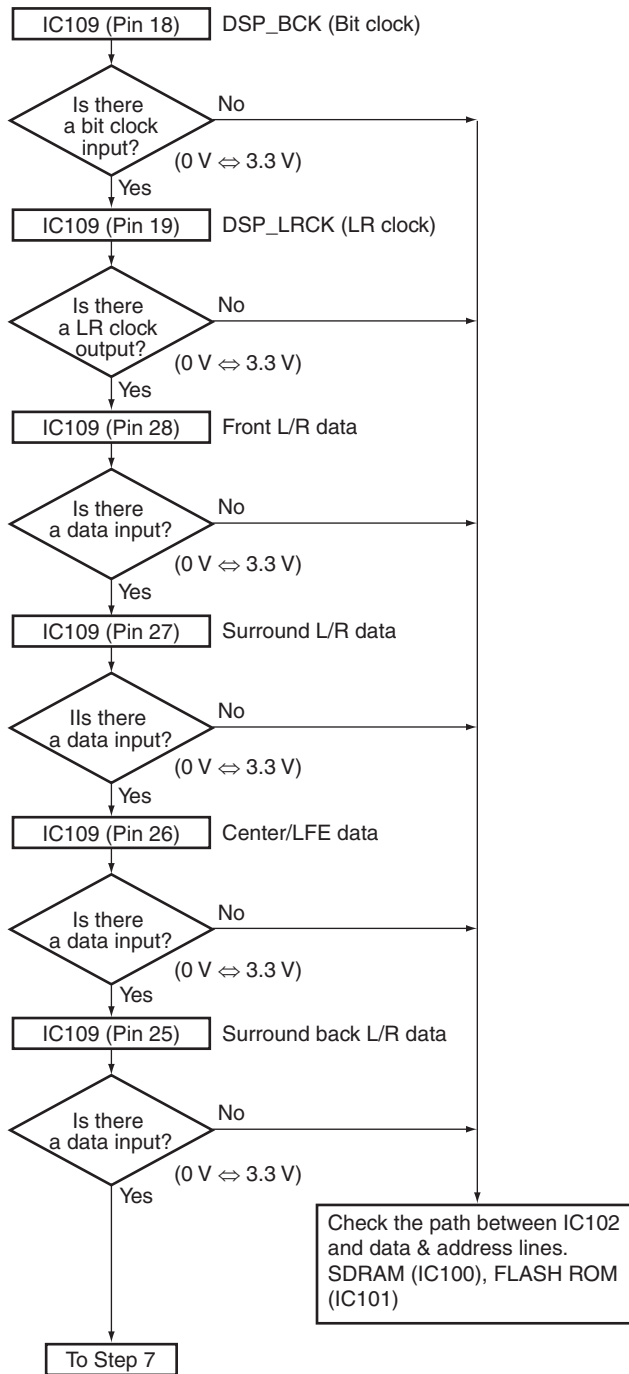
## A Step 5: DIR

Check that the S/PDIF signal is output.  
Check that changes by pulling out and inserting the digital input lines.



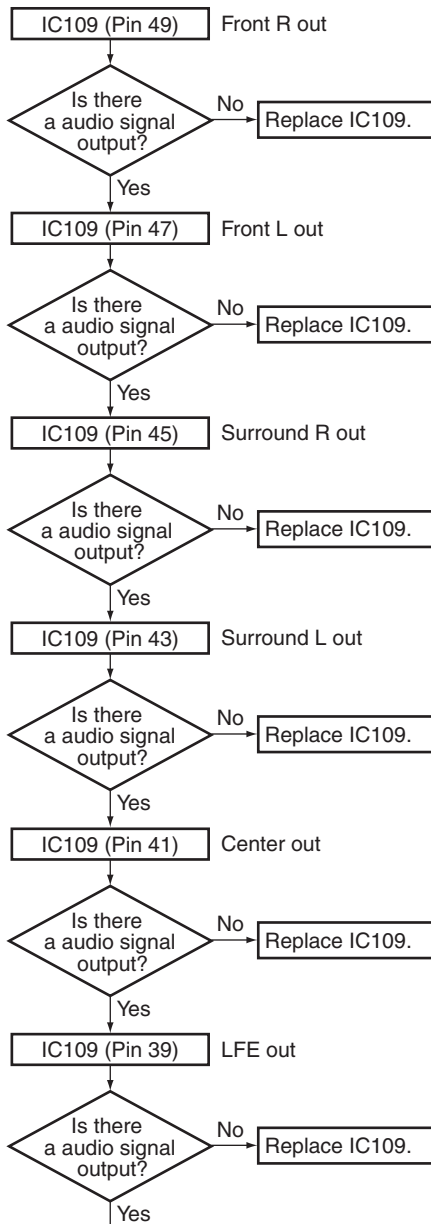
## Step 6: DSP output (digital)

Digital output of each CH when inputting the digital signal with audio.

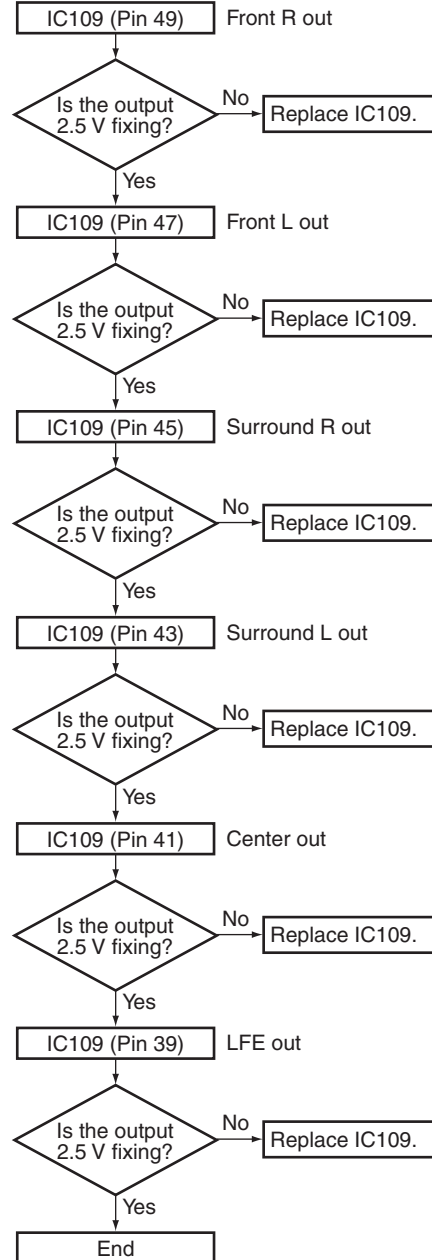


## A Step 7: Codec output (analog)

Analog output of each CH when inputting the digital signal with audio.



Analog output of each CH when inputting the digital signal (-∞ dB (no signal)).

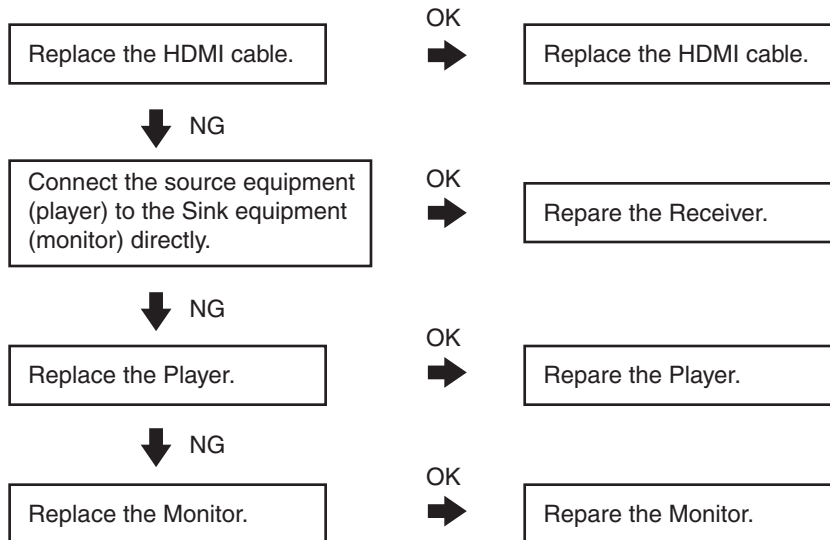


## [2] HDMI TROUBLESHOOTING

### 1. Causes for noncompletion of HDMI authentication between the source equipment and this unit (the HDMI indicator is unlit or flashes)

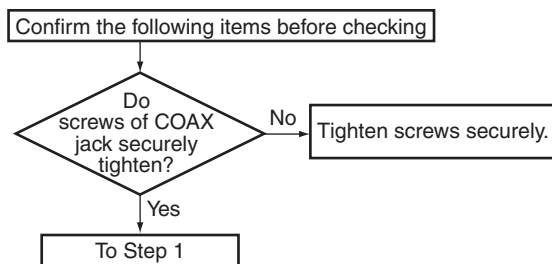
#### ■ HDMI Simple Diagnosis

Causes for no display or sound from the monitor

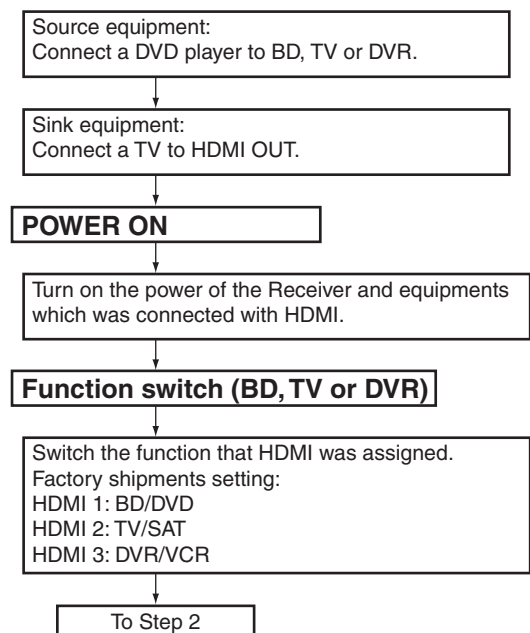


#### ■ HDMI Troubleshooting

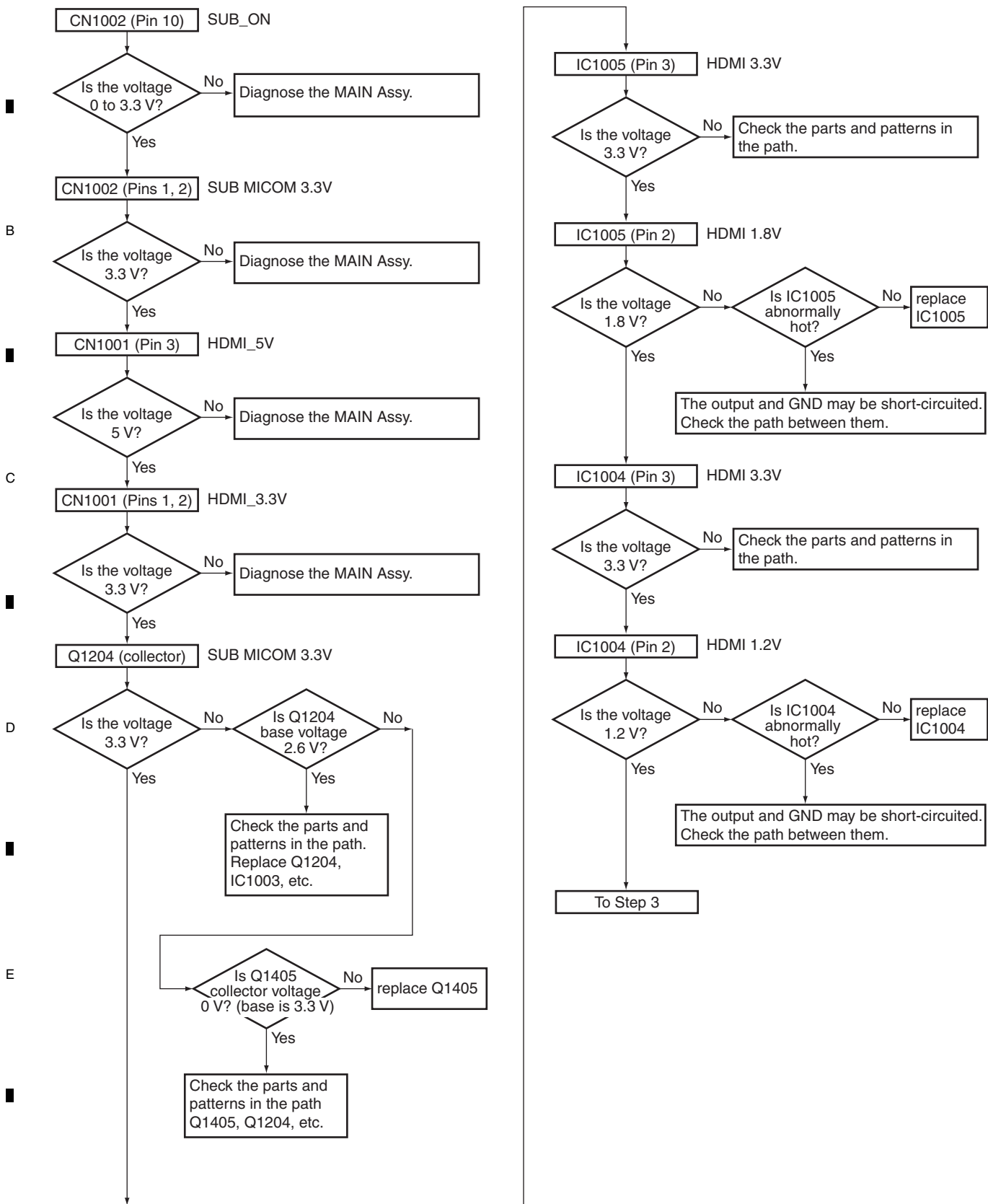
##### Step 0: Preliminary confirmation



##### Step 1: Connect the HDMI equipment

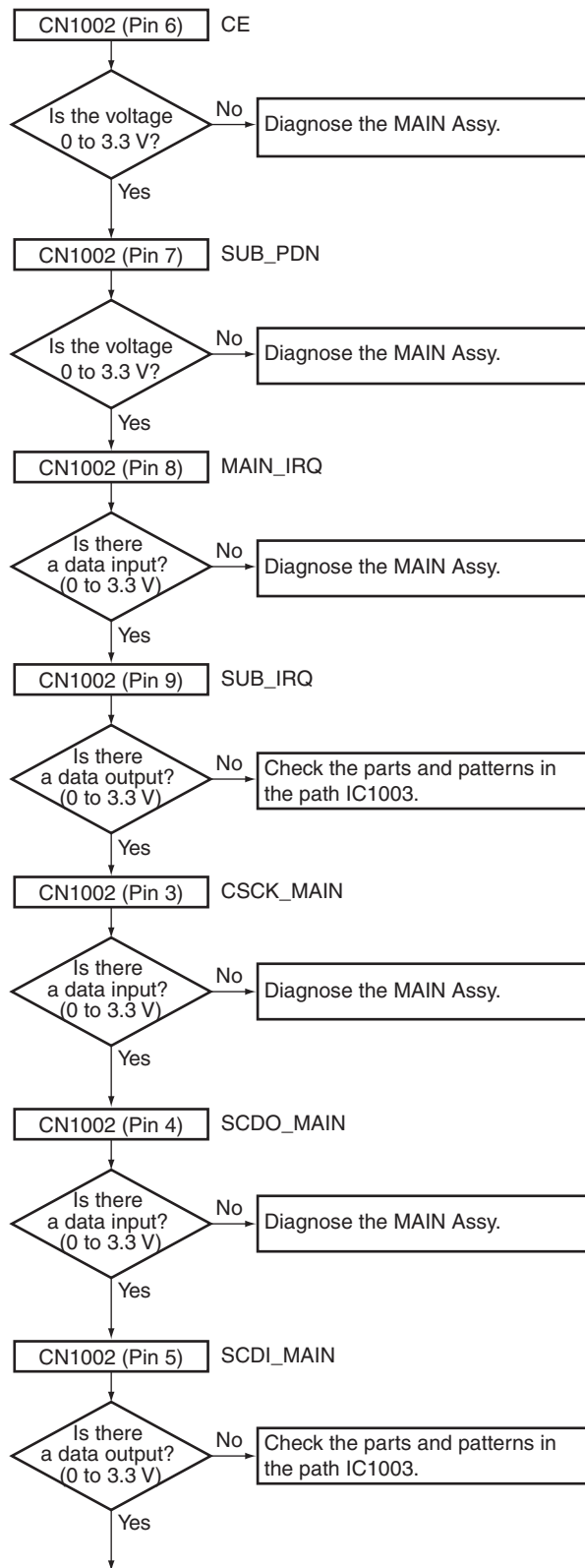


## A Step 2: Power supply

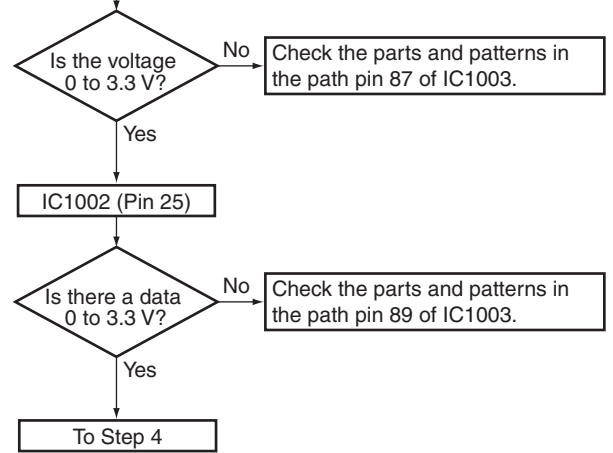


### Step 3: Diagnosis

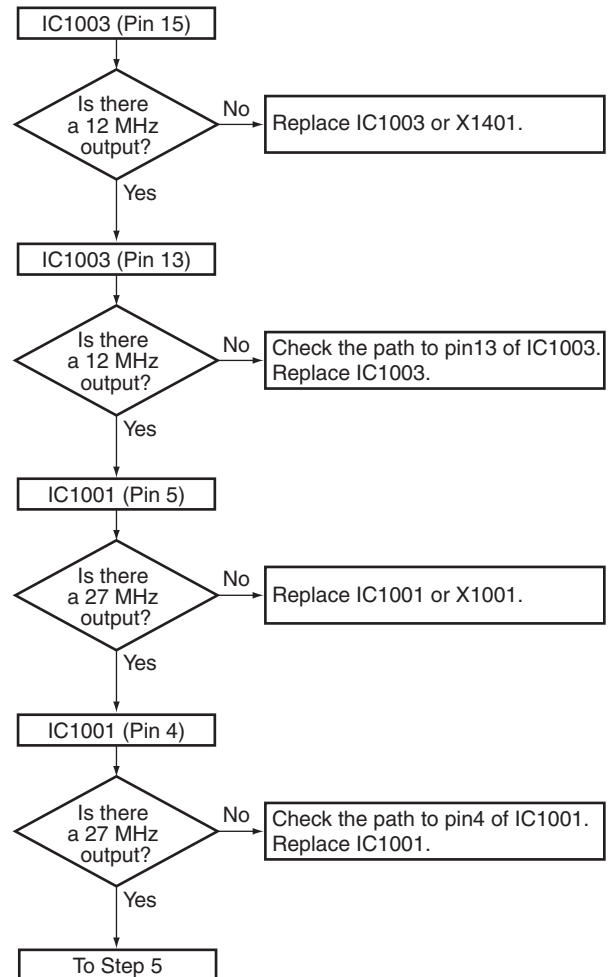
Each data lines confirmation checks it after standby OFF/ON.



IC1001 (Pin 21) HR\_RST



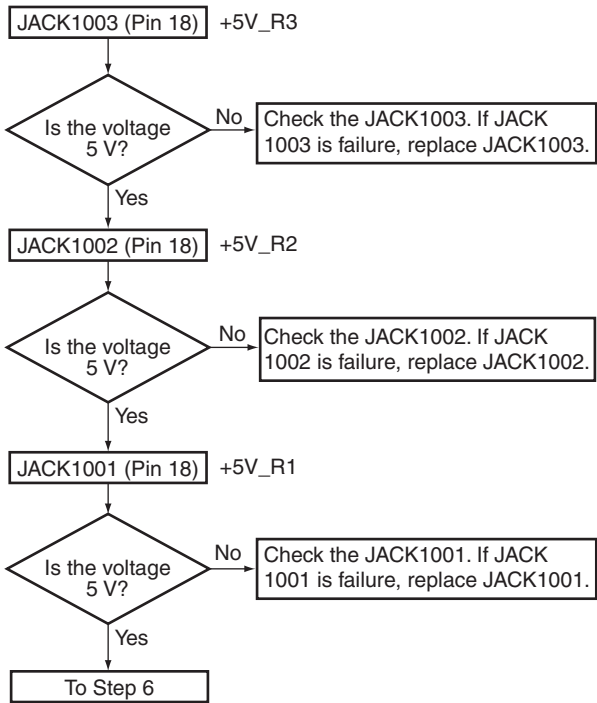
### Step 4: X'TAL



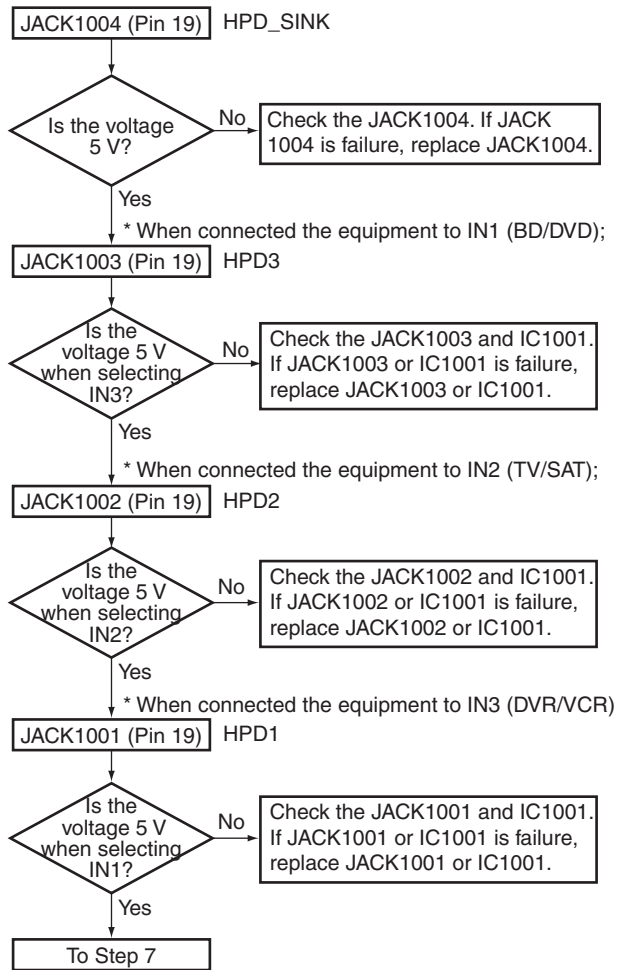


## A Step 5: IN/OUTPUT Diagnosis

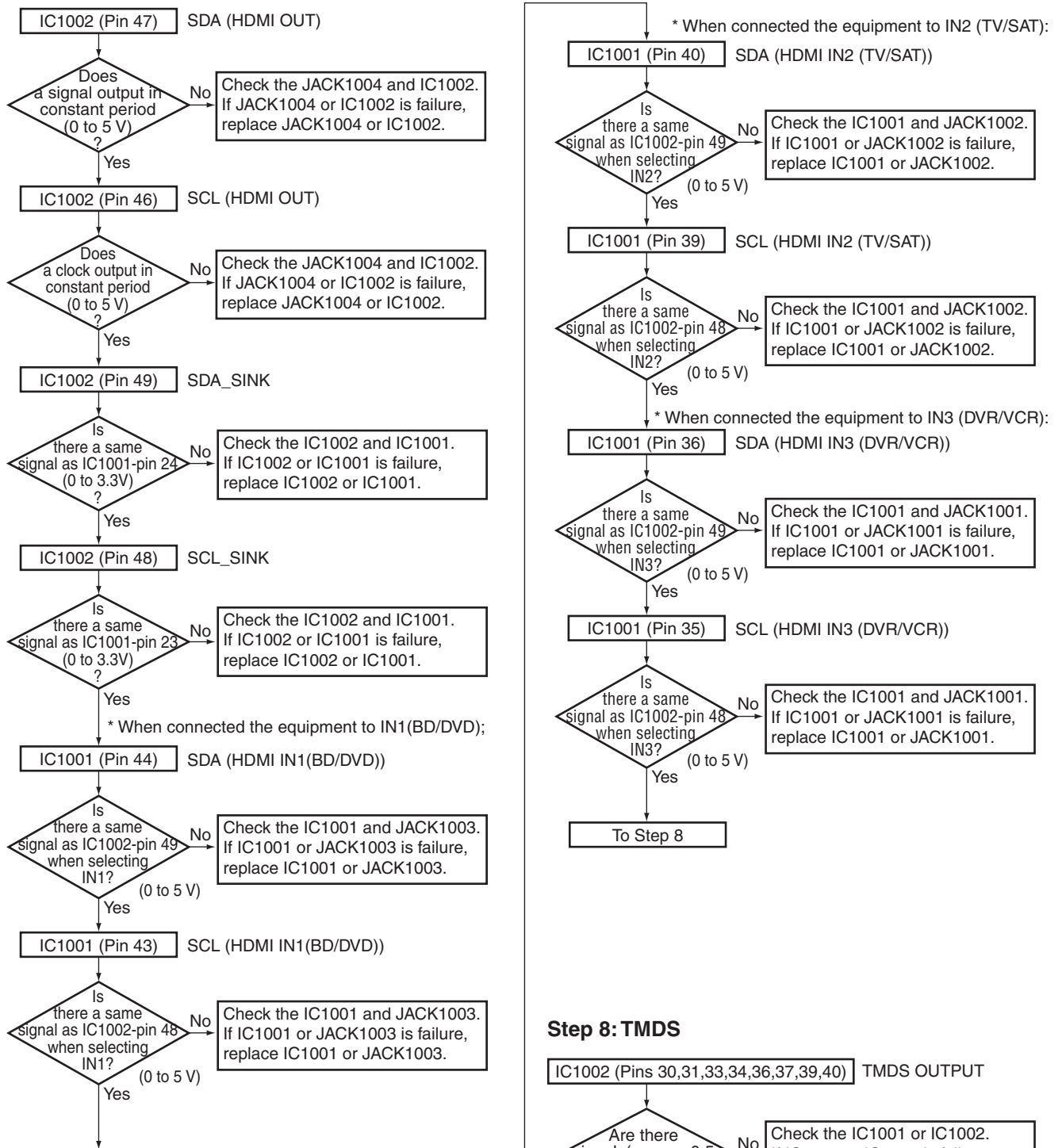
\* When connected the equipment to IN1(BD/DVD);



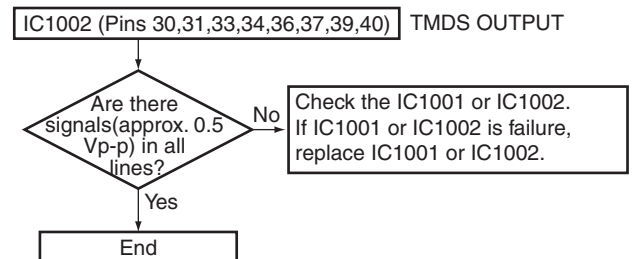
## Step 6: Hot plug detect



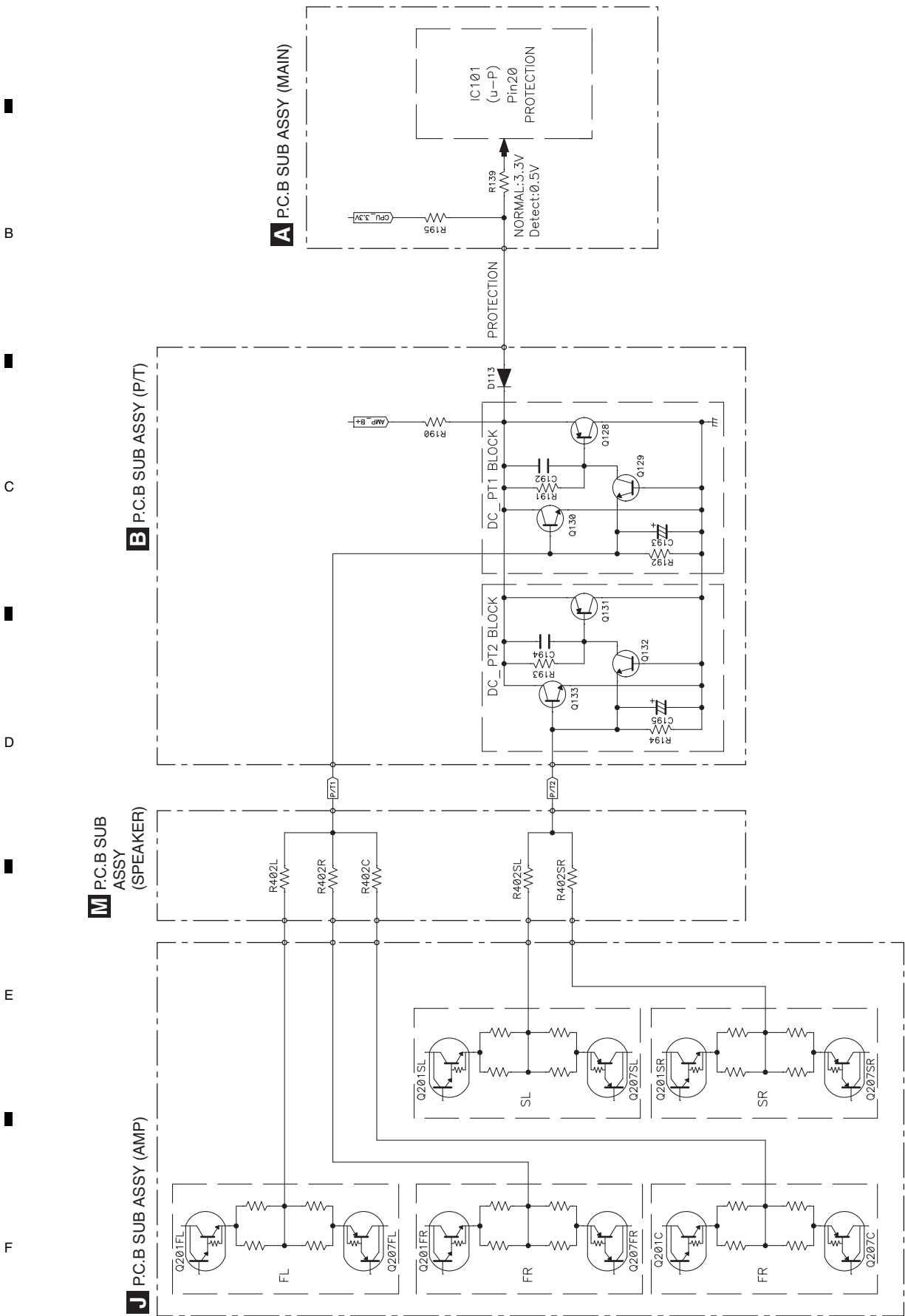
## Step 7: SDA /SCL



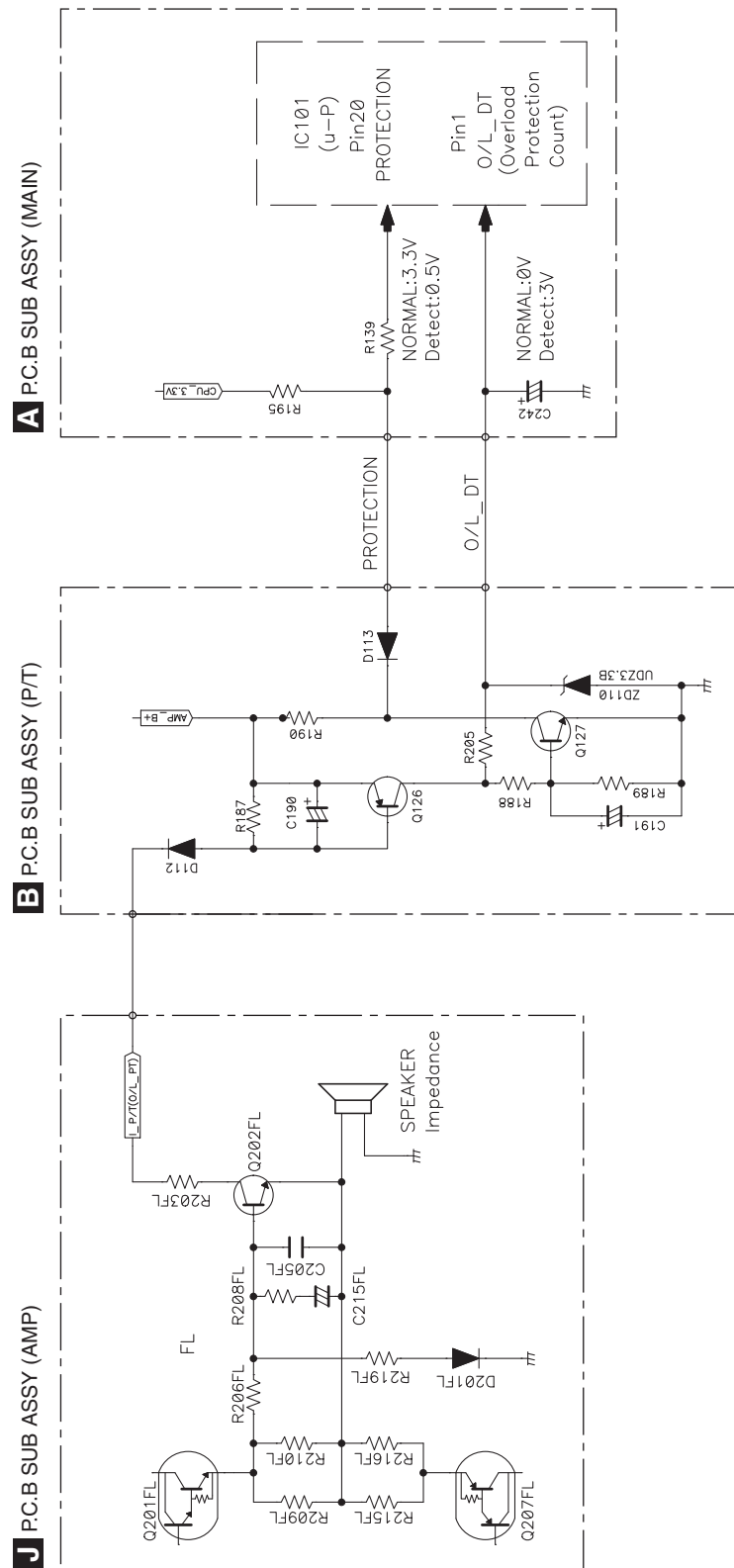
## Step 8: TMDS



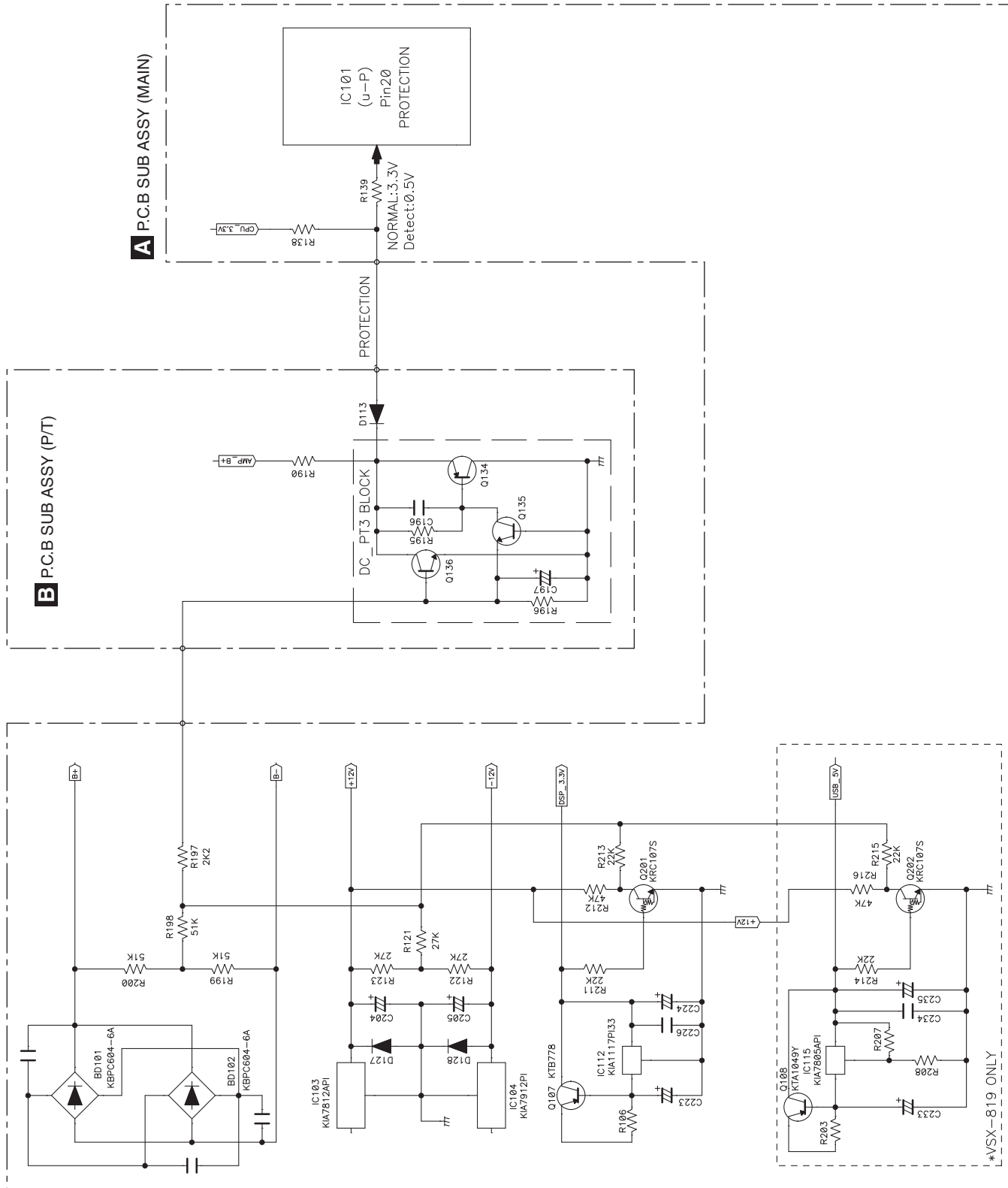
A [1] DC Protection Circuit Diagram



## [2] Overload Protection Circuit Diagram



### [3] Power DC Protection Circuit Diagram



[1] Display mode for numbers of protection detections

|                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>[Purpose]</div> <div>The numbers of detections for various protection processes are displayed.</div>                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                                                                                                                                    |
| <div>[How to enter/exit]</div> <div>During Standby mode, simultaneously press and hold the [PRESET -] and [STANDBY/ON] keys for 2 seconds to enter this mode.</div> <div>The display will return to the normal indication when no key operation is performed for 5 seconds.</div> |                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                                                                                                                                    |
| <div>[Basic operations]</div>                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                                                                                                                                    |
| <div>Key Operation</div>                                                                                                                                                                                                                                                          | <div>FL Display</div>                                                                                                                                                                                                                                                                                                                                  | <div>Time (sec.)</div>                                                                       | <div>Description of Indications</div>                                                                                                              |
| <div>(STANDBY state)</div> <div>[PRESET -] + [STANDBY/ON]</div> <div>(Initial display)</div> <div>[ENTER key]</div> <div>↓</div> <div>[ENTER key]</div> <div>↓</div> <div>[ENTER key]</div> <div>↓</div> <div>(Initial display)</div>                                             | <div><div><div></div><div></div></div><div>↓</div><div><div>DC</div><div>005</div><div>*2</div><div>→ Counter</div></div><div>↓</div><div><div>OVER</div><div>003</div><div>*2</div><div>→ Counter</div></div><div>↓</div><div><div>TEMP</div><div>007</div><div>*2</div><div>→ Counter</div></div><div>↓</div><div><div></div><div></div></div></div> | <div>5 (-&gt; normal) *1</div> <div>5 (-&gt; normal) *1</div> <div>5 (-&gt; normal) *1</div> | <div>Number of DC error detections</div> <div>Number of OVERLOAD error detections</div> <div>Number of abnormal-temperature error detections</div> |
| <div>*1 "5 (-&gt; normal)" denotes that the display will return to the normal indication when no key operation is performed for 5 seconds.</div> <div>*2 Variable range: 0-255</div>                                                                                              |                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |                                                                                                                                                    |

## [2] Reset mode for numbers of protection detections

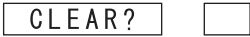
### [Purpose]

For clearing all the counts of protection detections.  
(This mode resets the counts of protection detections.)

### [How to enter/exit]

During Standby mode, simultaneously press and hold the [STANDARD SURROUND] and [STANDBY/ON] keys for 10 seconds to enter this mode.  
The display will return to the normal indication when no key operation is performed for 5 seconds.

### [Basic operations]

| Key Operation                                                                         | FL Display                                                                               | Time (sec.)      | Description of Indications |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------|----------------------------|
| (STANDBY state)                                                                       |         |                  |                            |
| [STANDARD SURROUND]<br>+ [STANDBY/ON]<br>(press and hold the keys<br>for 10 seconds.) |         | 5 (-> normal) *1 |                            |
| [ENTER key]<br>↓                                                                      |         | 5 (-> normal) *1 |                            |
| (Counter Clear end)                                                                   |                                                                                          |                  |                            |
| (Normal display)                                                                      | <br>*2 | usually          |                            |

\*1 "5 (-> normal)" denotes that the display will return to the normal indication when no key operation is performed for 5 seconds.

\*2 Indication when the BD/DVD function is selected

### [Detailed explanations]

- When the procedures for Reset mode for numbers of protection detections are completed, all the counters will be reset to "000."
- Prohibitions:  
The protection detection counts cannot be cleared (reset to 000) with the MEMORY CLEAR process.  
They can only be cleared when the procedures of Reset mode are completed.

### [3] The unit's operation when an error is detected

#### [Purpose]

- The unit's operation when a DC/OVER/TEMP error is detected is described here.
- How to cancel the status after detection of a DC error is described here, because no key input will be accepted after a DC error detection.

#### [Basic operations]

##### 3.1 DC (AMP is abnormality) error detection

| Key Operation                              | FL Display                                        | Time (sec.) | Description of Indications |
|--------------------------------------------|---------------------------------------------------|-------------|----------------------------|
| (Normal display)                           | BD / DVD <input type="checkbox"/>                 | usually     | Normal display             |
| (DC detection)                             | BD / DVD <input type="checkbox"/>                 |             |                            |
| ↓ (Auto)<br>(RECEIVER POWER OFF)<br>*1, *2 | <input type="checkbox"/> <input type="checkbox"/> |             |                            |

##### 3.2 OVERLOAD (overcurrent) error detection

| Key Operation                          | FL Display                                        | Time (sec.) | Description of Indications |
|----------------------------------------|---------------------------------------------------|-------------|----------------------------|
| (Normal display)                       | BD / DVD <input type="checkbox"/>                 | usually     | Normal display             |
| (OVERLOAD detection)                   | BD / DVD <input type="checkbox"/>                 |             |                            |
| ↓ (Auto)<br>(RECEIVER POWER OFF)<br>*1 | <input type="checkbox"/> <input type="checkbox"/> |             |                            |

##### 3.3 TEMP (AMP overheat) error detection

| Key Operation                          | FL Display                                        | Time (sec.) | Description of Indications |
|----------------------------------------|---------------------------------------------------|-------------|----------------------------|
| (Normal display)                       | BD / DVD <input type="checkbox"/>                 | usually     | Normal display             |
| (TEMP detection)                       | BD / DVD <input type="checkbox"/>                 |             |                            |
| ↓ (Auto)<br>(RECEIVER POWER OFF)<br>*1 | <input type="checkbox"/> <input type="checkbox"/> |             |                            |

\*1 The time required for the unit to be shut off after an error is detected depends on the circuit configuration.

\*2 If the unit is automatically shut off after a DC error is detected, no key input will be accepted afterward.

(The power will not be turned ON.)

To turn it on again, see "3.4 How to cancel the status after detection of a DC error" below.

A key input will not be inhibited after an OVERLOAD/TEMP error is detected. (The unit can be turned ON.)

##### 3.4 How to cancel the status after detection of the DC error

| Key Operation                                                                                                                    | FL Display                                                                                 | Time (sec.) | Description of Indications |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------|----------------------------|
| (STANDBY state)<br>[ADVANCED SURROUND]<br>+ [STANDBY/ON]<br>(press and hold the keys<br>for 2 seconds.)<br>↓<br>(Normal display) | <input type="checkbox"/> <input type="checkbox"/><br><br>BD / DVD <input type="checkbox"/> | usually     | Normal display             |
|                                                                                                                                  |                                                                                            |             |                            |

#### [Detailed explanations]

Simultaneously holding the [ADVANCED SURROUND] and [STANDBY/ON] keys on the front panel pressed for 2 seconds will cancel Key Input Inhibition mode after a DC error detection and turn the unit ON.



# 7. DISASSEMBLY

## 7.1 DISASSEMBLY

- Note 1:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

**Note 2:** For performing the diagnosis shown below, the following jigs for service is required:

  - 10P board to board extension jig cable (GGD1628)
  - 8P board to board extension jig cable (GGD1629)
  - Board to board extension jig cable (GGD1630)

### 1. Discharging

#### [1] P.C.B SUB ASSY (MAIN) Capacitor (C179, C180)

##### [Procedures]

- (1) Unplug the power cord.

(2) Disconnect the 8P CONNECTOR wire that connects the CN202 of the P.C.B SUB Assy (AMP) and CP107 of the P.C.B SUB Assy (MAIN) from the CP107.

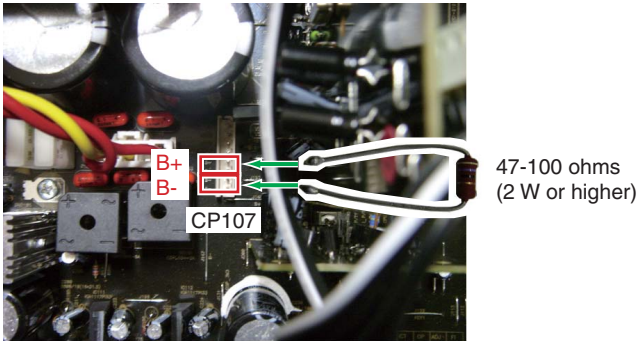
(3) Connect CP107 B+ (Pins 5 and 6) and B- (Pins 7 and 8, respectively) terminals, using resistor leads with 47-100 ohms (2 W or higher), for discharging.

\*Discharging time: 30-60 seconds, depending on the level of resistance.

(4) Check that the voltage between the B+ and GND terminals, as well as that between the B- and GND terminals, is less than 1 V, using a tester.

\*Be sure to connect the GND terminal of the tester to the chassis.

\*If the voltage is still 1 V or higher, repeat Step (3).



#### [2] FL-30 V Capacitor

##### [Procedures]

- (1) Unplug the power cord.

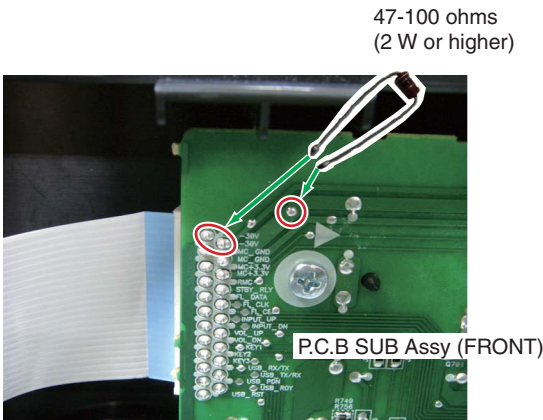
(2) Connect CP704 -30 V (Pins 1 and 2) of the P.C.B SUB Assy (FRONT) and GND (Pins 3 and 4, respectively), using resistor leads with 47-100 ohms (2 W or higher), for discharging.

\*Discharging time: 5-10 seconds, depending on the level of resistance.

(3) Check that the voltage between the -30 V and GND terminals is less than 1 V, using a tester.

\*Be sure to connect the GND terminal of the tester to the chassis.

\*If the voltage is still 1 V or higher, repeat Step (2).

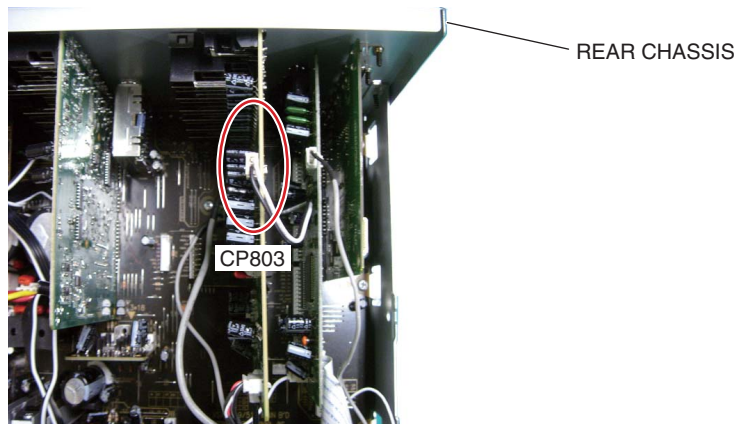


## 2. Notes on Ground Points Connection

### [Note 1]

When reassembling after disassembling the product for repair, before connecting the power cord, make sure that the 2P wire from the CN206 of the P.C.B SUB Assy (DSP) is connected to the CP803 of the P.C.B TOTAL Assy (INPUT).

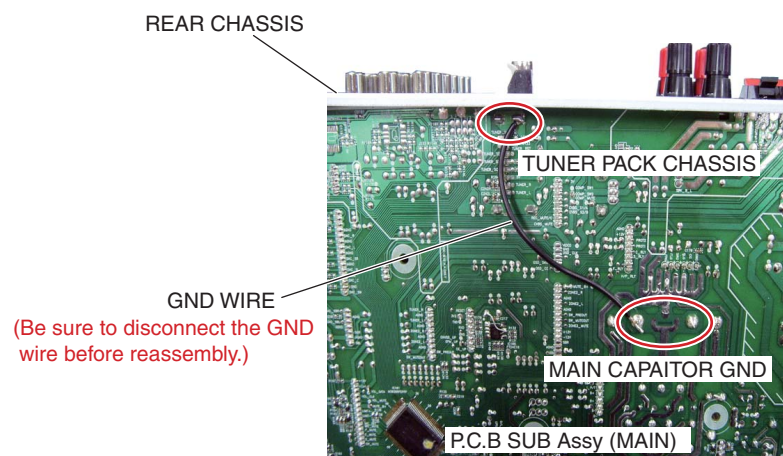
**If the power is turned ON without the above connection, the CODEC IC (IC109: AK4588) of the P.C.B SUB Assy (DSP) may be damaged.**



### [Note 2]

During repair, before checking the P.C.B SUB Assy (MAIN), etc., with the rear chassis removed, be sure to connect the GND terminal of the main capacitor to the rear chassis (TUNER PACK CHASSIS), as shown below, then connect the power cord.

**Without grounding connection, the protection circuit will be activated.**  
**After repairing, be sure to remove the ground wire before reassembling.**

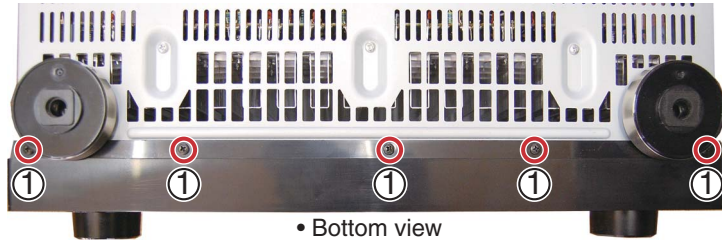


### 3. Diagnosis of PCB's

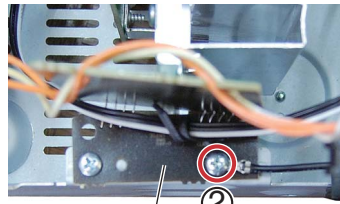
#### [1] Front Panel Section

Remove the bonnet by removing the 10 screws.

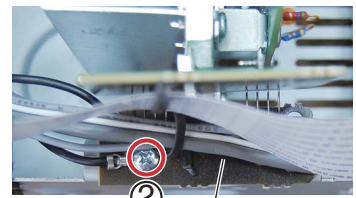
1. Remove the five screws. (BBZ30P080FTB)



2. Remove the two screws. (BBZ30P080FTC)

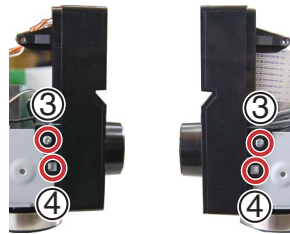


PC.B SUB Assy  
(GUIDE PCB L)

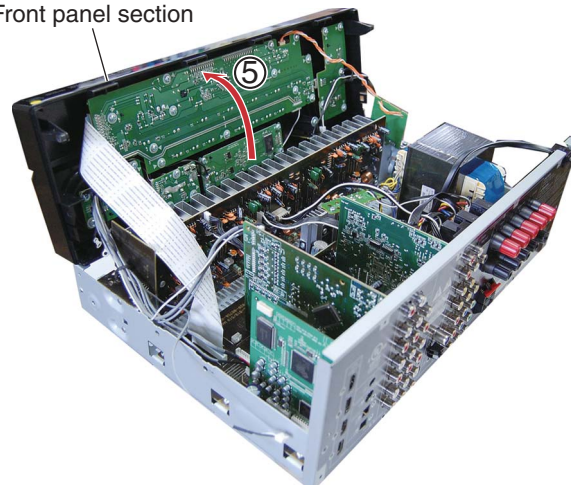


PC.B SUB Assy  
(GUIDE PCB R)

3. Remove the two screws.
4. Unhook the two hooks.
5. Arrange the front panel section as shown in the photo below.



Front panel section

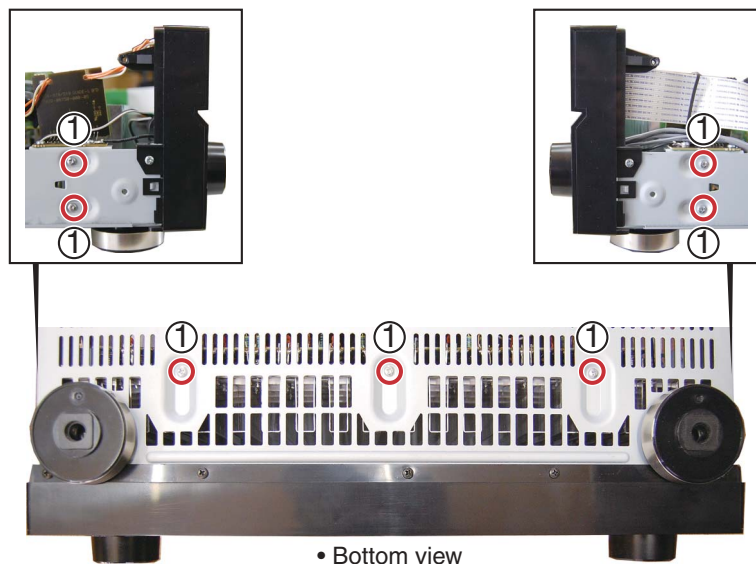


## [2] Heat sink Section

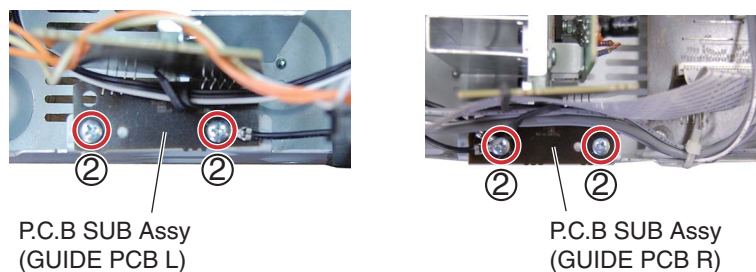
**Caution:** Heat sink section in work becomes hot, and be careful with it.

Remove the bonnet by removing the 10 screws.

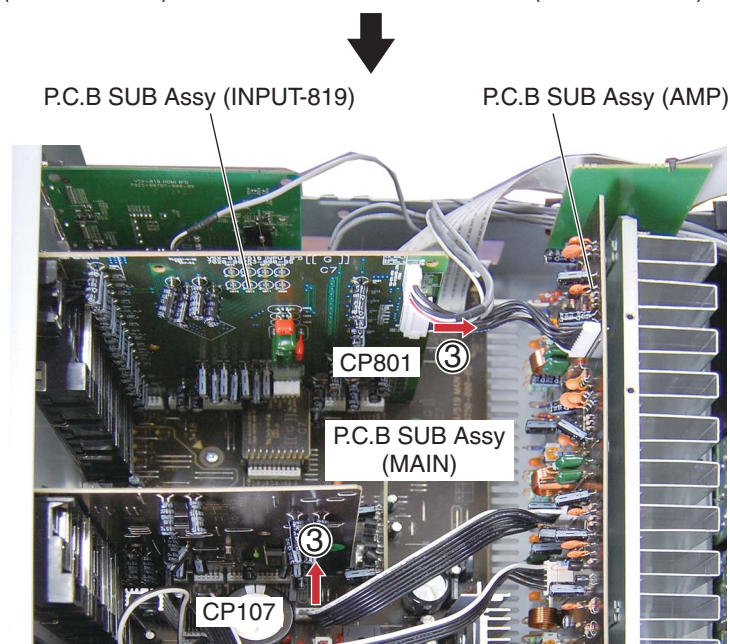
1. Remove the seven screws. (BBZ30P080FTC)



2. Remove the four screws. (BBZ30P080FTC)

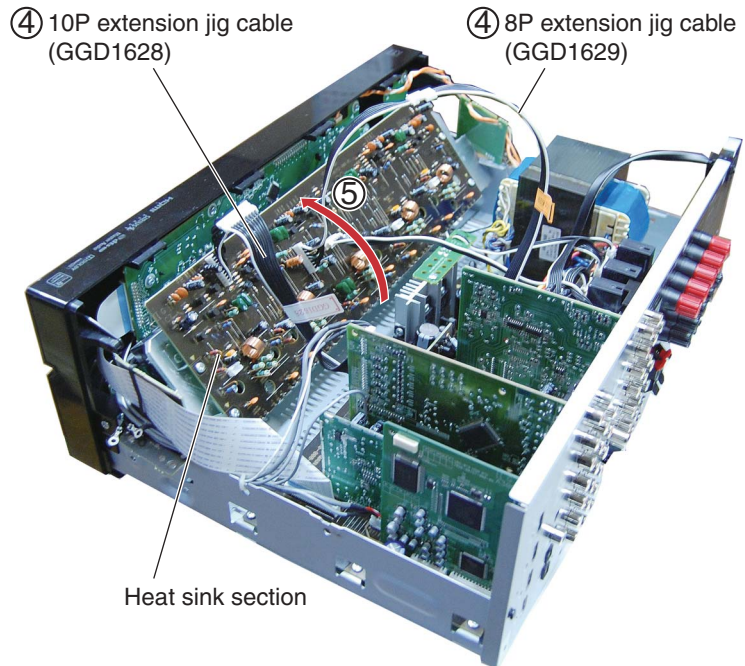


3. Disconnect the two connectors.





- A
4. Connect the two extension jig cables.
  5. Rotate the heat sink section in the direction of the arrow.

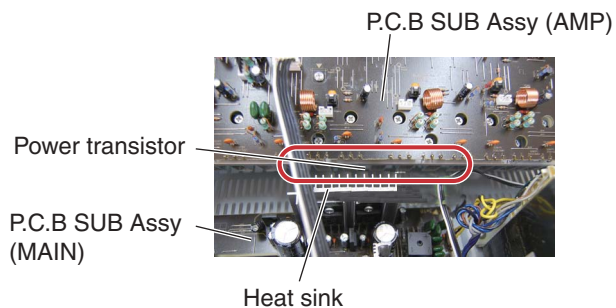


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**Note:**

The Power transistor and heat sink on the P.C.B SUB Assy (MAIN) come closer.  
Make sure that they will not come into contact.

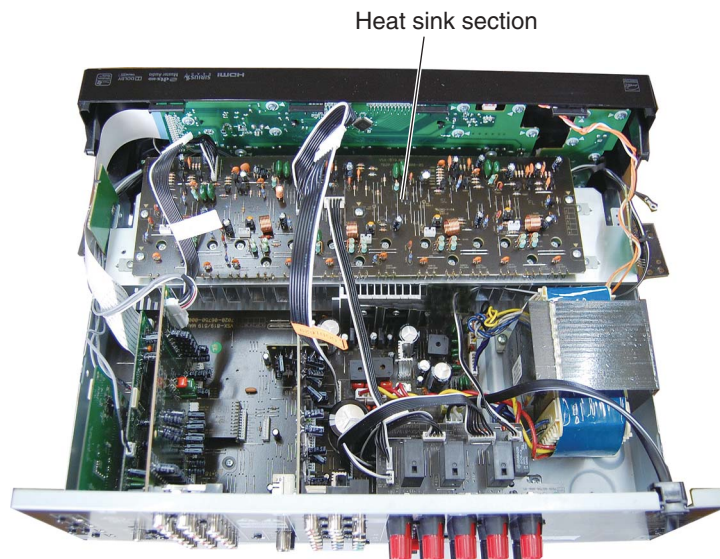


D



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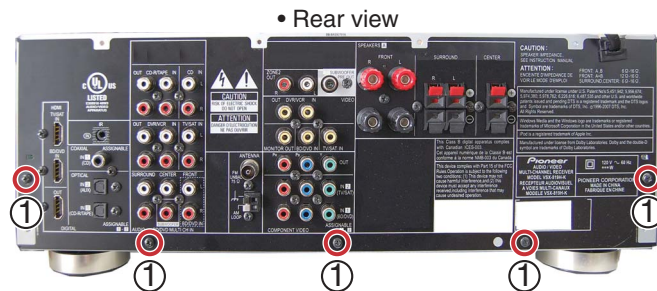
F



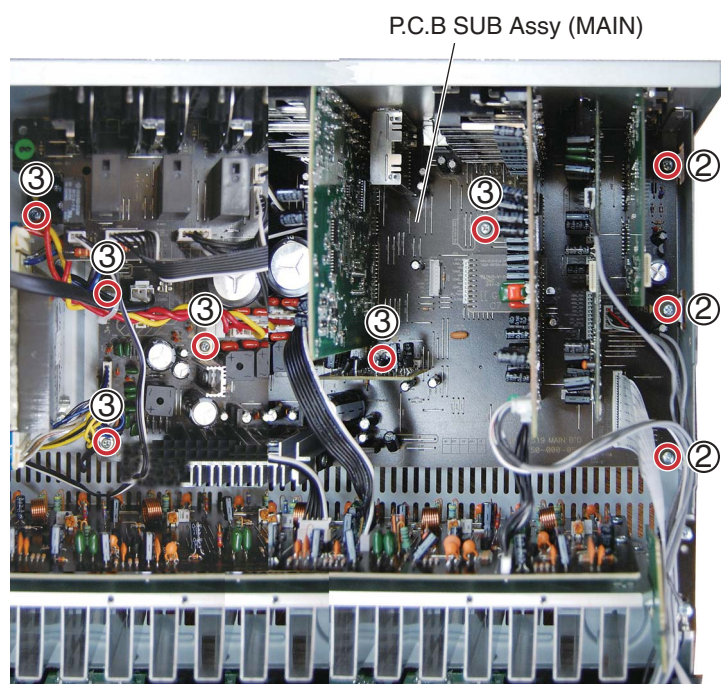
### [3] P.C.B SUB Assy (MAIN)

Remove the bonnet by removing the 10 screws.

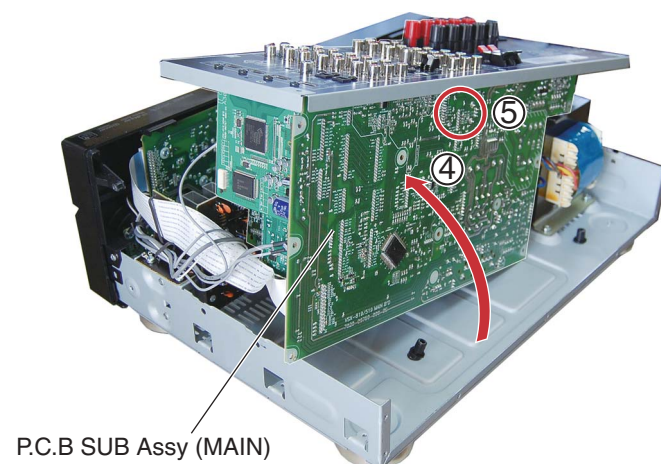
1. Remove the five screws. (BBT30P100FTB)



2. Remove the three screws. (BBZ30P080FTC)
3. Remove the six screws. (BBZ30P180FTC)



4. Arrange the unit as shown in the photo below.
5. Connect the chassis ground.  
See "2. Notes on Ground Points Connection".

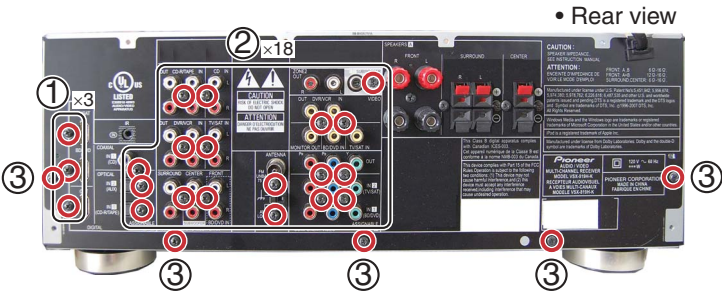




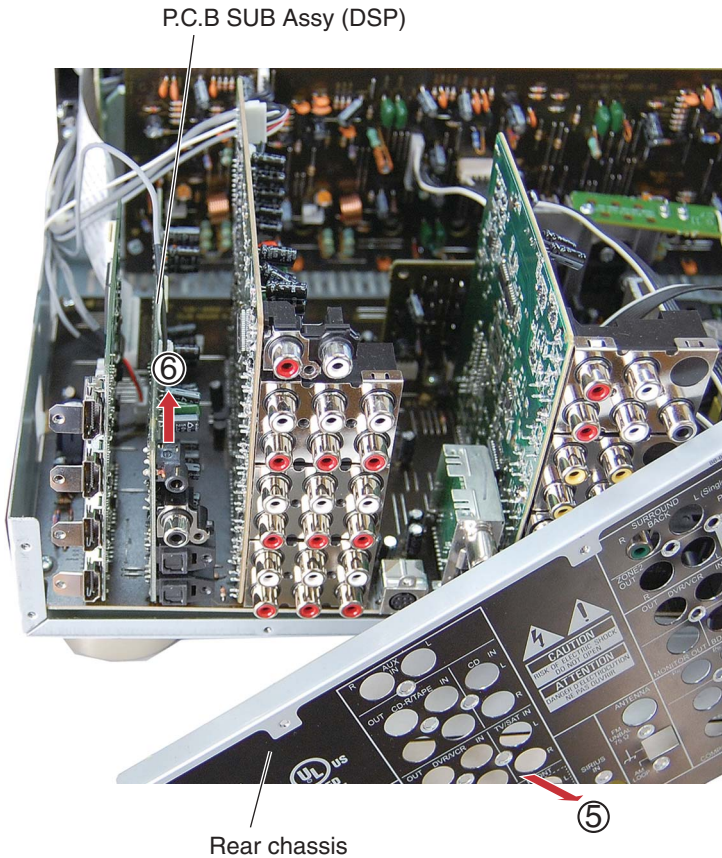
# [4] P.C.B SUB Assy (DSP)

Remove the bonnet by removing the 10 screws.

1. Remove the three screws. (B020930083B10-IL)
2. Remove the 18 screws. (BBT30P100FTB)
3. Remove the five screws. (BBT30P100FTB)



5. Remove the rear chassis.
6. Remove the P.C.B SUB Assy (DSP).

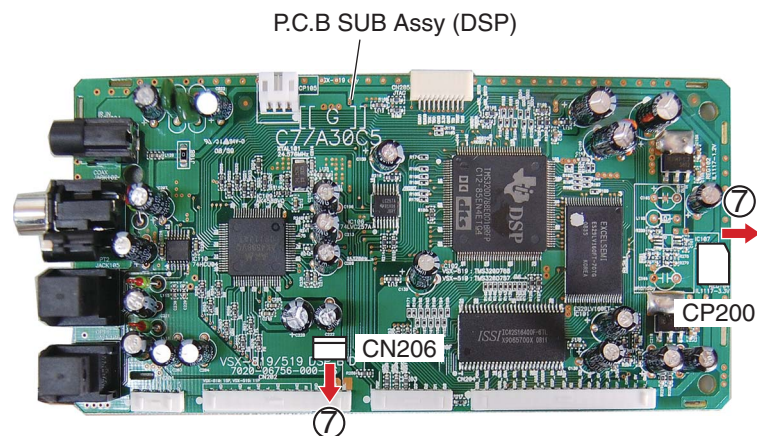


7. Disconnect the two connectors.

**Note:**

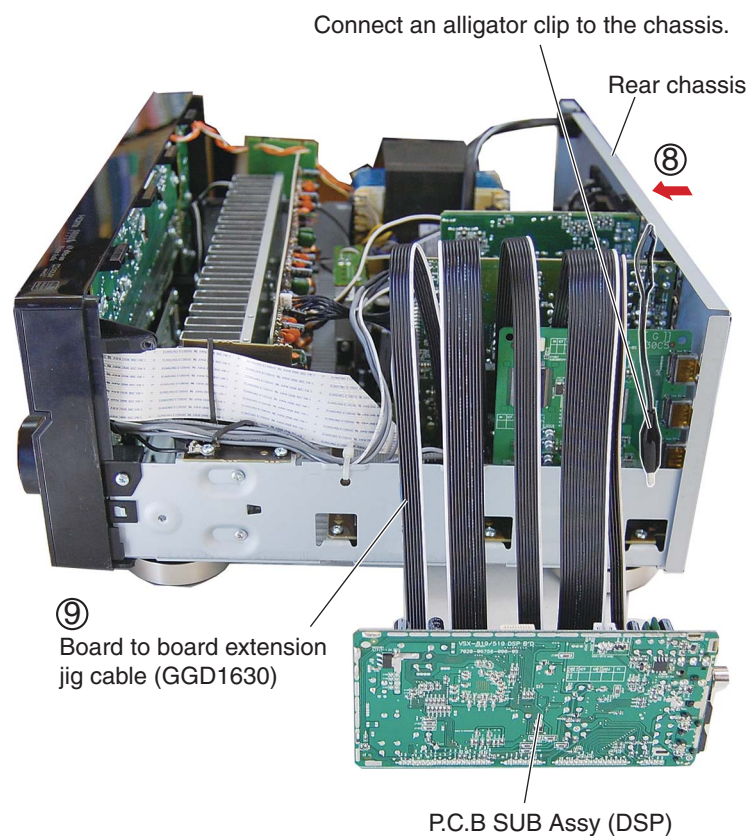
When reassembling after disassembling the product for repair, before connecting the power cord, make sure that the 2P wire from the CN206 of the P.C.B SUB Assy (DSP) is connected to the CP803 of the P.C.B TOTAL Assy (INPUT).

See “2. Notes on Ground Points Connection”.



8. Reassembling the rear chassis.

9. Connect the board to board extension jig cable.





1234

8. EACH SETTING AND ADJUSTMENT

8.1 IDLE CURRENT ADJUSTMENT

A

 1. Idle Current Adjustment

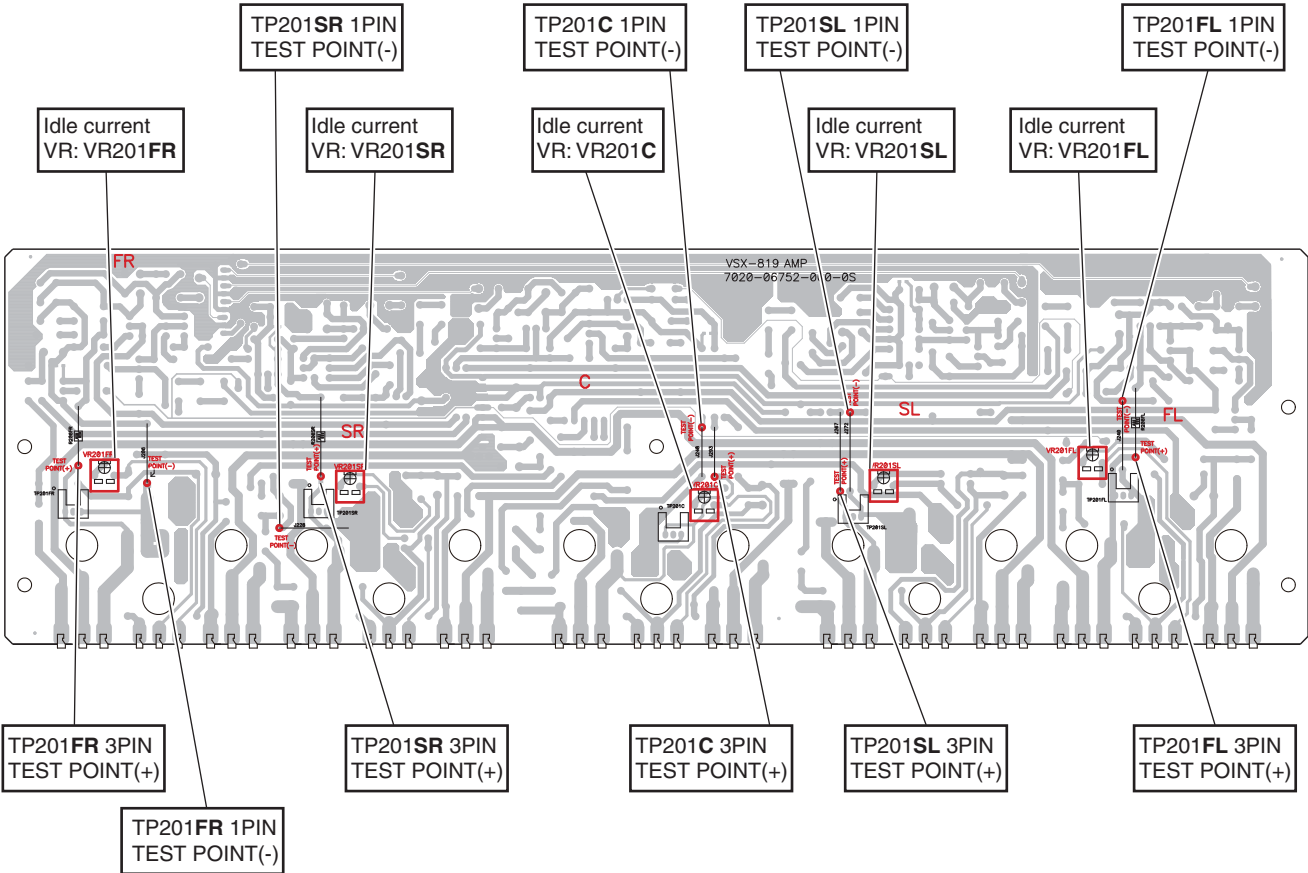
| Measurement Points                                           | Adjustment Points | Procedure                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP201FL 3PIN : TEST POINT(+)<br>TP201FL 1PIN : TEST POINT(-) | VR201FL           | <div>① Turn on the power.</div> <div>② Perform aging for one minute.</div> <div>③ Connect a digital voltmeter to the measurement point.</div> <div>④ Turn the adjustment VR so that the voltage becomes in 2.0 mV ± 0.2 mV.</div> <div>(Condition : No signal and no load)</div> |
| TP201FR 3PIN : TEST POINT(+)<br>TP201FR 1PIN : TEST POINT(-) | VR201FR           |                                                                                                                                                                                                                                                                                  |
| TP201C 3PIN : TEST POINT(+)<br>TP201C 1PIN : TEST POINT(-)   | VR201C            |                                                                                                                                                                                                                                                                                  |
| TP201SL 3PIN : TEST POINT(+)<br>TP201SL 1PIN : TEST POINT(-) | VR201SL           |                                                                                                                                                                                                                                                                                  |
| TP201SR 3PIN : TEST POINT(+)<br>TP201SR 1PIN : TEST POINT(-) | VR201SR           |                                                                                                                                                                                                                                                                                  |

• Adjustment Point and Measurement Points.... see fig1.

J

P.C.B SUB ASSY (AMP)

SIDE A



[fig 1.]

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VSX-519V-K

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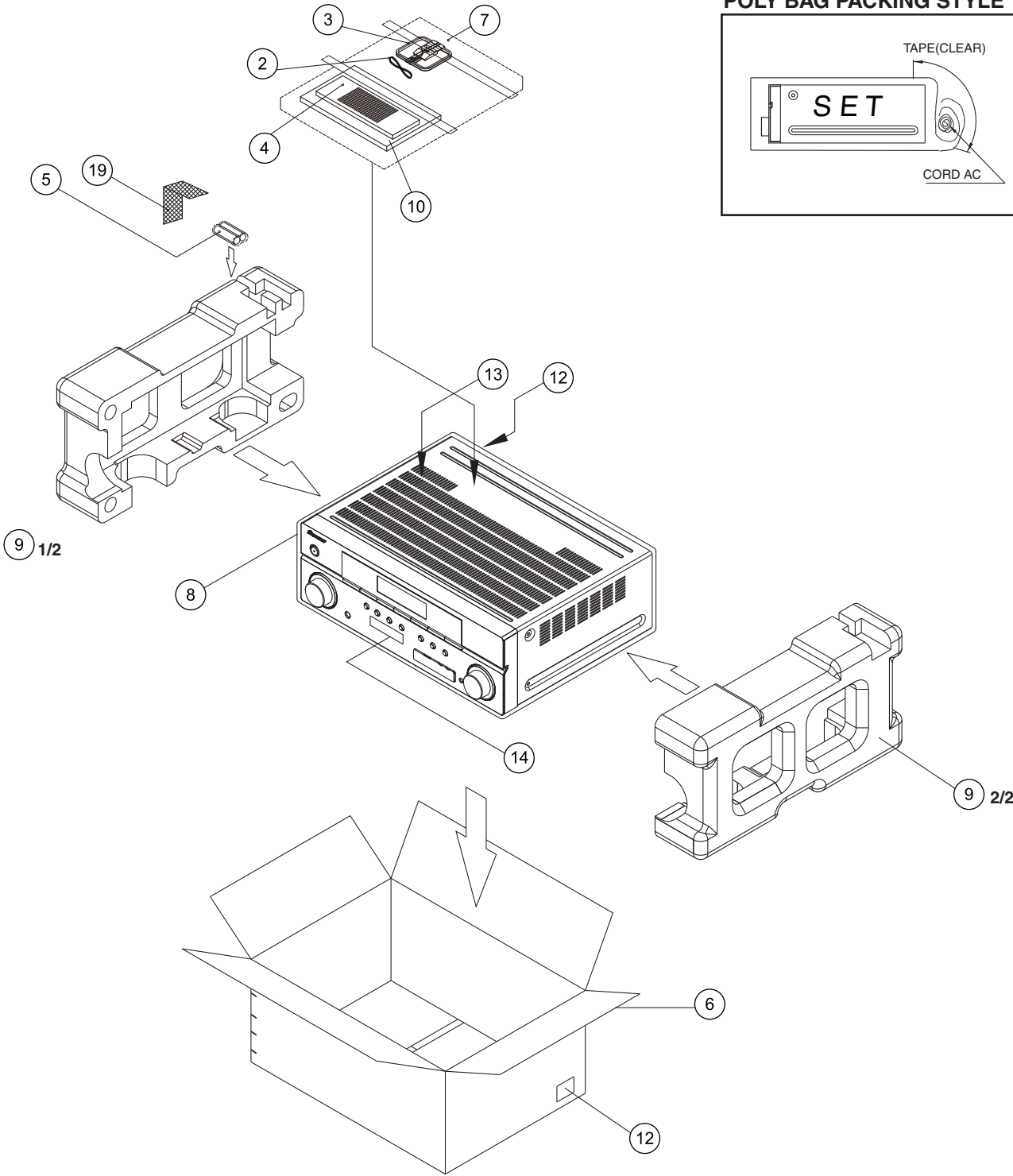
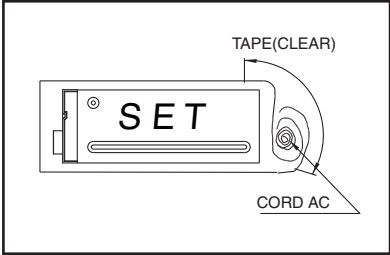
# 9. EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)

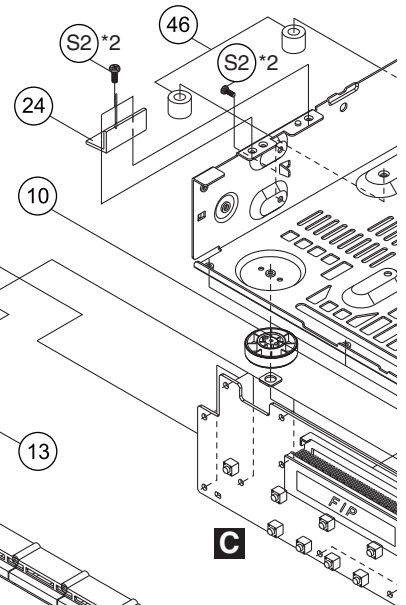
## 9.1 PACKING SECTION

POLY BAG PACKING STYLE





△





# EXTERIOR SECTION PARTS LIST

|   | Mark No. | Description            | Part No.                         |       | Mark No. | Description                      | Part No.         |
|---|----------|------------------------|----------------------------------|-------|----------|----------------------------------|------------------|
| A | 1        | Window                 | 5077212673010-IL                 |       | 49       | P.C.B SUB ASSY (CNT)             | 7028067504010-IL |
|   | 2        | Pioneer Badge B        | XAM3006                          | ⚠     | 50       | Cord Assy                        | L068125101710-IL |
|   | 3        | Knob                   | 5080211931100-IL                 |       |          |                                  |                  |
|   | 4        | Cushion                | 4050211745000-IL                 | NSP   | 51       | Bracket                          | •••••            |
|   | NSP      | 5                      | Nut                              | ••••• | 52       | Label Trans                      | 5507000003270-IL |
|   |          |                        |                                  |       | 53       | Sheet                            | 1210210235000-IL |
|   | 6        | Panel                  | 3067214161000-IL                 |       | 54       | Cushion                          | 4050211365000-IL |
|   | 7        | Button                 | 5090213751100-IL                 |       | 55       | Cushion                          | 4050211385000-IL |
|   | 8        | Button                 | 5090213761100-IL                 |       |          |                                  |                  |
|   | 9        | Button                 | 5097213771100-IL                 |       | 56       | Sheet                            | 1210210772000-IL |
| B | 10       | Holder                 | 432004078301A-IL                 |       | 57       | P.C.B SUB ASSY (HEADPHONE)       | 7028067512010-IL |
|   |          |                        |                                  |       | 58       | P.C.B SUB ASSY (VOLUME)          | 7028067513010-IL |
|   | 11       | P.C.B SUB ASSY (FRONT) | 7028067511020-IL                 |       | 59       | P.C.B SUB ASSY (FUNCTION)        | 7028067514010-IL |
|   | 12       | Button                 | 5090213741100-IL                 |       | 60       | P.C.B SUB ASSY (PORTABLE)        | 7028067518010-IL |
|   | 13       | SW,Encoder (S701)      | G121123050020-IL                 |       |          |                                  |                  |
|   | 14       | Jack,D6.5 (JA701)      | G402PJ619AG0Y-IL                 |       | 61       | P.C.B SUB ASSY (INPUT)           | 7028067531020-IL |
|   | 15       | Jack,D3.5 (JA703)      | G401PJ354H70Y-IL                 |       | 62       | P.C.B SUB ASSY (VIDEO-519)       | 7028067551010-IL |
|   |          |                        |                                  |       | 63       | P.C.B SUB ASSY (DSP)             | 7028067561020-IL |
|   | 16       | SW,Encoder (S702)      | G121123040010-IL                 |       | 64       | P.C.B SUB ASSY (SPEAKER-519)     | 7028067601040-IL |
|   | NSP      | 17                     | Chassis                          | ⚠     | 65       | Transistor (Q2071-Q2075)         | J5011560Y0000-IL |
| C |          | 18                     | Cushion                          |       |          |                                  |                  |
|   |          | 19                     | Foot                             | ⚠     | 66       | SEMI,TR/GE NPN 2SC (Q2051-Q2055) | J502396400010-IL |
|   | NSP      | 20                     | Heat Sink                        | ⚠     | 67       | Transistor (Q2011-Q2015)         | J5032390Y0000-IL |
|   |          |                        |                                  |       | 68       | Cable,Flat Card 1.25             | N712192533810-IL |
|   |          | 21                     | Bracket                          |       |          |                                  |                  |
|   |          | 22                     | P.C.B SUB ASSY (AMP)             |       | S1       | Screw                            | BBT40P080FTB     |
|   |          | 23                     | P.C.B SUB ASSY (GUIDE-R)         |       | S2       | Screw                            | BBZ30P080FTC     |
|   |          | 24                     | P.C.B SUB ASSY (GUIDE-L)         |       | S3       | Screw                            | BBT30P100FTB     |
|   | NSP      | 25                     | Clamp                            |       | S4       | Screw,Tap Tite                   | B020930083B10-IL |
|   |          |                        |                                  |       | S5       | Screw                            | B028940101B10-IL |
| D | NSP      | 26                     | Spacer                           |       |          |                                  |                  |
|   |          | 27                     | P.C.B SUB ASSY (MAIN-519)        |       | S6       | Screw                            | BBZ30P180FTC     |
|   |          | 28                     | Heat Sink                        |       | S7       | Screw Tapping Assy               | B018230141H11-IL |
|   |          | 29                     | Heat Sink                        |       | S8       | Screw                            | BBZ30P080FTB     |
|   |          | 30                     | Tuner (JA101)                    |       | S9       | Screw                            | 1500001456010-IL |
|   |          |                        |                                  |       |          |                                  |                  |
|   |          | 31                     | P.C.B SUB ASSY (HDMI-519)        |       |          |                                  |                  |
|   |          | 32                     | Optical Receiver (JA105, JA106)  |       |          |                                  |                  |
|   |          | 33                     | TER,RCA 1Pin (JA102)             |       |          |                                  |                  |
|   |          | 34                     | Jack,D3.5 (JA804)                |       |          |                                  |                  |
| E |          | 35                     | TER,RCA 6Pin (JA802-JA804)       |       |          |                                  |                  |
|   |          |                        |                                  |       |          |                                  |                  |
|   |          | 36                     | TER,RCA 9Pin (JA1003)            |       |          |                                  |                  |
|   |          | 37                     | TER,RCA (JA1002)                 |       |          |                                  |                  |
|   |          | 38                     | TER,RCA 3Pin (JA1001)            |       |          |                                  |                  |
|   | NSP      | 39                     | TER,Board Screw 4P               |       |          |                                  |                  |
|   |          | 40                     | TER,Board Push 4P (JA402)        |       |          |                                  |                  |
|   |          |                        |                                  |       |          |                                  |                  |
|   |          | 41                     | TER,Board Push 2P (JA102, JA403) |       |          |                                  |                  |
|   | ⚠        | 42                     | Power Trans                      |       |          |                                  |                  |
| F |          | 43                     | Chassis                          |       |          |                                  |                  |
|   |          | 44                     | Stopper                          |       |          |                                  |                  |
|   |          | 45                     | Cabinet                          |       |          |                                  |                  |
|   |          |                        |                                  |       |          |                                  |                  |
|   |          | 46                     | Cushion                          |       |          |                                  |                  |
|   |          | 47                     | P.C.B SUB ASSY (H/P GUIDE)       |       |          |                                  |                  |
|   |          | 48                     | P.C.B SUB ASSY (P/T)             |       |          |                                  |                  |
|   |          |                        |                                  |       |          |                                  |                  |
|   |          |                        |                                  |       |          |                                  |                  |
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VSX-519V-K



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# 10.2 P.C.B SUB ASSYS (FRONT), (VOLUME), (FUNCTION), (HEADPHONE) and (PORTABLE)

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**P.C.B SUB ASSY (FRONT)**  
(7028067511020-IL)



**P.C.B SUB ASSY (VOLUME)**  
(7028067513010-IL)

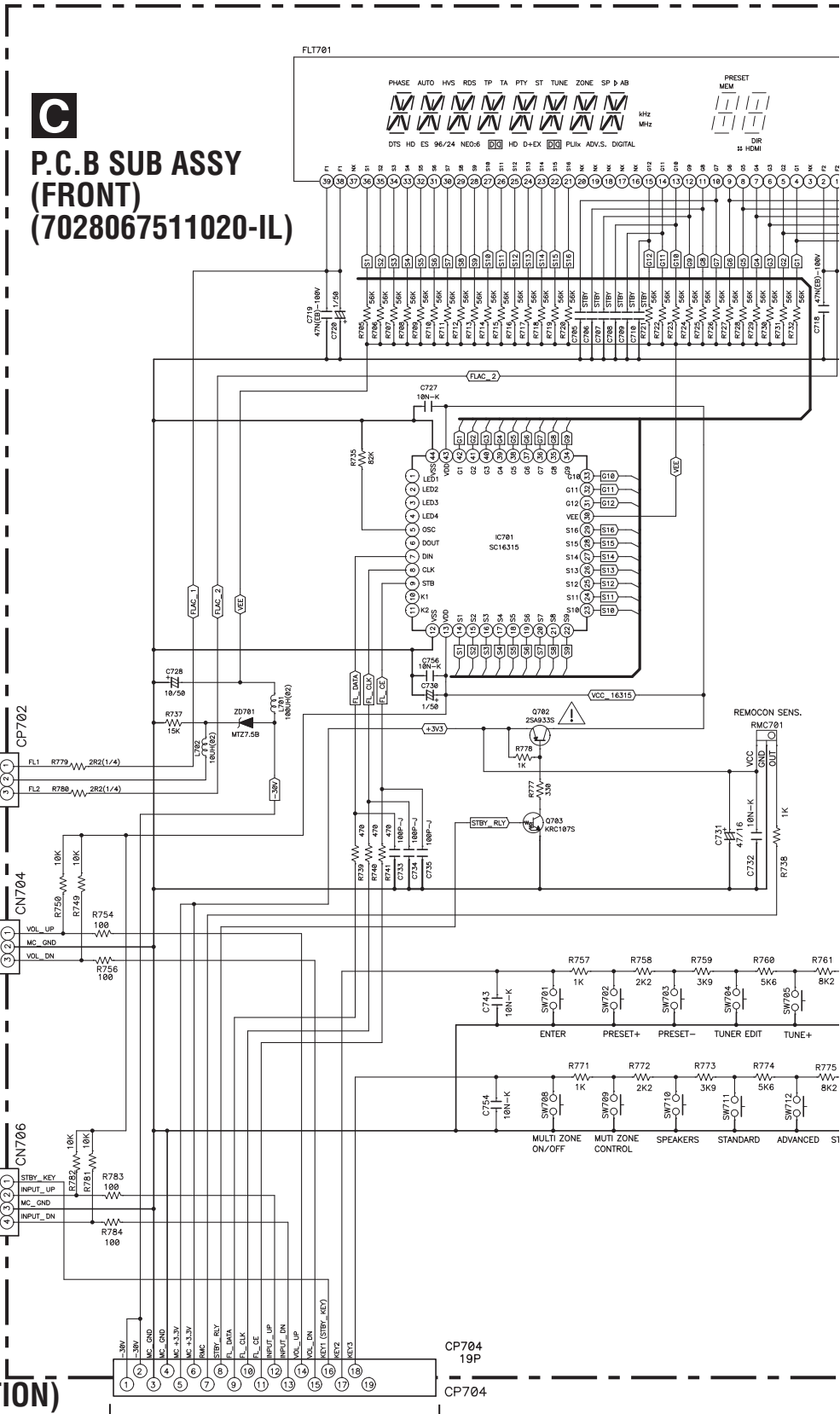


**P.C.B SUB ASSY (FUNCTION)**  
(7028067514010-IL)

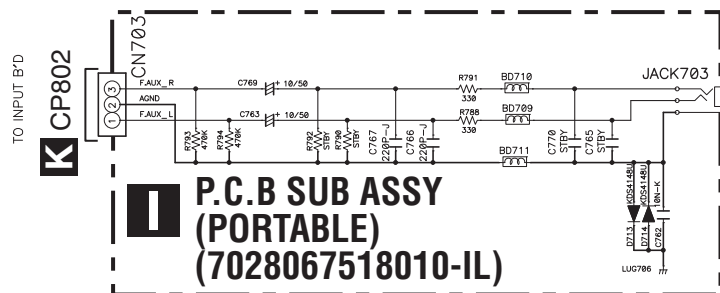
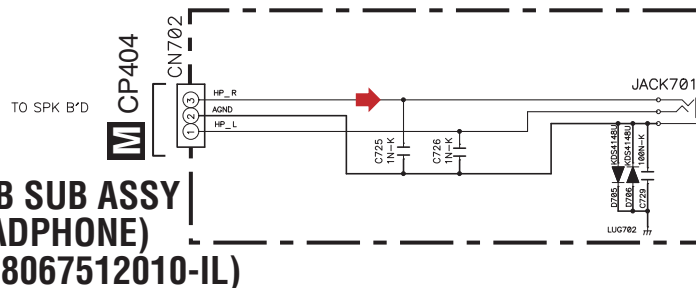
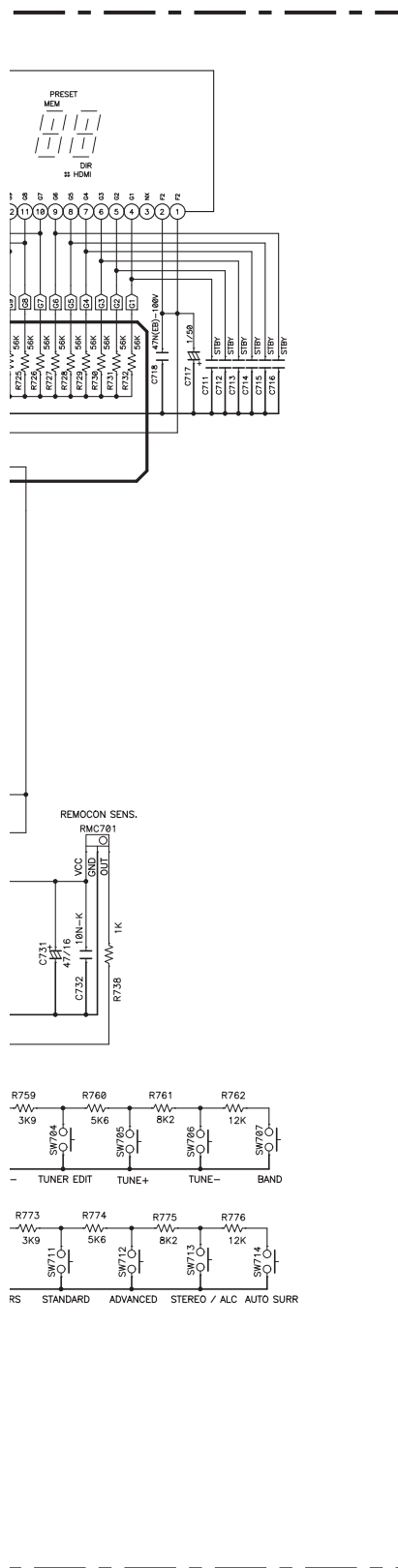
**FPC101**

FROM MAIN B'D

VSX-519V-K

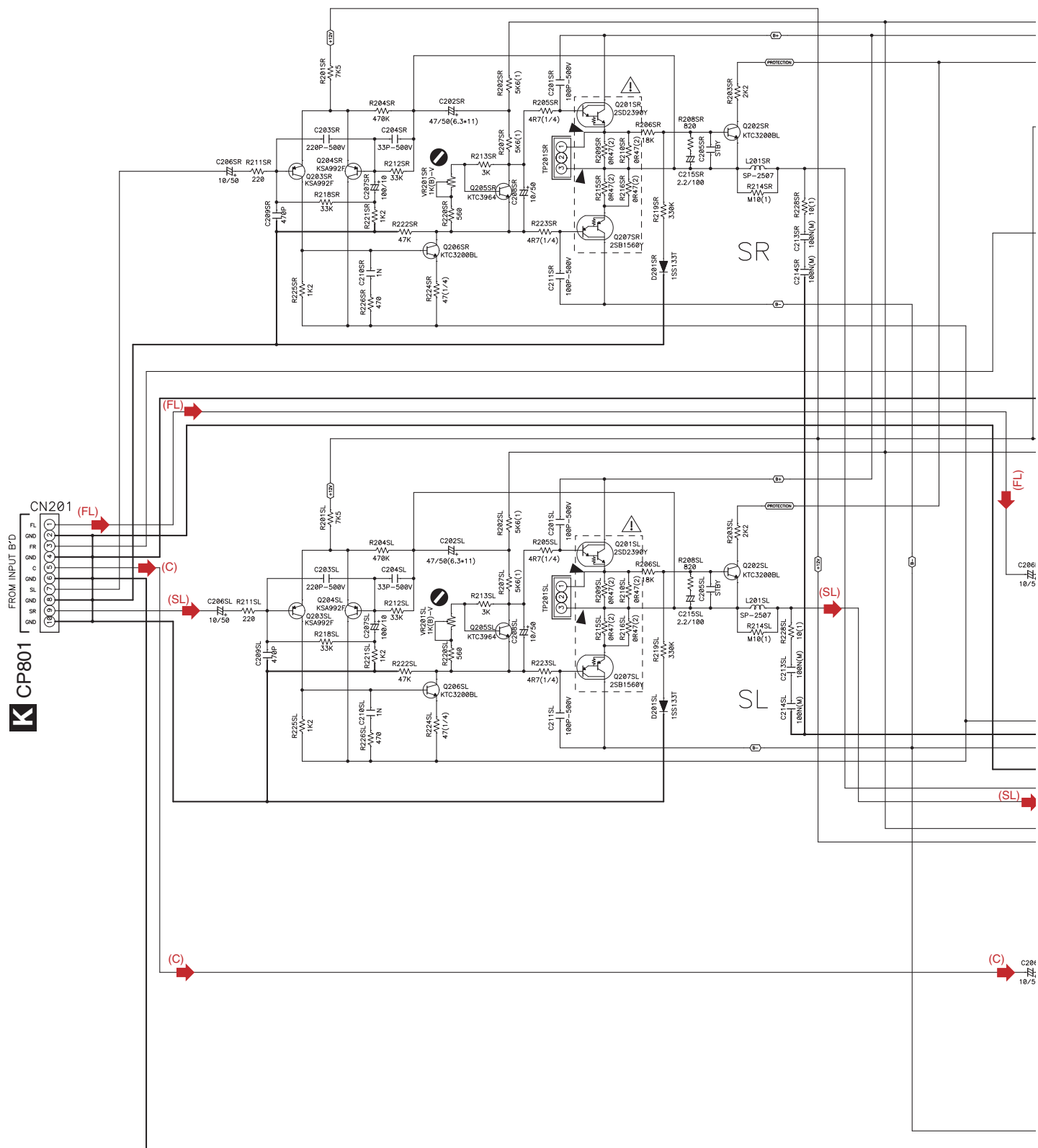


**C D E**

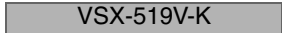


(v) : Video Signal Route  
: Audio Signal Route (L ch)

**J P.C.B SUB ASSY (AMP)**  
**(7028067521010-IL)**



(FL)  : Audio Signal Route (Front L ch)  
(SL)  : Audio Signal Route (Surround L ch)  
(C)  : Audio Signal Route (Center ch)





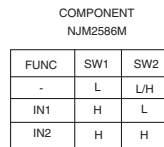
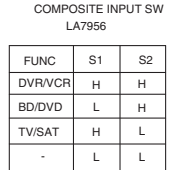
## 4

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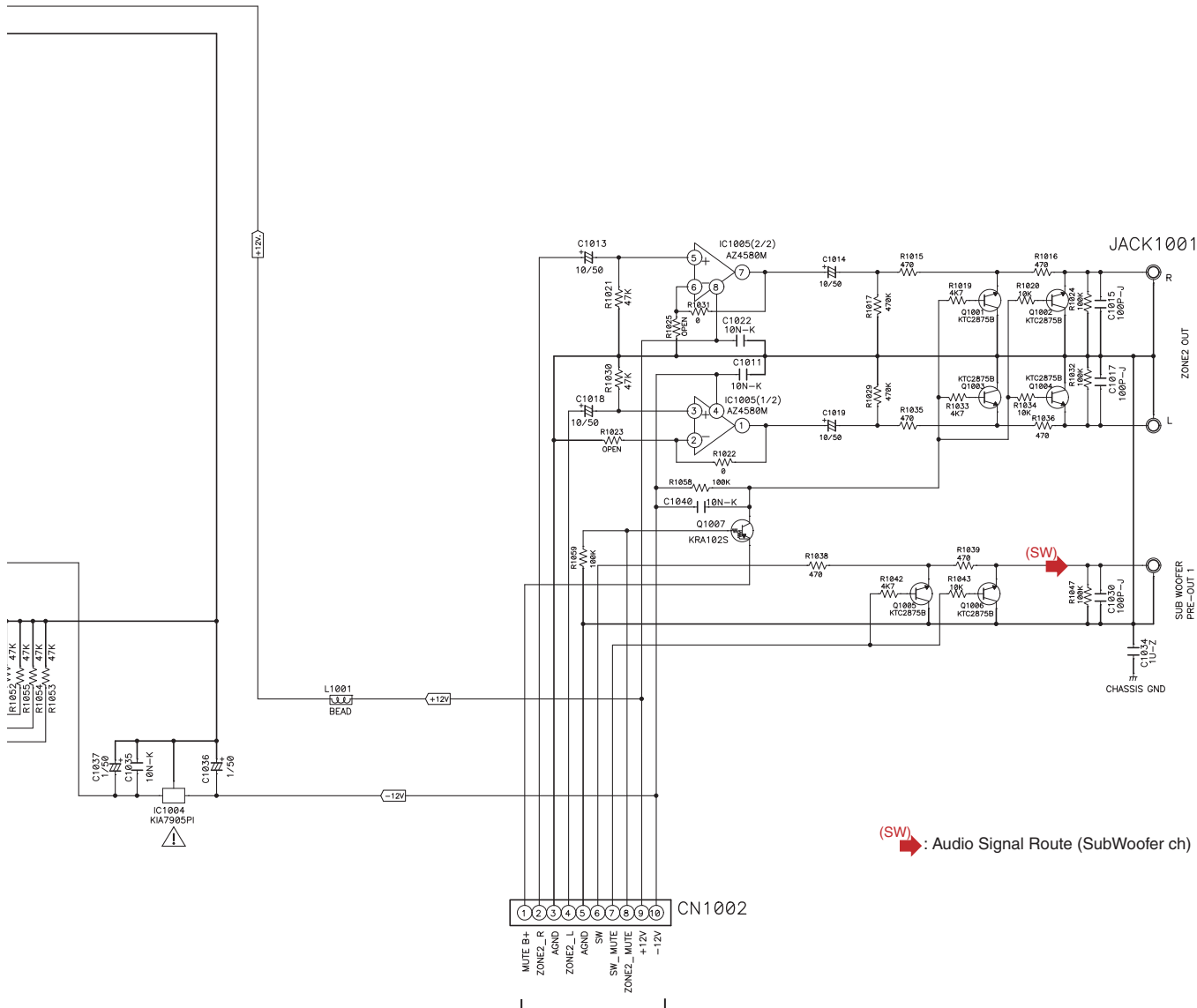
F





COMPOSITE INPUT SW  
LA7956

| FUNC    | S1 | S2 |
|---------|----|----|
| DVR/VCR | H  | H  |
| BD/DVD  | L  | H  |
| TV/SAT  | H  | L  |
| -       | L  | L  |

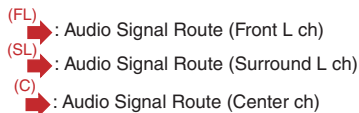


**A** CP124  
TO MAIN B'D

VSX-519V-K

△

F



J CP2U3

TO AMP B'D

A CN104

FROM MAIN B'D

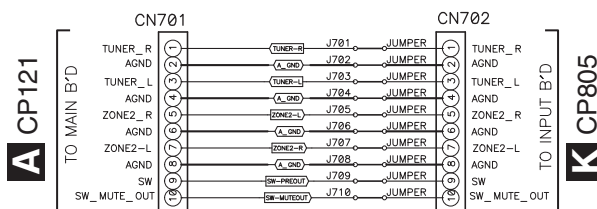
A CNTU3

FROM MAIN B'D

L CN7U2

FROM H/P B'D

# **N** P.C.B SUB ASSY (CNT) (7028067504010-IL)

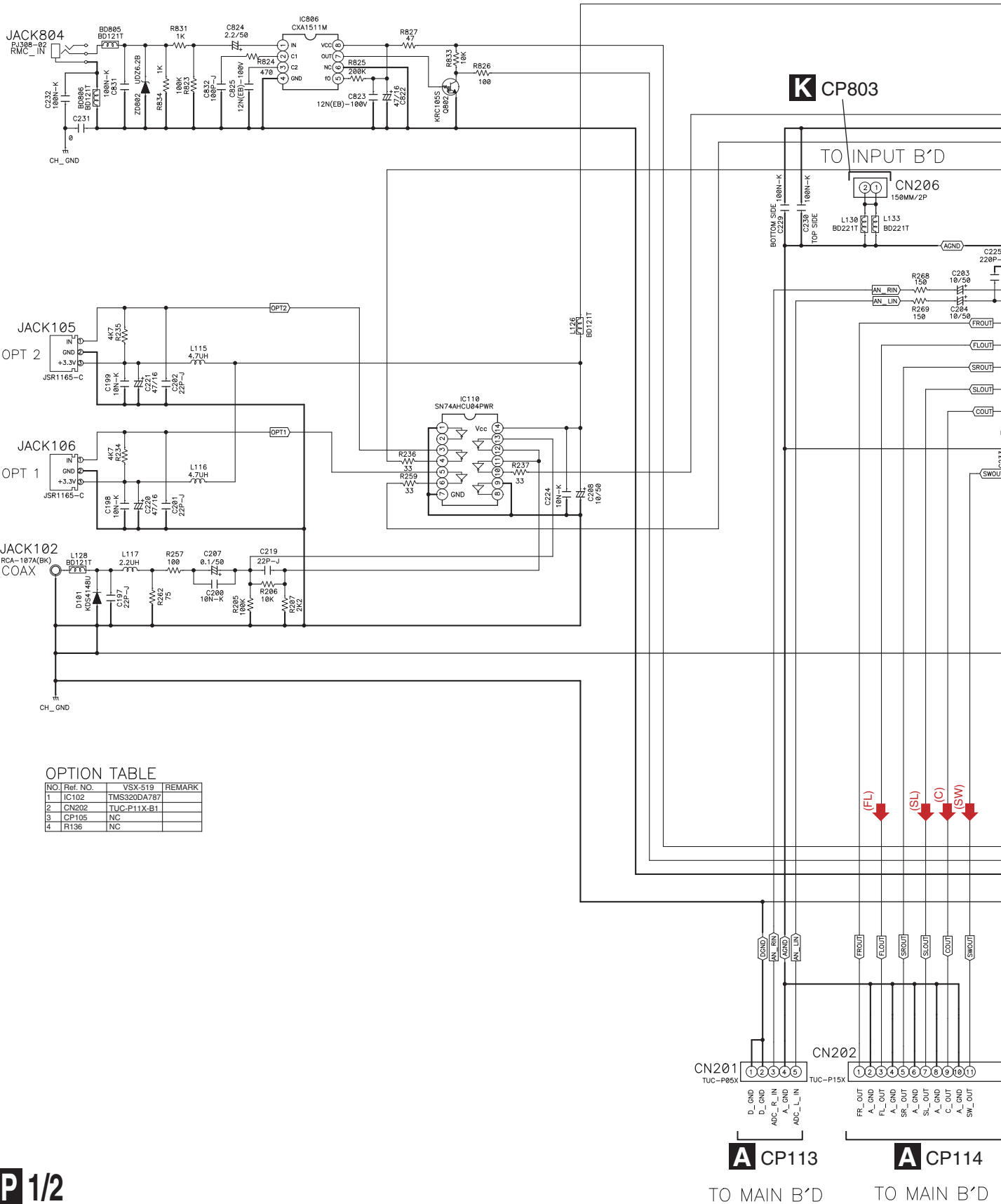


## NOTES

1. Resistor values are indicated in ohms unless otherwise specified  
[ k = 1.000 m = 1.000.000 ]
  2. Capacitor values are indicated in microfarades unless otherwise specified.  
[ p = micro-microfarades ]
  3. : These resistor are to be segregated from printed wiring board or other accessible parts.  
**CAUTION**  
Safety precaution to be followed during servicing
- 1] Since those parts marked with are critical parts for safety, use only the one described in the parts list
- 2] Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

# 10.7 P.C.B SUB ASSY (DSP) (1/2)

## P 1/2 P.C.B SUB ASSY (DSP) (7028067561020-IL)



## P 1/2



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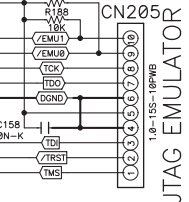
65

**P 2/2 P.C.B SUB ASSY (DSP)**  
**(7028067561020-IL)**



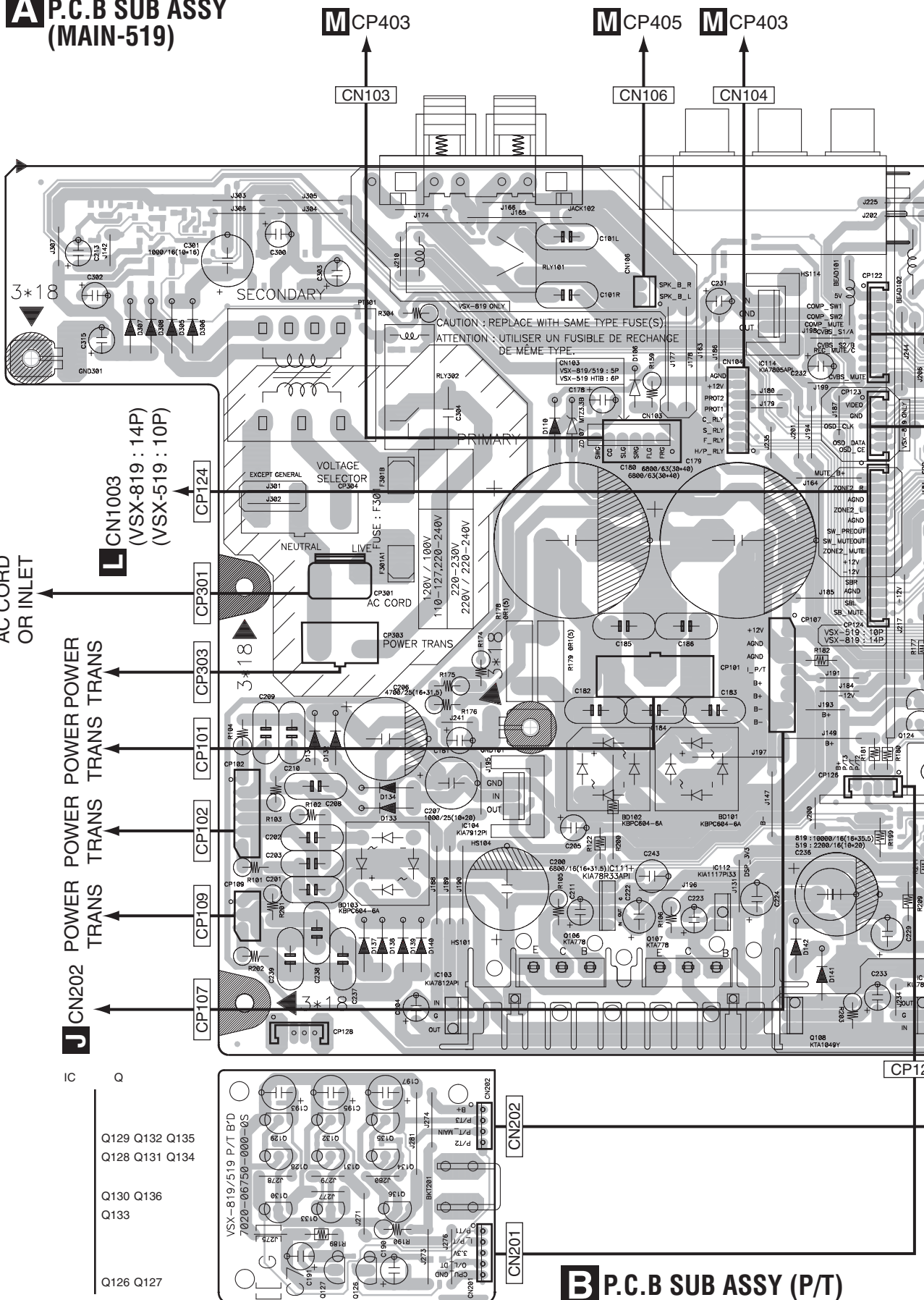
**A** CP116

DSP



### 11.1 P.C.B SUB ASSY (MAIN-519) and P.C.B SUB ASSY (P/T)

## A P.C.B SUB ASSY (MAIN-519)

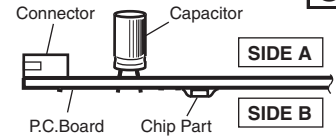


**B P.C.B SUB ASSY (P/T)**

## NOTE FOR PCB DIAGRAMS :

1. The parts mounted on this PCB include all necessary parts for several destinations.  
For further information for respective destinations, be sure to check with the schematic diagram.

2. View point of PCB diagrams.



SIDE A

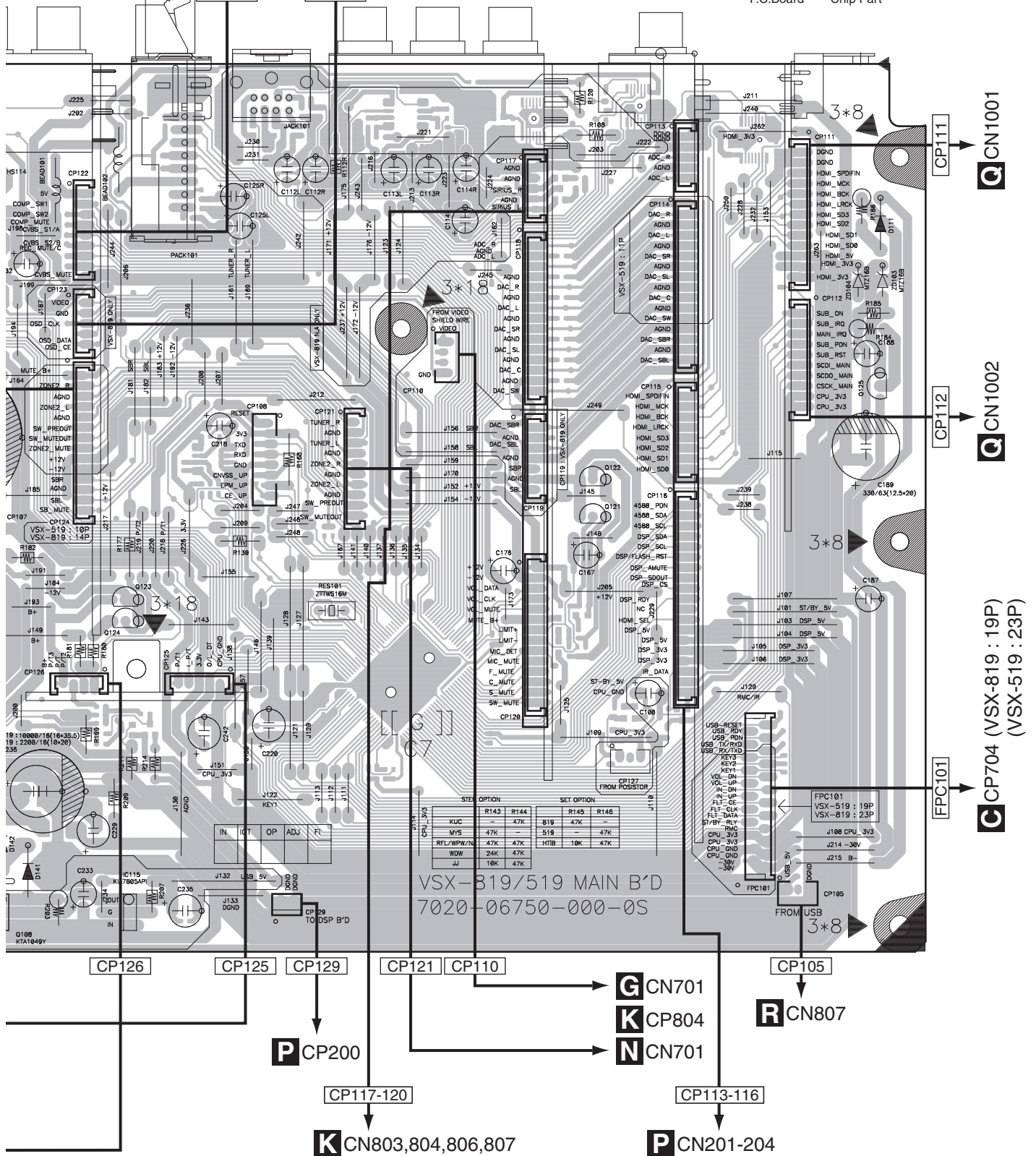
SIDE A

SIDE B

L CN1002 L CN1001

CP122

CP123



VSX-819/519 MAIN B'D  
7020-06750-000-0S

| STEP OPTION |      |      |     | SET OPTION |      |     |   |
|-------------|------|------|-----|------------|------|-----|---|
| KUC         | R143 | R144 | 47K | R145       | R146 | 47K | — |
| MYS         | 47K  | —    | 519 | —          | 47K  | —   | — |
| RFL/WPR/NK  | 47K  | 47K  | —   | HTB        | 10K  | 47K | — |
| WOW         | 24K  | 47K  | —   | —          | —    | —   | — |
| WJ          | 10K  | 47K  | —   | —          | —    | —   | — |

Q CN1001

Q CN1002

C CP704 (VSX-819 : 19P)  
(VSX-519 : 23P)

C

G CN701

K CP804

N CN701

R CN807

P CP200

CP117-120

K CN803,804,806,807

CP113-116

P CN201-204

P/T)

A B

VSX-519V-K



**SIDE B**

## A P.C.B SUB ASSY (MAIN-519)

| IC | Q |
|----|---|
|----|---|

|       |      |
|-------|------|
| IC108 |      |
| IC110 |      |
| IC109 | Q138 |
| IC120 | Q300 |

Q101  
Q111  
Q109  
Q302

|       |      |
|-------|------|
| IC301 | Q110 |
| IC302 |      |

114

IC106

IC101

1

Q103

Q201

IC113

1

A | B

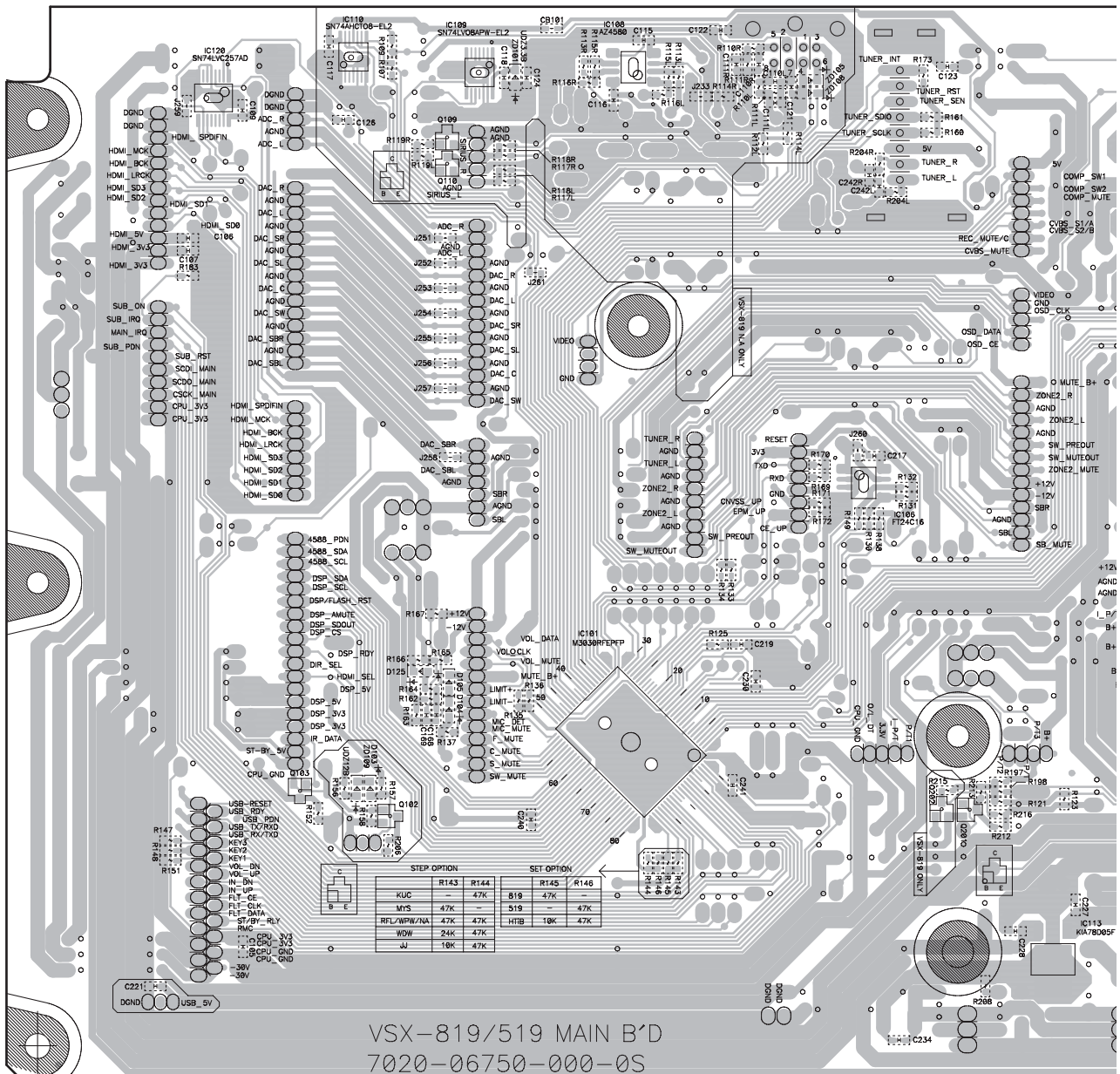
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VSX-519V-K



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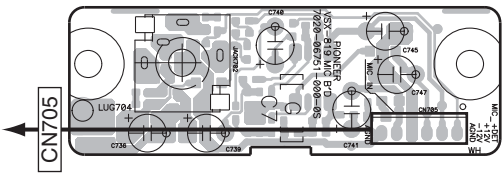
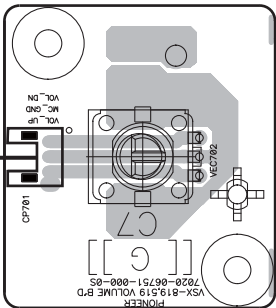
# 11.3 P.C.B SUB ASSYS (VOLUME), (FUNCTION), (HEADPHONE) and (PORTABLE)

SIDE A

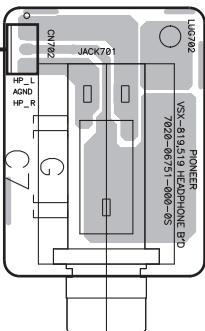
SIDE A

**D** P.C.B SUB ASSY(VOLUME)

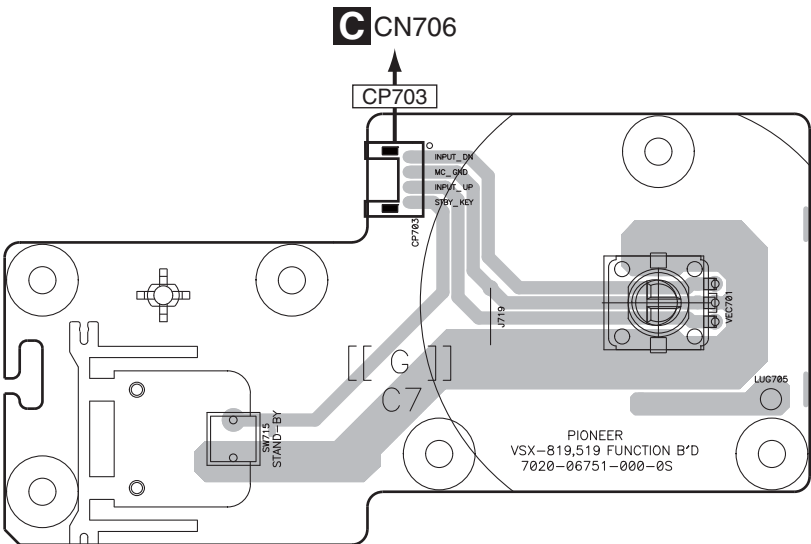
**I** P.C.B SUB ASSY (PORTABLE)



**F** P.C.B SUB ASSY (HEADPHONE)



**E** P.C.B SUB ASSY (FUNCTION)



**D E F I**



△

A



D



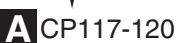
F



## SIDE A

**SIDE A**

**K P.C.B SUB ASSY (INPUT)**



**K**



SIDE B

SIDE B

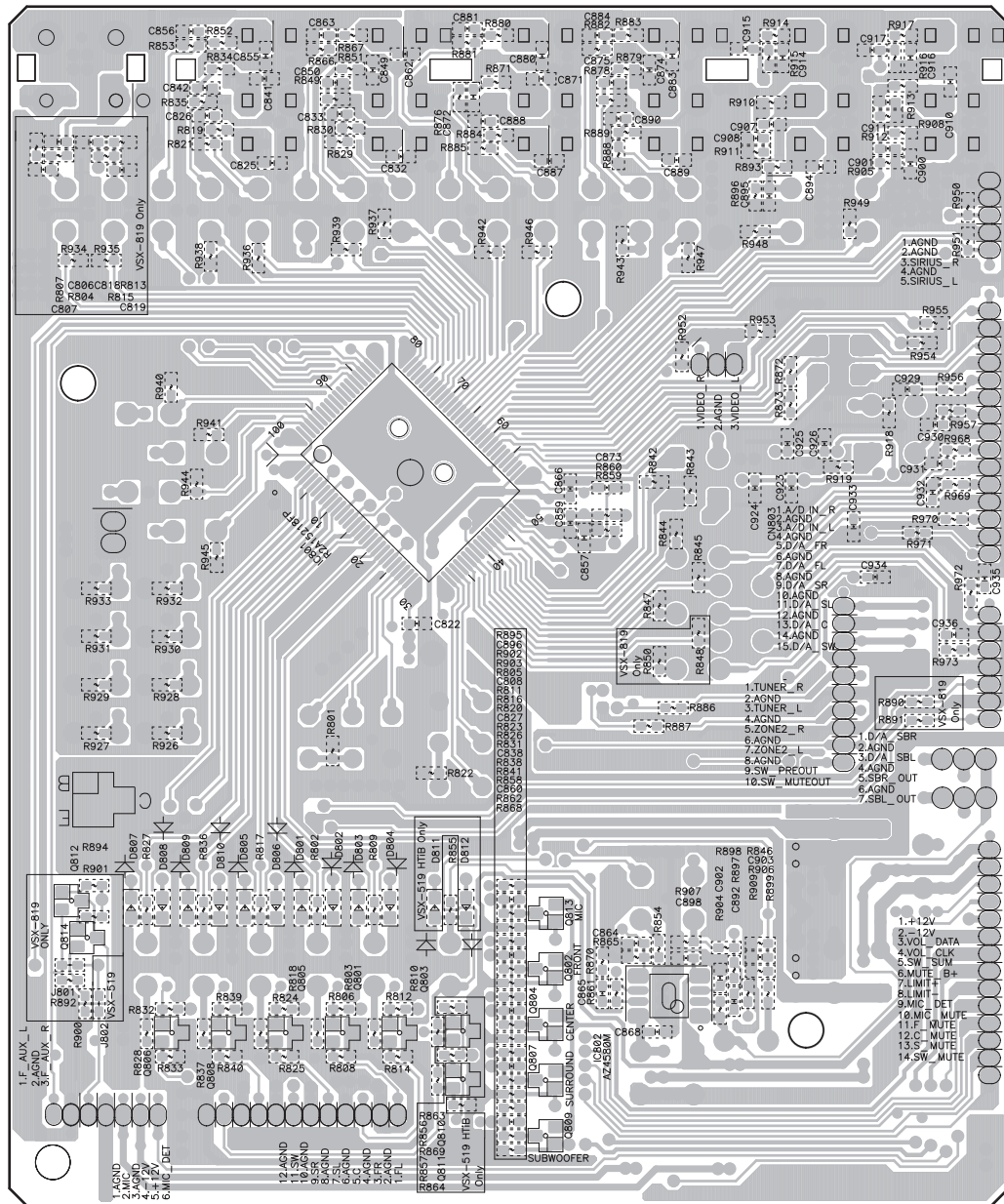
# **K** P.C.B SUB ASSY (INPUT)

IC Q

IC801

IC802

Q812  
Q813  
Q814  
Q801  
Q802 Q803  
Q805  
Q804  
  
Q807  
Q806  
Q808  
  
Q809  
Q810  
Q811



**K**

**K**

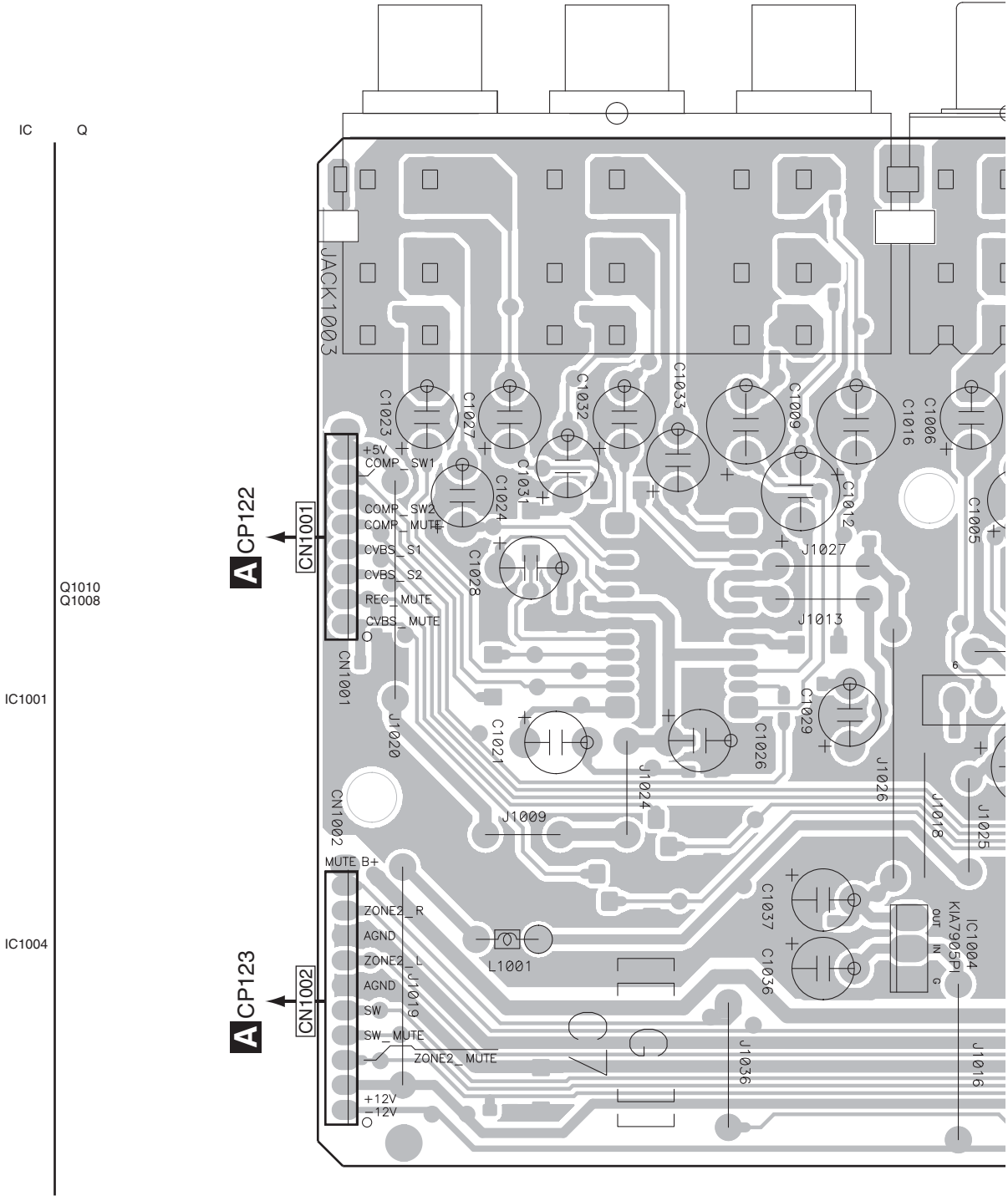
VSX-519V-K



11.6 P.C.B SUB ASSY (VIDEO-519)

SIDE A

P.C.B SUB ASSY (VIDEO-519)





SIDE B

A

P.C.B SUB ASSY (VIDEO-519)

B

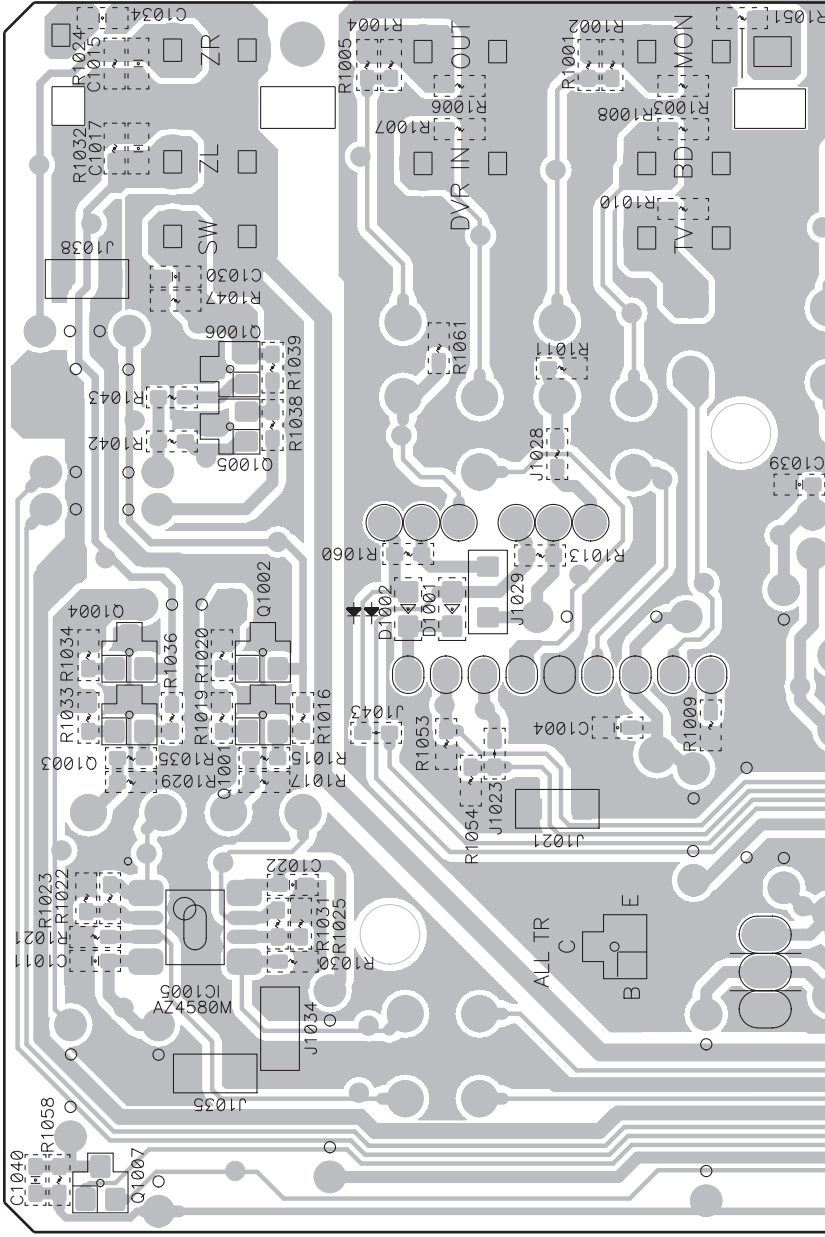
C

D

E

F

| IC     | Q     |
|--------|-------|
|        | Q1006 |
| IC1003 | Q1005 |
|        | Q1002 |
|        | Q1004 |
|        | Q1003 |
|        | Q1001 |
|        | Q1011 |
|        | Q1009 |
| IC1005 |       |
|        | Q1007 |





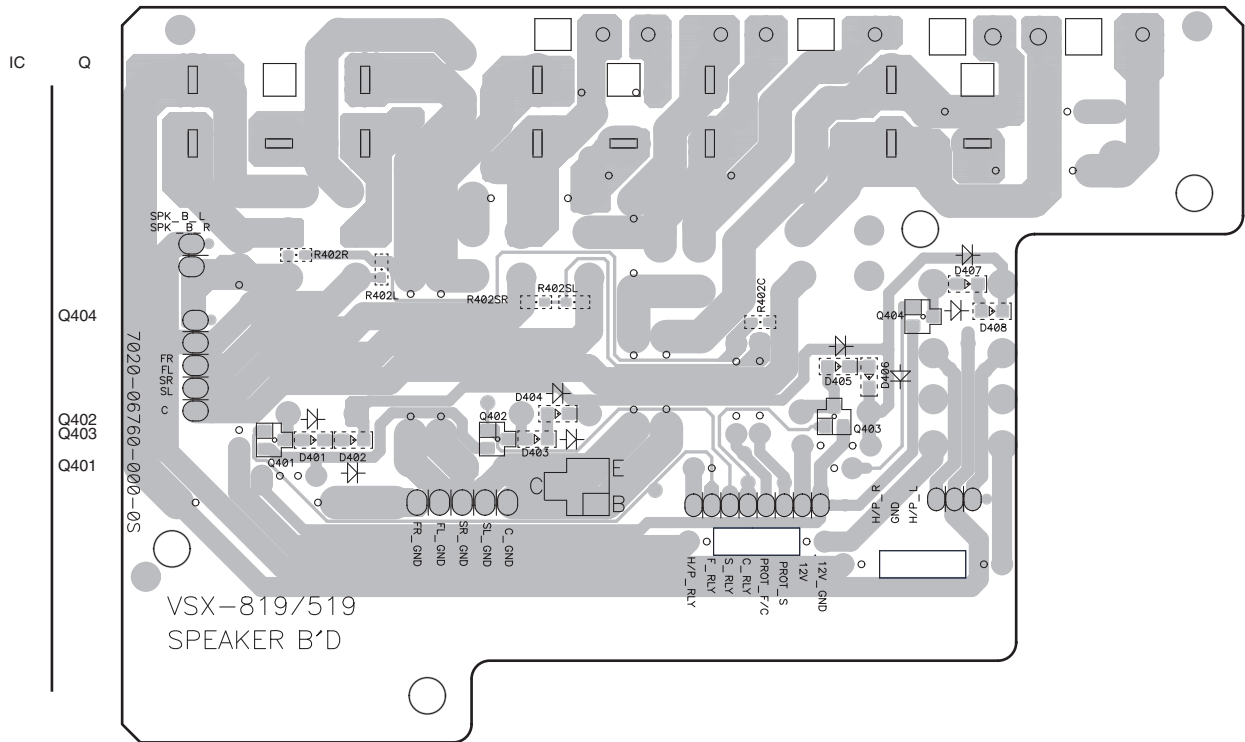
## SIDE A

**SIDE A**

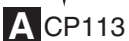
SIDE B

SIDE B

**M** P.C.B SUB ASSY (SPEAKER-519)



## SIDE A

**R** CN805

**A**CP114

**K**CP803

**A**C

**N P**





SIDE B

A

P P.C.B SUB ASSY (DSP)

B

C

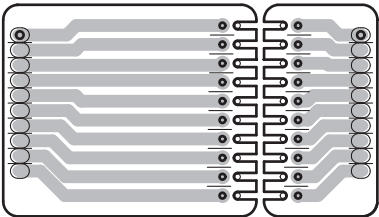
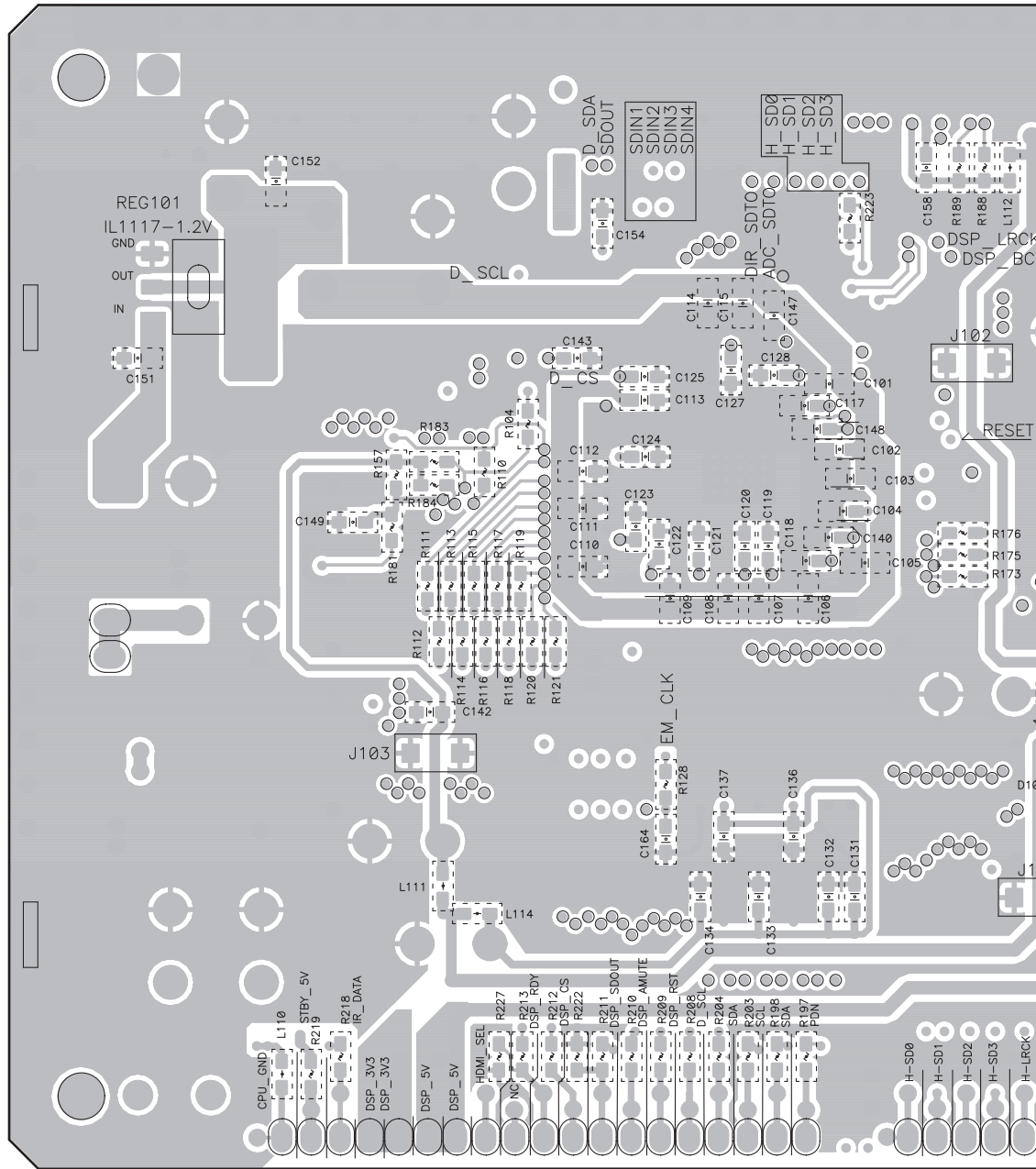
D

E

F

IC Q

Q802 IC806



N P.C.B SUB ASSY (CNT)

N P

A

E

C

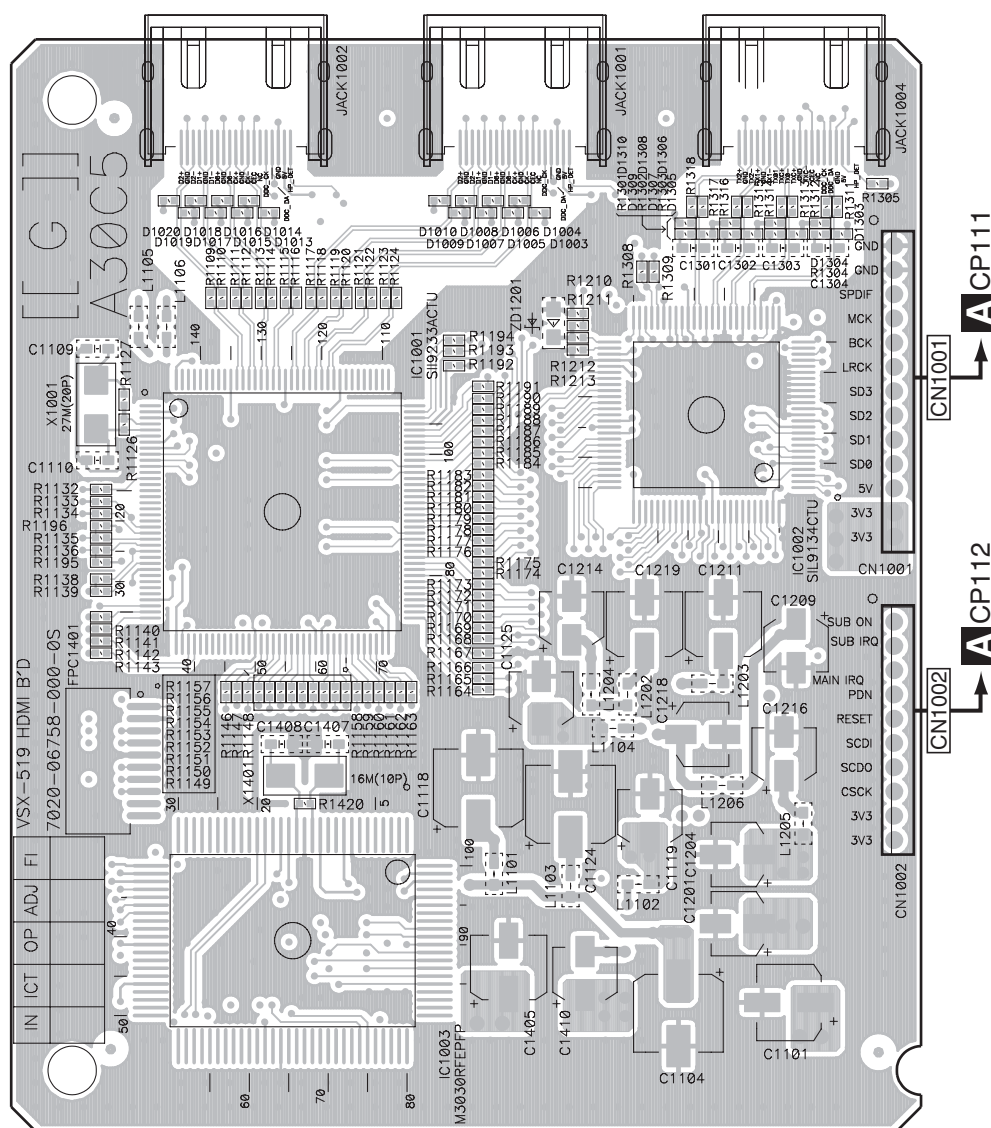
□

**E**

F



## Q P.C.B SUB ASSY (HDMI-519)





# 12. PCB PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

● The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560  $\Omega$   $\rightarrow$  56  $\times 10^1$   $\rightarrow$  561.....RD1/4PU  $\begin{bmatrix} 5 \\ 6 \end{bmatrix} \begin{bmatrix} 1 \\ 0 \end{bmatrix} J$

47 k $\Omega$   $\rightarrow$  47  $\times 10^3$   $\rightarrow$  473.....RD1/4PU  $\begin{bmatrix} 4 \\ 7 \end{bmatrix} \begin{bmatrix} 3 \\ 0 \end{bmatrix} J$

0.5  $\Omega$   $\rightarrow$  R50.....RN2H  $\begin{bmatrix} R \\ 5 \end{bmatrix} \begin{bmatrix} 0 \\ 0 \end{bmatrix} K$

1  $\Omega$   $\rightarrow$  1R0.....RSIP  $\begin{bmatrix} 1 \\ 0 \end{bmatrix} \begin{bmatrix} R \\ 0 \end{bmatrix} K$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 k $\Omega$   $\rightarrow$  562  $\times 10^1$   $\rightarrow$  5621.....RN1/4PC  $\begin{bmatrix} 5 \\ 6 \end{bmatrix} \begin{bmatrix} 2 \\ 1 \end{bmatrix} F$

● Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

● PCB PARTS LIST

JA\*\*\*

RY\*\*\*

T\*\*\*

X\*\*\*

FU\*\*\*

V\*\*\*

S\*\*\*

Q\*\*\*I - Q\*\*\*5

● SCHEMATIC DIAGRAM and PCB CONNECTION DIAGRAM

JACK\*\*\*, JK\*\*\*

RLY\*\*\*

PT\*\*\*

XTAL\*\*\*, RES\*\*\* (CERAMIC)

F\*\*\*

FLT\*\*\*

SW\*\*\*, VEC\*\*\* (ENCODER)

Q\*\*\*FL, Q\*\*\*FR, Q\*\*\*C, Q\*\*\*SL, Q\*\*\*SR

| Mark                                  | No.                               | Description      | Part No. | Mark                 | No.                                | Description      | Part No. |
|---------------------------------------|-----------------------------------|------------------|----------|----------------------|------------------------------------|------------------|----------|
| <b>LIST OF ASSEMBLIES</b>             |                                   |                  |          | $\Delta$             | IC 103                             | J126781200040-IL |          |
| $\Delta$ NSP1..P.C.B TOTAL ASSY (AMP) |                                   | 7025HK0811012-IL |          | $\Delta$             | IC 104                             | J126791200060-IL |          |
| 2..P.C.B SUB ASSY (AMP)               |                                   | 7028067521010-IL |          |                      | IC 106                             | J000241600020-IL |          |
|                                       |                                   |                  |          |                      | IC 109                             | J040740800230-IL |          |
| NSP                                   | 1..P.C.B TOTAL ASSY (FRONT)       | 7025HK0812011-IL |          |                      | IC 110                             | J040740800240-IL |          |
|                                       | 2..P.C.B SUB ASSY (FRONT)         | 7028067511020-IL |          | $\Delta$             | IC 111,112                         | J126111733050-IL |          |
|                                       | 2..P.C.B SUB ASSY (HEADPHONE)     | 7028067512010-IL |          | $\Delta$             | IC 113-115                         | J126780500110-IL |          |
|                                       | 2..P.C.B SUB ASSY (VOLUME)        | 7028067513010-IL |          | $\Delta$             | IC 301                             | J126111700041-IL |          |
|                                       | 2..P.C.B SUB ASSY (FUNCTION)      | 7028067514010-IL |          | $\Delta$             | IC 302                             | J126111750010-IL |          |
|                                       | 2..P.C.B SUB ASSY (PORTABLE)      | 7028067518010-IL |          |                      | Q 101,102,138,300                  | J522038750210-IL |          |
| D NSP                                 | 1..P.C.B TOTAL ASSY (INPUT)       | 7025HK0812013-IL |          |                      | Q 103,111                          | J522010500210-IL |          |
|                                       | 2..P.C.B SUB ASSY (INPUT)         | 7028067531020-IL |          |                      | Q 106,107                          | J501778000010-IL |          |
|                                       |                                   |                  |          | $\Delta$             | Q 108                              | J5011049Y0010-IL |          |
| NSP                                   | 1..P.C.B TOTAL ASSY (VIDEO-519)   | 7025HK0812014-IL |          | $\Delta$             | Q 121,123,124                      | J5001268B0050-IL |          |
|                                       | 2..P.C.B SUB ASSY (VIDEO-519)     | 7028067551010-IL |          |                      | Q 122                              | J5023198Y0000-IL |          |
| NSP                                   | 1..P.C.B TOTAL ASSY (DSP)         | 7025HK0812015-IL |          | $\Delta$             | Q 125                              | J5000916Y0050-IL |          |
|                                       | 2..P.C.B SUB ASSY (DSP)           | 7028067561020-IL |          |                      | Q 301                              | J522038750210-IL |          |
|                                       |                                   |                  |          |                      | Q 302                              | J522107S00210-IL |          |
| NSP                                   | 1..P.C.B TOTAL ASSY (HDMI-519)    | 7025HK0812016-IL |          |                      | D 101-105,125,127                  | K005041480030-IL |          |
|                                       | 2..P.C.B SUB ASSY (HDMI-519)      | 7028067581010-IL |          |                      | D 128,135,136                      | K005041480030-IL |          |
| E NSP                                 | 1..P.C.B TOTAL ASSY (MAIN-519)    | 7025HK0812020-IL |          | $\Delta$             | D 301-304                          | K005041480030-IL |          |
|                                       | 2..P.C.B SUB ASSY (MAIN-519)      | 7028067501080-IL |          |                      | D 1101-1103 (BD101-103)            | K047604000020-IL |          |
|                                       | 2..P.C.B SUB ASSY (GUIDE-L)       | 7028067502010-IL |          | <b>MISCELLANEOUS</b> |                                    |                  |          |
|                                       | 2..P.C.B SUB ASSY (GUIDE-R)       | 7028067503010-IL |          |                      | L 101,102 (BEAD101, 102) BEAD,COIL | 7610010030000-IL |          |
|                                       | 2..P.C.B SUB ASSY (CNT)           | 7028067504010-IL |          |                      | JA 101 TUNER                       | E903004100020-IL |          |
|                                       | 2..P.C.B SUB ASSY (P/T)           | 7028067505010-IL |          |                      | JA 102 TER,BOARD PUSH 2P           | G592212A0300Y-IL |          |
|                                       | 2..P.C.B SUB ASSY (H/P GUIDE)     | 7028067506010-IL |          |                      | RY 101 RELAY                       | G680120502050-IL |          |
|                                       |                                   |                  |          |                      | RY 302 RELAY                       | G680060502010-IL |          |
| NSP                                   | 1..P.C.B TOTAL ASSY (SPEAKER-519) | 7025HK0812021-IL |          | $\Delta$             | T 301 POWER TRANS                  | 8200280150620-IL |          |
|                                       | 2..P.C.B SUB ASSY (SPEAKER-519)   | 7028067601040-IL |          |                      | X 101 RESONATOR,CERAMIC (16 MHz)   | E830160000060-IL |          |

Mark No. Description Part No.

**A P.C.B SUB ASSY (MAIN-519)**

**SEMICONDUCTORS**

IC 101

J020303020030-IL

**RESISTORS**

5



| Mark | No. | Description         | Part No.         |
|------|-----|---------------------|------------------|
| A    | C   | 2041-2045           | D00033006D050-IL |
|      | C   | 2091-2095           | D004471277050-IL |
|      | C   | 2101-2105           | D004102277050-IL |
|      | C   | 2131-2135,2141-2145 | D020104167050-IL |

## K P.C.B SUB ASSY (INPUT)

### SEMICONDUCTORS

|    |                 |                  |
|----|-----------------|------------------|
| IC | 801             | J084152180010-IL |
| IC | 802             | J121458000020-IL |
| Q  | 801,803,805,806 | J5222875B0010-IL |
| Q  | 802,804,807,809 | J520010200210-IL |
| Q  | 808             | J5222875B0010-IL |

|   |         |                  |
|---|---------|------------------|
| D | 801-810 | K005041480030-IL |
|---|---------|------------------|

### MISCELLANEOUS

|    |                      |                  |
|----|----------------------|------------------|
| JA | 802-804 TER,RCA 6PIN | G603060056000-IL |
|----|----------------------|------------------|

### RESISTORS

|   |   |         |                  |
|---|---|---------|------------------|
| ⚠ | R | 874,875 | C060010165060-IL |
|---|---|---------|------------------|

### CAPACITORS

|   |         |                  |
|---|---------|------------------|
| C | 803,830 | D02022306C060-IL |
| C | 804,829 | D02047306C060-IL |
| C | 805,828 | D020154068050-IL |

## L P.C.B SUB ASSY (VIDEO-519)

### SEMICONDUCTORS

|   |             |                  |
|---|-------------|------------------|
|   | IC 1001     | J171795600010-IL |
|   | IC 1003     | J171258600010-IL |
|   | IC 1004     | J126790500070-IL |
| ⚠ | IC 1005     | J121458000020-IL |
|   | Q 1001-1006 | J5222875B0010-IL |

|   |                |                  |
|---|----------------|------------------|
| Q | 1007,1009,1014 | J520010200210-IL |
| Q | 1008,1010      | J5023198Y0000-IL |
| Q | 1011,1015      | J5200107S0050-IL |
| Q | 1012,1013      | J522011000210-IL |
| D | 1001,1002      | K005041480030-IL |

### MISCELLANEOUS

|    |                   |                  |
|----|-------------------|------------------|
| L  | 1001 BEAD,COIL    | 7610035500030-IL |
| JA | 1001 TER,RCA 3PIN | G606319A1B13Y-IL |
| JA | 1002 TER,RCA      | G608610D0209Y-IL |
| JA | 1003 TER,RCA 9PIN | G607902AD016Y-IL |

### CAPACITORS

|   |                |                  |
|---|----------------|------------------|
| C | 1009,1012,1016 | D040471081070-IL |
|---|----------------|------------------|

## M P.C.B SUB ASSY (SPEAKER-519)

### SEMICONDUCTORS

|   |         |                  |
|---|---------|------------------|
| Q | 401-404 | J522010500210-IL |
| D | 401-408 | K005041480030-IL |

### MISCELLANEOUS

|    |                        |                  |
|----|------------------------|------------------|
| JA | 401 TER,BOARD SCREW 4P | G612405E0200Y-IL |
| JA | 402 TER,BOARD PUSH 4P  | G594408SA030Y-IL |
| JA | 403 TER,BOARD PUSH 2P  | G592212A0300Y-IL |
| RY | 401-403 RELAY          | G680120502050-IL |
| RY | 404 RELAY              | G680240202030-IL |

### RESISTORS

|   |                          |                  |
|---|--------------------------|------------------|
| R | 4016,4017 (R401L, R401R) | C060033166520-IL |
|---|--------------------------|------------------|

| Mark                                      | No. | Description | Part No. |
|-------------------------------------------|-----|-------------|----------|
| <b>N P.C.B SUB ASSY (CNT)</b>             |     |             |          |
| P.C.B SUB ASSY (CNT) has no service part. |     |             |          |

## P P.C.B SUB ASSY (DSP)

### SEMICONDUCTORS

|   |        |          |                  |
|---|--------|----------|------------------|
|   | IC 100 |          | J001421640040-IL |
|   | IC 101 |          | J005291600040-IL |
|   | IC 102 |          | J080320788010-IL |
| ⚠ | IC 103 | (REG103) | J126111700041-IL |
|   | IC 106 |          | J040742570030-IL |

|    |                               |                  |
|----|-------------------------------|------------------|
| IC | 109                           | J080458800010-IL |
| IC | 110                           | J040740400290-IL |
| IC | 806                           | J030151100010-IL |
| ⚠  | IC 1011,1021 (REG101, REG102) | J126111712040-IL |
| Q  | 802                           | J522010500210-IL |

|   |         |                  |
|---|---------|------------------|
| D | 101-103 | K005041480030-IL |
|---|---------|------------------|

### MISCELLANEOUS

|    |                          |                  |
|----|--------------------------|------------------|
| L  | 115,116 COIL             | D3304R7000150-IL |
| L  | 117 COIL                 | D3302R2000150-IL |
| L  | 120 BEAD,COIL            | 7610035500030-IL |
| JA | 102 TER,RCA 1PIN         | G600107A0000Y-IL |
| JA | 105,106 OPTICAL RECEIVER | E100116500040-IL |

|    |                               |                  |
|----|-------------------------------|------------------|
| JA | 804 JACK,D3.5                 | G40130802000Y-IL |
| X  | 101 CRYSTAL CHIP (24.576 MHz) | E80524R576020-IL |

### CAPACITORS

|   |         |                  |
|---|---------|------------------|
| C | 823,825 | D02012306C060-IL |
|---|---------|------------------|

## Q P.C.B SUB ASSY (HDMI-519)

### SEMICONDUCTORS

|   |         |                  |
|---|---------|------------------|
|   | IC 1001 | J040923300030-IL |
|   | IC 1002 | J040913400010-IL |
|   | IC 1003 | J020303020030-IL |
| ⚠ | IC 1004 | J126111712040-IL |
| ⚠ | IC 1005 | J126111710011-IL |

|   |             |                  |
|---|-------------|------------------|
|   | Q 1001-1004 | J522390400010-IL |
|   | Q 1201      | J522104S00210-IL |
| ⚠ | Q 1204      | J500124200010-IL |
|   | Q 1401      | J5232114K0010-IL |
|   | Q 1402,1403 | J522038750210-IL |

|   |      |                  |
|---|------|------------------|
| Q | 1405 | J522010200210-IL |
| D | 1401 | K005041480030-IL |

### MISCELLANEOUS

|    |                                |                  |
|----|--------------------------------|------------------|
| JA | 1001,1002,1004 CN.WAFER        | L109100190050-IL |
| X  | 1001 CRYSTAL CHIP (27.000 MHz) | E80527R000010-IL |
| X  | 1401 CRYSTAL CHIP (16.000 MHz) | E80516R000010-IL |

## P.C.B SUB ASSY (GUIDE-L)

### MISCELLANEOUS

|     |                    |                  |
|-----|--------------------|------------------|
| 801 | JHMX9800(ON)HAITI) | 4330000120000-IL |
|-----|--------------------|------------------|

## P.C.B SUB ASSY (GUIDE-R)

### MISCELLANEOUS

|     |                    |                  |
|-----|--------------------|------------------|
| 901 | JHMX9800(ON)HAITI) | 4330000120000-IL |
|-----|--------------------|------------------|