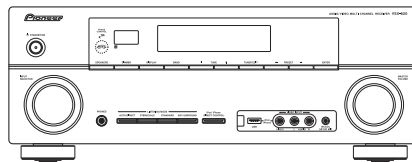


Pioneer

Service Manual



VSX-820-K

ORDER NO.
RRV4043

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-820-K

VSX-520-K

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

Model	Type	Power Requirement	Remarks
VSX-820-K	CUXCNSM	AC 120 V	
VSX-520-K	CUXCNSM	AC 120 V	



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

PIONEER CORPORATION 1-1, Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa 212-0031, Japan

PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.

PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium

PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

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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.

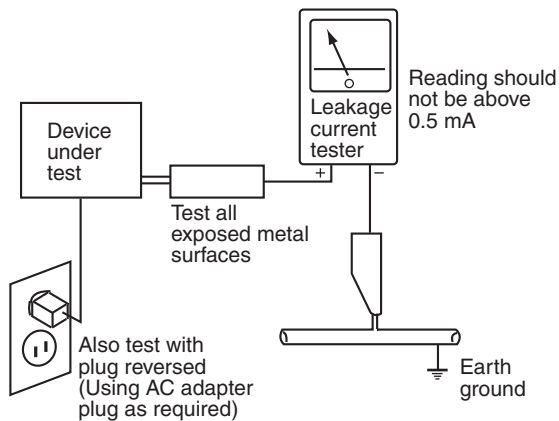
(FOR USA MODEL ONLY)

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  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

2.1.1 VSX-820-K

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 0.08 % total harmonic distortion.**

Front (stereo) 80 W + 80 W
Power output (1 kHz, 8 Ω , 0.05 %) 110 W per channel
Guaranteed speaker impedance
FRONT:A, B 6 Ω to 16 Ω
FRONT:A+B 12 Ω to 16 Ω
SURROUND, CENTER 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

Audio Section

Input (Sensitivity/Impedance)
LINE 200 mV/47 k Ω
Output (Level/Impedance)
REC OUTPUT 200 mV/2.2 k Ω
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




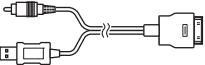

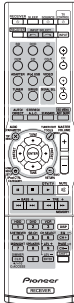
Tuner Section

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

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 . . . 1080i (1125i)/720p (750p)

Accessories

 AM loop antenna (E601016000010-IL)	 FM wire antenna (E605010070001-IL)		
 Microphone (for Auto MCACC setup) (M040000300200-IL)	 iPod cable (L308102013010-IL)	 Dry cell batteries (AAA size IEC R03) x2	 Remote control (8300758300010-IL)

Digital In/Out Section

HDMI terminal Type A (19-pin)
HDMI output type 5 V, 100 mA
USB terminal USB2.0 Full Speed (Type A)
iPod terminal USB, and Video (Composite)
SIRIUS antenna cable 8-pin mini DIN cable

Miscellaneous

Power Requirements AC 120 V, 60 Hz
Power Consumption 245 W
In standby 0.4 W
Dimensions
. 420 mm (W) x 158 mm (H) x 347.7 mm (D)
. 16⁹/₁₆ in. (W) x 6¹/₄ in. (H) x 13³/₄ in. (D)
Weight (without package) 9.1 kg (19 lb 14 oz)

Furnished Parts

Microphone (for Auto MCACC setup) 1
Remote control 1
Dry cell batteries (AAA size IEC R03) 2
AM loop antenna 1
FM wire antenna 1
iPod cable 1
Operating instructions 1

Note

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

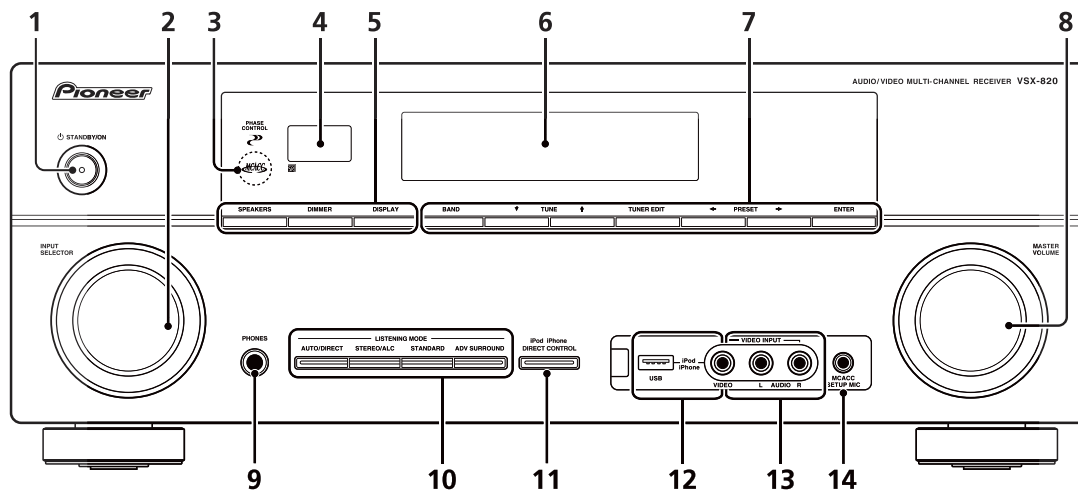
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2.2 PANEL FACILITIES

2.2.1 VSX-820-K

A Front panel



1 **STANDBY/ON**

2 **INPUT SELECTOR dial**

Selects an input source.

3 **MCACC indicator**

Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to on after the Auto MCACC Setup).

4 **Remote sensor**

Receives the signals from the remote control (see *Operating range of remote control* on).

5 **SPEAKERS**

Use to change the speaker system.

DIMMER

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

DISPLAY

Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.¹

6 **Character display**

See *Display*.

7 **Tuner control buttons**

BAND

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

TUNE ↑/↓

Used to find radio frequencies and SIRIUS Radio channels.

TUNER EDIT

Use with **TUNE** ↑/↓, **PRESET** ←/→ and **ENTER** to memorize and name stations for recall. Used to preset the channel in SIRIUS Radio.

PRESET ←/→

Use to select preset radio stations and to select SIRIUS Radio channels.

8 **MASTER VOLUME dial**

9 **PHONES jack**

Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

10 **Listening mode buttons**

AUTO/DIRECT

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

STEREO/ALC

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

STANDARD

Press for Standard decoding and to switch between the various **Pro Logic II**, **Pro Logic IIx**, **Pro Logic IIz** and **NEO:6** options.

ADV SURROUND

Switches between the various surround modes.

11 **iPod iPhone DIRECT CONTROL**

Change the receiver's input to the **iPod** and enable iPod operations on the iPod.

12 **iPod iPhone/USB terminal**

Use to connect your Apple iPod or USB mass storage device as an audio source.

13 **AUDIO/VIDEO input**

See *Connecting to the front panel video terminal*.

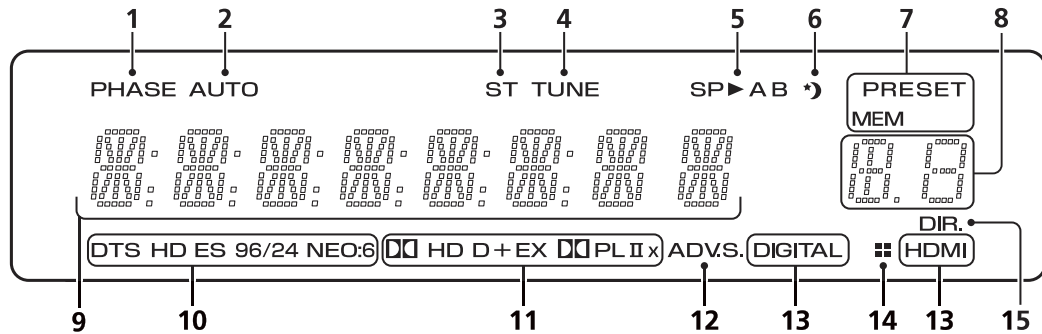
14 **MCACC SETUP MIC jack**

Use to connect a microphone when performing Auto MCACC setup.

Note

¹ The Pre Out setting may or may not be displayed, depending on the input source you have selected.

Display



1 PHASE

Lights when the Phase Control is switched on.

2 AUTO

Lights when the Auto Surround feature is switched on (see *Auto playback*).

3 ST

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

4 TUNE

Lights when a normal broadcast channel or SIRIUS channel is being received.

5 Speaker indicators

Lights to indicate the current speaker system, **A** and/or **B**.

6 Sleep timer indicator

Lights when the receiver is in sleep mode.

7 Tuner/SIRIUS preset indicators

PRESET

Shows when a preset radio station is registered or called.

MEM

Blinks when a radio station is registered.

8 PRESET information or input signal indicator

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

9 Character display

Displays various system information.

10 DTS indicators

DTS

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

HD

Lights when a source with DTS-EXPRESS or DTS-HD encoded audio signals is detected.

ES

Lights to indicate DTS-ES decoding.

96/24

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

NEO:6

When one of the NEO:6 modes of the receiver is on, this lights to indicate NEO:6 processing.

11 Dolby Digital indicators

DD

Lights when a Dolby Digital encoded signal is detected.

DD+

Lights when a source with Dolby Digital Plus encoded audio signals is detected.

DDHD

Lights when a source with Dolby TrueHD encoded audio signals is detected.

EX

Lights to indicate Dolby Digital EX decoding.

PLII(x)

Lights to indicate **PLII** Pro Logic II / **PLIIx** Pro Logic IIx decoding. Light will go off during **PLIIz** Pro Logic IIz decoding.

12 ADV.S.

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

13 SIGNAL SELECT indicators

DIGITAL

Lights when a digital audio signal is selected. Blinks when a digital audio signal is selected and selected audio input is not provided.

HDMI

Lights when an HDMI signal is selected. Blinks when an HDMI signal is selected and selected HDMI input is not provided.

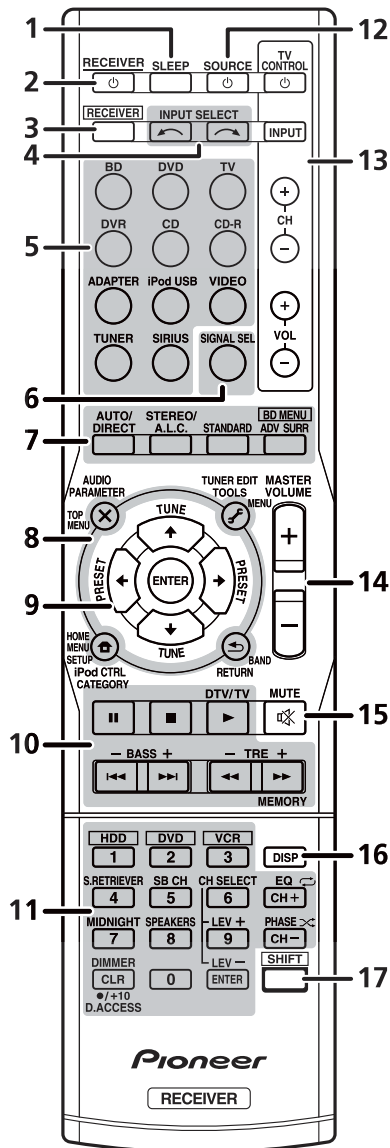
14 Up Mix/DIMMER indicator

Lights when the Up Mix function is set to **ON**. Also, lights when DIMMER is set to off.

15 DIR.

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

A Remote control



6 SIGNAL SEL

Use to select an input signal.

7 Listening mode buttons

AUTO/DIRECT

Switches between Auto surround mode (*Auto playback*) 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.

Press **BD** first to access:

BD MENU*

Displays the disc menu of Blu-ray Discs.

8 System Setup and component control buttons

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

Press **RECEPTOR** 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**, **DVD** or **DVR** first to access:

TOP MENU

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** or **SIRIUS** first to access:

TUNER EDIT

Memorizes stations for recall. When **TUNER** is pressed, also used to change the name.

BAND

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

CATEGORY

Press to browse SIRIUS radio broadcasts.

Press **iPod USB** first to access:

iPod CTRL

Switches between the iPod controls and the receiver controls.

1 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.

2 RECEIVER

Switches the receiver between standby and on.

3 RECEPTOR

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

4 INPUT SELECT

Use to select the input source.

5 MULTI CONTROL buttons

Press to select control of other components.

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 (**BD**, **DVD**, **DVR** and **CD**). These buttons also function as described below.

Press **RECEIVER** first to access:

BASS

Use to adjust Bass¹

TRE

Use to adjust Treble¹

Press **TV** first to access:

DTV/TV

Switches between the DTV and analog TV input modes for Pioneer flat panel TVs.

11 Number buttons and other component controls

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

HDD*, **DVD***, **VCR***

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

S.RETRIEVER

Press to restore CD quality sound to compressed audio sources.

SB CH

Press to select **ON**, **AUTO**, **OFF** the surround back channel.

CH SELECT

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

LEV +/-

Use to adjust the channel level.

EQ

Press to switch on/off Acoustic Calibration EQ setting.

Note

¹ The tone controls are disabled when the listening mode is set to **DIRECT** or **PURE DIRECT**.

Note

² The Pre Out setting may or may not be displayed, depending on the input source you have selected.

MIDNIGHT

Switches to Midnight or Loudness listening.

SPEAKERS

Use to change the speaker system.

PHASE

Press to switch on/off Phase Control.

DIMMER

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

Press **SIRIUS** first to access:

D.ACCESS

After pressing, you can access a radio station directly using the number buttons.

12 **SOURCE**

Press to turn on/off other components connected to the receiver.

13 **TV CONTROL** buttons

These buttons are dedicated to control the TV assigned to the **TV** button. Thus if you only have one TV to hook up to this system assign it to the **TV** button.



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 **DISP**

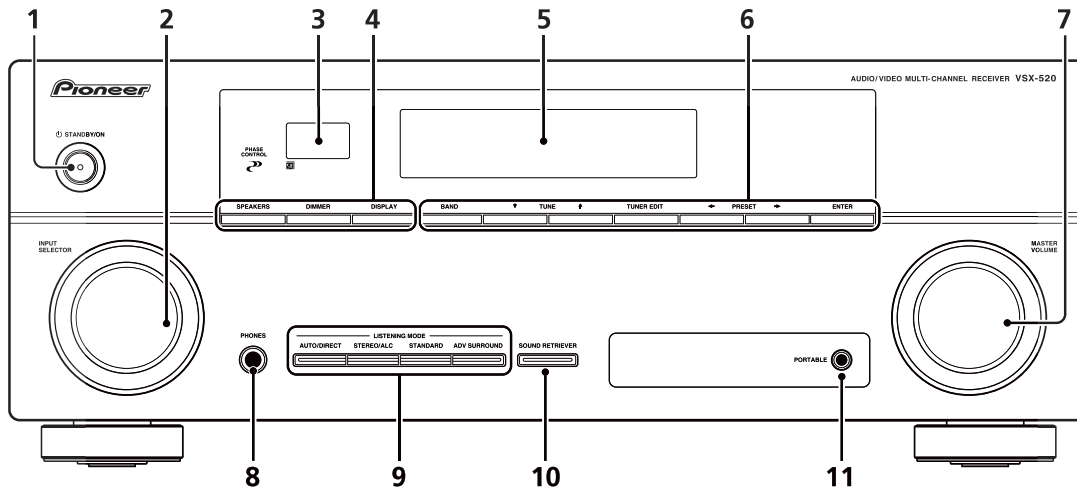
Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.²

17 **SHIFT**

Press to access the 'boxed' commands (above the buttons) on the remote. These buttons are marked with an asterisk (*) in this section.

2.2.2 VSX-520-K

A Front panel



1 **⏻ STANDBY/ON**

2 **INPUT SELECTOR dial**
Selects an input source.

3 **Remote sensor**

Receives the signals from the remote control.

4 **SPEAKERS**

Use to change the speaker system on or off. When the **SP OFF** is selected, no sound is output from the speakers connected to this receiver.

DIMMER

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

DISPLAY

Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.¹

5 **Character display**

See *Display*.

6 **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.

7 **MASTER VOLUME dial**

8 **PHONES jack**

Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

9 **Listening mode buttons**

AUTO/DIRECT

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

STEREO/ALC

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

STANDARD

Press for Standard decoding and to switch between the various **Pro Logic II**, **Pro Logic IIx**, **Pro Logic IIz** and **NEO:6** options.

ADV SURROUND

Switches between the various surround modes.

10 **SOUND RETRIEVER**

Press to restore CD quality sound to compressed audio sources.

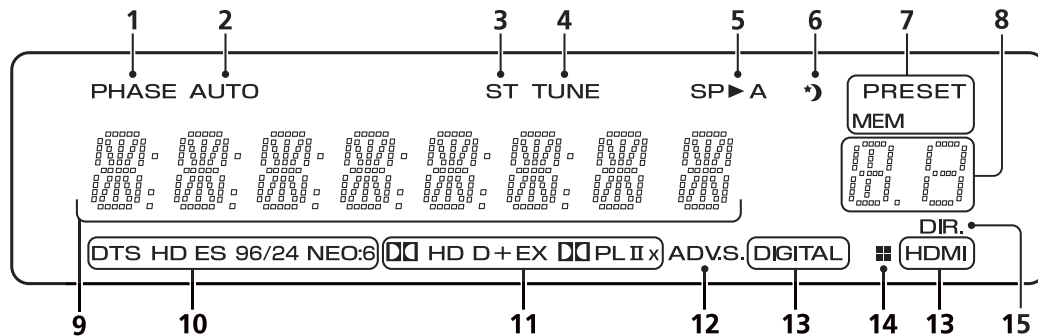
11 **PORTABLE audio input jack**

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

Note

¹ The Pre Out setting may or may not be displayed, depending on the input source you have selected.

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 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.

6 Sleep timer indicator

Lights when the receiver is in sleep mode.

7 Tuner preset indicators

PRESET

Shows when a preset radio station is registered or called.

MEM

Blinks when a radio station is registered.

8 PRESET information or input signal indicator

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

9 Character display

Displays various system information.

10 DTS indicators

DTS

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

HD

Lights when a source with DTS-EXPRESS or DTS-HD encoded audio signals is detected.

ES

Lights to indicate DTS-ES decoding.

96/24

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

NEO:6

When one of the NEO:6 modes of the receiver is on, this lights to indicate NEO:6 processing.

11 Dolby Digital indicators

DD

Lights when a Dolby Digital encoded signal is detected.

DD+

Lights when a source with Dolby Digital Plus encoded audio signals is detected.

DDHD

Lights when a source with Dolby TrueHD encoded audio signals is detected.

EX

Lights to indicate Dolby Digital EX decoding.

PLII(x)

Lights to indicate DD Pro Logic II / DD Pro Logic IIx decoding. Light will go off during DD Pro Logic IIz decoding.

12 ADV.S.

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

13 SIGNAL SELECT indicators

DIGITAL

Lights when a digital audio signal is selected.
 Blinks when a digital audio signal is selected and if selected audio input is not provided.

HDMI

Lights when an HDMI signal is selected.
 Blinks when an HDMI signal is selected and selected HDMI input is not provided.

14 Up Mix/DIMMER indicator

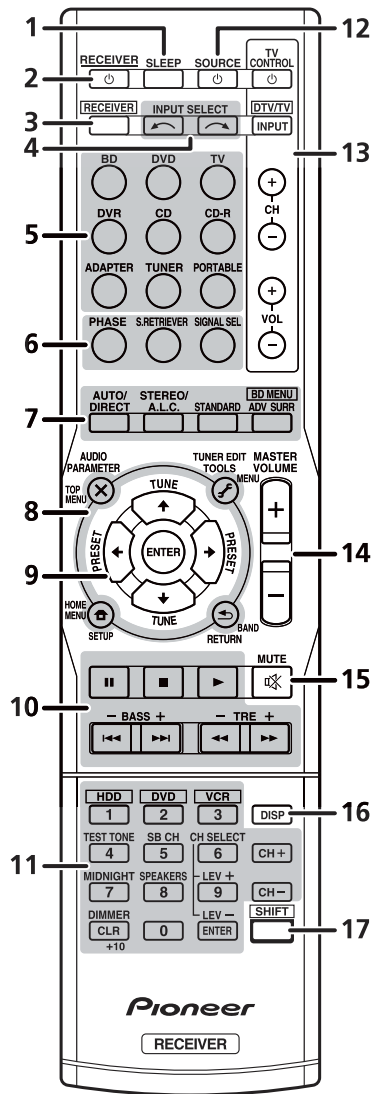
Lights when the Up Mix function is set to **ON**. Also, lights when DIMMER is set to off.

15 DIR.

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

A Remote control

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



1 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.

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 INPUT SELECT

Use to select the input source.

5 MULTI CONTROL buttons

Press to select control of other components.

14

6 Receiver control buttons

PHASE

Press to switch on/off Phase Control.

S. RETRIEVER

Press to restore CD quality sound to compressed audio sources.

SIGNAL SEL

Use to select an input signal.

7 Listening mode buttons

AUTO/DIRECT

Switches between Auto surround mode (*Auto playback*) 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** Pro Logic II options.

ADV SURR

Switches between the various surround modes.

Press **BD** first to access:

BD MENU*

Displays the disc menu of Blu-ray Discs.

8 System Setup and component control buttons

The following button controls can be accessed after you have selected the corresponding **MULTI CONTROL** button (**BD**, **DVD**, 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**, **DVD** or **DVR** first to access:

TOP MENU

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:

TUNER 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 (**BD**, **DVD**, **DVR** or **CD**). These buttons also function as described below.

Press **RECEIVER** first to access:

BASS

Use to adjust Bass¹

TRE

Use to adjust Treble¹

11 Number buttons and other component controls



Use the number buttons to directly select the tracks on a CD or tuner. 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.

SB CH

Press to select **ON**, **AUTO**, **OFF** the surround back channel.

CH SELECT

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

LEV +/-

Use to adjust the channel levels.

MIDNIGHT

Switches to Midnight or Loudness listening.

SPEAKERS

Use to change the speaker system on or off. When the **SP OFF** is selected, no sound is output from the speakers connected to this receiver.

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**, **DVD**, **DVR** or **CD** 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.

DTV/TV*

Switches between the DTV and analog TV input modes for Pioneer flat panel TVs.

14 **MASTER VOLUME +/-**

Use to set the listening volume.

15 **MUTE**

Mutes/unmutes the sound.

16 **DISP**

Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.²

17 **SHIFT**

Press to access the 'boxed' commands (above the buttons) on the remote. These buttons are marked with an asterisk (*) in this section.

Note

¹ The tone controls are disabled when the listening mode is set to **DIRECT** or **PURE DIRECT**.

Note

² The Pre Out setting may or may not be displayed, depending on the input source you have selected.

1 2 3 4

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

A

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. 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. Video, Audio and operations must be normal.
2	Check the analog audio playback. (Make the analog connections with a DVD player.)	Each channel audio and operations must be normal.
3	Check the digital audio playback. (Make the digital connections with a DVD player.)	Each channel audio and operations must be normal.
4	Check surround playback. (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. (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.

D

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	

F

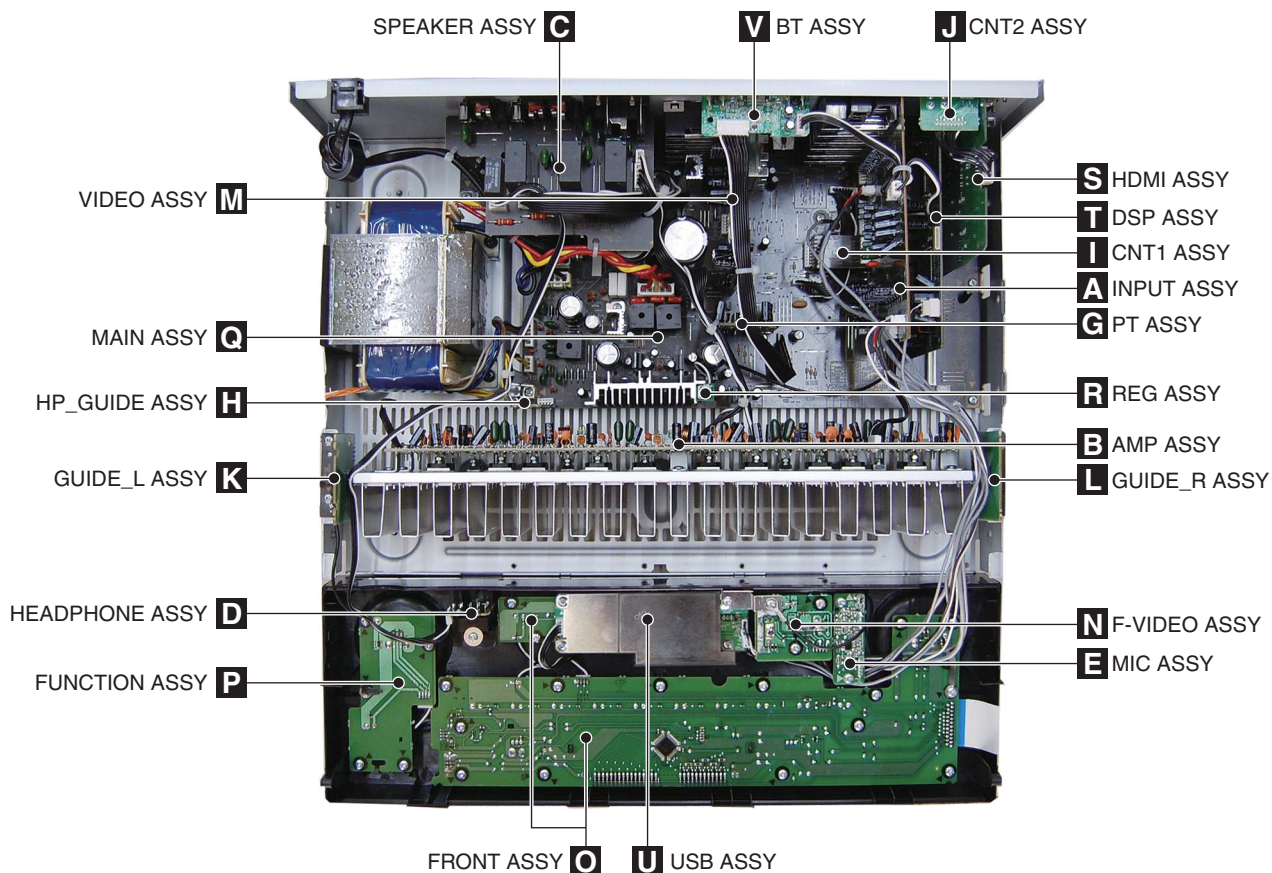
16

VSX-820-K

1 2 3 4

3.2 PCB LOCATIONS

3.2.1 VSX-820-K

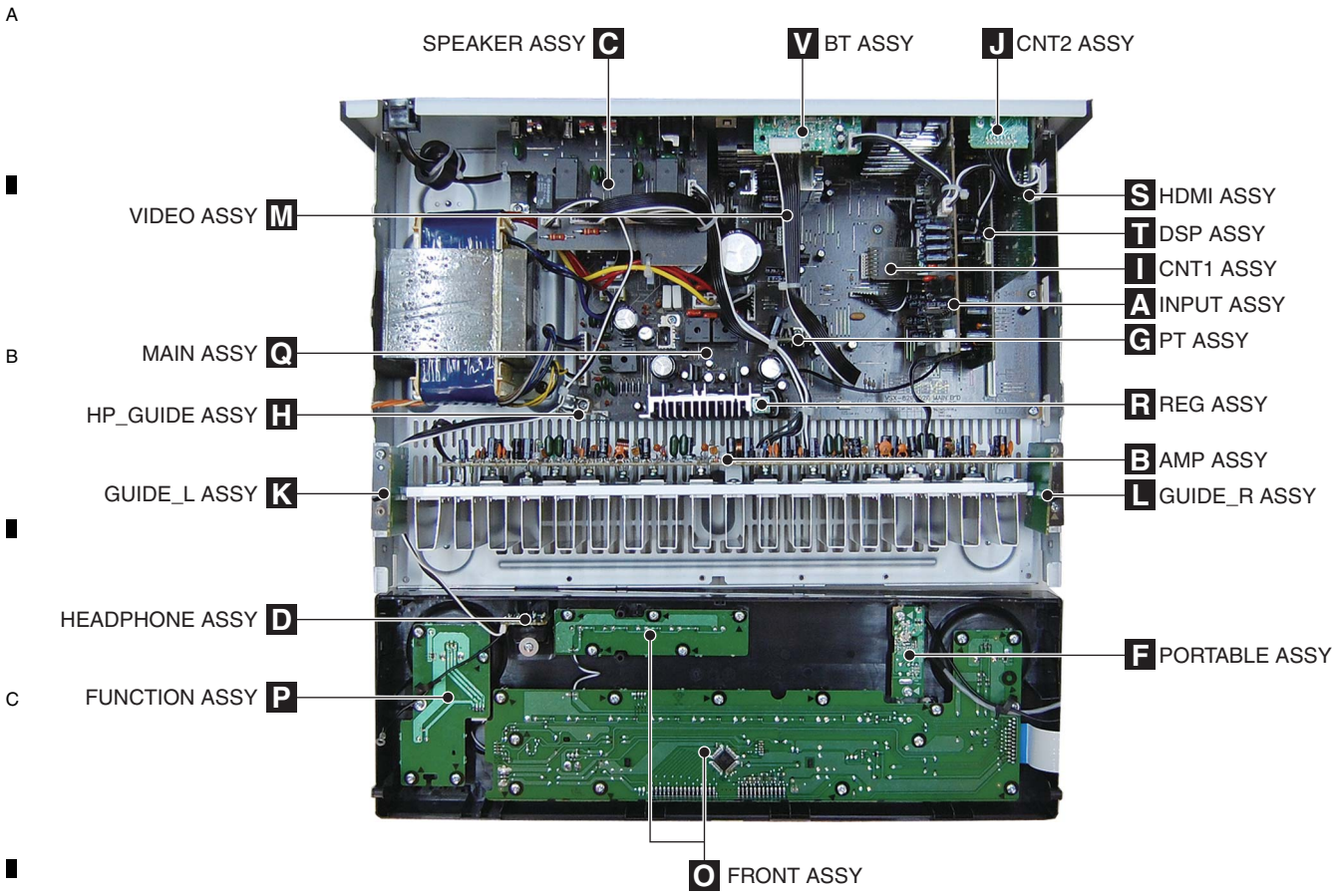


NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle 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..MAIN ASSY	7025HK0916010-IL	NSP	1..INPUT ASSY	7025HK0916012-IL
	2..MAIN ASSY	7028069111010-IL		2..INPUT ASSY	7028069131010-IL
	2..PT ASSY	7028069112010-IL			
	2..CNT2 ASSY	7028069113010-IL	NSP	1..SPEAKER ASSY	7025HK0916014-IL
	2..HEADPHONE ASSY	7028069114010-IL		2..SPEAKER ASSY	7028069151010-IL
	2..HP_GUIDE ASSY	7028069115010-IL	NSP	1..DSP ASSY	7025HK0916015-IL
	2..MIC ASSY	7028069116010-IL		2..DSP ASSY	7028069161010-IL
	2..GUIDE_L ASSY	7028069117010-IL		2..REG ASSY	7028069162010-IL
	2..GUIDE_R ASSY	7028069118010-IL			
	2..CNT1 ASSY	7028069119010-IL	NSP	1..HDMI ASSY	7025HK0916018-IL
				2..HDMI ASSY	7028069191010-IL
NSP	1..VIDEO ASSY	7025HK0916013-IL	NSP	1..USB ASSY	7025HK0916016-IL
	2..VIDEO ASSY	7028069141010-IL		2..USB ASSY	7028069171010-IL
NSP	1..FRONT ASSY	7025HK0916011-IL	NSP	1..BT ASSY	7025HK0916017-IL
	2..FRONT ASSY	7028069121010-IL		2..BT ASSY	7028069181010-IL
	2..FUNCTION ASSY	7028069122010-IL			
	2..F-VIDEO ASSY	7028069123010-IL	NSP	1..AMP ASSY	7025HK0916019-IL
				2..AMP ASSY	7028067523010-IL

3.2.2 VSX-520-K



NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ 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..MAIN ASSY	7025HK0915010-IL	NSP	1..INPUT ASSY	7025HK0915012-IL
	2..MAIN ASSY	7028069111060-IL		2..INPUT ASSY	7028069131020-IL
	2..PT ASSY	7028069112010-IL			
	2..CNT2 ASSY	7028069113010-IL	NSP	1..SPEAKER ASSY	7025HK0915014-IL
	2..HEADPHONE ASSY	7028069114010-IL		2..SPEAKER ASSY	7028069151030-IL
	2..HP_GUIDE ASSY	7028069115010-IL	NSP	1..DSP ASSY	7025HK0915015-IL
	2..GUIDE_L ASSY	7028069117010-IL		2..DSP ASSY	7028069161020-IL
	2..GUIDE_R ASSY	7028069118010-IL		2..REG ASSY	7028069162010-IL
	2..CNT1 ASSY	7028069119010-IL	NSP	1..HDMI ASSY	7025HK0915016-IL
	2..PORTABLE ASSY	702806911A010-IL		2..HDMI ASSY	7028069191020-IL
NSP	1..VIDEO ASSY	7025HK0915013-IL	NSP	1..BT ASSY	7025HK0916017-IL
	2..VIDEO ASSY	7028069141040-IL		2..BT ASSY	7028069181010-IL
NSP	1..FRONT ASSY	7025HK0915011-IL	NSP	1..AMP ASSY	7025HK0916019-IL
	2..FRONT ASSY	7028069121020-IL		2..AMP ASSY	7028067523010-IL
	2..FUNCTION ASSY	7028069122010-IL			

3.3 JIGS LIST



Jigs List

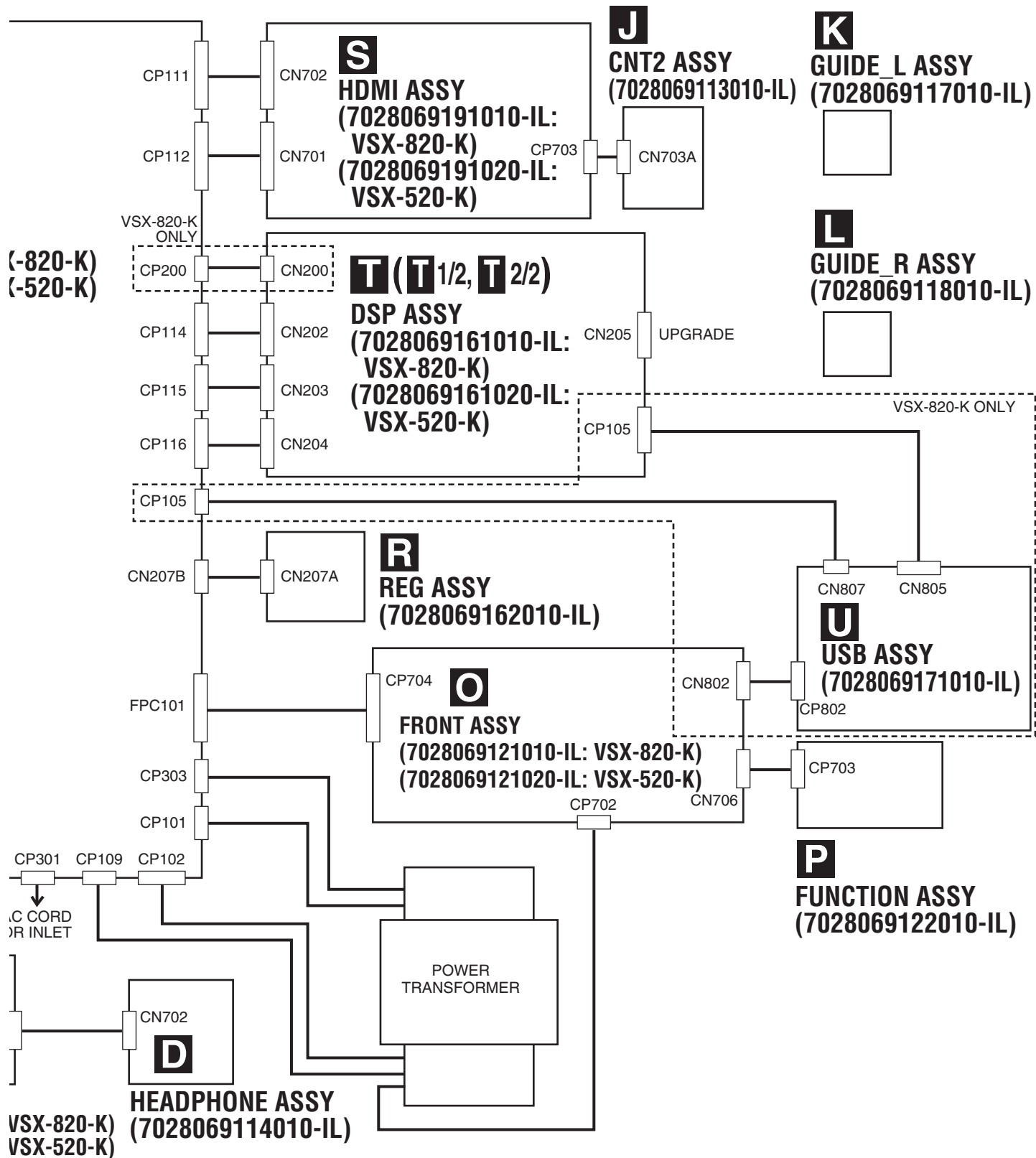
Jig Name	Part No.	Remarks
10P extension jig cable	GGD1628	Diagnosis (AMP Assy ↔ INPUT Assy)
8P extension jig cable	GGD1629	Diagnosis (AMP Assy ↔ MAIN Assy)
Board to board extension jig cable	GGD1673	Diagnosis (DSP Assy ↔ MAIN Assy)
RS-232C update jig	GGF1642	Firmware update (RS-232C ↔ Rear panel)
10P to 8P FFC	GGD1676	

Lubricants and Glues List

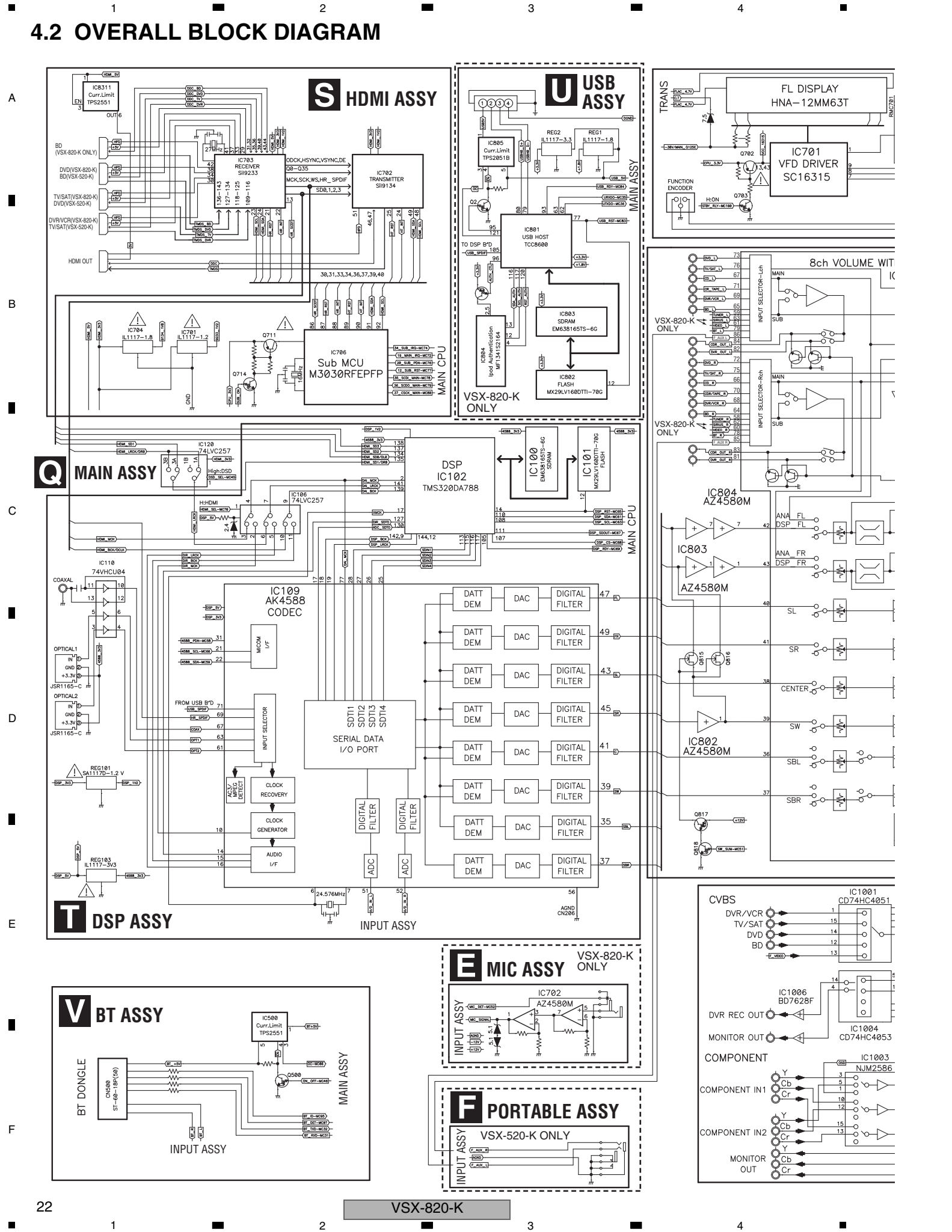


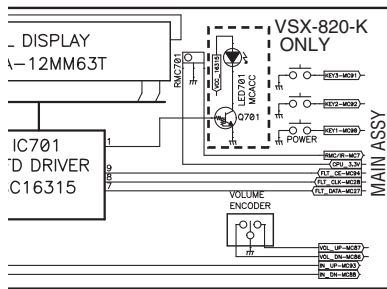
Name	Part No.	Remarks
Silicon grease	GEM1057	Refer to "9.2 EXTERIOR SECTION (VSX-820-K)" and "9.3 EXTERIOR SECTION (VSX-520-K)".
Silicon adhesive	GYA1011 (KE40RTV-W)	Refer to "9.2 EXTERIOR SECTION (VSX-820-K)" and "9.3 EXTERIOR SECTION (VSX-520-K)".

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB 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.
-  : The power supply is shown with the marked box.



4.2 OVERALL BLOCK DIAGRAM

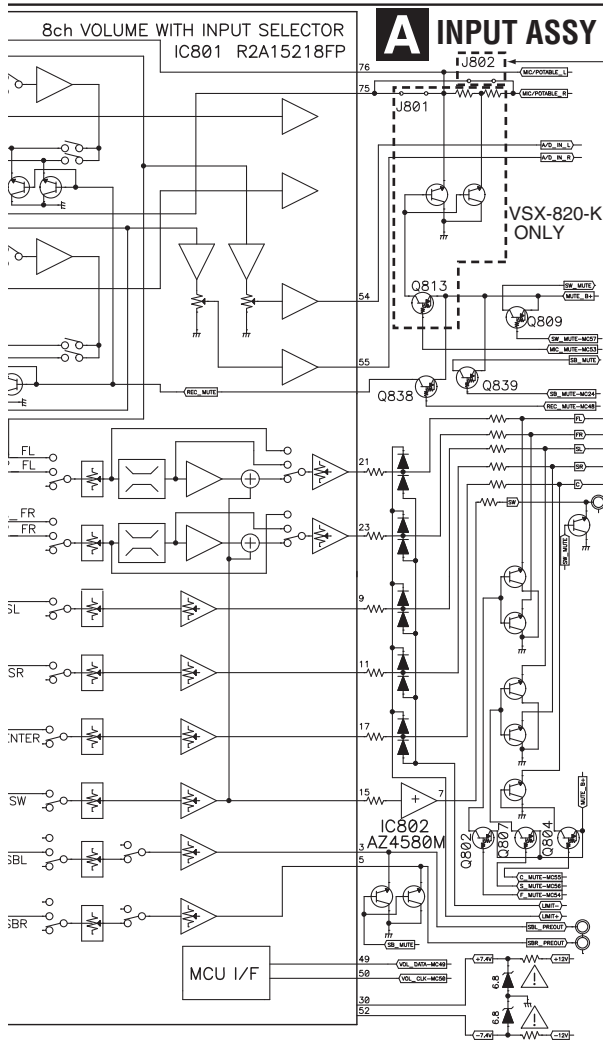




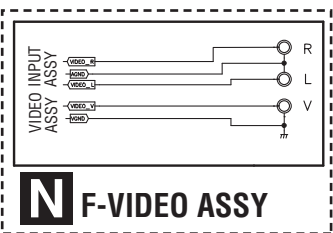
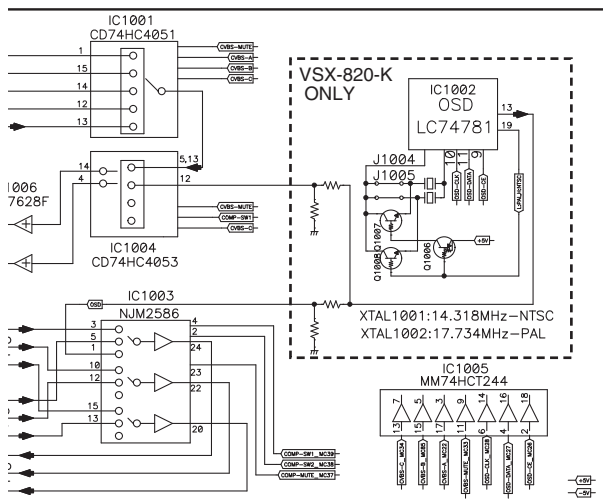
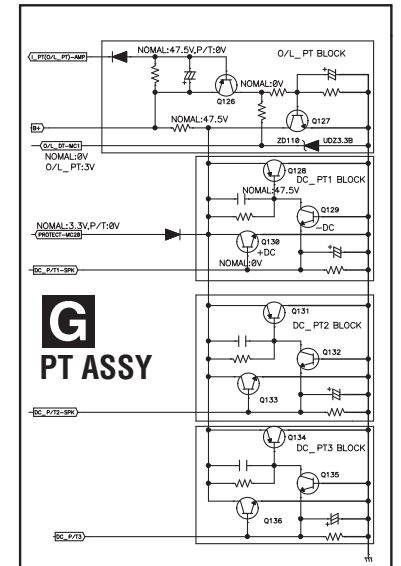
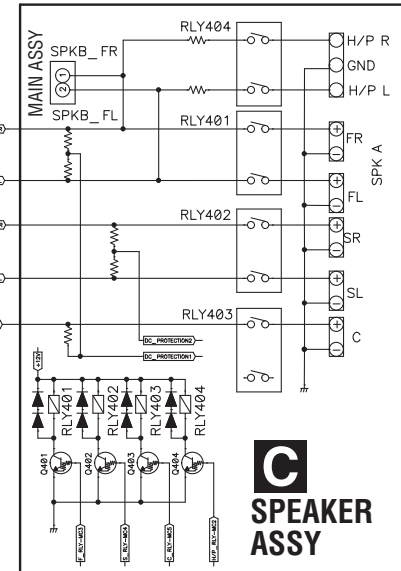
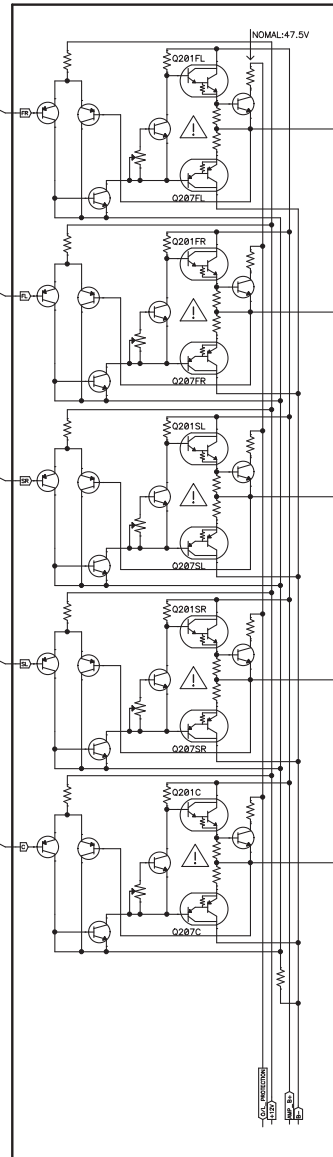
O FRONT ASSY

VSX-520-K ONLY

B AMP ASSY

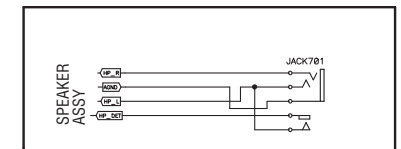


A INPUT ASSY



N F-VIDEO ASSY

VSX-820-K ONLY



D HEADPHONE ASSY

M VIDEO ASSY

VSX-820-K

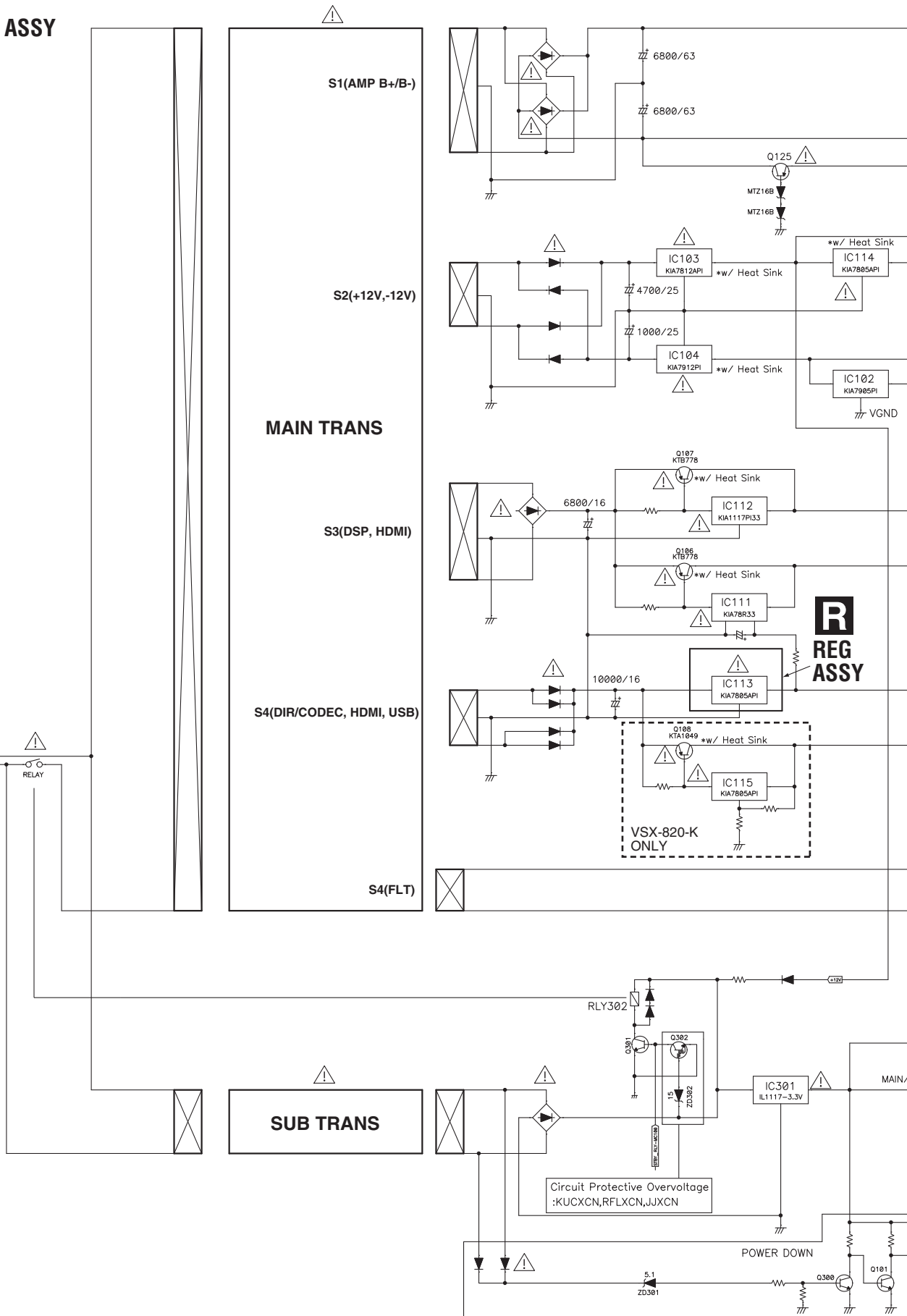
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

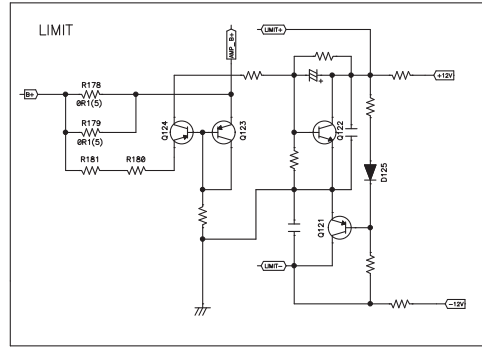
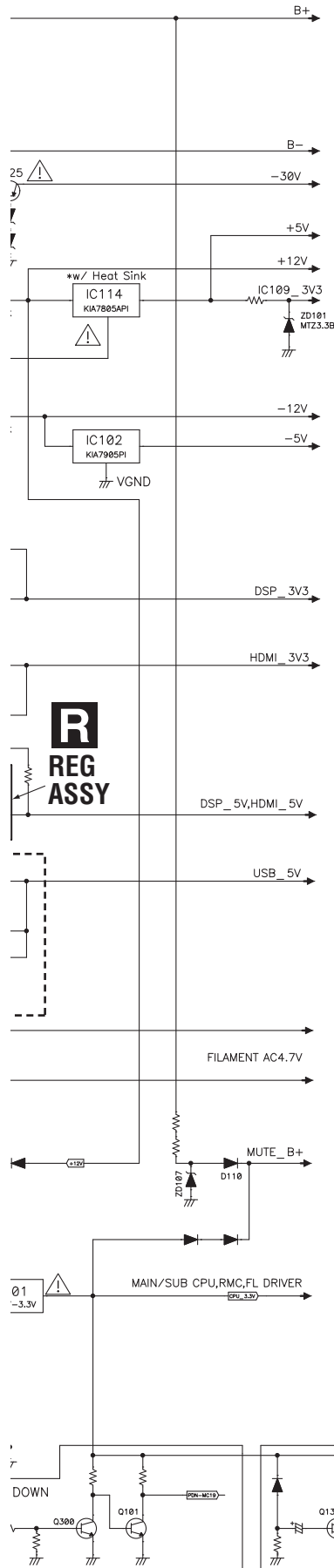
4.3 POWER SUPPLY and MAIN UCOM BLOCK DIAGRAM

A
B
C
D
E
F

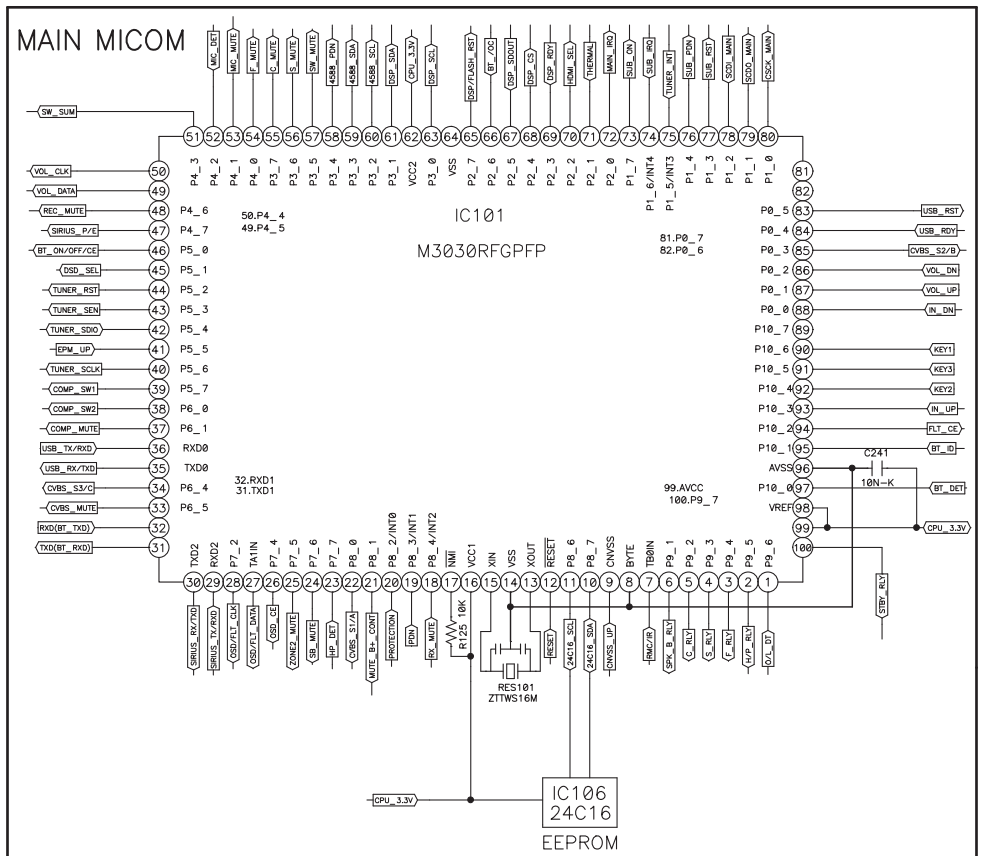
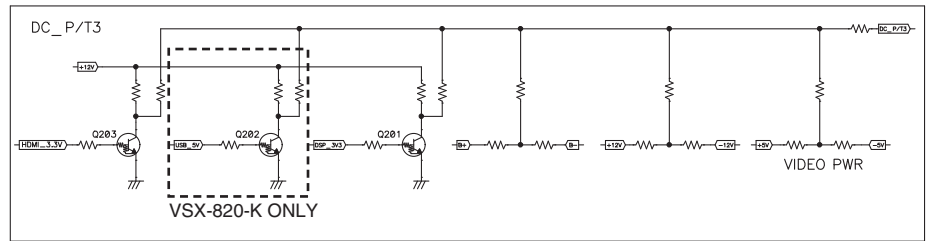
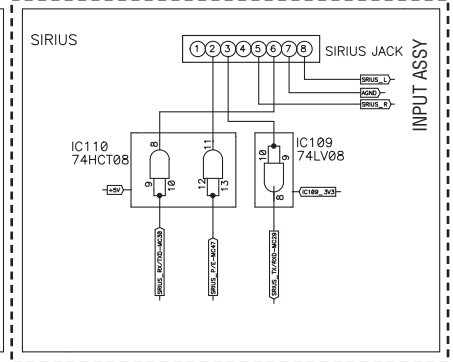
Q MAIN ASSY

AC CORD





VSX-820-K ONLY



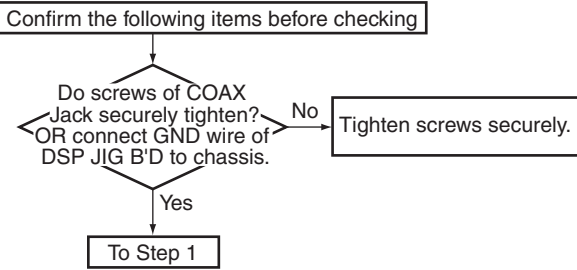
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

5. DIAGNOSIS

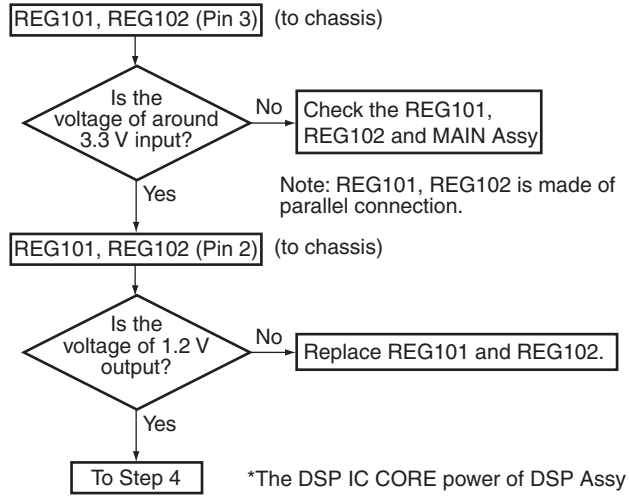
5.1 DIAGNOSIS FLOWCHART

[1] DSP TROUBLESHOOTING

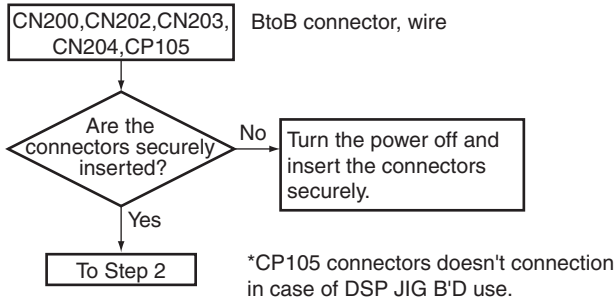
Step 0: Preliminary confirmation



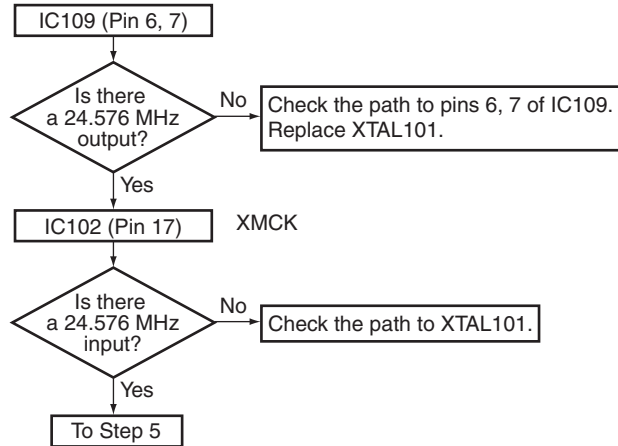
Step 3: Regulator IC



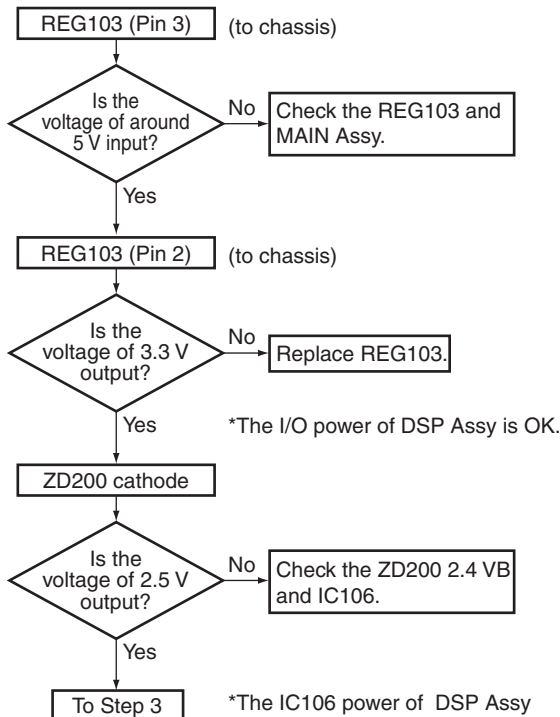
Step 1: BtoB connector, wire



Step 4: X'tal

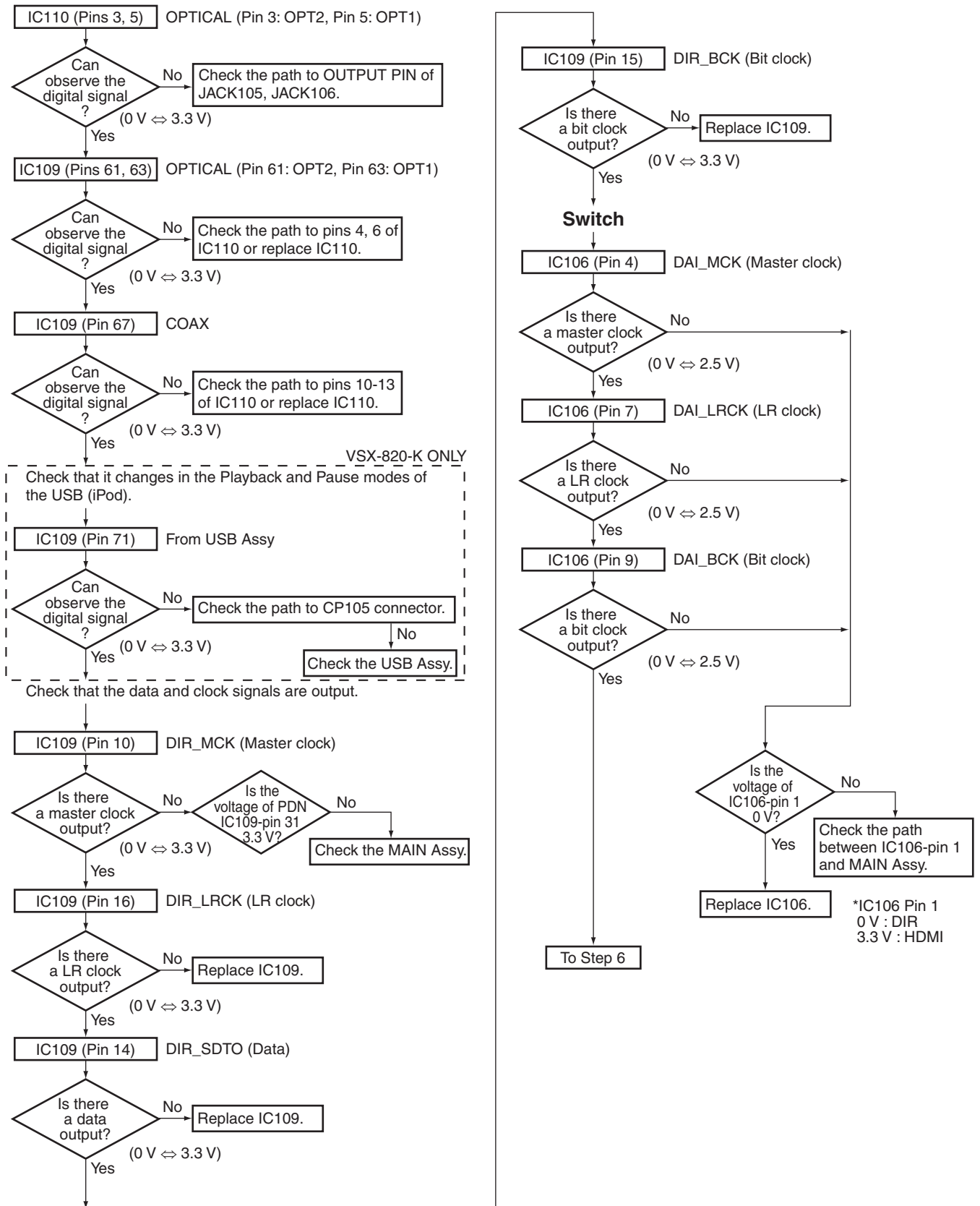


Step 2: Regulator IC



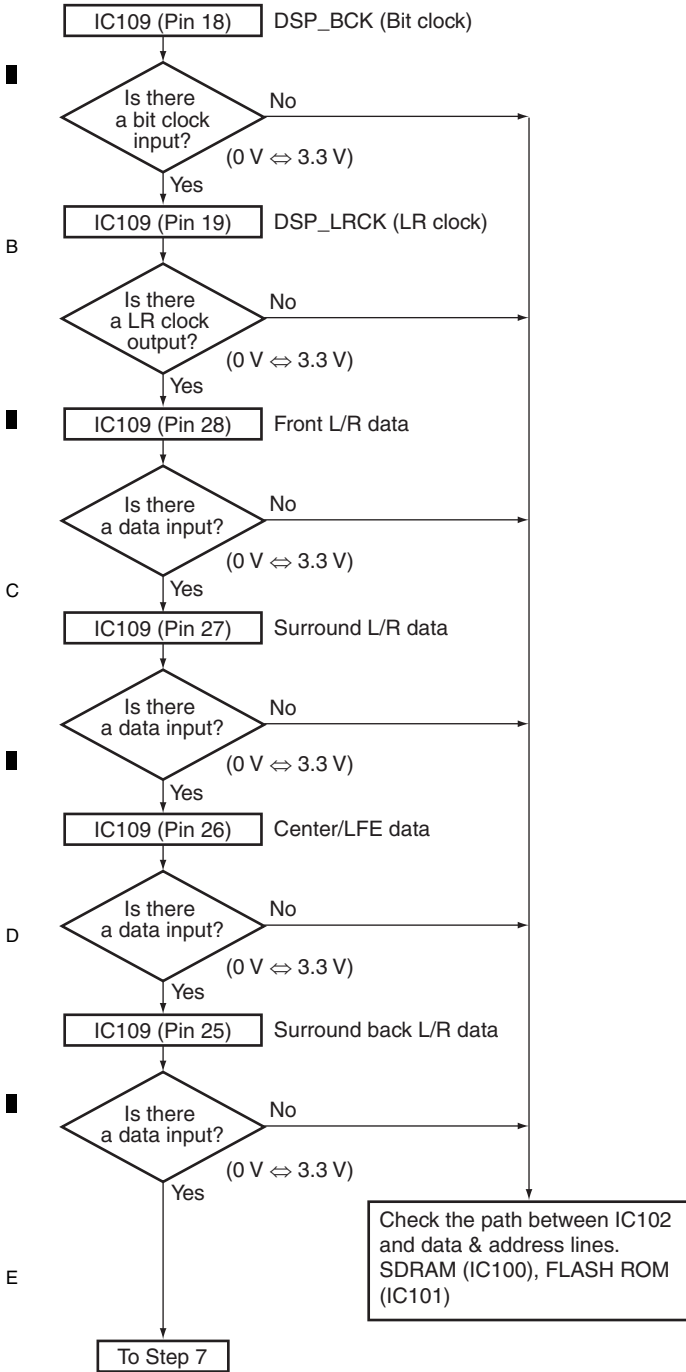
Step 5: DIR

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



A Step 6: DSP output (digital)

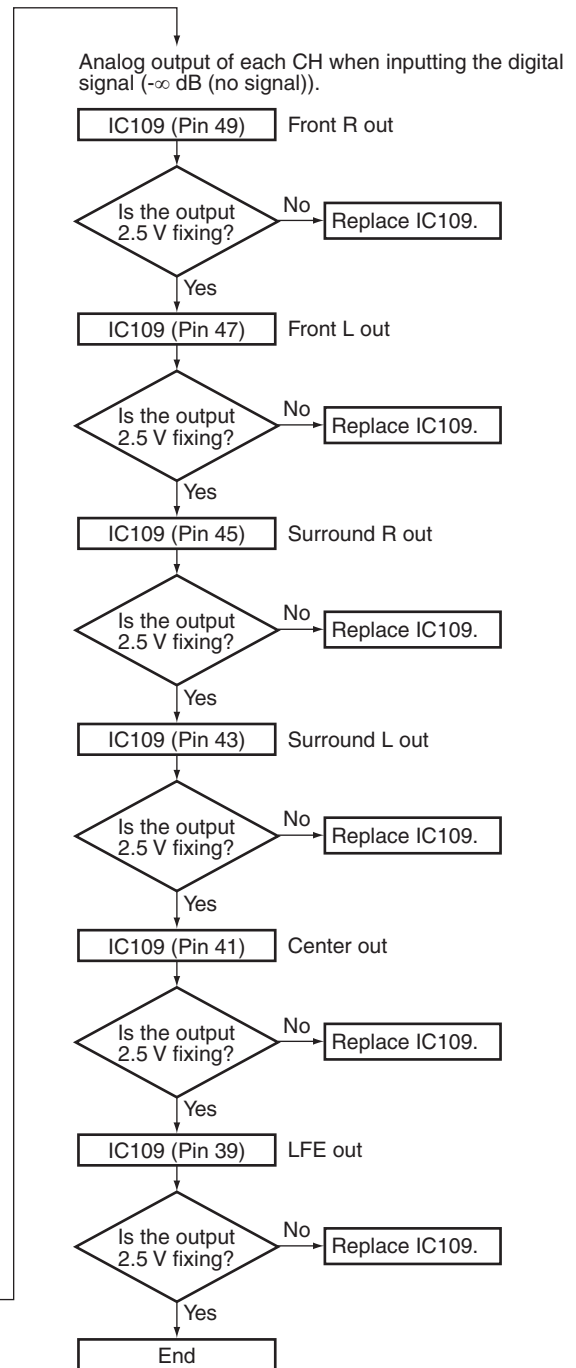
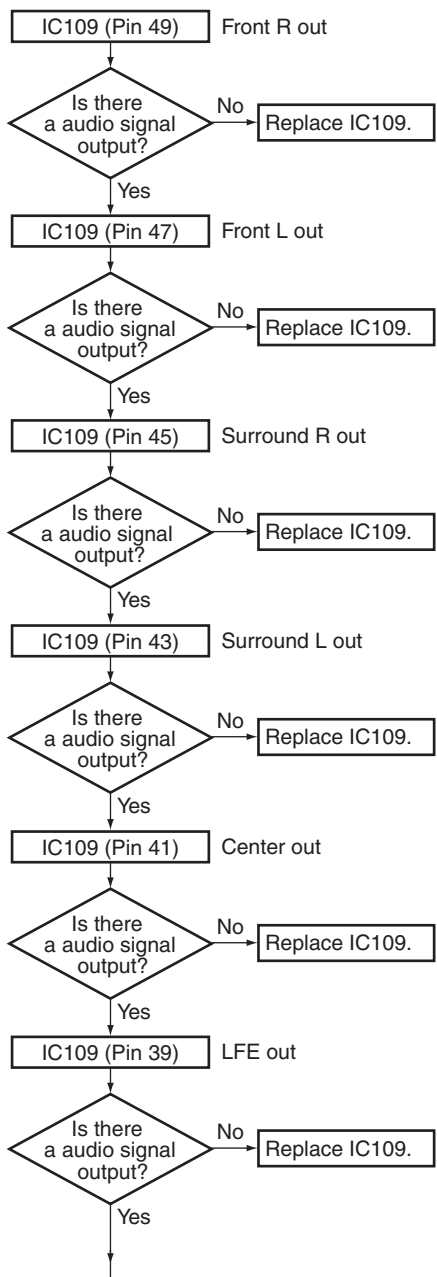
Digital output of each CH when inputting the digital signal with audio.



F

Step 7: Codec output (analog)

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

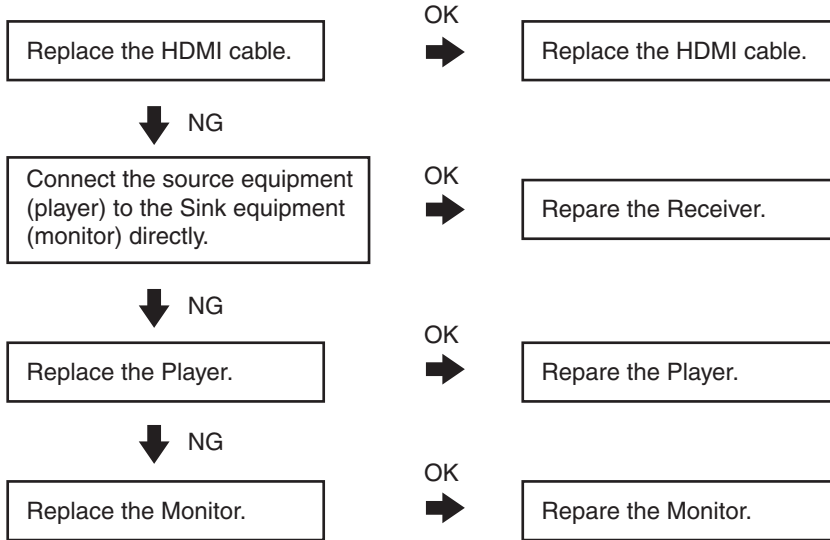


A [2] HDMI TROUBLESHOOTING

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



B

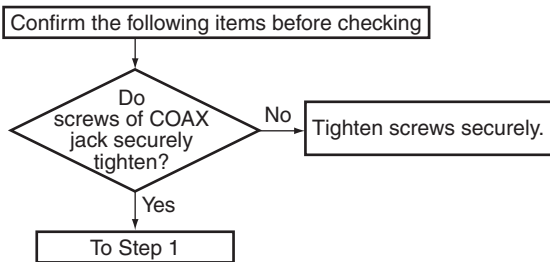
C

E

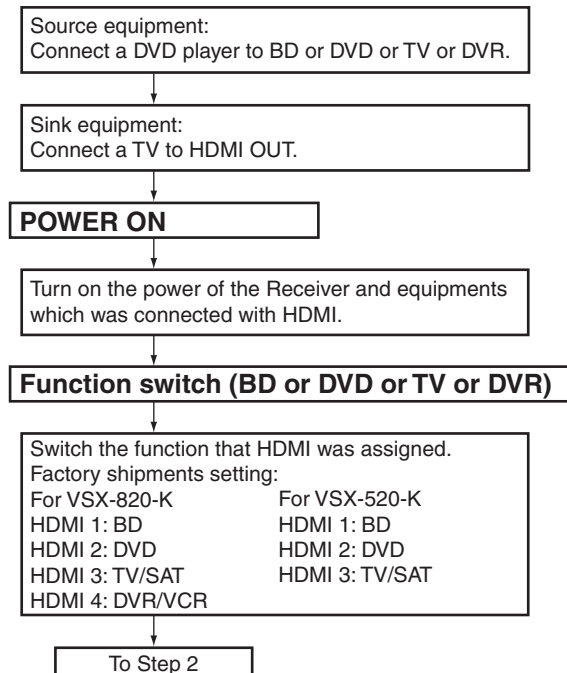
F

■ HDMI Troubleshooting

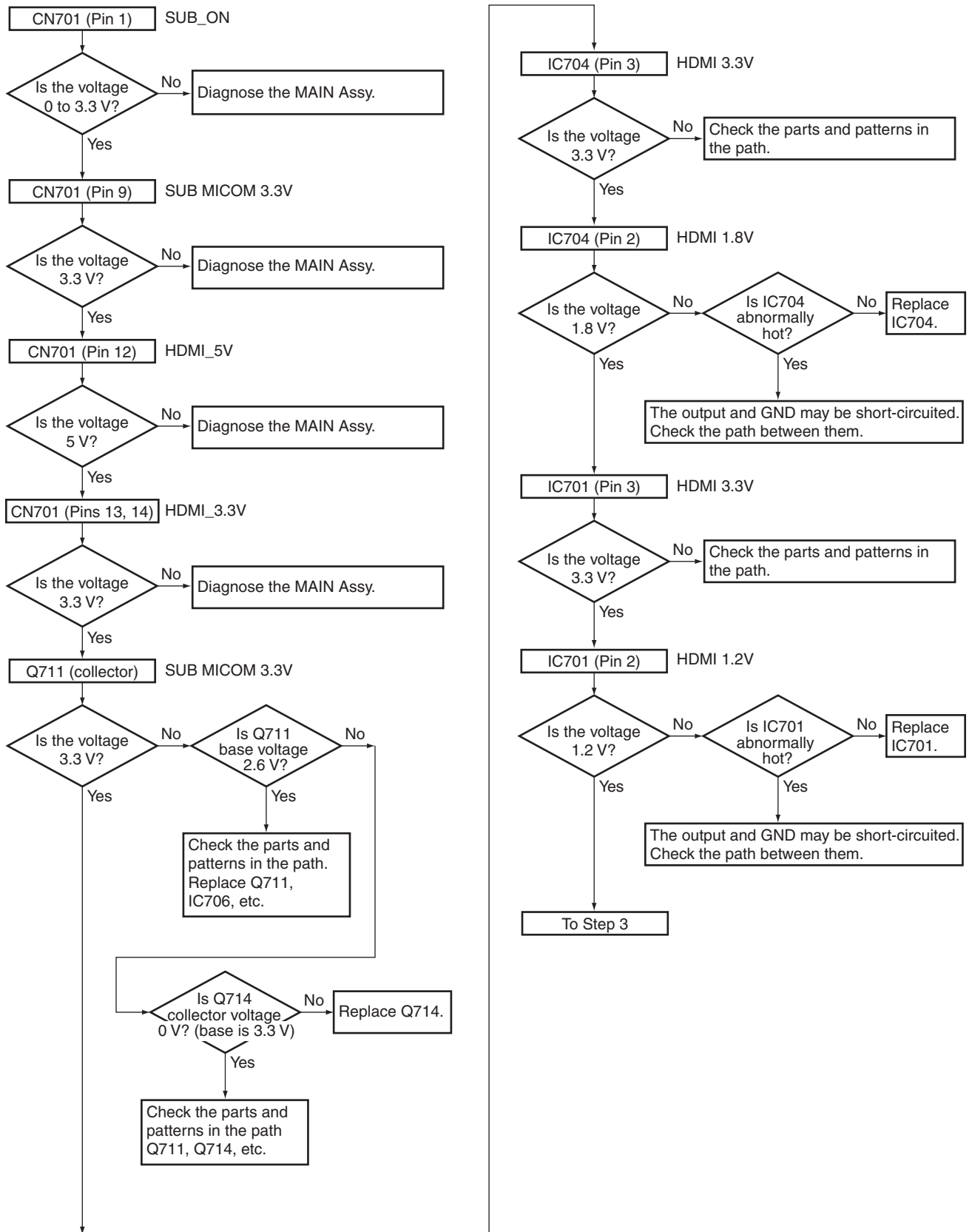
Step 0: Preliminary confirmation



Step 1: Connect the HDMI equipment

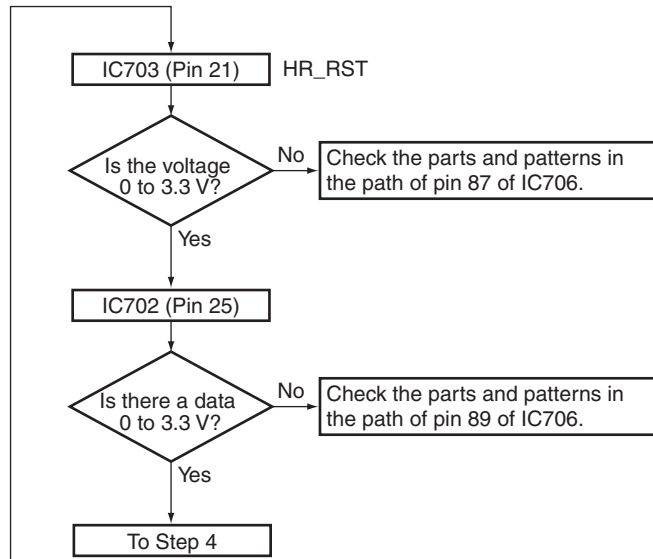
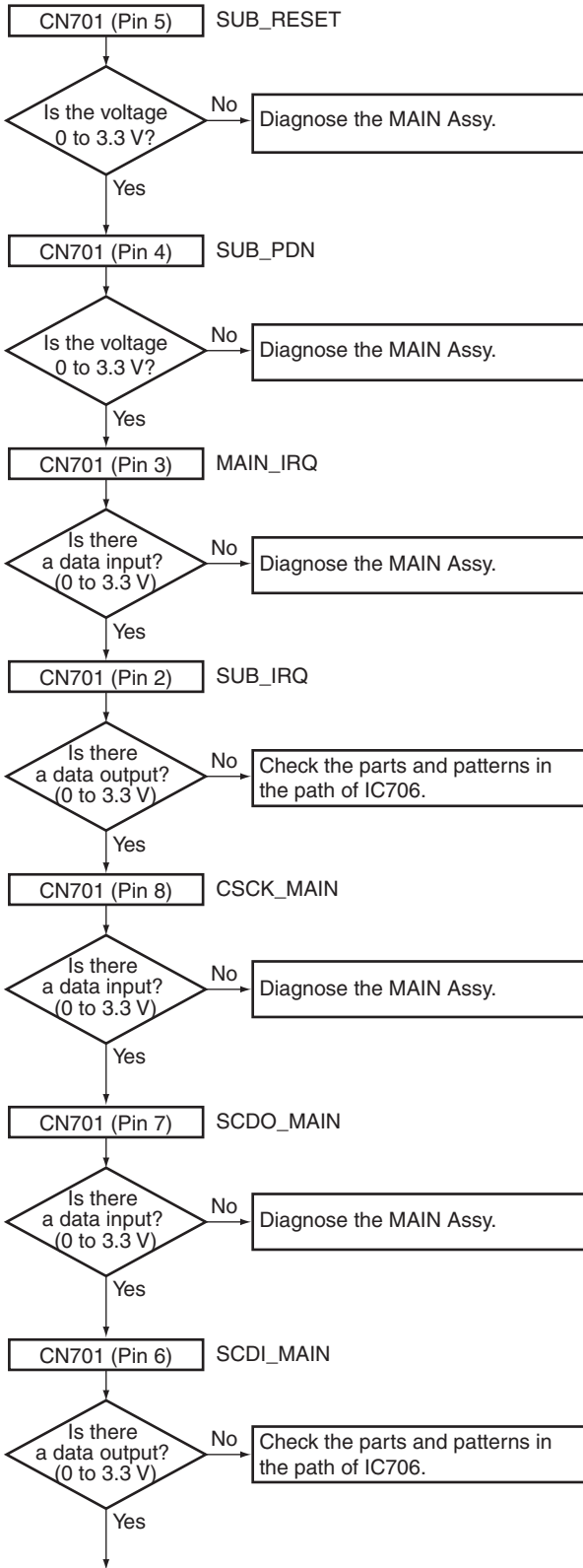


Step 2: Power supply

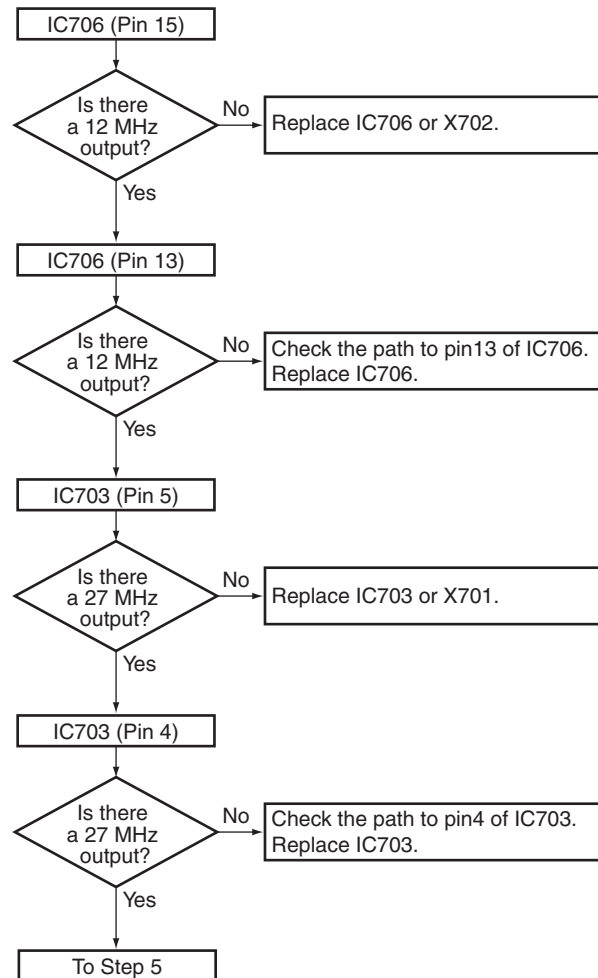


Step 3: Diagnosis

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

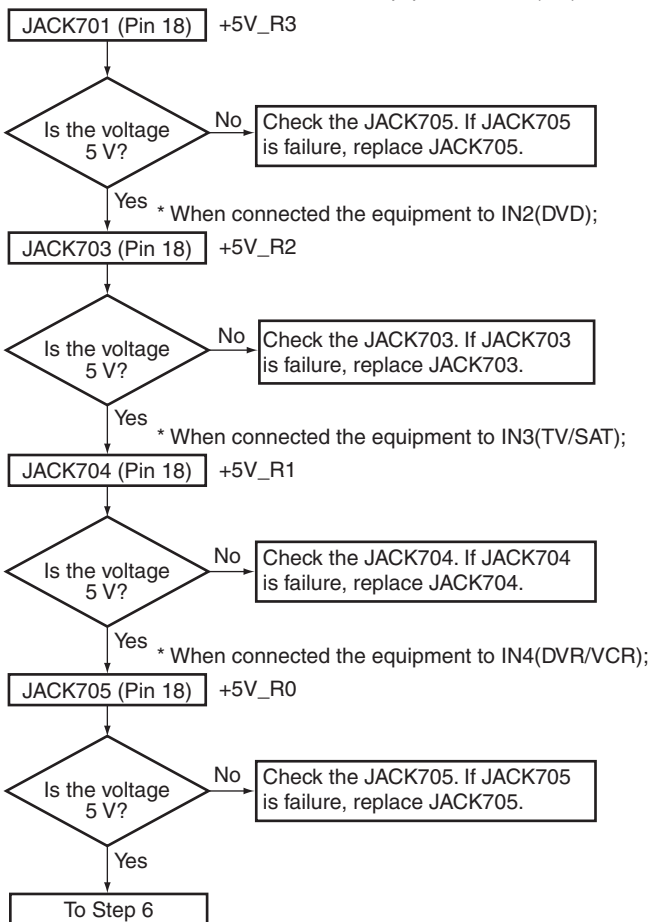


Step 4: X'TAL



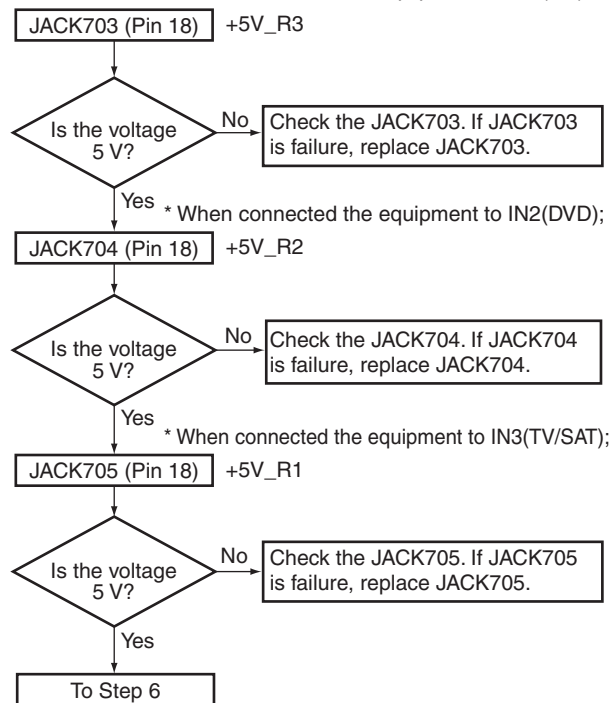
Step 5: IN/OUTPUT Diagnosis (VSX-820-K)

* When connected the equipment to IN1(BD);

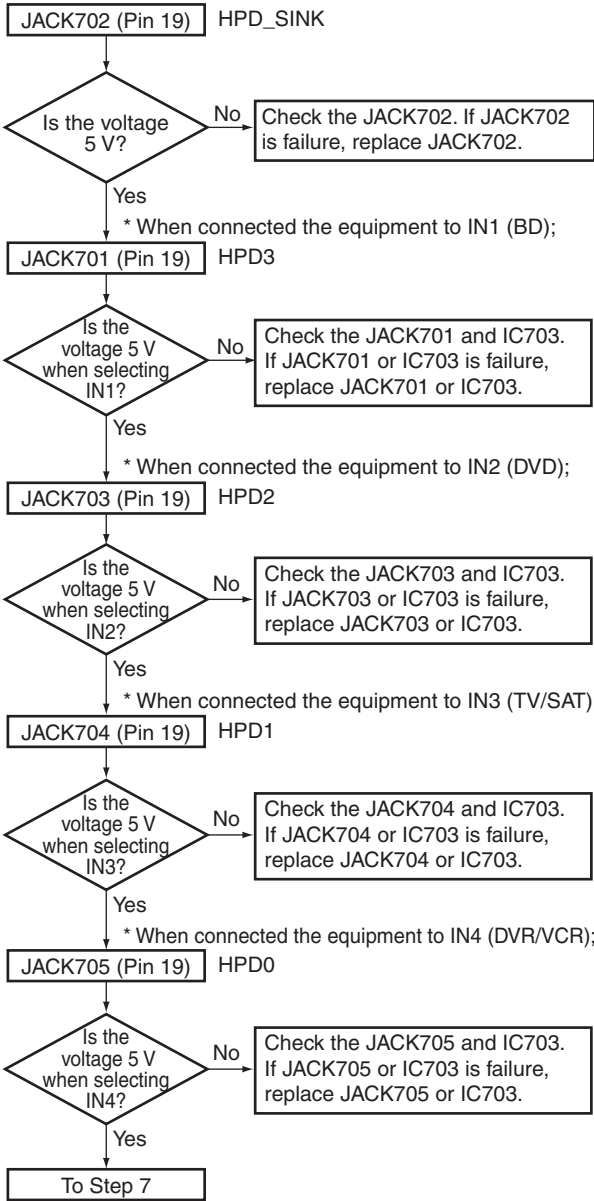


Step 5: IN/OUTPUT Diagnosis (VSX-520-K)

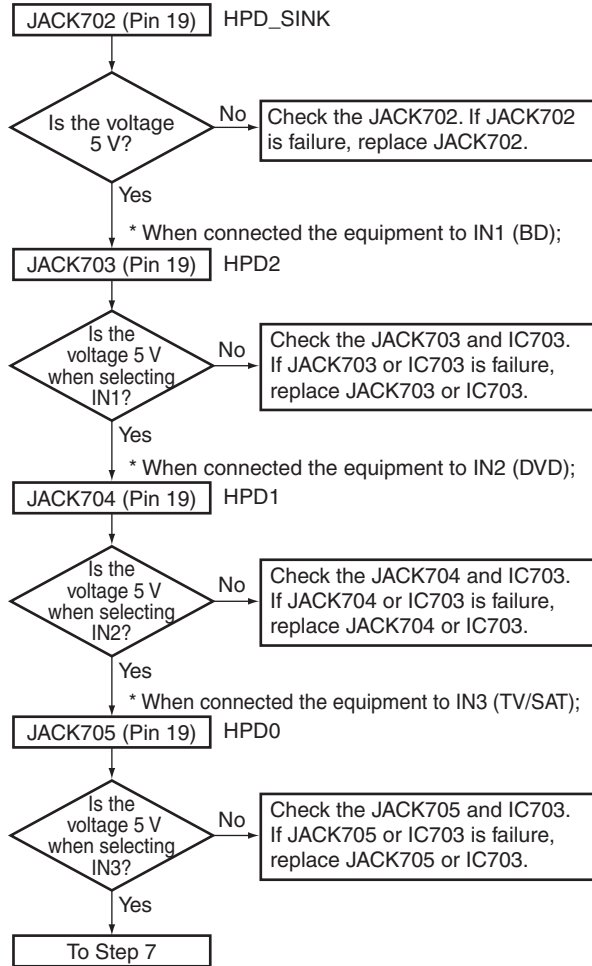
* When connected the equipment to IN1(BD);



Step 6: Hot plug detect (VSX-820-K)



Step 6: Hot plug detect (VSX-520-K)



A

B

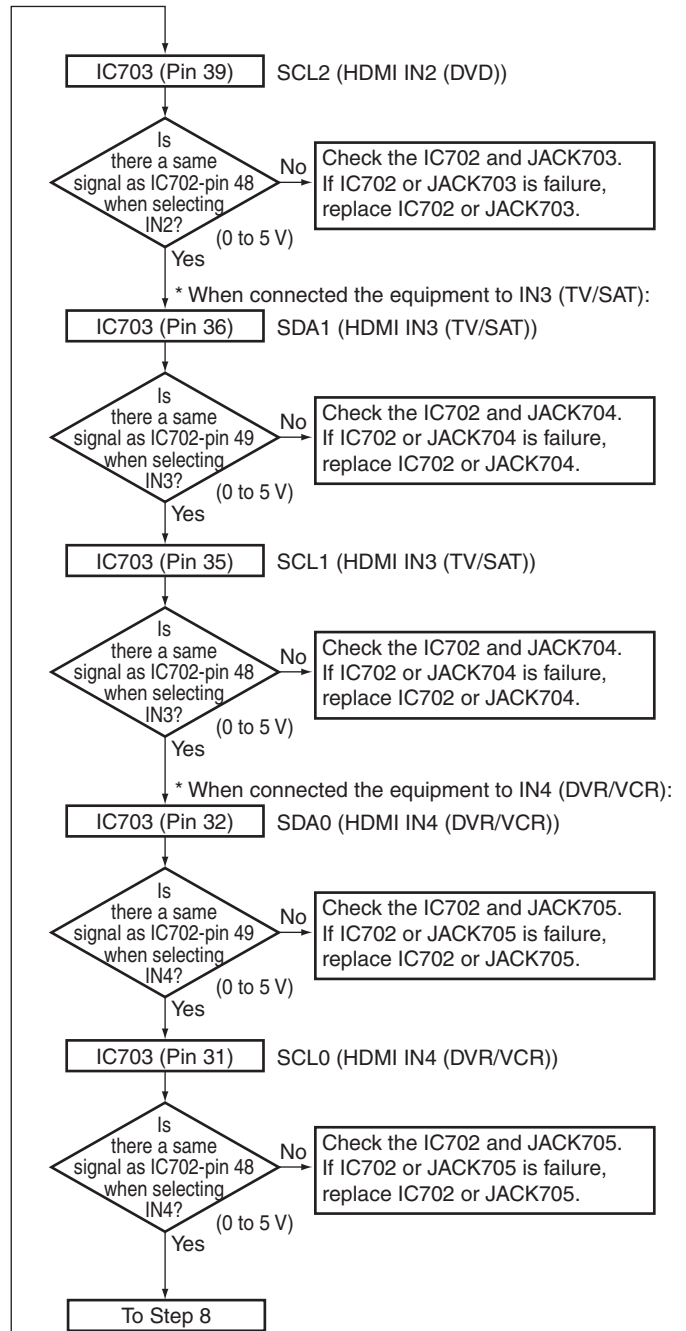
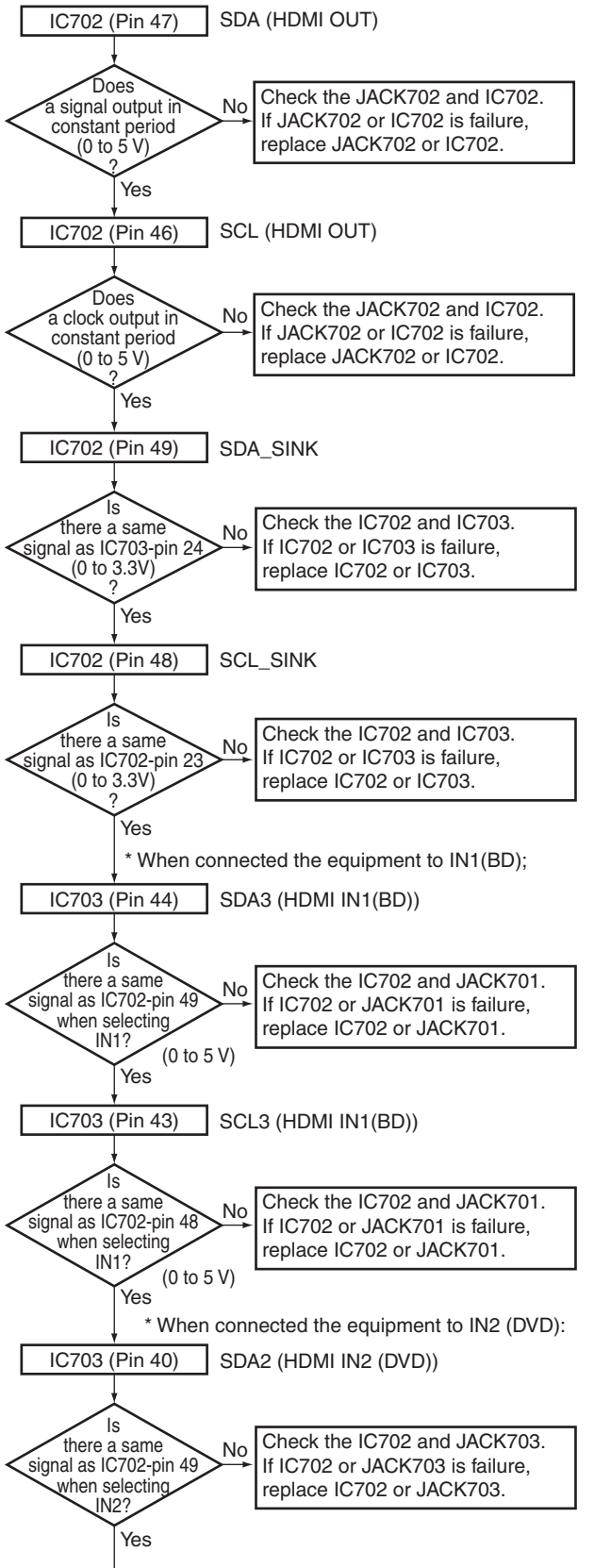
C

D

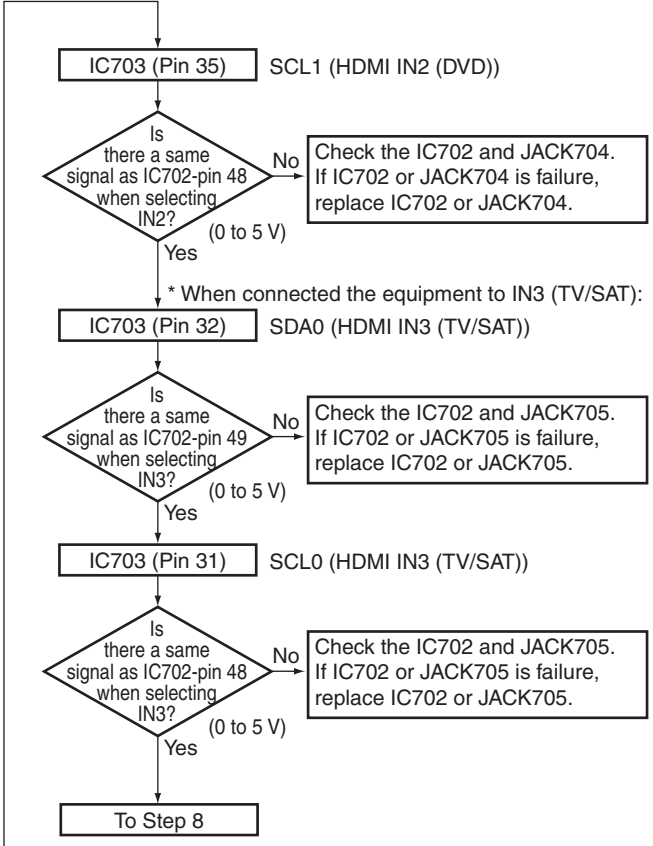
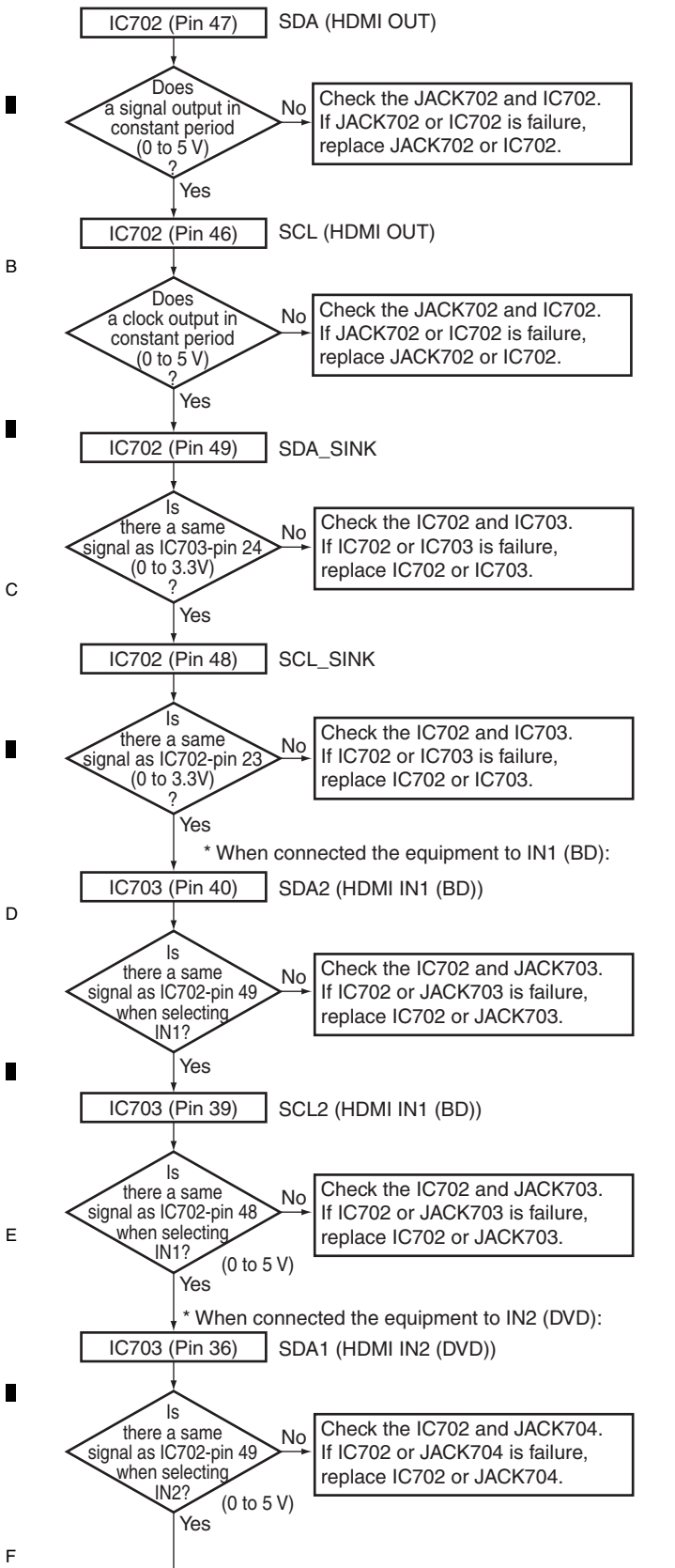
E

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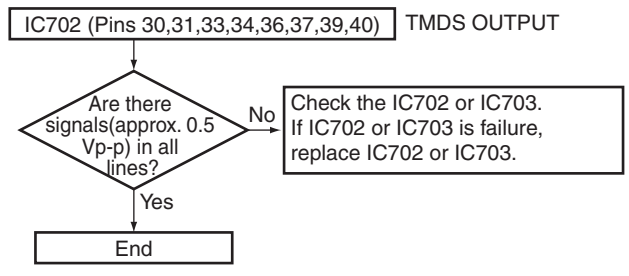
Step 7: SDA /SCL (VSX-820-K)



A Step 7: SDA /SCL (VSX-520-K)



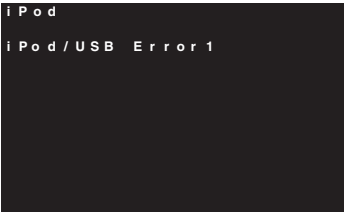



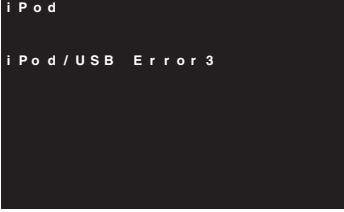

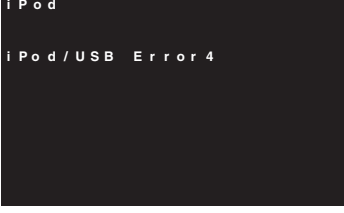

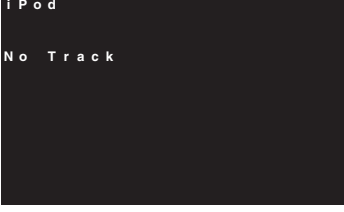

Step 8: TMDS



[3] USB iPod TROUBLESHOOTING (VSX-820-K ONLY)

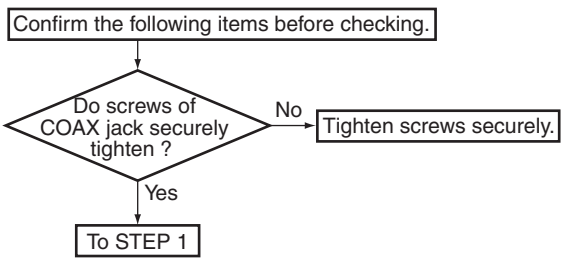
■ iPod Error Message

When the abnormality occurred, the error messages are indicated.

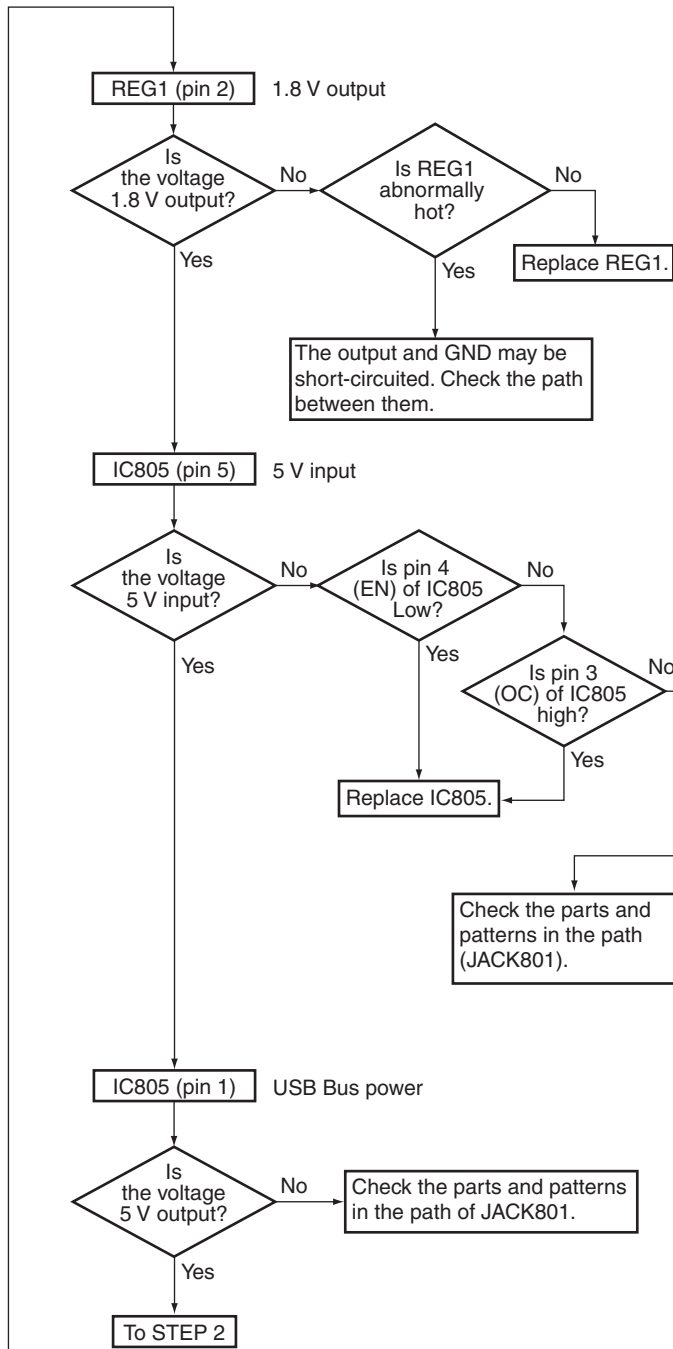
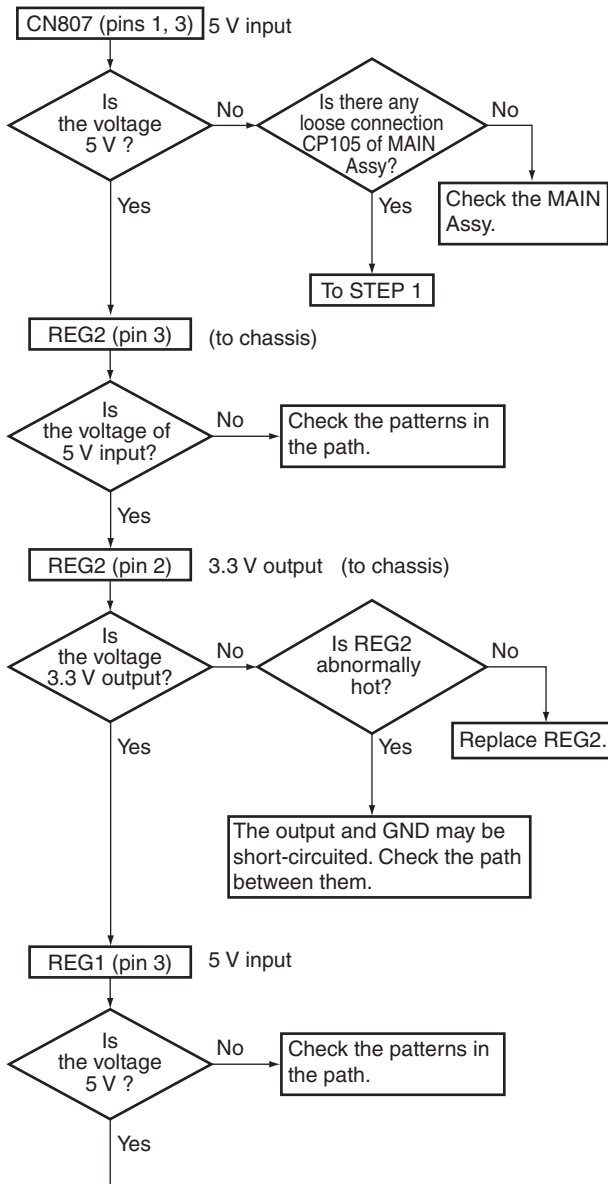
Key Sequence Change	OSD Display	FL Display
<p>Error 1 Communication Error When the communication is not possible normally.</p> <p>[Procedure] Disconnect a connector once, then connect a connector surely again after the main menu of the iPod was displayed. Nevertheless, reset the iPod when the iPod does not operate normally.</p>		
<p>Error 2 Generation Error (in the Type 1 operation only) When the non-support model for the iPod Mode Type 1 was connected. When the non-support function will be executed. When a version of the iPod software is old.</p> <p>[Procedure] Change the iPod Mode to Type2. Update the iPod software to the newest version.</p>		
<p>Error 3 Loading Error When there is no response from the iPod.</p> <p>[Procedure] The power is shut off once, then the unit back on. Reset the iPod. Update the iPod software to the newest version.</p>		
<p>Error 4 OverHeat Error</p>		
<p>No Track No Music Track Caution When a track does not exist in the selected category</p> <p>[Procedure] Select another category.</p>		

A ■ iPod Troubleshooting

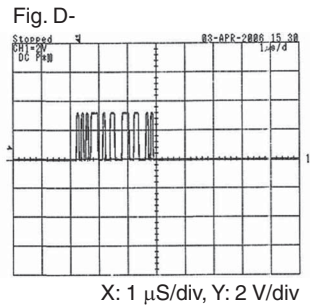
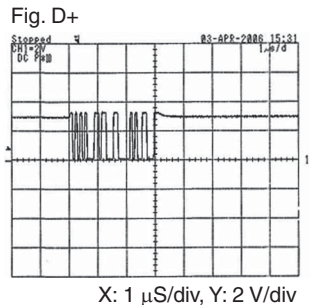
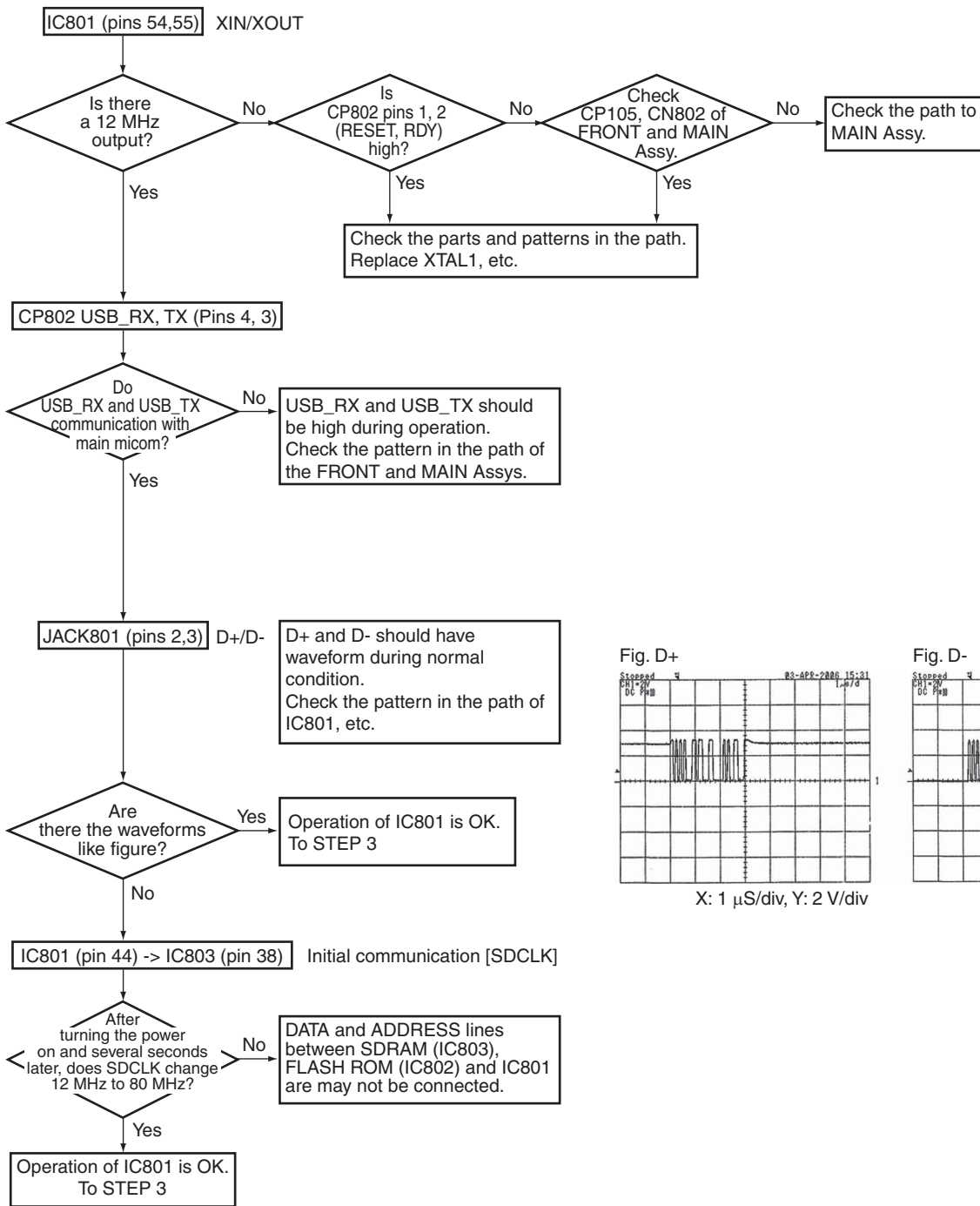
Step 0: Preliminary confirmation



Step 1: Power supply

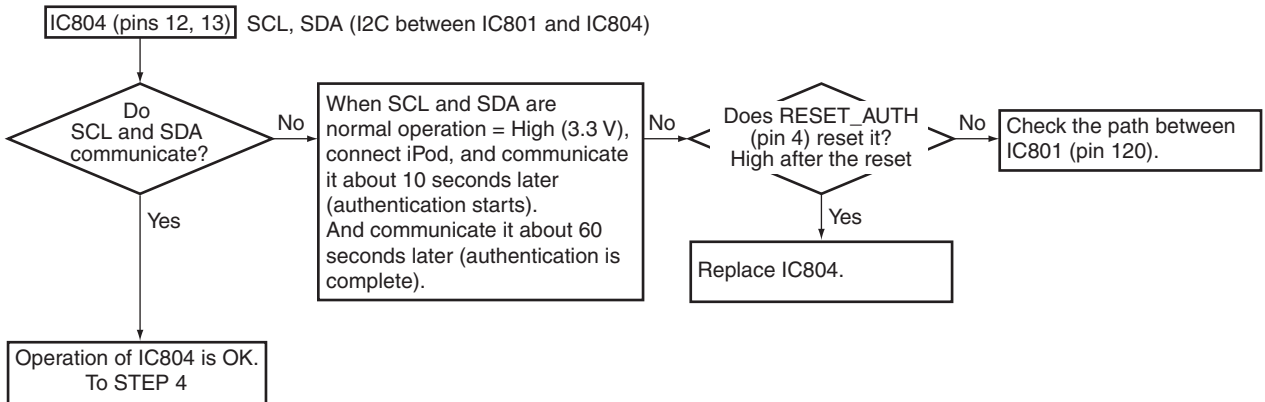


Step 2: Operation of USB Media control IC



A

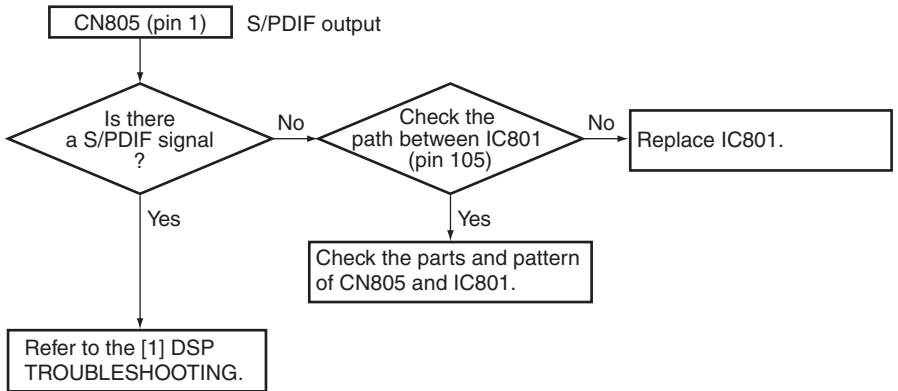
Step 3: Operation of iPod (Authentication process)



B

C

Step 4 Audio Out check



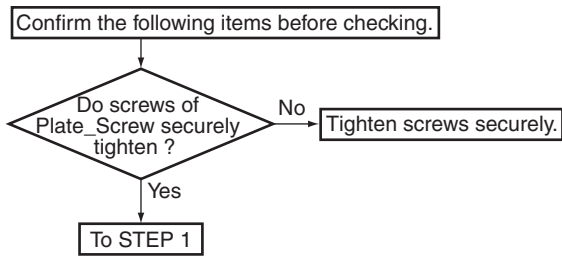
D

E

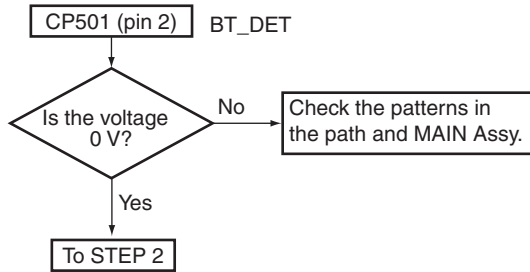
F

[4] BT (BlueTooth) TROUBLESHOOTING

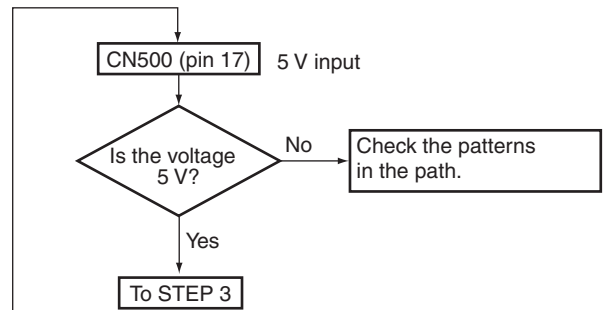
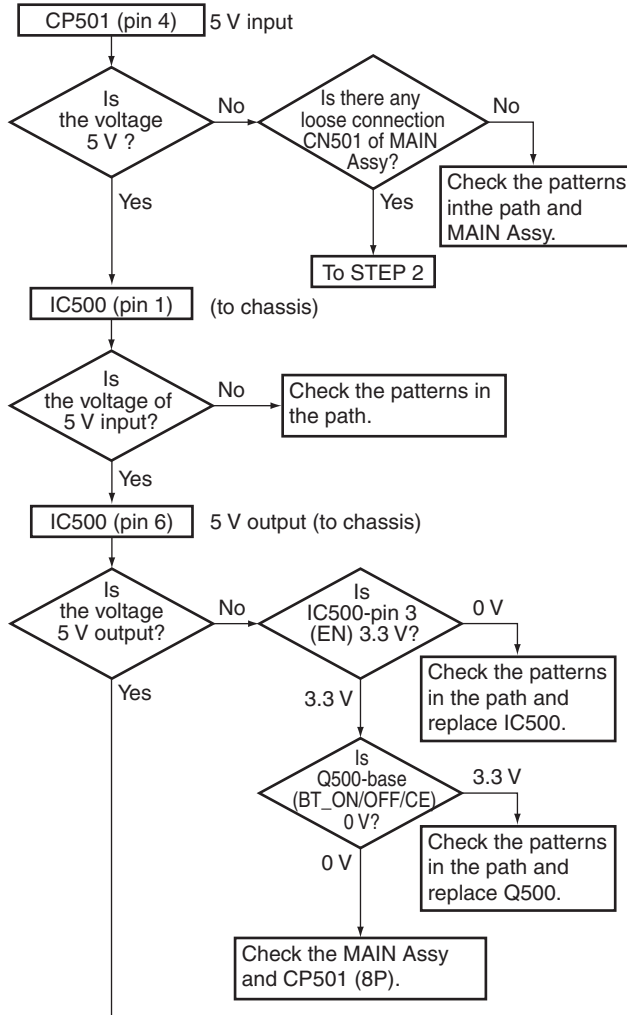
Step 0: Preliminary confirmation



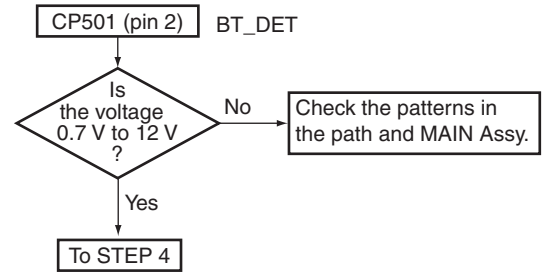
Step 1: BT_DET



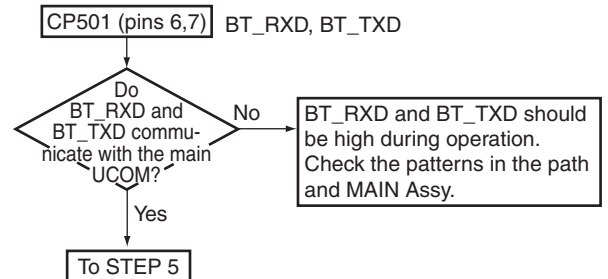
Step 2: Power supply



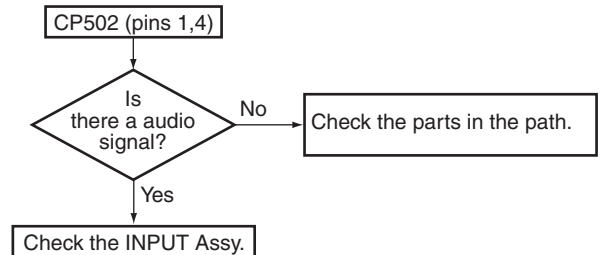
Step 3: BT_DET



Step 4: Communication



Step 5: Audio Out check



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5.2 ADAPTER ERROR MESSAGE

A

Functional Name

Adapter port overcurrent detection

Outline

When the BT adapter is inserted in Adapter port, turn off the power of the Adapter port forcibly when it detects an overcurrent. And display ERROR state in FL.

Basic Operation

B

Front Key Sequence Change	Character Display	Time (sec.)	Icon Display (FL)	LED Display
When the overcurrent is detected	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>1 2 3 4 5 6 7 8</p> <p>A:D:P: :E:R:R:</p> <p>*1</p> </div> <div style="text-align: center;"> <p>1 2</p> <p>□ □</p> </div> </div> <p>Check it after turning the power once off then back on again, and it becomes the normal operation if normal.</p>	The display continues until the power is turned off.	—	—

*1 Return the "ADP ERR" display to the normal display if you change it into other FUNCTION only in the ADAPTER PORT FUNCTION.

Also display "ADP ERR" if the ADAPTER PORT FUNCTION is ERROR state.

C

Explain Operation Detail

For detection method

- Confirm a detection port at intervals of 20 msec to 50 msec (*2), and judge it as an overcurrent when you detected an error consecutively three times.

*2 It is assumed that it is fixed value of the 20 msec to 50 msec degree.

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VSX-820-K

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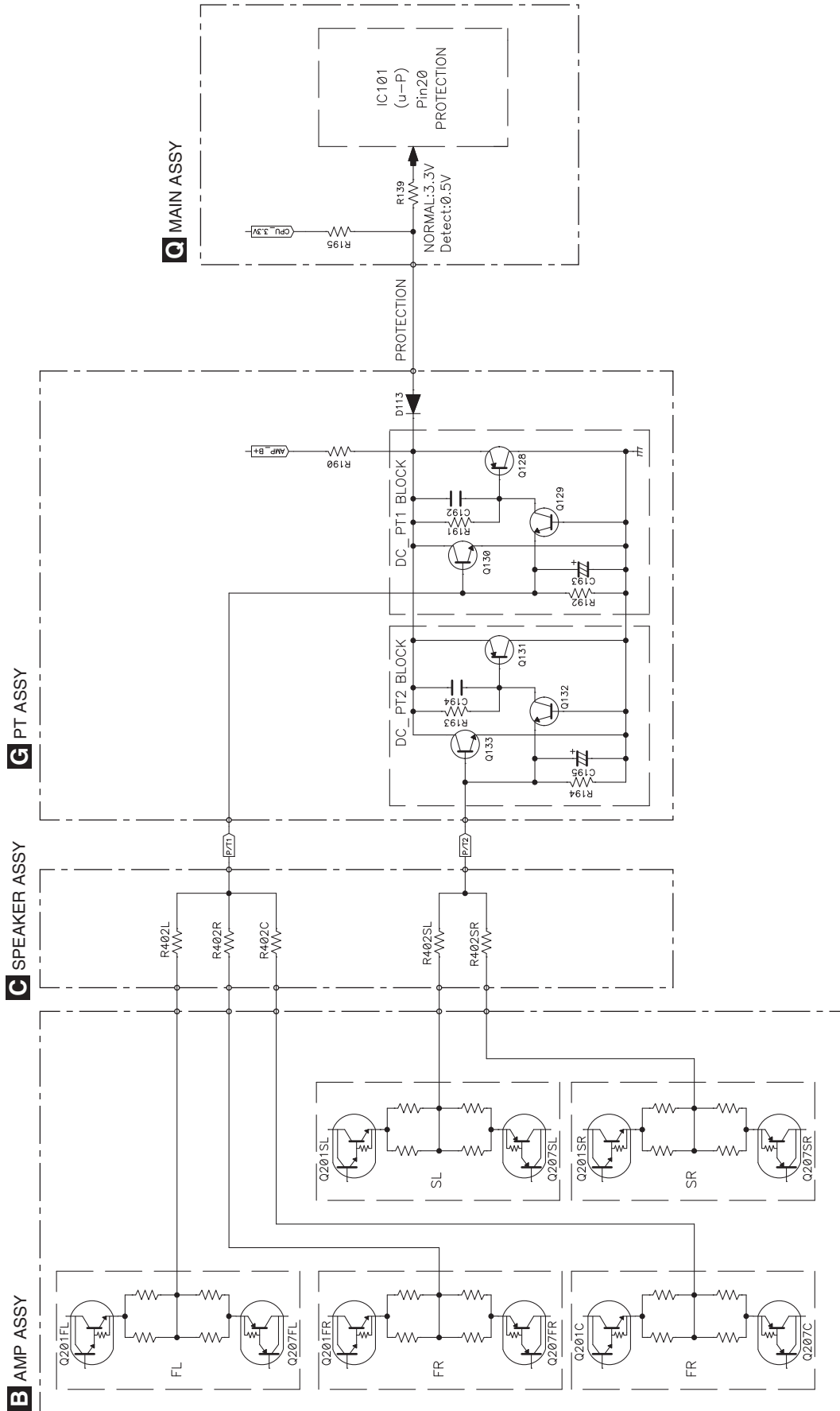
■

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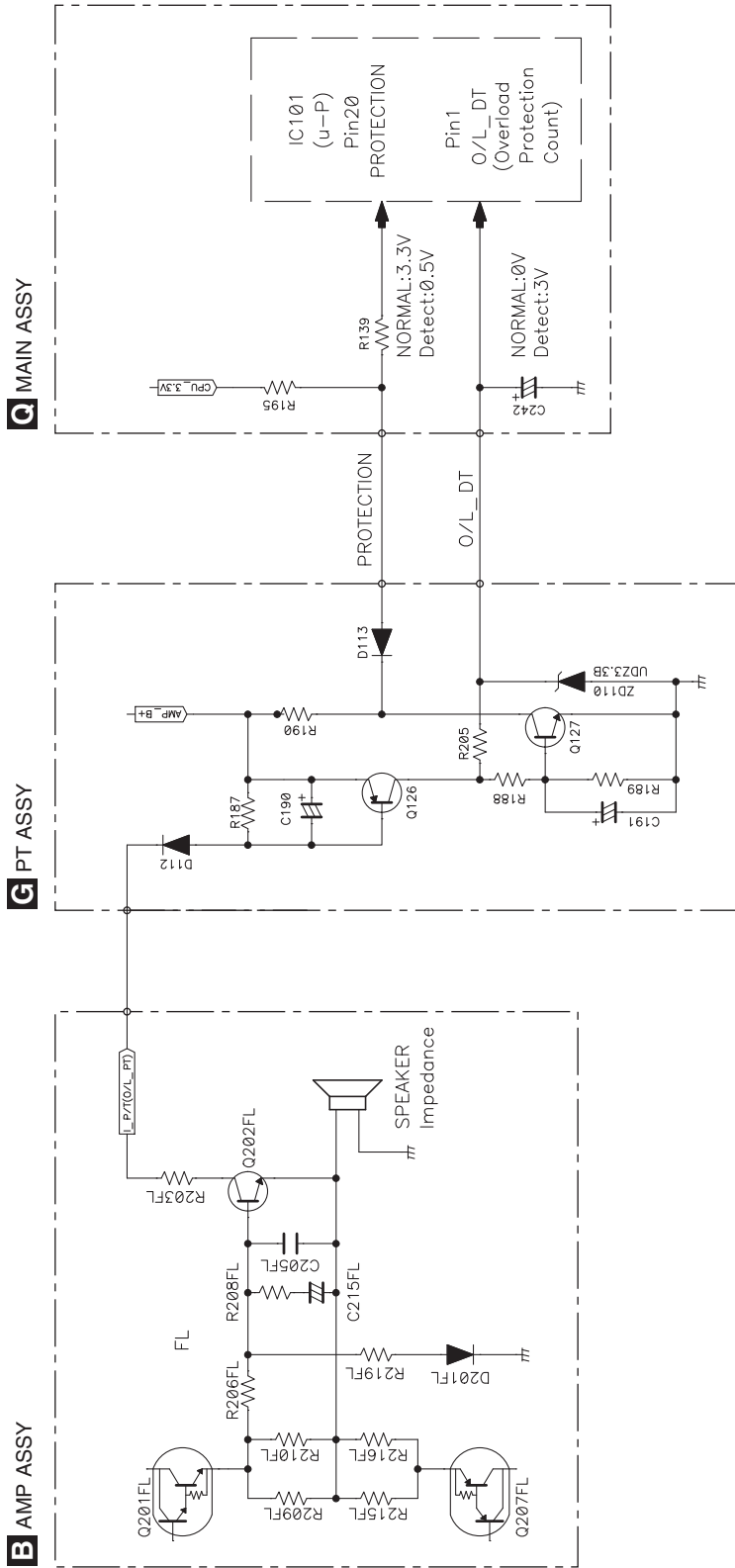
■

5.3 DETECTION CIRCUIT

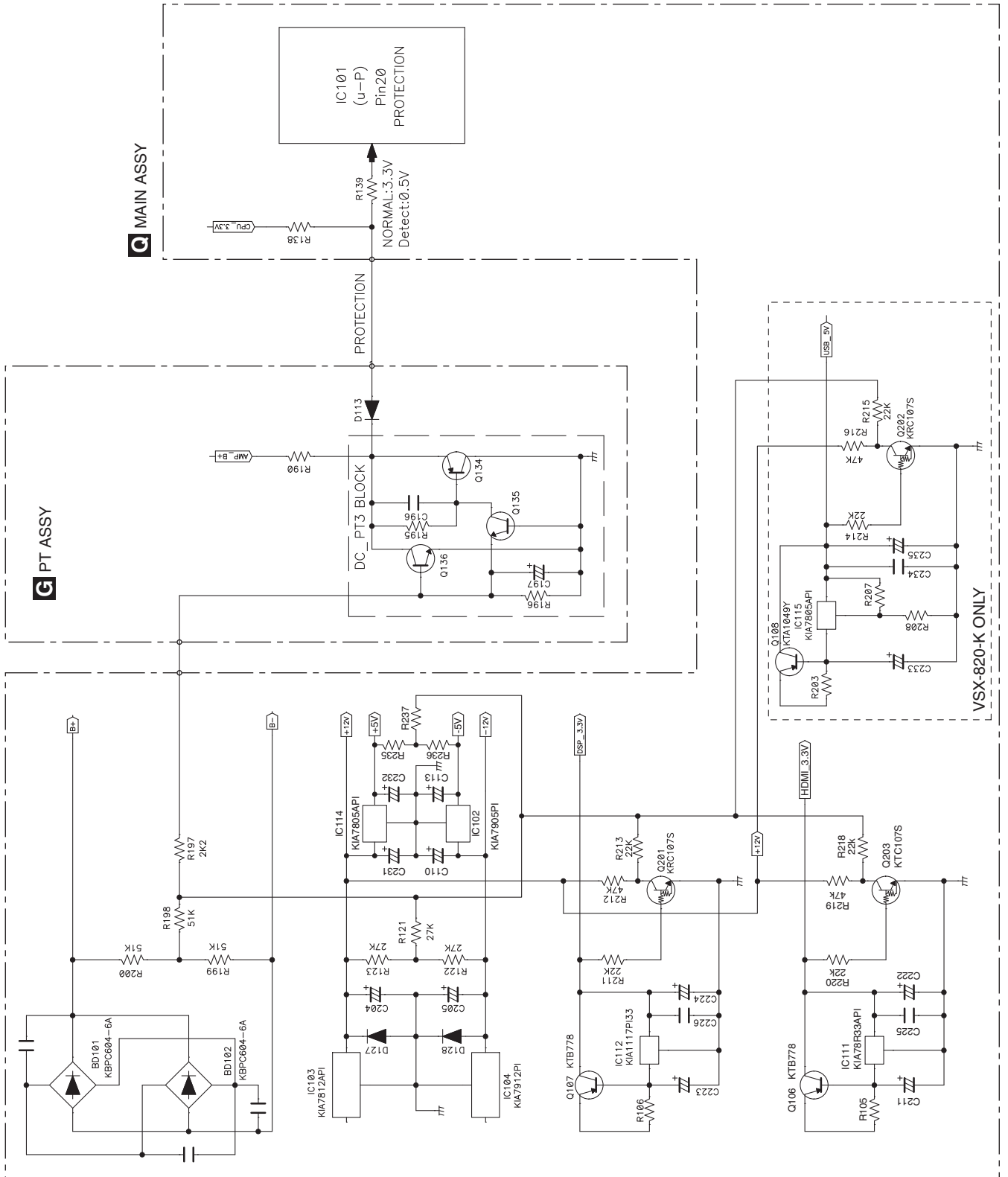
[1] DC Protection Circuit Diagram



[2] Overload Protection Circuit Diagram



[3] Power DC Protection Circuit Diagram



6. SERVICE MODE

6.1 SERVICE MODE

A [1] Display mode for numbers of protection detections

[Purpose]

The numbers of detections for various protection processes are displayed.

[How to enter/exit]

During Standby mode, simultaneously press and hold the [PRESET -] and [STANDBY/ON] keys for 2 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)			
[PRESET -] + [STANDBY/ON] (Initial display)		5 (-> normal) *1	Number of DC error detections
[ENTER key]		5 (-> normal) *1	Number of OVERLOAD error detections
[ENTER key]		5 (-> normal) *1	Number of abnormal-temperature error detections
[ENTER key]	(Initial display)		

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

*2 Variable range: 0-255

[2] Reset mode for numbers of protection detections

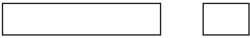
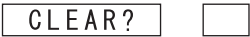



[Purpose]

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] + [STANDBY/ON] (press and hold the keys for 10 seconds.)		5 (-> normal) *1	
[ENTER key] ↓			
(Counter Clear end)		5 (-> normal) *1	
(Normal display)	 *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 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)	<input type="text" value="BD"/> <input type="checkbox"/>	usually	Normal display
(DC detection)	<input type="text" value="BD"/> <input type="checkbox"/>		
↓ (Auto) (RECEIVER POWER OFF) *1, *2	<input type="text"/> <input type="checkbox"/>		

3.2 OVERLOAD (overcurrent) error detection

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

3.3 TEMP (AMP overheat) error detection

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

*1 The time required for the unit to be shut off after an error is detected depends on the circuit configuration. (However, 3 seconds after DC is internally detected, the unit will shut itself off.)

*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) [ADVANCED SURROUND] + [STANDBY/ON] (press and hold the keys for 2 seconds.)	<input type="text"/> <input type="checkbox"/>	usually	Normal display
↓ (Normal display)	<input type="text" value="BD"/> <input type="checkbox"/>		

[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.

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7. 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.
- (2) For performing the diagnosis shown below, the following jigs for service is required:
 - 10P extension jig cable (GGD1628)
 - 8P extension jig cable (GGD1629)
 - Board to board extension jig cable (GGD1673)

1. Discharging

[1] MAIN Assy Capacitor (C179, C180)

[Procedures]

- (1) Unplug the power cord.
- (2) Disconnect the 8P CONNECTOR that connects the CN202 of the AMP Assy and CP107 of the MAIN Assy 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 FRONT Assy 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).

VSX-820-K

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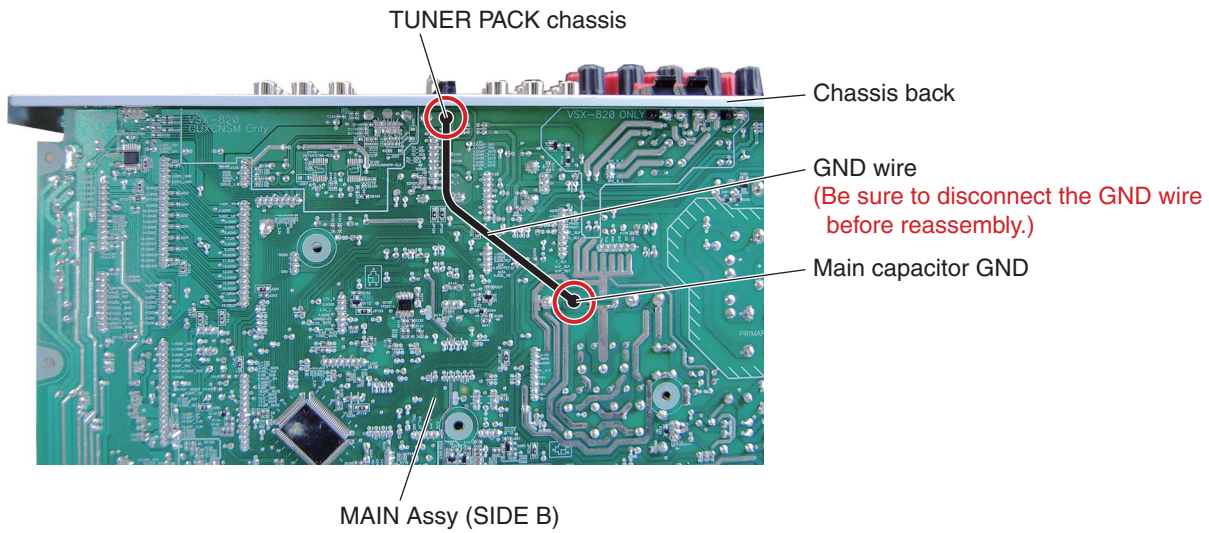
49

2. Notes on Ground Points Connection

[Note]

During repair, before checking the MAIN Assy, etc., with the rear chassis removed, be sure to connect the GND terminal of the main capacitor to the chassis back (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.**

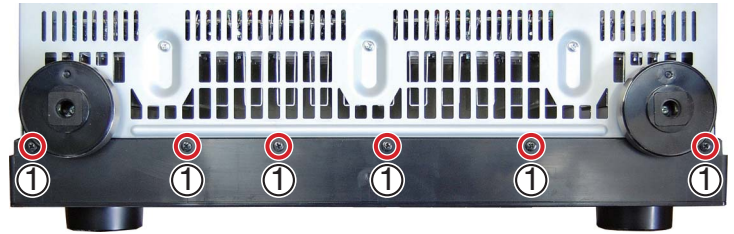


3. Disassembly

[1] Front Panel Section

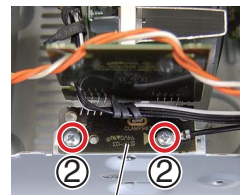
Remove the cabinet by removing the 10 screws.

(1) Remove the six screws. (BBZ30P080FTB)

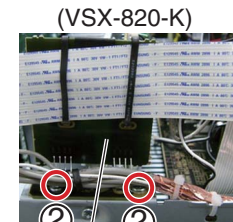


• Bottom view

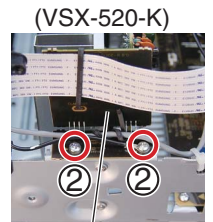
(2) Remove the four screws. (BBZ30P080FTC)



GUIDE_L Assy



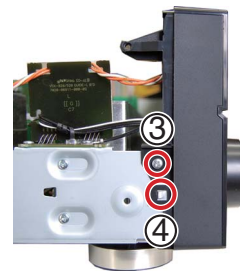
GUIDE_R Assy



GUIDE_R Assy

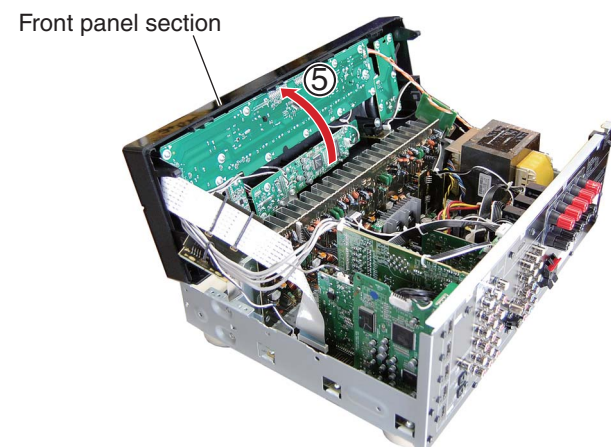
(3) Remove the two screws. (BBZ30P080FTC)

(4) Unhook the two hooks.



(VSX-820-K)

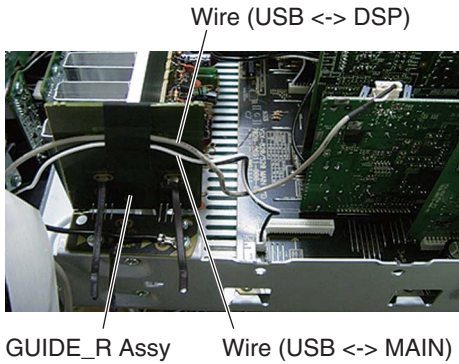
(VSX-520-K)



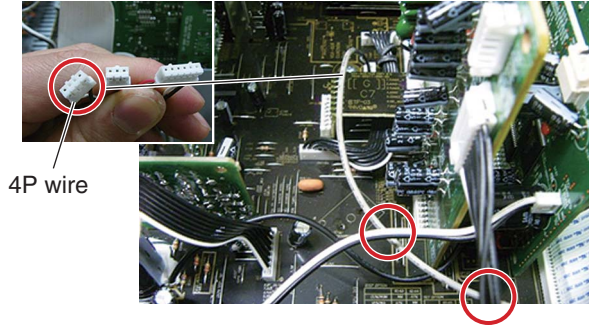
Front panel section

A CABLE DRESSING (VSX-820-K ONLY)

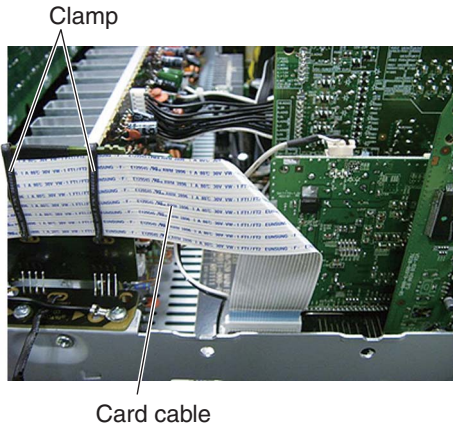
(1) Secure the wires from the USB Assy.



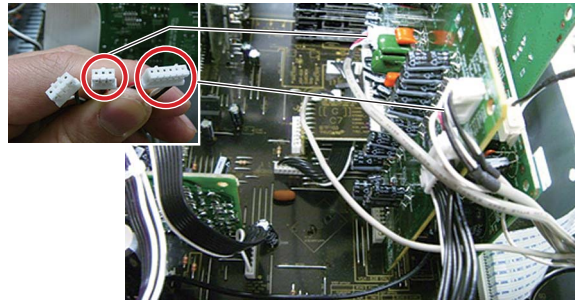
(4) Style the 4P wire (F-VIDEO) so that it goes below the corresponding cables marked with circles in the figure below.



(2) Secure the card cable with the clamps.

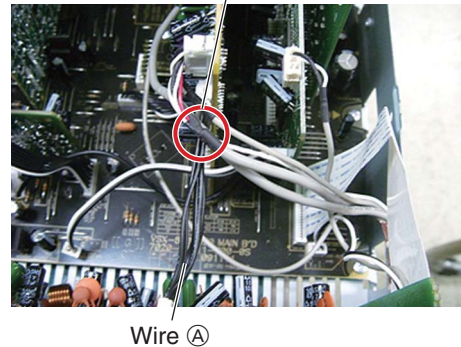
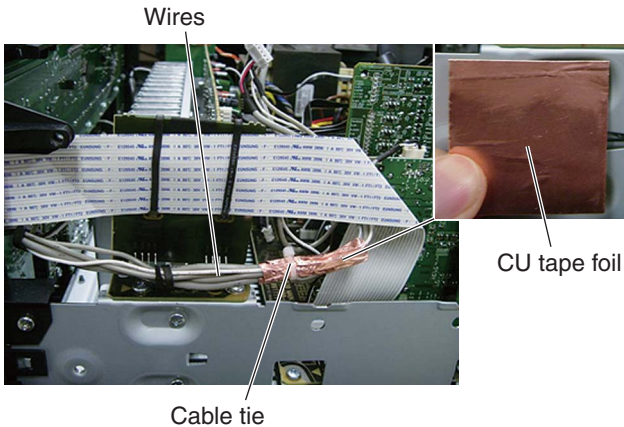


(5) Style the remaining two wires above wire ①, which connects the AMP and INPUT Assys.

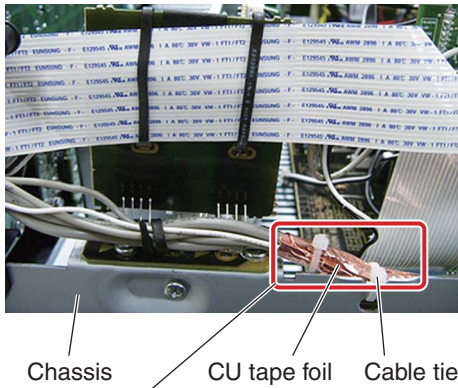


Style the wires so that they are placed above wire ①.

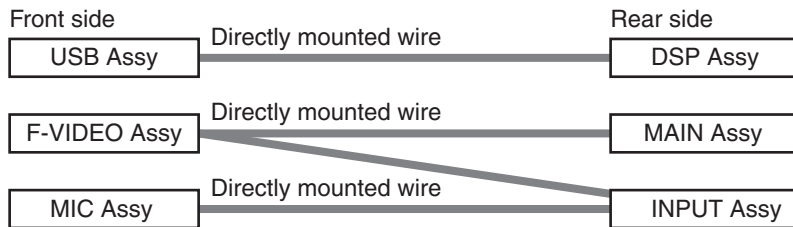
(3) Wrap the remaining wires with CU tape foil then secure them with a cable tie.



(6) Secure the cables bound with CU tape foil to the chassis, using a cable tie for grounding.



• The wires bound with CU tape foil (part No.: 1220-21087-900-0S) are shown below.



When repairing an assy on the front side, as the wires are secured to the assys, it is necessary to peel off CU tape foil to unbind the wires in order to disconnect them. After repair, wrap the wires again, using new CU tape foil.

When repairing an assy on the rear side, as the wires are disconnected/connected with connectors, you don't have to peel off CU tape foil.

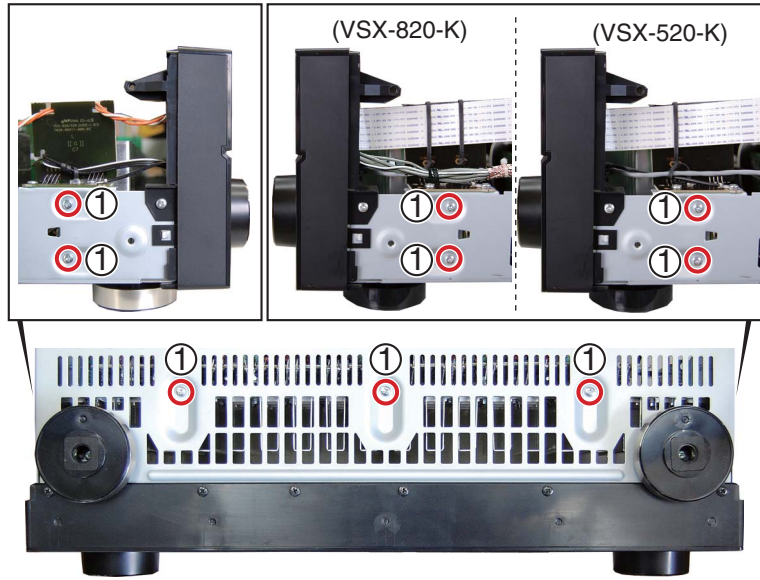
After disconnecting the wires, style them again, following the procedures shown above.

A [2] Heatsink Section

Caution: Heatsink section in work becomes hot, and be careful with it.

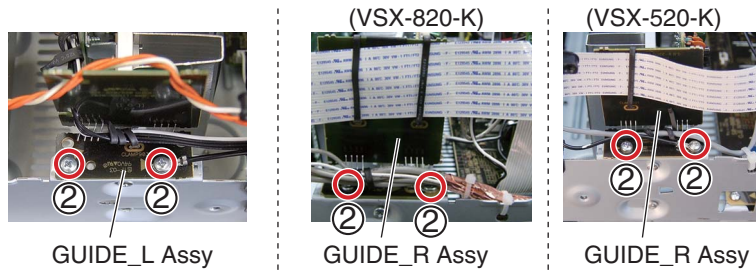
Remove the cabinet by removing the 10 screws.

(1) Remove the seven screws. (BBZ30P080FTC)

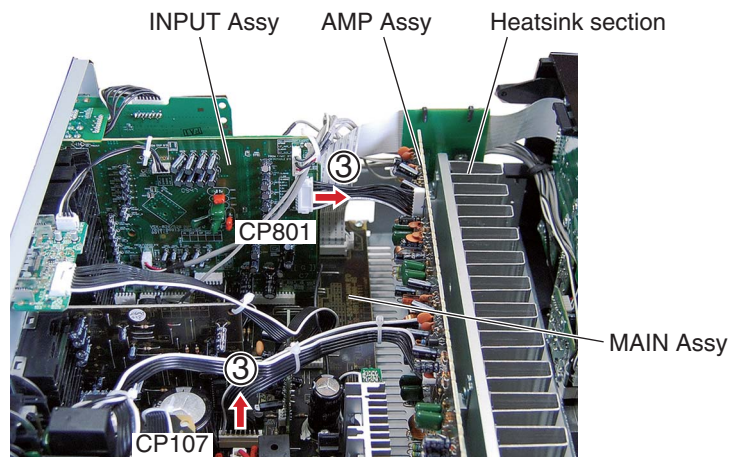


• Bottom view

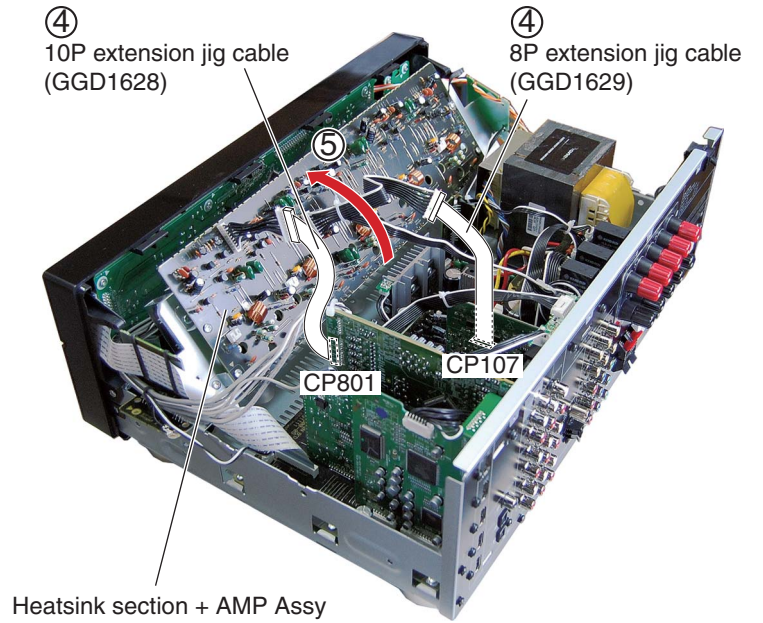
(2) Remove the four screws. (BBZ30P080FTC)



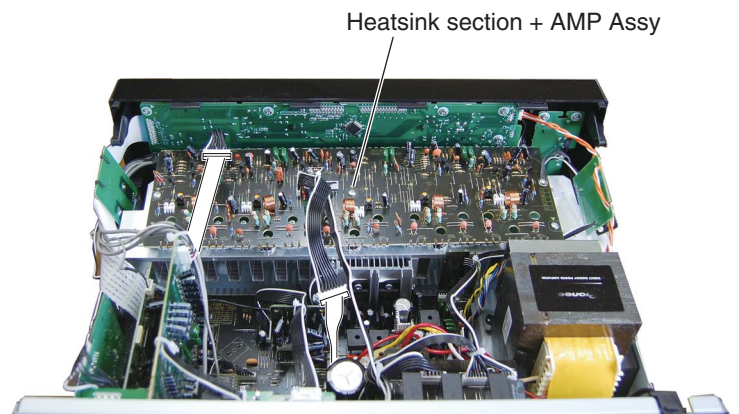
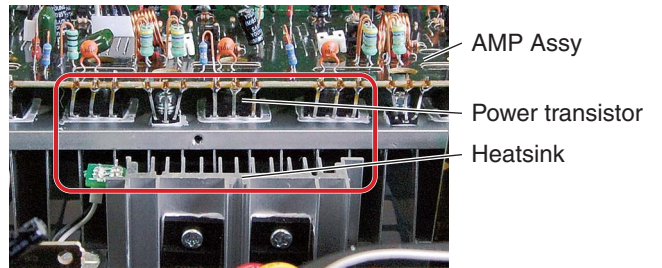
(3) Disconnect the two connectors.



- (4) Connect the two extension jig cables.
- (5) Rotate the heatsink section in the direction of the arrow.



Note:
 The power transistor on the AMP Assy and heatsink on the MAIN Assy come closer. Make sure that they will not come into contact.

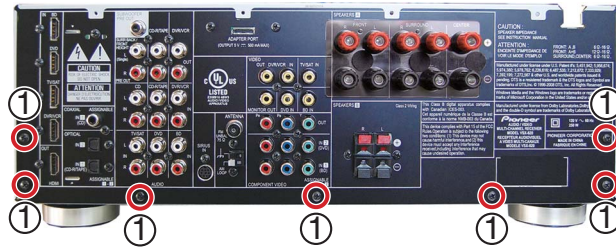


A [3] MAIN Assy

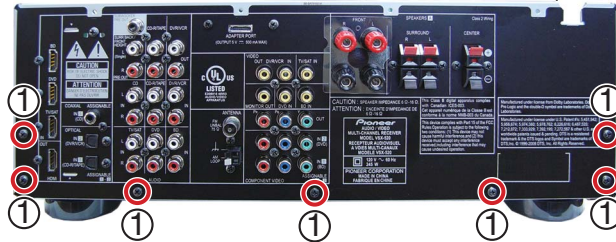
Remove the cabinet by removing the 10 screws.

(1) Remove the seven screws. (BBT30P100FTB)

• Rear view (VSX-820-K)

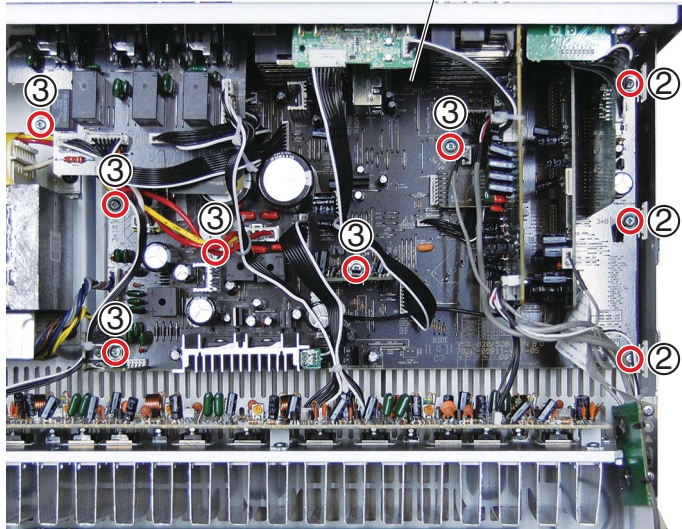


• Rear view (VSX-520-K)

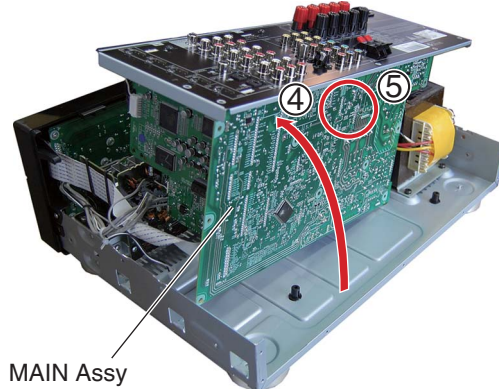


(2) Remove the three screws. (BBZ30P080FTC)
(3) Remove the six screws. (BBZ30P180FTC)

MAIN Assy



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

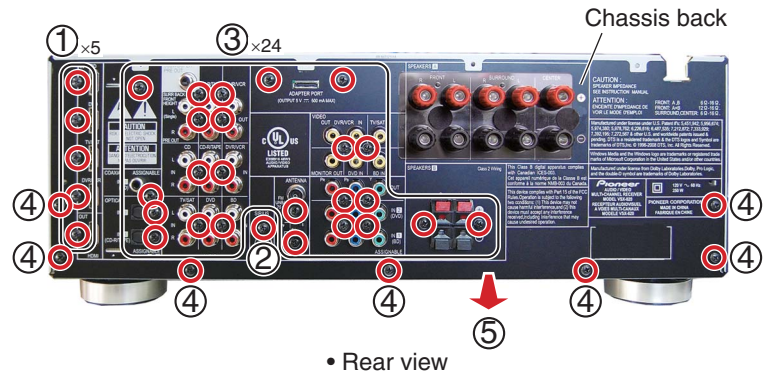


MAIN Assy

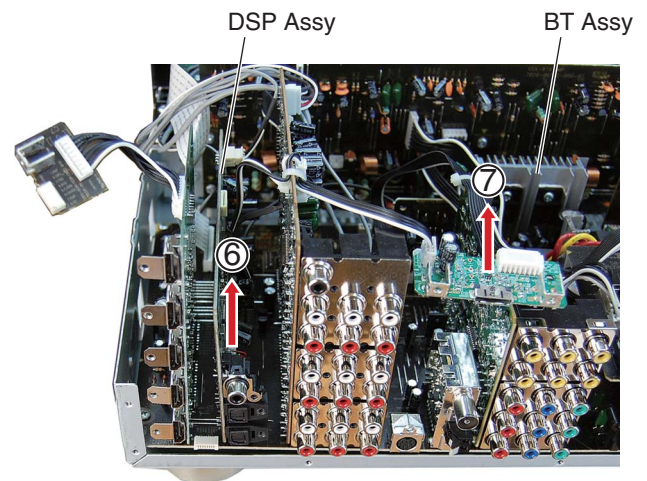
[4] DSP Assy (for VSX-820-K)

Remove the cabinet by removing the 10 screws.

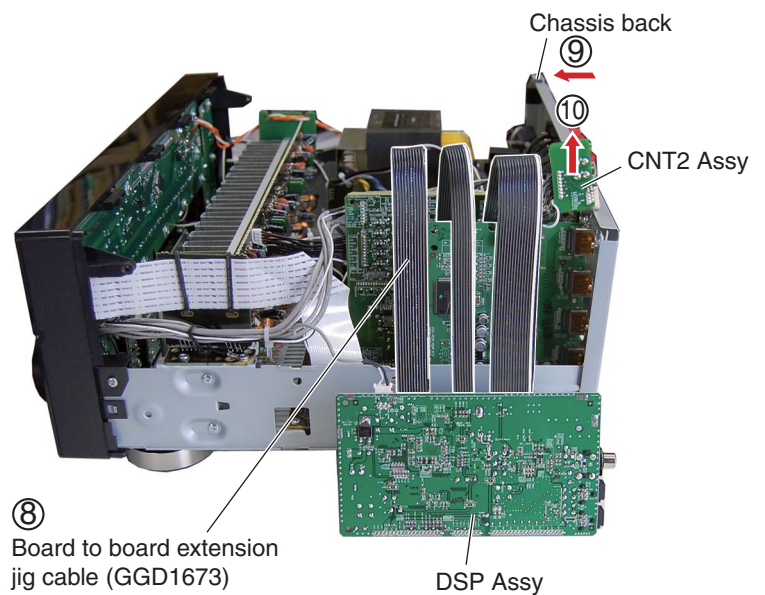
- (1) Remove the five screws. (B020930083B10-IL)
- (2) Remove the one screw. (BMZ30P100FTB)
- (3) Remove the 24 screws. (BBT30P100FTB)
- (4) Remove the seven screws. (BBT30P100FTB)
- (5) Remove the chassis back.



- (6) Remove the DSP Assy.
- (7) Remove the two connectors and remove the BT Assy.



- (8) Connect the board to board extension jig cable.
- (9) Reassembling the chassis back.
Secure the HDMI, INPUT, and VIDEO Assys, using at least one screw each, and the chassis back and chassis, using at least two screws.
- (10) Remove the one connector and remove the CNT2 Assy.



Notes:

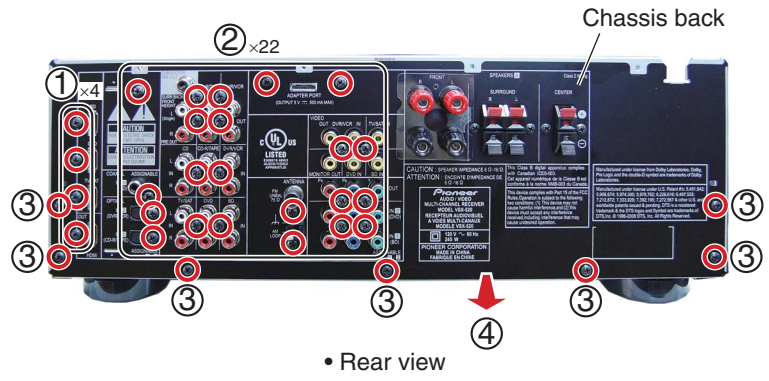
The soldered portions of the extension jigs may have become in poor connection, depending on usage environment, etc. Be sure to confirm soldered portions before use and enhance soldering, if necessary.
During attaching/detaching the jig, be careful not to damage the connectors or injure yourself.

During failure diagnosis using the extension jig, the cable connecting CP200 on the MAIN Assy and CN200 on the DSP Assy can be disconnected.

A [4] DSP Assy (for VSX-520-K)

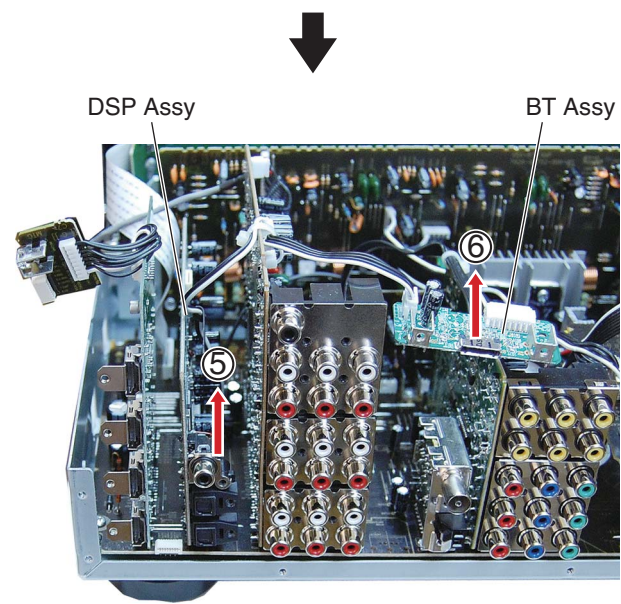
Remove the cabinet by removing the 10 screws.

- (1) Remove the four screws. (B020930083B10-IL)
- (2) Remove the 22 screws. (BBT30P100FTB)
- (3) Remove the seven screws. (BBT30P100FTB)
- (4) Remove the chassis back.



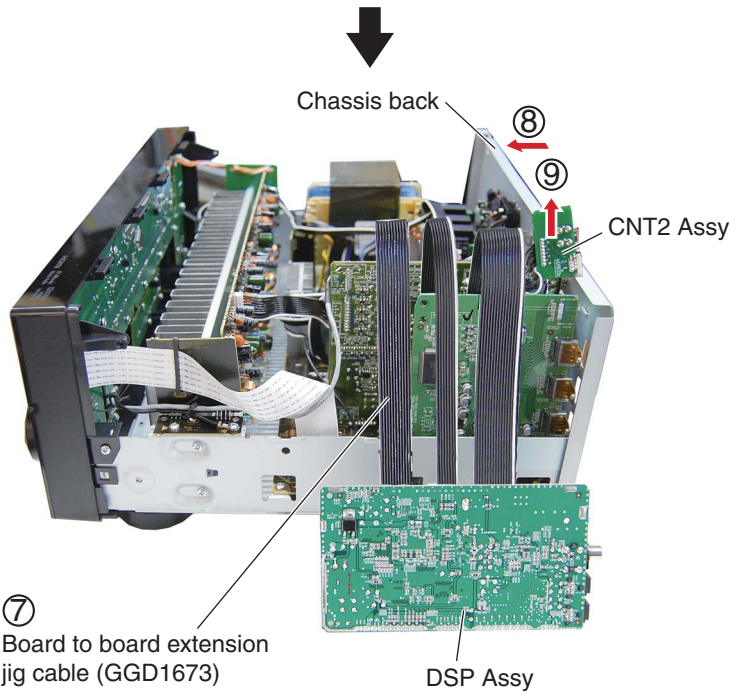
B

- (5) Remove the DSP Assy.
- (6) Remove the two connectors and remove the BT Assy.



C

- (7) Connect the board to board extension jig cable.
- (8) Reassembling the chassis back. Secure the HDMI, INPUT, and VIDEO Assy, using at least one screw each, and the chassis back and chassis, using at least two screws.
- (9) Remove the one connector and remove the CNT2 Assy.



Notes:
 The soldered portions of the extension jigs may have become in poor connection, depending on usage environment, etc. Be sure to confirm soldered portions before use and enhance soldering, if necessary.
 During attaching/detaching the jig, be careful not to damage the connectors or injure yourself.

F

8. EACH SETTING AND ADJUSTMENT

8.1 HOW TO UPDATE FIRMWARE

[1] MAIN, SUB, USB and DSP microcomputers

[Purpose]

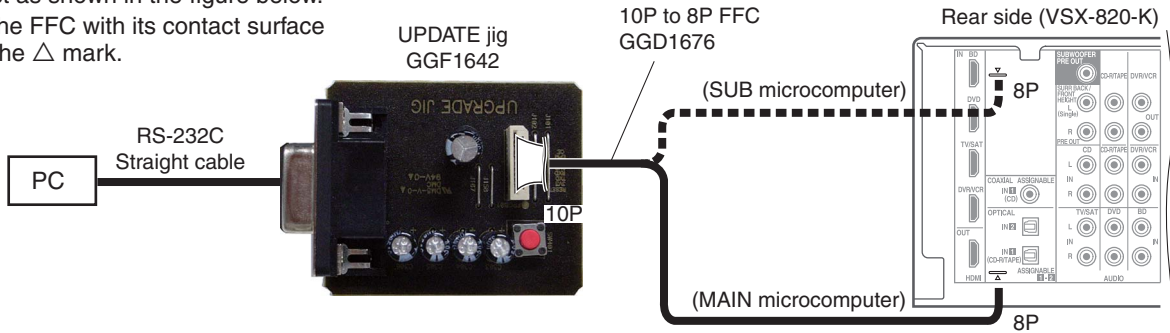
Refer to this section when updating the firmware of each microcomputer is required by the service information, etc.

[Necessary Tools]

- PC with a serial port
 - RS-232C cable (9-pin to 9-pin, straight cable)
 - RS-232C UPDATE jig : GGF1642
 - 10P to 8P FFC : GGD1676
 - Firmware ("mot" extension)
 - Firmware for updating USB (VSX_USB.rom)(VSX-820-K ONLY)
- (Do not use FFC of GGF1642. Remove it and insert GGD1676 on 10 pin connector of board.)

[Connections]

Connect as shown in the figure below. Insert the FFC with its contact surface facing the Δ mark.



1) MAIN and SUB microcomputers

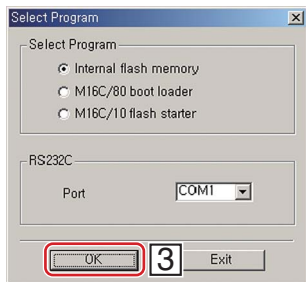
[Procedures]

1 Start up the application on the PC before plugging in the power cord of the main unit.



2 Plug the AC cord. For updating of the Main microcomputer, proceed with the following steps in STANDBY mode. In a case of the SUB microcomputer, turn the main unit on.

3 Press the OK button.



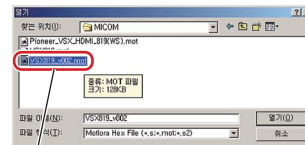
4 Select the update file and enter ID.

2 Enter ID. Enter "ff" in all field.



1 Select the update file. 3 Press OK button to go to next step.

1 Select the update file.

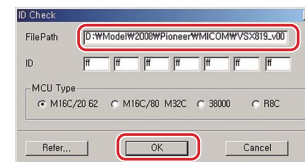


Select "****.mot" file to update the MCU.



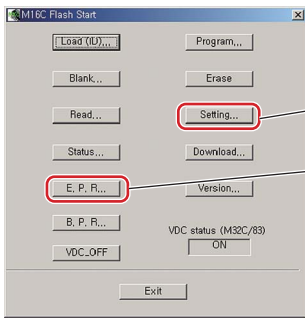
Press the OK button.

2 Enter ID. 3 Press OK button.



A

5 Set speed update and update the MCU.

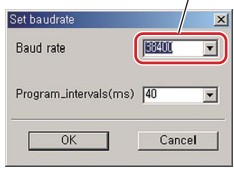


① Set speed of update.

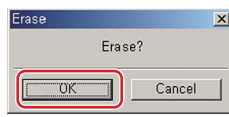
② Update the MCU.
E.P.R=>Erase+Program+Read

B

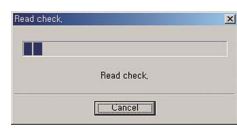
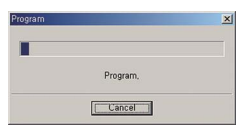
① Set speed of update.
Set Baud rate to 38400.



② Update the MCU.
Press the E.P.R button.



Press OK button.



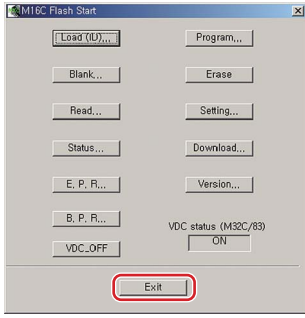
C

6 Finished.



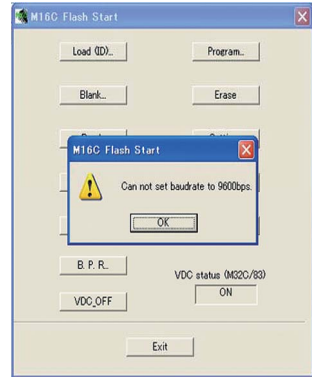
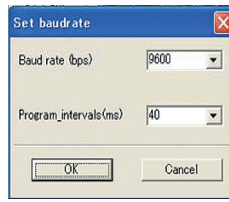
D

7 Press the EXIT button to terminate the updating program.
Unplug the AC cord of the unit then disconnect the FFC of the updating jig.



E

If the following messages are displayed, shut the update program down, and start the update again from step 1.



F

2) How to Update the USB Microcomputer (VSX-820-K ONLY)

[Procedures]

1. Copy the "VSX_USB.rom" file to the root directory of a USB memory device.
2. Press the iPod USB key on the remote control unit to select iPod/USB function then connect the USB memory device.
3. After accessing the USB memory device, "UPG? NO" is displayed on the FL display and "UPDATE? NO" is displayed as an On-Screen display.
4. Press the iPod USB key on the remote control unit.
5. Send either iPod/USB Cursor Left or iPod/USB Cursor Right code.
6. "UPG? YES" is displayed on the FL display and "UPDATE? YES" is displayed as an On-Screen display.
7. After sending the iPod/USB Enter code, updating starts. ("UPDATE" is displayed on the FL display.)
8. When "UPG? NO" is displayed on the FL display and "UPDATE? NO" is displayed as the On-Screen display, updating is completed.
9. Disconnect the USB memory device then turn the unit off.

[How to Confirm the Version of the USB Microcomputer]

1. Select the iPod/USB function then turn the unit off.
2. While holding the ENTER key on the front panel pressed, press the STANDBY/ON key.
3. When the receiver is turned on, press the ENTER key on the main unit three times.
(Each time the ENTER key is pressed, the indications on the FL display change as follows:
Main -> Sub -> DSP -> USB -> All segments lit.)
4. The version is displayed on the FL display, as "USB:***"

Notes on updating

- If you perform updating of the same software twice, it may fail.
- If the indication "UPDATE" on the FL display does not change, let it sit for a few minutes.
If the indication on the FL display changes to one other than "UPDATE," the unit becomes operable.
Turn the unit off after it becomes operable.

3) How to update the DSP Microcomputer

[Procedures]

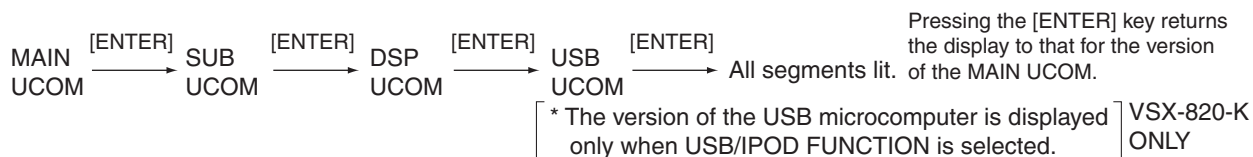
1. Select an Input Function that allows reception via Optical input 1 or 2 then set the unit to STBY_Off mode.
2. Press the SPEAKERS and STANDBY/ON keys simultaneously to enter DSP UpDate mode.
(“DSP UP” is displayed.)
3. When “PLAY” is displayed, playback of the .wav file starts. (Play the file only once. NEVER repeat playback.)
(“PLAY” is displayed.)
4. After playback is finished and “ENTER” is displayed, press the ENTER key on the front panel.
(“ENTER” is displayed.)
5. “WRITING” is automatically displayed.
6. After writing is completed, “COMPLETE” is displayed.
7. Turn the unit off then confirm that the version has been updated.

Reference

[Display of each UCOM (microcomputer) version]

Make sure that the main unit is in Standby mode.

Press and hold the [ENTER] and [STANDBY/ON] keys, then press the [ENTER] key to display each UCOM version.
(Each time the ENTER key is pressed, the indications on the FL display change as follows:)



8.2 IDLE CURRENT ADJUSTMENT

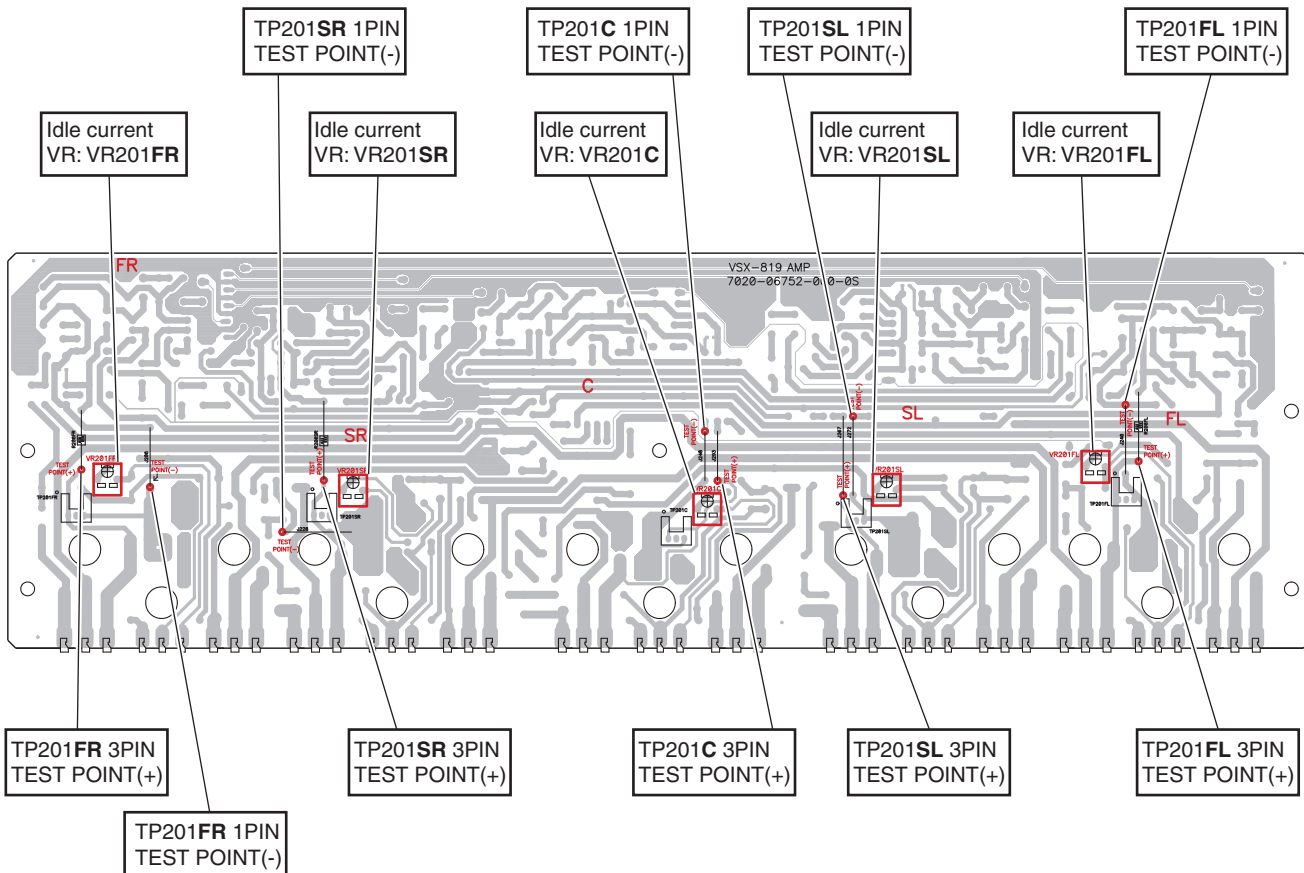
1. Idle Current Adjustment

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

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

B AMP ASSY

SIDE A



[Fig 1.]



5



6



7



8



A



B



C



D



E



F



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6

VSX-820-K



7



8



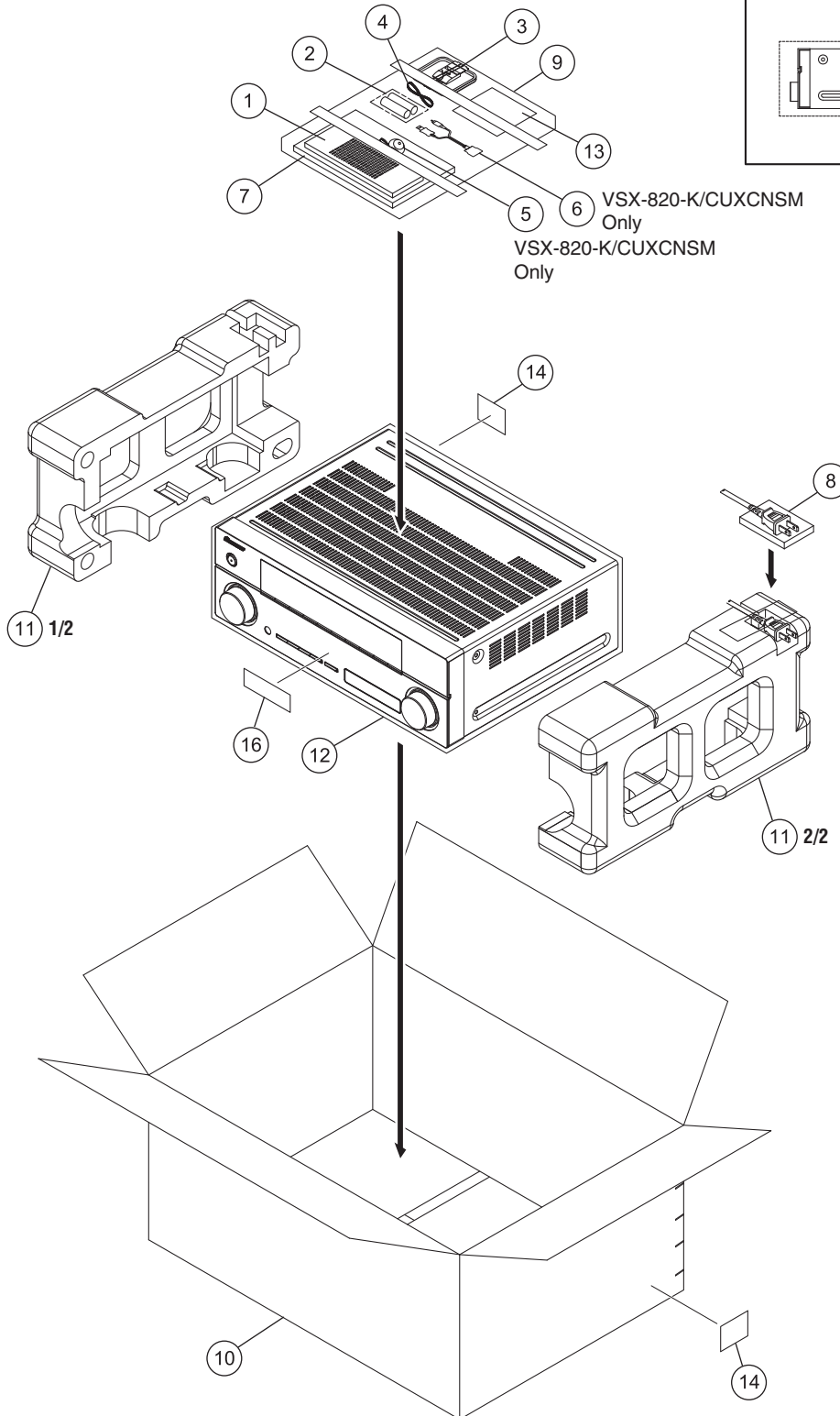
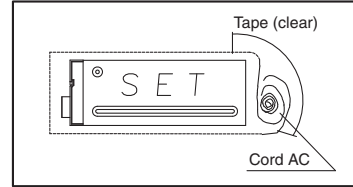
9. EXPLODED VIEWS AND PARTS LIST

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

- The \triangle 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



VSX-820-K

(1) PACKING SECTION PARTS LIST

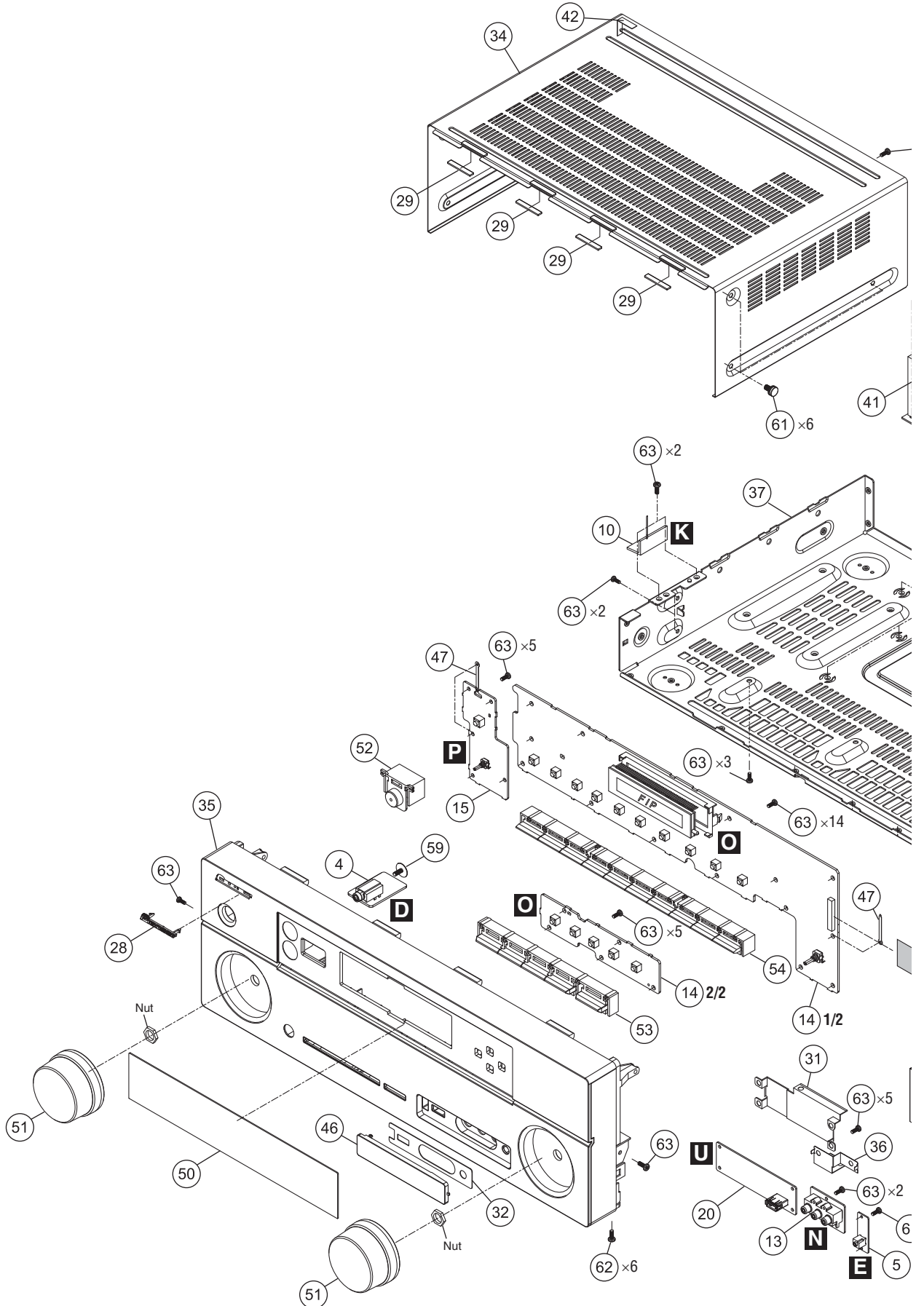
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
	1 Remote Control	See Contrast table (2)
NSP	2 Dry Cell Batteries (AAA size IEC R03)	G670001R50210-IL
	3 AM Loop Antenna	E601016000010-IL
	4 FM Wire Antenna	E605010070001-IL
	5 Setup Microphone (for Auto MCACC setup)	See Contrast table (2)
	6 iPod Cable	See Contrast table (2)
	7 Operating Instructions (En, Frca, Es)	See Contrast table (2)
	8 Poly Bag	6330210059000-IL
NSP	9 Poly Bag	6337040062010-IL
	10 Box, Gift	See Contrast table (2)
	11 Cushion, Snow	6230212824000-IL
	12 PE, Sheet	6327040059000-IL
	13 Sheet	5227000001050-IL
NSP	14 Label	VRW1629
	15 •••••	
NSP	16 Label Getter	See Contrast table (2)

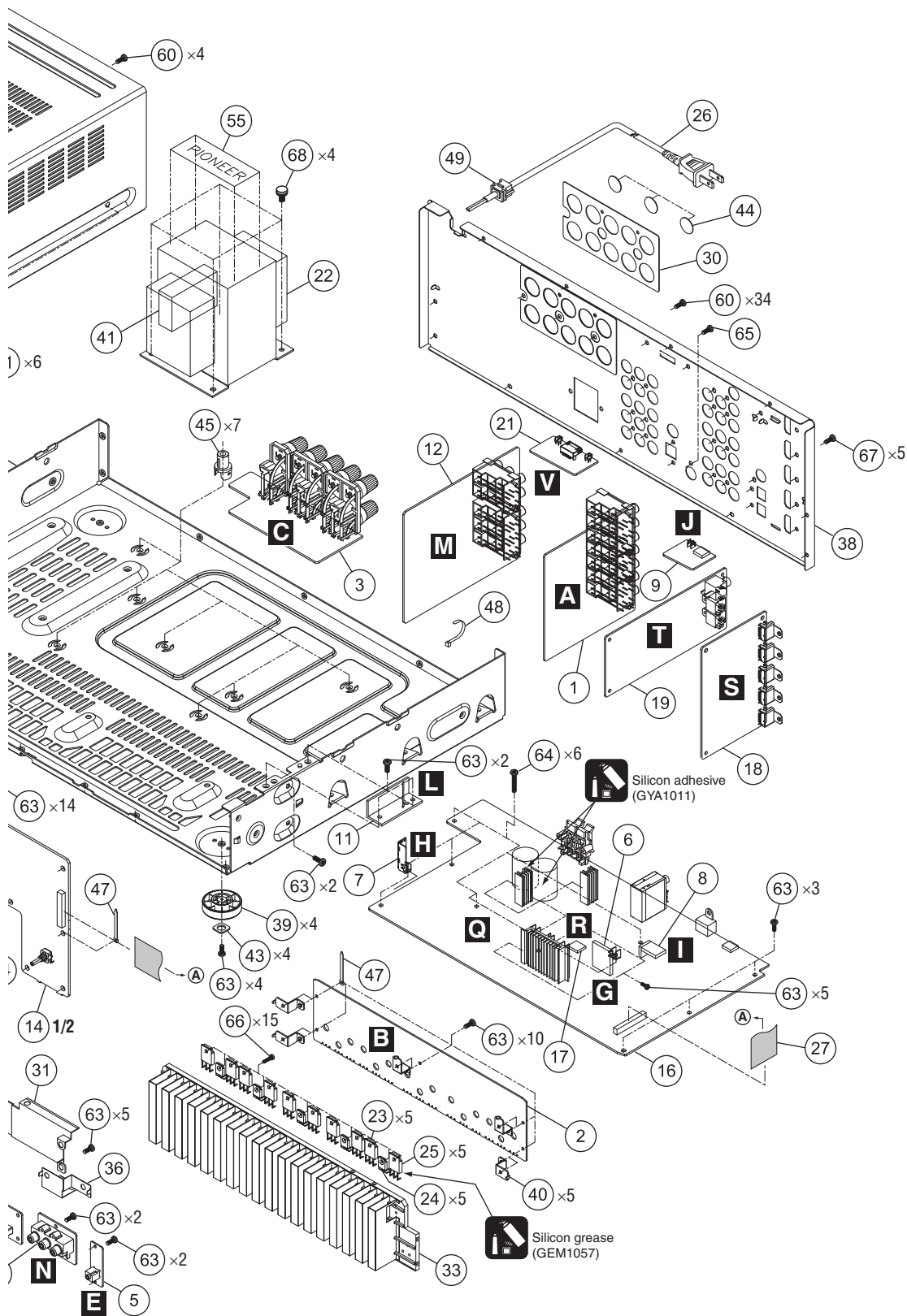
(2) CONTRAST TABLE

VSX-820-K/CUXCNSM and VSX-520-K/CUXCNSM are constructed the same except for the following:

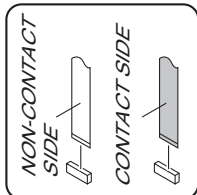
Mark	No.	Symbol and Description	VSX-820-K /CUXCNSM	VSX-520-K /CUXCNSM
	1	Remote Control	8300758300010-IL	8300758600010-IL
	5	Setup Microphone (for Auto MCACC setup)	M040000300200-IL	Not used
	6	iPod Cable	L308102013010-IL	Not used
	7	Operating Instructions (En, Frca, Es)	5707000003160-IL	5707000003110-IL
	10	Box, Gift	6007211700060-IL	6007211700000-IL
NSP	16	Label Getter	5507000004540-IL	5507000004530-IL

9.2 EXTERIOR SECTION (VSX-820-K)





VSX-820-K



EXTERIOR SECTION (VSX-820-K) PARTS LIST

	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
A	1	INPUT Assy	7028069131010-IL	46	Cover	4317215111000-IL	
	2	AMP Assy	7028067523010-IL	47	Clamp MTG	4330000310000-IL	
	3	SPEAKER Assy	7028069151010-IL	48	Clamp	4330040343010-IL	
	4	HEADPHONE Assy	7028069114010-IL	49	Stopper	4380040162010-IL	
	5	MIC Assy	7028069116010-IL	50	Window Display	5077212953010-IL	
	6	PT Assy	7028069112010-IL	51	Knob	5080212361000-IL	
	7	HP_GUIDE Assy	7028069115010-IL	52	Button	5090213741100-IL	
	8	CNT1 Assy	7028069119010-IL	53	Button 5 Key	5090214311000-IL	
	9	CNT2 Assy	7028069113010-IL	54	Button 10 Key	5090214321000-IL	
	10	GUIDE_L Assy	7028069117010-IL	55	Label Trans	5507000003270-IL	
B	11	GUIDE_R Assy	7028069118010-IL	56	•••••		
	12	VIDEO Assy	7028069141010-IL	57	•••••		
	13	F-VIDEO Assy	7028069123010-IL	58	•••••		
	14	FRONT Assy	7028069121010-IL	59	Screw	1500001456010-IL	
	15	FUNCTION Assy	7028069122010-IL	60	Screw	BBT30P100FTB	
	16	MAIN Assy	7028069111010-IL	61	Screw	BBT40P080FTB	
	17	REG Assy	7028069162010-IL	62	Screw	BBZ30P080FTB	
	18	HDMI Assy	7028069191010-IL	63	Screw	BBZ30P080FTC	
	19	DSP Assy	7028069161010-IL	64	Screw	BBZ30P180FTC	
	20	USB Assy	7028069171010-IL	65	Screw	BMZ30P100FTB	
C	21	BT Assy	7028069181010-IL	66	Screw Tapping Assy	B018230141H11-IL	
	⚠	22 Power Trans.	8200960610590-IL	67	Screw, Tap Tite	B020930083B10-IL	
	⚠	23 Transistor (Q2071-Q2075)	J5011560Y0000-IL	68	Screw	B028940101B11-IL	
	⚠	24 Semi, Tr/Ge NPN 2SC (Q2051-Q2055)	J502396400010-IL				
	⚠	25 Transistor (Q2011-Q2015)	J5032390Y0000-IL				
	⚠	26 Cord Assy	L068125101710-IL				
	27	Cable, Flat Card 1.25	N712232533810-IL				
	D	28	Pioneer Badge B (PLS)	XAM3006			
		29	Sheet	1210210235000-IL			
	30	Sheet	1210210762000-IL				
	31	Plate	4470211956000-IL				
	32	Sheet	1217211152000-IL				
	NSP	33	Heatsink	2120211378000-IL			
		34	Cabinet	3007211276200-IL			
	35	Panel Front	3067214861000-IL				
E	36	Shield	3070210626000-IL				
	NSP	37	Chassis	3200212676000-IL			
		38	Chassis Back	3207213456000-IL			
	39	Foot	4007210391000-IL				
	40	Bracket	4010056906010-IL				
	41	Cushion	4050211365000-IL				
	42	Cushion	4050211385000-IL				
	43	Cushion	4050211605000-IL				
	44	Cushion	4050211745000-IL				
	45	Spacer	4300040561010-IL				
F							



5



6



7



8



A



B



C



D



E



F



5



6

VSX-820-K



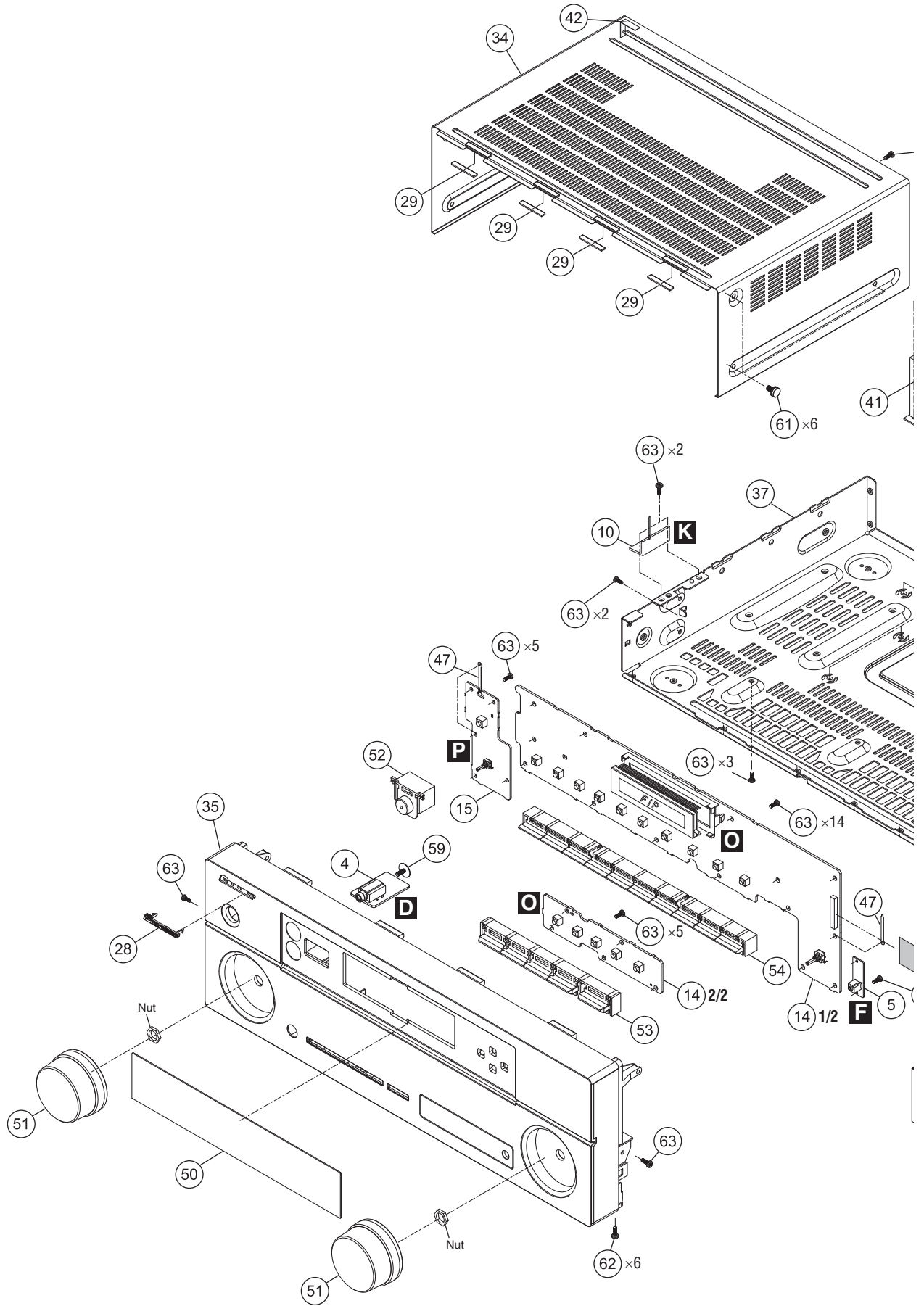
7

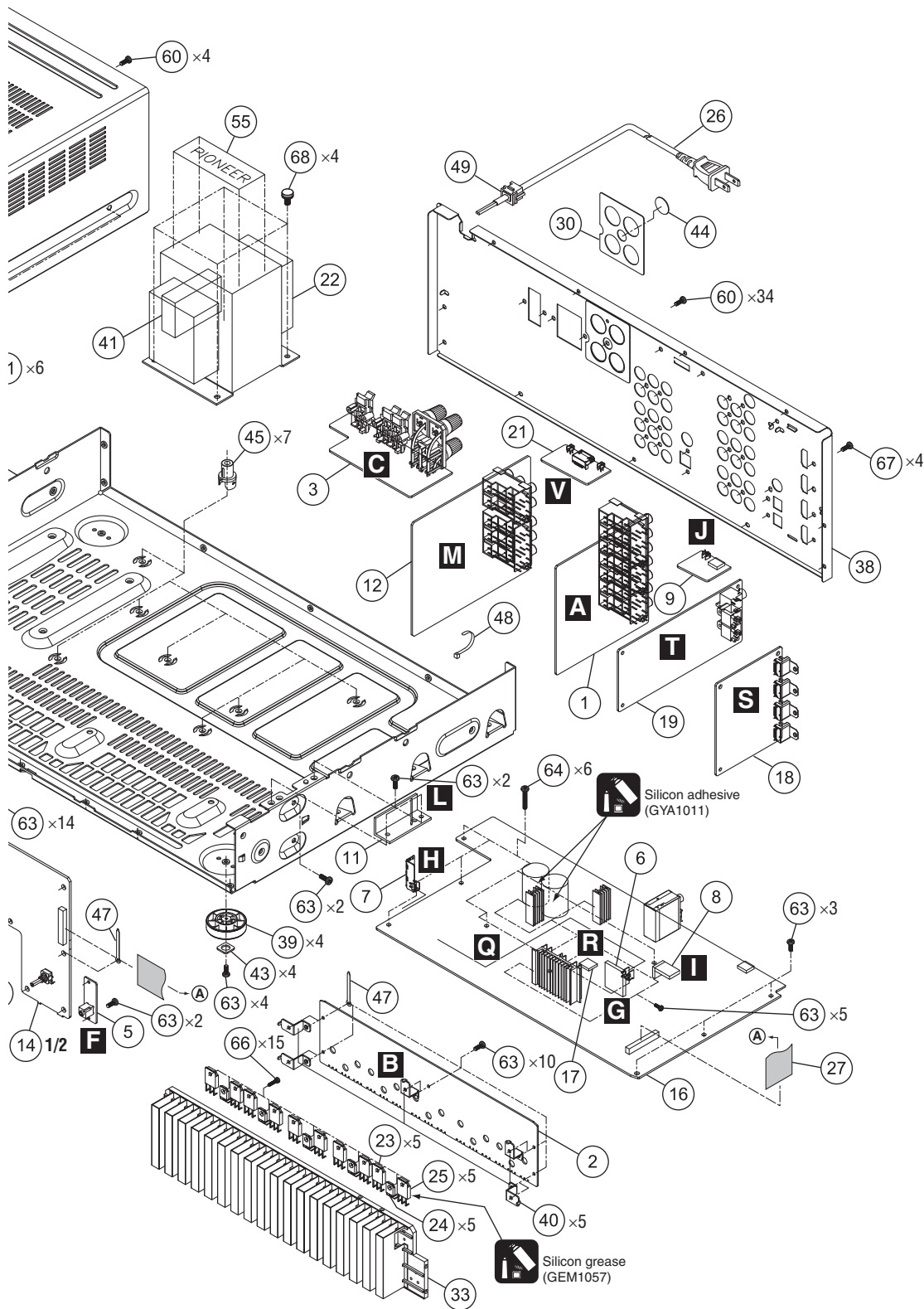


8

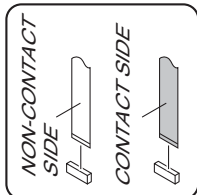


9.3 EXTERIOR SECTION (VSX-520-K)





VSX-820-K



EXTERIOR SECTION (VSX-520-K) PARTS LIST

	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
A	1	INPUT Assy	7028069131020-IL	46	•••••	
	2	AMP Assy	7028067523010-IL	47	Clamp MTG	4330000310000-IL
	3	SPEAKER Assy	7028069151030-IL	48	Clamp	4330040343010-IL
	4	HEADPHONE Assy	7028069114010-IL	49	Stopper	4380040162010-IL
	5	PORTABLE Assy	702806911A010-IL	50	Window Display	5077212953000-IL
	6	PT Assy	7028069112010-IL	51	Knob	5080212361000-IL
	7	HP_GUIDE Assy	7028069115010-IL	52	Button	5090213741100-IL
	8	CNT1 Assy	7028069119010-IL	53	Button 5 Key	5090214311000-IL
	9	CNT2 Assy	7028069113010-IL	54	Button 10 Key	5090214321000-IL
	10	GUIDE_L Assy	7028069117010-IL	55	Label Trans	5507000003270-IL
B	11	GUIDE_R Assy	7028069118010-IL	56	•••••	
	12	VIDEO Assy	7028069141040-IL	57	•••••	
	13	•••••		58	•••••	
	14	FRONT Assy	7028069121020-IL	59	Screw	1500001456010-IL
	15	FUNCTION Assy	7028069122010-IL	60	Screw	BBT30P100FTB
	16	MAIN Assy	7028069111060-IL	61	Screw	BBT40P080FTB
	17	REG Assy	7028069162010-IL	62	Screw	BBZ30P080FTB
	18	HDMI Assy	7028069191020-IL	63	Screw	BBZ30P080FTC
	19	DSP Assy	7028069161020-IL	64	Screw	BBZ30P180FTC
	20	•••••		65	•••••	
C	21	BT Assy	7028069181010-IL	66	Screw Tapping Assy	B018230141H11-IL
	⚠	22 Power Trans.	8200960610470-IL	67	Screw, Tap Tite	B020930083B10-IL
	⚠	23 Transistor (Q2071-Q2075)	J5011560Y0000-IL	68	Screw	B028940101B11-IL
	⚠	24 Semi, Tr/Ge NPN 2SC (Q2051-Q2055)	J502396400010-IL			
	⚠	25 Transistor (Q2011-Q2015)	J5032390Y0000-IL			
NSP	⚠	26 Cord Assy	L068125101710-IL			
	27	Cable, Flat Card 1.25	N712192533810-IL			
	28	Pioneer Badge B (PLS)	XAM3006			
	29	Sheet	1210210235000-IL			
	30	Sheet	1210210772000-IL			
D	31	•••••				
	32	•••••				
	NSP	33 Heatsink	2120211378000-IL			
	34	Cabinet	3007211276200-IL			
	35	Panel Front	3067214851000-IL			
E	36	•••••				
	NSP	37 Chassis	3200212676000-IL			
	38	Chassis Back	3207213446000-IL			
	39	Foot (PLS)	4000210391000-IL			
	40	Bracket	4010056906010-IL			
	41	Cushion	4050211365000-IL			
	42	Cushion	4050211385000-IL			
	43	Cushion	4050211605000-IL			
	44	Cushion	4050211745000-IL			
	45	Spacer	4300040561010-IL			
F						



5



6



7



8



A



B



C



D



E



F



5



6

VSX-820-K



7



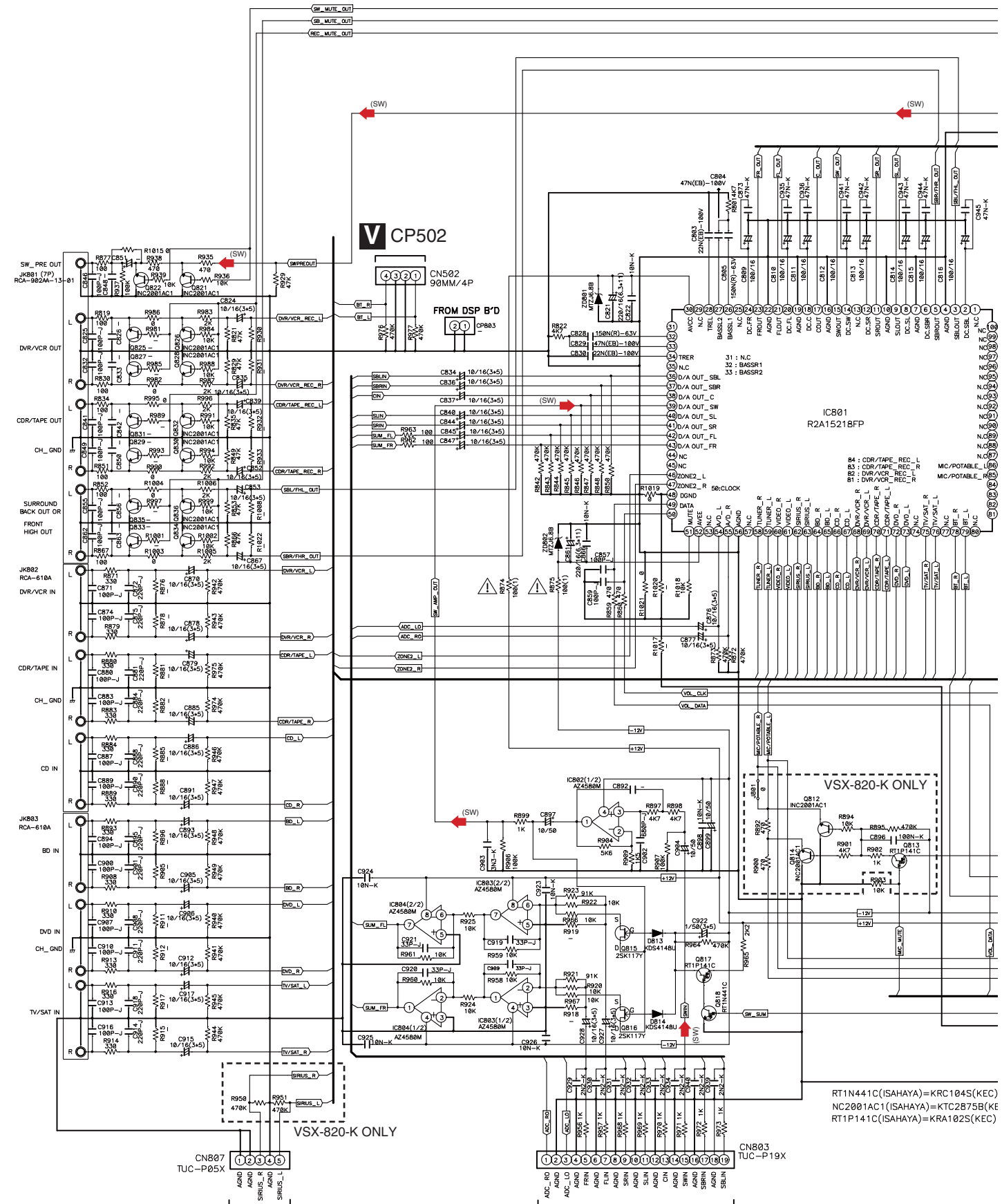
8



10. SCHEMATIC DIAGRAM

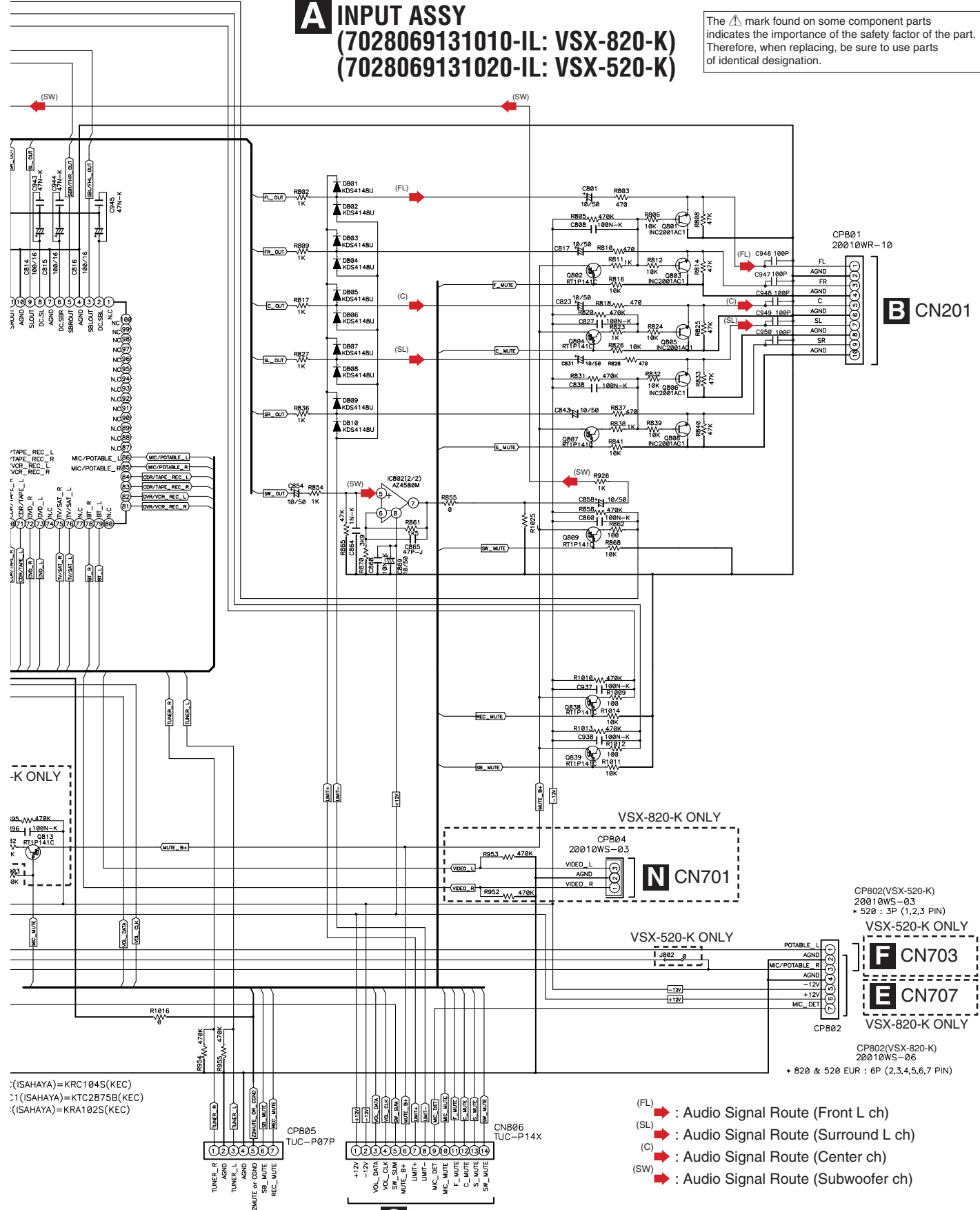
10.1 INPUT ASSY

A
B
C
D
E
F



A INPUT ASSY (7028069131010-IL: VSX-820-K) (7028069131020-IL: VSX-520-K)

The Δ 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.



- TAPE_REC_L
- TAPE_REC_R
- VCR_REC_L
- VCR_REC_R
- MIC/POTABLE_L
- MIC/POTABLE_R
- CCR/TAPE_REC_L
- CCR/TAPE_REC_R
- DNR/VCR_REC_L
- DNR/VCR_REC_R

-K ONLY

- 195 470K
- 196 100N-K
- 32 RT1P141C
- 10K

- :(ISAHAYA)=KRC104S(KEC)
- :1:(ISAHAYA)=KTC2875B(KEC)
- :(ISAHAYA)=KRA102S(KEC)

- (FL) \rightarrow : Audio Signal Route (Front L ch)
- (SL) \rightarrow : Audio Signal Route (Surround L ch)
- (C) \rightarrow : Audio Signal Route (Center ch)
- (SW) \rightarrow : Audio Signal Route (Subwoofer ch)

L CN121B

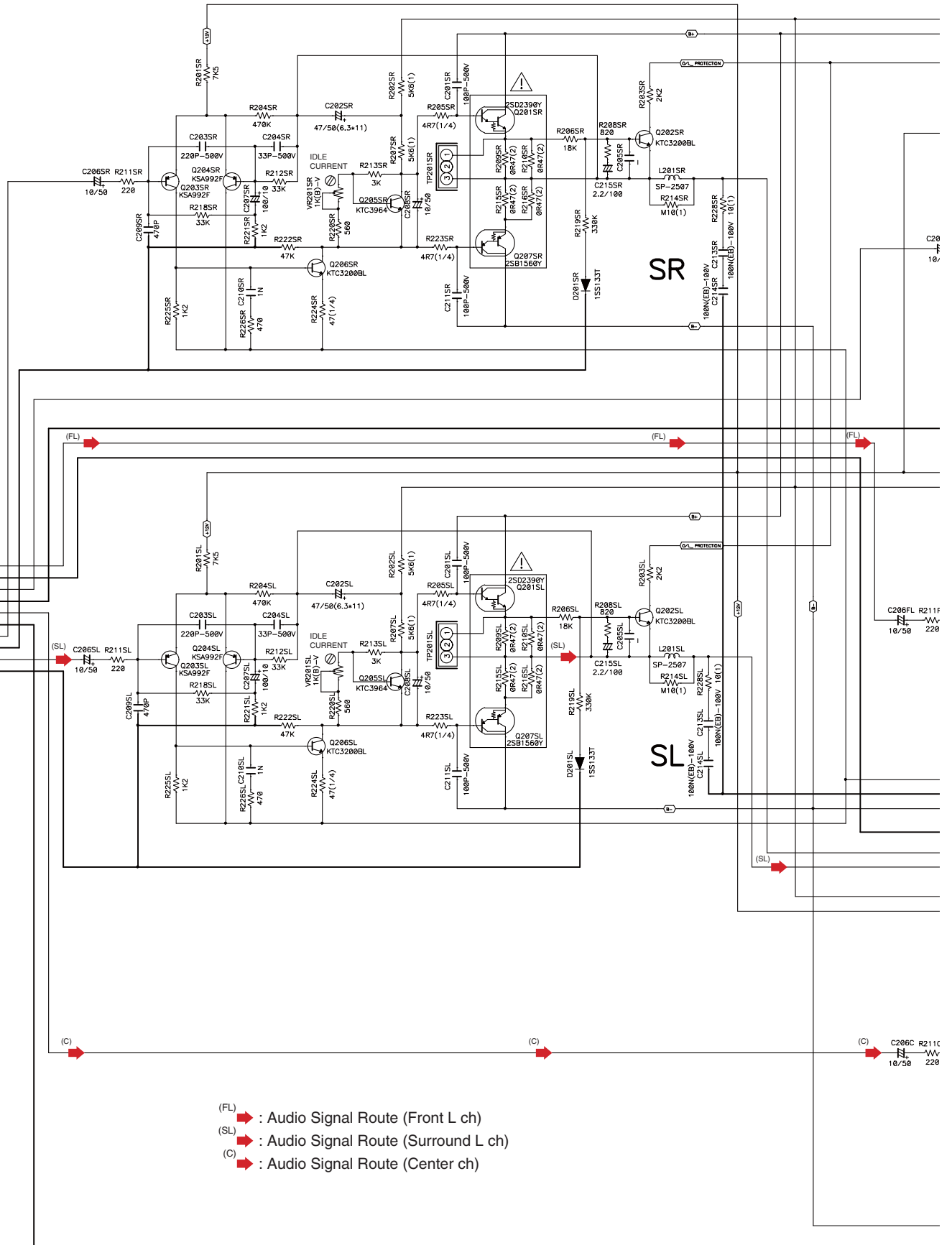
Q CP120

VSX-820-K


A

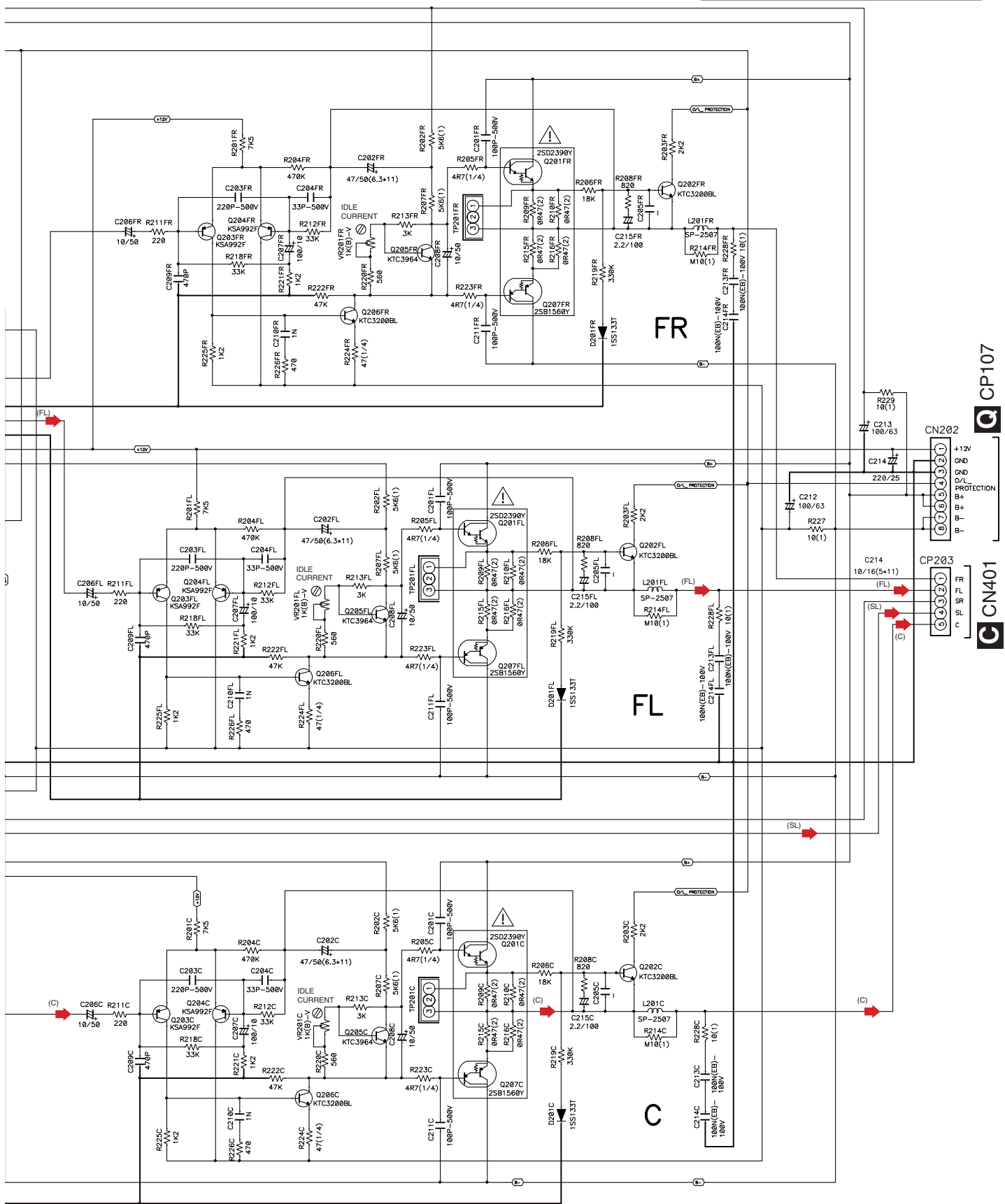
10.2 AMP ASSY

B AMP ASSY (7028067523010-IL)



B

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.

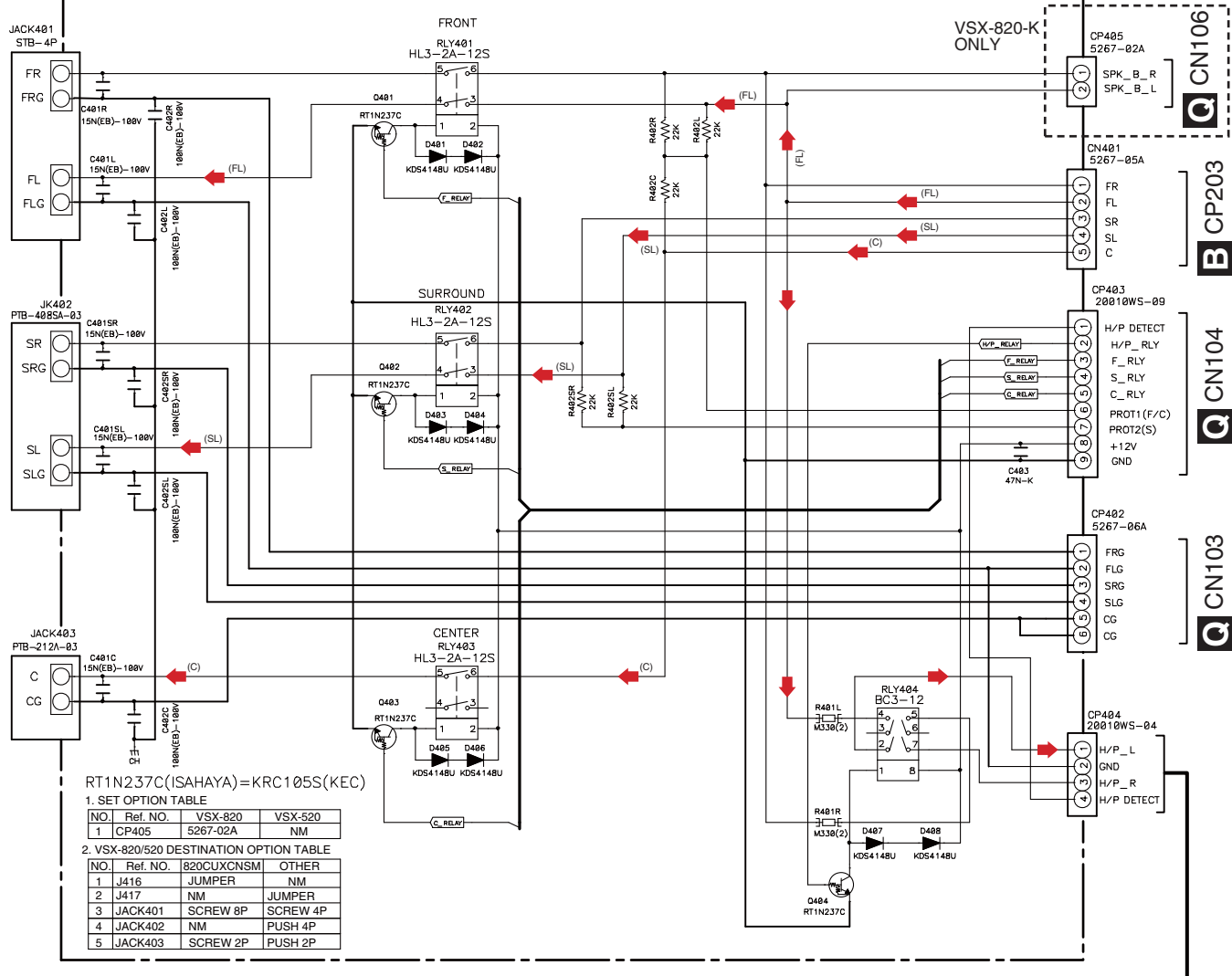


VSX-820-K

B

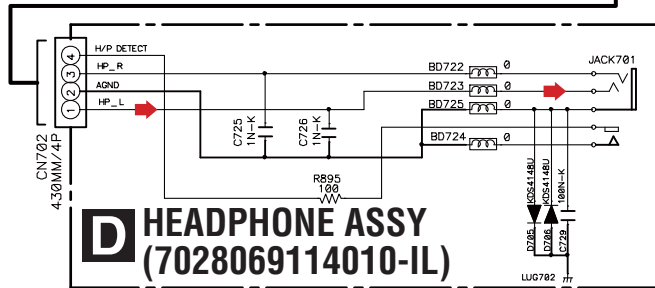
10.3 SPEAKER, HEADPHONE and MIC ASSYS

C SPEAKER ASSY (7028069151010-IL: VSX-820-K) (7028069151030-IL: VSX-520-K)



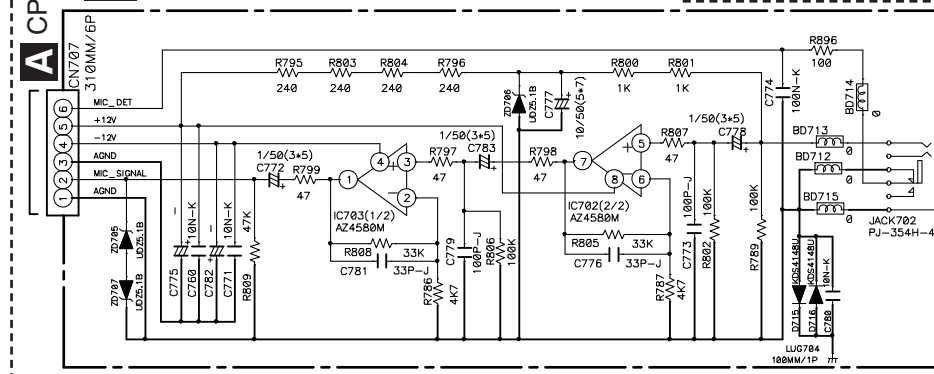
CAUTION
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

The Δ 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.



VSX-820-K ONLY

E MIC ASSY (7028069116010-IL)



NOTES

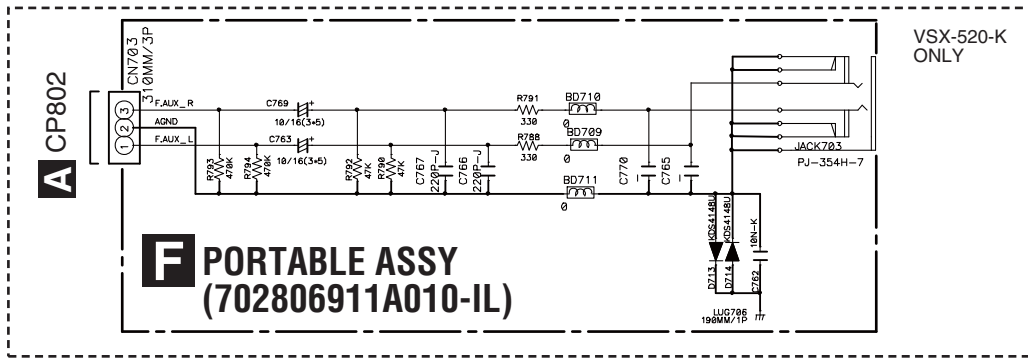
- Resistor values are indicated in ohms unless otherwise specified. [k = 1,000; m = 1,000,000]
- Capacitor values are indicated in microfarads unless otherwise specified. [p = micro-microfarads]
- \square : These resistor are to be segregated from printed wiring board or other accessible parts.

CAUTION
Safety precaution to be followed during servicing

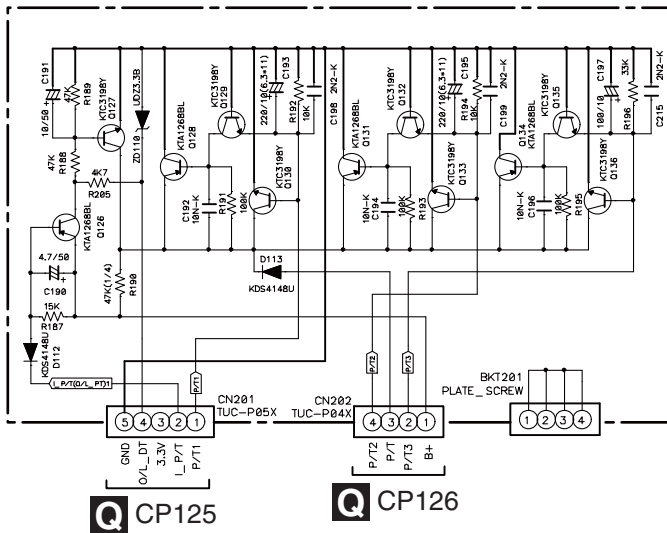
- Since those parts marked with Δ are critical parts for safety, use only the one described in the parts list.
- Before returning the set to the customer, make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

- (FL) \rightarrow Audio Signal Route (Front L ch)
- (SL) \rightarrow Audio Signal Route (Surround L ch)
- (C) \rightarrow Audio Signal Route (Center ch)
- \rightarrow Audio Signal Route (Headphone L ch)

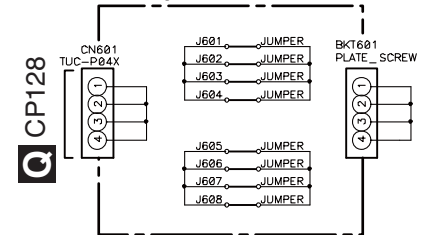
10.4 PORTABLE, PT, HP_GUIDE, CNT1, CNT2, GUIDE_L and GUIDE_R ASSYS



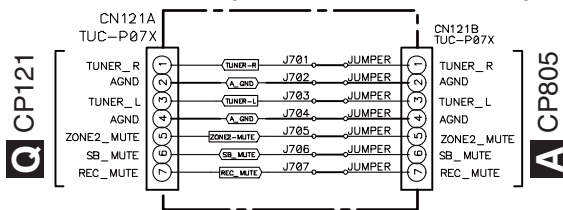
G PT ASSY (7028069112010-IL)



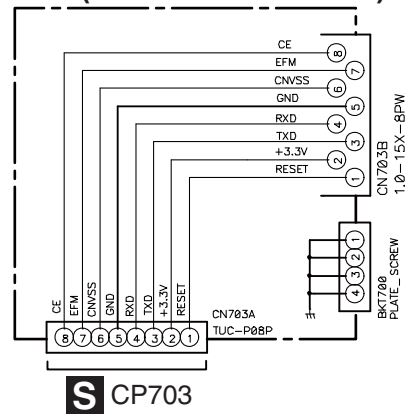
H HP_GUIDE ASSY (7028069115010-IL)



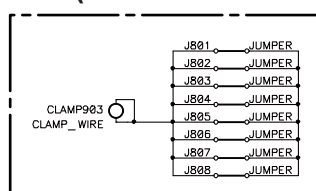
I CNT1 ASSY (7028069119010-IL)



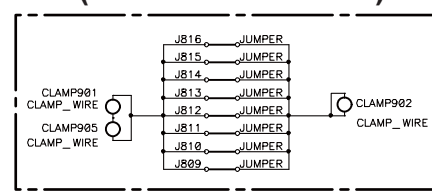
J CNT2 ASSY (7028069113010-IL)



K GUIDE_L ASSY (7028069117010-IL)



L GUIDE_R ASSY (7028069118010-IL)



F G H I J K L

'SX-820-K
INLY



11058
30(VSX-820-K)
(VSX-520-K)

MONITOR	DVR-REC	
CONTROL-A	CONTROL-C	
OSD	L	OUT L
INPUT	H	MUTE H

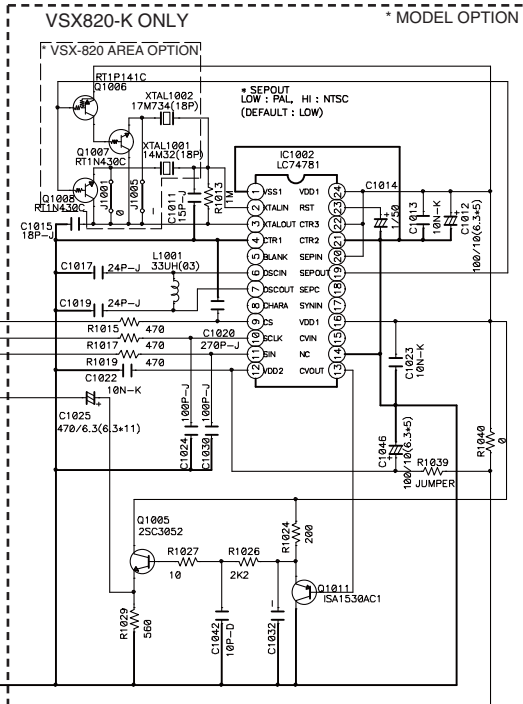
CVBS INPUT SW
(BU4051BCF)

INPUT	A B C			OUTPUT	FUNCTION
	A	B	C		
H	X	X	X	X	X
L	L	L	L	Y0	VIDEO
L	H	L	L	Y1	DVD
L	L	H	L	Y2	TV/SAT
L	H	H	L	Y3	BD
L	L	L	H	Y4	DVR/RCR REC MUTE
L	H	L	H	Y5	-
L	L	H	H	Y6	-
L	H	H	H	Y7	-

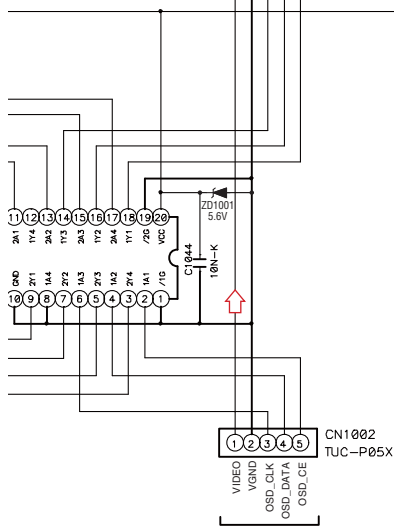
RT1N430C(ISAHAYA)=KRC110S(KEC)
 RT1P141C(ISAHAYA)=KRA102S(KEC)
 ISA1530AC1(ISAHAYA)=KTA1504Y(KEC)

* OPTION TABLE (PCB BASIS)

No.	MODEL REF. No.	820 NA/JP	820 EUROPE	820-GENERAL	520
		(NTSC)	(PAL)	(NTSC / PAL SELECT)	
1	XTAL1001	14M318(18P)	NM	14M318(18P)	NM
2	J1001	0-1608	NM	NM	NM
3	XTAL1002	NM	17M734(18P)	17M734(18P)	NM
4	J1005	NM	0-1608	NM	NM
5	Q1007	NM	NM	RT1N430C	NM
6	Q1006	NM	NM	RT1P141C	NM
7	J1028	NM	NM	0-3216	NM
8	R1057(AXIAL)	330	330	330	NM
9	R1058(AXIAL)	330	330	330	JUMPER
10	R1028	330-1608	330-1608	330-1608	NM
11	C1041	NM	NM	NM	1/50
12	R1041	NM	NM	NM	10K-1608
13	R1025(AXIAL)	330	330	330	NM
14	C1046	100T0	100T0	100T0	NM
15	J1021(AXIAL)	JUMPER	JUMPER	JUMPER	NM
16	R1039(AXIAL)	JUMPER	JUMPER	JUMPER	NM
17	L1001(AXIAL)	33uH	33uH	33uH	NM
18	IC1002	LC74781	LC74781	LC74781	NM
19	R1040	0-1608	0-1608	0-1608	NM
20	C1025	470/6.3	470/6.3	470/6.3	NM
21	C1014	1/50	1/50	1/50	NM
22	J1010,J1026 J1012,J1031	0-3216	0-3216	0-3216	NM
23	R1024	200	200	200	NM
24	C1011	15P-1608	15P-1608	15P-1608	NM
25	C1015	18P-1608	18P-1608	18P-1608	NM
26	C1013,C1022 C1023	10N-1608	10N-1608	10N-1608	NM
27	Q1011	ISA1530AC1	ISA1530AC1	ISA1530AC1	NM
28	J1016,J1017 J1014,J1042	0-1608	0-1608	0-1608	NM
29	R1015,R1017 R1019	470-1608	470-1608	470-1608	NM
30	R1013	1M-1608	1M-1608	1M-1608	NM
31	J1024,J1033	JUMPER	JUMPER	JUMPER	NM
32	C1020	270P-J	270P-J	270P-J	NM
33	C1017,C1019	24P-1608	24P-1608	24P-1608	NM
34	C1012	100T0	100T0	100T0	NM
35	J1059	0-3216	0-3216	0-3216	NM
36	C1024,C1030	100P-J	100P-J	100P-J	NM
37	R1026	2K2	2K2	2K2	NM
38	C1042	10P-D	10P-D	10P-D	NM
39	R1027	10	10	10	NM
40	Q1005	2SC3052	2SC3052	2SC3052	NM
41	R1029	560	560	560	NM



- : Video Signal Route
- (Y) : Video Signal Route (Y)
- (Cb) : Video Signal Route (Cb)
- (Cr) : Video Signal Route (Cr)



CP123

VSX-820-K

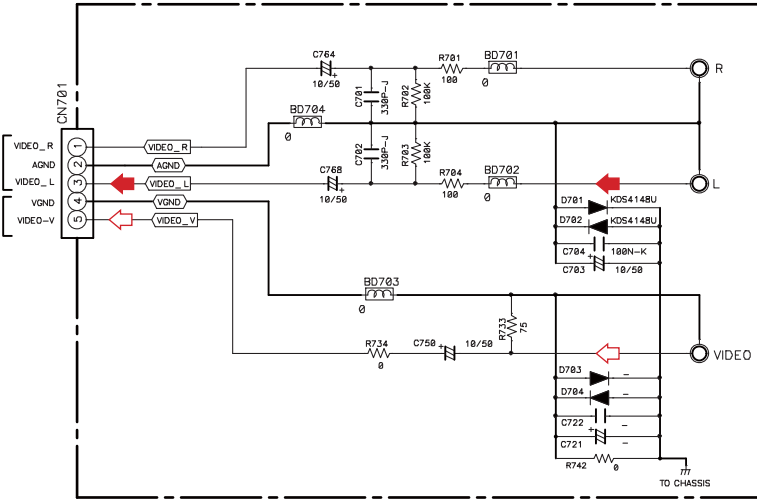


10.6 F-VIDEO, FRONT and FUNCTION ASSYS

VSX-820-K ONLY

N F-VIDEO ASSY (7028069123010-IL)

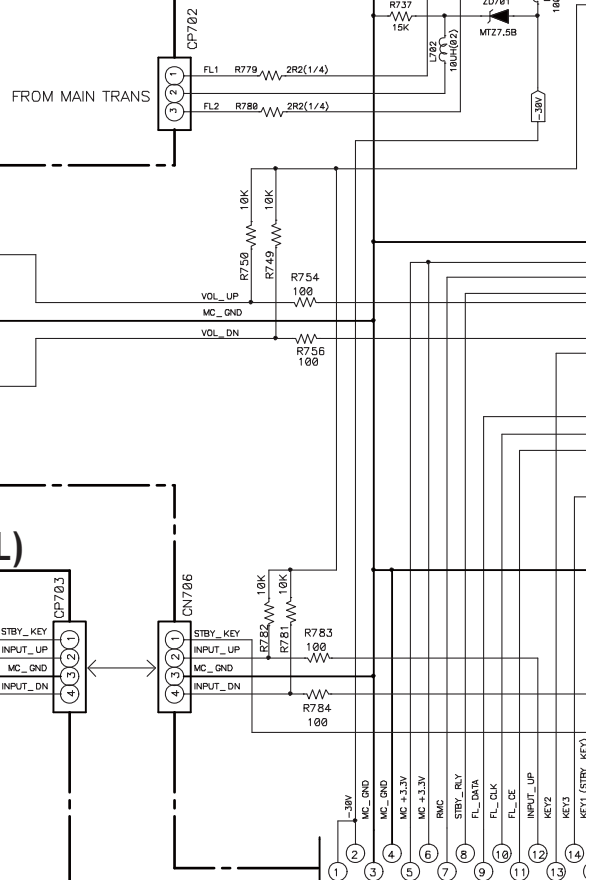
A CP804
Q CP110



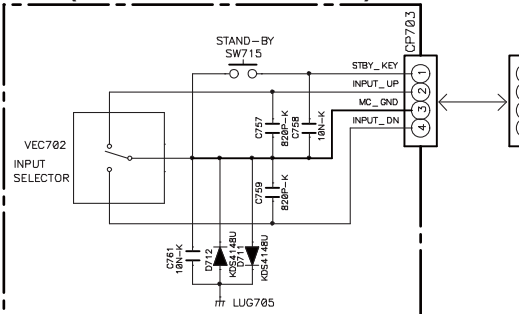
➡ : Audio Signal Route
➡ : Video Signal Route

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.

O FRONT ASSY (7028069121010-IL: VSX-820-K) (7028069121020-IL: VSX-520-K)



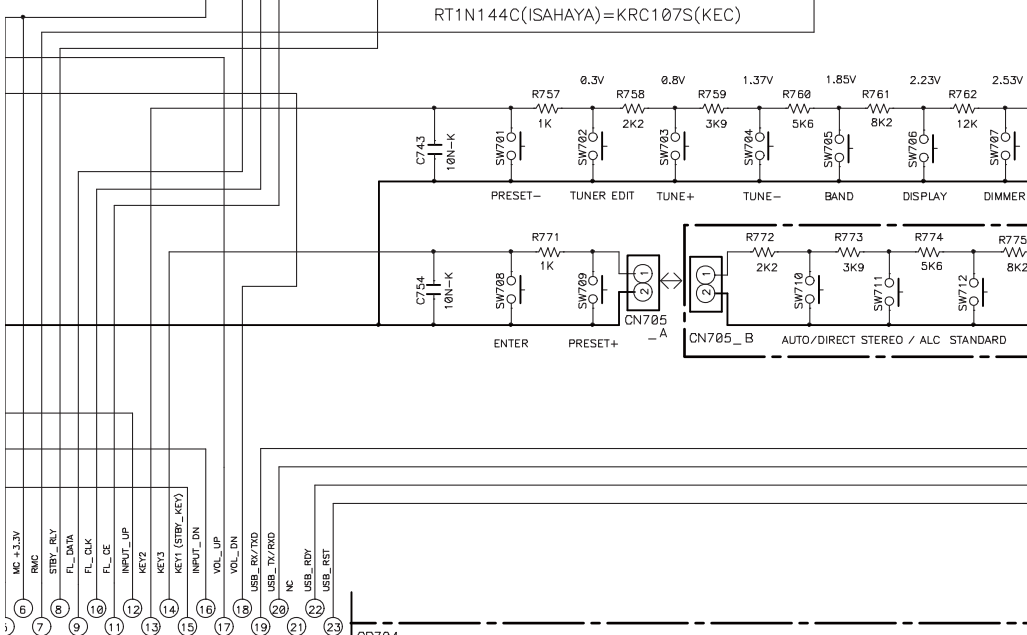
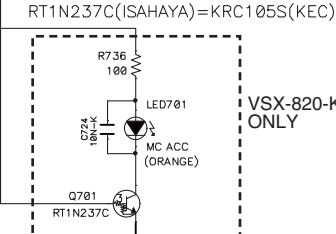
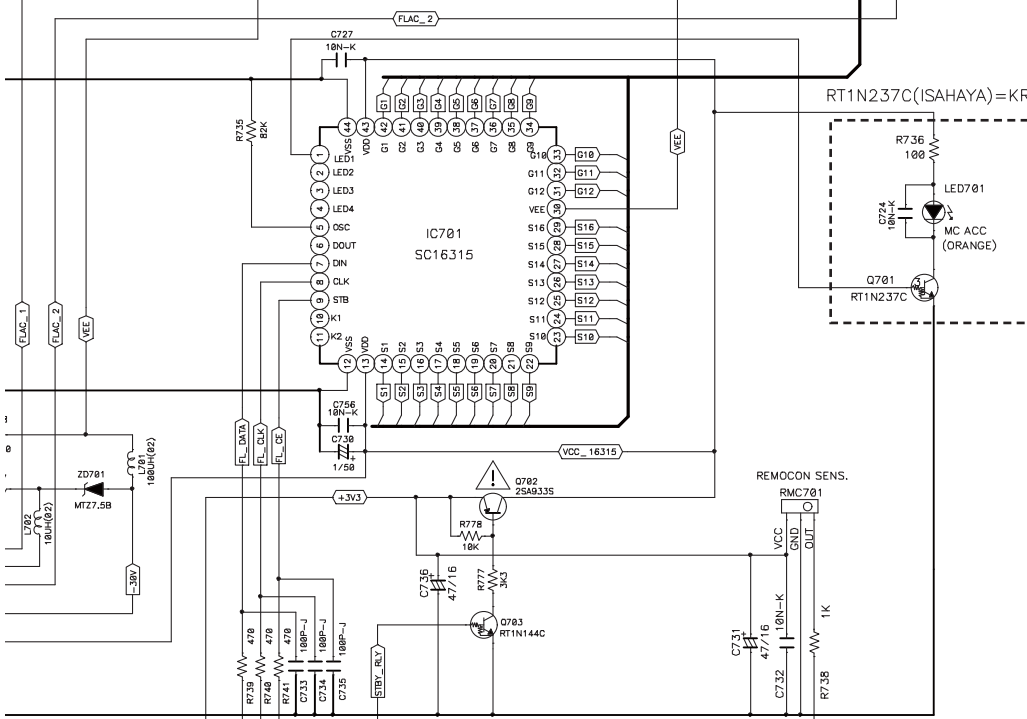
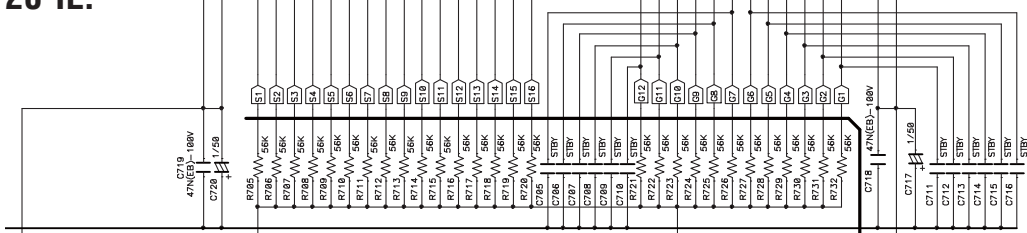
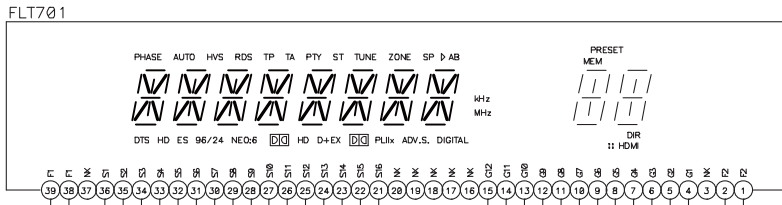
P FUNCTION ASSY (7028069122010-IL)



Q FPC1

N O P

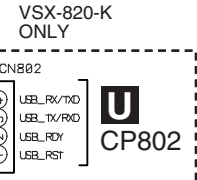
10-IL:
20-IL:



FPC101

23P: VSX-820-K
19P: VSX-520-K

VSX-820-K



A
B
C
D
E
F

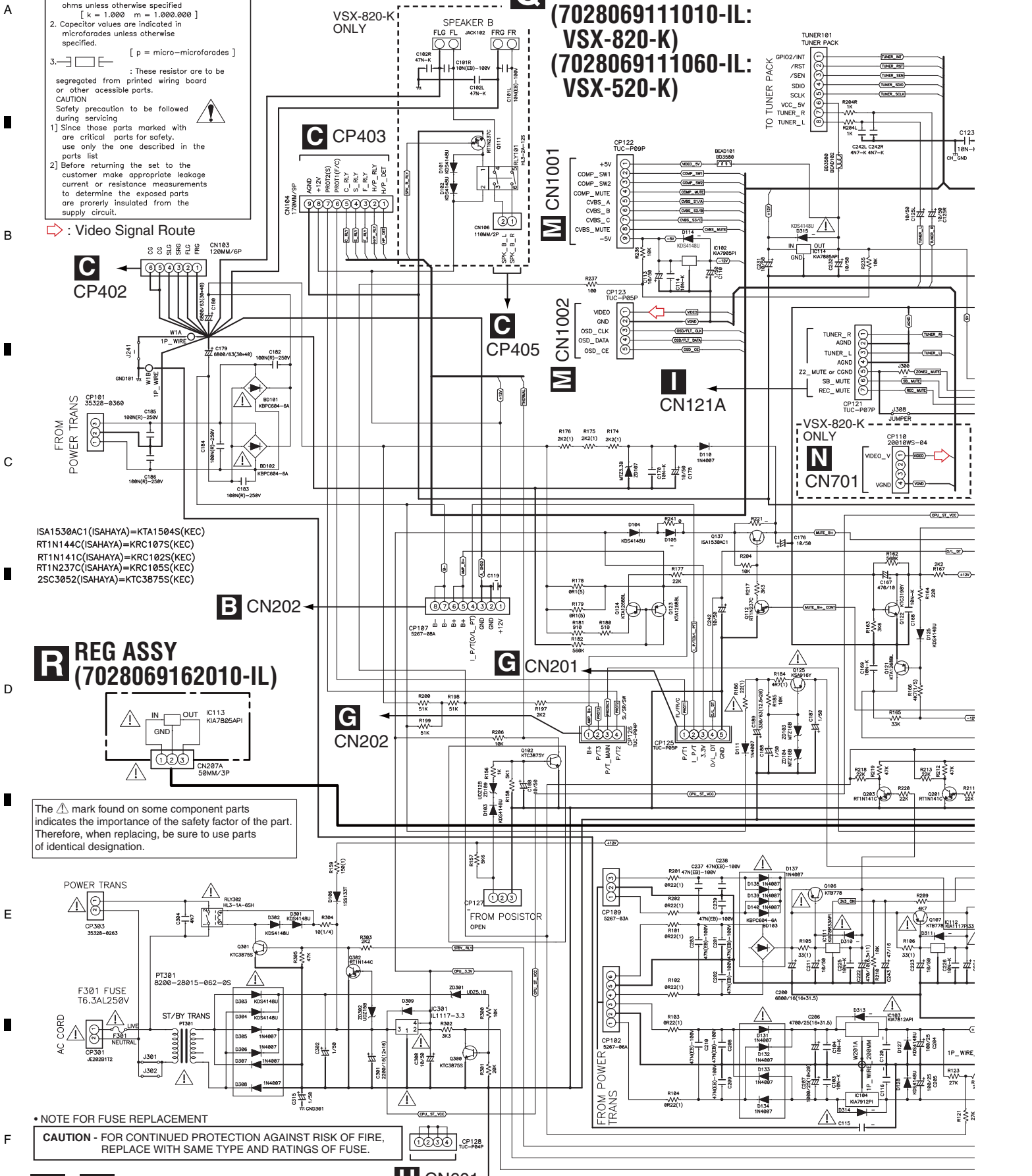


10.7 MAIN and REG ASSYS

NOTES

- Resistor values are indicated in ohms unless otherwise specified
[k = 1.000 m = 1.000.000]
 - Capacitor values are indicated in microfarads unless otherwise specified.
 - \square [p = micro-microfarads]
- ⚠ : These resistor are to be segregated from printed wiring board or other accessible parts.
- CAUTION**
Safety precaution to be followed during servicing
- Since those parts marked with critical parts for safety, use only the one described in the parts list
 - 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.

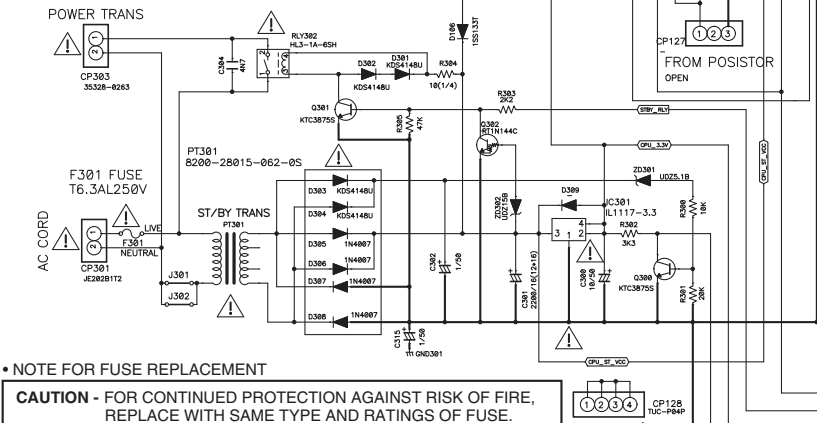
MAIN ASSY (7028069111010-IL: VSX-820-K) (7028069111060-IL: VSX-520-K)



- ISA1530AC1 (ISAHAYA)=KTA1504S(KEC)
- RT1N144C (ISAHAYA)=KRC107S(KEC)
- RT1N141C (ISAHAYA)=KRC102S(KEC)
- RT1N237C (ISAHAYA)=KRC105S(KEC)
- 2SC3052 (ISAHAYA)=KTC3075S(KEC)

REG ASSY (7028069162010-IL)

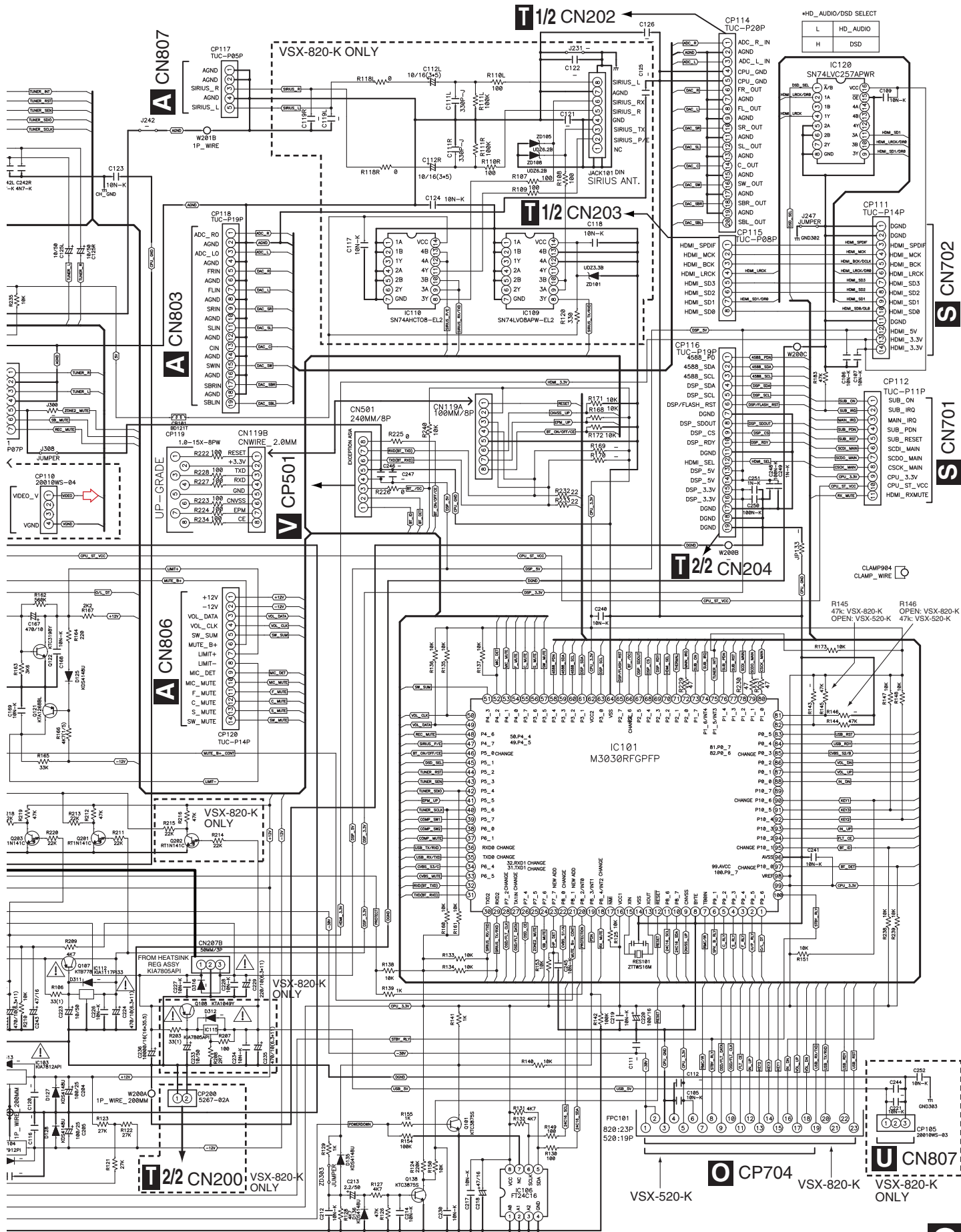
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



NOTE FOR FUSE REPLACEMENT
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

Q R

H CN601



10.8 HDMI ASSY

1

2

3

4

A

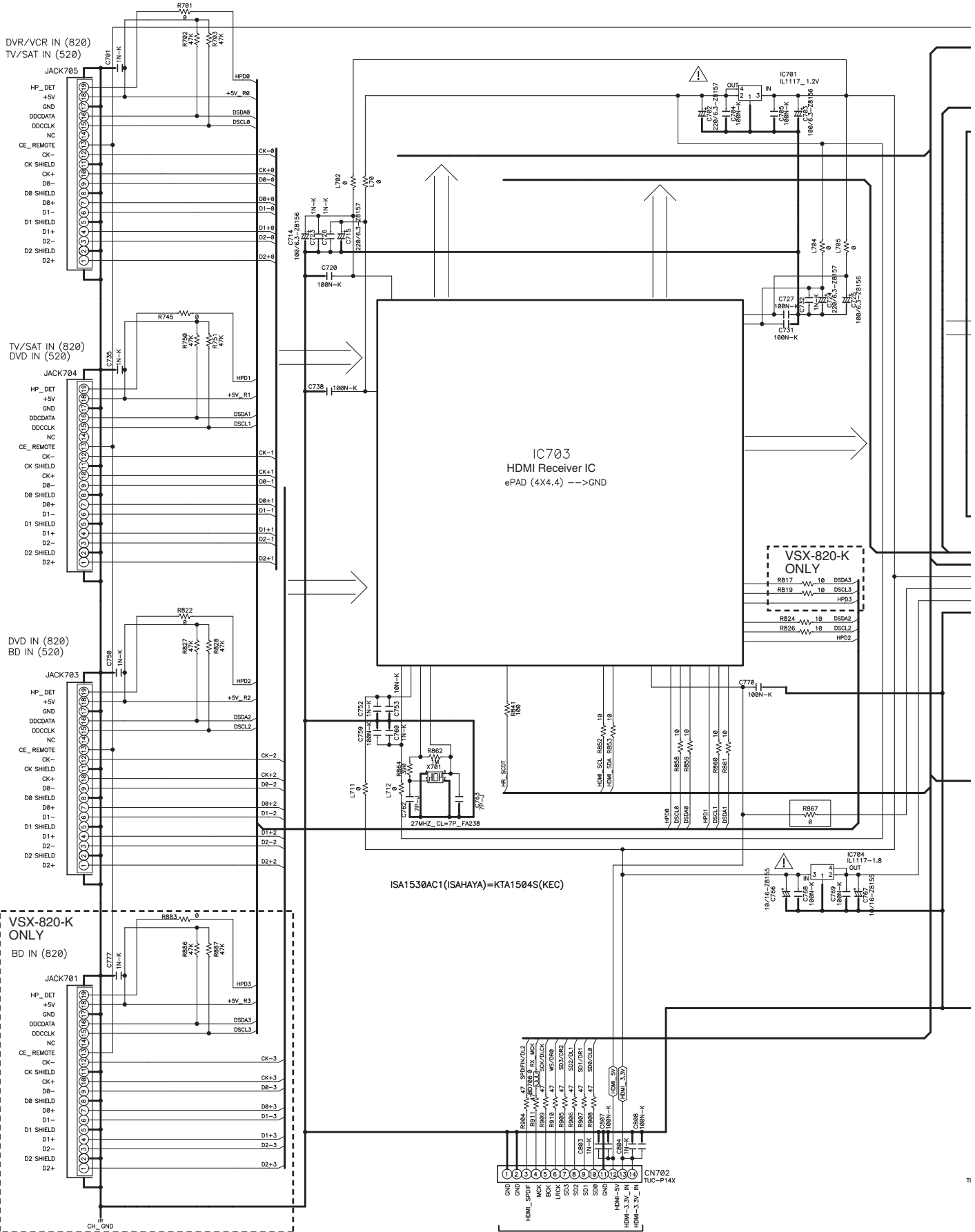
B

C

D

E

F



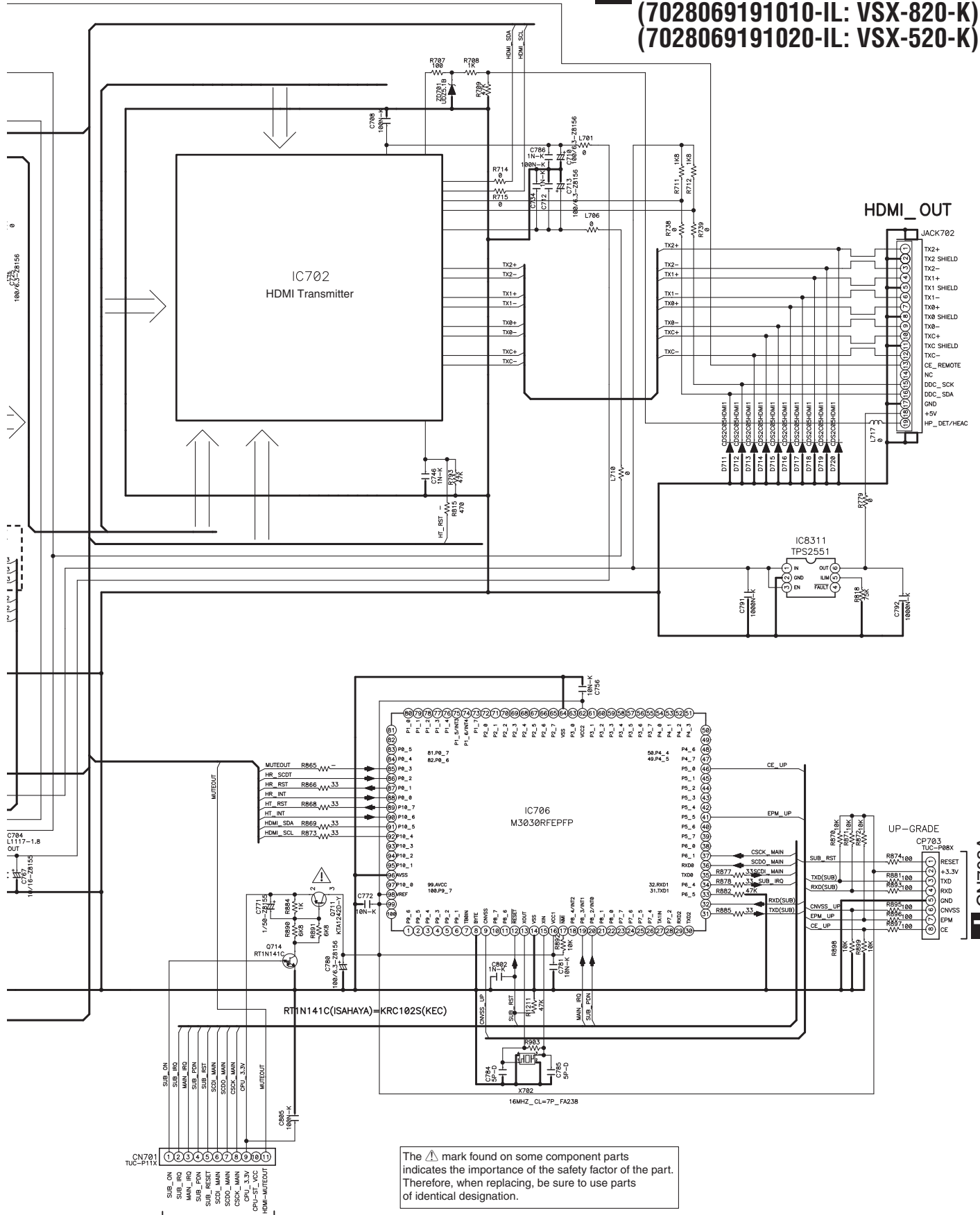
1

2

3

4

S HDMI ASSY
 (7028069191010-IL: VSX-820-K)
 (7028069191020-IL: VSX-520-K)



The Δ 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.

Q CP112

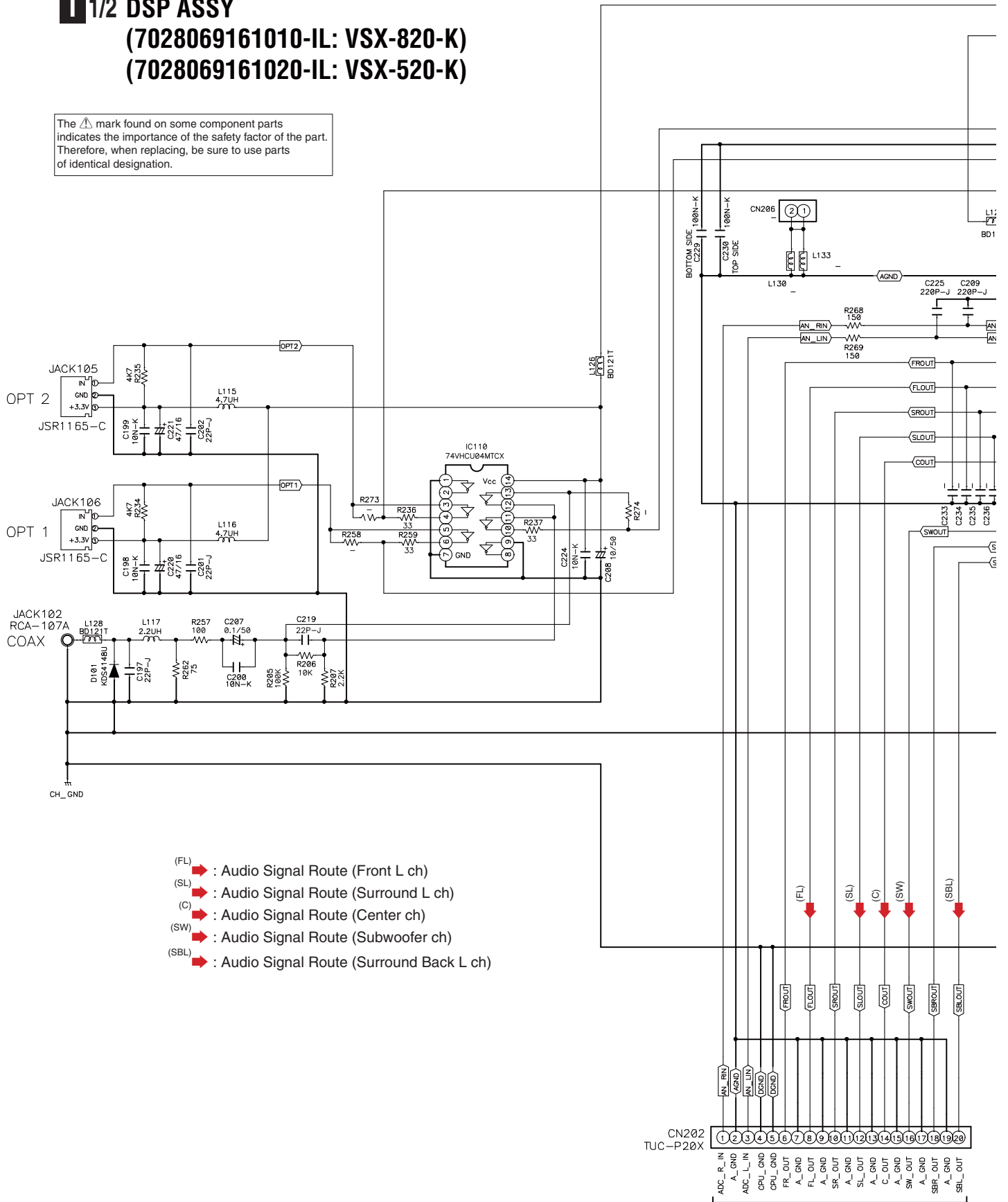
VSX-820-K

S

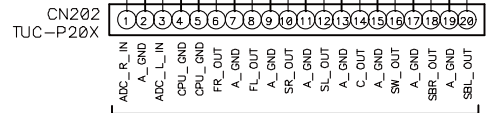
10.9 DSP ASSY (1/2)

T 1/2 DSP ASSY (7028069161010-IL: VSX-820-K) (7028069161020-IL: VSX-520-K)

The Δ 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.

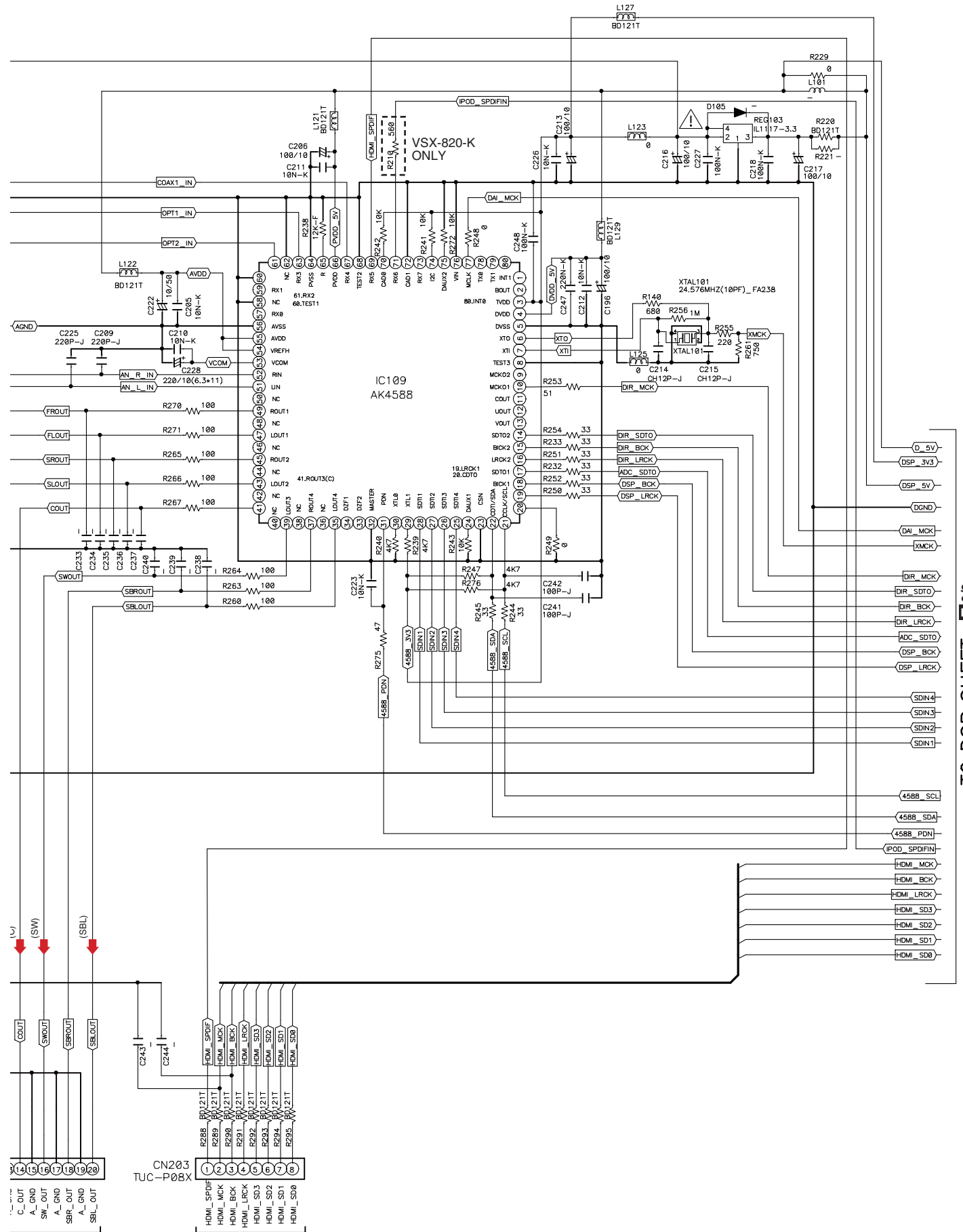


- (FL) \rightarrow : Audio Signal Route (Front L ch)
- (SL) \rightarrow : Audio Signal Route (Surround L ch)
- (C) \rightarrow : Audio Signal Route (Center ch)
- (SW) \rightarrow : Audio Signal Route (Subwoofer ch)
- (SBL) \rightarrow : Audio Signal Route (Surround Back L ch)



Q CP114

T 1/2

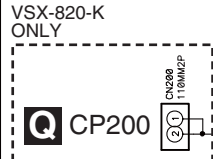


TO DSP SHEET T22

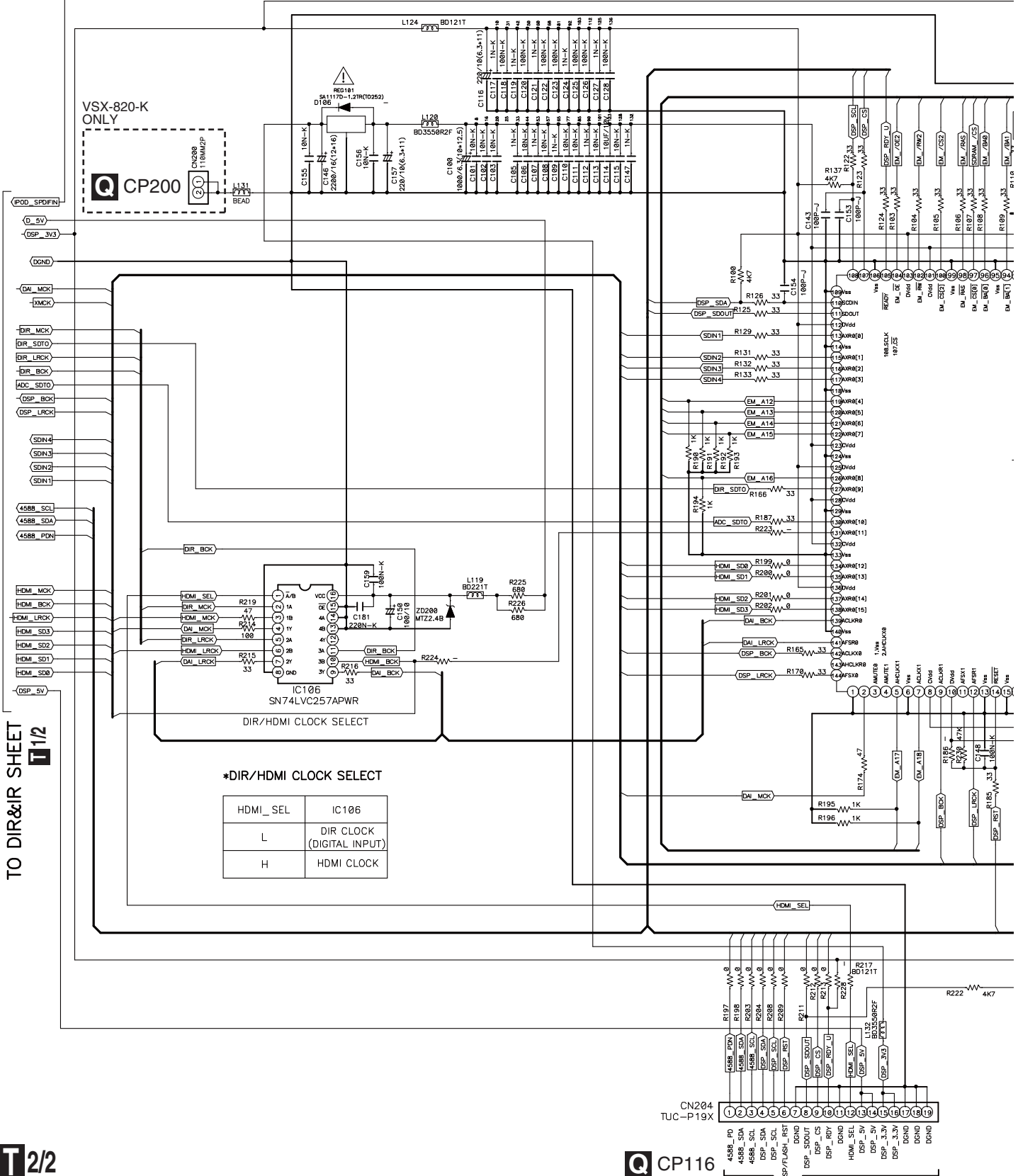
A
B
C
D
E
F

10.10 DSP ASSY (2/2)

T 2/2 DSP ASSY (7028069161010-IL: VSX-820-K) (7028069161020-IL: VSX-520-K)



VSX-820-K ONLY



*DIR/HDMI CLOCK SELECT

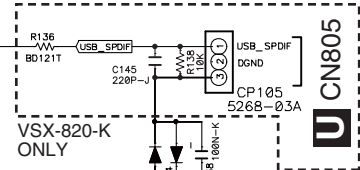
HDMI_SEL	IC106
L	DIR CLOCK (DIGITAL INPUT)
H	HDMI CLOCK

TO DIR&IR SHEET T 1/2

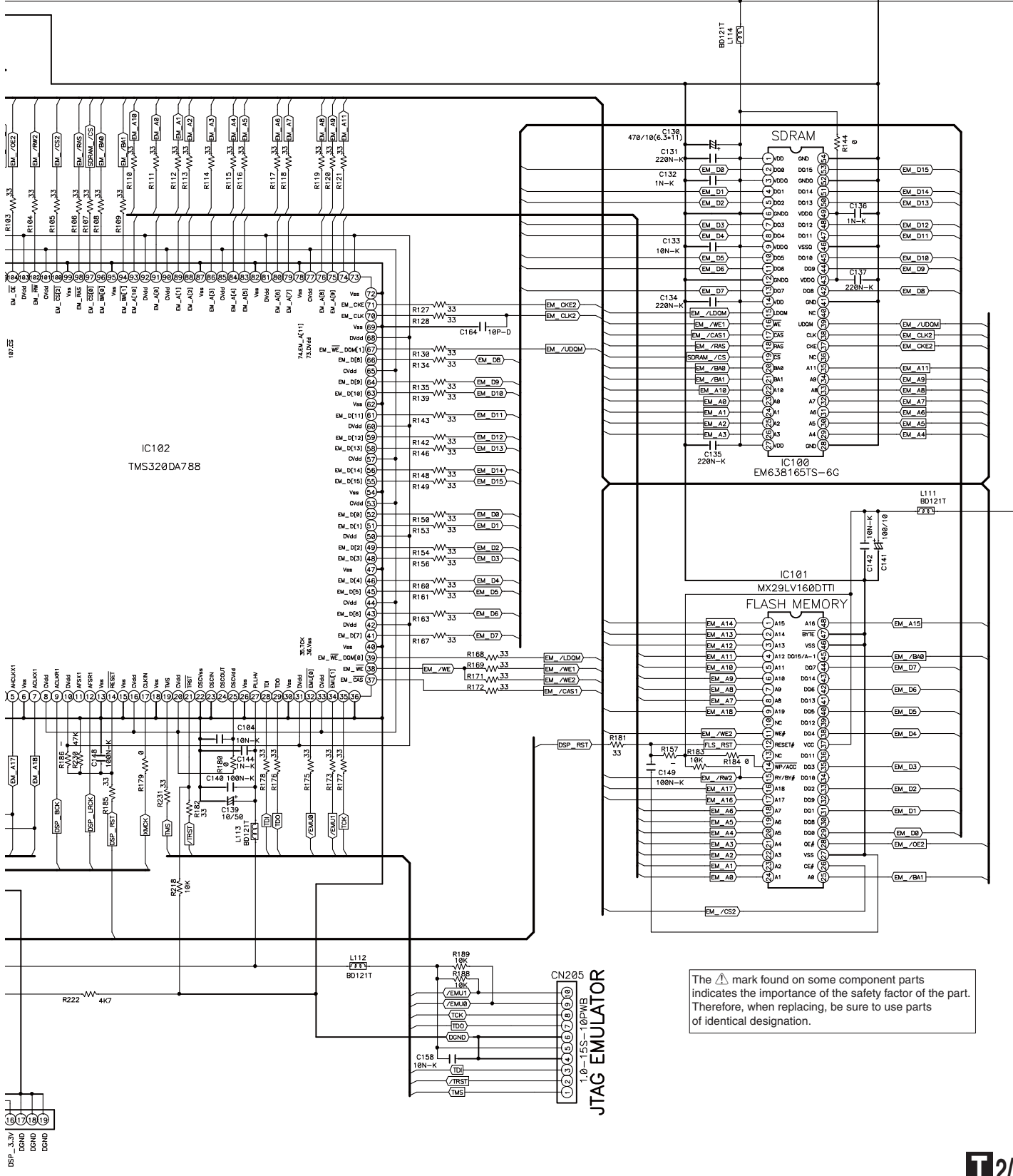
T 2/2



VSX-820-K



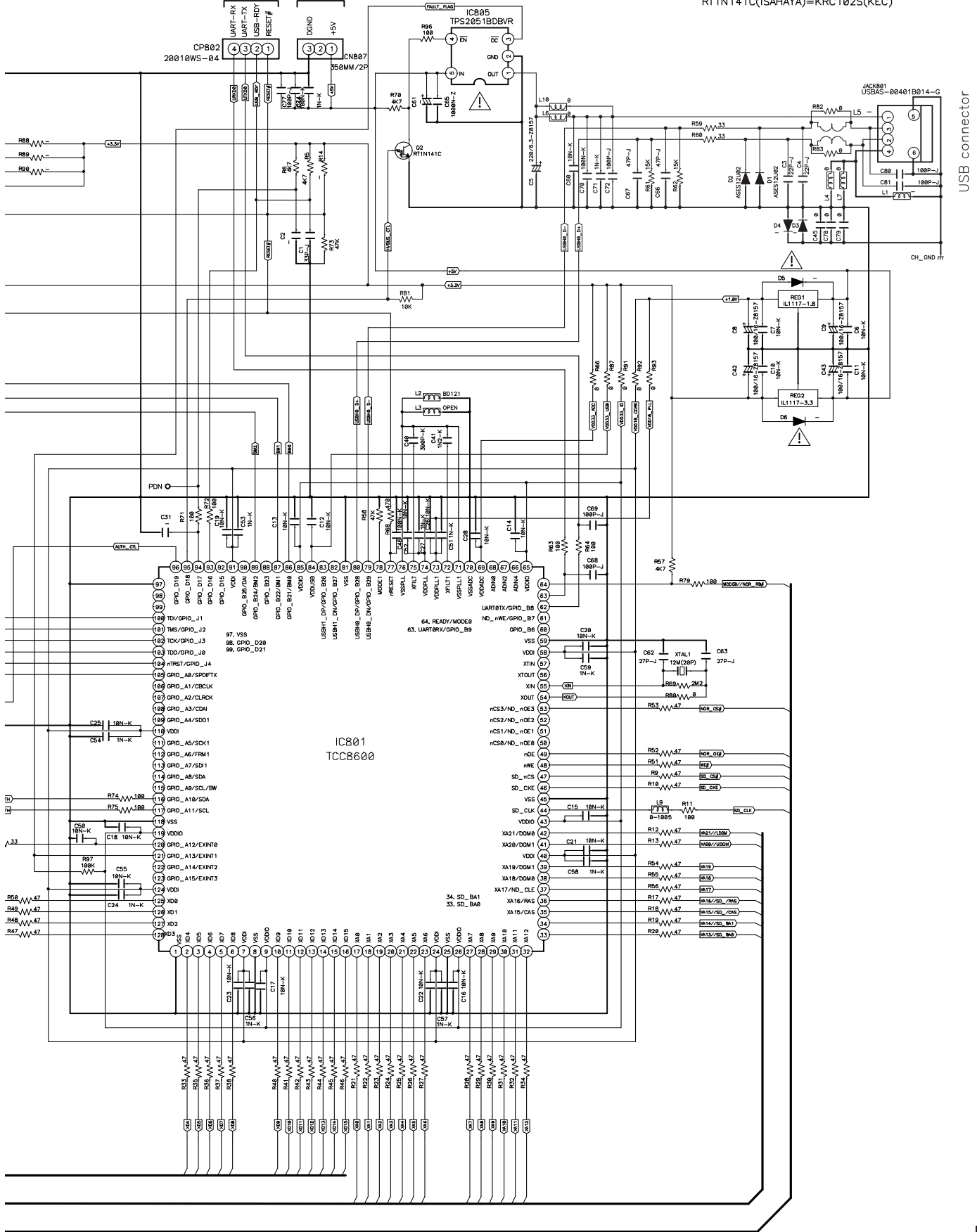
VSX-820-K ONLY



The Δ 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.

○ CN802 **Ⓚ CP105**

RT1N141C(ISAHAYA)=KRC102S(KEC)



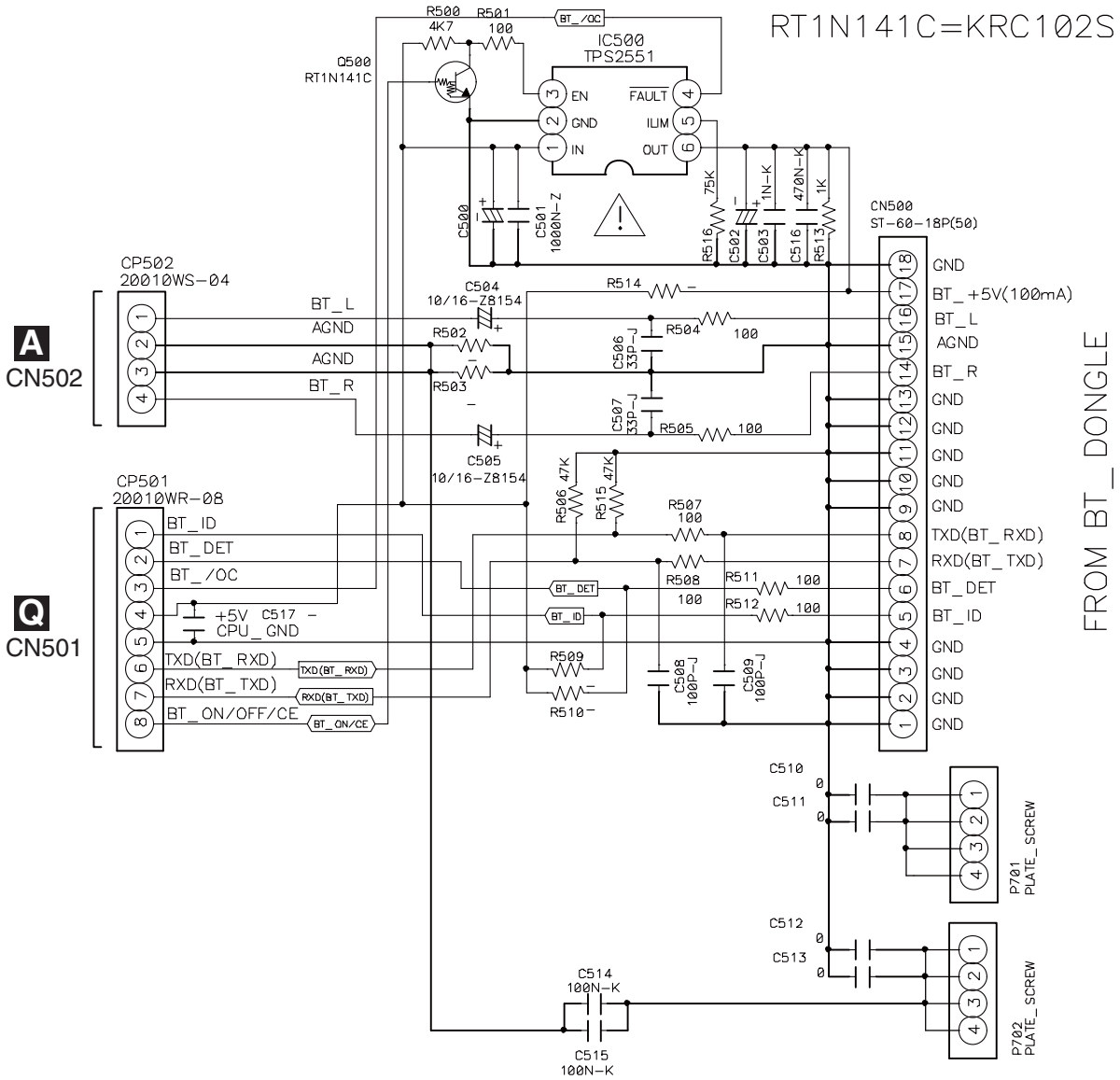
USB connector

A
B
C
D
E
F



10.12 BT ASSY

BT ASSY (7028069181010-IL)

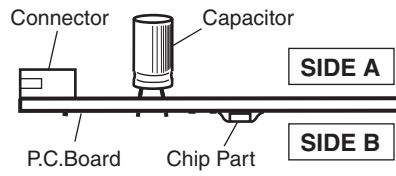


11. PCB CONNECTION DIAGRAM

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.

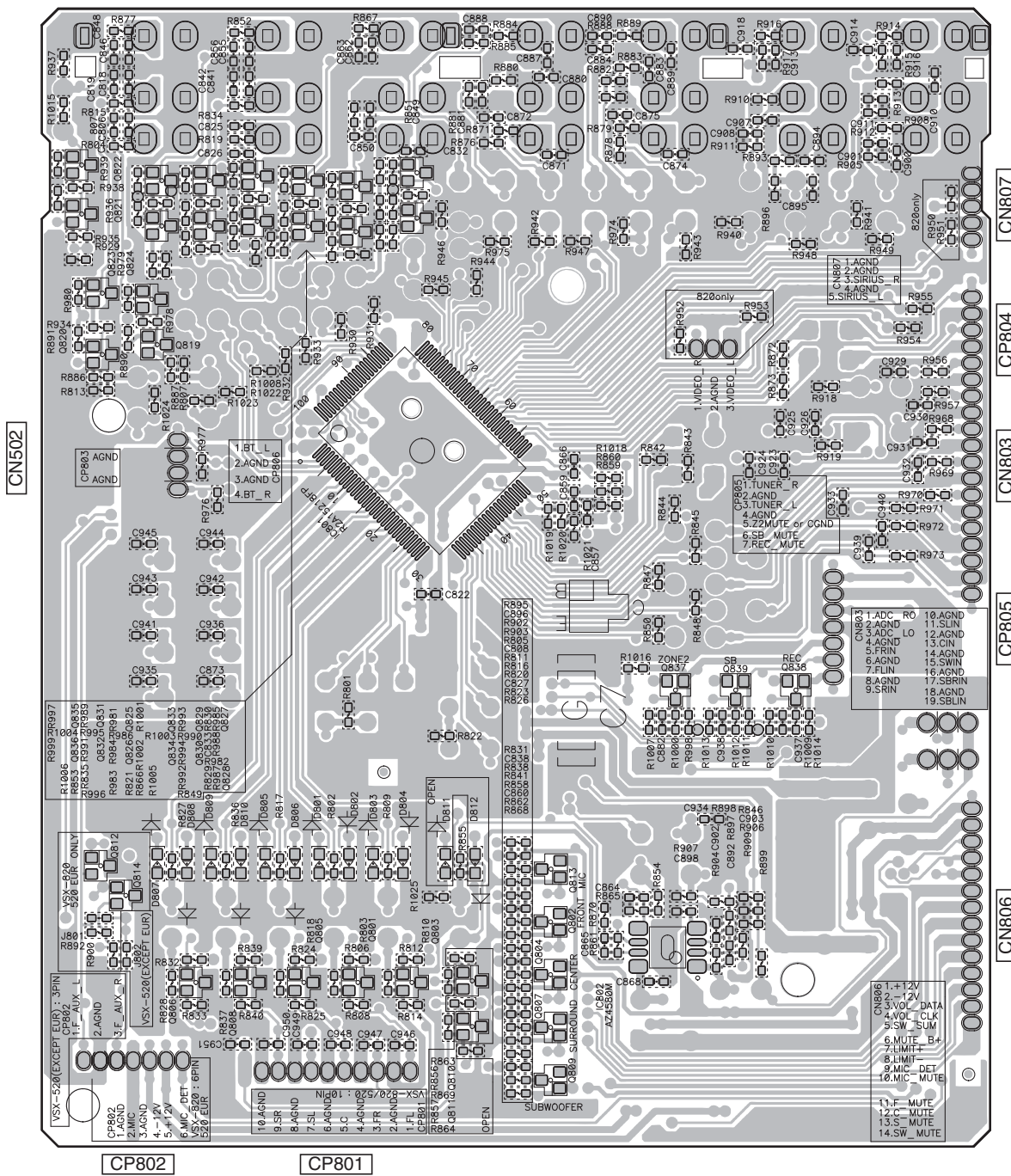
2. View point of PCB diagrams.



SIDE B

SIDE B

A INPUT ASSY



Q822	Q835	Q831	Q825	Q833	Q829	Q827	Q813	Q837	Q813	Q813
Q821	Q836	Q832	Q826	Q834	Q830	Q828	Q802	IC802		
Q823	Q824						Q804			
Q820	Q819						Q807			
Q812	Q814	Q806	Q808	Q805	Q801	Q803	Q810			
							Q811			

VSX-820-K

A

B
C
D
E
F

11.2 AMP ASSY

SIDE A

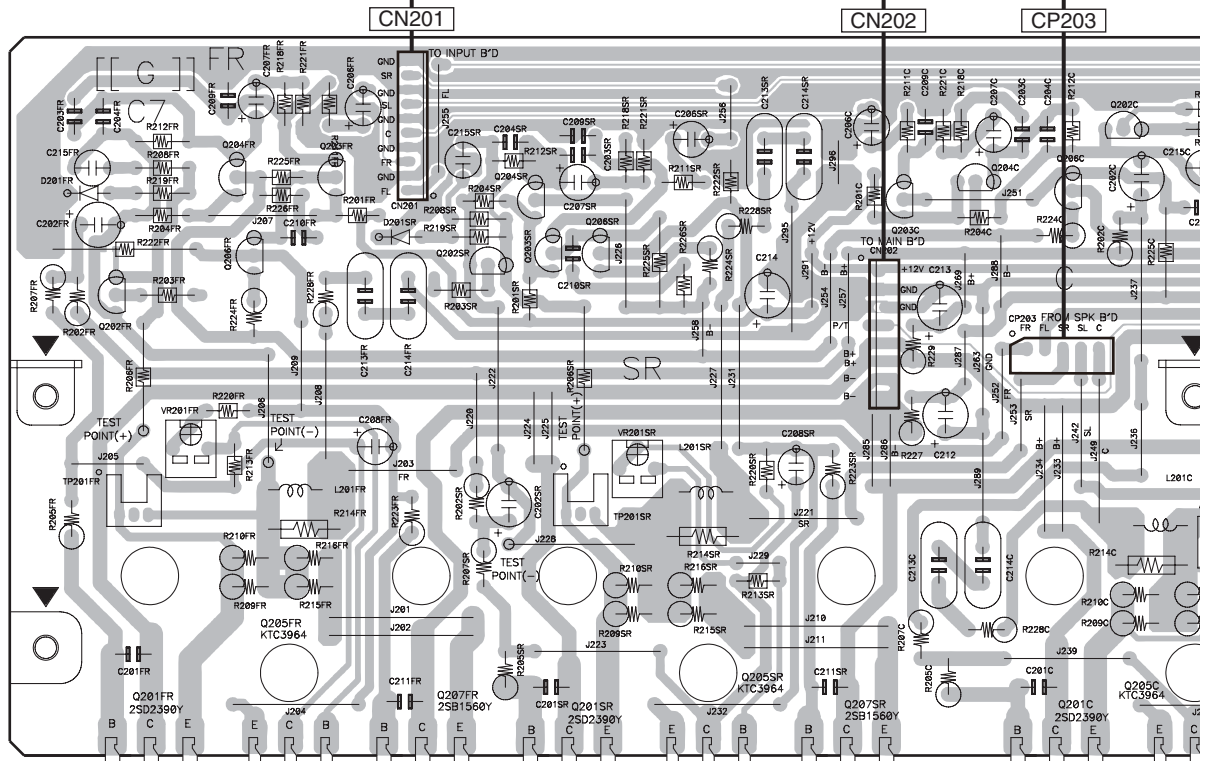
B AMP ASSY

A CP801

Q CP107

C CN401

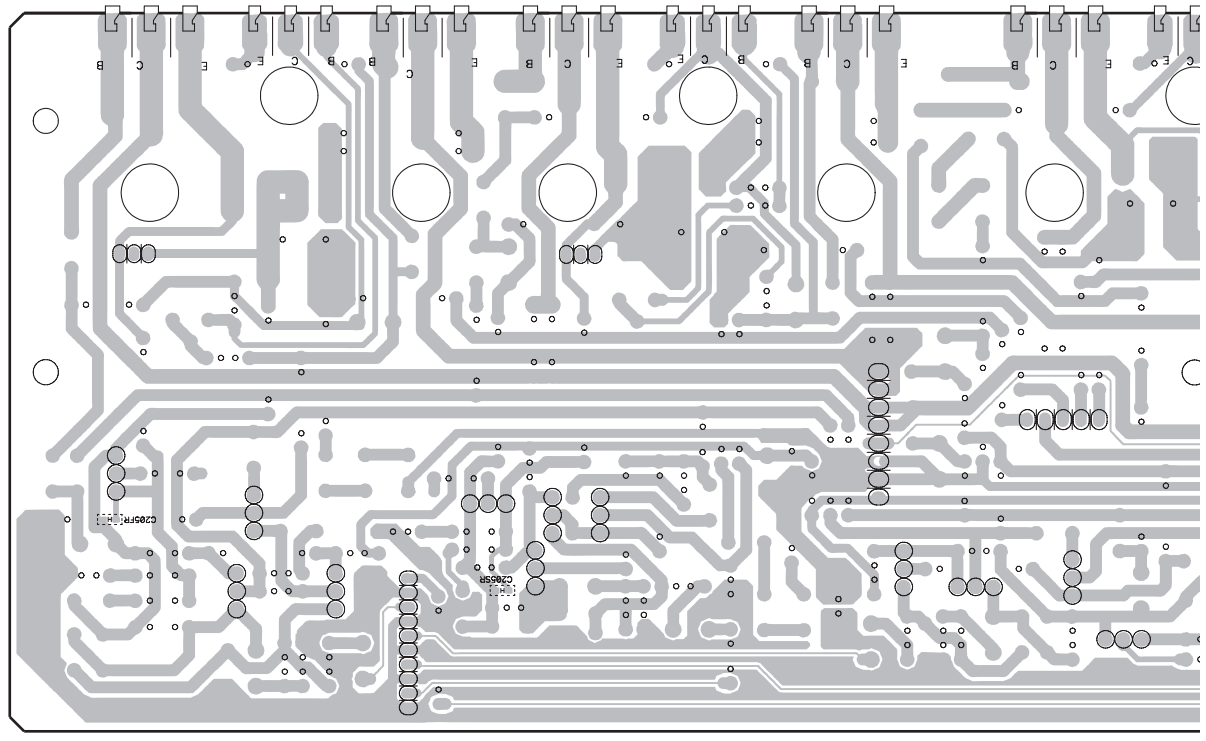
- Q
- VR
- Q202C
- Q203FR Q204FR
- Q206C
- Q204C
- Q2045FR
- Q2035L
- Q2045L
- Q204FL Q2065FR
- Q2035FR
- Q2025L
- Q2025FR
- Q2065L
- Q202FL
- Q206FL
- Q202FR
- VR201FL
- VR201FR
- VR201SR
- VR201C
- Q205FR
- Q2055FR
- Q205C
- Q2015L
- Q201C
- Q201FR
- Q207FR
- Q2075L
- Q207FL
- Q2075L
- Q2055L
- Q205FL



SIDE B

B AMP ASSY

- D
- E
- F



CN201

CN202

CP203

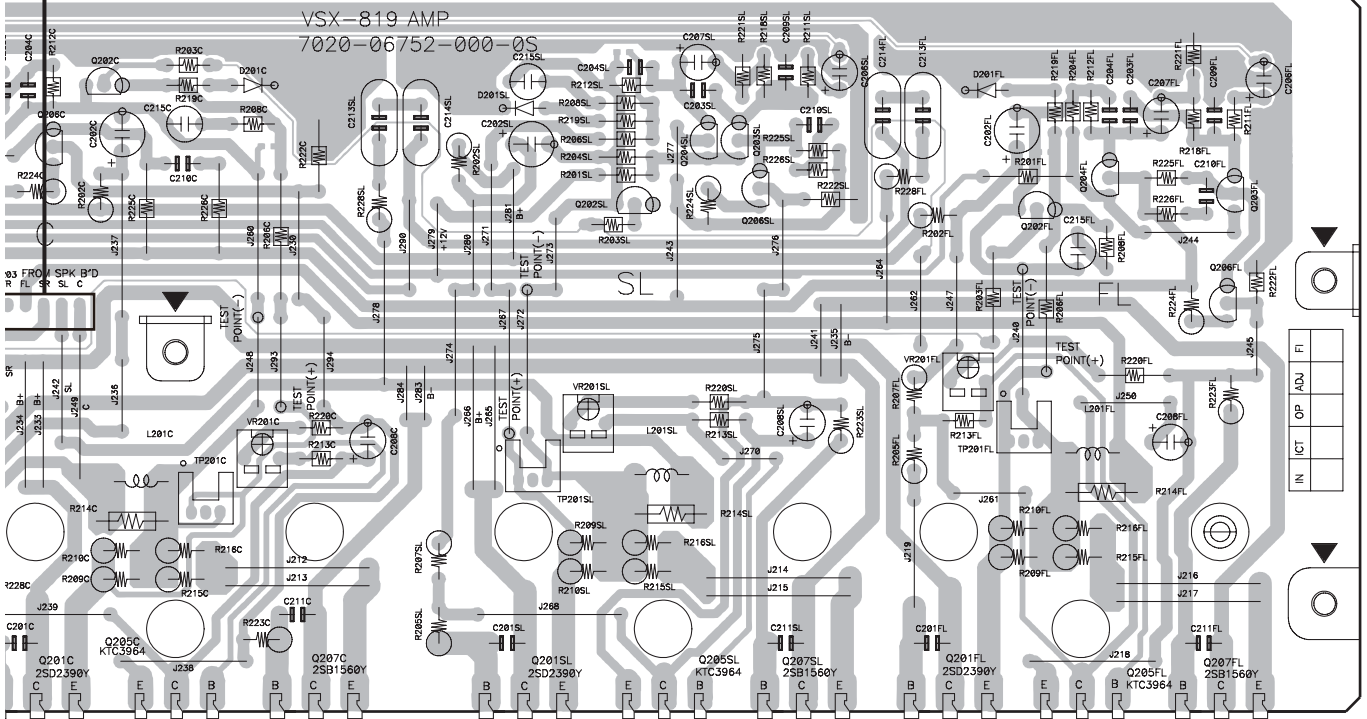
B

SIDE A

A

CN401

CP203

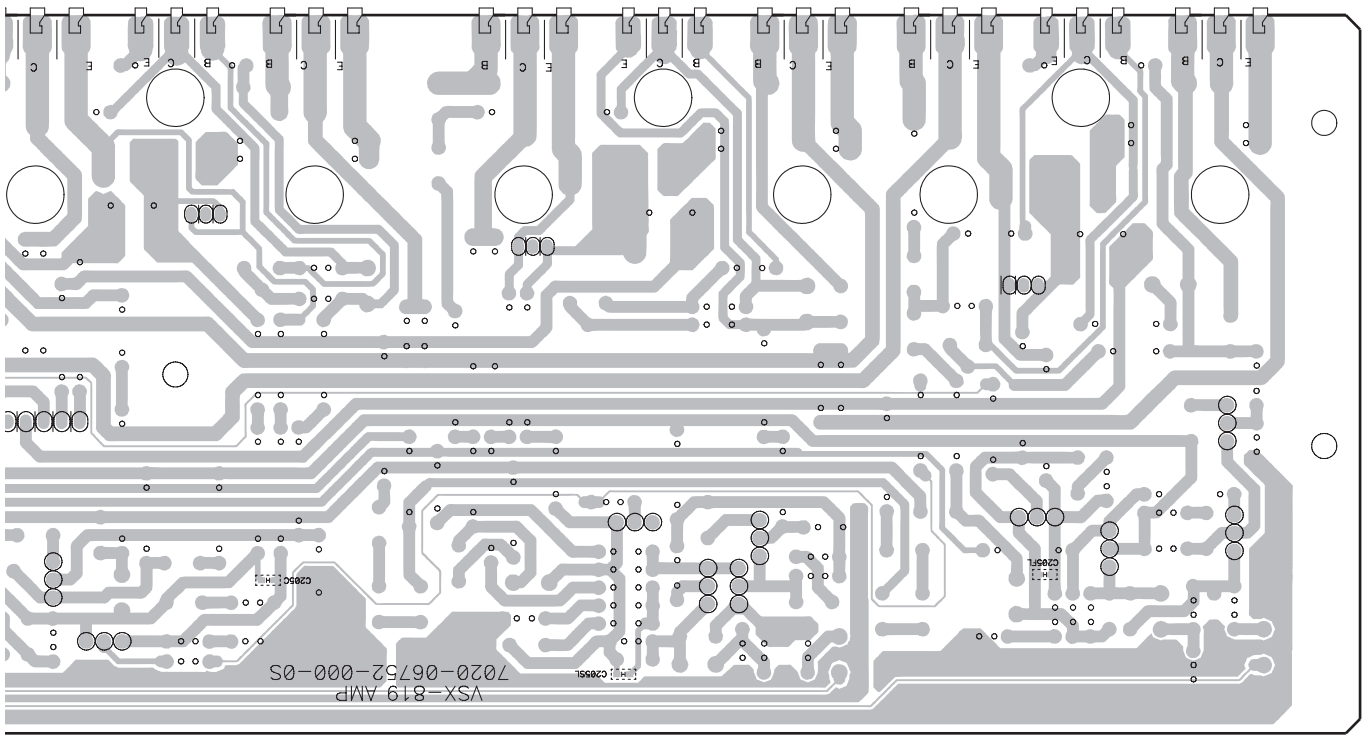


B

C

SIDE B

D



E

F

CP203

VSX-820-K

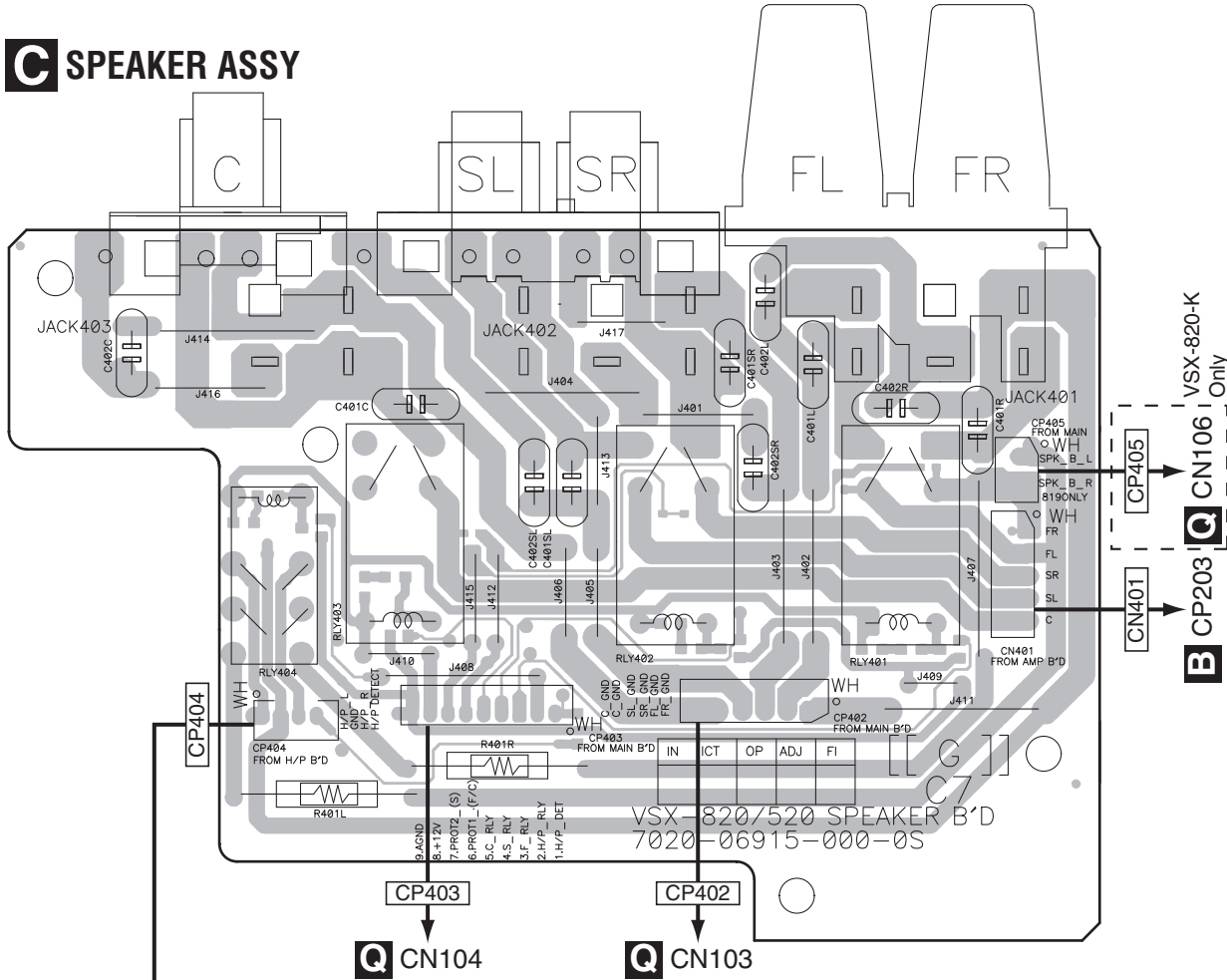
B

11.3 SPEAKER, HEADPHONE, MIC and PORTABLE ASSYS

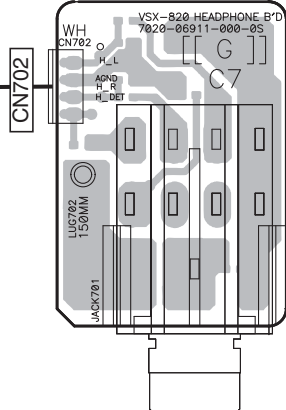
SIDE A

SIDE A

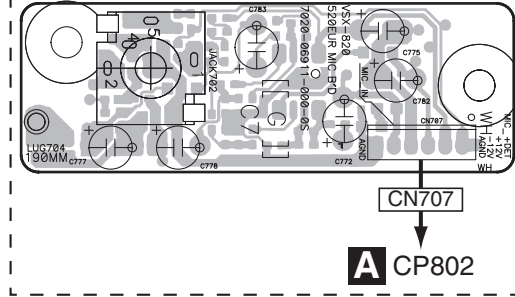
C SPEAKER ASSY



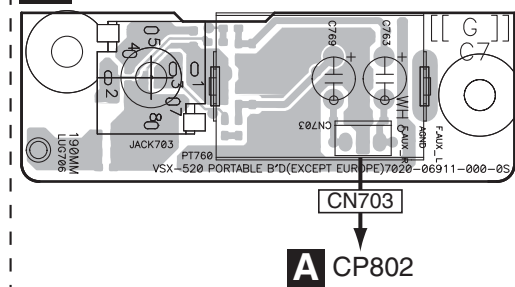
D HEADPHONE ASSY



E MIC ASSY



F PORTABLE ASSY



C D E F

SIDE B

SIDE B

A

B

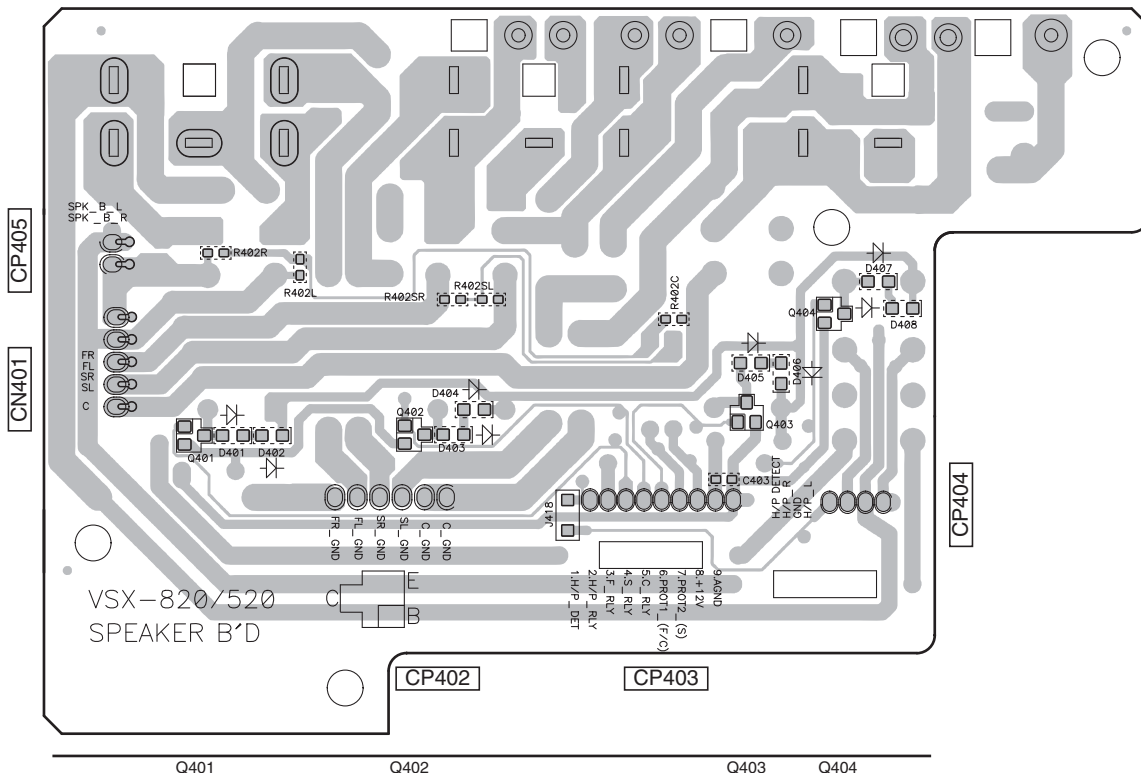
C

D

E

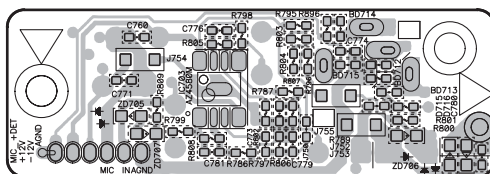
F

C SPEAKER ASSY



VSX-820-K Only

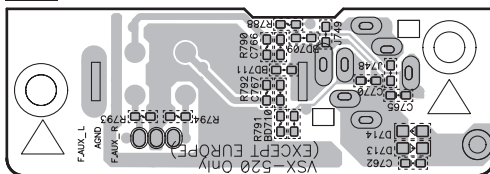
E MIC ASSY



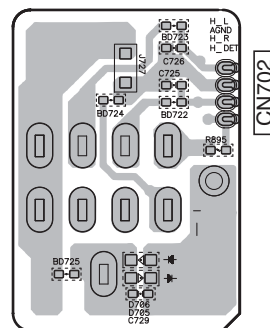
CN707 IC703

VSX-520-K Only

F PORTABLE ASSY



CN703



D HEADPHONE ASSY

C D E F

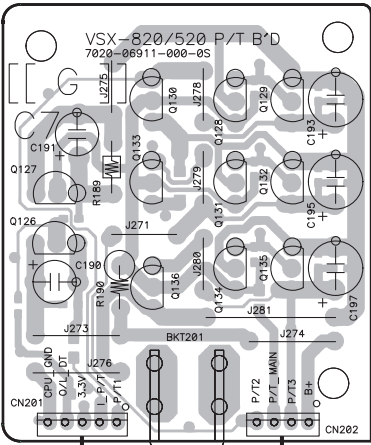
VSX-820-K

11.4 PT, HP_GUIDE, CNT1, CNT2, GUIDE_L and GUIDE_R ASSYS

SIDE A

SIDE A

G PT ASSY



Q130 Q128 Q129

Q133 Q131 Q132
Q127

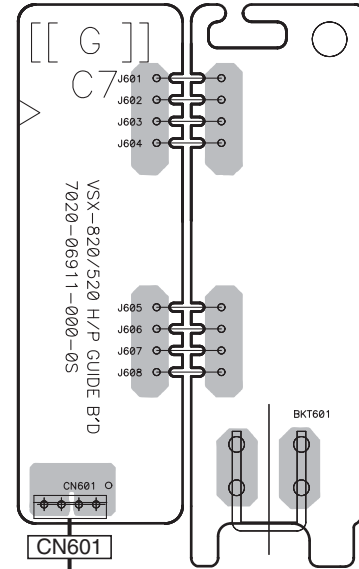
Q126

Q134 Q135
Q136

Q CP125

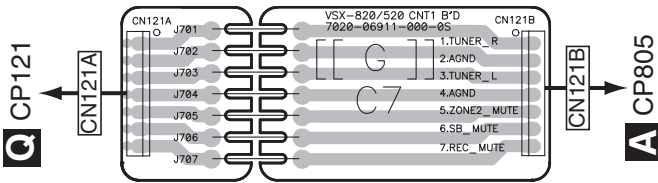
Q CP126

H HP_GUIDE ASSY



Q CP128

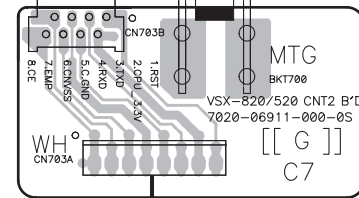
I CNT1 ASSY



Q CP121

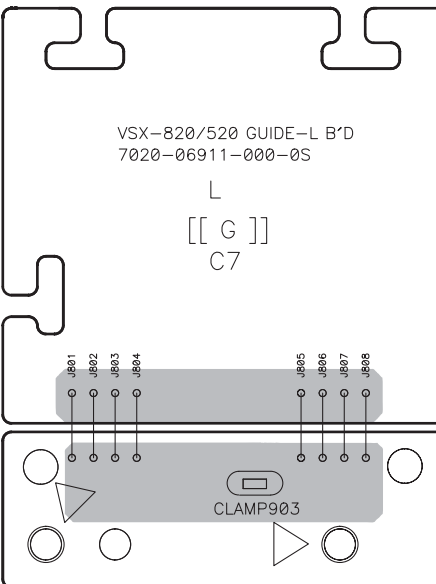
A CP805

J CNT2 ASSY

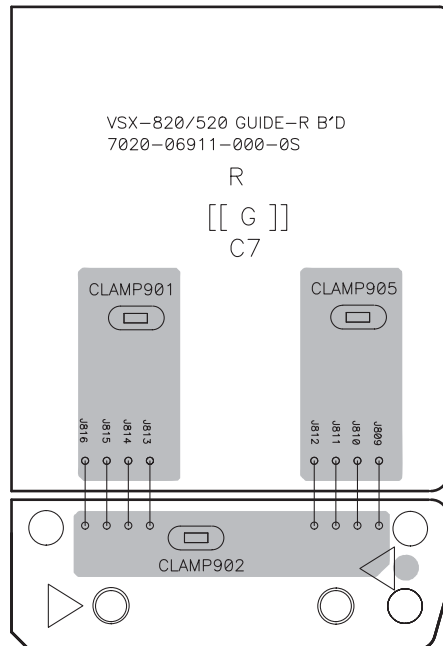


S CP703

K GUIDE_L ASSY



L GUIDE_R ASSY

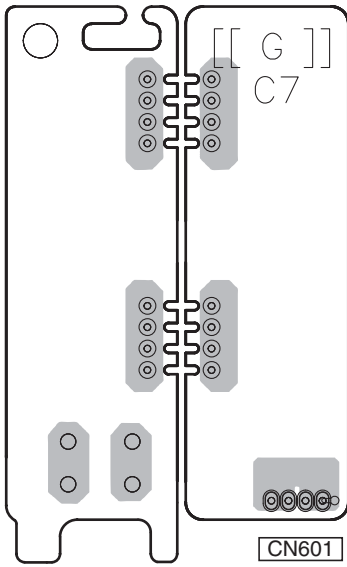


G H I J K L

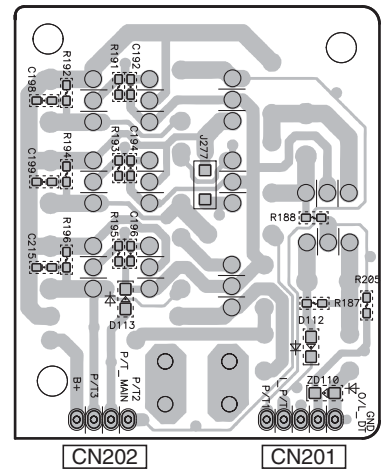
SIDE B

SIDE B

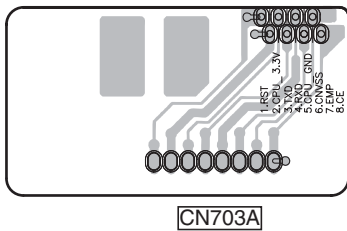
G PT ASSY



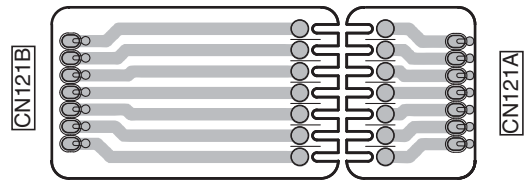
H HP_GUIDE ASSY



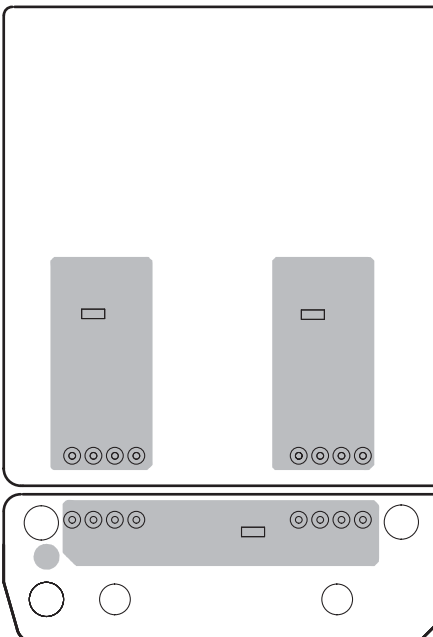
I CNT1 ASSY



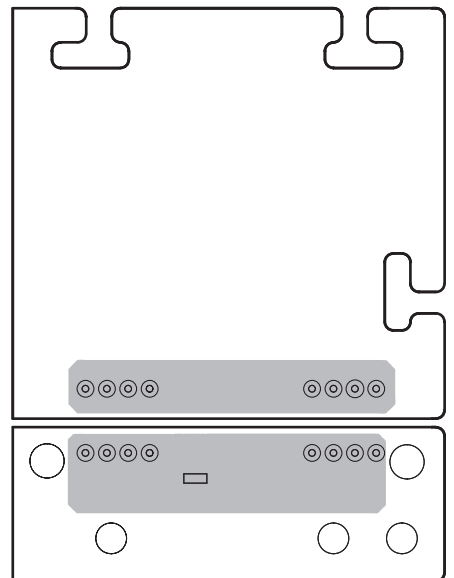
J CNT2 ASSY



K GUIDE_L ASSY



L GUIDE_R ASSY



G H I J K L

SIDE B

SIDE B

A

B

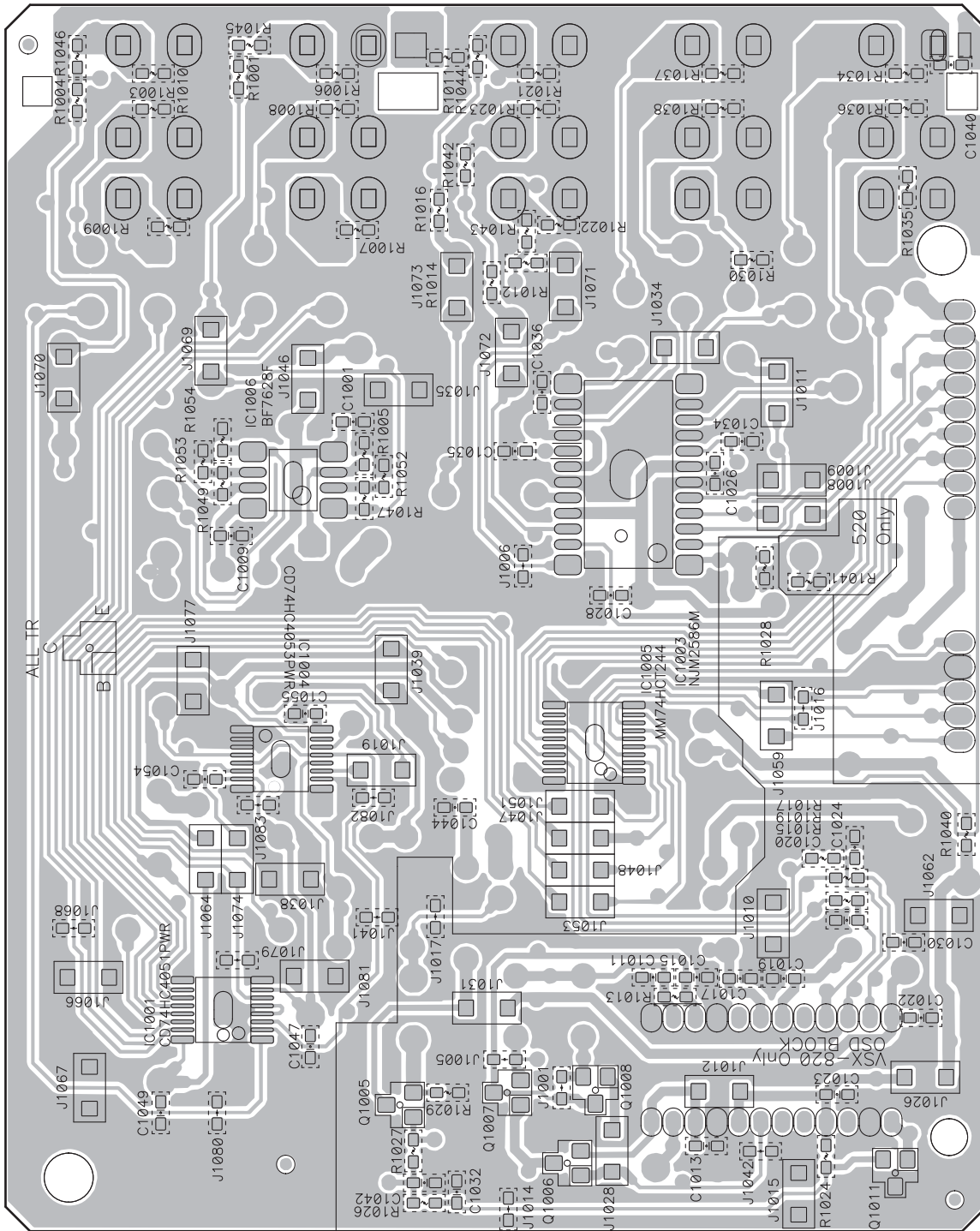
C

D

E

F

M VIDEO ASSY



- IC1006
- IC1001 IC1004
- Q1005
- Q1007
- Q1008
- Q1006
- Q1011
- IC1003
- IC1005

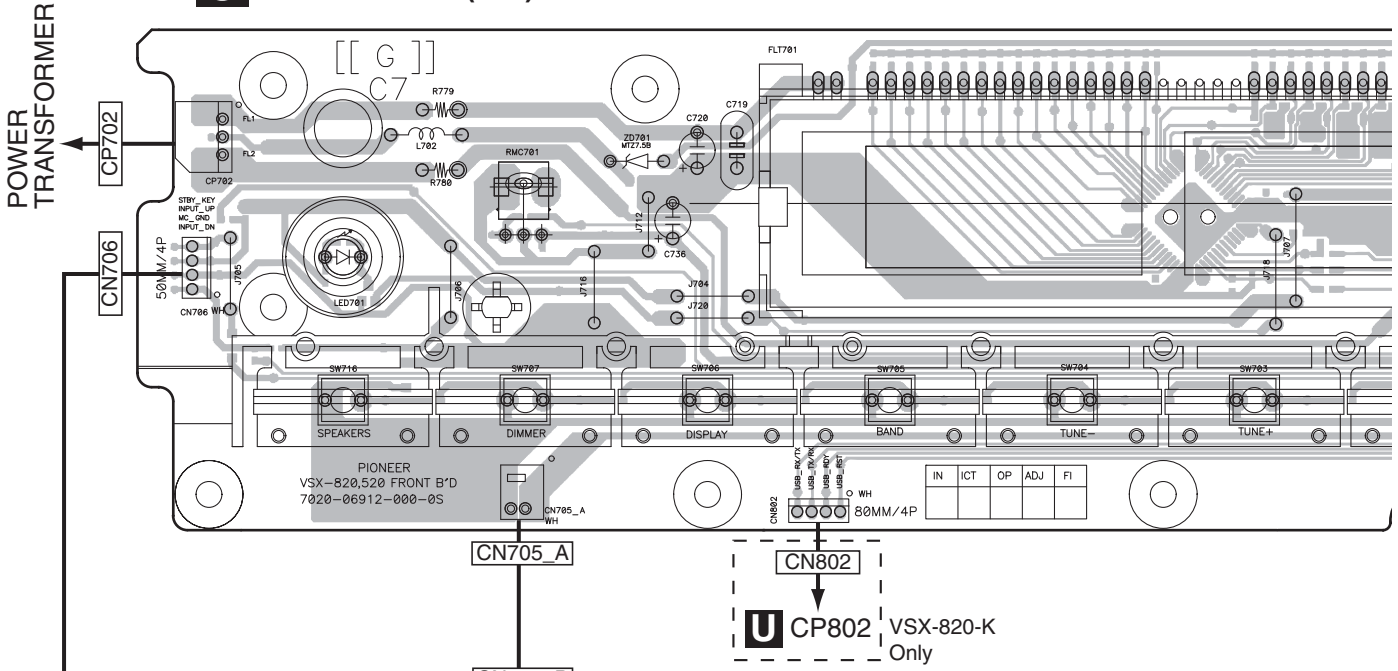
VSX-820-K



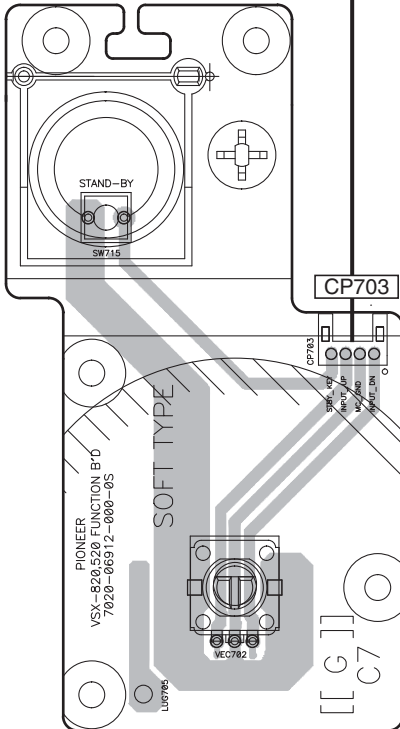
11.6 F-VIDEO, FRONT and FNCTION ASSYS

SIDE A

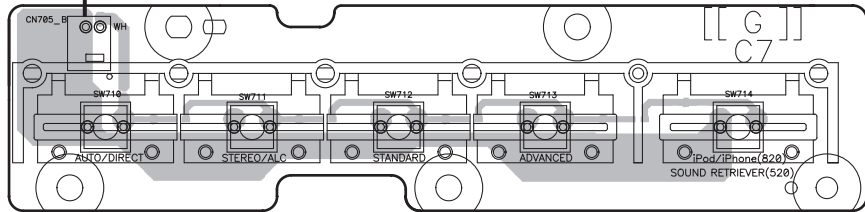
○ FRONT ASSY (1/2)



P FUNCTION ASSY



○ FRONT ASSY (2/2)

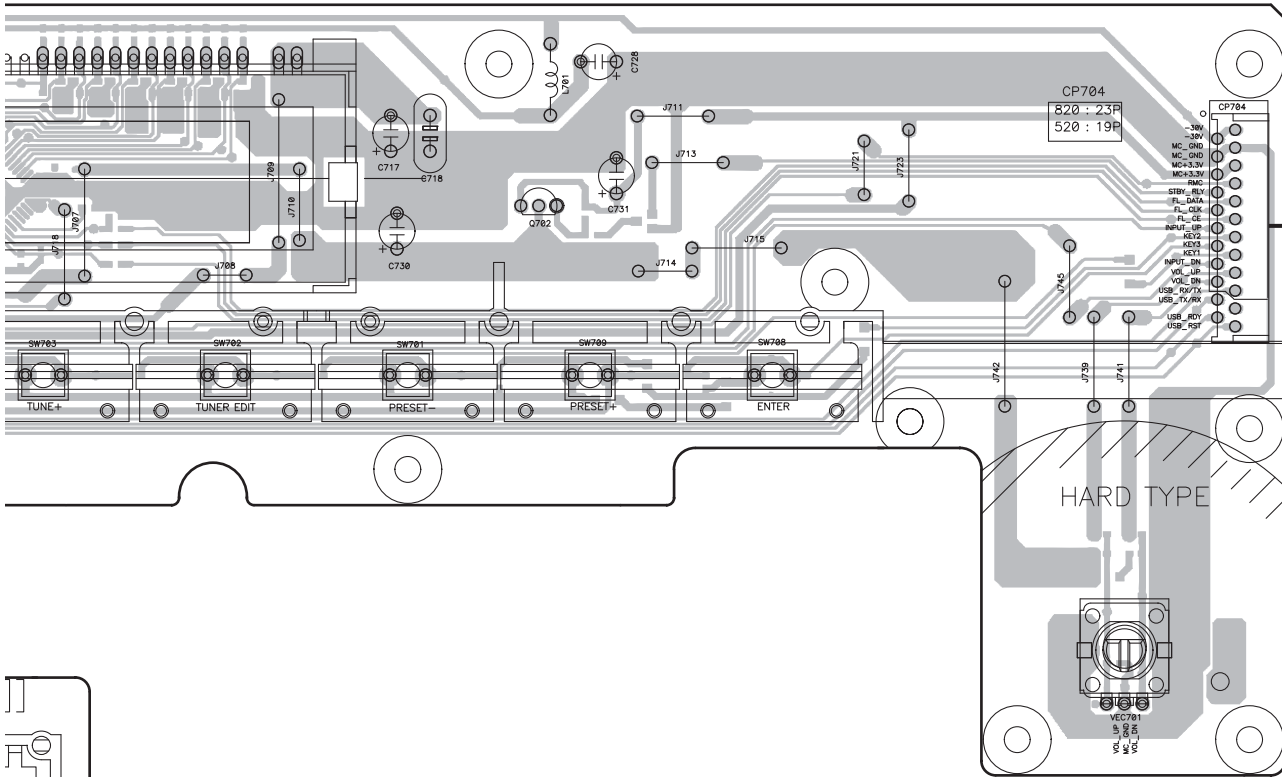


O P

SIDE A

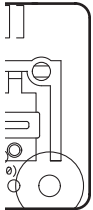
A

Q702

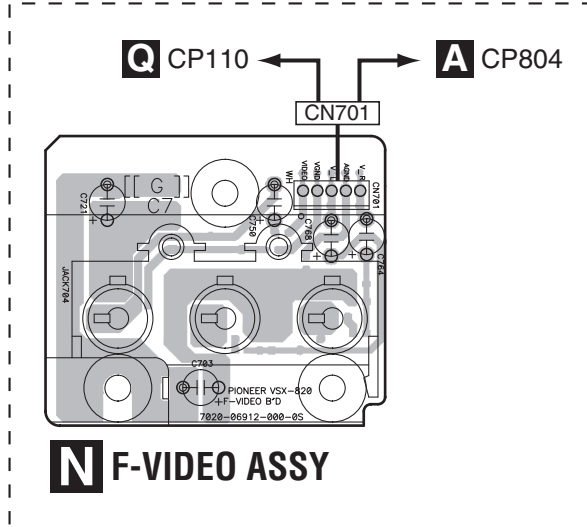


B

C



VSX-820-K Only



D

E

F

N O

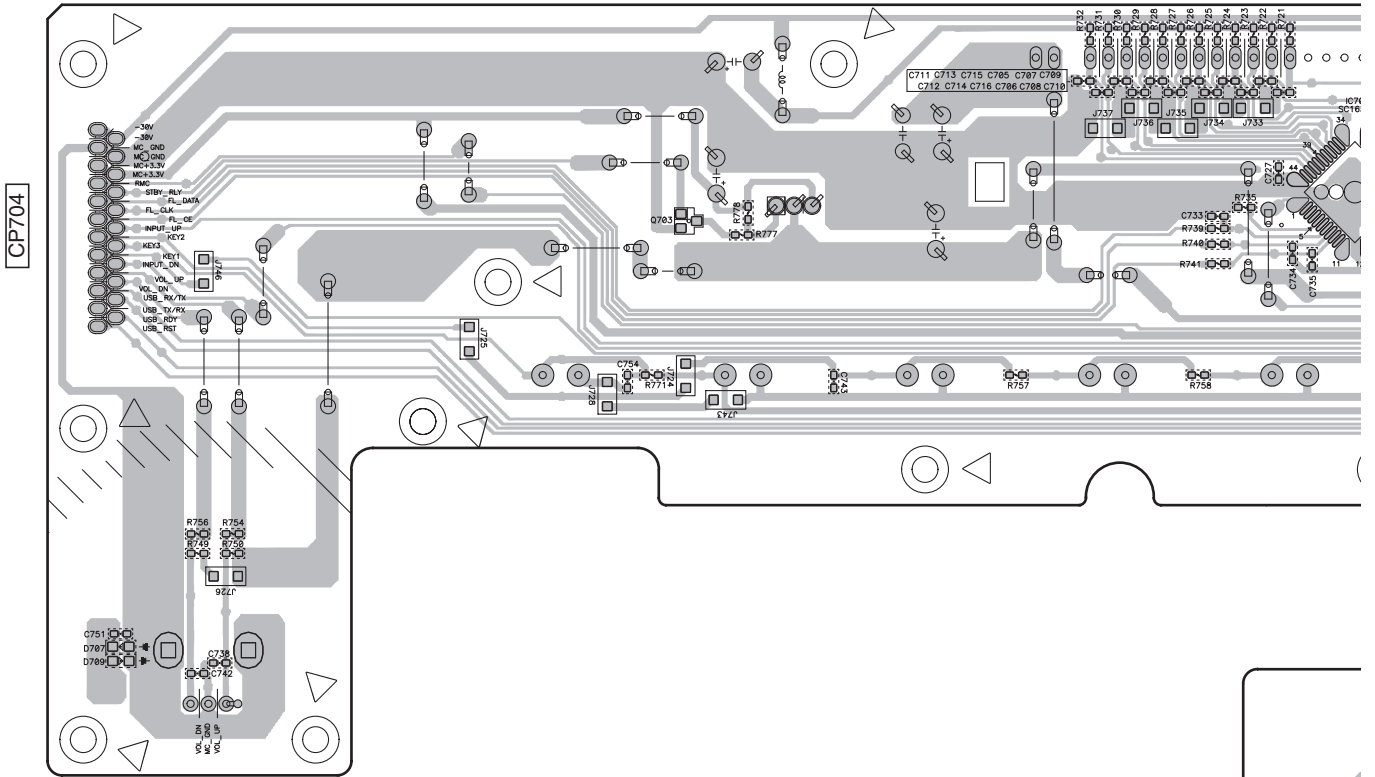
SIDE B

A

FRONT ASSY (1/2)

IC701

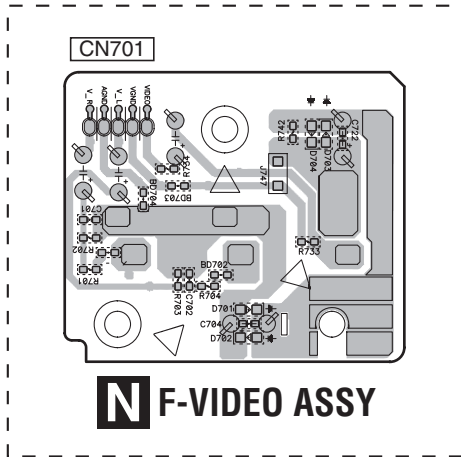
B



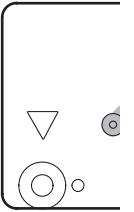
C

D

VSX-820-K Only



F-VIDEO ASSY



E

F

N O

SIDE B

A

B

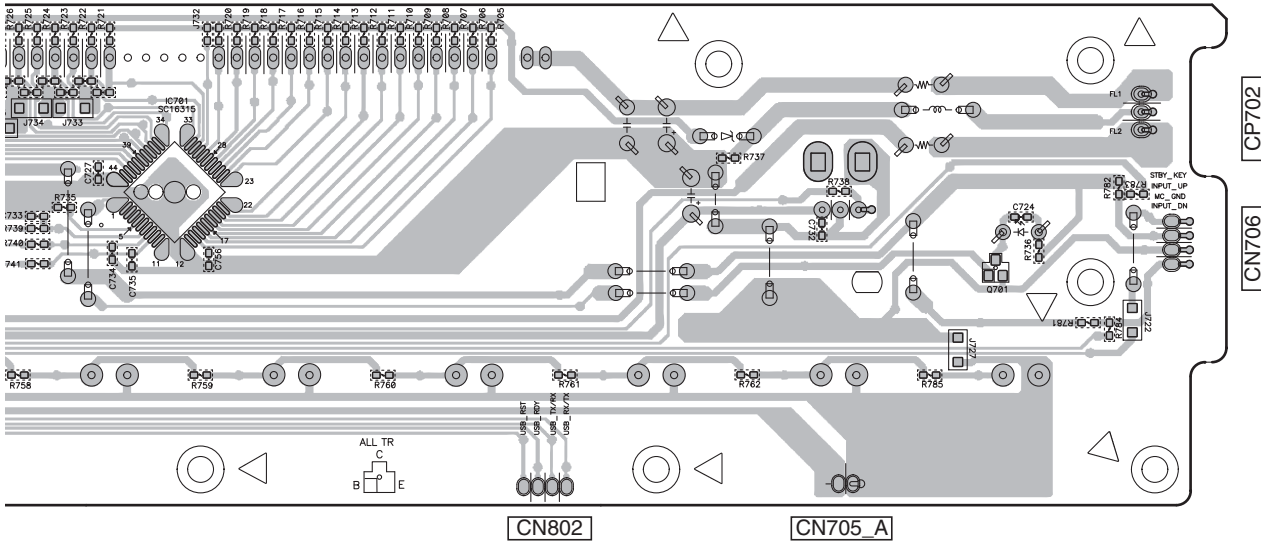
C

D

E

F

IC701

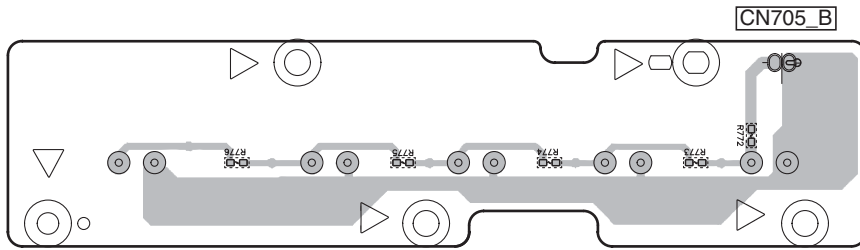


CN802

CN705_A

CP702

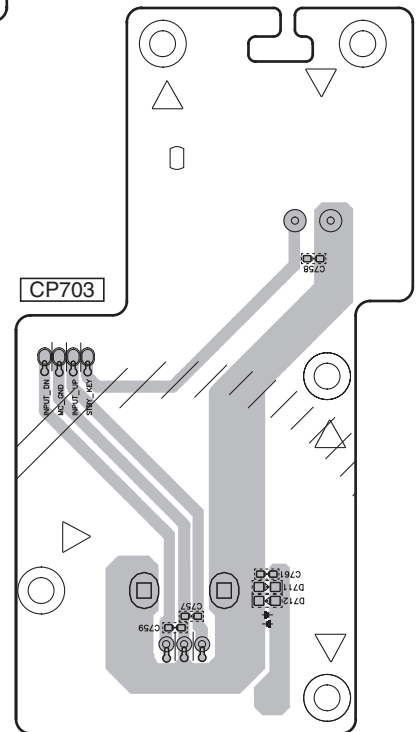
CN706



CN705_B

FRONT ASSY (2/2)

P FUNCTION ASSY



CP703

11.7 MAIN and REG ASSYS

SIDE A

A

B

C

D

E

F

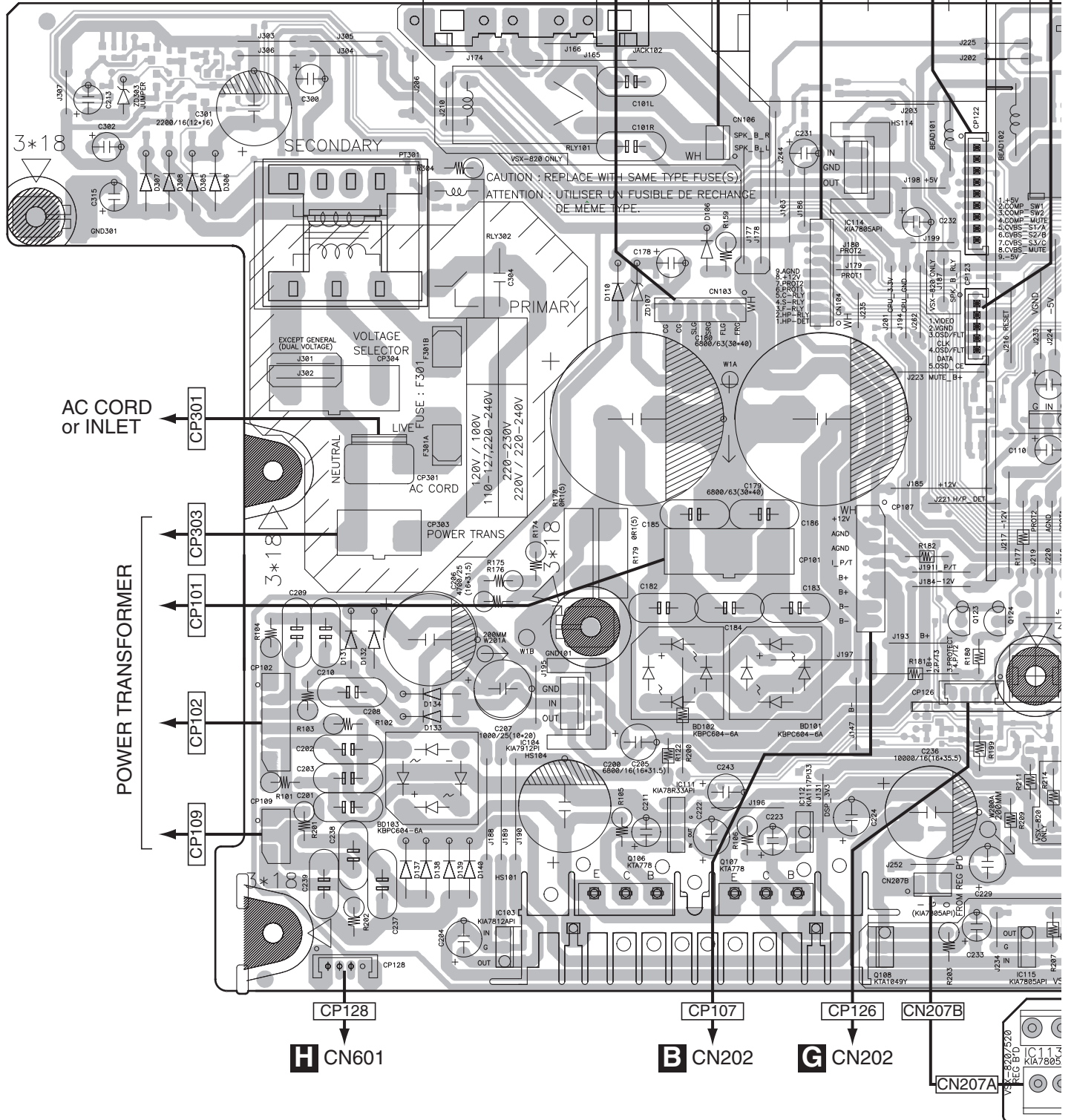
C CP402

C CP403

M CN1001

M CN1002

Q MAIN ASSY



H CN601

B CN202

G CN202

CP128

CP107

CP126

CN207B

CN207A

R R

IC103 IC104 Q106 IC111 Q107 IC112 IC114 Q108 Q123 Q124 IC102 IC115

VSX-820-K

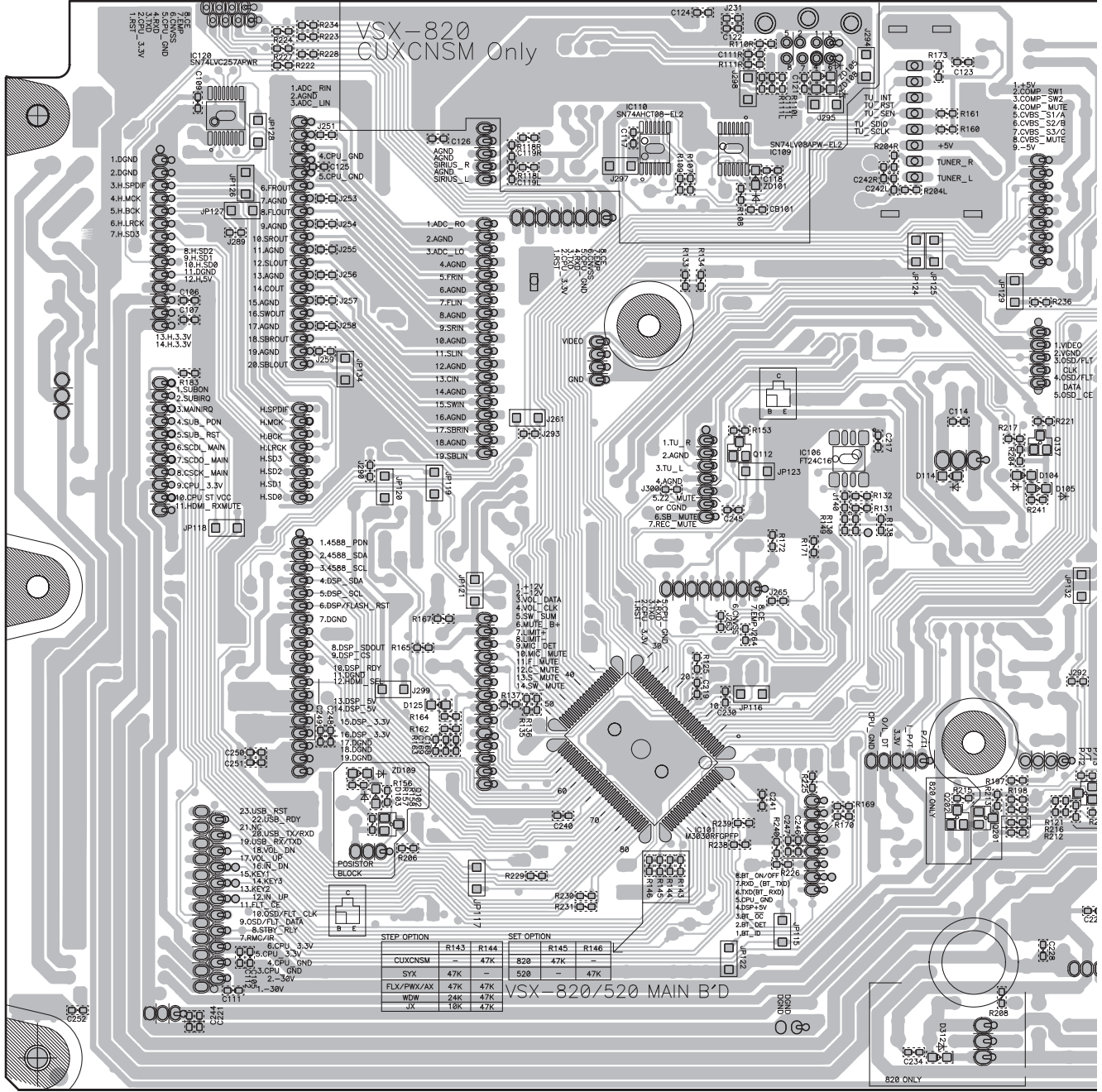
Q

SIDE B

A

MAIN ASSY

- CP111
- CP114
- CP117
- CP122
- CP112
- CP115
- CP118
- CP123
- CP116
- CP120
- CP110
- CP121



VSX-820
GUXCNSM Only

VSX-820/520 MAIN B'D

STEP OPTION	R143	R144	SET OPTION	R145	R146
CUXCNSM	47K	820	47K	-	-
SYX	47K	520	-	47K	-
FLX/PWX/AX	47K	47K	-	-	-
WDW	24K	47K	-	-	-
JX	18K	47K	-	-	-

FPC101

- CP200
- CP125
- CP126
- CN200
- CN501
- CN207A

REG ASSY

- IC120
- IC110
- IC109
- IC106
- Q202
- Q201
- Q137
- Q20
- IC101
- Q112

Q R
112

VSX-820-K

SIDE B

A

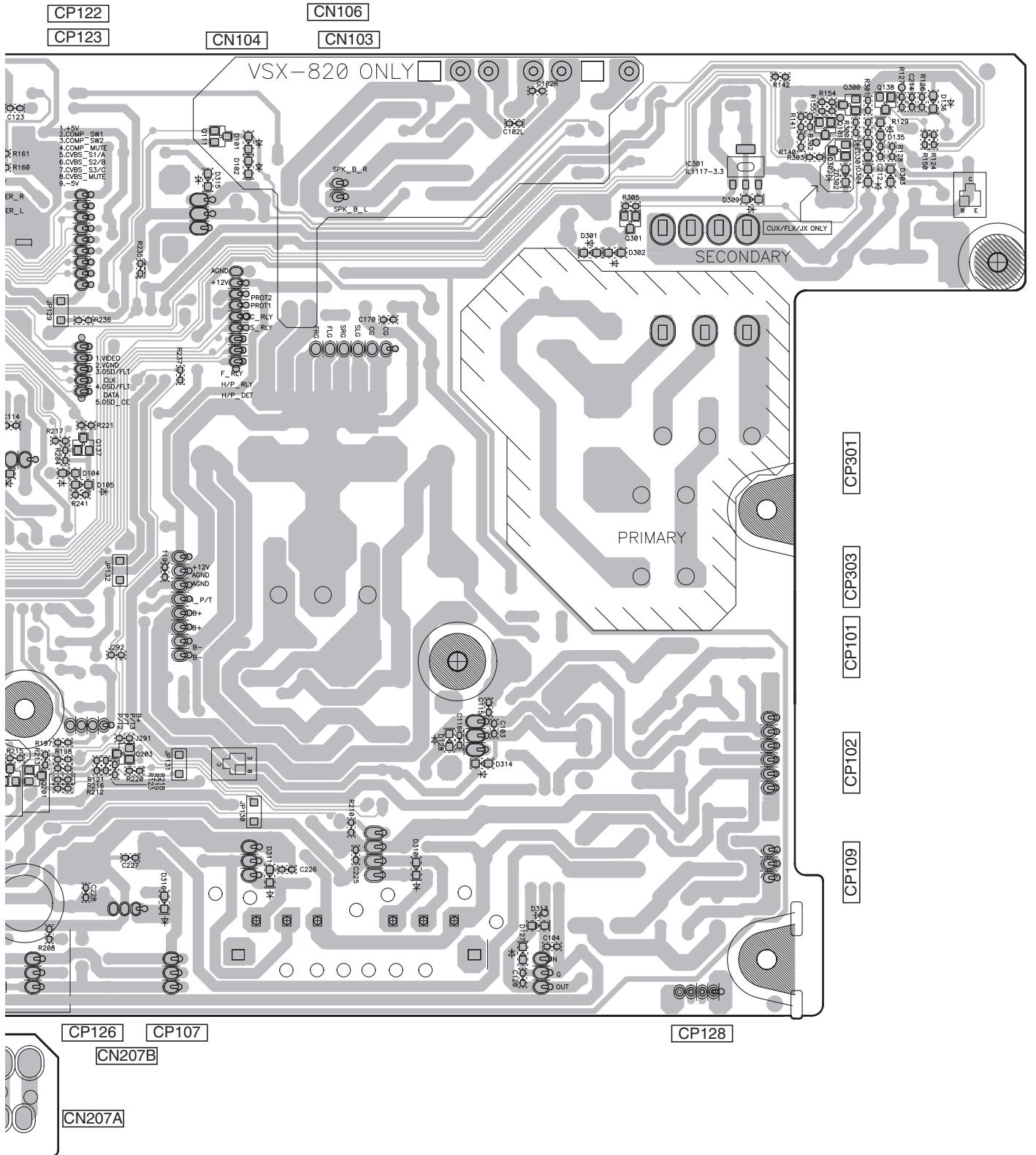
B

C

D

E

F



VSX-820-K ASSY

Q202 Q201 Q137 Q203 Q111 Q301 IC301 Q101 Q300 Q138 Q302

VSX-820-K



11.8 HDMI ASSY

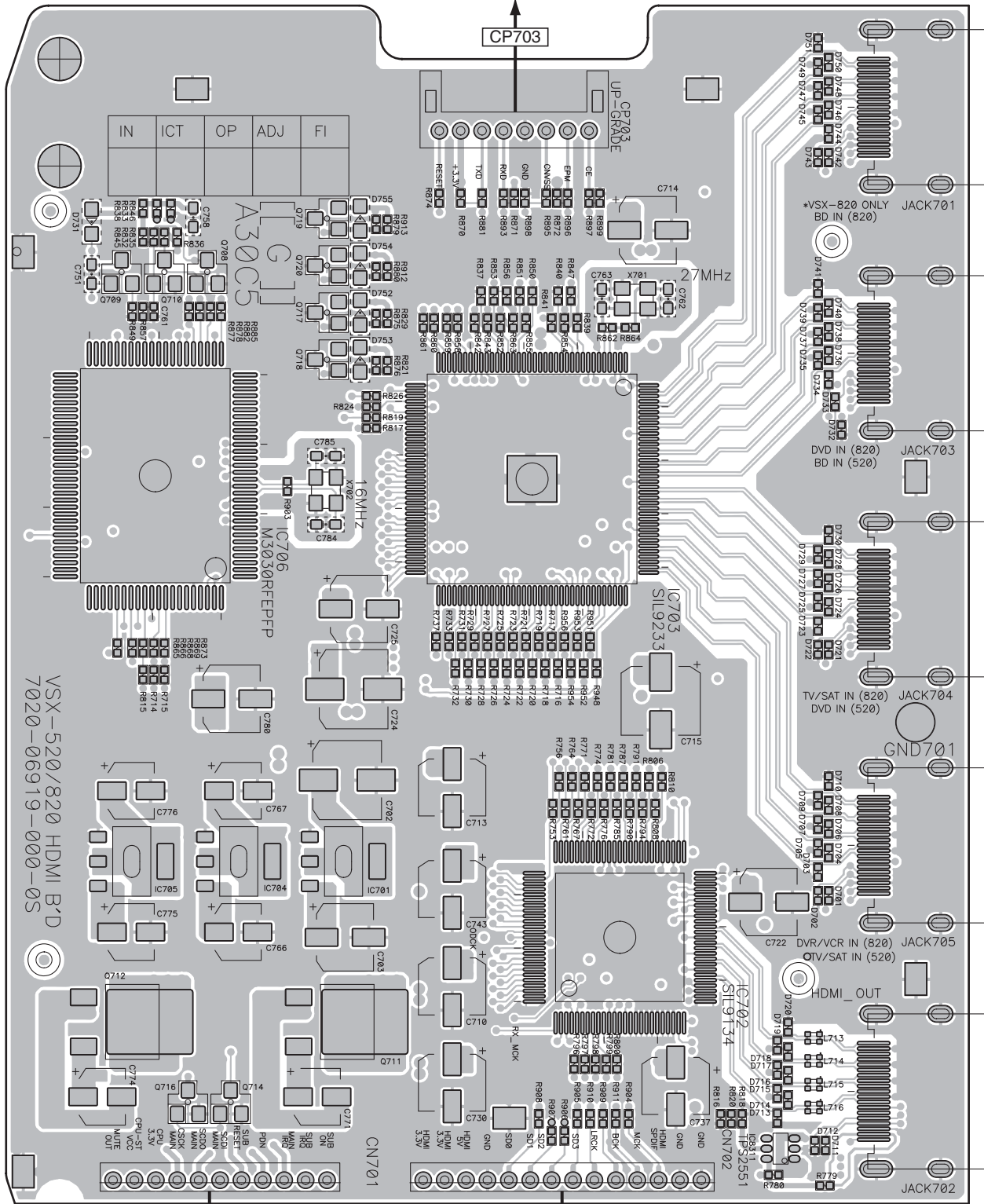
SIDE A

SIDE A

S HDMI ASSY

J CN703A

CP703



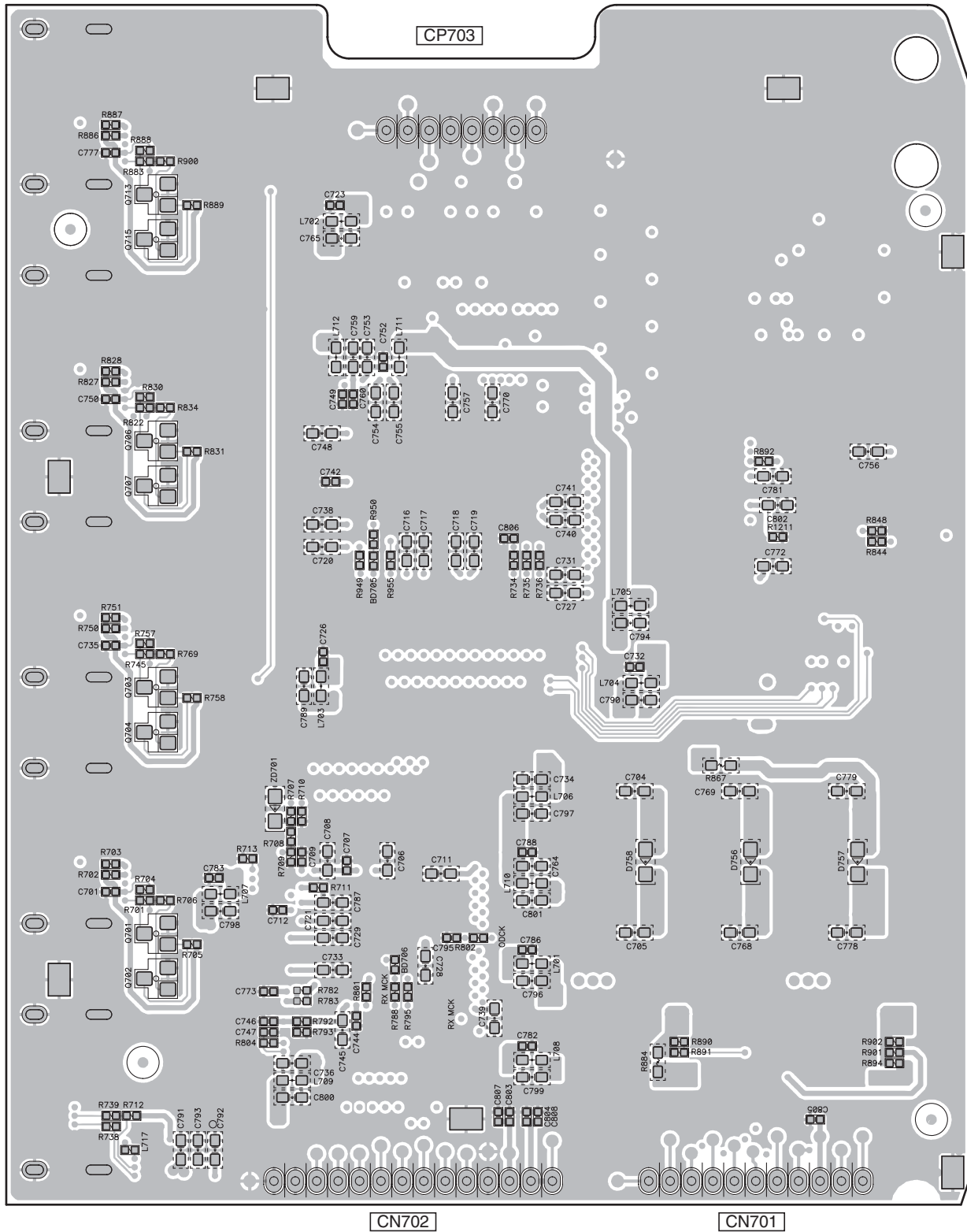
Q709 Q710 Q708 Q717-Q720
 IC706
 IC705 Q712 IC704 Q701 Q711 IC703 IC702 IC8311
 Q716 Q714

S

SIDE B

SIDE B

S HDMI ASSY



- Q713 Q715
- Q706 Q707
- Q703 Q704
- Q701 Q702

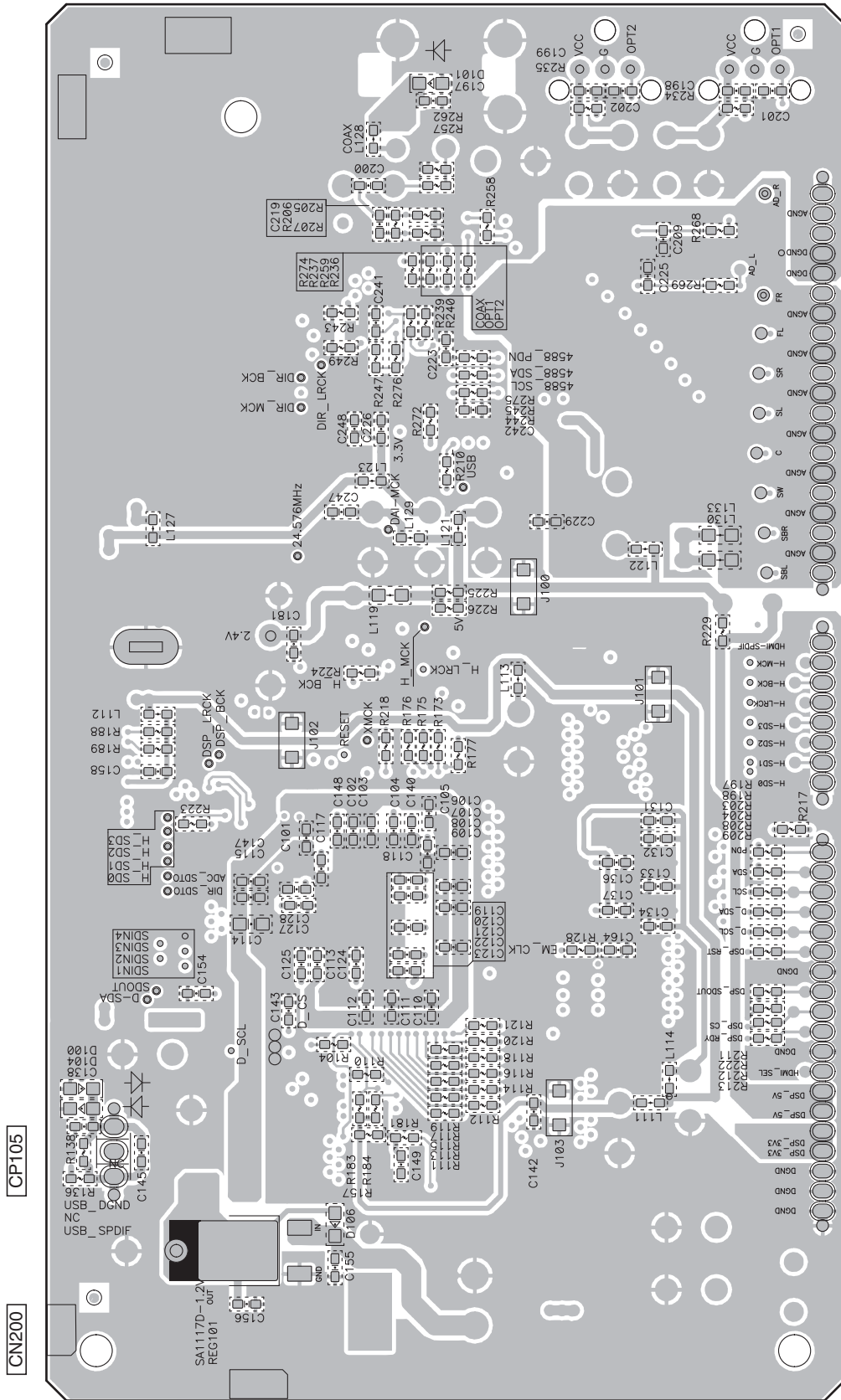


SIDE B

SIDE B

T DSP ASSY

A
B
C
D
E
F



VSX-820-K

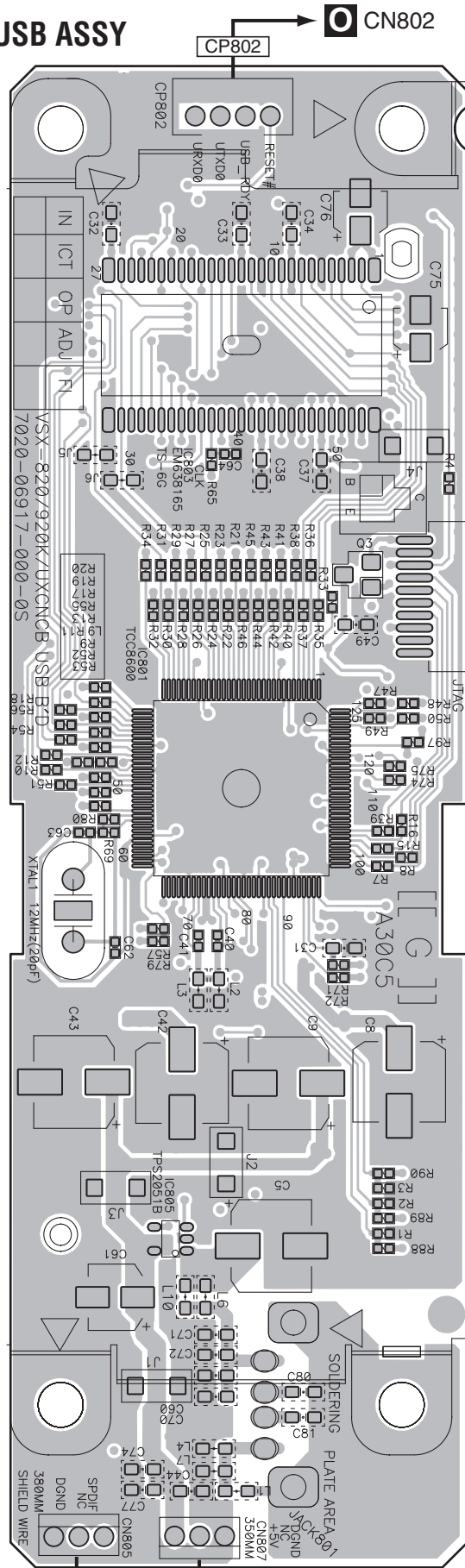
T

11.10 USB ASSY (VSX-820-K ONLY)

SIDE A

SIDE A

U USB ASSY



T CP105 ← **CN805** **CN807** → **Q** CP105

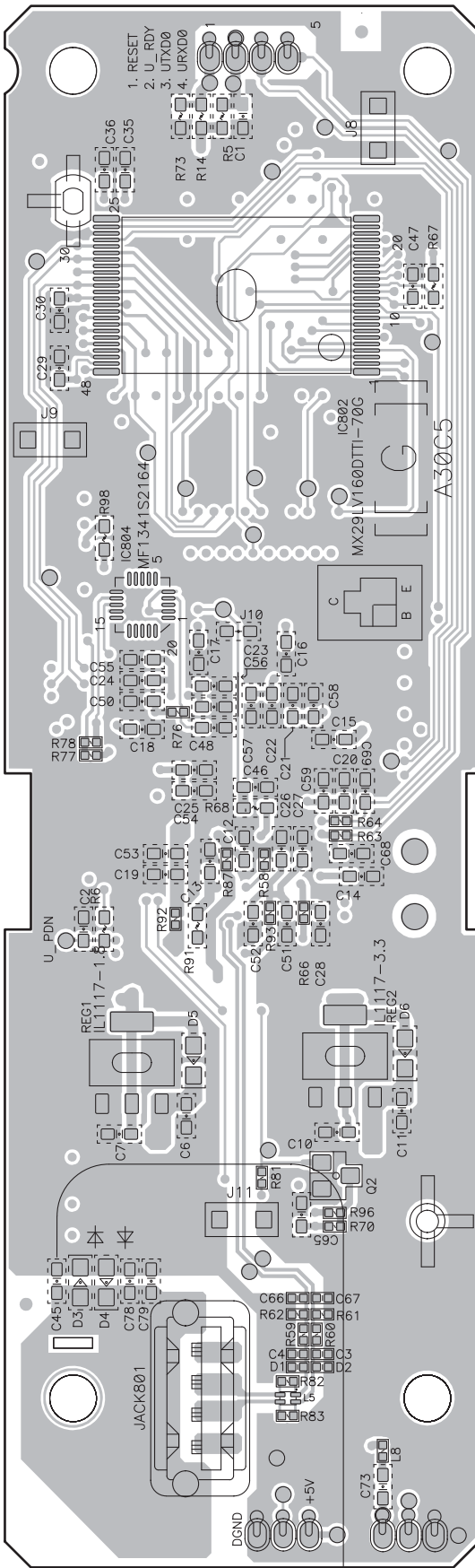
VSX-820-K

SIDE B

U USB ASSY

CP802

SIDE B



CN807

CN805

VSX-820-K



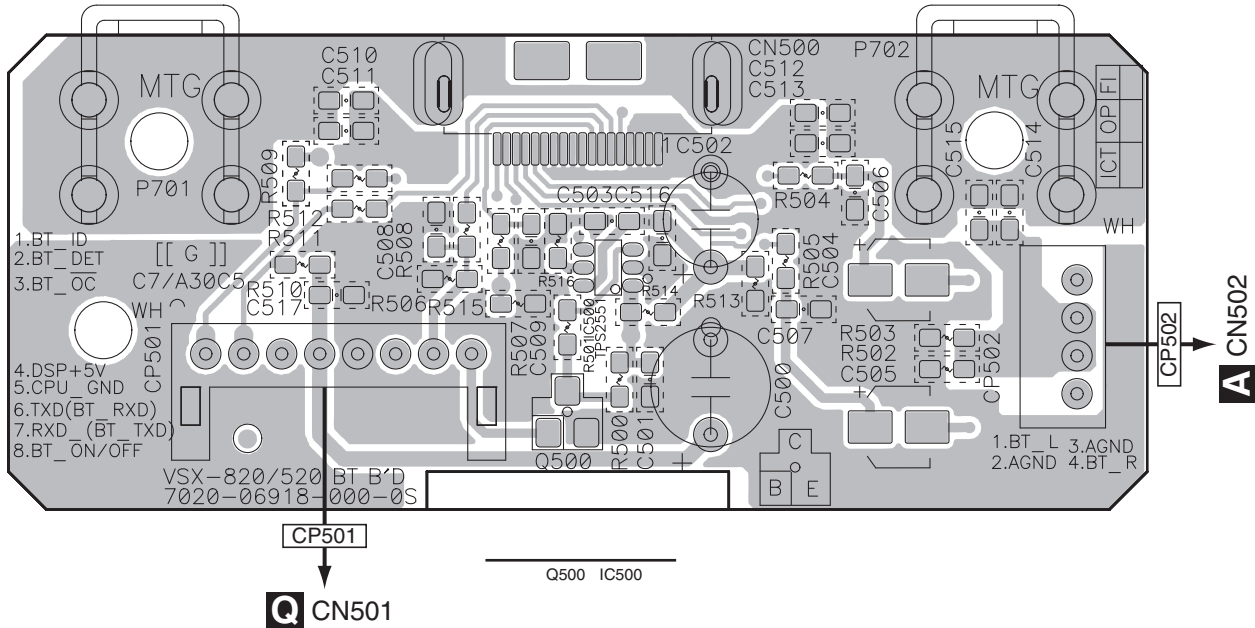
A
B
C
D
E
F

11.11 BT ASSY

SIDE A

SIDE A

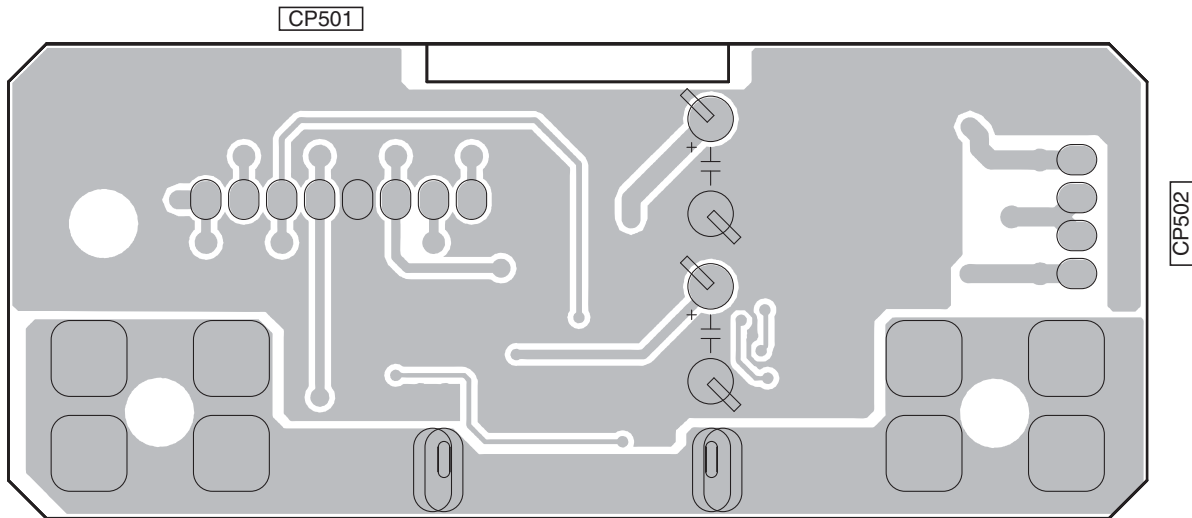
V BT ASSY



SIDE B

SIDE B

V BT ASSY



V

12. PCB PARTS LIST

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

● The Δ 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 Ω → 56 × 10¹ → 561 RD1/APU $\overline{5}$ $\overline{6}$ $\overline{7}$ J

47 k Ω → 47 × 10³ → 473 RD1/APU $\overline{4}$ $\overline{7}$ $\overline{3}$ J

0.5 Ω → R50 RN2H \overline{R} $\overline{5}$ $\overline{0}$ K

1 Ω → 1R0 RS1P $\overline{1}$ \overline{R} $\overline{0}$ K

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

5.62 k Ω → 562 × 10¹ → 5621 RN1/4PC $\overline{5}$ $\overline{6}$ $\overline{2}$ $\overline{1}$ 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***

L***

CN***

Q***

D***

● SCHEMATIC DIAGRAM and PCB CONNECTION DIAGRAM

JACK***, JK***

RLY***

PT***

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

F***

FLT***

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

FB***

CP***, PN***

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

ZD***

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
NSP	1..	MAIN ASSY (VSX-820-K)	7025HK0916010-IL	NSP	1..	DSP ASSY (VSX-820-K)	7025HK0916015-IL
NSP	1..	MAIN ASSY (VSX-520-K)	7025HK0915010-IL	NSP	1..	DSP ASSY (VSX-520-K)	7025HK0915015-IL
	2..	MAIN ASSY (VSX-820-K)	7028069111010-IL		2..	DSP ASSY (VSX-820-K)	7028069161010-IL
	2..	MAIN ASSY (VSX-520-K)	7028069111060-IL		2..	DSP ASSY (VSX-520-K)	7028069161020-IL
	2..	PT ASSY	7028069112010-IL		2..	REG ASSY	7028069162010-IL
	2..	CNT2 ASSY	7028069113010-IL	NSP	1..	HDMI ASSY (VSX-820-K)	7025HK0916018-IL
	2..	HEADPHONE ASSY	7028069114010-IL	NSP	1..	HDMI ASSY (VSX-520-K)	7025HK0915016-IL
	2..	HP_GUIDE ASSY	7028069115010-IL		2..	HDMI ASSY (VSX-820-K)	7028069191010-IL
	2..	MIC ASSY (VSX-820-K ONLY)	7028069116010-IL		2..	HDMI ASSY (VSX-520-K)	7028069191020-IL
	2..	GUIDE_L ASSY	7028069117010-IL	NSP	1..	USB ASSY (VSX-820-K ONLY)	7025HK0916016-IL
	2..	GUIDE_R ASSY	7028069118010-IL		2..	USB ASSY (VSX-820-K ONLY)	7028069171010-IL
	2..	CNT1 ASSY	7028069119010-IL	NSP	1..	BT ASSY	7025HK0916017-IL
	2..	PORTABLE ASSY (VSX-520-K ONLY)	702806911A010-IL		2..	BT ASSY	7028069181010-IL
NSP	1..	VIDEO ASSY (VSX-820-K)	7025HK0916013-IL	NSP	1..	AMP ASSY	7025HK0916019-IL
NSP	1..	VIDEO ASSY (VSX-520-K)	7025HK0915013-IL		2..	AMP ASSY	7028067523010-IL
	2..	VIDEO ASSY (VSX-820-K)	7028069141010-IL				
	2..	VIDEO ASSY (VSX-520-K)	7028069141040-IL				
NSP	1..	FRONT ASSY (VSX-820-K)	7025HK0916011-IL				
NSP	1..	FRONT ASSY (VSX-520-K)	7025HK0915011-IL				
	2..	FRONT ASSY (VSX-820-K)	7028069121010-IL				
	2..	FRONT ASSY (VSX-520-K)	7028069121020-IL				
	2..	FUNCTION ASSY	7028069122010-IL				
	2..	F-VIDEO ASSY (VSX-820-K ONLY)	7028069123010-IL				
NSP	1..	INPUT ASSY (VSX-820-K)	7025HK0916012-IL				
NSP	1..	INPUT ASSY (VSX-520-K)	7025HK0915012-IL				
	2..	INPUT ASSY (VSX-820-K)	7028069131010-IL				
	2..	INPUT ASSY (VSX-520-K)	7028069131020-IL				
NSP	1..	SPEAKER ASSY (VSX-820-K)	7025HK0916014-IL				
NSP	1..	SPEAKER ASSY (VSX-520-K)	7025HK0915014-IL				
	2..	SPEAKER ASSY (VSX-820-K)	7028069151010-IL				
	2..	SPEAKER ASSY (VSX-520-K)	7028069151030-IL				

Mark	No.	Description	Part No.
A INPUT ASSY (VSX-820-K)			
SEMICONDUCTORS			
		IC 801	J084152180010-IL
		IC 802-804	J121458000020-IL
		Q 801,803,805,806	J522020011210-IL
		Q 802,804,807,809	J520101411210-IL
		Q 808,812,814,821	J522020011210-IL
		Q 813,817,838,839	J520101411210-IL
		Q 815,816	J5441170Y0050-IL
		Q 818	J522104411210-IL
		Q 822,826,828,830	J522020011210-IL

Mark	No.	Description	Part No.
	Q	832,834,836	J522020011210-IL
A	D	801-810,813,814	K005041480030-IL
	D	9801,9802 (ZD801,802)	K06006R844520-IL

MISCELLANEOUS

JA 801	TER,RCA 9PIN	G607902AA131Y-IL
JA 802,803	TER,RCA 6PIN	G603610A02000-IL
CN 502	CN,WIRE 2MM	L002900042620-IL
502	CN,WIRE 2MM	L002900042620-IL

RESISTORS

R 874,875	C060010165060-IL
-----------	------------------

CAPACITORS

C 821,861	D040221083090-IL
-----------	------------------

A INPUT ASSY (VSX-520-K)**SEMICONDUCTORS**

IC 801	J084152180010-IL
IC 802-804	J121458000020-IL
Q 801,803,805,806	J522020011210-IL
Q 802,804,807,809	J520101411210-IL
Q 808,821,822,826	J522020011210-IL

Q 815,816	J5441170Y0050-IL
Q 817,838,839	J520101411210-IL
Q 818	J522104411210-IL
Q 828,830,832,834	J522020011210-IL
Q 836	J522020011210-IL

D 801-810,813,814	K005041480030-IL
D 9801,9802 (ZD801,802)	K06006R844520-IL

MISCELLANEOUS

JA 801	TER,RCA 9PIN	G607902AA131Y-IL
JA 802,803	TER,RCA 6PIN	G603610A02000-IL
CN 502	CN,WIRE 2MM	L002900042620-IL
502	CN,WIRE 2MM	L002900042620-IL

RESISTORS

R 874,875	C060010165060-IL
-----------	------------------

CAPACITORS

C 821,861	D040221083090-IL
-----------	------------------

B AMP ASSY**SEMICONDUCTORS**

Q 202,206	J5023200B0050-IL
Q 203,204	J5000992F0050-IL
D 201	K000013300520-IL

MISCELLANEOUS

L 201	COIL,FILTER-INDUCTOR	D330900001330-IL
VR 201	VR,SEMI CARBON MOLD	C541102315000-IL
TP 201	CN.WAFER 2.0MM	L101200100320-IL

RESISTORS

R 201	C00007526P520-IL
R 202,207	C060056265050-IL
R 203	C00002226P520-IL
R 204	C00004746P520-IL
R 205,223	C0604R7063050-IL

R 206	C00001836P520-IL
R 208	C00008216P520-IL

Mark	No.	Description	Part No.
	R	209,210,215,216	N113136647820-IL
	R	211	C00002216P520-IL
	R	212,218	C00003336P520-IL
	R	213	C00003026P520-IL
	R	214	C060010065520-IL
	R	219	C00003346P520-IL
	R	220	C00005616P520-IL
	R	221,225	C00001226P520-IL

R 222	C00004736P520-IL
R 224	C060047063050-IL
R 226	C00004716P520-IL
R 227,229	C060010065050-IL
R 228	N113135610020-IL

CAPACITORS

C 201,211	D00410107D051-IL
C 202	D040470087070-IL
C 203	D00022106D051-IL
C 204	D00033006D051-IL
C 206,208	D040100087070-IL

C 207	D040101082090-IL
C 209	D004471277051-IL
C 210	D004102277051-IL
C 212,213	D040101088050-IL
C 214,2131	D02010406C060-IL

C 215	D0422R208C050-IL
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C SPEAKER ASSY (VSX-820-K)**SEMICONDUCTORS**

Q 401-404	J522102371210-IL
D 401-408	K005041480030-IL

MISCELLANEOUS

JA 401	TER,BOARD SCREW 8P	G614108V1010M-IL
JA 403	TER,BOARD SCREW 2P	G611201A0200Y-IL
RY 401-403	RELAY	G680120503020-IL
RY 404	RELAY	G680240202030-IL

RESISTORS

R 401	C060033166520-IL
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CAPACITORS

C 401	D02015306C060-IL
C 402	D02010406C060-IL

C SPEAKER ASSY (VSX-520-K)**SEMICONDUCTORS**

Q 401-404	J522102371210-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	G680120503020-IL
RY 404	RELAY	G680240202030-IL

RESISTORS

R 401	C060033166520-IL
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CAPACITORS

C 401	D02015306C060-IL
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Mark	No.	Description	Part No.
	C 402		D02010406C060-IL

D HEADPHONE ASSY

SEMICONDUCTORS

D 705,706	K005041480030-IL
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MISCELLANEOUS

JA 701 JACK,D6.5	G402PJ612AG0Y-IL
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E MIC ASSY (VSX-820-K ONLY)

SEMICONDUCTORS

IC 703	J121458000020-IL
D 715,716	K005041480030-IL
D 9705-9707 (ZD705-707)	K06605R14P400-IL

MISCELLANEOUS

JA 702 JACK,D3.5	G401PJ354H40Y-IL
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F PORTABLE ASSY (VSX-520-K ONLY)

SEMICONDUCTORS

D 713,714	K005041480030-IL
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MISCELLANEOUS

JA 703 JACK,D3.5	G401PJ354H70Y-IL
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G PT ASSY

SEMICONDUCTORS

Q 126,128,131,134	J5001268B0050-IL
Q 127,129,130,132	J5023198Y0000-IL
Q 133,135,136	J5023198Y0000-IL
D 112,113	K005041480030-IL
D 9110	K06603R34P400-IL

MISCELLANEOUS

CN 0 CN.WAFER 2.0MM	L101100030510-IL
CN 202 CONNECTOR (4P)	L101100030410-IL
201 BRACKET	4010210196000-IL

CAPACITORS

C 193,195	D040221082090-IL
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H HP_GUIDE ASSY

MISCELLANEOUS

CN 601 CONNECTOR (4P)	L101100030410-IL
601 BRACKET	4010210196000-IL

I CNT1 ASSY

MISCELLANEOUS

CN 1211,1212 (CN121A,121B) CN.WAFER 2.0MM	L101100030710-IL
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J CNT2 ASSY

MISCELLANEOUS

CN 7032 (CN703B) CN.FPC 1.0MM	L130100150820-IL
700 BRACKET	4010210196100-IL

Mark	No.	Description	Part No.
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K GUIDE_L ASSY

MISCELLANEOUS

0 JHMX9800 (ON) HAITI)	4330000120000-IL
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L GUIDE_R ASSY

MISCELLANEOUS

901,902,905 JHMX9800 (ON) HAITI)	4330000120000-IL
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M VIDEO ASSY (VSX-820-K)

SEMICONDUCTORS

IC 1001	J040744051500-IL
IC 1002	J170747810010-IL
IC 1003	J171258600010-IL
IC 1004	J040744053500-IL
IC 1005	J040742440190-IL
IC 1006	J127762800010-IL
Q 1005	J522305200050-IL
Q 1011	J520015301210-IL
D 9001	K06605R64P400-IL

MISCELLANEOUS

JA 1001 TER,RCA 6PIN	G603610D0400Y-IL
JA 1002 TER,RCA 9PIN	G607902AD016Y-IL
X 1001 CRYSTAL (14 MHz)	E80014R318080-IL
CN 1001 CN.WAFER 2.0MM	L101100030910-IL
CN 1002 CN.WAFER 2.0MM	L101100030510-IL

CAPACITORS

C 1025	D040471081070-IL
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M VIDEO ASSY (VSX-520-K)

SEMICONDUCTORS

IC 1001	J040744051500-IL
IC 1003	J171258600010-IL
IC 1004	J040744053500-IL
IC 1005	J040742440190-IL
IC 1006	J127762800010-IL
D 9001	K06605R64P400-IL

MISCELLANEOUS

JA 1001 TER,RCA 6PIN	G603610D0400Y-IL
JA 1002 TER,RCA 9PIN	G607902AD016Y-IL
CN 1001 CN.WAFER 2.0MM	L101100030910-IL
CN 1002 CN.WAFER 2.0MM	L101100030510-IL

N F-VIDEO ASSY (VSX-820-K ONLY)

SEMICONDUCTORS

D 701-704	K005041480030-IL
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MISCELLANEOUS

JA 704 TER,RCA 3PIN	G60603W0192GD-IL
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O FRONT ASSY (VSX-820-K)

SEMICONDUCTORS

IC 701	J127163150010-IL
Q 701	J522102371210-IL

Mark	No.	Description	Part No.
	Q	702	J5000933S0050-IL
	Q	703	J522101441210-IL
	D	707,709	K005041480030-IL
A			
	D	8701 (LED701)	K500052009011-IL
	D	9701 (ZD701)	K06007R544520-IL

MISCELLANEOUS

	L	701 COIL	D330101001020-IL
	L	702 COIL,FILTER-INDUCTOR	D330100700520-IL
	V	701 DISPLAY,FLT	K530126300010-IL
	S	701-714,716 SWITCH	G180501000010-IL
	S	9701 (VEC701) SW,ENCODER	G121123040011-IL
	CN	9702 (CP702) CONNECTOR (3P)	L102526803010-IL
B	CN	9704 (CP704) CN.FPC 1.25MM	L131125022320-IL
	O	HOLDER	432004078301A-IL
	U	701 MODULE,REMOCON	E940349003810-IL

Q FRONT ASSY (VSX-520-K)

SEMICONDUCTORS

	IC	701	J127163150010-IL
	Q	702	J5000933S0050-IL
	Q	703	J522101441210-IL
	D	707,709	K005041480030-IL
	D	9701 (ZD701)	K06007R544520-IL

MISCELLANEOUS

	L	701 COIL	D330101001020-IL
	L	702 COIL,FILTER-INDUCTOR	D330100700520-IL
	V	701 DISPLAY,FLT	K530126300010-IL
	S	701-714,716 SWITCH	G180501000010-IL
	S	9701 (VEC701) SW,ENCODER	G121123040011-IL
	CN	9702 (CP702) CONNECTOR (3P)	L102526803010-IL
	CN	9704 (CP704) CN.FPC 1.25MM	L131125021920-IL
	O	HOLDER	432004078301A-IL
	U	701 MODULE,REMOCON	E940349003810-IL

P FUNCTION ASSY

SEMICONDUCTORS

	D	711,712	K005041480030-IL
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MISCELLANEOUS

	S	715 SWITCH	G180501000010-IL
	S	9702 (VEC702) SW,ENCODER	G121123050021-IL

Q MAIN ASSY (VSX-820-K)

SEMICONDUCTORS

	IC	101	8952520000011-IL
	IC	102	J126790500070-IL
	IC	103	J126781200040-IL
	IC	104	J126791200060-IL
	IC	106	J000241600020-IL
	IC	109	J040740800230-IL
	IC	110	J040740800240-IL
	IC	111	J12678R330010-IL
	IC	112	J126111733050-IL
	IC	114,115	J126780500110-IL
	IC	120	J040742570030-IL
	IC	301	J126111700041-IL
	Q	101,138,300,301	J522305200050-IL

Mark	No.	Description	Part No.
	Q	106,107	J501778000010-IL
	Q	108	J5011049Y0010-IL
	Q	111,112	J522102371210-IL
	Q	121,123,124	J5001268B0050-IL
	Q	122	J5023198Y0000-IL
	Q	125	J5000916Y0050-IL
	Q	137	J520015301210-IL

	Q	201-203	J522101411210-IL
	Q	302	J522101441210-IL
	D	101,102,104,114	K005041480030-IL
	D	106	K000013300520-IL
	D	110,111,131-134	K000400700010-IL
	D	125,127,128,135	K005041480030-IL
	D	136,301-304,315	K005041480030-IL
	D	137-140,305-308	K000400700010-IL
	D	7101-7103 (BD101-103)	K047604000020-IL
	D	9101 (ZD101)	K06603R34P400-IL

	D	9103,9104 (ZD103,104)	K06016R044520-IL
	D	9105,9108 (ZD105,108)	K06606R24P400-IL
	D	9107 (ZD107)	K06003R344520-IL
	D	9301 (ZD301)	K06605R14P400-IL
	D	9302 (ZD302)	K06615R04P400-IL

MISCELLANEOUS

	L	101,102 BEAD,COIL	7610010030000-IL
	JA	101 JACK,DIN	G403515397000-IL
	JA	102 TER,BOARD PUSH 4P	G594408SA030Y-IL
	JA	9101 (TUNER101) TUNER	E903004100020-IL
	RY	101 RELAY	G680120503020-IL
	RY	302 RELAY	G680060102020-IL
	T	301 POWER TRANS	8200280150620-IL
	X	101 RESONATOR,CERAMIC	E830160000060-IL
	CN	9101 (CP101) CN.FPC 1.25MM	L131125022310-IL
	CN	9111,9120 (CP111,120) CONNECTOR (14P)	L101100041410-IL
	CN	9112 (CP112) CN.WAFER 2.0MM	L101100041110-IL
	CN	9115 (CP115) CN.WAFER 2.0MM	L101100040810-IL
	CN	9116,9118 (CP116,118) CONNECTOR (19P)	L101100041910-IL
	CN	9117,9123,9125 (CP117,123,125)	L101100040510-IL
		CN.WAFER 2.0MM	
	CN	9119 (CN119B) CN.FPC 1.0MM	L130100150820-IL
	CN	9121 (CP121) CN.WAFER 2.0MM	L101100040710-IL
	CN	9122 (CP122) CN.WAFER 2.0MM	L101100040910-IL
	CN	9126,9128 (CP126,128) CONNECTOR (4P)	L101100040410-IL
	O	SCREW	B020030081B10-IL
		101 HEAT SINK	2120210958050-IL
		104,114 HEAT SINK	2120000818020-IL
		904 JHMX9800 (ON) HAITI)	4330000120000-IL
	FU	301 FUSE GLASS TUBE 20MM	N751506301160-IL

RESISTORS

	R	101-104,201,202	C060R22065050-IL
	R	105,106,203	C060033065050-IL
	R	159	C060015165050-IL
	R	174-176	C060022265050-IL
	R	178,179	C141R10069010-IL
	R	184	C0604R7065050-IL
	R	186	C060022065050-IL
	R	304	C060010063050-IL

CAPACITORS

	C	101	D02010306C060-IL
	C	167,222,224,235	D040471082060-IL

Mark	No.	Description	Part No.
C	179,180		D040682088010-IL
C	182-186		D02010407H080-IL
C	189		D040331088230-IL
C	200		D040682083000-IL
C	201-203,208-210		D02047306C060-IL
C	206		D040472084020-IL
C	207		D040102084060-IL
C	229		D040221082090-IL
C	236		D040103083000-IL
C	237-239		D02047306C060-IL
C	301		D040222083010-IL
C	304		D00847208H010-IL



MAIN ASSY (VSX-520-K)

SEMICONDUCTORS

IC	101		8952520000011-IL
IC	102		J126790500070-IL
IC	103		J126781200040-IL
IC	104		J126791200060-IL
IC	106		J000241600020-IL
IC	111		J12678R330010-IL
IC	112		J126111733050-IL
IC	114		J126780500110-IL
IC	120		J040742570030-IL
IC	301		J126111700041-IL
Q	101,138,300,301		J522305200050-IL
Q	106,107		J501778000010-IL
Q	112		J522102371210-IL
Q	121,123,124		J5001268B0050-IL
Q	122		J5023198Y0000-IL
Q	125		J5000916Y0050-IL
Q	137		J520015301210-IL
Q	201,203		J522101411210-IL
Q	302		J522101441210-IL
D	104,114,125,127		K005041480030-IL
D	106		K000013300520-IL
D	110,111,131-134		K000400700010-IL
D	128,135,136		K005041480030-IL
D	137-140,305-308		K000400700010-IL
D	301-304,315		K005041480030-IL
D	7101-7103 (BD101-103)		K047604000020-IL
D	9103,9104 (ZD103,104)		K06016R044520-IL
D	9107 (ZD107)		K06003R344520-IL
D	9301 (ZD301)		K06605R14P400-IL
D	9302 (ZD302)		K06615R04P400-IL

MISCELLANEOUS

L	101,102	BEAD,COIL	7610010030000-IL
JA	9101	(TUNER101) TUNER	E903004100020-IL
RY	302	RELAY	G680060102020-IL
T	301	POWER TRANS	8200280150620-IL
X	101	RESONATOR,CERAMIC	E830160000060-IL
CN	9101 (CP101)	CN.FPC 1.25MM	L131125021910-IL
CN	9111,9120 (CP111,120)	CONNECTOR (14P)	L101100041410-IL
CN	9112 (CP112)	CN.WAFER 2.0MM	L101100041110-IL
CN	9115 (CP115)	CN.WAFER 2.0MM	L101100040810-IL
CN	9116,9118 (CP116,118)	CONNECTOR (19P)	L101100041910-IL
CN	9117,9123,9125 (CP117,123,125)	CN.WAFER 2.0MM	L101100040510-IL
CN	9119 (CN119B)	CN.FPC 1.0MM	L130100150820-IL

Mark	No.	Description	Part No.
CN	9121 (CP121)	CN.WAFER 2.0MM	L101100040710-IL
CN	9122 (CP122)	CN.WAFER 2.0MM	L101100040910-IL
CN	9126,9128 (CP126,128)	CONNECTOR (4P)	L101100040410-IL
	0	SCREW	B020030081B10-IL
	101	HEAT SINK	2120210958050-IL
	104,114	HEAT SINK	2120000818020-IL
	904	JHMX9800 (ON) HAITI)	4330000120000-IL
FU	301	FUSE GLASS TUBE 20MM	N751506301160-IL

RESISTORS

R	101-104,201,202		C060R22065050-IL
R	105,106		C060033065050-IL
R	159		C060015165050-IL
R	174-176		C060022265050-IL
R	178,179		C141R10069010-IL
R	184		C0604R7065050-IL
R	186		C060022065050-IL
R	304		C060010063050-IL

CAPACITORS

C	101		D02010306C060-IL
C	167,222,224		D040471082060-IL
C	179,180		D040682088010-IL
C	182-186		D02010407H080-IL
C	189		D040331088230-IL
C	200		D040682083000-IL
C	201-203,208-210		D02047306C060-IL
C	206		D040472084020-IL
C	207		D040102084060-IL
C	229		D040221082090-IL
C	236		D040103083000-IL
C	237-239		D02047306C060-IL
C	301		D040222083010-IL
C	304		D00847208H010-IL

R REG ASSY

SEMICONDUCTORS

IC	113		J126780500110-IL
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S HDMI ASSY (VSX-820-K)

SEMICONDUCTORS

IC	701		J126111712040-IL
IC	702		SI19134CTU
IC	703		SI19233ACTU
IC	704		J126111710011-IL
IC	706		8952520000021-IL
IC	8311		J046255100010-IL
Q	711		J500124200010-IL
Q	714		J522101411210-IL
D	711-720		K067020500010-IL
D	9701 (ZD701)		K06605R14P400-IL

MISCELLANEOUS

JA	701-705	CN.WAFER	L109100190050-IL
X	701	CRYSTAL CHIP (27 MHz)	E80527R000050-IL
X	702	CRYSTAL CHIP (16 MHz)	E80516R000050-IL
CN	701	CN.WAFER 2.0MM	L101100031110-IL
CN	702	CONNECTOR (14P)	L101100031410-IL
CN	9703 (CP703)	CN.WAFER 2.0MM	L101200100820-IL

Mark No. Description Part No.

Mark No. Description Part No.

S HDMI ASSY (VSX-520-K)

MISCELLANEOUS

IC 701	J126111712040-IL
IC 702	SI19134CTU
IC 703	SI19233ACTU
IC 704	J126111710011-IL
IC 706	8952520000021-IL
IC 8311	J046255100010-IL
Q 711	J500124200010-IL
Q 714	J522101411210-IL
D 711-720	K067020500010-IL
D 9701 (ZD701)	K06605R14P400-IL

JA 102	TER,RCA 1PIN	G600107A0000Y-IL
JA 105,106	OPTICAL RECEIVER	E100116500040-IL
X 101	CRYSTAL CHIP (24.576 MHz)	E80524R576050-IL
CN 202	CN.WAFER 2.0MM	L101100032010-IL
CN 203	CONNECTOR (8P)	L101100030810-IL
CN 204	CONNECTOR (19P)	L101100031910-IL

CAPACITORS

C 100	D040102081050-IL
C 116,157,228	D040221082090-IL
C 146	D040222083010-IL

MISCELLANEOUS

U USB ASSY (VSX-820-K ONLY)

SEMICONDUCTORS

JA 702-705	CN.WAFER	L109100190050-IL
X 701	CRYSTAL CHIP (27 MHz)	E80527R000050-IL
X 702	CRYSTAL CHIP(16 MHz)	E80516R000050-IL
CN 701	CN.WAFER 2.0MM	L101100031110-IL
CN 702	CONNECTOR (14P)	L101100031410-IL
CN 9703 (CP703)	CN.WAFER 2.0MM	L101200100820-IL

IC 801	J085860000010-IL
IC 802	8952820000040-IL
IC 803	J001638165610-IL
IC 804	341S2164
IC 805	J046205100010-IL
IC 9001 (REG1)	J126111710011-IL
IC 9002 (REG2)	J126111700041-IL
Q 2	J522101411210-IL
Q 3	J520103S00210-IL

MISCELLANEOUS

JA 801	CN,PLUG CONTACT	G480040101410-IL
X 1	CRYSTAL (12 MHz)	E80012R000010-IL
D1 1	D,ESD CHIP	K067012020020-IL
D2 2	D,ESD CHIP	K067012020020-IL

T DSP ASSY (VSX-820-K)

V BT ASSY

SEMICONDUCTORS

IC 100	J001638165610-IL
IC 101	8952520000030-IL
IC 102	J080320788010-IL
IC 106	J040742570030-IL
IC 109	J080458800010-IL
IC 110	J040740400270-IL
IC 9101 (REG101)	J126111712070-IL
IC 9103 (REG103)	J126111700041-IL
D 101	K005041480030-IL
D 9200 (ZD200)	K06002R444520-IL

IC 500	J046255100010-IL
Q 500	J522101411210-IL

MISCELLANEOUS

CN 500	CONNECTOR	CKS5712
CN 9501 (CP501)	CN.WAFER 2.0MM	L101200100820-IL
CN 9502 (CP502)	CN.WAFER 2.0MM	L101200100410-IL
701,702	BRACKET	4010210196100-IL

MISCELLANEOUS

JA 102	TER,RCA 1PIN	G600107A0000Y-IL
JA 105,106	OPTICAL RECEIVER	E100116500040-IL
X 101	CRYSTAL CHIP (24.576 MHz)	E80524R576050-IL
CN 202	CN.WAFER 2.0MM	L101100032010-IL
CN 203	CONNECTOR (8P)	L101100030810-IL
CN 204	CONNECTOR (19P)	L101100031910-IL
CN 9105 (CP105)	CONNECTOR (3P)	L102526803010-IL

CAPACITORS

C 100	D040102081050-IL
C 116,157,228	D040221082090-IL
C 146	D040222083010-IL

T DSP ASSY (VSX-520-K)

IC 100	J001638165610-IL
IC 101	8952520000030-IL
IC 102	J080320788010-IL
IC 106	J040742570030-IL
IC 109	J080458800010-IL
IC 110	J040740400270-IL
IC 9101 (REG101)	J126111712070-IL
IC 9103 (REG103)	J126111700041-IL
D 101	K005041480030-IL