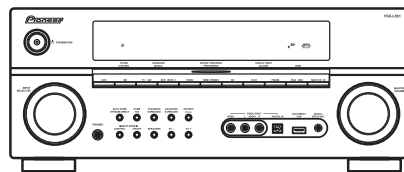


Service Manual



VSX-LX51

ORDER NO.
RRV3765

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-LX51

VSX-1018AH-K

VSX-1018AH-S

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

Model	Type	Power Requirement	Remarks
VSX-LX51	HYSXJ5	AC 220 V to 230 V	
VSX-1018AH-K	YSXJ5	AC 220 V to 230 V	
VSX-1018AH-S	YSXJ5	AC 220 V to 230 V	



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

SAFETY INFORMATION

A



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.

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[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.

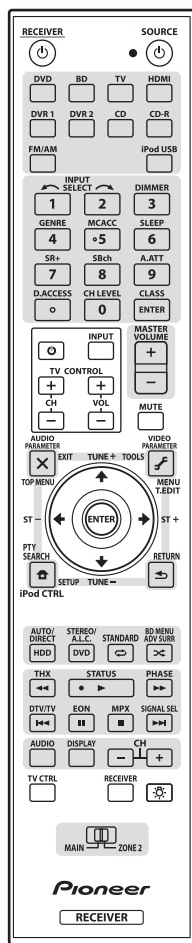
1.2 CAUTION

- Before removing the Power Amp Assy, it is necessary to discharge C5721 and C5722. For more detail, please refer to page 67.

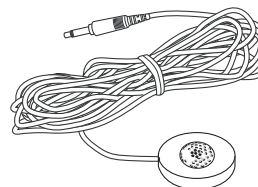
2. SPECIFICATIONS

2.1 ACCESSORIES

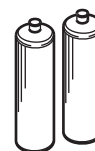
[1] Accessories



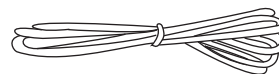
Remote Control Unit
 (AXD7518: VSX-LX51)
 (AXD7526: VSX-1018AH-K)
 (AXD7527: VSX-1018AH-S)



Setup Microphone
 (for Auto MCACC setup)
 (APM7008)



AA/LR6 Dry Cell Batteries
 (VEM1031)

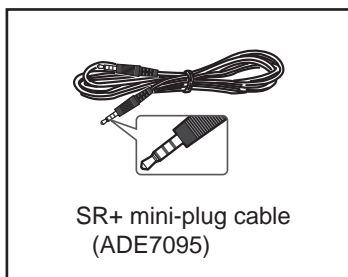


FM Wire Antenna
 (ADH7030)



AM Loop Antenna
 (ATB7013)

SERVICE PARTS



2.2 SPECIFICATIONS

Specifications

Amplifier section

Continuous Power Output (Stereo)	
Front	150 W + 150 W (DIN 1 kHz, THD 1 %, 6 Ω) 120 W + 120 W (DIN 1 kHz, THD 1 %, 8 Ω)
Continuous Power Output (Multichannel)	
Front	150 W + 150 W (DIN 1 kHz, THD 1 %, 6 Ω) 120 W + 120 W (DIN 1 kHz, THD 1 %, 8 Ω)
Center	150 W (DIN 1 kHz, THD 1 %, 6 Ω) 120 W (DIN 1 kHz, THD 1 %, 8 Ω)
Surround	150 W + 150 W (DIN 1 kHz, THD 1 %, 6 Ω) 120 W + 120 W (DIN 1 kHz, THD 1 %, 8 Ω)
Surround back	
	150 W + 150 W (DIN 1 kHz, THD 1 %, 6 Ω) 120 W + 120 W (DIN 1 kHz, THD 1 %, 8 Ω)
Rated Power Output	130 W + 130 W (20 Hz to 20 kHz, 0.09 %, 6 Ω)
Rated Power Output	110 W + 110 W (20 Hz to 20 kHz, 0.09 %, 8 Ω)

- The above specifications are applicable when the power supply is 230 V.

Audio Section

Input (Sensitivity/Impedance)	
LINE	.335 mV/47 k Ω
Frequency Response (LINE)	5 Hz to 100 000 Hz ± 0 dB
Output (Level/Impedance)	
REC	335 mV/2.2 k Ω
Tone Control	
BASS	± 6 dB (100 Hz)
TREBLE	± 6 dB (10 kHz)
LOUDNESS	+4 dB/+2 dB (100 Hz/10 kHz) (at volume position -40 dB)
Signal-to-Noise Ratio (IHF, short circuited, A network)	
LINE	103 dB
Signal-to-Noise Ratio [DIN (continuous rated power output/50 mW)]	
LINE	92 dB/65 dB

Composite Video/S-Video Section

Input (Sensitivity/Impedance)	1 V _{p-p} /75 Ω
Output (Level/Impedance)	1 V _{p-p} /75 Ω
Signal-to-Noise Ratio	.65 dB
Frequency Response	.5 Hz to 10 MHz

Component Video Section

Input (Sensitivity/Impedance)	1 V _{p-p} /75 Ω
Output (Level/Impedance)	1 V _{p-p} /75 Ω
Signal-to-Noise Ratio	.65 dB
Frequency Response	.5 Hz to 100 MHz

HDMI Section

Input	19-pin x 3
Output	19-pin (5 V, 100 mA)

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	Mono: 15.2 dBf, IHF (1.6 μ V/75 Ω)
50 dB Quieting Sensitivity	Mono: 20.2 dBf Stereo: 41.2 dBf
Sensitivity (DIN)	Mono: 1.1 μ V (S/N 26 dB) Stereo: 50 μ V (S/N 46 dB)
Signal-to-Noise Ratio	Mono: 76 dB (at 85 dBf) Stereo: 72 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN)	Mono: 62 dB Stereo: 58 dB
Distortion	Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity	.70 dB (400 kHz)
Stereo Separation	.40 dB (1 kHz)
Frequency Response	30 Hz to 15 kHz ± 1 dB
Antenna Input	75 Ω unbalanced

AM Tuner Section

Frequency Range	531 kHz to 1 602 kHz (9 kHz step)
Sensitivity (IHF, Loop antenna)	350 μ V/m
Selectivity	30 dB
Signal-to-Noise Ratio	50 dB
Antenna	Loop antenna

Miscellaneous

Power Requirements	AC 220 V to 230 V, 50 Hz/60 Hz
Power Consumption	.410 W
In standby	0.6 W (HDMI Control OFF) 0.75 W (HDMI Control ON)
Dimensions	420 (W) mm x 173 (H) mm x 433 (D) mm
Weight (without package)	13.5 kg (LX51) 13.3 kg (1018AH)

Furnished Parts

Setup microphone (for Auto MCACC setup)	1
AA/IEC R6P dry cell batteries	2
Remote control unit	1
AM loop antenna	1
FM wire antenna	1
Warranty card	1
Operating instructions	



Note

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

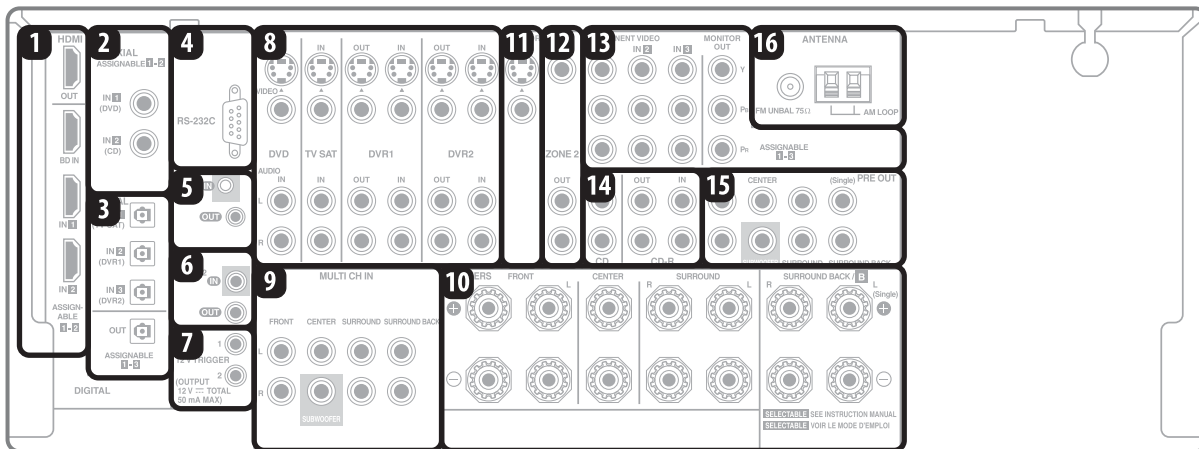
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[1] Rear panel



VSX-LX51

Caution

- Before making or changing the connections, switch off the power and disconnect the power cord from the power outlet. Plugging in should be the final step.

1 HDMI connectors (x4) (LX51) (x3)(1018H)

Three inputs and one output for high-quality audio/video connection to compatible HDMI devices.

2 Coaxial digital audio inputs (x2)

Use for digital audio sources, including DVD players/recorders, digital satellite receivers, CD players, etc.

3 Optical digital audio output/input(s) (x4)

Use the **OUT** jack for recording to a CD or MiniDisc recorder.

Use the **IN** jacks for digital audio sources, including DVD players/recorders, digital satellite receivers, CD players, etc.

4 RS-232C connector

Use for connection to a PC for graphical output when using Advanced MCACC.

5 Control input/output

Use to connect other Pioneer components so that you can control all your equipment from a single IR remote sensor.

6 Remote input/output (MULTI-ZONE)

Use for connection to an external remote control sensor for use in a MULTI-ZONE setup, for example.

7 12 V trigger jacks (total 50 mA max.) (x2)

Use to switch components in your system on and off according to the input function of the receiver.

8 Audio/video source inputs/(outputs) (x6)

Use for connection to audio/visual sources, such as DVD players/recorders, VCRs, etc. Each set of inputs has jacks for composite video, S-Video and stereo analog audio.

9 Multichannel analog audio inputs

7.1 channel inputs for connection to a DVD player with multichannel analog outputs.

10 Speaker terminals

Use for connection to the main front, center, surround and surround back speakers.

11 Composite and S-Video monitor outputs

Use to connect monitors and TVs.

12 ZONE 2 audio/video outputs

Use to connect a second receiver in a separate room.

13 Component video connections (x4)

Use the inputs to connect any video source that has component video output, such as a DVD recorder. Use the output for connection to a monitor or TV.

14 Stereo analog audio source inputs/(outputs) (x3)

Use for connection to audio sources such as CD players, tape decks, turntables, etc.

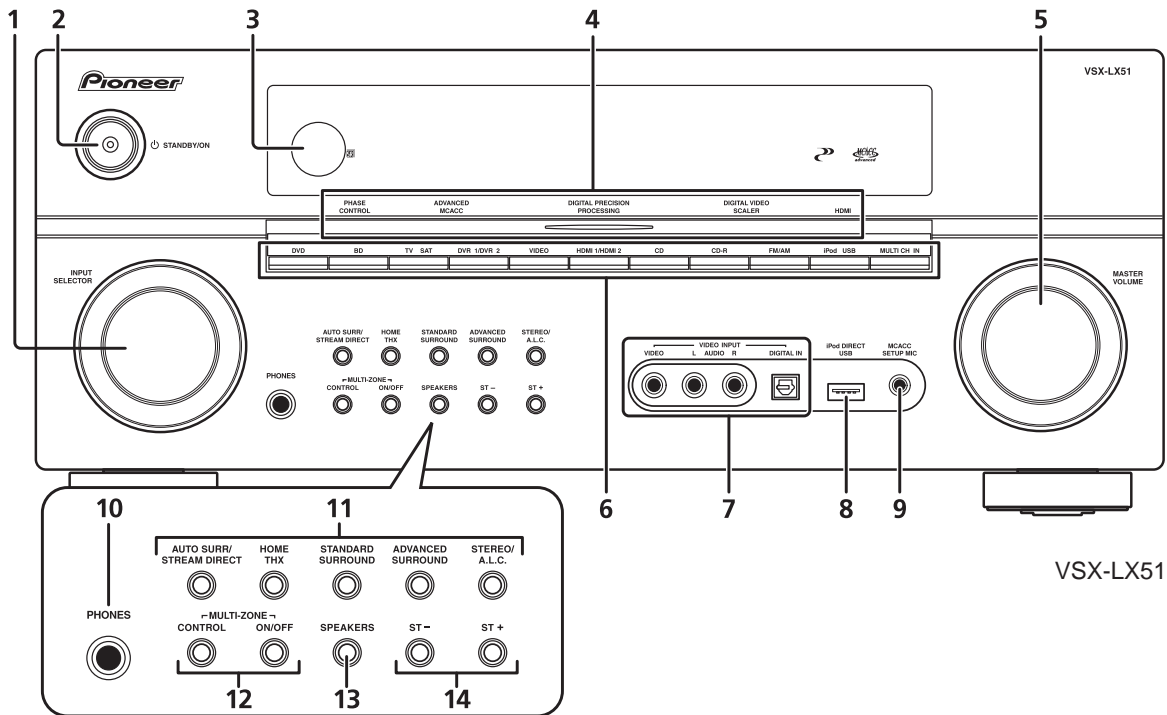
15 Multichannel pre-amplifier outputs

Use to connect separate amplifiers for front, center, surround, surround back and subwoofer channels.

16 AM and FM antenna terminals

Use to connect indoor or outdoor antennas for radio broadcasts.

A [2] Front panel



VSX-LX51

1 INPUT SELECTOR dial

Use to select an input source.

2 STANDBY/ON

Switches the receiver between on and standby. Power indicator lights when the receiver is on.

3 Remote sensor

Receives the signals from the remote control.

4 PHASE CONTROL indicator – Lights when the Phase Control is switched on.

ADVANCED MCACC indicator – Lights when one of the MCACC presets is selected.

DIGITAL PRECISION PROCESSING indicator – Lights to indicate digital processing (for example, it disappears when Pure Direct is on, or when listening through the multichannel analog inputs).

DIGITAL VIDEO SCALER indicator (LX51 Only) – Lights when Resolution is set to a setting other than **PURE** (for example, when the video input signal is upscaled).

HDMI indicator – Blinks when connecting an HDMI-equipped component; lights when the component is connected.

5 MASTER VOLUME dial

6 Input source buttons

Press to select an input source.

7 VIDEO INPUT

8 iPod DIRECT USB terminal

Use to connect your Apple iPod as an audio source, or connect a USB audio device for playback.

9 MCACC SETUP MIC jack

Use to connect the supplied microphone.

10 PHONES jack

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

11 Listening mode buttons

AUTO SURR/STREAM DIRECT – Switches between Auto surround mode and Stream Direct playback. Stream Direct playback bypasses the bass/treble controls for the most accurate reproduction of a source.

HOME THX – Press to select a Home THX listening mode.

STANDARD SURROUND – Press for Standard decoding and to switch between the various Pro Logic IIx and Neo:6 options.

ADVANCED SURROUND – Use to switch between the various surround modes.

STEREO/A.L.C. – Switches between stereo playback, Auto level control stereo mode and Front Stage Surround Advance modes.

12 MULTI-ZONE controls

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

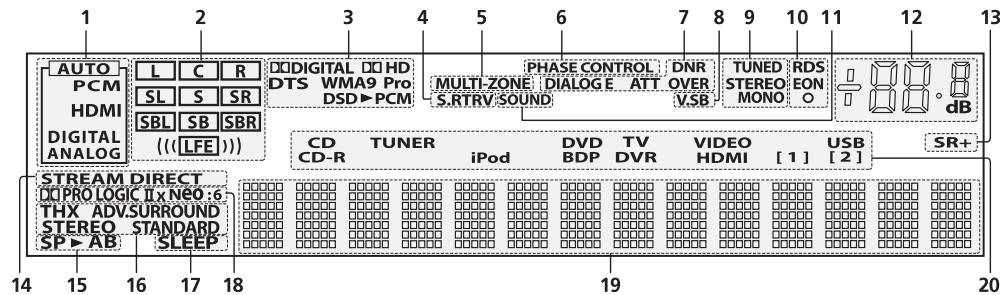
13 SPEAKERS

Use to change the speaker system.

14 ST +/-

Use to select preset radio stations.

[3] Display



1 SIGNAL indicators

Light to indicate the currently selected input signal.

AUTO lights when the receiver is set to select the input signal automatically.

2 Program format indicators

These change according to which channels are active in digital sources.

L – Left front channel

C – Center channel

R – Right front channel

SL – Left surround channel

S – Surround channel (mono)

SR – Right surround channel

SBL – Left surround back channel

SB – Surround back channel (mono)

SBR – Right surround back channel

LFE – Low frequency effects channel (the **(((LFE)))** indicators light when an LFE signal is being input)

3 Digital format indicators

Light when a signal encoded in the corresponding format is detected (**DSD > PCM** lights during the DSD (Direct Stream Digital) to PCM conversion with SACDs).

4 S.RTRV

Lights when the Sound Retriever is switched on.

5 MULTI-ZONE

Lights when the MULTI-ZONE feature is active.

6 PHASE CONTROL

Lights when the Phase Control is switched on.

7 Sound processing indicators

Light according to the active Audio parameter(s) (page 69) and/or **ANALOG ATT**.

8 V.SB

Lights during Virtual surround back processing.

9 TUNER indicators

TUNED – Lights when a broadcast is being received.

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

MONO – Lights when the mono mode is set using the **MPX** button.

10 EON/RDS indicators

EON – Lights when the EON mode is set (flashes during EON reception). The **o** indicator lights when the current station carries the EON service.

RDS – Lights when an RDS broadcast is received.

11 SOUND

Lights when any of the Midnight, Loudness or bass/treble controls feature is selected.

12 Master volume level

13 SR+

Lights when the SR+ mode is switched on.

14 STREAM DIRECT

Lights when Direct/Pure Direct is selected.

15 Speaker indicators

Indicate the current speaker system, **A** and/or **B**.

16 Listening mode indicators

THX – Lights when a Home THX mode is selected.

ADV. SURROUND – Lights when an Advanced Surround mode has been selected.

STEREO – Lights when the stereo mode is selected.

STANDARD – Lights when a Standard Surround mode is switched on.

17 SLEEP

Lights when the receiver is in sleep mode.

18 Matrix decoding format indicators

PRO LOGIC IIX – This lights to indicate **PRO** Pro Logic II / **LOGIC** Pro Logic IIX decoding.

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

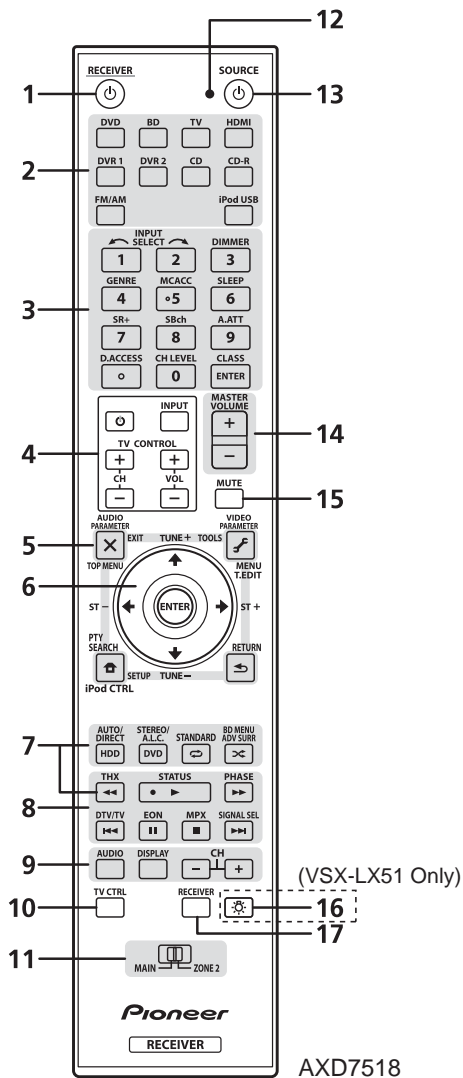
19 Character display

Displays various system information.

20 Input source indicators

Light to indicate the input source you have selected.

[4] Remote control



AXD7518

The remote has been conveniently color-coded according to component control using the following system (press the corresponding input source button to access):

- **White** – Receiver controls (see below)
- **Blue** – Other controls

1 RECEIVER

This switches between standby and on for this receiver.

2 Input source buttons

Press to select control of other components.

3 Number buttons and other receiver/component controls

Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

ENTER can be used to enter commands for TV or DTV, and also to select a disc in a multi-CD player.

Press **RECEIVER** first to access:

INPUT SELECT – Use to select the input source.

DIMMER – Dims or brightens the display.

GENRE – Automatically selects the most appropriate Advanced Surround mode for the genre of the source currently being played back (this feature is available only when a Pioneer DVD recorder supporting HDMI Control is connected to this receiver via HDMI).

MCACC – Press to switch between MCACC presets.

SLEEP – Use to put the receiver in sleep mode and select the amount of time before sleep.

SR+ – Switches the SR+ mode on/off.

SBch – Use to select the surround/virtual back channel mode.

A.ATT – Attenuates (lowers) the level of an analog input signal to prevent distortion.

CH LEVEL – Press repeatedly to select a channel, then use / to adjust the level.

Press **FM/AM** first to access:

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

CLASS – Switches between the three banks (classes) of radio station presets.

4 TV CONTROL buttons

These buttons are dedicated to control the TV assigned to the **TV CTRL** button. Thus if you only have one TV to hook up to this system assign it to the **TV CTRL** input source button. If you have two TVs, assign the main TV to the **TV CTRL** button.

TV – 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.

5 Tuner/component control buttons/SETUP

These button controls can be accessed after you have selected the corresponding input source button (**DVD**, **DVR1**, **TV**, etc.).

Press **RECEIVER** first to access:



AUDIO PARAMETER – Use to access the Audio options.

VIDEO PARAMETER – Use to access the Video options.

SETUP – Use to access the System Setup menu.

RETURN – Press to confirm and exit the current menu screen (also use to return to the previous menu with DVDs or to select closed captioning with DTV).

6 (TUNE/ST) /ENTER

Use the arrow buttons when setting up your surround sound system and the Audio or Video options. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the **TUNE**  buttons to find radio frequencies and use **ST**  to find preset stations.

7 Receiver controls

Press **RECEIVER** first to access:

AUTO/DIRECT – Press to select Auto Surround or Stream Direct listening.



STEREO/A.L.C. – Switches between the stereo playback mode and the Front Stage Surround Advance mode.

STANDARD – Press for Standard decoding and to switch between the various  Pro Logic IIx and Neo:6 options.

ADV SURR – Use to switch among the various surround modes.

THX – Press to select a Home THX listening mode.

8 Component control buttons

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

The controls above these buttons can be accessed after you have selected the corresponding input source button (for example **DVD**, **DVR1** or **TV**). These buttons also function as described below.

Press **RECEIVER** first to access:

STATUS – Press to check selected receiver settings.

PHASE – Press to switch on/off Phase Control.

SIGNAL SEL – Use to select an input signal.

Press **FM/AM** first to access:

EON – Use to search for programs that are broadcasting traffic or news information.

MPX – Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

9 AUDIO – Changes the audio or channel on DVD discs.

DISPLAY – Switches between named station presets and radio frequencies. Also used to display RDS information.

CH +/- – Use to select channels for DVD/DVR units.

10 TV CTRL

Use this button to set preset code of your TV's manufacturer when controlling TV.

11 MULTI-ZONE operation selector switch

Switch to perform operations in the main zone and zone 2.

12 Remote control LED

Lights when a command is sent from the remote control.

13 SOURCE

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

14 MASTER VOLUME +/-

Use to set the listening volume.

15 MUTE

Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).

16 Remote control illumination button (LX51 Only)

Press to turn on/off the illumination of some of the buttons. This function is convenient when operating in dark rooms.

17 RECEIVER

Switches the remote to control the receiver (used to select the white commands above the number buttons (**A.ATT**, etc.)). Also use this button to set up surround sound.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

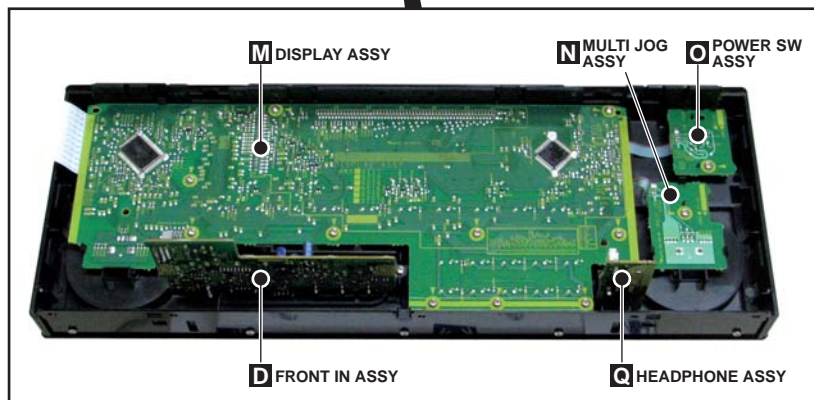
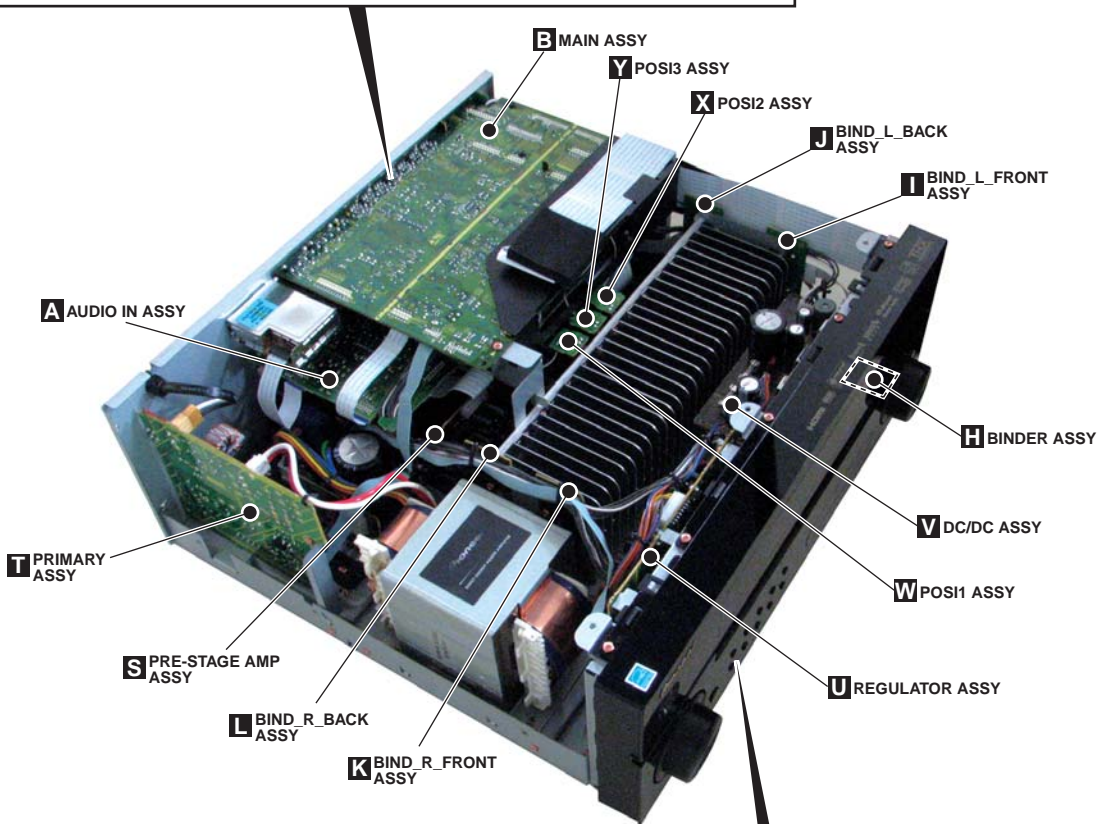
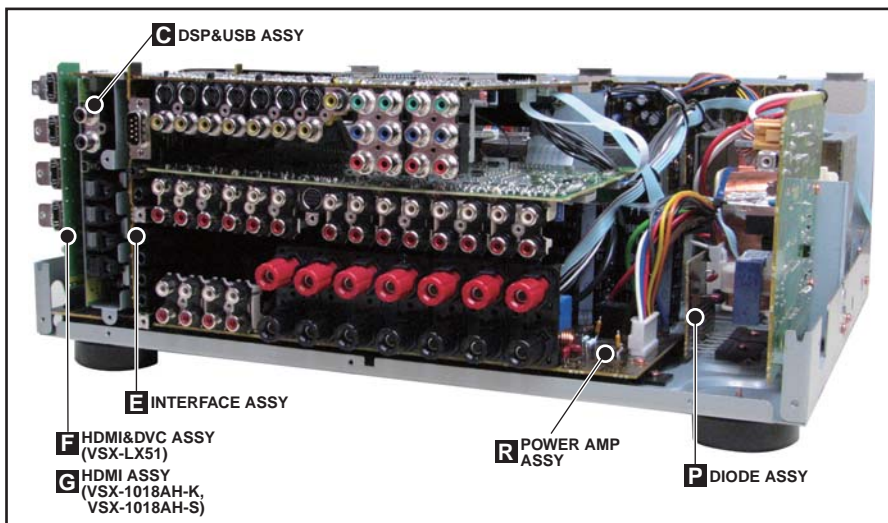
To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedure	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 sound from headphone output.	Sound must be normal, without noise.
7	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

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

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

3.2 PCB LOCATIONS



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.

◆ LIST OF ASSEMBLIES

Mark	Symbol and Description	VSX-LX51 /HYSXJ5	VSX-1018AH-K /YSXJ5	VSX-1018AH-S /YSXJ5
	1..MAIN ASSY	AWK8053	AWK8058	AWK8058
	1..AUDIO IN ASSY	AWK8051	AWK8051	AWK8051
NSP	1..COMPLEX ASSY	AWK8047	AWK8064	AWK8064
	2..DISPLAY ASSY	AWX9117	AWX9214	AWX9214
	2..POWER SW ASSY	AWX9118	AWX9118	AWX9118
	2..MULTI JOG ASSY	AWX9119	AWX9119	AWX9119
	2..BINDER ASSY	AWX9120	AWX9120	AWX9120
	2..FRONT IN ASSY	AWX9121	AWX9121	AWX9121
	2..HEADPHONE ASSY	AWX9122	AWX9122	AWX9122
	2..PRIMARY ASSY	AWX9124	AWX9124	AWX9124
NSP	1..LOCAL POWER ASSY	AWK8041	AWK8041	AWK8041
	2..DIODE ASSY	AWX8985	AWX8985	AWX8985
	2..REGULATOR ASSY	AWX8986	AWX8986	AWX8986
	2..DC/DC ASSY	AWX8988	AWX8988	AWX8988
	2..PRE-STAGE AMP ASSY	AWX8989	AWX8989	AWX8989
	2..INTERFACE ASSY	AWX8990	AWX8990	AWX8990
NSP	1..AMP ASSY	AWK8038	AWK8038	AWK8038
	2..POWER AMP ASSY	AWX8984	AWX8984	AWX8984
	2..POS1 ASSY	AWX9132	AWX9132	AWX9132
	2..POS2 ASSY	AWX9133	AWX9133	AWX9133
	2..BIND_L_FRONT ASSY	AWX9217	AWX9217	AWX9217
	2..BIND_L_BACK ASSY	AWX9218	AWX9218	AWX9218
	2..BIND_R_FRONT ASSY	AWX9219	AWX9219	AWX9219
	2..BIND_R_BACK ASSY	AWX9220	AWX9220	AWX9220
	2..POS3 ASSY	AWX9223	AWX9223	AWX9223
	1..HDMI&DVC ASSY	AWX9170	Not used	Not used
	FLASH ROM	AYW7203	Not used	Not used
	1..HDMI ASSY	Not used	AWX9131	AWX9131
	FLASH ROM	Not used	AYW7203	AYW7203
	1..DSP&USB ASSY	AWX9176	AWX9176	AWX9176
	FLASH ROM	AYW7213	AYW7213	AYW7213
	1..FM/AM TUNER UNIT	AXX7248	AXX7248	AXX7248

3.3 JIGS LIST

[1] Jigs list

Name	Jig No.	Remarks
11P board to board extension jig cable	GGD1576	Diagonosis
19P board to board extension jig cable	GGD1577	Diagonosis
30P board to board extension jig cable	GGD1492	Diagonosis
11P FFC	GGD1578	Diagonosis
RS-232C I/F jig	GGF1348	Update the Flash ROMS
7-pin FFC	VDA1681	Update the Flash ROMS

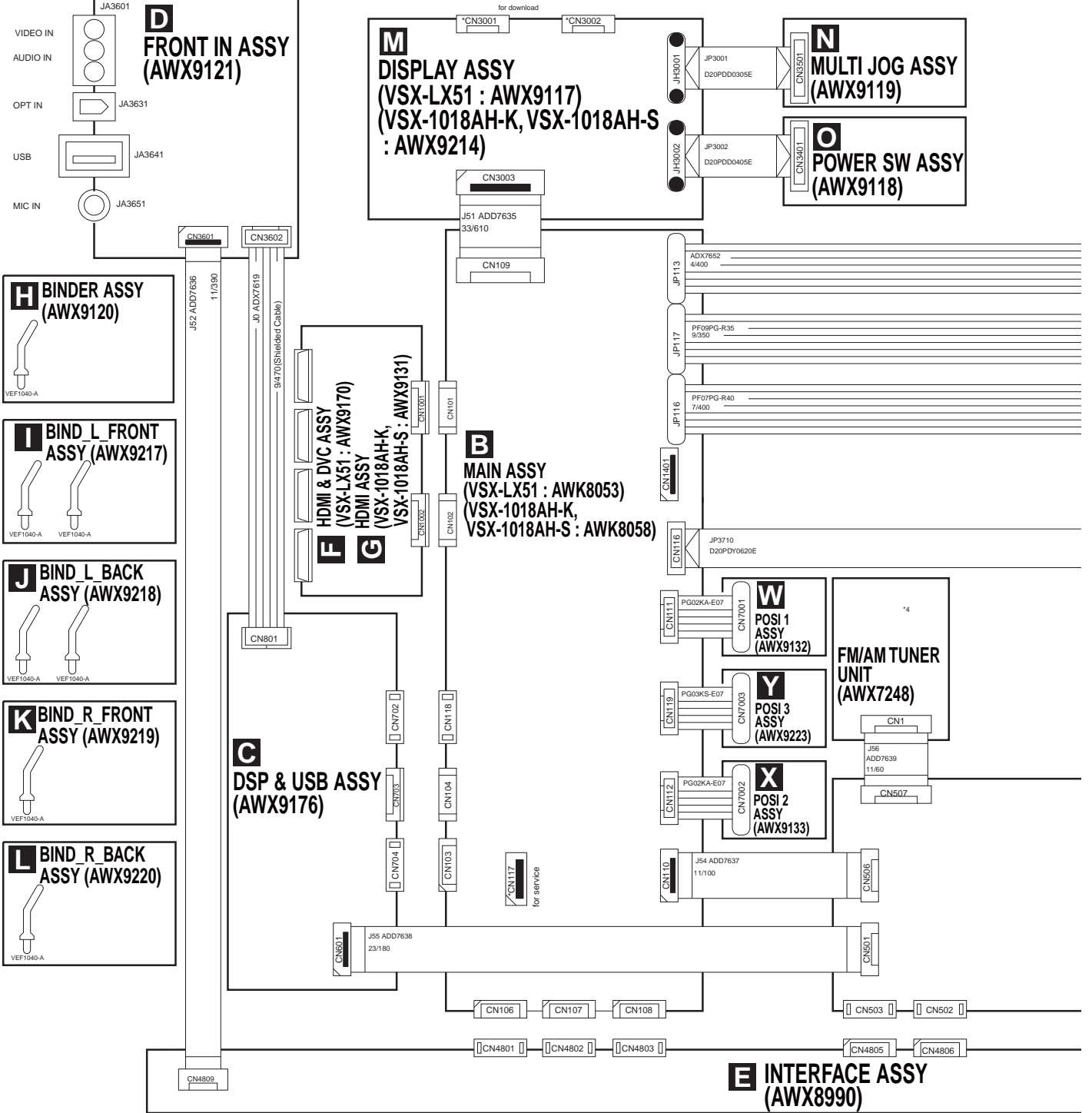
4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM

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.


	*1	*2	*3							
	HYS.YS	T1501 ATT7419	AC CORD VDG1080		FU1	FU2,3	FU4	FU5	FU6,7	FU8,9
				Δ	REK1061 (T5AL/250V)	-	AEK1060 (T4AL/250V)	AEK1059 (T3.15AL/250V)	AEK7072 (T800mA/250V)	AEK1058 (T2.5AL/250V)

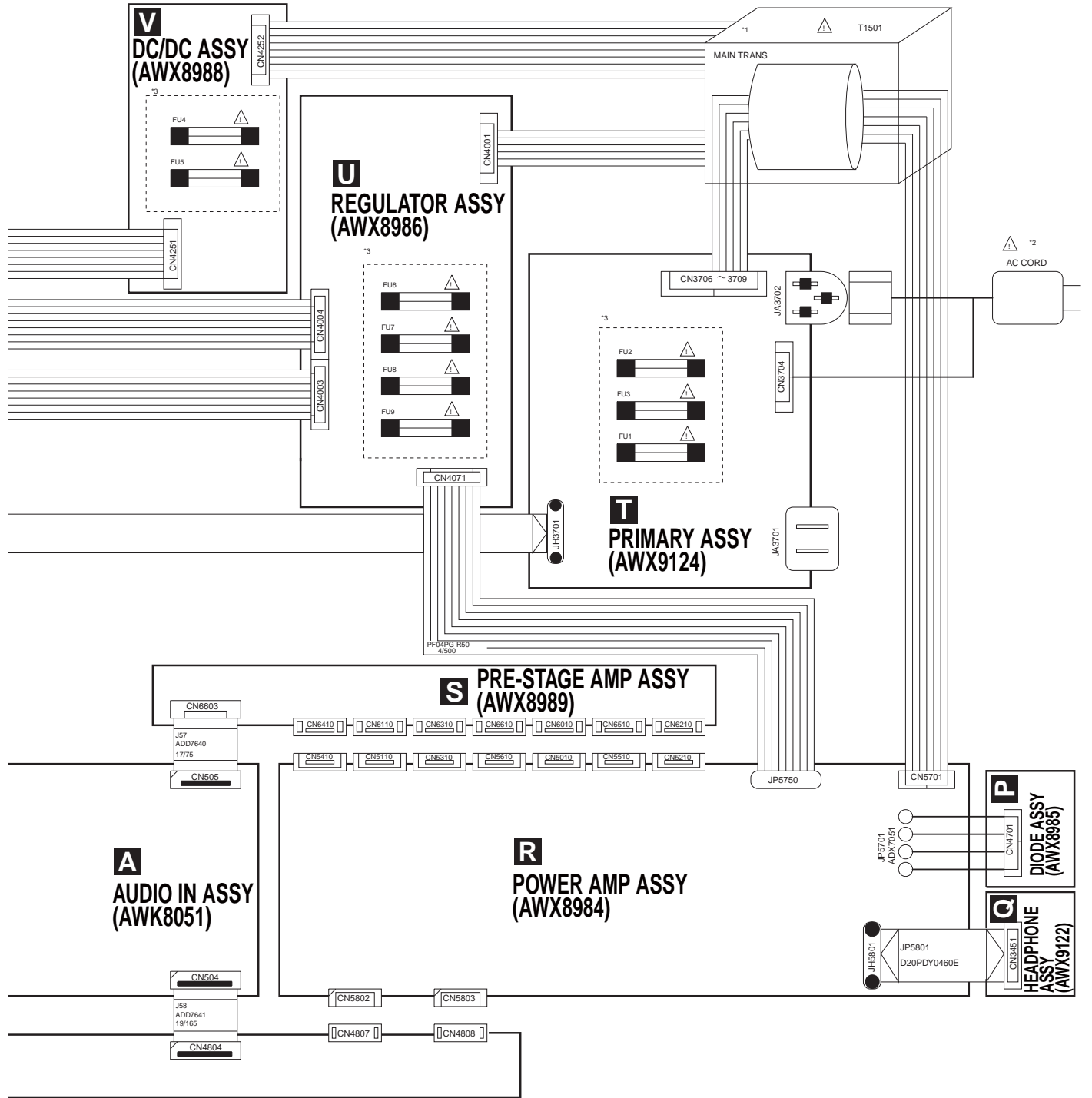
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



- CABLE WIRE
- BOARD IN WIRE
- JH**** 2.0mm CABLE HOLDER
- CN**** B*B-EH EH CONNECTOR
- KXP**** 1.25mm B to B
- J** 1.25mm FFC
- CN**** 1.25mm FFC CONNECTOR(L) (*1.00mm FFC CONNECTOR)
- CN**** 2.0mm WIRE TRAP
- CN**** ANOTHER TYPE CODE SOCKET
- JP**** 2.0mm FLAT CABLE
- CN**** 1.25mm FFC CONNECTOR(I) (*1.00mm FFC CONNECTOR)
- CN**** KM200NA*
- CN**** XKM**** 1.25mm B to B
- CN**** TUC-P**X-B1 2.0mm B to B SOCKET
- CN**** TUC-P**P-B1 2.0mm B to B CONNECTOR

	*4	*5	*6
TUNER MODULE	J56	FAN	D-TERMINAL
HYS.YS	AXX7248	ADD7637	-

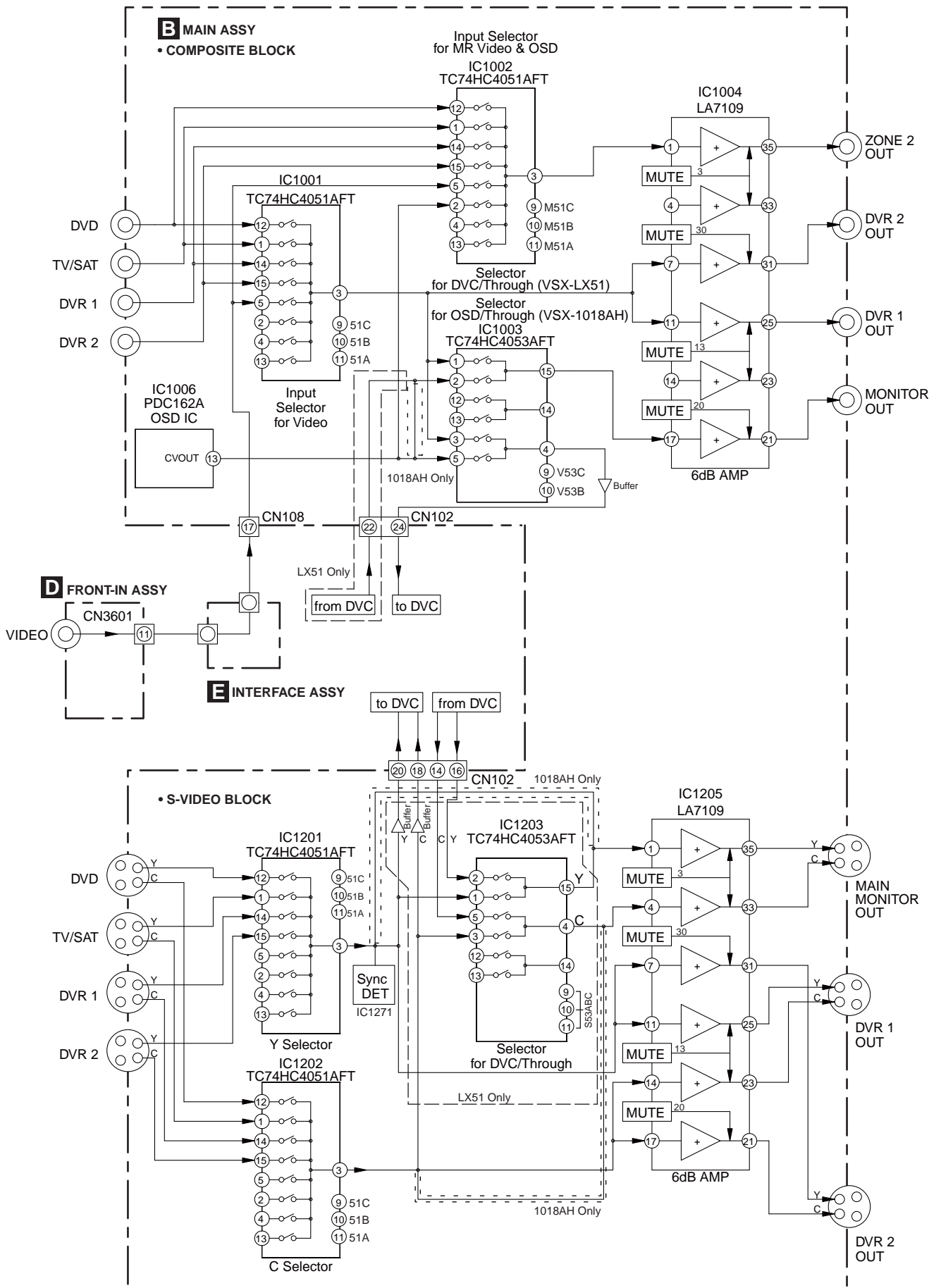
When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
 The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 : The power supply is shown with the marked box.



 ANOTHER TYPE
B to B SOCKET

 ANOTHER TYPE
B to B CONNECTOR

4.3 BLOCK DIAGRAM FOR VIDEO BLOCK



A

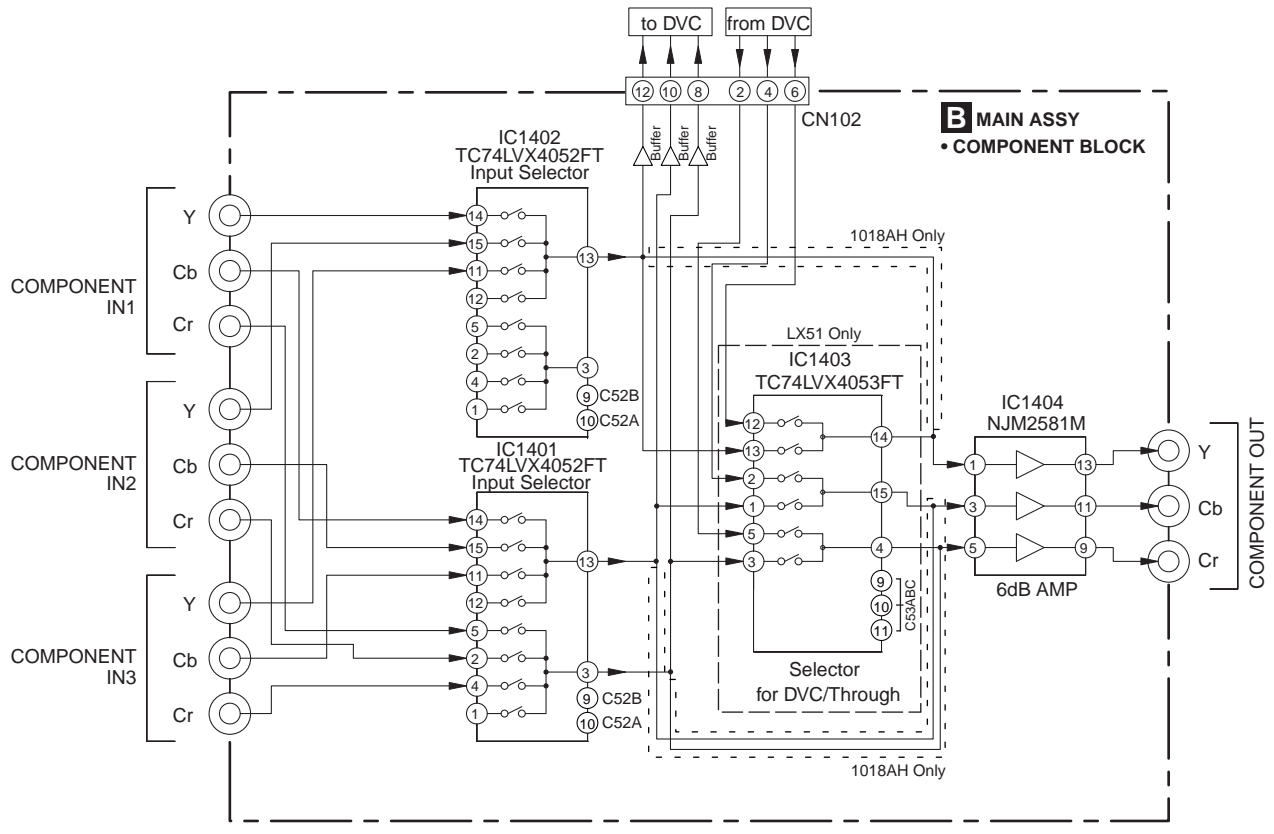
B

C

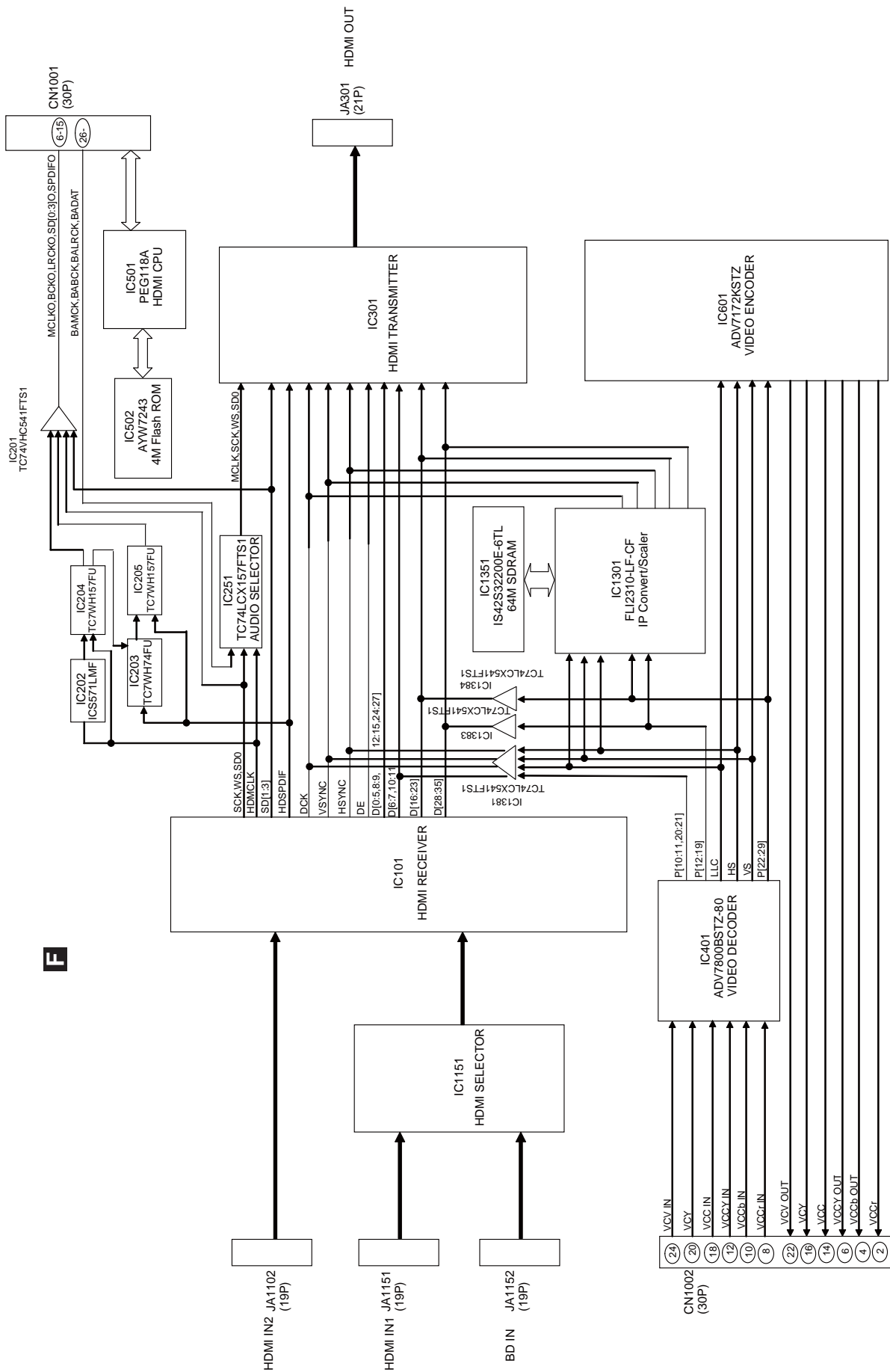
D

E

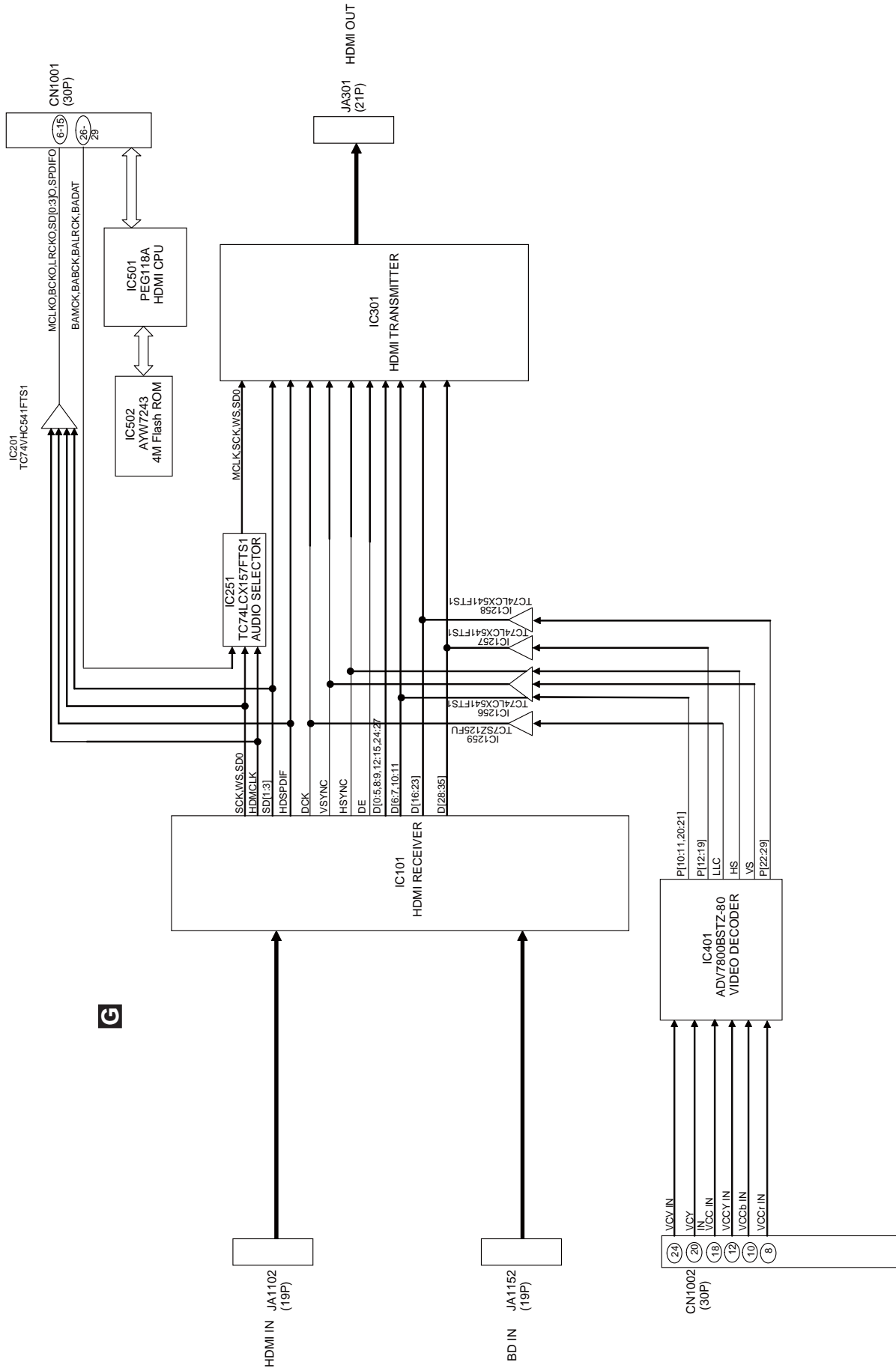
F



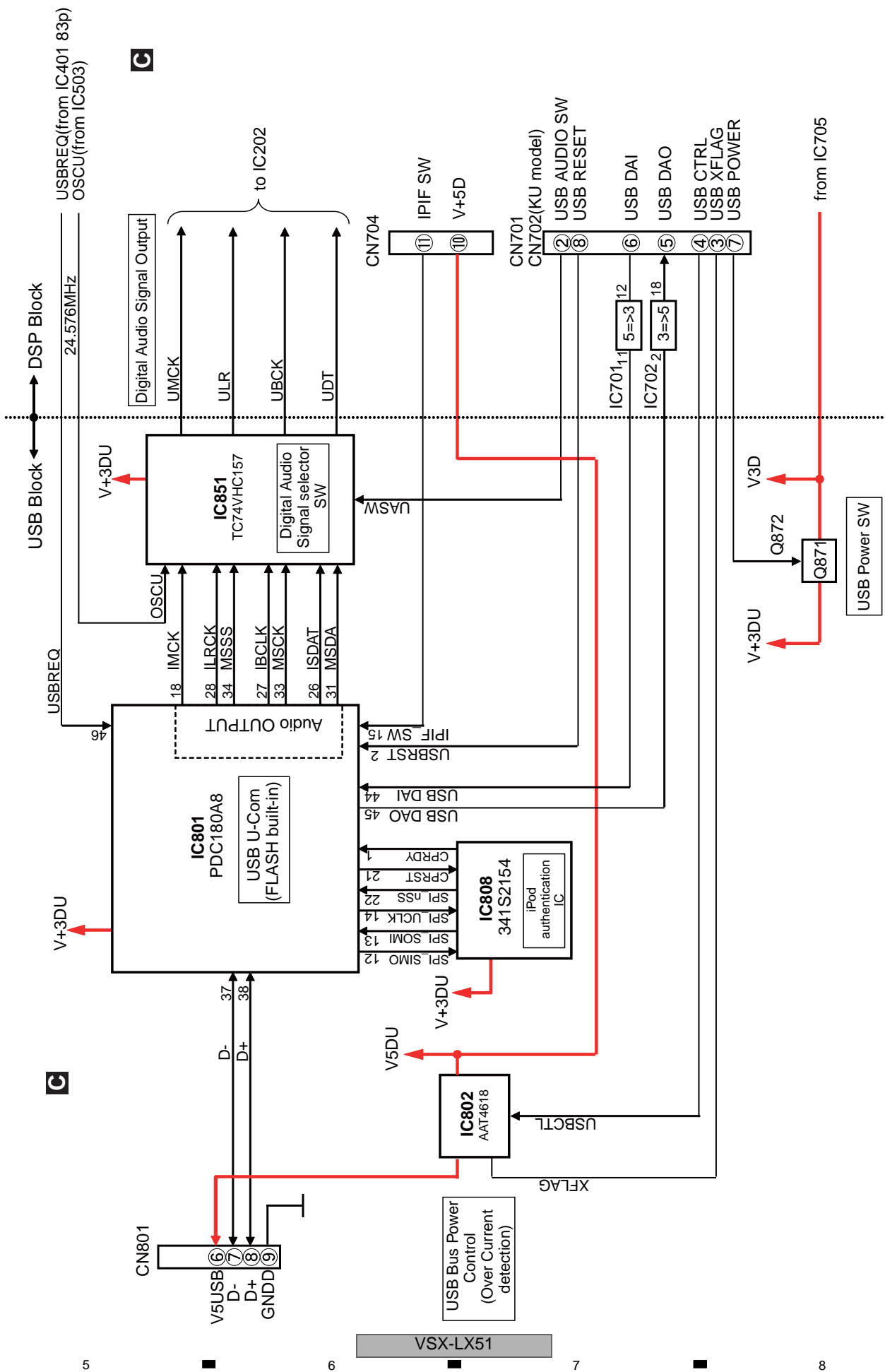
4.4 BLOCK DIAGRAM FOR HDMI FOR VSX-LX51



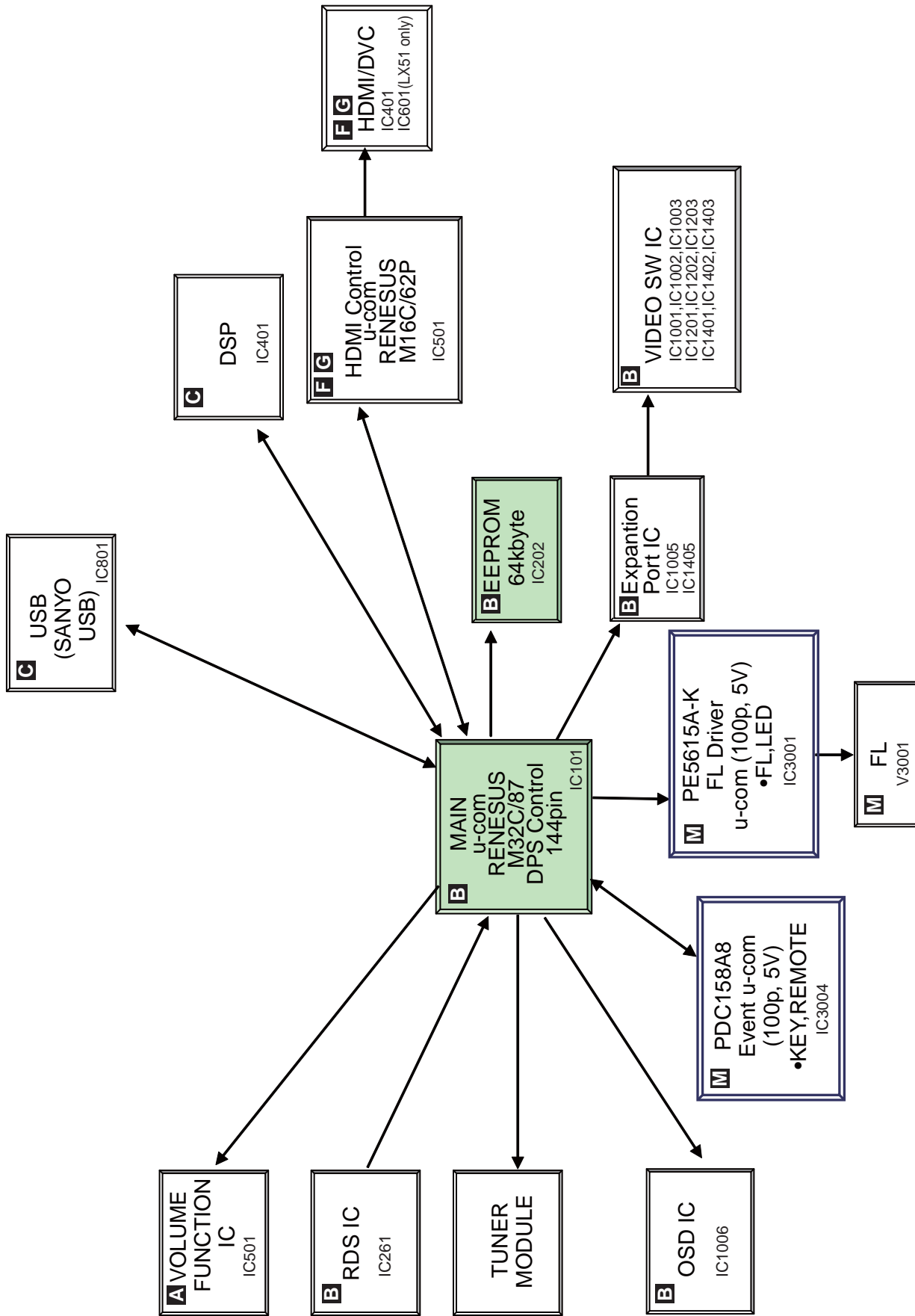
4.5 BLOCK DIAGRAM FOR HDMI FOR VSX-1018AH



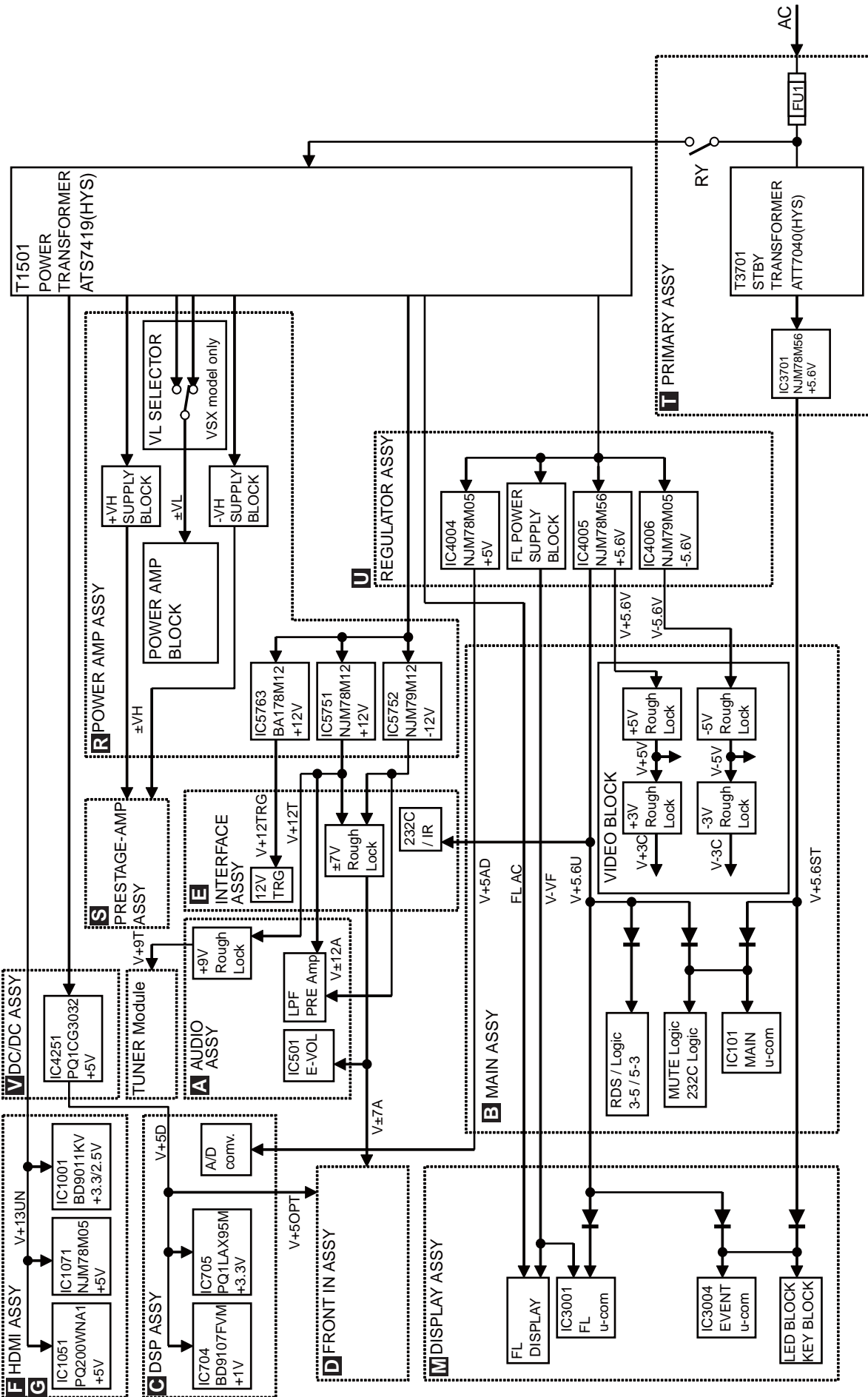
4.6 BLOCK DIAGRAM FOR USB BLOCK



4.7 BLOCK DIAGRAM FOR U-COM



4.8 BLOCK DIAGRAM FOR POWER SUPPLY BLOCK



VSX-LX51

5. DIAGNOSIS

5.1 DIAGNOSIS FLOWCHART

[1] DSP Troubleshooting

Simplified diagnosis

Errors in DSP Assembly (Areas simply and roughly predictable by machine operation only)

- Sound abnormality in Delay

If sound abnormality does not occur in the Delay OFF state but occurs in the Delay ON state, it is most likely that a failure has occurred in SDRAM (IC301) or LATCH (IC303, IC304) in the 1st DSP Block.

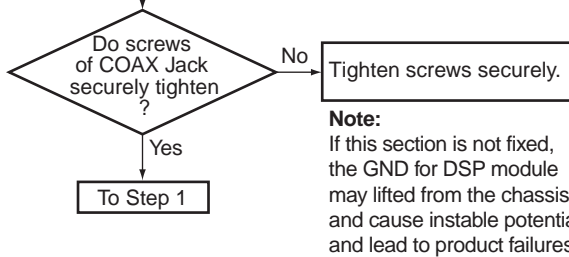
- No sound at analog signal input

If sound abnormality does not occur with a digital signal input (COAX, OPT) but occurs only with an analog signal input, it is most likely that a failure has occurred in the AD converter (IC591).

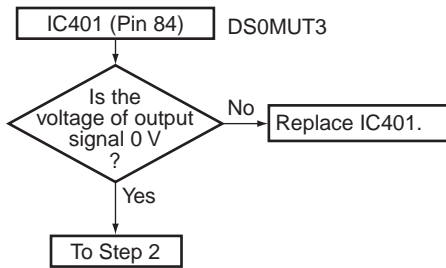
Troubleshooting

Step 0: Preliminary confirmation

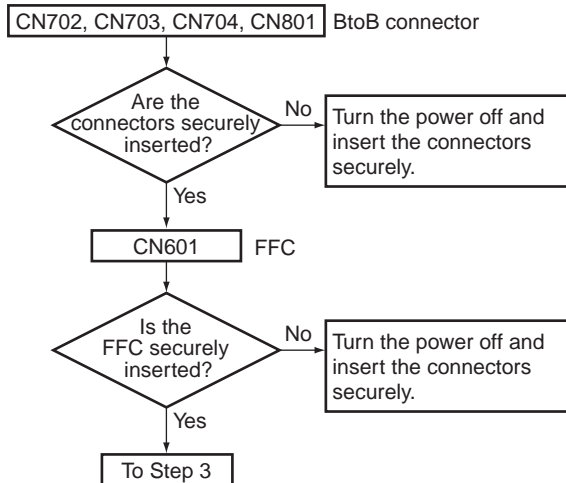
Confirm the following items before checking



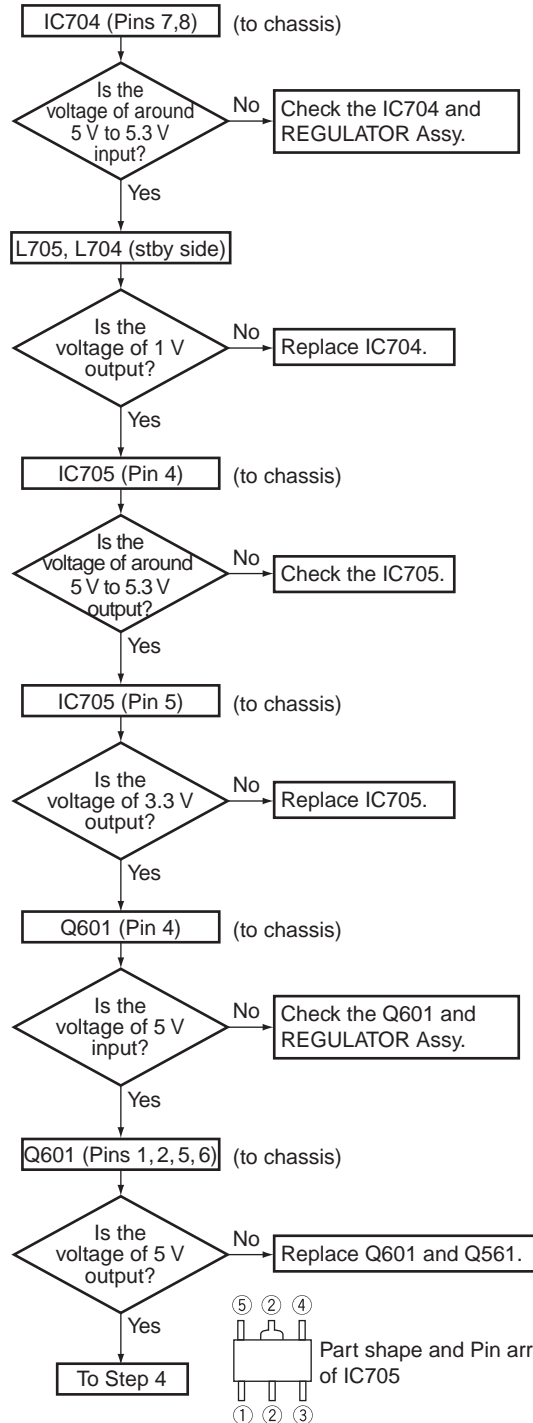
Step 1: MUTE pin



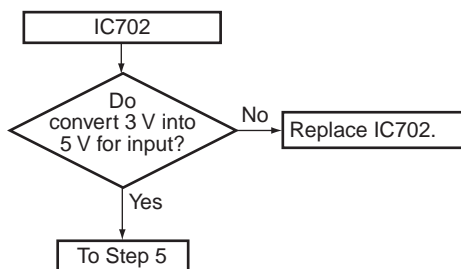
Step 2: BtoB connector and FFC



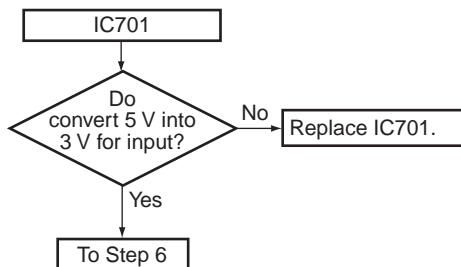
Step 3: Regulator IC



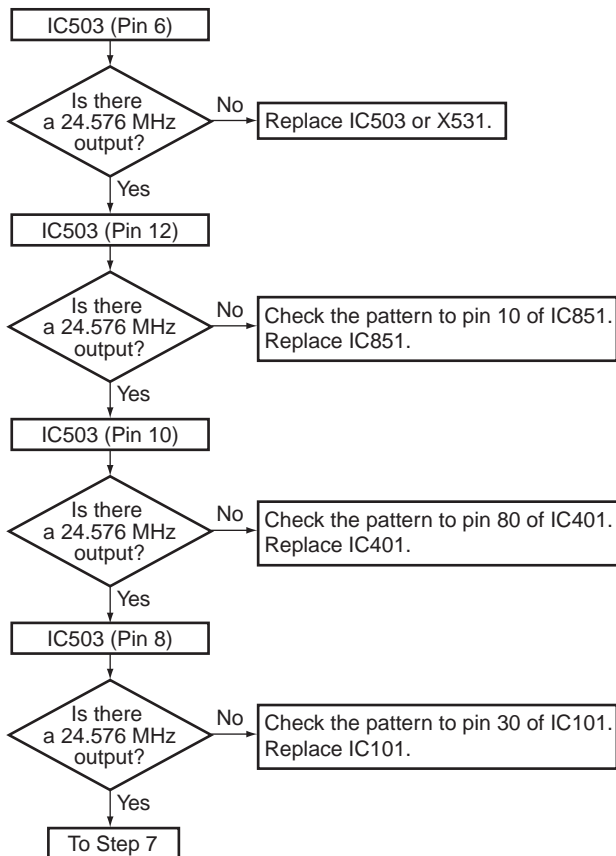
Step 4: 3 V to 5 V conversion



Step 5: 5 V to 3 V conversion



Step 6: X'tal



Step 7

When the COAX or OPT is input, go to Step 7-1.

When the USB is input, go to Step 7-2.

When the HDMI (SPDIF line) is input, go to Step 7-1.

Used Source

[dts HD High Resolution Audio], [dts HD LBR],
[Dolby Digital Plus], [2ch of 48kHz sampling rate or less],
[Other compression stream]

When the HDMI (I2S line) is input, go to Step 7-3.

Used Source

[dts HD Master Audio], [Dolby True HD],
[PCM or LPCM of 88.2kHz sampling rate or more],
[LPCM Multi ch]

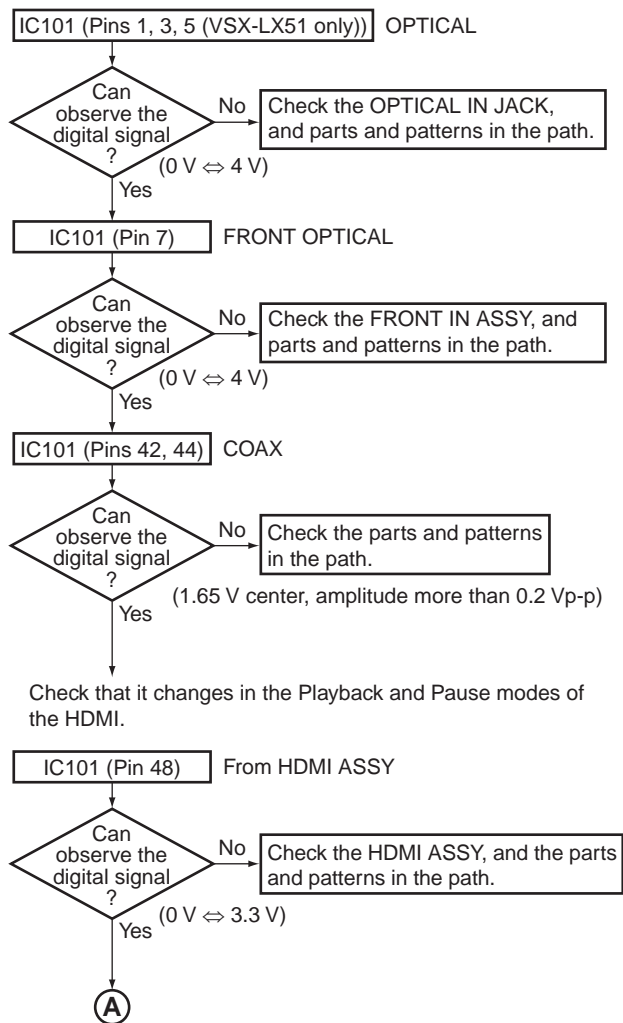
When the HDMI (SACD) is input, go to Step 7-5.

Used Source [SACD]

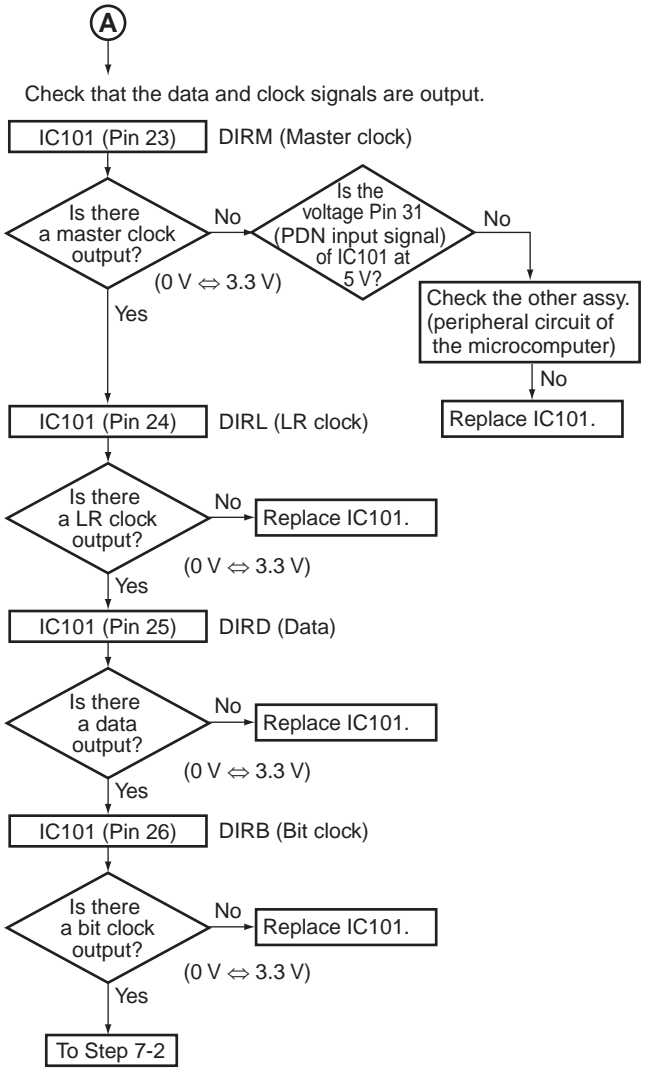
Step 7-1: DIR

Check that the S/PDIF signal is output.

Check that changes by pulling out and inserting the digital input lines.

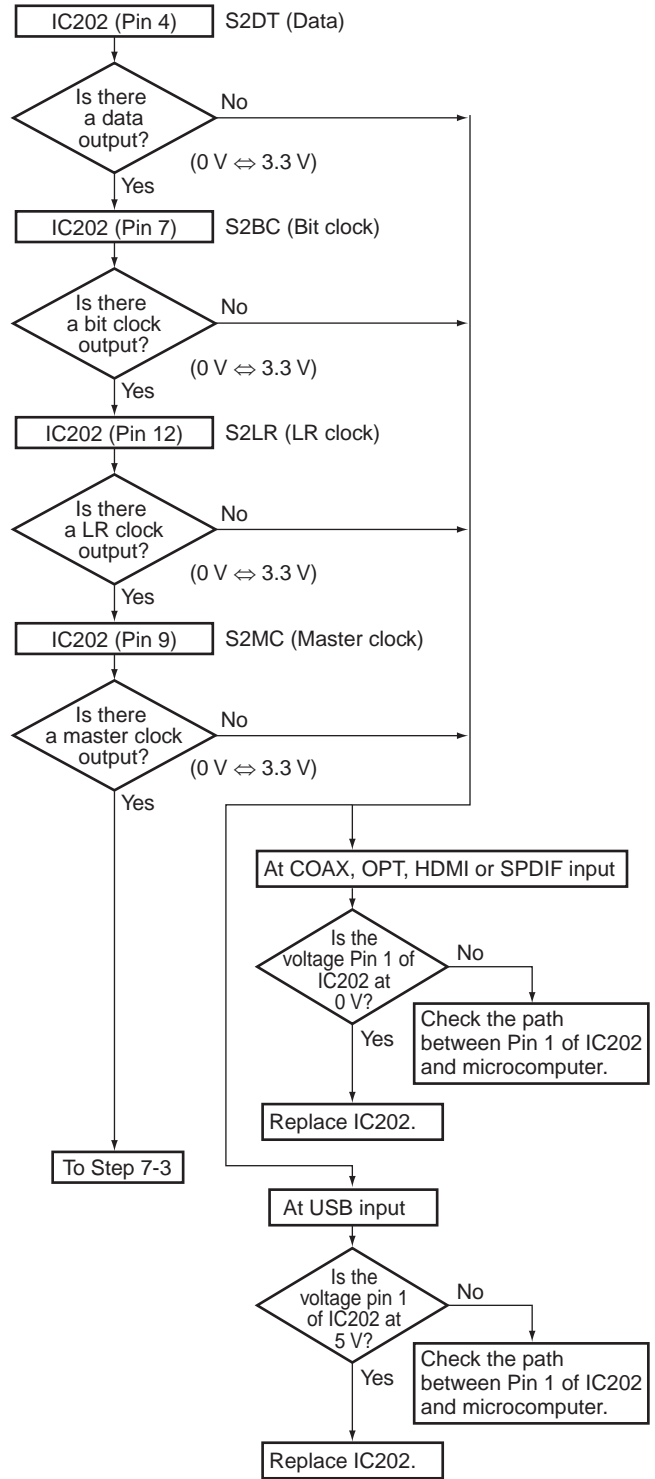


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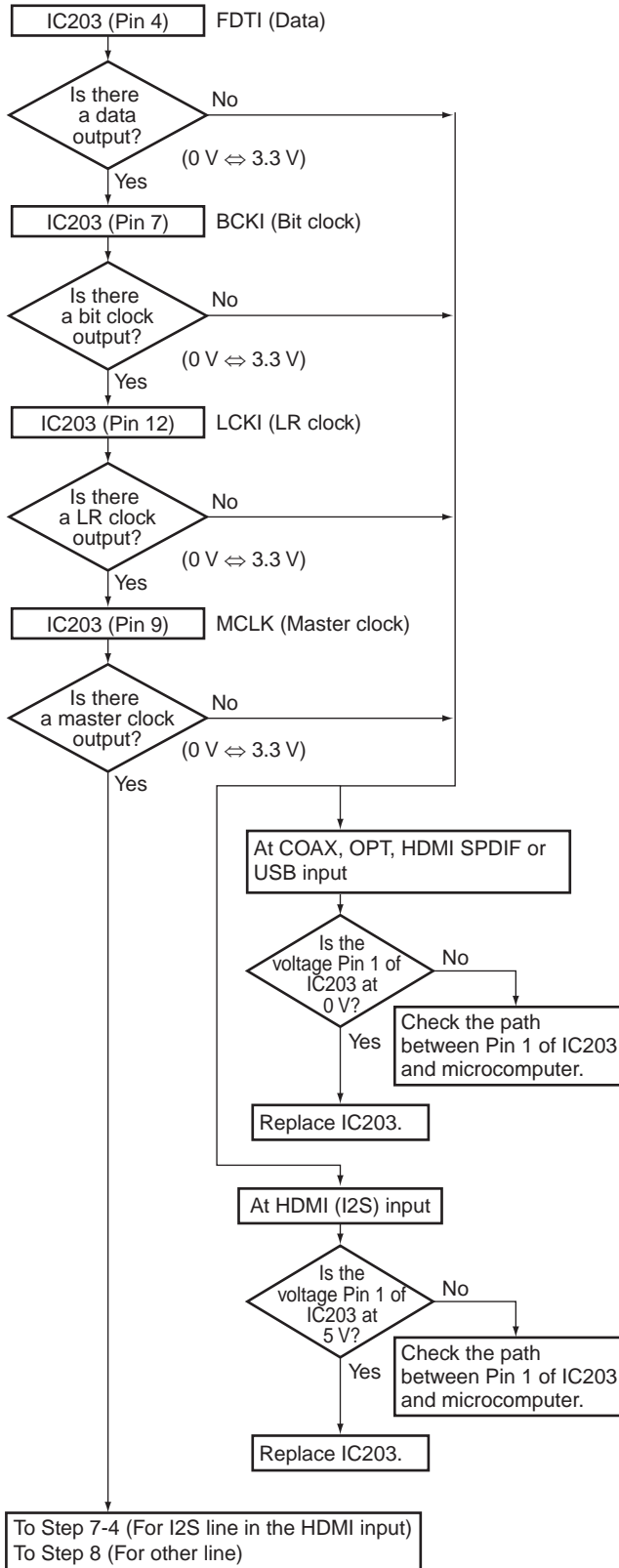
Step 7-2: Switch

Check that the data and clock signals are output.



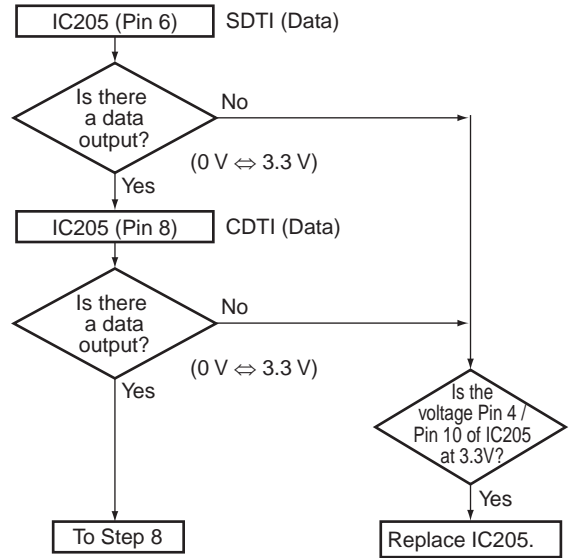
Step 7-3: Switch

Check that the data and clock signals are output.



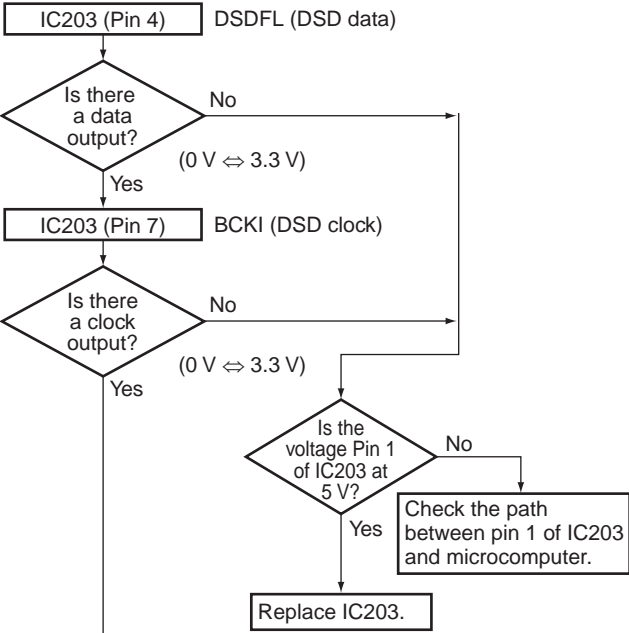
Step 7-4: Switch

Check that the data is output. (Sch and Cch Signal having)

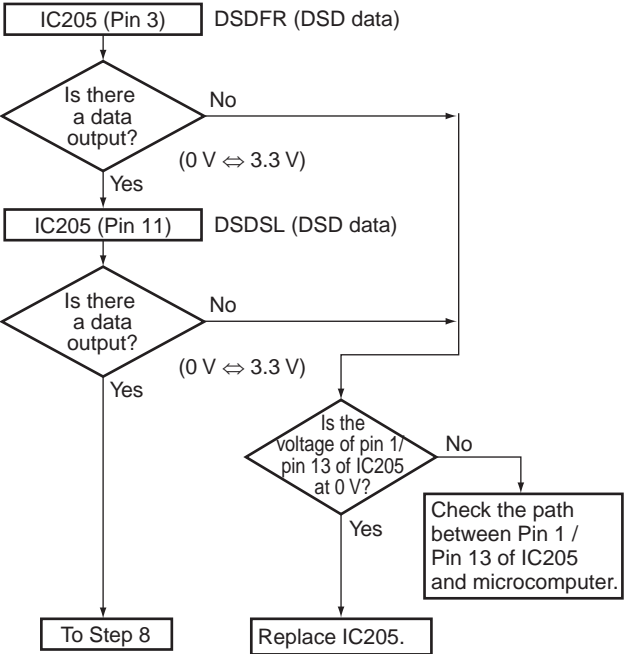


Step 7-5: Switch (SACD only)

Check that the data and clock signals are output.

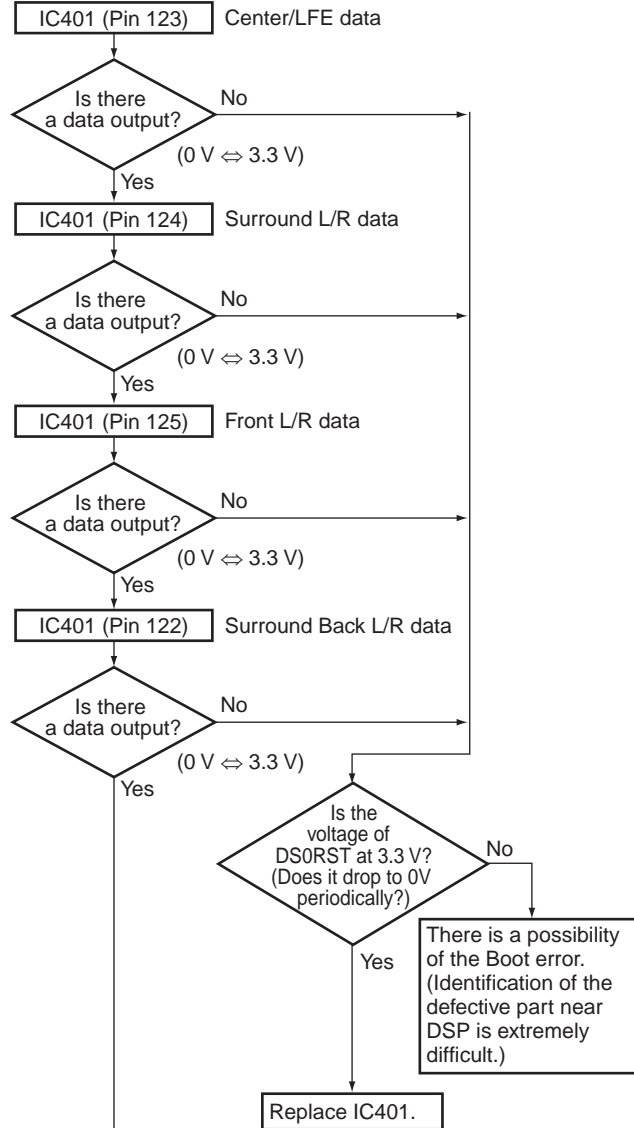


Check that the data signal is output.

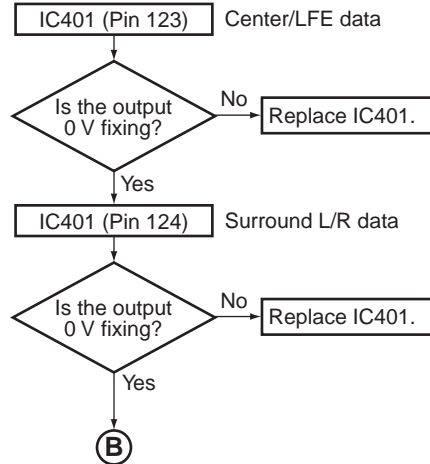


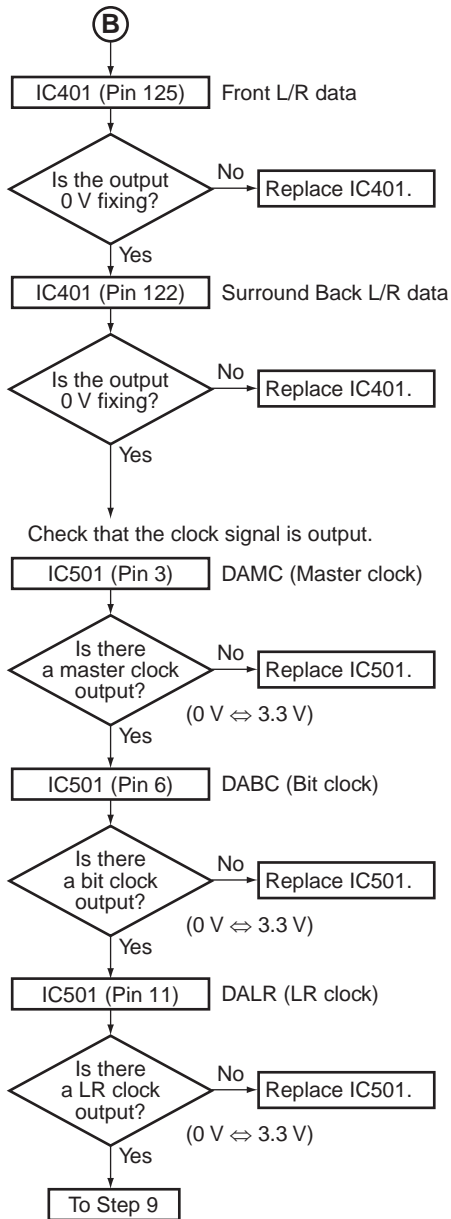
Step 8: DSP output (digital)

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



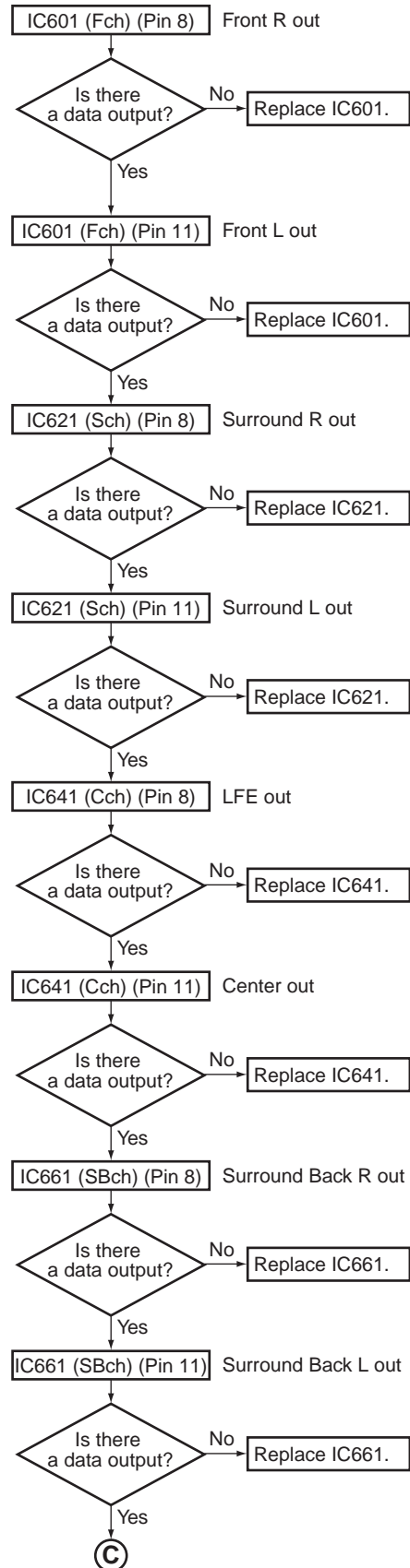
Digital output of each CH when inputting the digital signal (-∞ dB (no audio)).

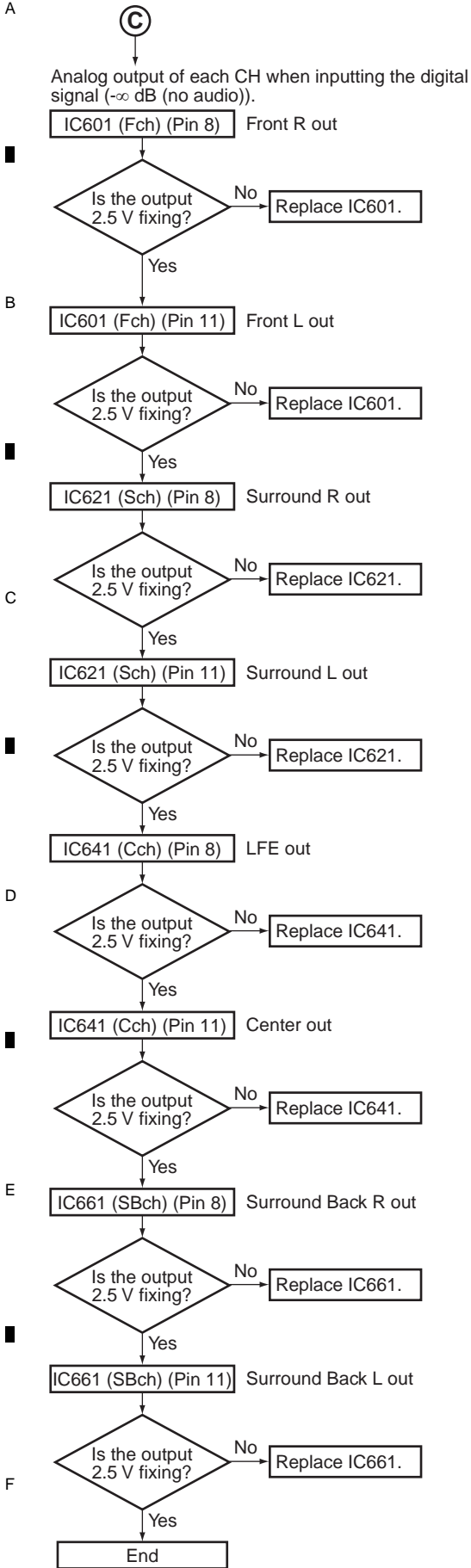




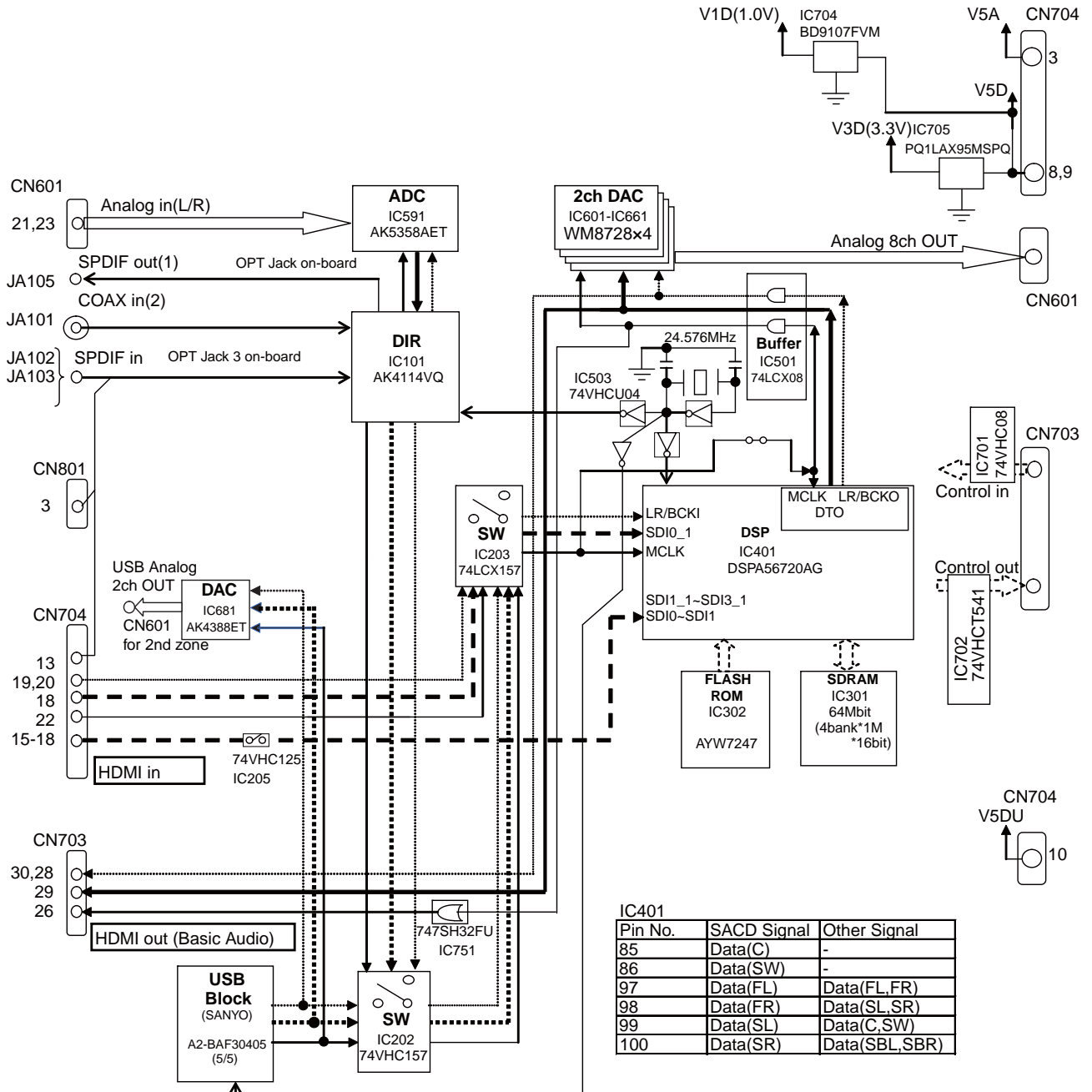
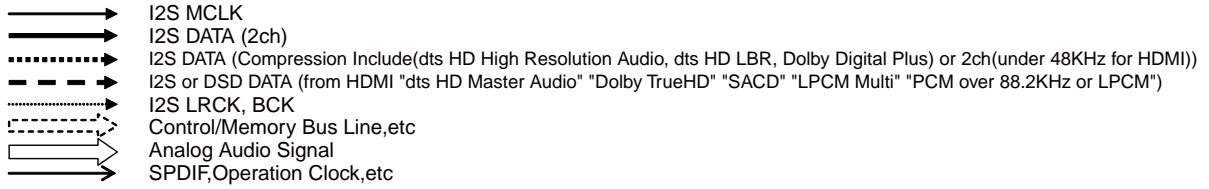
Step 9: DAC output (analog)

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



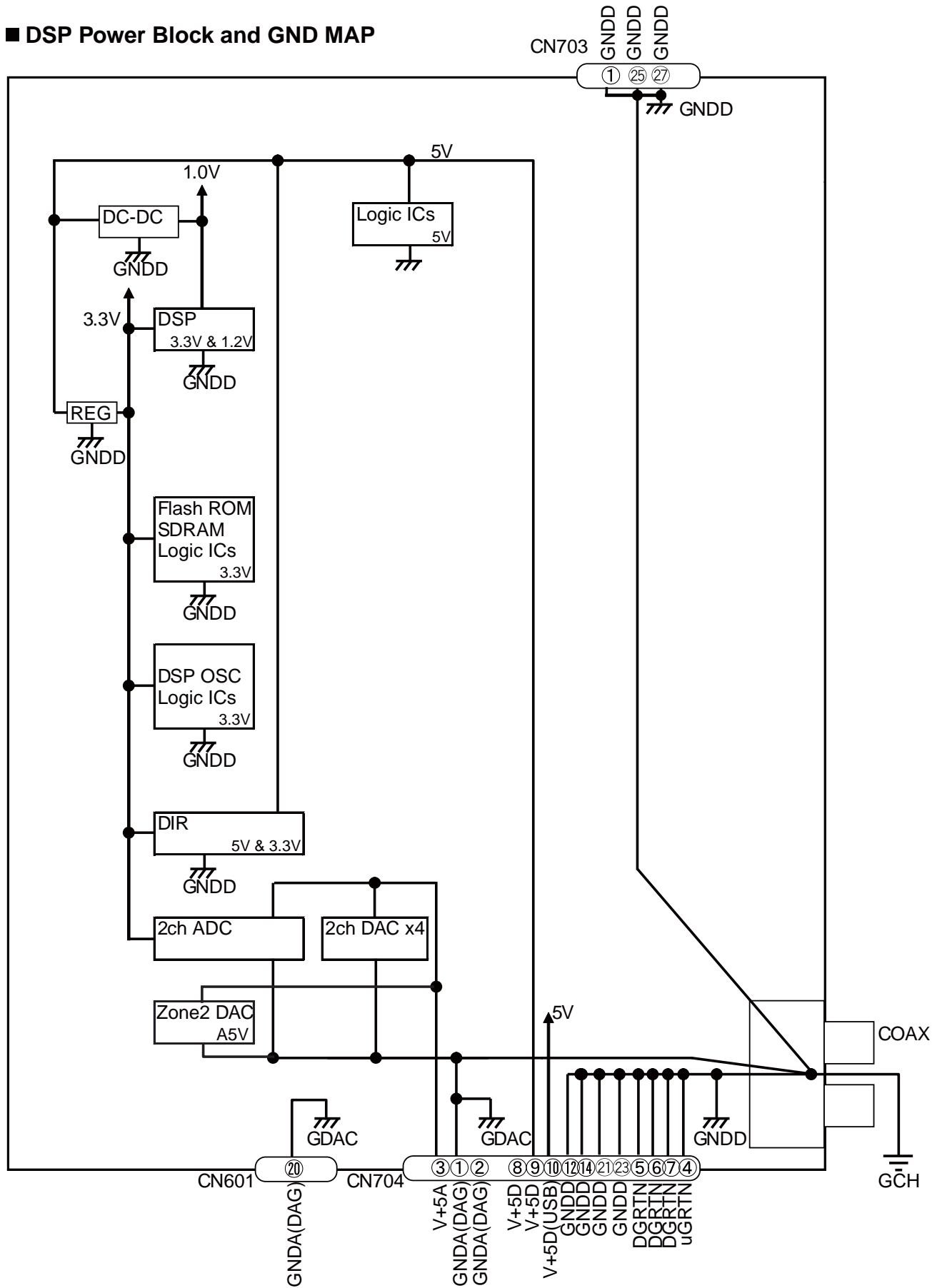


DSP Block Diagram



Pin No.	SACD Signal	Other Signal
85	Data(C)	-
86	Data(SW)	-
97	Data(FL)	Data(FL,FR)
98	Data(FR)	Data(SL,SR)
99	Data(SL)	Data(C,SW)
100	Data(SR)	Data(SBL,SBR)

DSP Power Block and GND MAP



■ Conditions for selecting SPDIF or I2S output

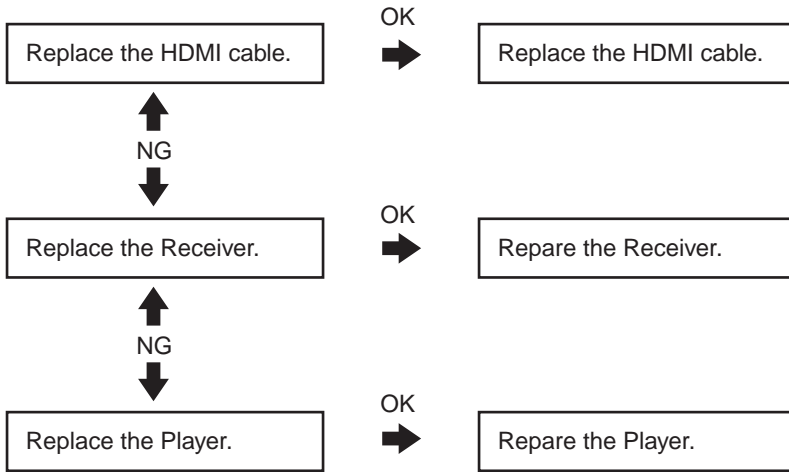
	pcm	fs(kHz)	Layout	SPDIF	I2S(3 lines)
Indistinguishable	Compression DVD-V	48	2ch	◎	×
	Compression *.WAV	44	2ch	○	×
		48	2ch	○	×
	dts-CD	44	2ch	○	×
	PCM	44	2ch	○	×
		48	2ch	○	×
	DVD-V	96	2ch		○
		LPCM	44	2ch	○
	Multi			×	○
	48		2ch	○	
			Multi	×	○
	88		2ch		○
			Multi	×	○
	DVD-A	96	2ch		○
Multi			×	○	
176	2ch	×	○		
	Multi	-	-		
192	2ch	×	○		
	Multi	-	-		

SACD	2ch	×	○	(DSD)
	Multi	×	○	(DSD)

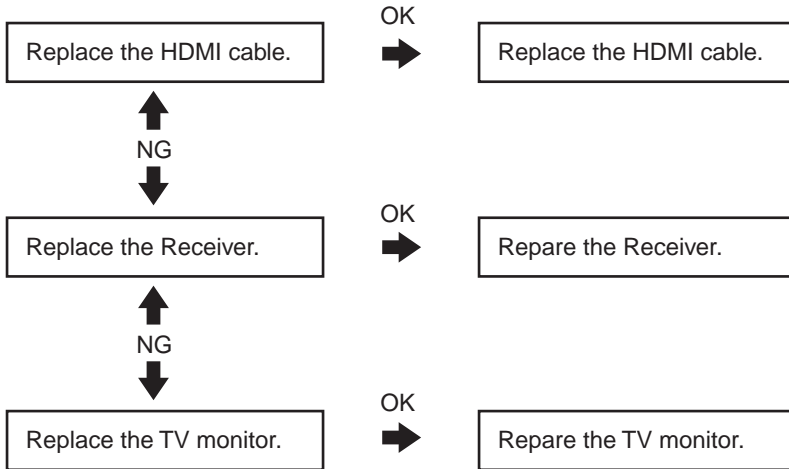
dts HD Master Audio	×	○
dts HD High Resolution Audio	○	×
dts HD LBR	○	×
Dolby TrueHD	×	○
Dolby Digital Plus	○	×

A **[2] HDMI Simple Diagnosis**

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



2. Causes for noncompletion of HDMI authentication between the monitor and this unit (no display or sound from the monitor)



C

D

E

F

[3] Preparations for HDMI diagnosis

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

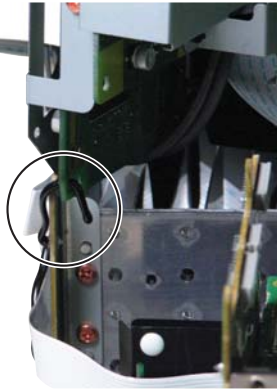
Jig cable

- Extension jig cable (GGD1492) x2
- 11P board to board extension jig cable (GGD1576)
- 19P board to board extension jig cable (GGD1577) x2
- 11P FFC (GGD1578)

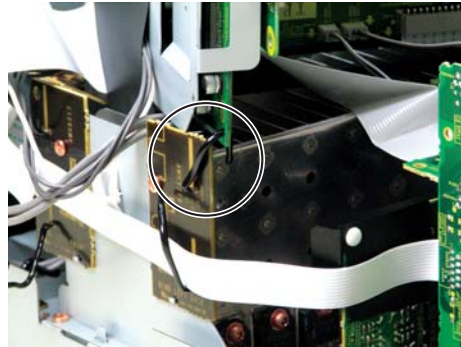
[Procedures]

- ① Remove the Rear Panel.
- ② Remove the screw that fix the MAIN Assy and the Wire Styling of the PCB Binder.
- ③ Remove the two screws that fix the HDMI Shield V5S.
- ④ Connect the four extension jig cables (two 19P board to board extension jig cable, one 11P board to board extension jig cable and 11P FFC).
- ⑤ Raise the MAIN Assy with the HDMI&DVC Assy and DSP&USB Assy attached and place it on the Heat Sink V5S. Fix the lower part of the HDMI&DVC Assy with the PCB Binder.

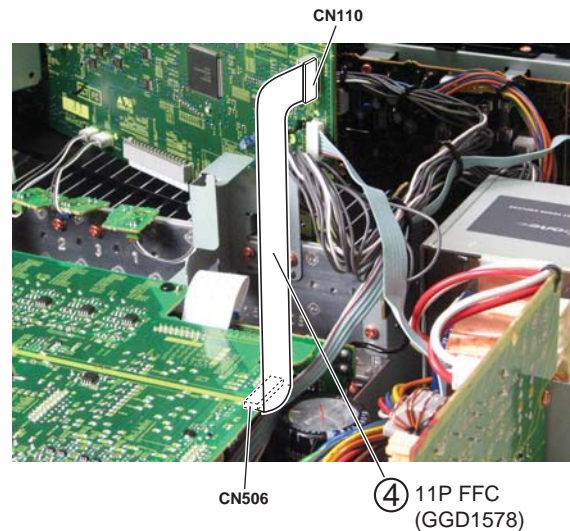
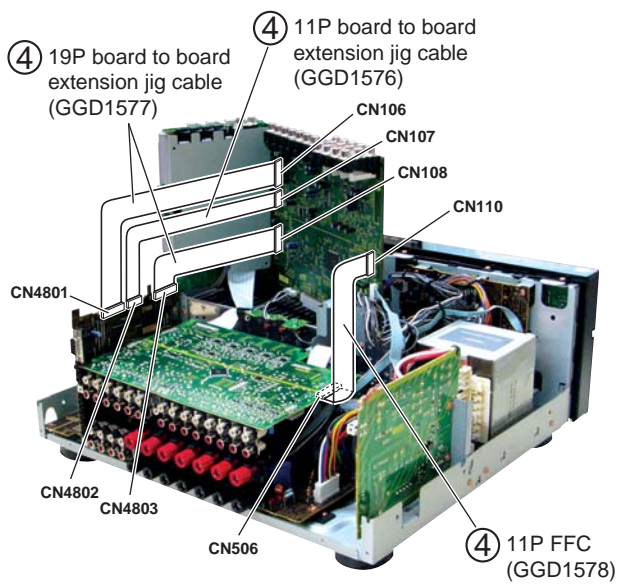
Position of Wire Styling



Position of Wire Styling (The above angle is different.)

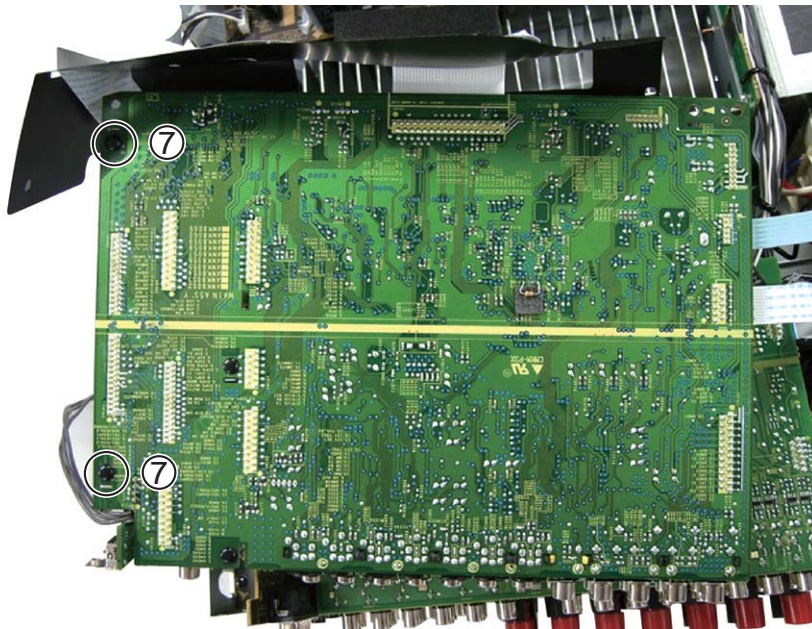


- ⑥ Connect the earth point.



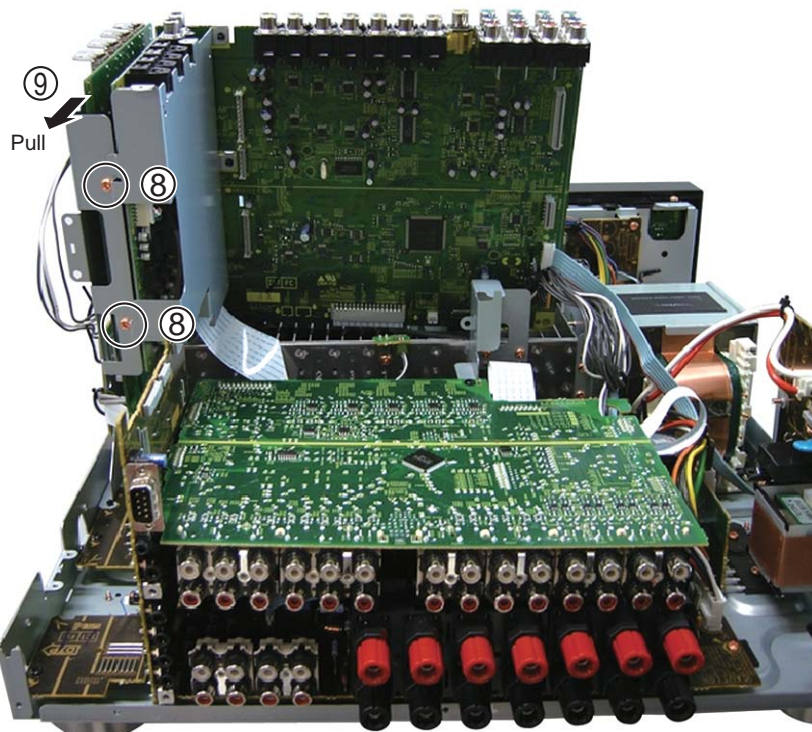
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⑦ Remove the two Nylon Rivets fixing the HDMI Shield V5S on MAIN Assy.

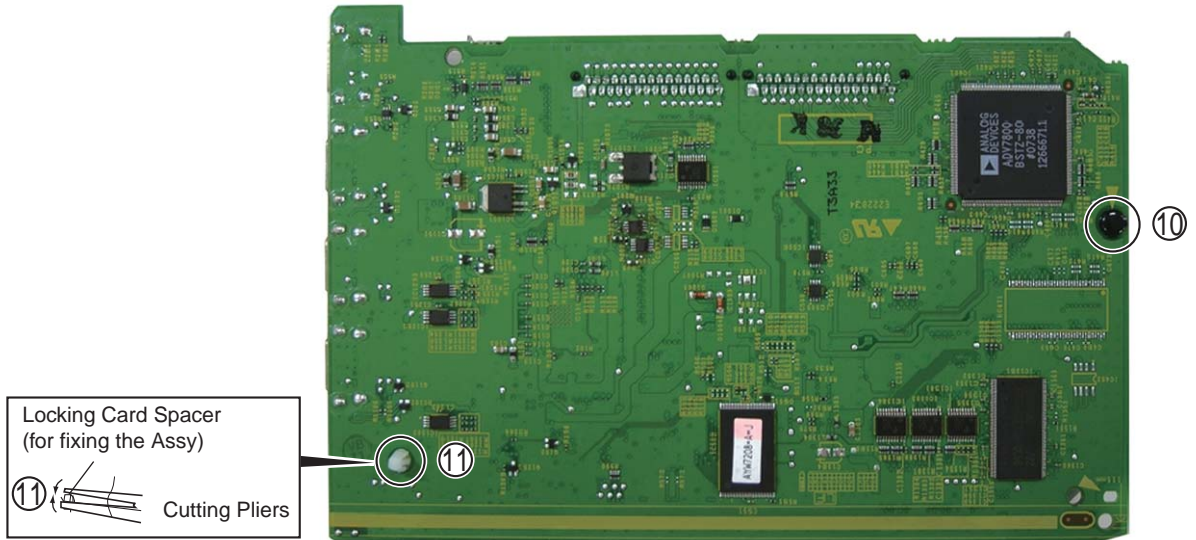


⑧ Remove the two screws from the HDMI Shield V5S.

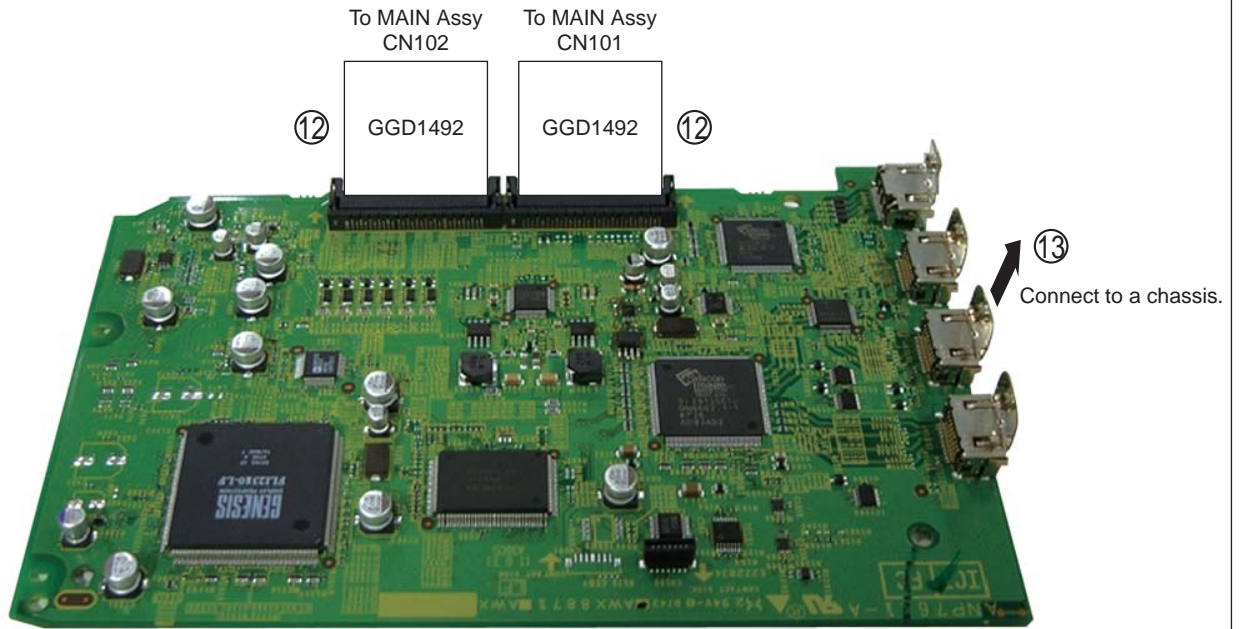
⑨ Remove the HDMI&DVC Assy and HDMI Shield V5S together from the MAIN Assy.



- ⑩ Remove the Nylon Rivet fixing the HDMI&DVC Assy and the HDMI Shield V5S.
- ⑪ Remove the HDMI&DVC Assy while holding the Locking Card Spacer with a Cutting Pliers.
* Caution is required not to lose the Radiation Sheet between IC1301 and the HDMI Shield V5S.



- ⑫ HDMI&DVC Assy MAIN Assy
 CN1001 - CN101
 CN1002 - CN102
 Connect each combination above with an extension jig cable (GGD1492).
- ⑬ Connect one of the HDMI connectors and a chassis (connect GND).



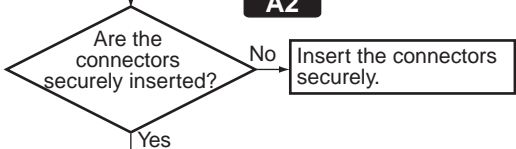
A [4] HDMI Troubleshooting (VSX-LX51)

• The parts marked like **A1** in the following chart are located in "HDMI & DVC Assy Check Points".

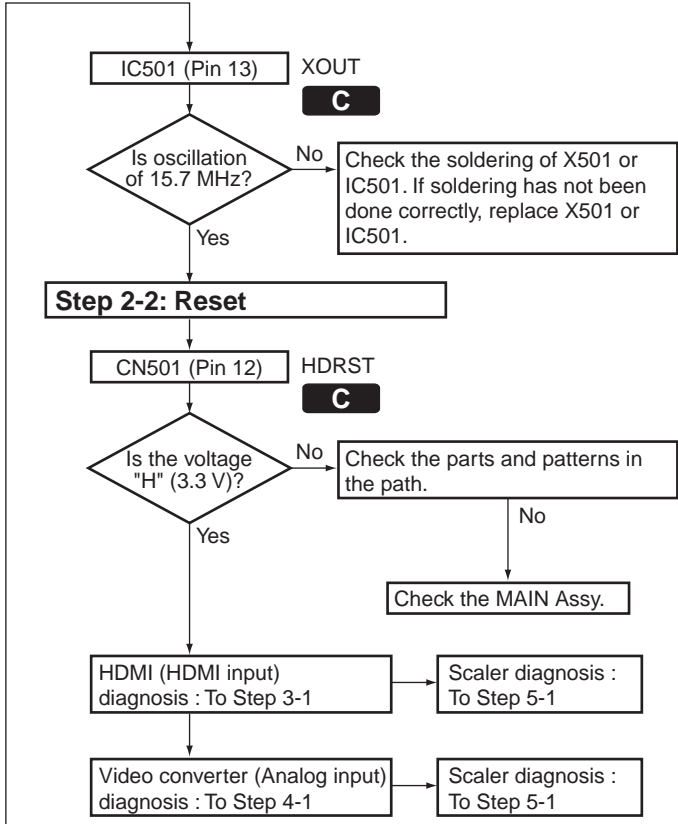
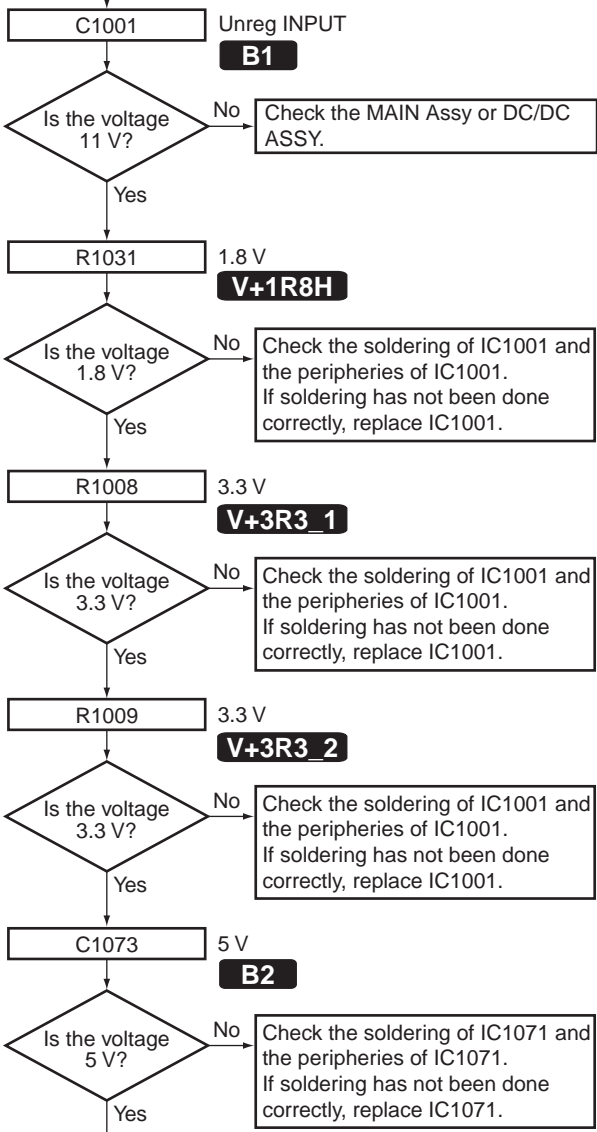
Common section

Step 1: Connections

CN1001, CN1002 **A1**
A2



Step 2-1: Power supply, CLK



B

C

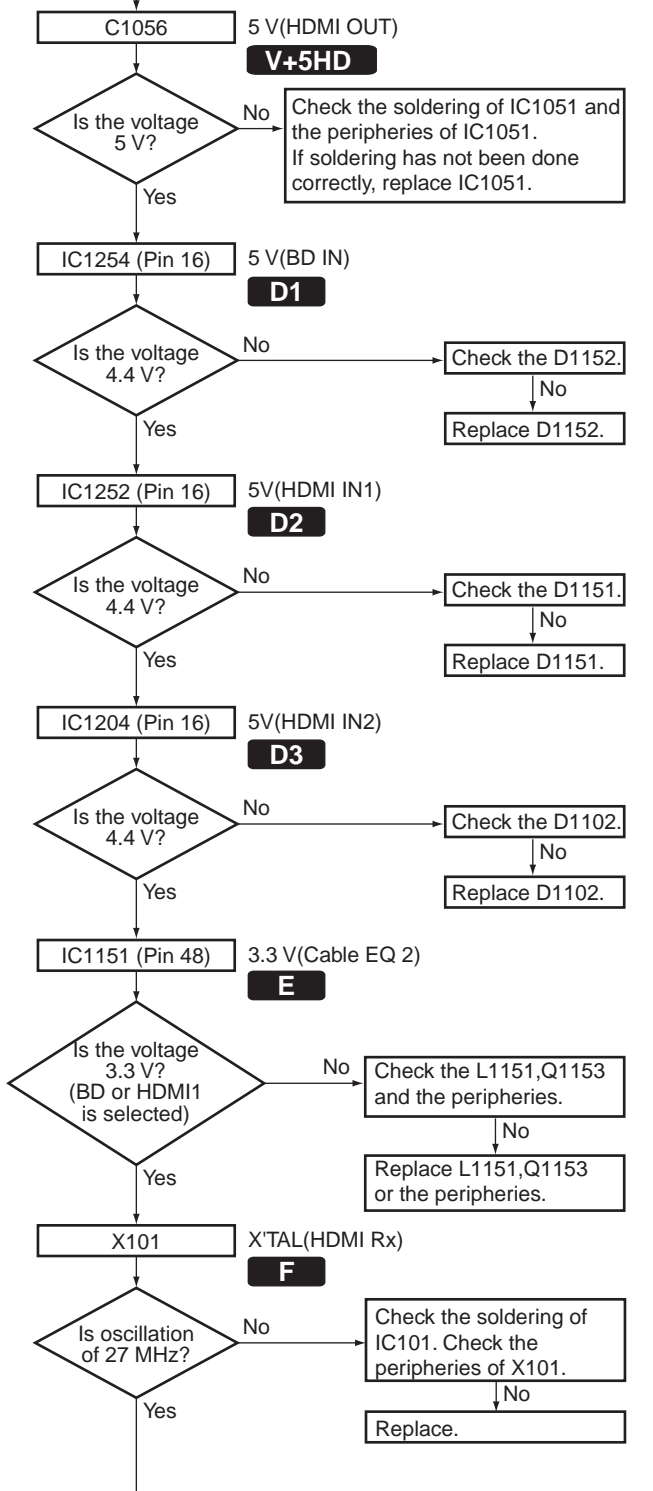
D

E

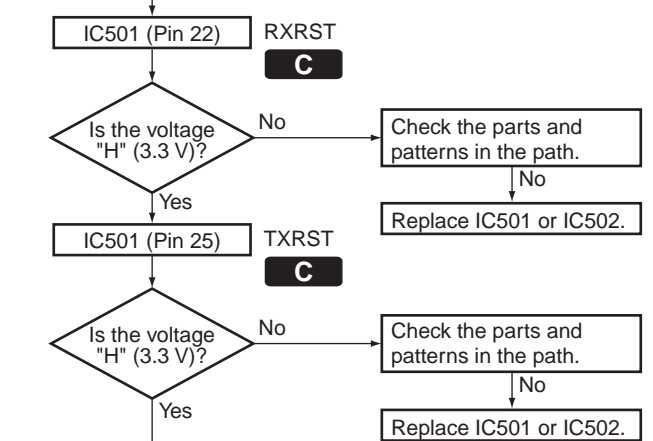
F

HDMI section

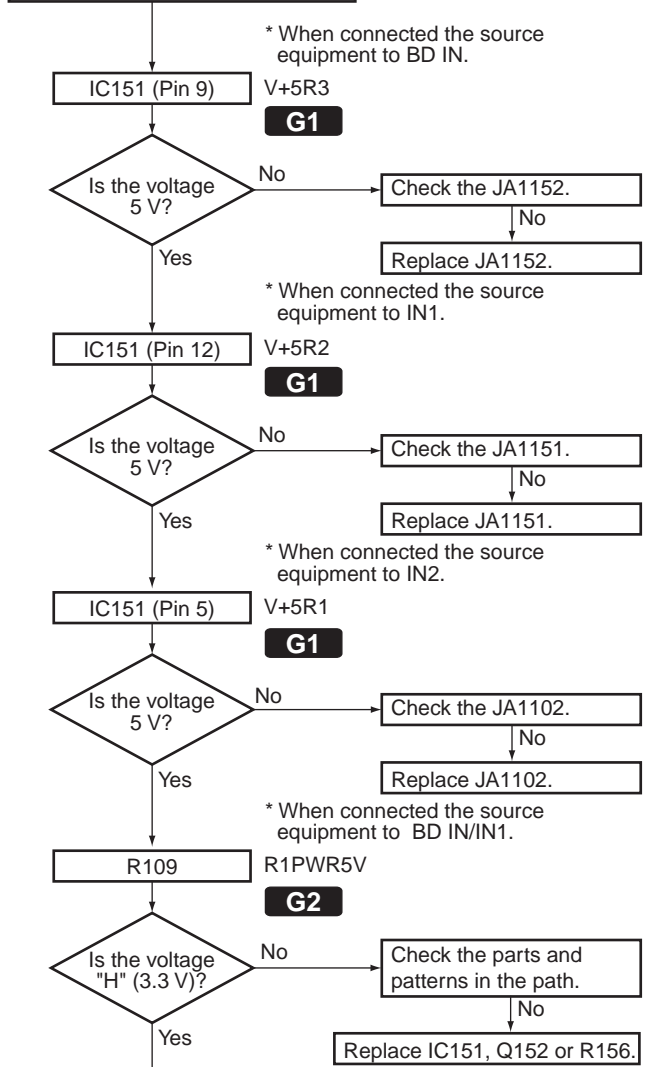
Step 3-1: Power supply, CLK



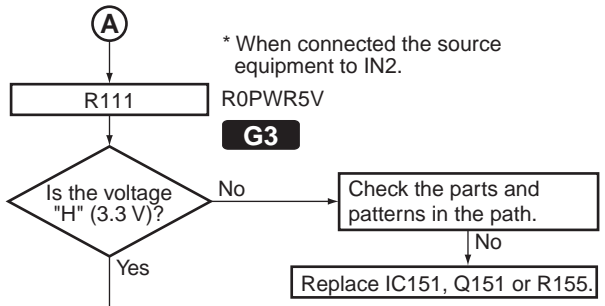
Step 3-2 : Reset



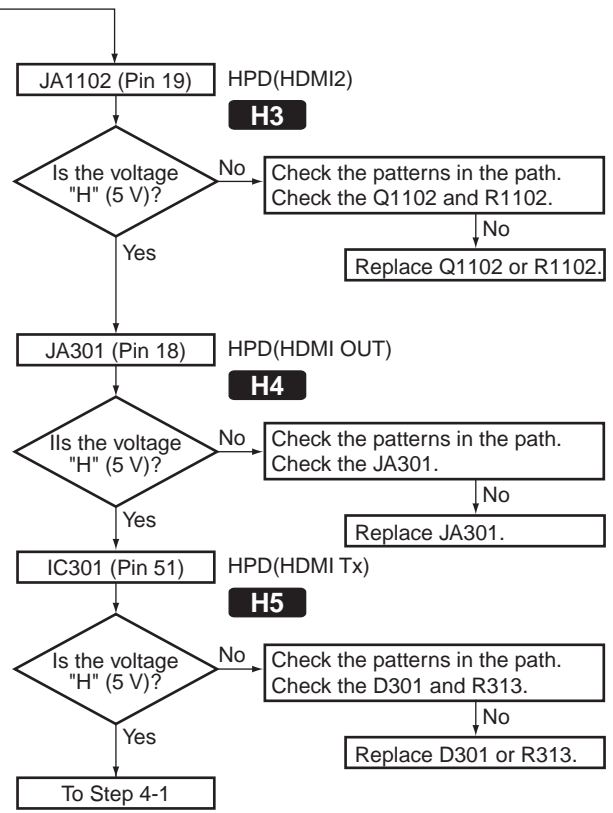
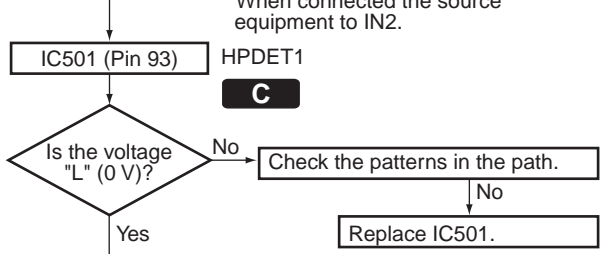
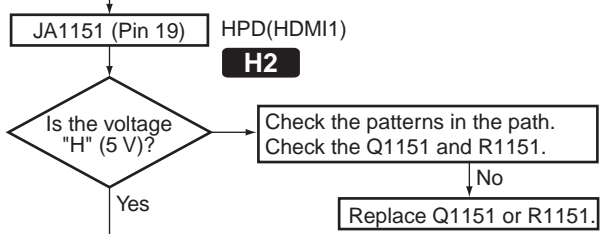
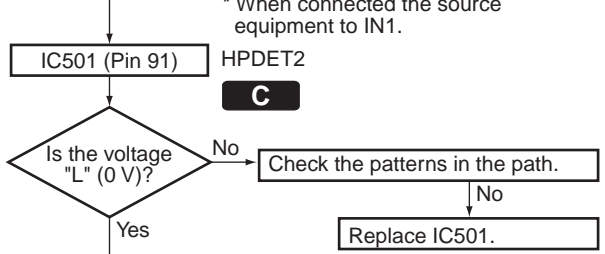
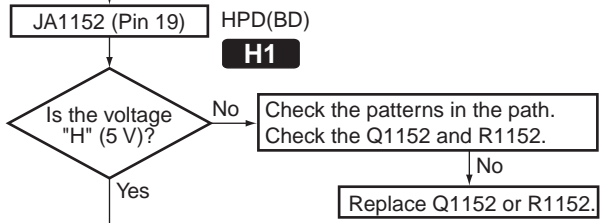
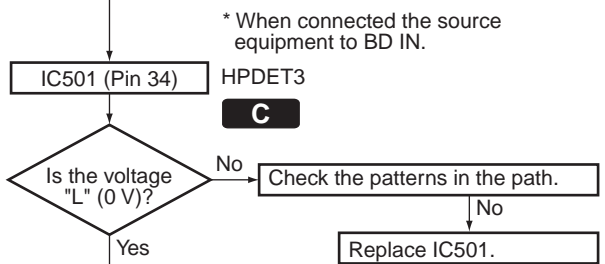
Step 3-3: Source 5V



A
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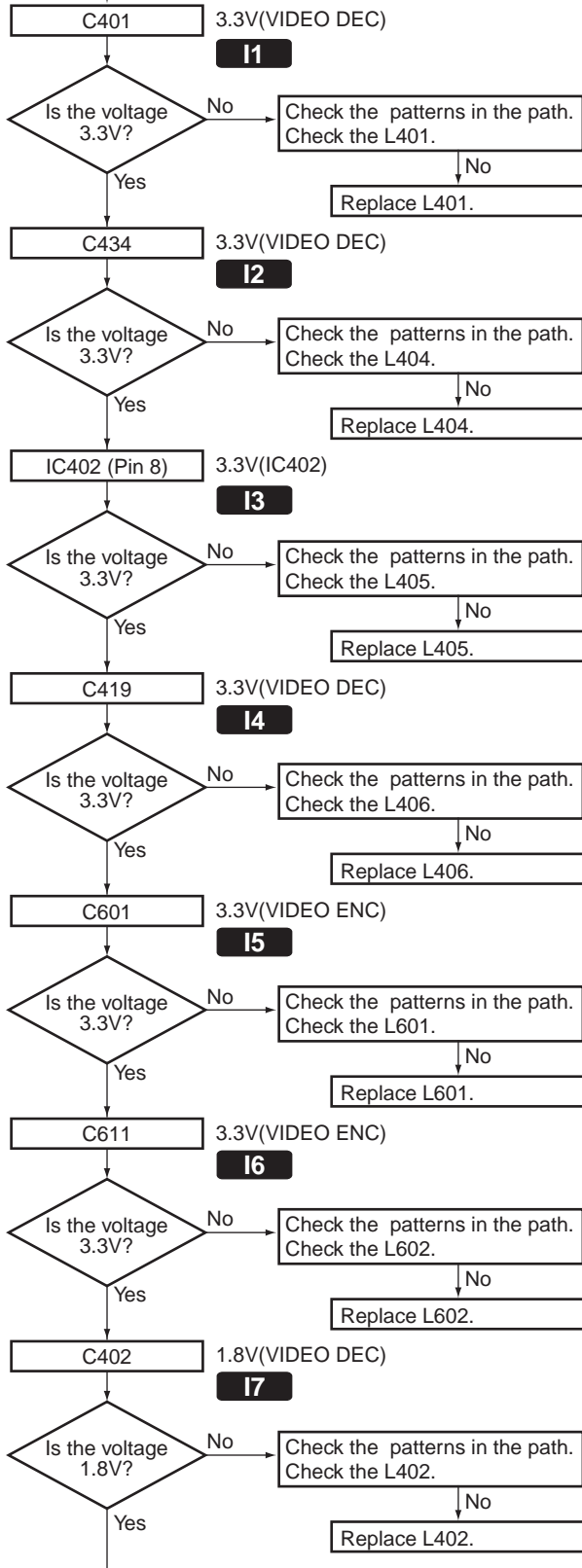


Step 3-4: Hot Plug Detect

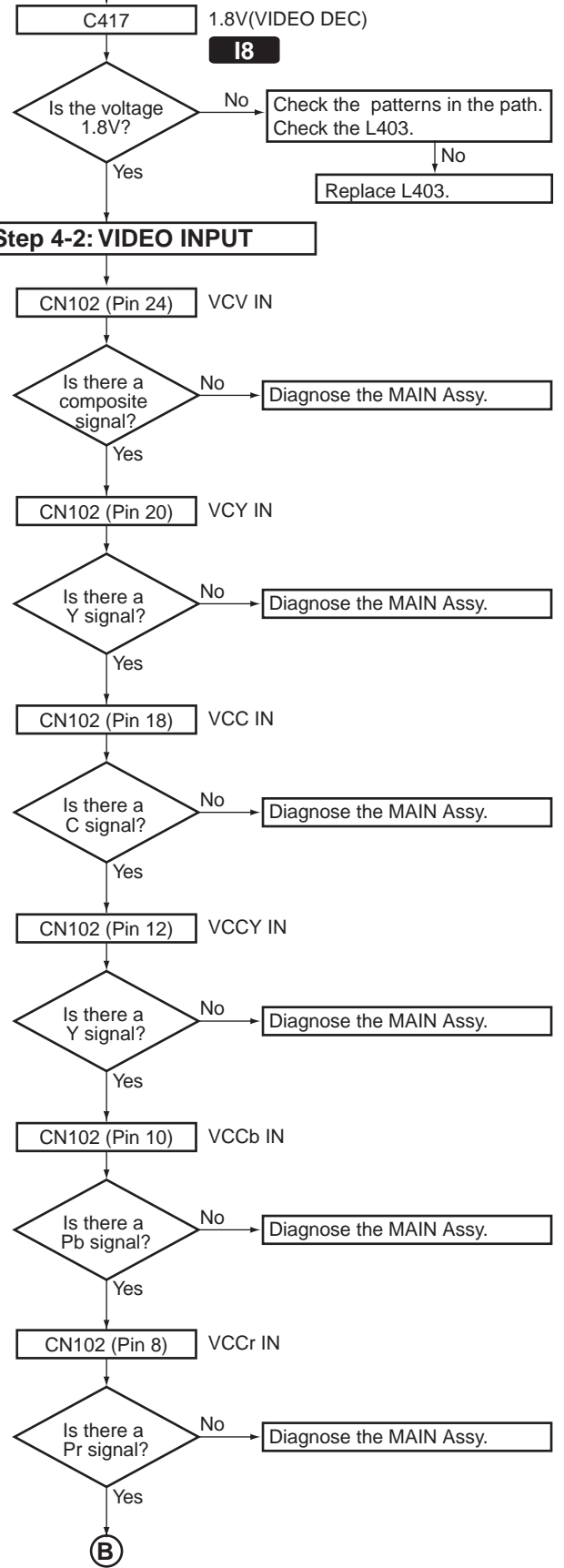


Video converter section

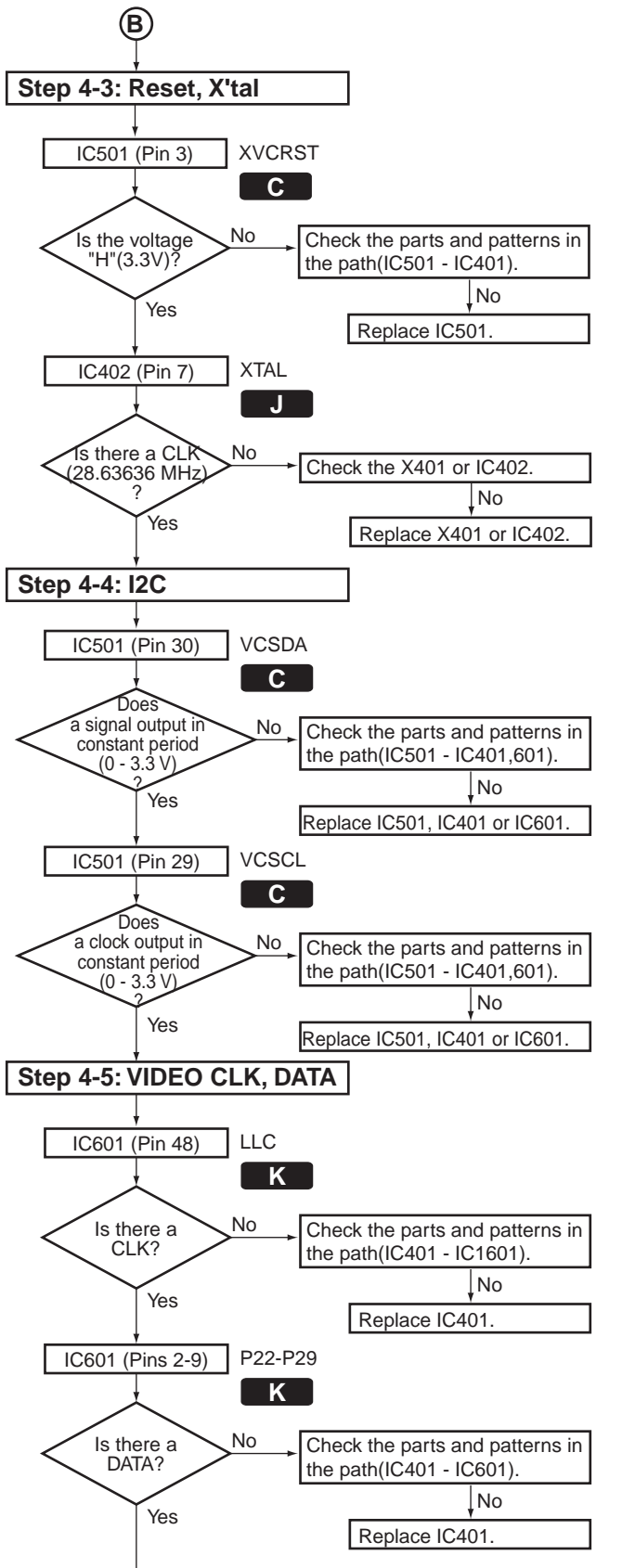
Step 4-1: Power supply



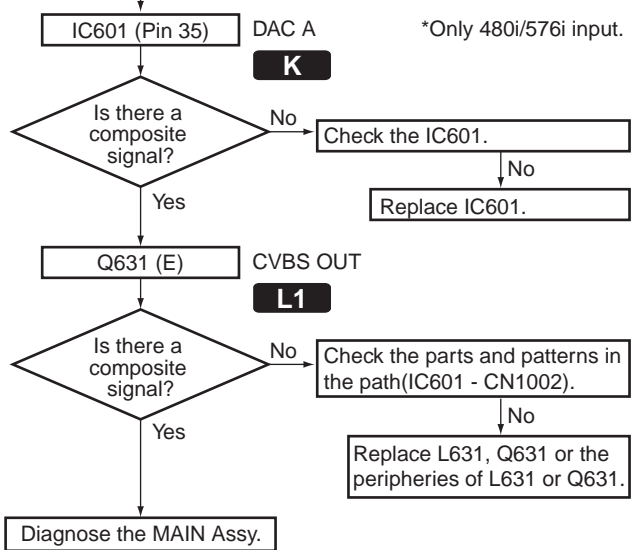
Step 4-2: VIDEO INPUT

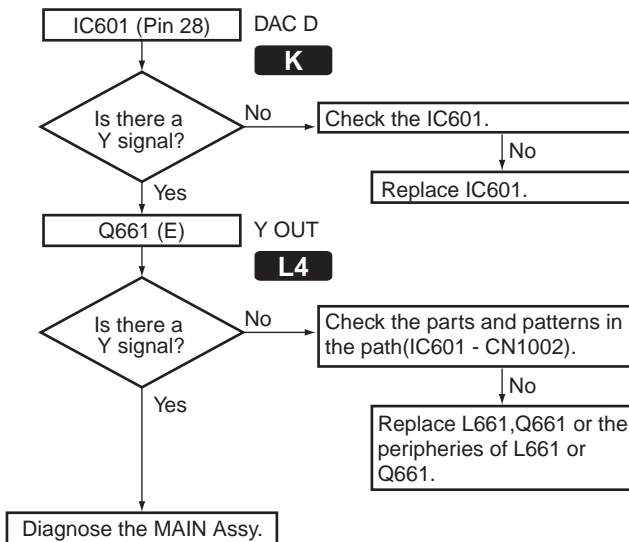
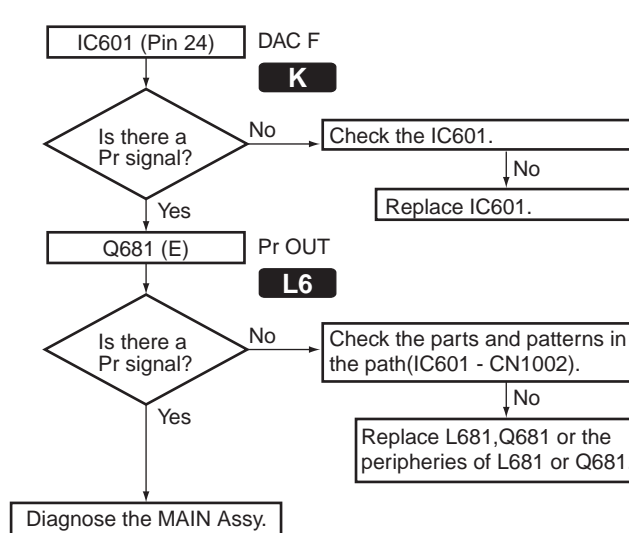
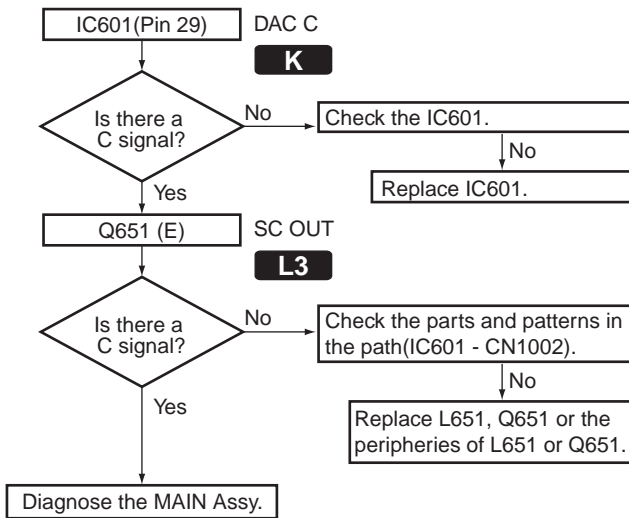
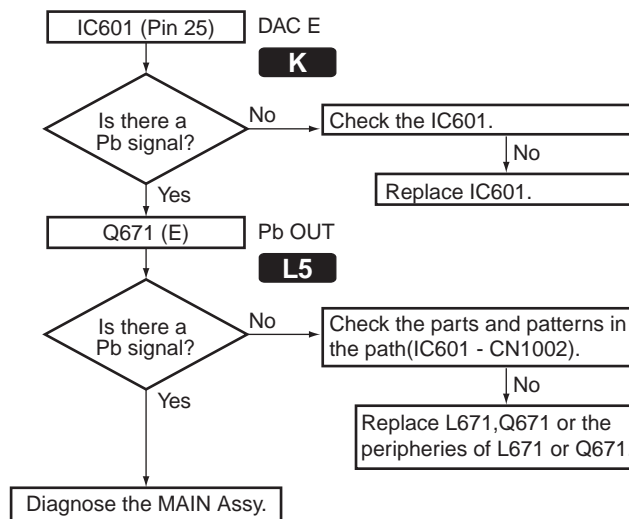
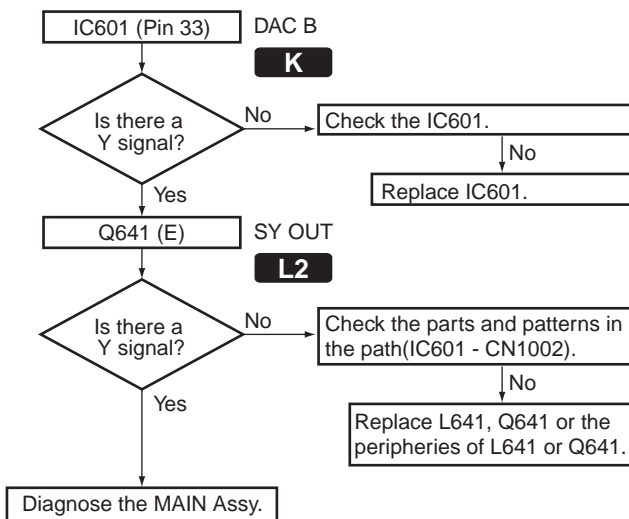


A
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Step 4-6: VIDEO OUTPUT

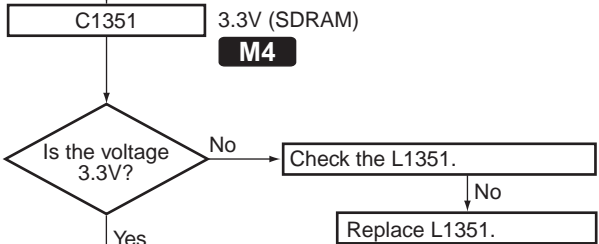
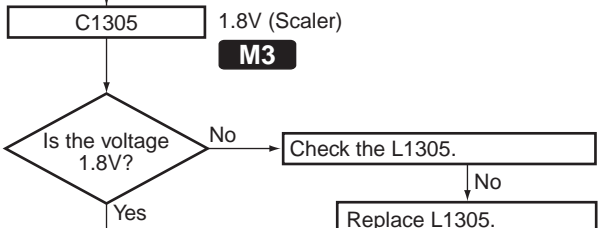
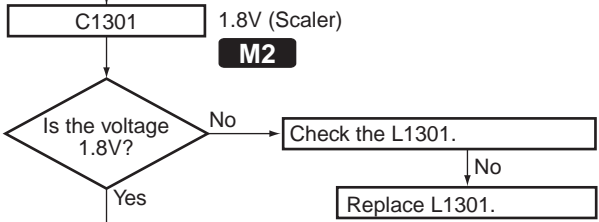
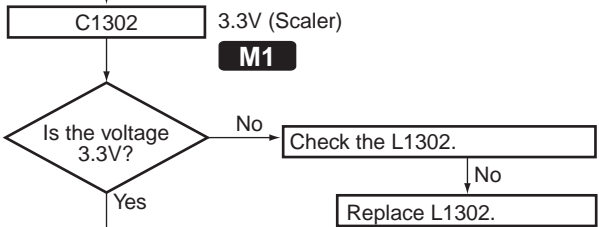




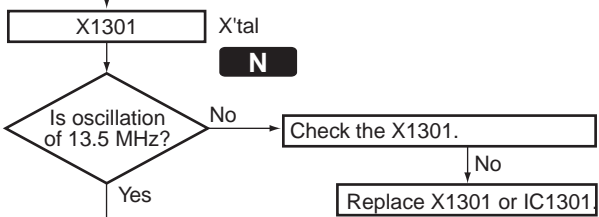
A
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Scaler section

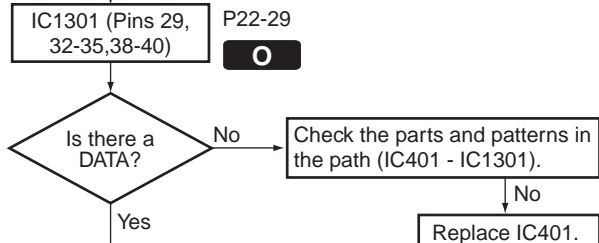
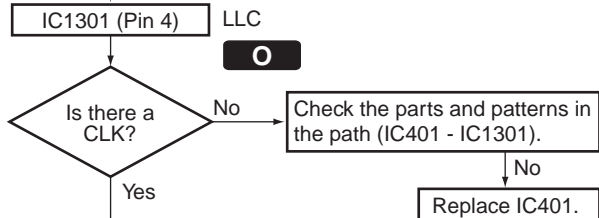
Step 5-1: Power supply



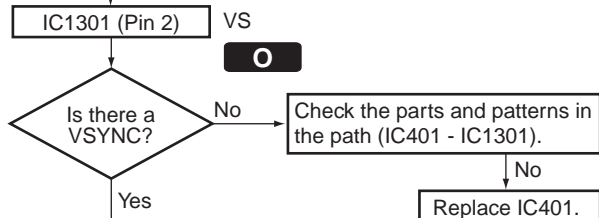
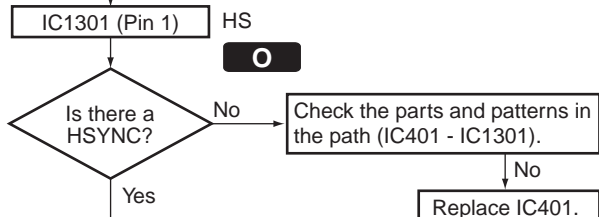
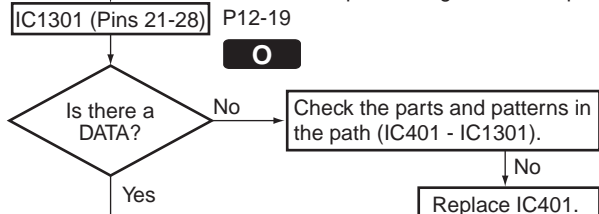
Step 5-2: X'tal

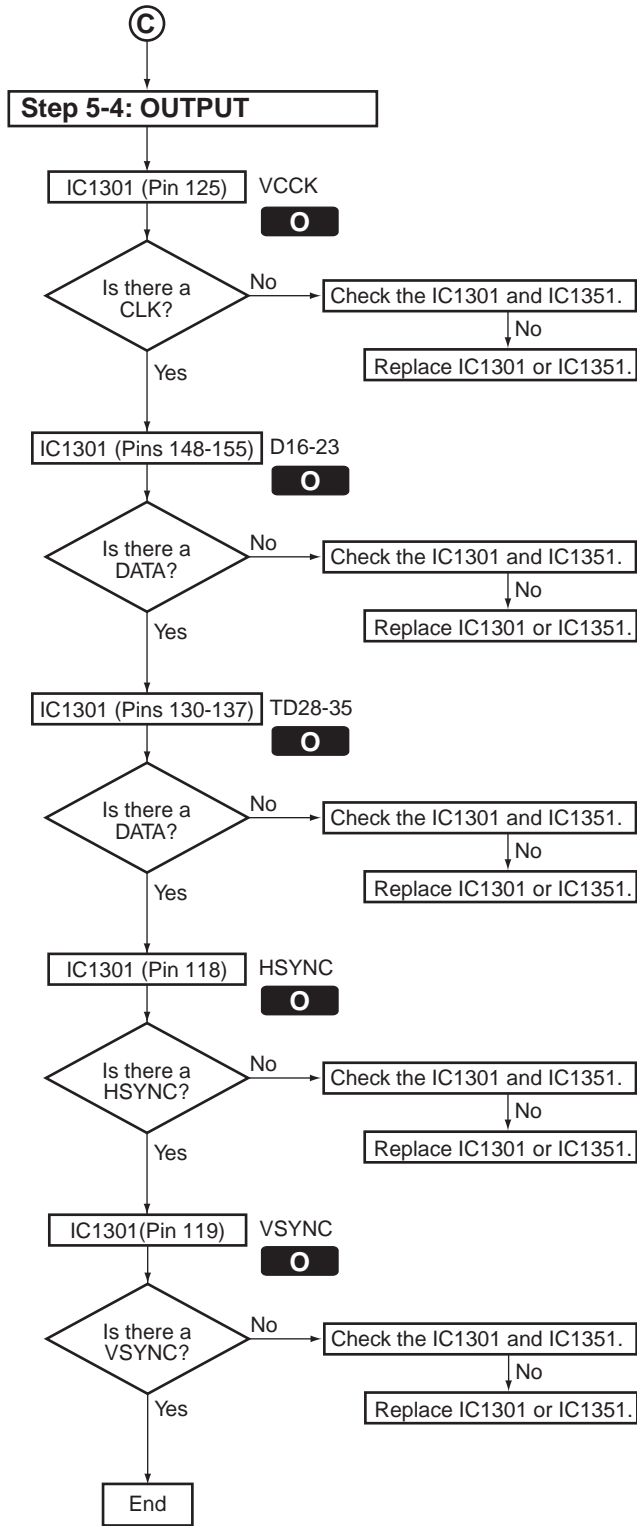


Step 5-3: INPUT



*Skip at analog 480i/576i input.





A

B

C

D

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F

A ■ HDMI & DVC Assy Check Points

F HDMI & DVC ASSY SIDE A

B

■

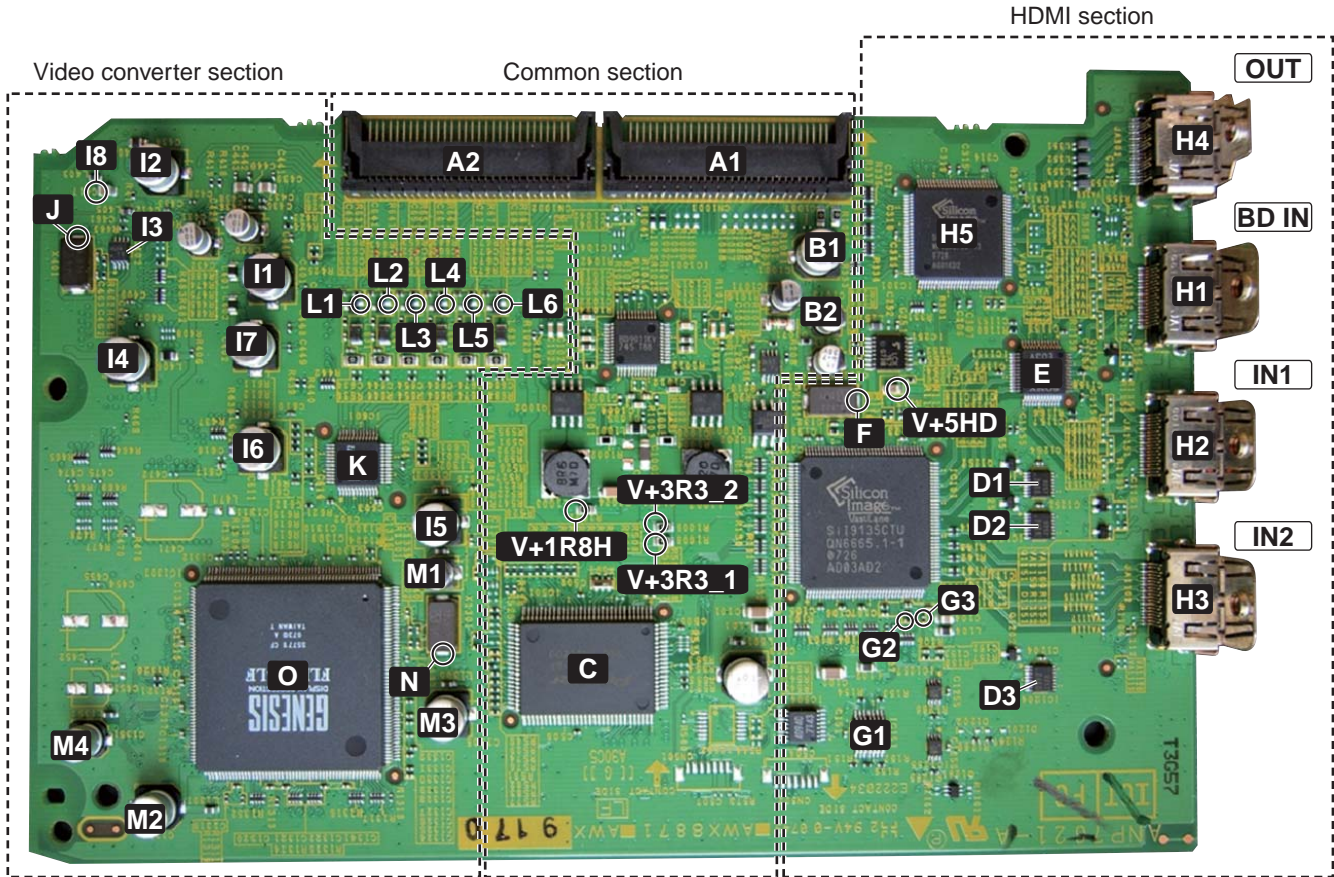
C

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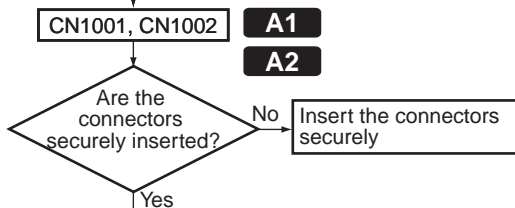


[5] HDMI Troubleshooting(VSX-1018AH-K, VSX-1018AH-S)

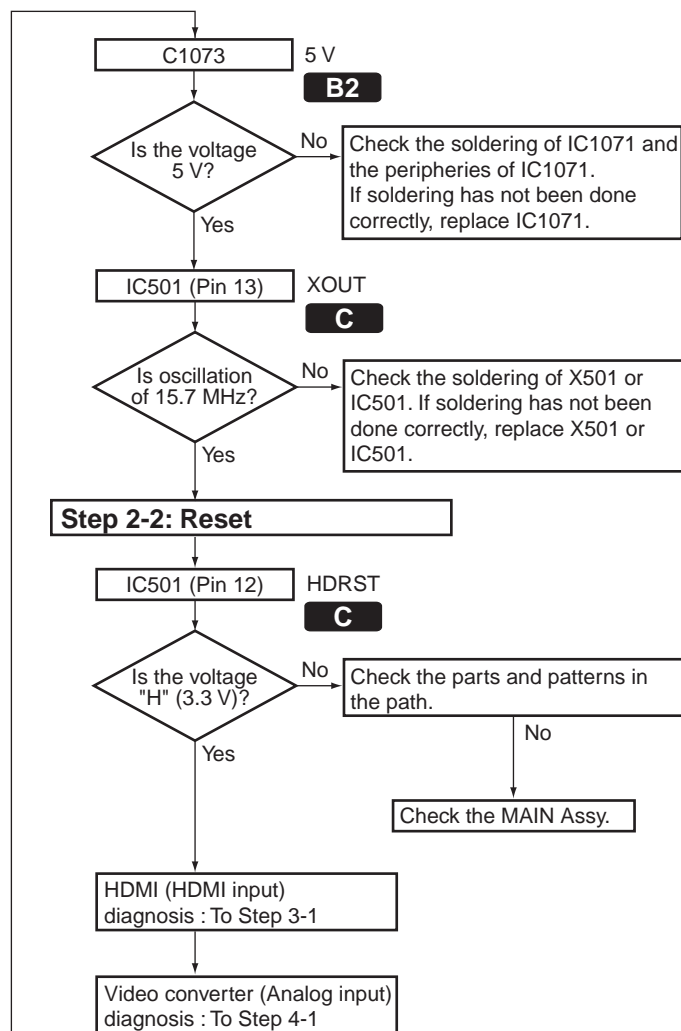
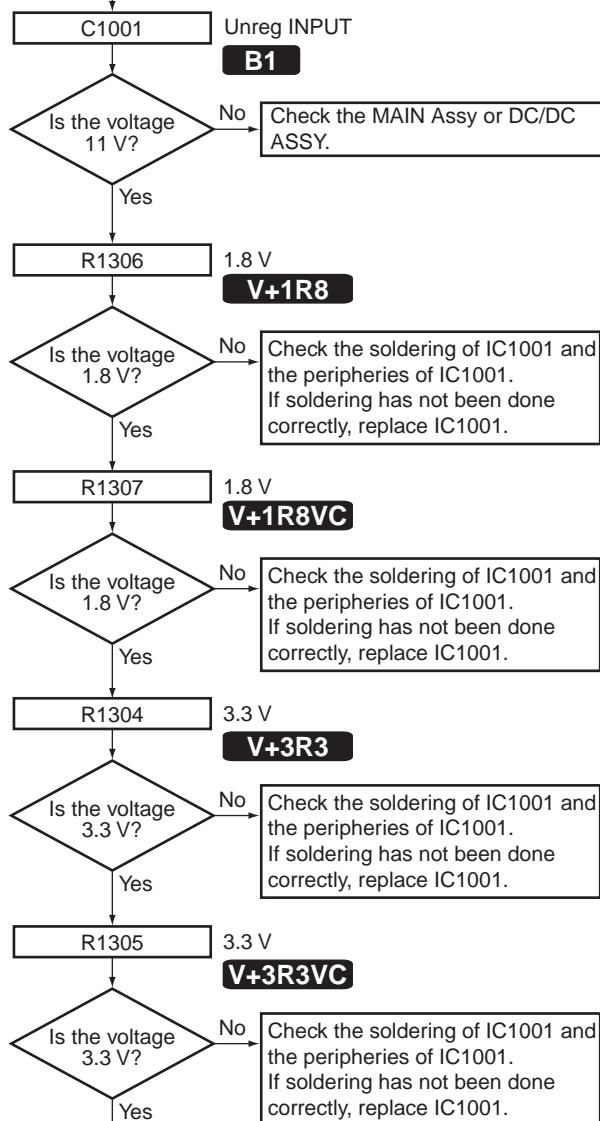
- The parts marked like **A1** in the following chart are located in "HDMI Assy Check Points".

Common section

Step 1: Connections

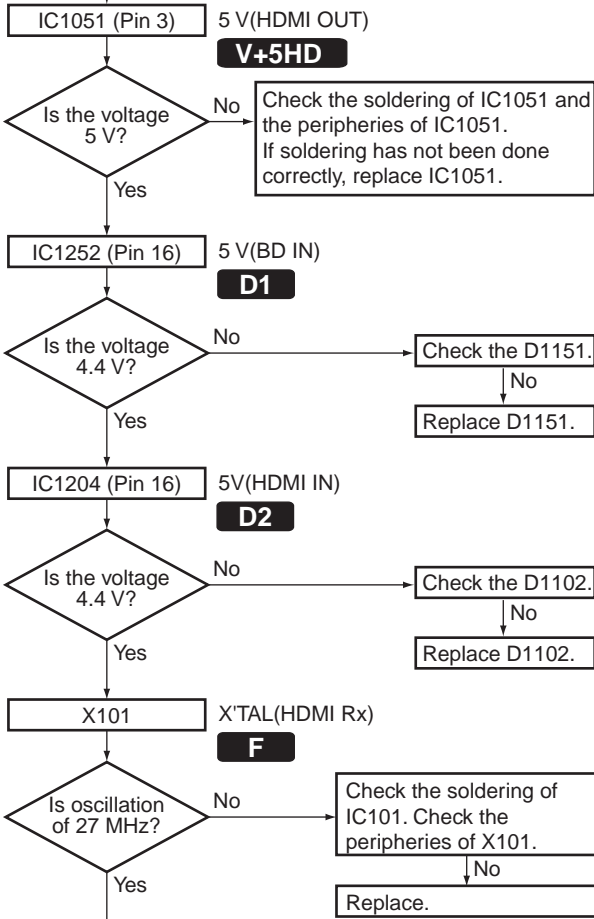


Step 2-1: Power supply, CLK

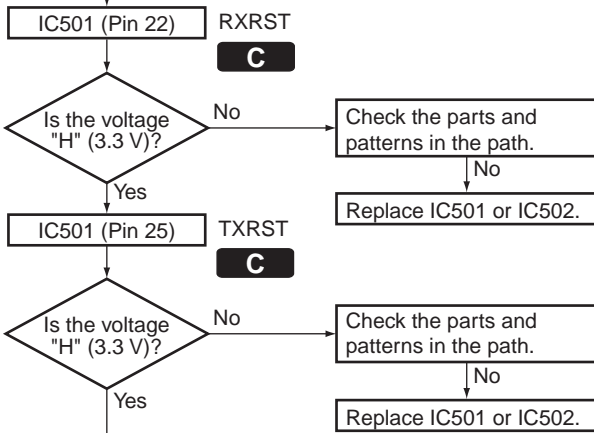


HDMI section

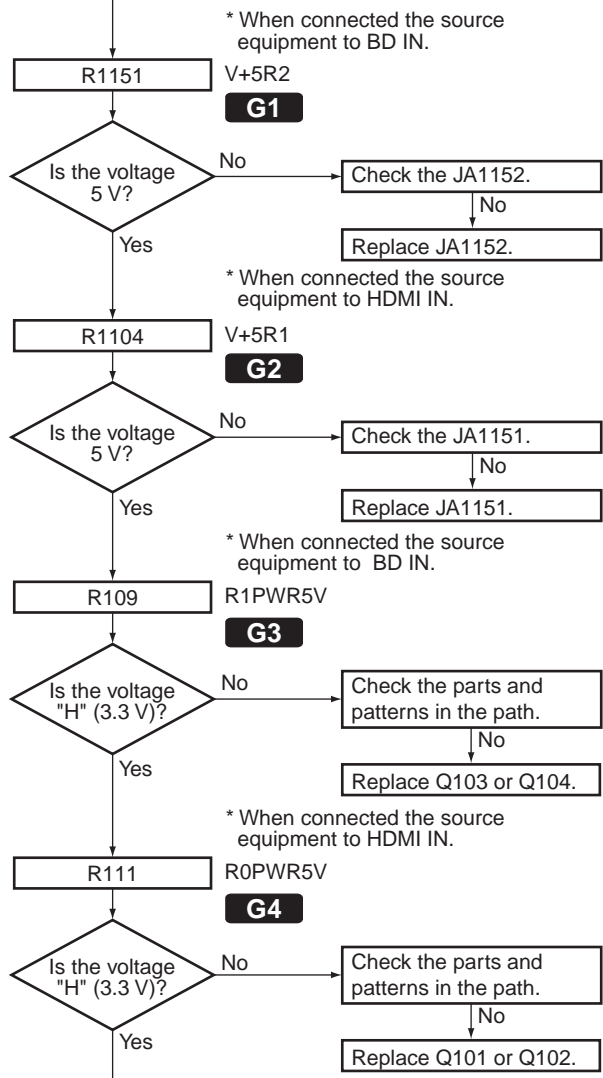
Step 3-1: Power supply, CLK



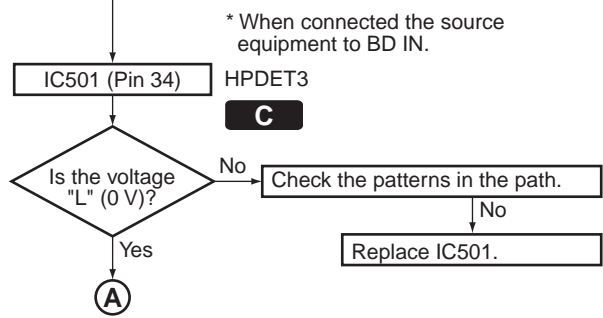
Step 3-2 : Reset

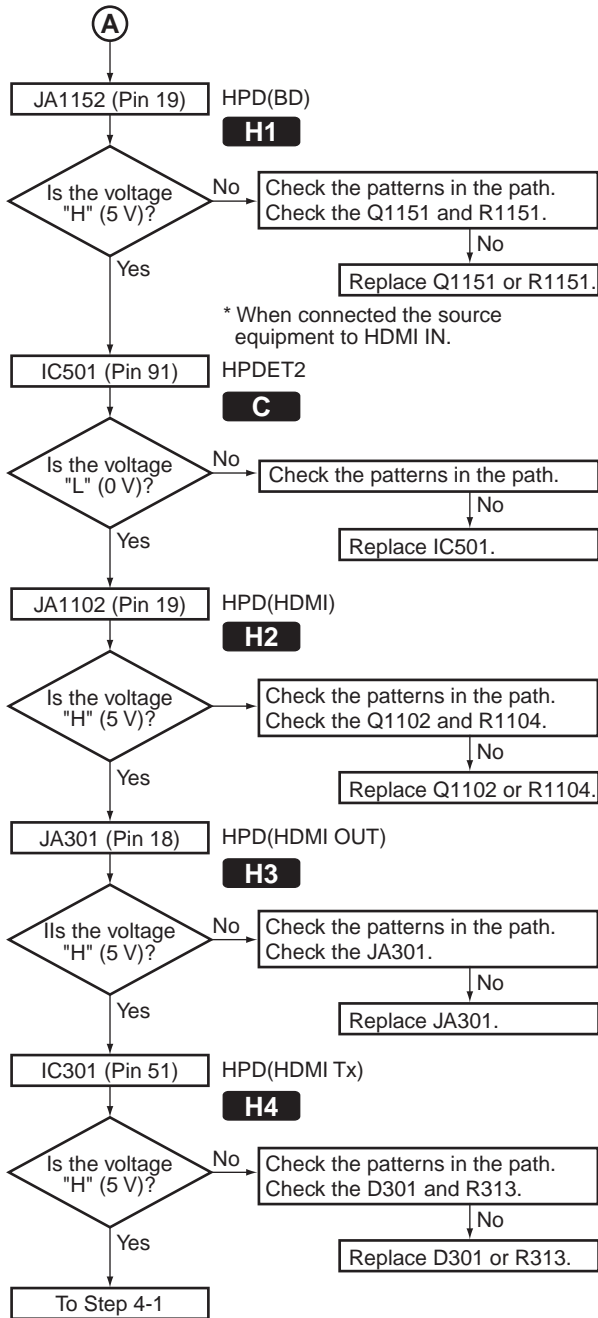


Step 3-3: Source 5V



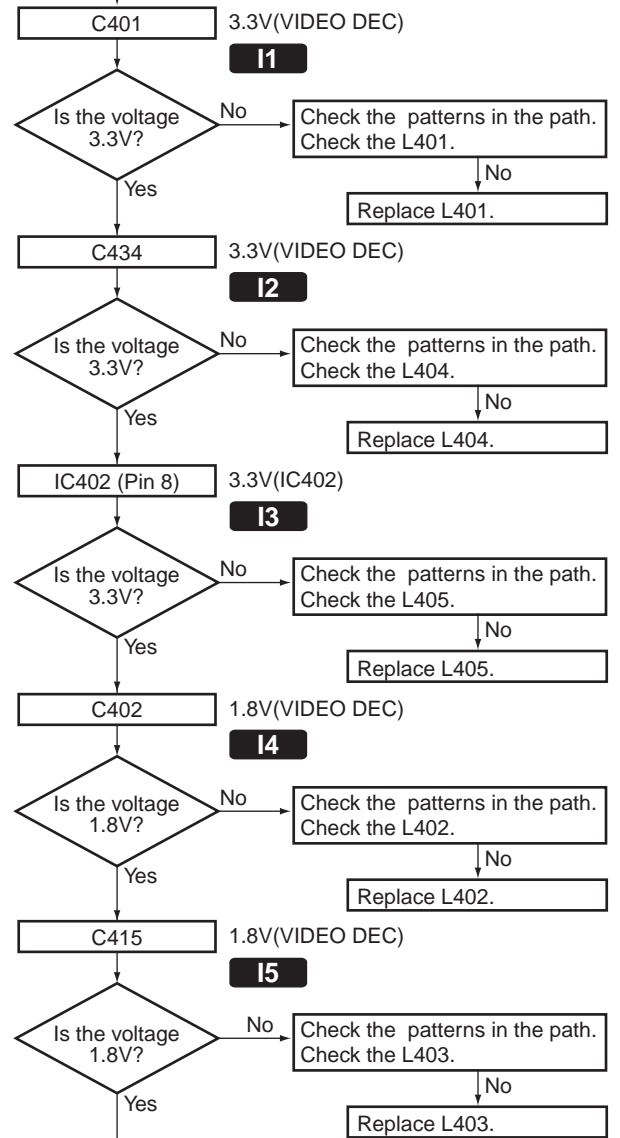
Step 3-4: Hot Plug Detect



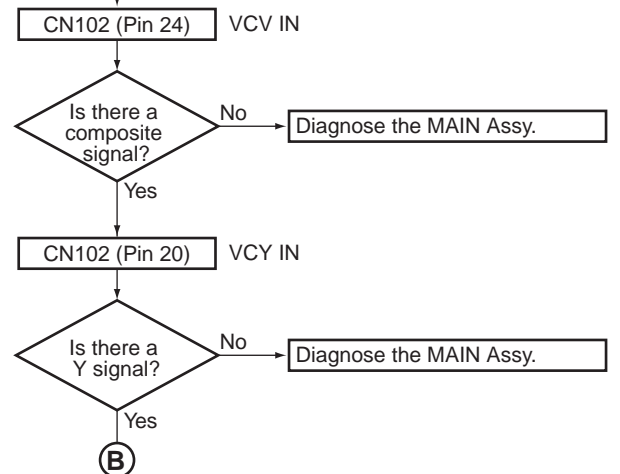


Video converter section

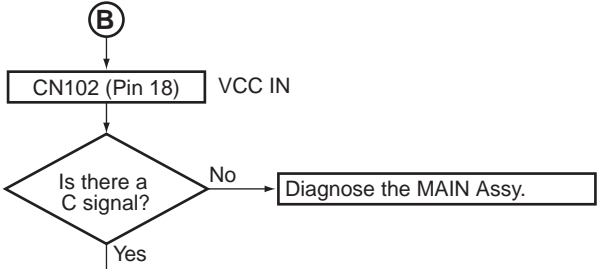
Step 4-1: Power supply



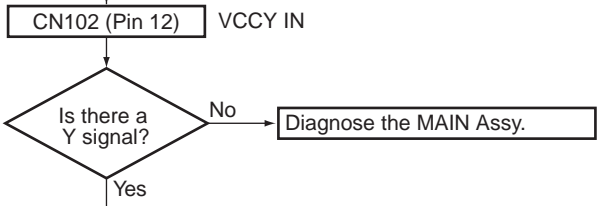
Step 4-2: VIDEO INPUT



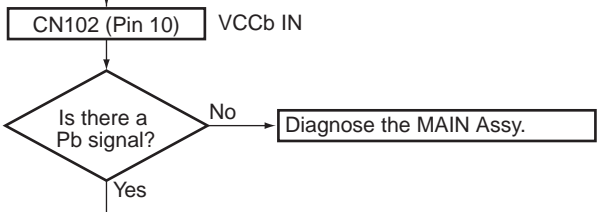
A



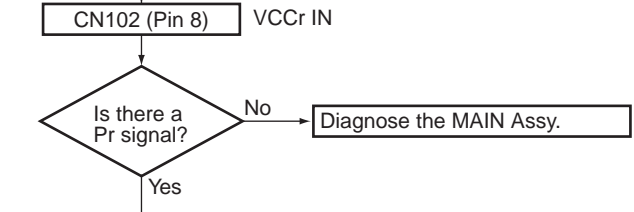
B



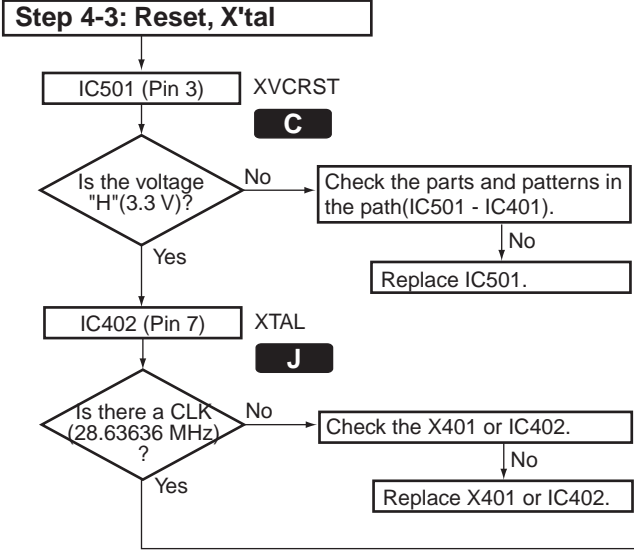
C



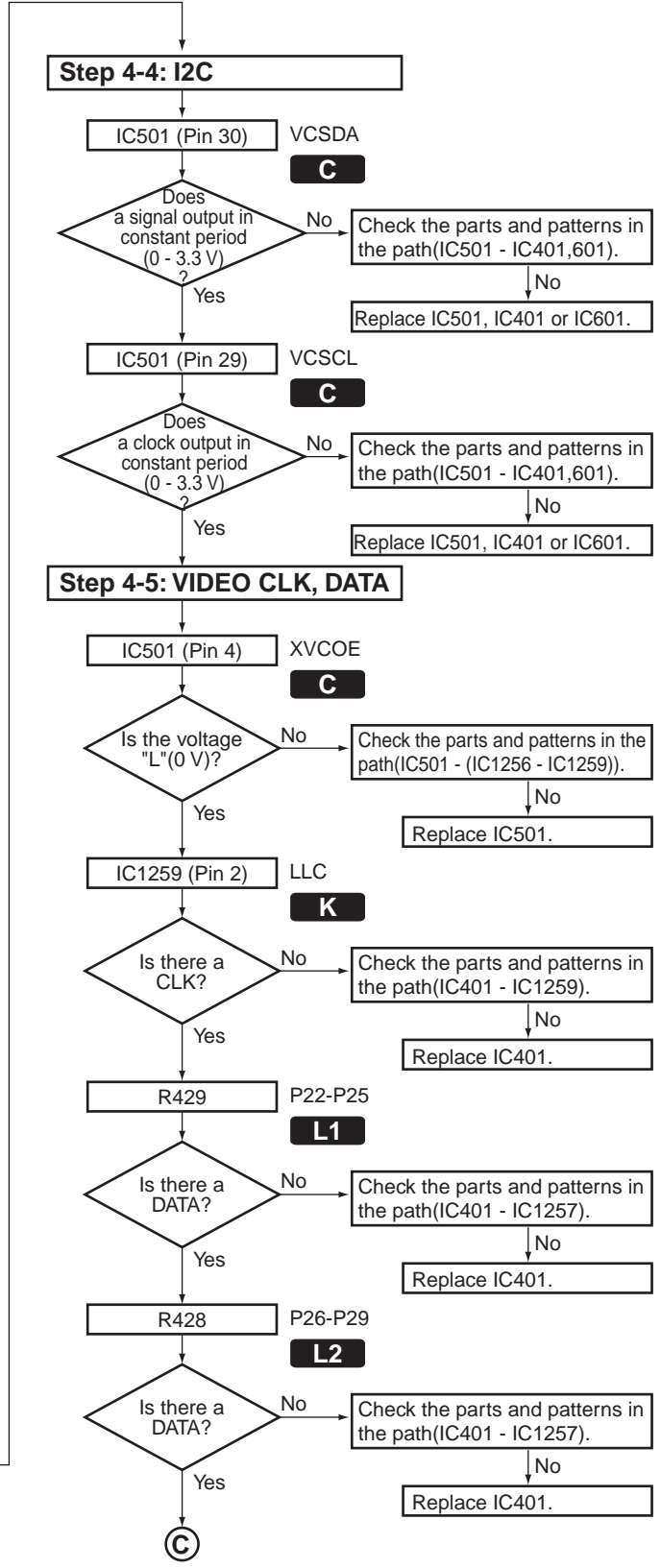
D

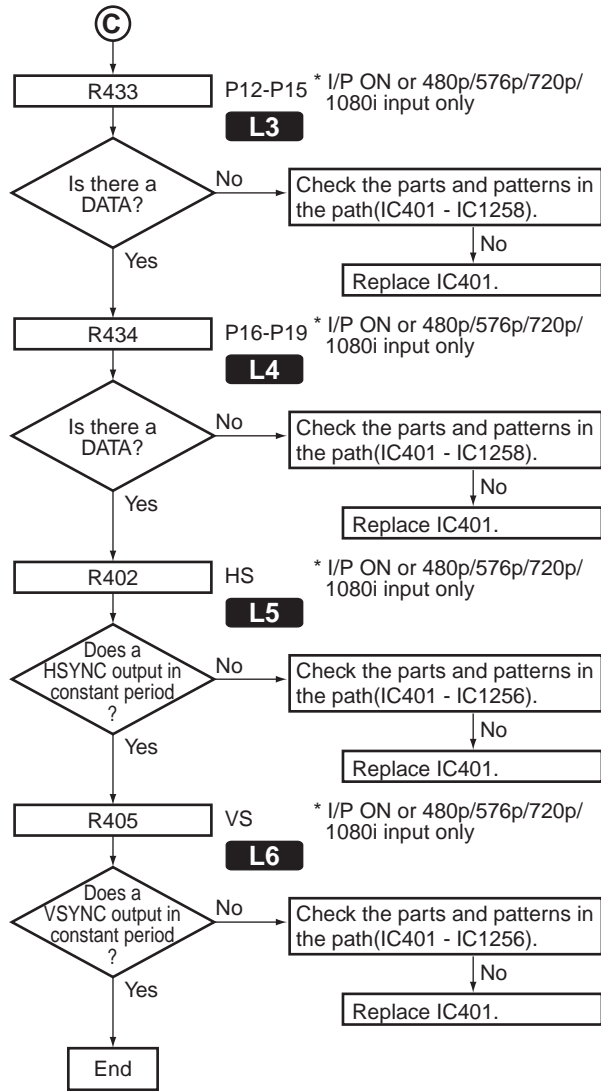


E



F





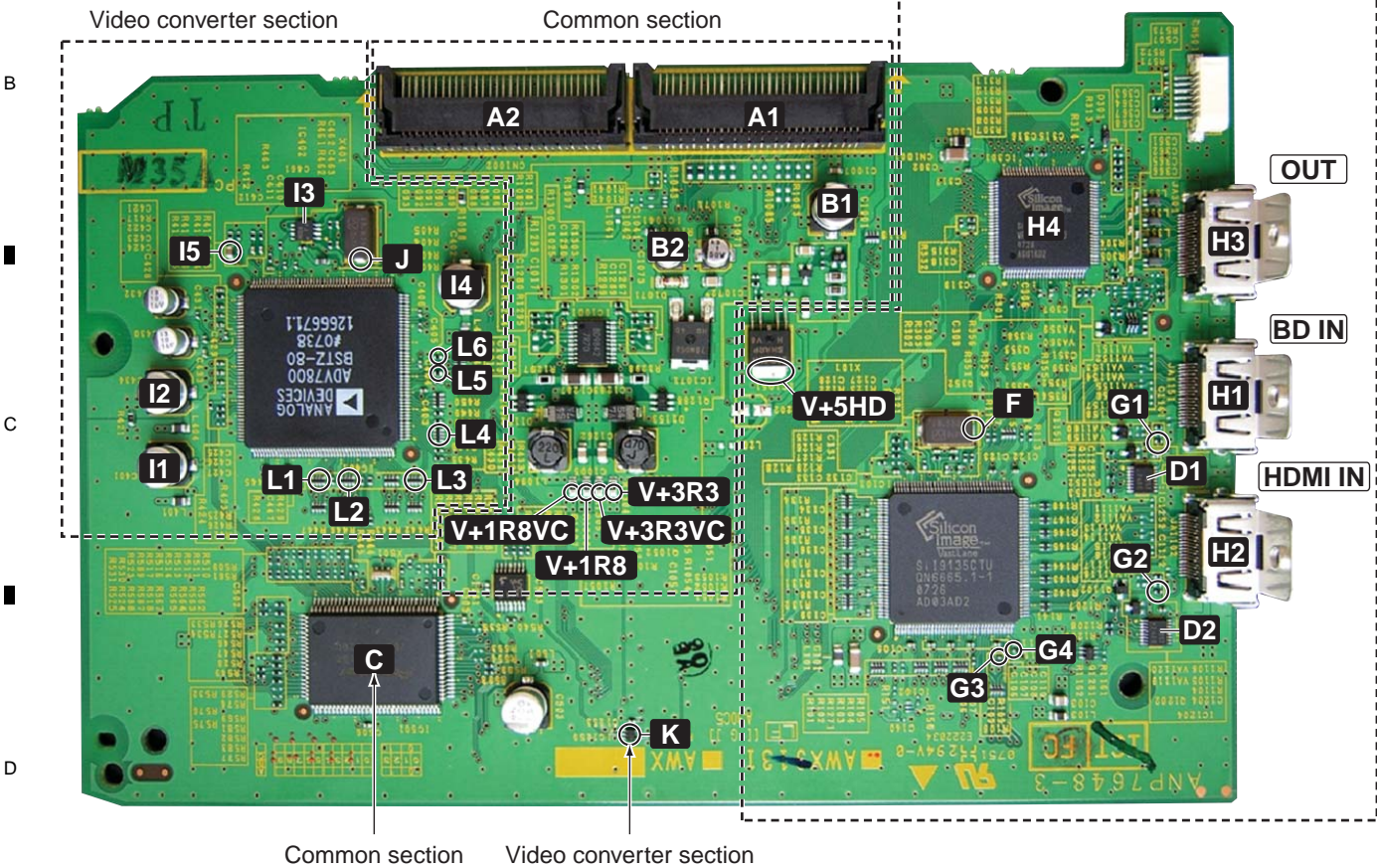
A
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F

A HDMI Assy Check Points



HDMI ASSY

SIDE A



D

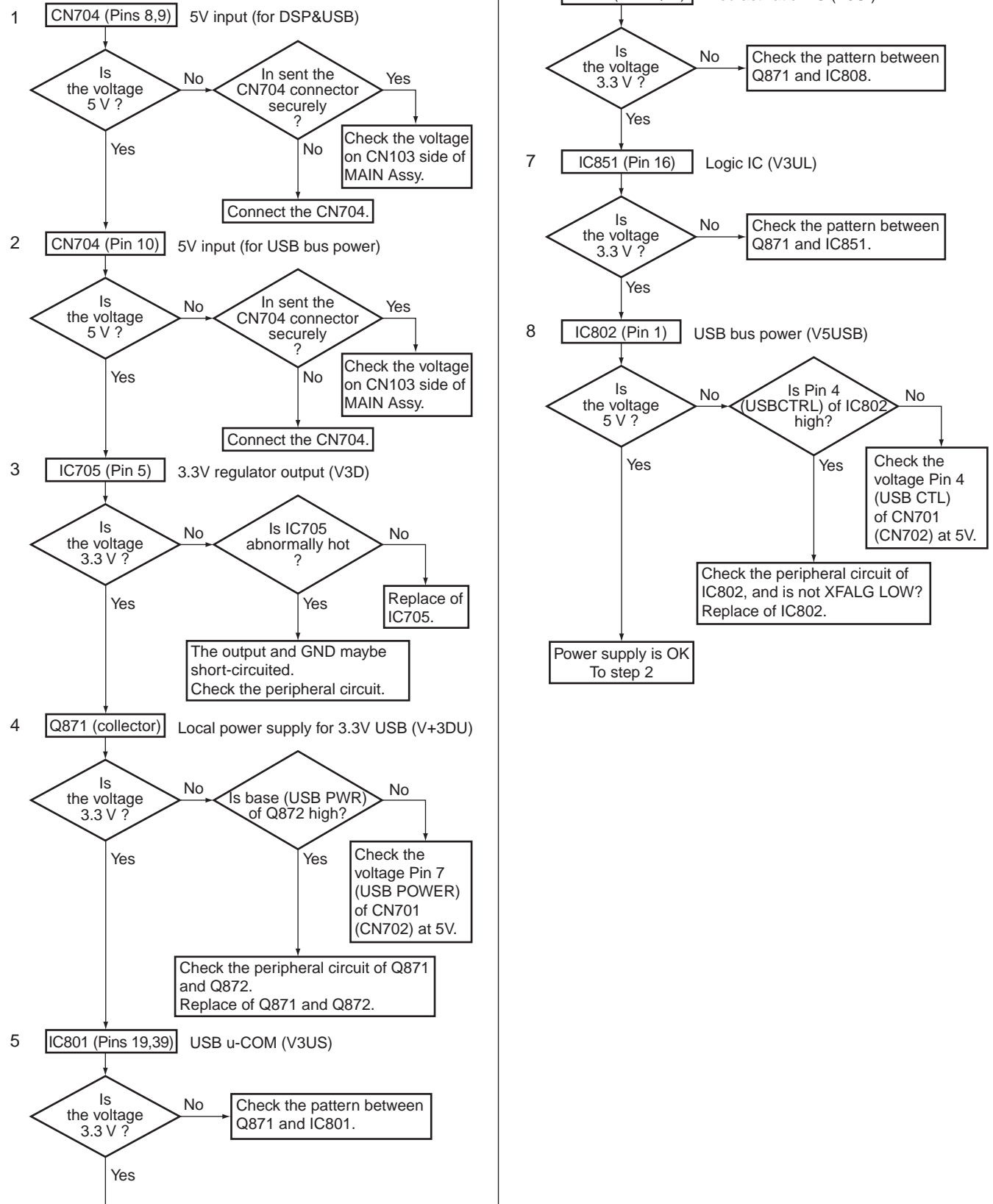
E

F

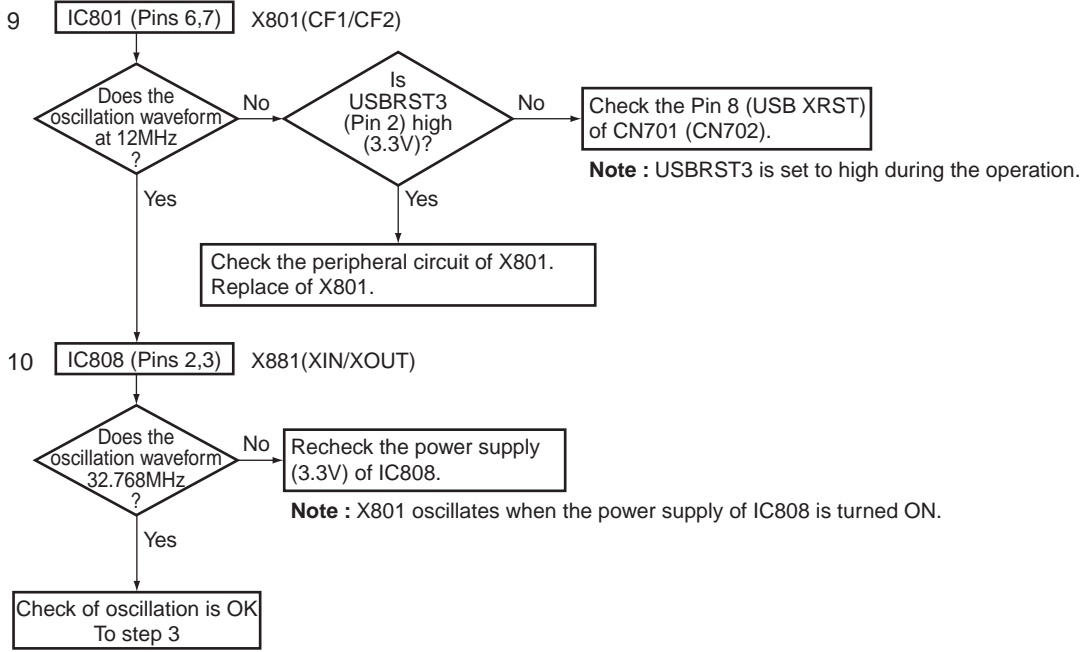
[6] USB/iPod Troubleshooting

Step 1: Check of power supply

* Turn ON the power of product and check the power supply by USB iPod function.



Step 2: Check of oscillation * Turn ON the power of product and check the power supply by USB iPod function.



Step 3: Check of operation of USB u-COM

11 IC801 (Pins 44,45) Main u-COM communication (USBDAI, USBDAO)

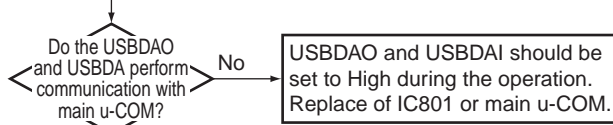
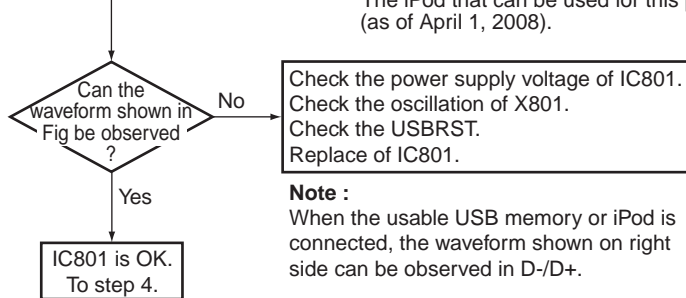


Fig. 1

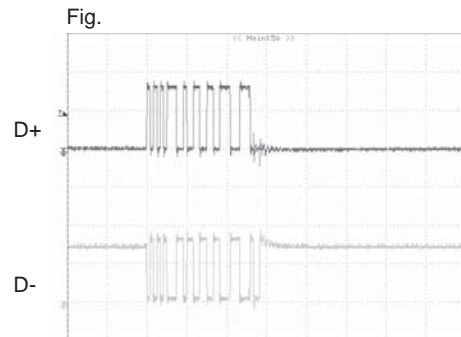
	IC801	IC701 (5 V → 3 V)	CN701 (CN702)
USBDAI	Pin 44	Pin 11	Pins 12,13 Pin 6

	IC801	IC702 (3 V → 5 V)	CN701 (CN702)
USBDAO	Pin 45	Pin 2	Pin 18 Pin 5

12 CN801 (Pins 7,8) D+/D-



* Make a confirmation with USB memory or iPod* connected.
* The iPod that can be used for this product is iPod 5G, iPod nano, iPod classic and iPod touch (as of April 1, 2008).

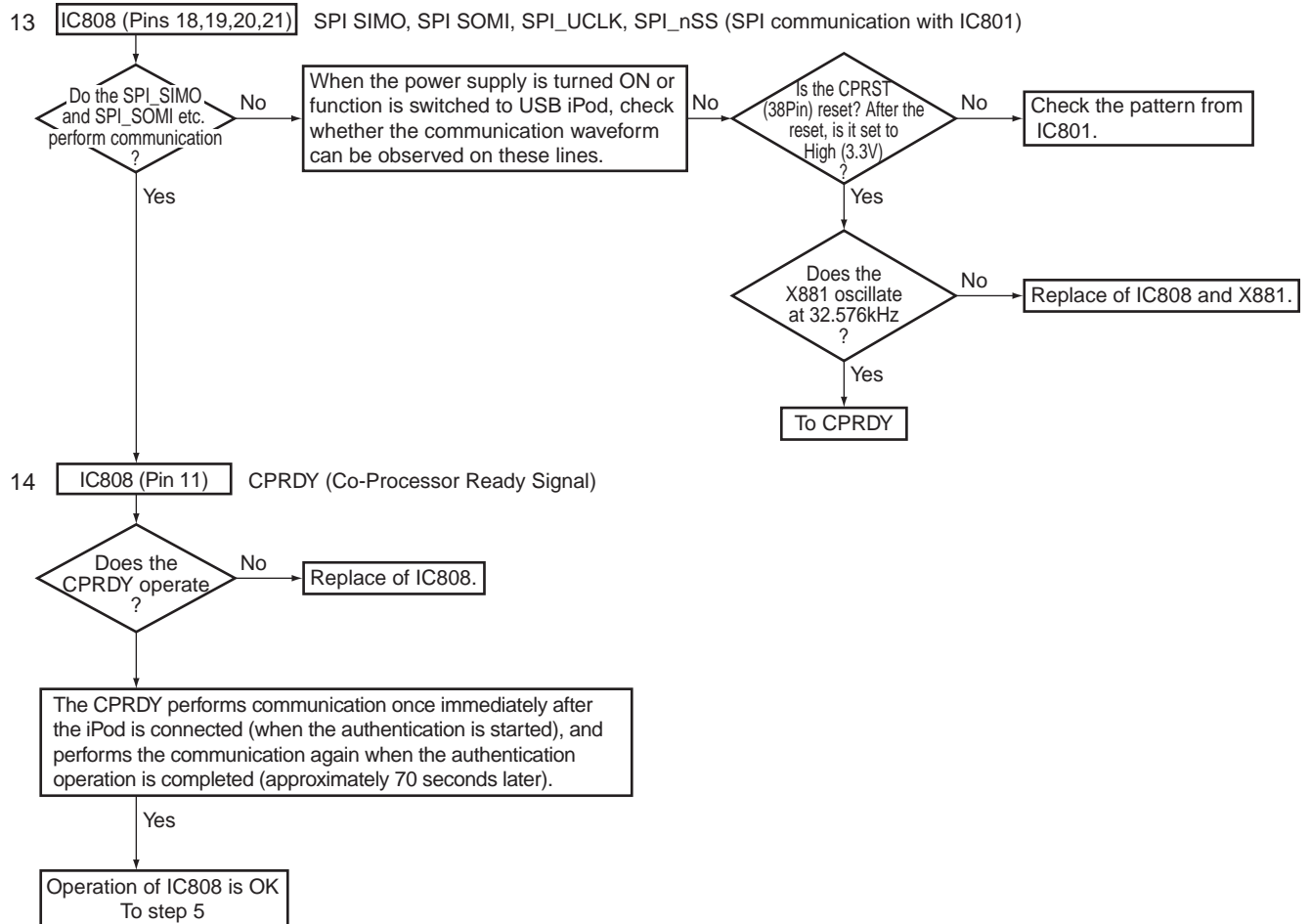


X: 1 μsec/div, Y: 2 V/div

As it is USB2.0 (FS), the P-P value is approximately 3 to 3.5V.

Step 4: iPod authentication process

When the USB playback is available and only the iPod cannot be played
* Connect the iPod and make a confirmation.

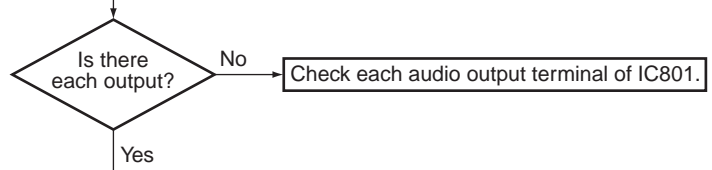


Step 5: Digital audio output switching

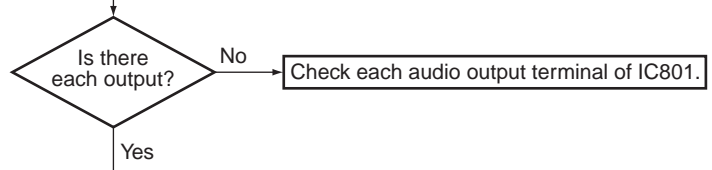
With this product, the digital audio signal output route from IC801 (USB host) varies depending the USB reproduction and iPod reproduction. It is controlled and switched by USAW (USB Audio Switch) using the IC851 (logic IC).

	IC801 output Pin	Signal name	Meaning and details
USB playback	-	OSCU	Master clock (24.576MHz) from IC503 of DSP block is used.
	33,36	MSCK	Mass Strage Clock.
	31	MSDA	Mass Strage Data.
	34	MSSS	Mass Strage SS.
iPod playback	18	IMCK	iPod Master Clock.
	26	ISDAT	iPod Serial Data.
	27	IBCK	iPod Bit Clock.
	28	ILRCK	iPod LR Clock.

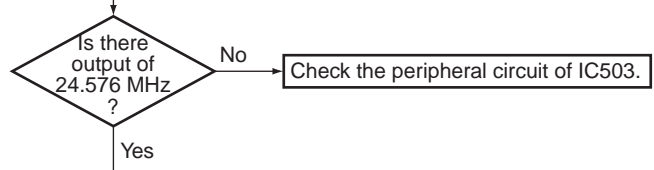
15 IC801 (Pins 18,26,27,28) IMCK, ISDAT, IBCK, ILRCK (when iPod reproduces)



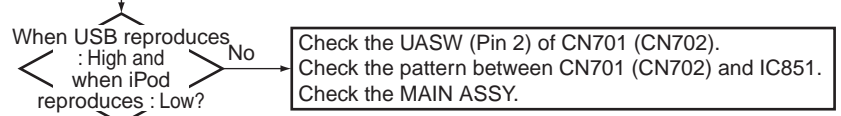
16 IC801 (Pins 31,33,34) MSDA, MSCK, MSSS (when USB reproduces)



17 IC503 (Pin 12) OSCU (24.576 MHz : when USB reproduces)



18 IC851 (Pin 1) UASW (USB Audio Switch)



For the output of IC851, each digital audio signal should be output at each reproduction.

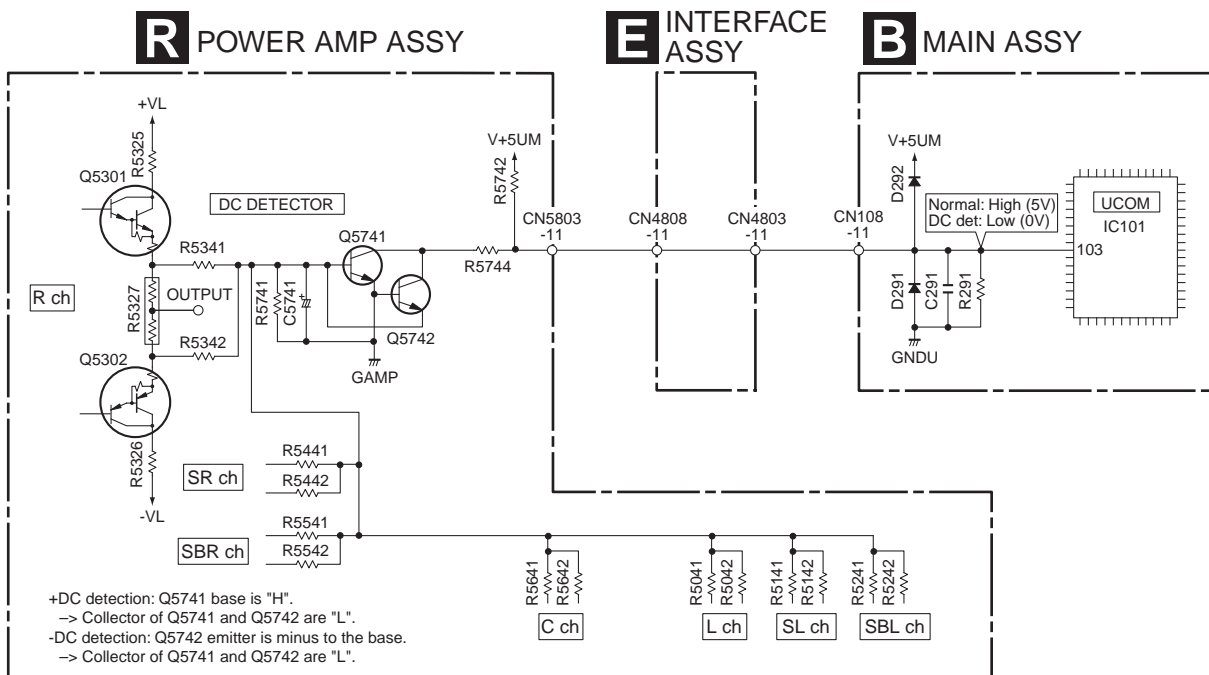
To diagnosis flow of DSP

5.2 CIRCUIT DESCRIPTION

[1] Protection Circuit Process List

Item	Purpose	Detection Method	Process	Warning Indication	Remarks
DC detection	To detect amplifier damage (defect status) A process to protect speakers (for protection of connected external devices)	Detects when the DC_PROTECT port becomes "L". (Pin 103 of IC101)	Turns muting on and speaker relay off, then turns off the power after 3 seconds. Then flashes MCACC indicator.	Flashing "AMP ERR" for 3 seconds.	Once detected and turned the power off, input a key never again. If the DC_DET port becomes "H" within 3 seconds, the unit returns to normal condition automatically.
AMP overload	To detect overloading (abnormal status) With low-load driving or a short circuit of the speaker terminals (for protection of the amplifier)	Detects when the OL_DET port becomes "L" (checks by interrupt). (Pin 26 of IC101)	Turns muting on and speaker relay off, and immediately turns off the power. Then flashes PHASE CONTROL indicator.	None	
Overheat detection	Self reset type protection feature by temperature-rise of heat sink	Detects when the TEMP2 port becomes "H". (Pin 24 of IC3004)	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "OVERHEAT" for 3 seconds.	If the TEMP2 port becomes "L" within 3 seconds, the unit returns to normal condition automatically.
12V trigger failure detection	To detect the shortcircuit of 12V trigger output (load more than 50mA) (for protection of the amplifier)	Detects when the 12VDET port becomes "H". (Pin 122 of IC101)	Turns 12V trigger output to off.	Flashing "12V TRG ERR"	Continue showing warning. Release the FL indication by switching the INPUT SEL or the turns the power off.

DC Detection Circuit



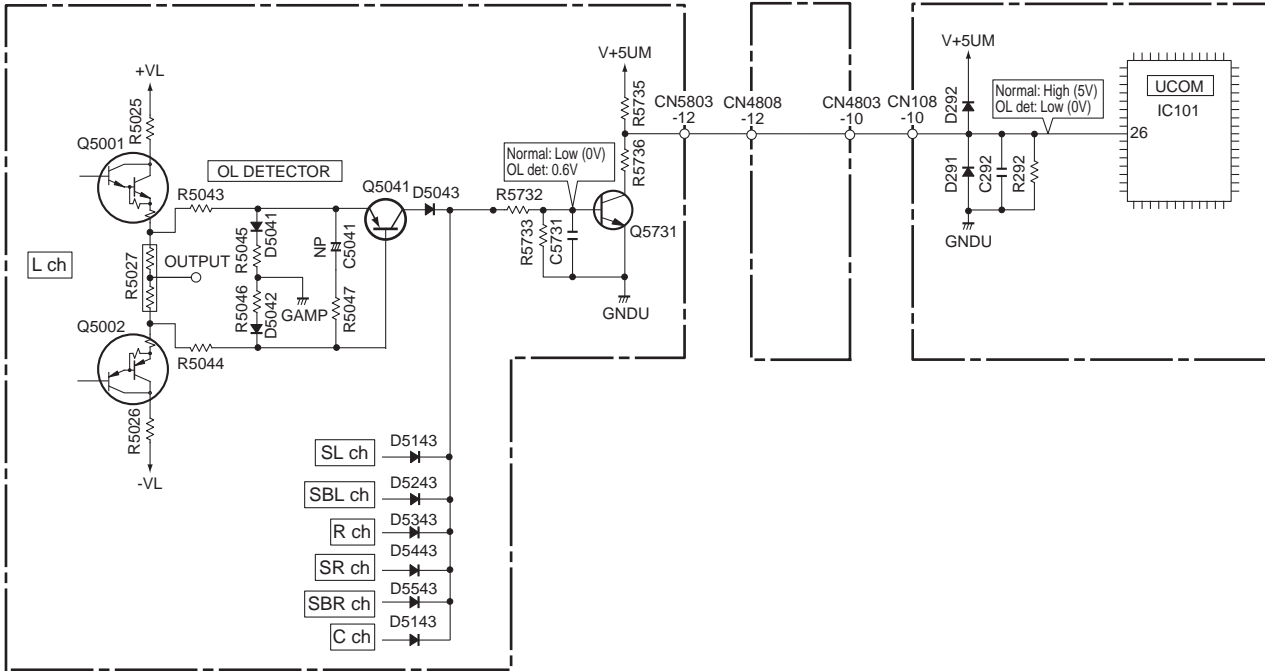
OL (Over Load) Detection Circuit

A

R POWER AMP ASSY

E INTERFACE ASSY

B MAIN ASSY



B

C

D

E

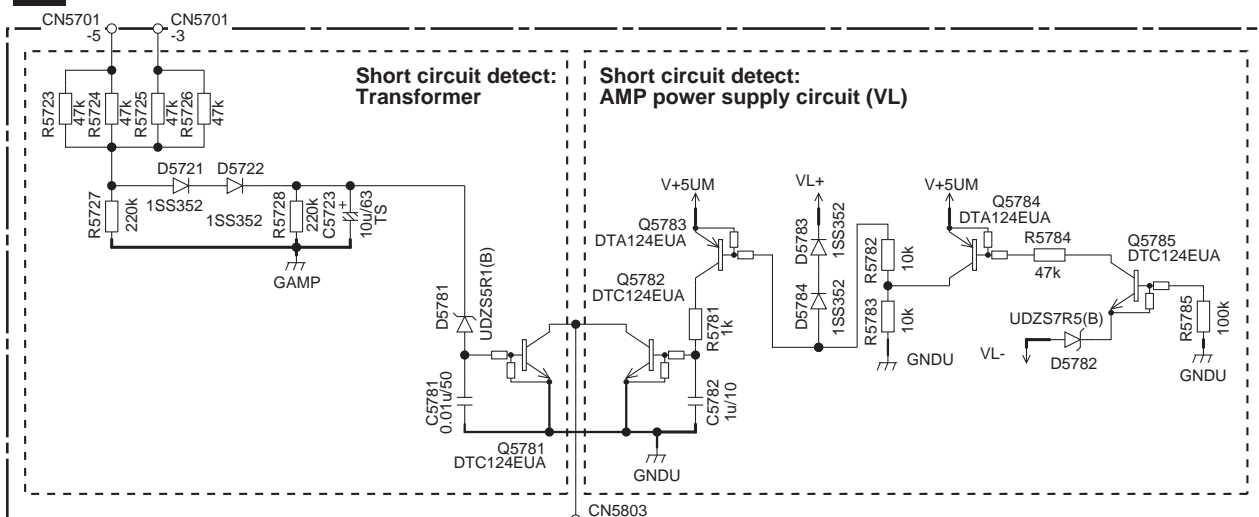
F

[2] Protection Circuit Process List (XPROTECT)

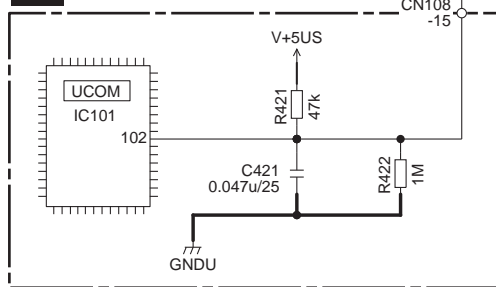
Item	Purpose	Detection Method	Process	Warning Indication	Remarks
XPROTECT	AMP power supply circuit and Transformer short circuit detect. (defect status) Observe CN5701 pin3 or pin5 voltage, VL+ and VL-.	Detects when the XPROTECT port becomes "L". (Pin 102 of IC101)	Turns muting on and speaker relay off, and immediately turns off the power. Then flashes DIGITAL PRECISION PROCESSING indicator.	None	Once detected and turned the power off, input a key never again.

XPROTECT Circuit

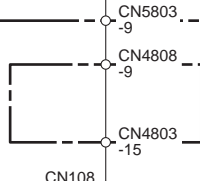
R POWER AMP ASSY



B MAIN ASSY



E INTERFACE ASSY



6. SERVICE MODE

6.1 TEST MODE

A [1] Version indication

[Purpose]

The versions for various microcomputers and DSP firmware are displayed.

[How to enter/exit]

During Standby mode, simultaneously press and hold the "STANDBY/ON" and "MULTI CH IN" keys for 5 seconds to enter this mode.

This mode is automatically exited when the indications of all versions have finished.

B

[Basic operations]

FL Display	Description of Version Indications	Duration (sec.)	Devices that can be considered generally normal, with the corresponding indications
POWER OFF ↓ M0.501 E0.501 ↓ H0.503 ↓ f0.515 ↓ LX51/HY ↓ Normal display	Mx.xxx : Main microcomputer Ex.xxx : EVENT microcomputer Hx.xxx : HDMI microcomputer fx.xxx : DSP Firm version	5 5 5 5	Main microcomputer and EVENT microcomputer HDMI microcomputer DSP firmware model/destination

C

[Notes]

1. If the version indication becomes "***," a failure in communications between the corresponding microcomputers or a failure in the corresponding microcomputers is likely.
2. In this submode, the user settings will not be cleared.

D

E

F

[2] Detected protection history

[Purpose]

The numbers of detections for various protection processes are displayed.

[How to enter/exit]

During Standby mode, simultaneously press and hold "STANDBY/ON" and "BD" keys for 5 seconds to enter this mode.

[Basic operations]

FL Display	Description of Indications	Duration (sec.)
POWER OFF ↓ DC : 000	Number of DC detections	3
↓ OVER: 010	Number of overload detections	3
↓ CON : 002	Number of detections of cord disconnection (DC and OL DET line) (simultaneous detections of DC and OVERLOAD)	3
↓ FAN : 000 (*)	Number of detections of fan abnormalities	3
↓ TEMP: 255	Number of detections of abnormal temperature	3
↓ Normal display		

"FAN : 000" is always displayed. (This model has no FAN)

[Description]

When the keys are pressed, the numbers of DC detections, overload detections, detections of connectors disconnection inside unit (It is detected by both DC and OVERLOAD detections.), detections of fan abnormalities, and detections of abnormal temperature are displayed for 3 seconds each, in that order. The maximum value of each detections is 255.

[3] Error indications when an abnormality in the amplifier system is detected

[Purpose]

An error message is displayed when an abnormality in the amplifier system is detected.

[Error Messages]

FL Display	Status	Duration (sec.)
AMP ERR	When AMP DC is detected	Flashes 3 times.
AMP OVERHEAT	When a thermal shutdown (abnormal temperature), etc. is detected	Flashes 3 times.
12V TRG ERR	When the 12V trigger circuit is short-circuited	Flashes
HDMI NG	When an error is detected during communication with the HDMI microcomputer	Flashes
HDCP ERROR	When an HDCP ERR is detected.	Flashes 5 seconds.
NOT SUPPORT	When the monitor outputs a non supported video format.	Flashes
USB ERROR1	When the overload USB device(over 500mA) is connected	Flashes

[Description]

AMP ERROR : After a failure in the amplifier block or high DC output is detected, the shutdown process starts, then the power will be shut off. Then the MCACC LED will flash. The power cannot be turned on again. If you wish to turn on the unit after a shutdown activated by DC detection, enter DC detection cancellation mode, by proceeding with the steps described in "How to enter release mode" below.

AMP OVERHEAT : The temperature of the amplifier is abnormally high.

12V TRG ERR : The 12V trigger output is short-circuited.

After a failure is detected, the shutdown process starts, then the power will be off. The power can be turned on again in Normal mode.

HDMI NG : There is no communication response from the HDMI u-com.

HDCP ERR : The monitor is non-HDCP type or the monitor is standby state.

NOT SUPPORT : The output resolution is not correspond to the monitor at analog. →HDMI(scaler exist)

USB ERROR1 : The connected USB device is overload

[How to enter release mode]

Press and hold "STANDBY/ON" and "AUTO SURR" keys on the front panel simultaneously for 2 seconds in standby mode.

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.

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

- 11P board to board extension jig cable (GGD1576)
- 19P board to board extension jig cable (GGD1577x2)
- 11P FFC (GGD1578)

1. Before the Power Amp Assy is removed

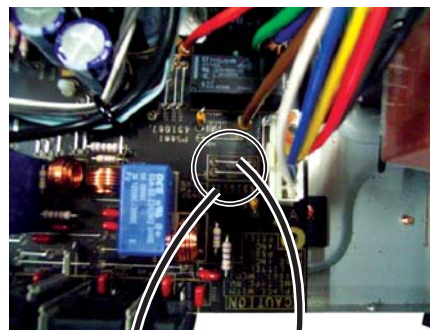
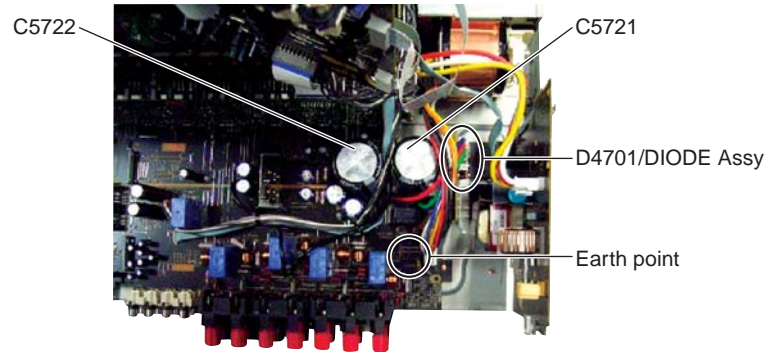
Before the Power Amp Assy is removed, discharge C5721 and C5722 on the POWER AMP Assy, as indicated below.

If you don't, the protectors (P5001 and P5002) on the POWER AMP Assy may be open, and DC voltage may be generated at the power amplifier output, which will result in "AMP ERR."

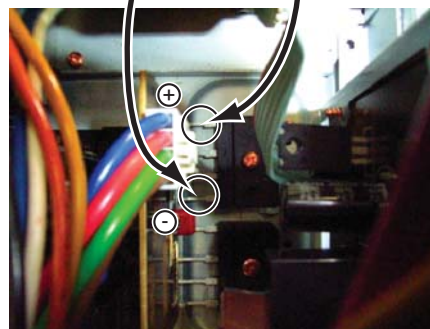
The discharge operation indicated below is performed when the MAIN Assy and the AUDIO IN Assy are removed temporarily to remove the screws of the Regulators attached to the Chassis for a diagnosis of the POWER AMP Assy B side.

[Procedure]

- ① Unplug the AC Power Cord.
- ② Discharge C5721 and C5722 on the POWER AMP Assy by discharging Pin 1 and Pin 4 of D4701 on the DIODE Assy to the earth point of POWER AMP Assy.
Note: For discharging, use a load of 100Ω, 3W or more, to protect the IC protectors. Do NOT discharge instantly by short-circuiting.
- ③ Check that the voltage between the electrodes of each C5721 and C5722 is 1V or less.



Enlarged view of the GND.



Enlarged view of the D4701 terminal discharge point.

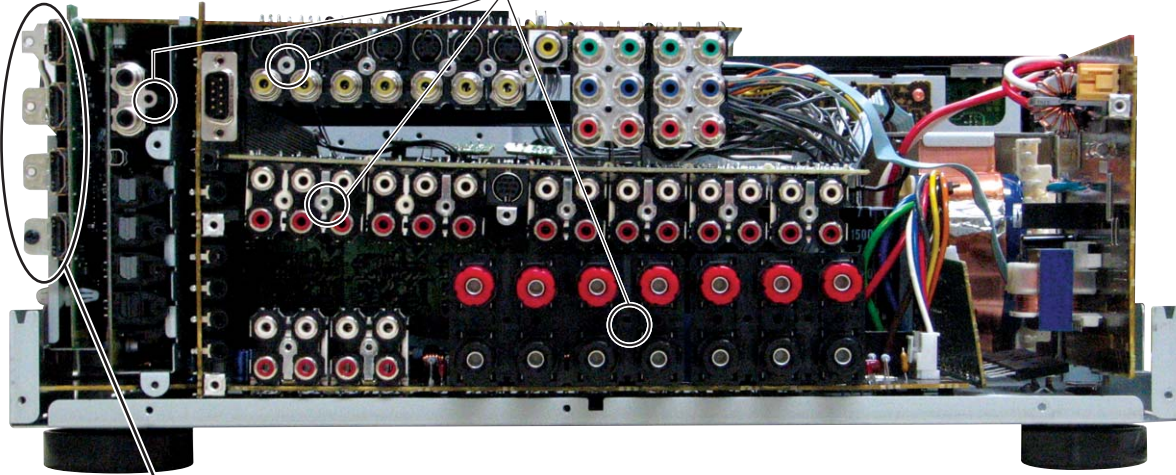
Diode lead
Caution shall be exercised when touching the lead with a short-circuit jig so as not to touch the lead and the chassis simultaneously.

A

Note : As mentioned below, detach the Rear Panel, re-fasten the screws at the corresponding points, and connect the Chassis to the ground.

Earth point

Points to be connected to the Chassis.



Points to be connected to the Chassis.
Either one.

B

C

D

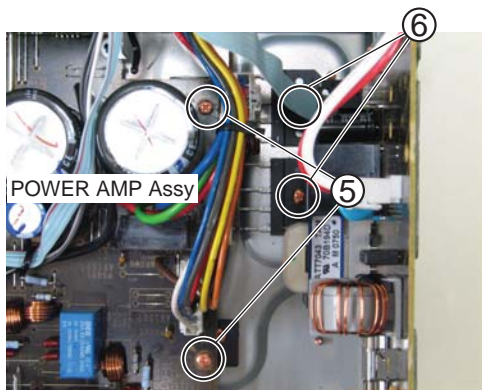
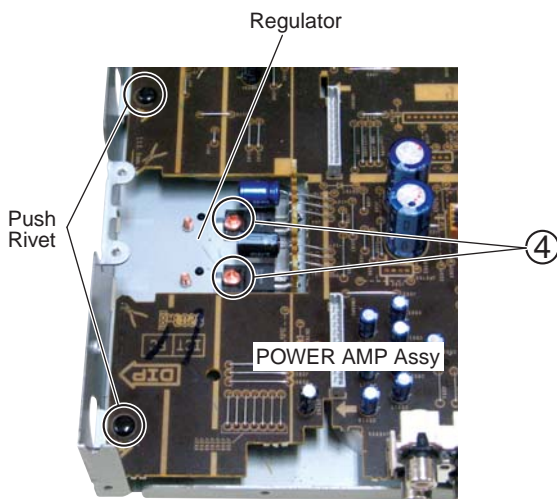
E

F

2. Diagnosis

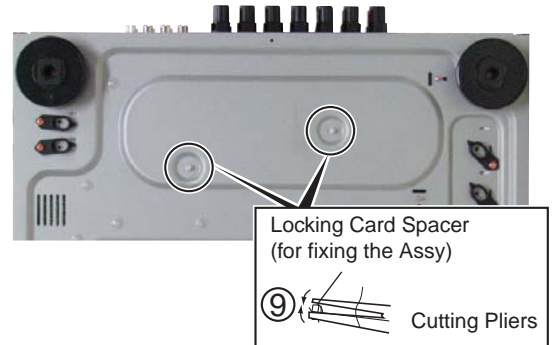
1 POWER AMP Assy

- ① Remove the Rear Panel.
- ② Remove the MAIN Assy (equipped with HDMI&DVC Assy and DSP&USB Assy) and the AUDIO IN Assy from the INTERFACE Assy.
- ③ Discharge C5721 and C5722.
(See the "discharge procedures.")
- ④ Remove the two screws that fix the Regulators attached to the Chassis.
- ⑤ Remove the two Push Rivets and the two screws that fix the POWER AMP Assy.

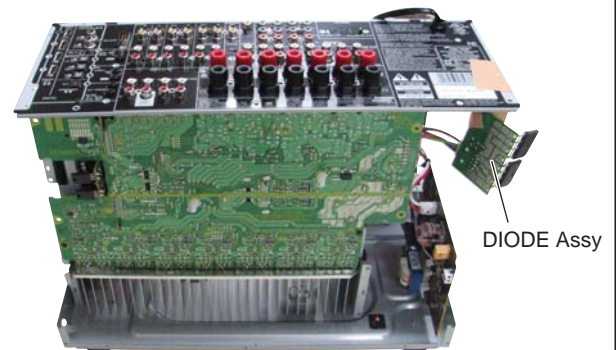


- ⑥ Remove the two screws that fix the diode of the DIODE Assy.
- ⑦ Reassembling the MAIN Assy (equipped with HDMI&DVC Assy and DSP&USB Assy) and the AUDIO IN Assy to the INTERFACE Assy.
- ⑧ Reassembling the Rear Panel.
(Keep a space for earth and about six to seven screws fixing places. Do not attach screws with the Chassis.)

- ⑨ Remove the Locking Card Spacer from the Chassis using Cutting Pliers.

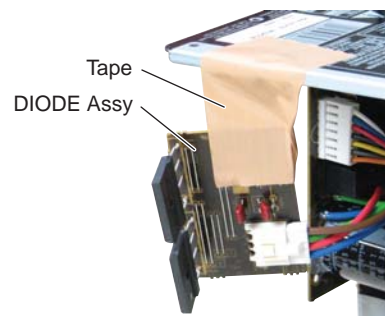


- ⑩ Remove the four screws that fix the Heat Sink V5S.
- ⑪ Cut the Binder.
- ⑫ Remove the four screws that fix the Power Transformer. Place a high insulating material under the Power Transformer to raise it.
- ⑬ Raise the block and diagnose the POWER AMP Assy B side.



Caution:

Fix the DIODE Assy to the Rear Panel with Tape so that it will not come closer to other Assy.



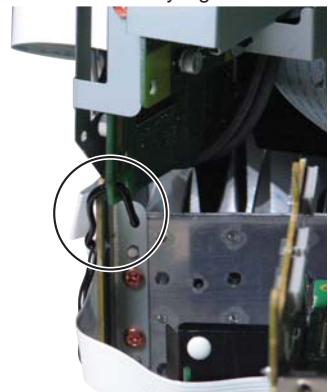
↓

Diagnosis

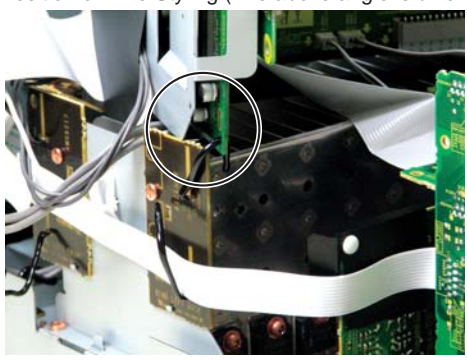
2 MAIN Assy, AUDIO IN Assy, INTERFACE Assy

- ① Remove the Rear Panel.
- ② Remove the screw that fix the MAIN Assy and the Wire Styling of the PCB Binder.
- ③ Remove the two screws that fix the HDMI Shield V5S.
- ④ Connect the four extension jig cables (two 19P board to board extension jig cable, one 11P board to board extension jig cable and 11P FFC).
- ⑤ Raise the MAIN Assy with the HDMI&DVC Assy and DSP&USB Assy attached and place it on the Heat Sink V5S. Fix the lower part of the HDMI&DVC Assy with the PCB Binder.

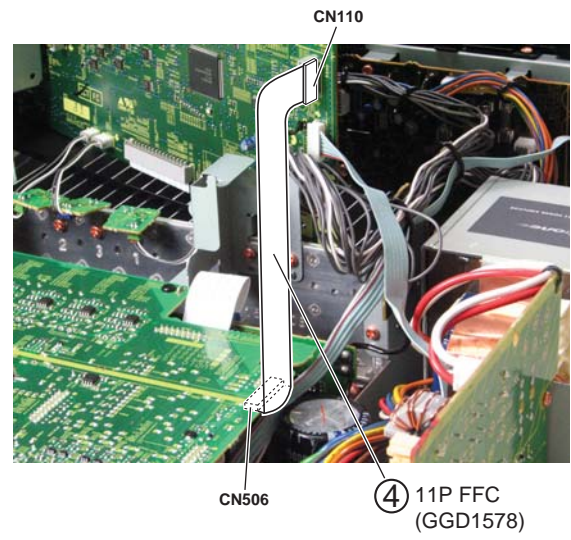
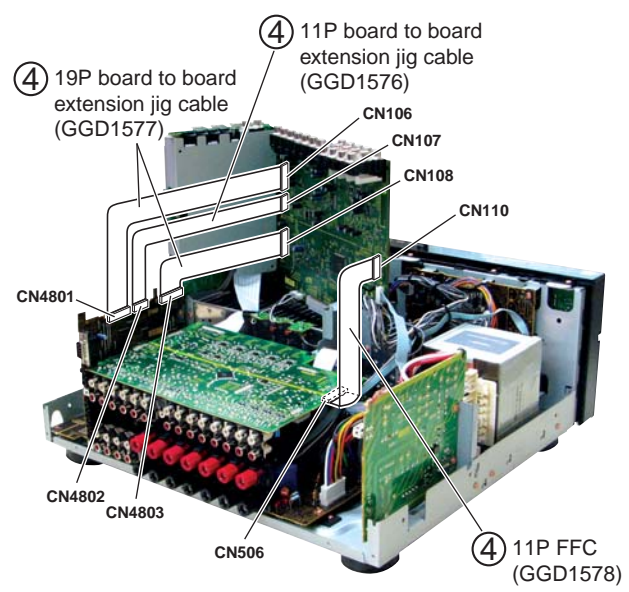
Position of Wire Styling



Position of Wire Styling (The above angle is different.)



- ⑥ Connect the earth point.
- ⑦ Diagnose the MAIN Assy A side or the AUDIO IN Assy B side, and the INTERFACE Assy.



↓

Diagnosis



8. EACH SETTING AND ADJUSTMENT

8.1 HOW TO UPDATE FIRMWARE

[1] MAIN, HDMI and EVENT microcomputer

[Purpose]

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

[Necessary Tools]

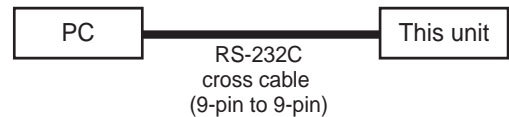
- PC with a serial port
- RS-232C cable (9-pin to 9-pin, cross)
- Firmware ("mot" extension)
- Program for updating (ufu.exe: ver. 1.08)

- RS-232C straight cable (9pin female <-> 25pin male)
- RS-232C Interface jig : GGF1348
- 7 pin FFC : VDA1681

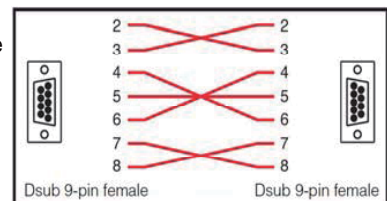
for VSX-1018AH

[Connections Except HDMI u-com for VSX-1018AH]

Connect as indicated in the figure right:
 (MAIN microcomputer)
 (EVENT microcomputer)
 (HDMI microcomputer)



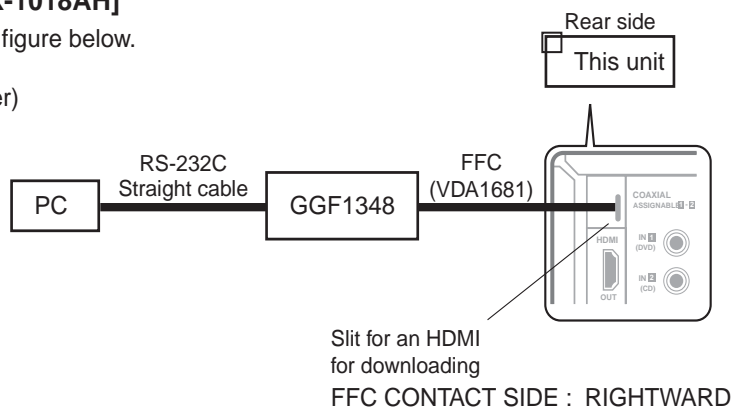
Pin-out diagram of RS-232C cross cable



[Connections for VSX-1018AH]

Connect as shown in the figure below.

(HDMI microcomputer)



[Note]

Do NOT disconnect the AC power cords of this unit nor the PC.

[Procedures]

1. Set the main volume level to "---dB" then turn off the unit (Standby mode).

2. Connect the PC and the unit as shown in "Connections".

3. MAIN ucom:

Simultaneously press and hold the "STANDBY/ON" and "iPod USB" keys for about 5seconds. The unit is turned on and "MAIN DOWNLOAD" is displayed.

HDMI ucom:

Simultaneously press and hold the "STANDBY/ON" and "CD-R" keys for about 5seconds. The unit is turned on and "HDMI DOWNLOAD" is displayed.

EVENT ucom:

Simultaneously press and hold the "STANDBY/ON" and "VIDEO" keys for about 5seconds. The unit is turned on and "EVENT DOWNLOAD" is displayed.

4. Double-click the "UFU.exe".

5. Check that "Full" is selected in Mode Select.

6. Select the firmware file (.mot file) for updating each ucom.

Note: Do NOT download the firmware file for other ucom.

7. Select the communication speed.

- Basic speed: 19200
- Data transfer speed: 57600

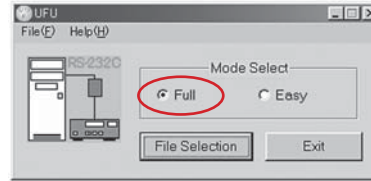
8. Click the "START" button.

9. "Completed" is displayed in the "UFU.exe" window.

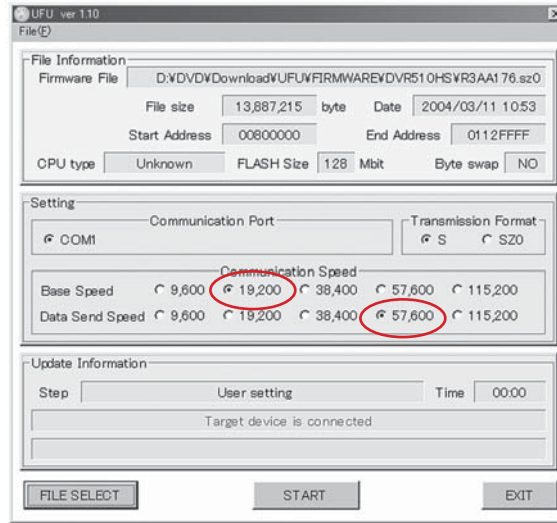
10. Disconnect then reconnect the AC power cord of the unit. If the unit is not reset, retry from step2.

11. Check the version.

Please refer to 6.1 TEST MODE "Version indication" and check that the version has been changed to a new one.



Check that "Full" is selected in Mode Select.



Select the communication speed.

- Base Speed: 19200
- Data Send Speed: 57600

[2] DSP FLASH ROM

[Purpose]

Refer to this section when updating the DSP flash ROM firmware is required by the service information, etc. It is able to update the DSP flash ROM firmware by playing back a CD-R which is recorded a DSP firmware (.wav file) via digital connection.

[Necessary Tools]

- DVD player
- Coaxial cable or Optical cable
- Update disc (CD-R disc)

Note:

Please use DVD player based on MTK system (DV-270, 370, 373, 575K, 280, 380, 383, etc.), Mitsubishi system (DV-59AVi, 868AVi, S969AVi, 668AVi, etc.) and Fujitsu system (DV-343, 444, 545, etc.).

DO NOT use DVD player based on ST system (DV-353, 454, 250, 400, 555K, 260, 363, 464, 466, 563, etc.).

The factory confirmed that DVD players based on ST system cannot send the correct data to the receiver.

You can check the base system of our DVD players on the firmware version list at PSN web (Niis).

[Connections]

Connect as shown in the figure below.



[Preparations]

Burn the DSP flash ROM firmware (.wav file) to a CD-R disc using commercially available burning software. It is necessary to select the writing format to "For music player", not "For PC data".

Note:

Depending on a burning software, data on a CD-R may not be worked for updating the DSP flash ROM.

If the HDMI indicator does not flash when playing back a update disc, the disc is not able to use for updating.

Burn the DSP flash ROM firmware to a CD-R disc, using other burning software.

[Note]

- Do NOT disconnect the AC power cords of this unit and the CD/DVD player during a updating.
- "OK" is appeared on the FL display when updating is completed.
If the "OK" is not appeared, updating has not been completed correctly. Be sure to perform the updating procedures again.

[Procedures]

1. Check the version of the DSP flash ROM (1st DSP) and the DSP ucom.
Please refer to 6.1 TEST MODE "Version indication".
2. Connect a CD or DVD player
 - (1) Connect the CD or DVD player for updating to any digital input jack of this unit.
 - (2) Select the input source to the connected source by pressing input source key.
(During the default setting, COAX-1 belongs to DVD, OPT-1 belongs to TV SAT.)
3. Confirm that the digital input signal is locked on the AV receiver.
 - (1) Play back the update disc on the CD/DVD player.
 - (2) Set the signal select setting of the AV receiver to the "Auto" then confirm that the Signal Select indicator is Digital.

[Procedures]

4. Enter the DSP flash ROM updating mode.

- (1) Skip to the beginning (time:0:00) of the first track of the update disc and set to Pause.
- (2) Set the main volume level of the AV receiver to "---dB" then turn off the unit (Standby mode).
- (3) Simultaneously press and hold the "STANDBY/ON" and "FM/AM" keys for about 5seconds.
The unit is turned on and "DSPF DOWNLOAD" is displayed.

5. Play back the first track of the update disc.

- (1) Release Pause mode of the CD/DVD player and start to play back the DSP update program stream.
- (2) After 5-10 seconds, the HDMI indicator starts flashing. Be sure to check it.
Flashing of the HDMI indicator means that the unit is receiving a correct stream and the updating is in progress.

Note:

Do NOT turn off the unit while the HDMI indicator is flashing. If the unit is turned off, be sure to go back to Step 4. (As the Flash ROM goes into unusual status if the power is off during updating, the unit may not start properly.) Even in such a case, you can restore the unit by performing Steps 4 to 7.

6. Wait until "OK" is appeared on the FL display.

- (1) It takes about 2 minutes for updating.
- (2) After confirming the "OK", stop or pause the CD/DVD player and wait for 5 seconds then turn off the power of the AV receiver (Standby mode).

7. Check the version of the DSP flash ROM (1st DSP).

Please refer to 6.1 TEST MODE "Version indication" and check that the version has been changed to a new one.

[3] Troubleshooting of DSP FLASH ROM UPDATE

Symptoms	Items to be checked
The HDMI indicator does not start flashing, and 10 seconds or more has elapsed after a updating stream is input.	Is DSP writing mode entered? (Simultaneously press and hold the "STANDBY/ON" and "FM/AM" keys.)
	Is DIR locked? → You can check this on the Signal Select indicator if the input is set to Auto and Digital. If DIR is not locked, check the input function and digital connections between the player and this unit.
	Is the stream (Track No., etc.) being played back correct?
	Are compressed audio signals, such as WMA, being input when or after writing mode is entered ? → As soon as the compressed audio signals are input, writing mode is exited. It is recommended that playback be paused at the beginning of the track of a updating stream then writing mode is entered by simultaneous pressing of the keys. Release Pause mode after entering of writing mode is confirmed.
Writing mode is not entered upon simultaneous pressing of the "STANDBY/ON" and "FM/AM" keys.	Is the volume control of the receiver set to -∞dB? If not, set it to -∞dB (- - -).
	Reset the receiver then enter writing mode. Note: All the user data stored in the receiver are cleared when the receiver is reset.
"OK" is not displayed.	Is the track played back from the beginning to the end? → With the receiver in writing mode, be sure to play back the stream track twice.
	If an error is generated because any scratches on the disc, "OK" is not displayed. → In such a case, play back the same stream stored on another track as backup.



5



6



7



8



A



B



C



D



E



F



5



6

VSX-LX51



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.

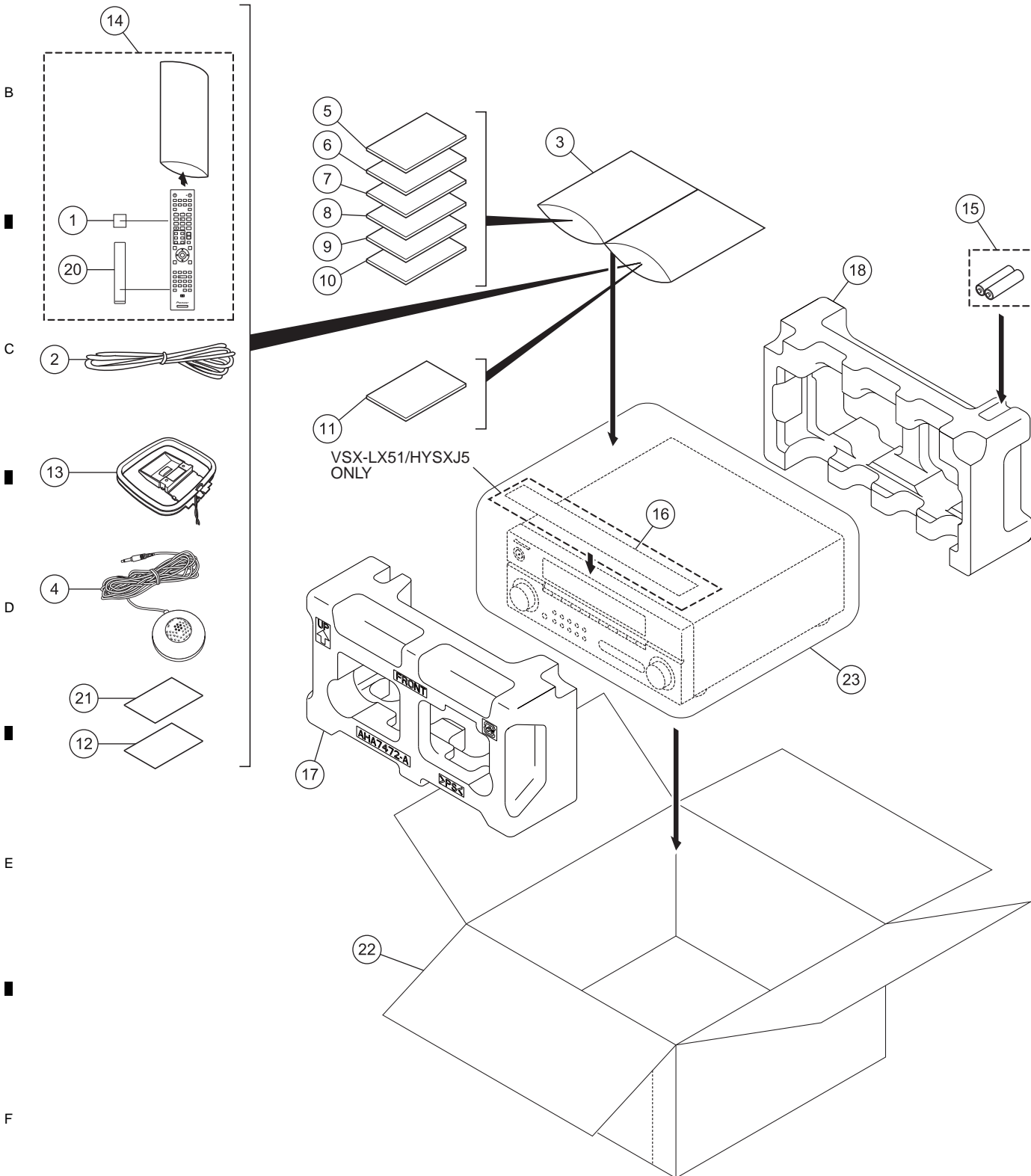
● The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical design.

● 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



PACKING SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LABEL (WEEE)	ARW7322	13	AM Loop Antenna	ATB7013
2	FM Wire Antenna	ADH7030	14	Remote Control Unit	See Contrast table(2)
NSP 3	Polyethylene Bag	AHG7132	NSP 15	Dry Cell Battery AA/LR6	VEM1031
4	Setup Microphone (for Auto MCACC setup)	APM7008	16	Protection Sheet LX	See Contrast table(2)
5	Operating Instructions (English)	See Contrast table(2)	17	Front Pad V5SEL	AHA7472
6	Operating Instructions (French)	See Contrast table(2)	18	Rear Pad V5SEL	AHA7473
7	Operating Instructions (German)	See Contrast table(2)	19	****	****
8	Operating Instructions (Italian)	See Contrast table(2)	20	Battery Cover	VZN1025
9	Operating Instructions (Spanish)	See Contrast table(2)	NSP 21	Warranty Card EU	ARY7111
10	Operating Instructions (Dutch)	See Contrast table(2)	22	Packing Case	See Contrast table(2)
11	Operating Instructions (Russian)	See Contrast table(2)	23	Packing Sheet	RHC1023
12	Caution Sheet (Spanish/English)	ARM7083			

(2) CONTRAST TABLE

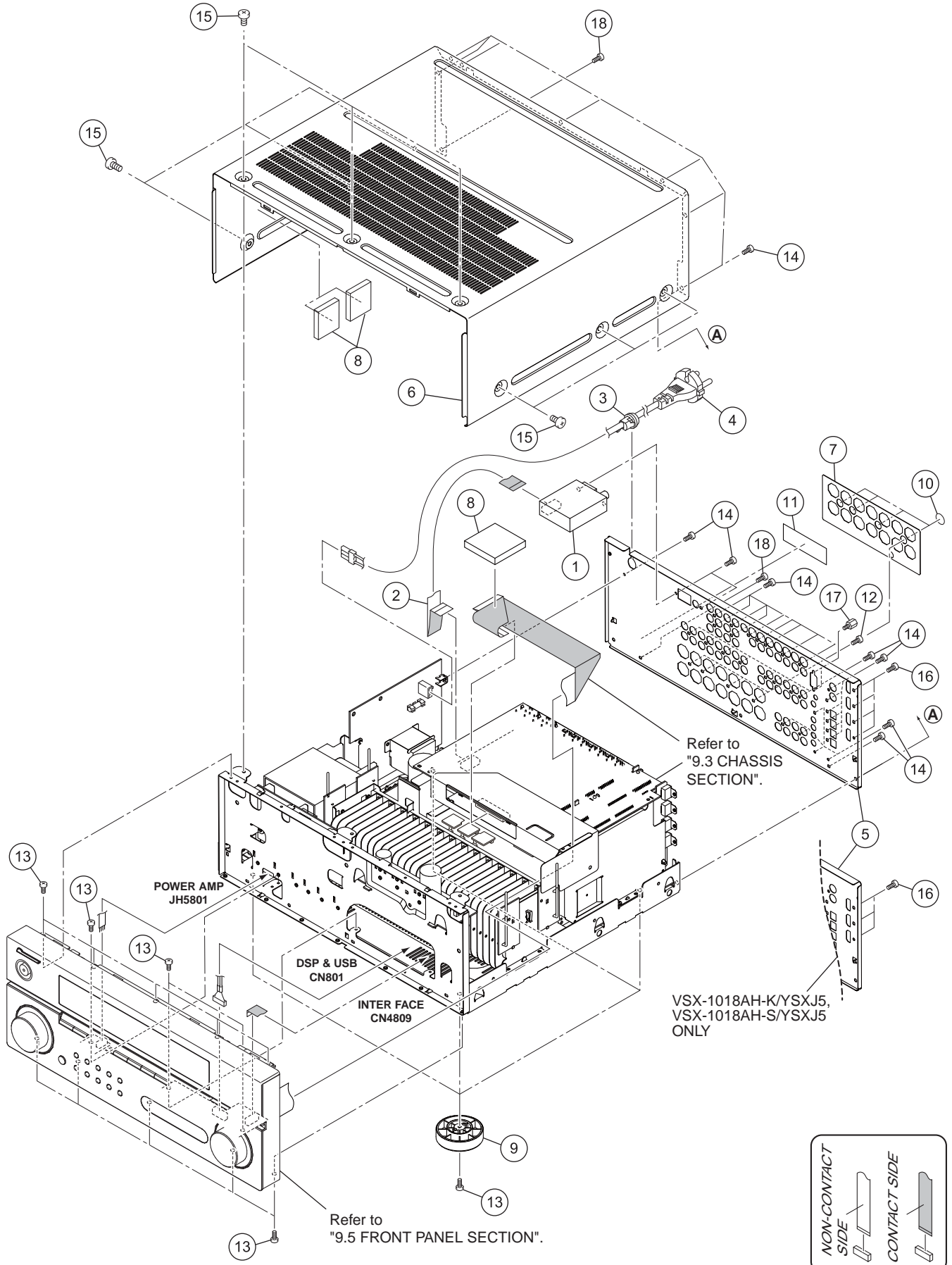
VSX-LX51/HYSXJ5, VSX-1018AH-K/YSXJ5 and VSX-1018AH-S/YSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-LX51/ HYSXJ5	VSX-1018AH-K/ YSXJ5	VSX-1018AH-S/ YSXJ5
	5	Operating Instructions (English)	ARB7397	ARB7401	ARB7401
	6	Operating Instructions (French)	ARC7814	ARC7823	ARC7823
	7	Operating Instructions (German)	ARC7815	ARC7824	ARC7824
	8	Operating Instructions (Italian)	ARC7816	ARC7825	ARC7825
	9	Operating Instructions (Spanish)	ARC7817	ARC7826	ARC7826
	10	Operating Instructions (Dutch)	ARC7818	ARC7827	ARC7827
	11	Operating Instructions (Russian)	ARC7819	ARC7828	ARC7828
	14	Remote Contro Unit	AXD7518	AXD7526	AXD7527
	16	Protection Sheet LX	AEH7030	Not used	Not used
	22	Packing Case	AHD8576	AHD8582	AHD8583

9.2 EXTERIOR SECTION

1 2 3 4

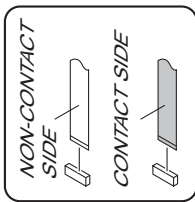
A
B
C
D
E
F



Refer to "9.5 FRONT PANEL SECTION".

Refer to "9.3 CHASSIS SECTION".

VSX-1018AH-K/YSXJ5,
VSX-1018AH-S/YSXJ5
ONLY



1 2 3 4

EXTERIOR SECTION PARTS LIST

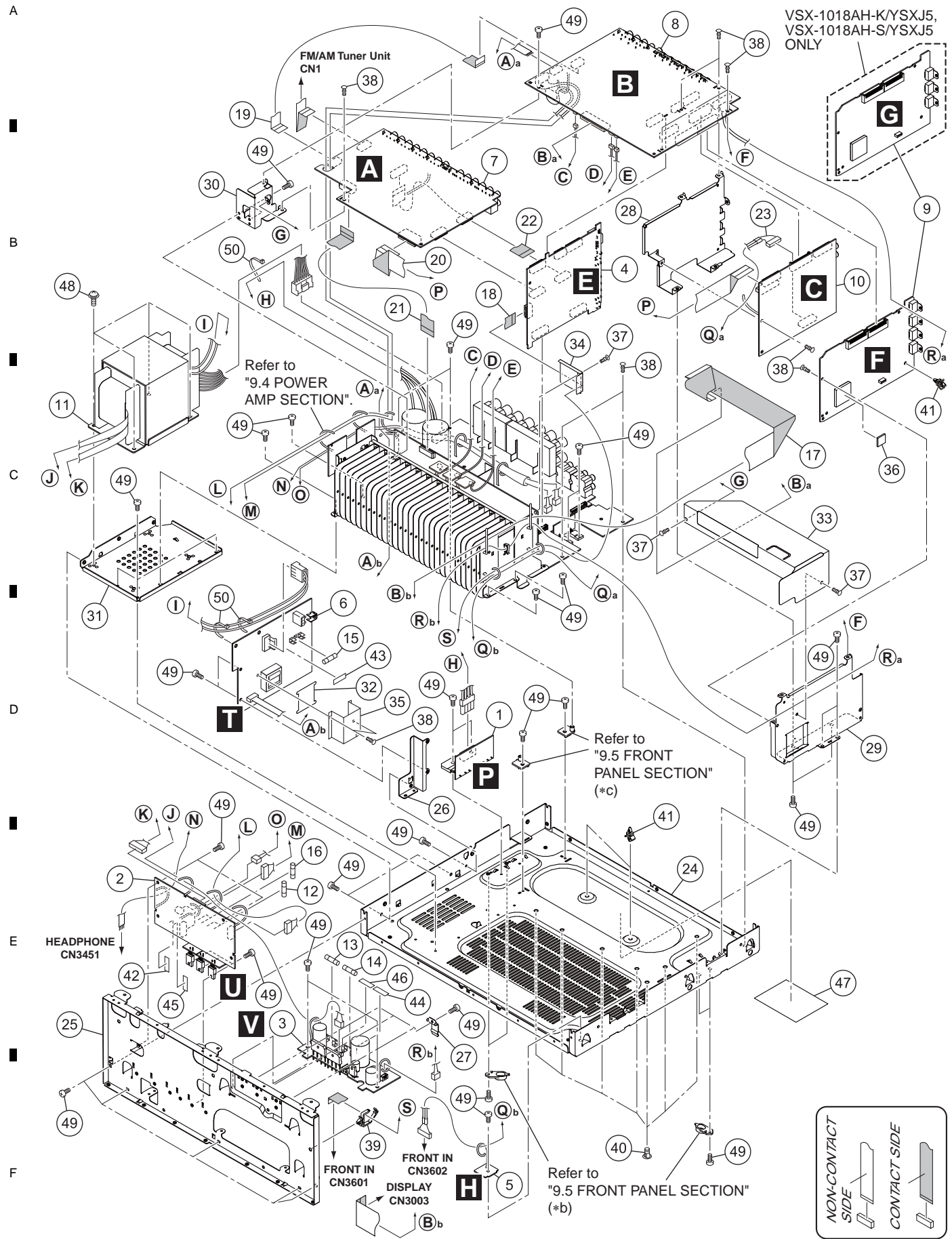
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FM/AM Tuner Unit	AXX7248			
2	11P FFC/30V (J54)	ADD7639	NSP 11	LABEL	VRW1629
3	Cord Stopper	CM-22B	12	Screw	BBT30P100FCC
⚠ 4	AC Power Cord	VDG1080	13	Screw	BBZ30P080FCC
5	Rear Panel	See Contrast table(2)	14	Screw	BBZ30P080FTB
			15	Screw	See Contrast table(2)
6	Bonnet	See Contrast table(2)			
7	SP Sheet V5S	AEC7605	16	Screw	PMZ30P060FTB
8	Top Cushion	AED7121	17	Screw 2.85X7	ABA7078
9	Insulator	See Contrast table(2)	18	Screw	IBP30P090FCC
10	Cushion Circle 14B	AED7081			

(2) CONTRAST TABLE

VSX-LX51/HYSXJ5, VSX-1018AH-K/YSXJ5 and VSX-1018AH-S/YSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-LX51/ HYSXJ5	VSX-1018AH-K/ YSXJ5	VSX-1018AH-S/ YSXJ5
	5	Rear Panel	ANC8514	ANC8520	ANC8521
	6	Bonnet	AZN8034	AZN8034	AZN8035
	9	Insulator	DXA1904	PNW2766	PNW2766
	15	Screw	BCZ40P060FTB	BCZ40P060FTB	BCZ40P060FNI

9.3 CHASSIS SECTION



CHASSIS SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DIODE Assy	AWX8985	26	Primary Angle 56	ANG7526
2	REGULATOR Assy	AWX8986	NSP 27	Transistor Holder	ANG7543
3	DC/DC Assy	AWX8988	28	DSP Shield V5SEL	ANG7614
4	INTERFACE Assy	AWX8990	29	HDMI Shield V5S	ANG7616
5	BINDER Assy	AWX9120			
6	PRIMARY Assy	AWX9124	30	PCB Stay V5S	ANG7617
NSP 7	AUDIO IN Assy	AWK8051	NSP 31	Trans Frame V5S	ANG7629
NSP 8	MAIN Assy	See Contrast table(2)	32	Primary Barrier	AEC7569
9	HDMI Assy&DVC HDMI Assy	See Contrast table(2) See Contrast table(2)	33	Main Barrier V5S	AEC7602
			34	PS Barrier V5S	AEC7611
10	DSP Assy	AWX9176	35	Shield Case	AMR7526
⚠ 11	Power Transformer (T1501)	ATS7419	36	Radiation Sheet	See Contrast table(2)
⚠ 12	Fuse (T2.5A) (FU8,FU9)	AEK1058	37	Push Rivet	AEC7370
⚠ 13	Fuse (T3.15A) (FU5)	AEK1059	38	Nylon Rivet	AEC7406
⚠ 14	Fuse (T4A) (FU4)	AEK1060	39	Wire Saddle	DEC1450
			40	Card Spacer	DNK2769
⚠ 15	Fuse (T5A) (FU1)	AEK1061	41	Locking Card Spacer	PNW2917
⚠ 16	Fuse (T800MA) (FU6,FU7)	AEK7072	NSP 42	Fuse Card	AAX2367
17	33P FFC/60V (J51)	ADD7635	NSP 43	Fuse Card	AAX7098
18	11P FFC/60V (J52)	ADD7636	NSP 44	Fuse Card	AAX7099
19	11P FFC/60V (J54)	ADD7637			
			NSP 45	Fuse Card	AAX7277
20	23P FFC/60V (J55)	ADD7638	NSP 46	Fuse Card	AAX7493
21	17P FFC/60V (J57)	ADD7640	47	Lisence Label V5S	ARW7372
22	19P FFC/60V (J58)	ADD7641	48	Screw 4X12	ABA7109
23	9P Housing Assy	ADX7619	49	Screw	BBZ30P080FCC
NSP 24	Chassis V5S	ANA7209	NSP 50	Binder (BK-1)	ZCA-BK1
NSP 25	Panel Stay V5SEL	AND7086			

(2) CONTRAST TABLE

VSX-LX51/HYSXJ5, VSX-1018AH-K/YSXJ5 and VSX-1018AH-S/YSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-LX51/ HYSXJ5	VSX-1018AH-K/ YSXJ5	VSX-1018AH-S/ YSXJ5
NSP	8	MAIN Assy	AWK8053	AWK8058	AWK8058
	9	HDMI Assy&DVC	AWX9170	Not used	Not used
		HDMI Assy	Not used	AWX9131	AWX9131
	36	Radiation Sheet	PEB1306	Not used	Not used

9.4 POWER AMP SECTION

A

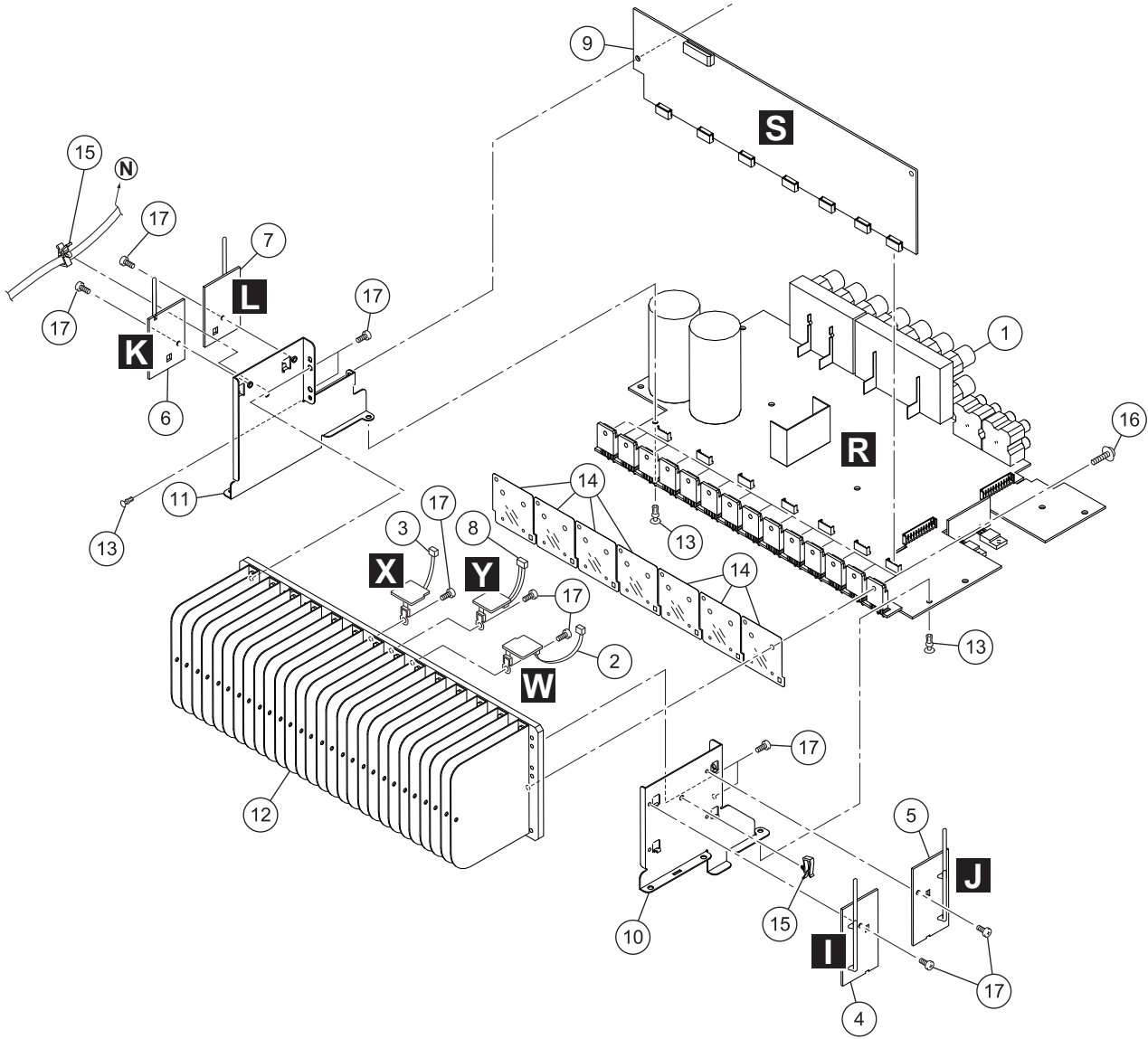
B

C

D

E

F



POWER AMP SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	POWER AMP Assy	AWX8984
2	POSI1 Assy	AWX9132
3	POSI2 Assy	AWX9133
4	BIND_L_FRONT Assy	AWX9217
5	BIND_L_BACK Assy	AWX9218
6	BIND_R_FRONT Assy	AWX9219
7	BIND_R_BACK Assy	AWX9220
8	POSI3 Assy	AWX9223
9	PRE-STAGE AMP Assy	AWX8989
10	H.S.Angle V5S L	ANG7611
11	H.S.Angle V5S R	ANG7612
NSP 12	Heat Sink V5S	ANH7199
13	Nylon Rivet	AEC7406
14	Mica Sheet V5SEL	AEE7068
15	Side Clamp	DEC2007
16	SEMS Screw 3X19	ABA7085
17	Screw	BBZ30P080FCC

A

B

C

D

E

F

9.5 FRONT PANEL SECTION

1 2 3 4

A

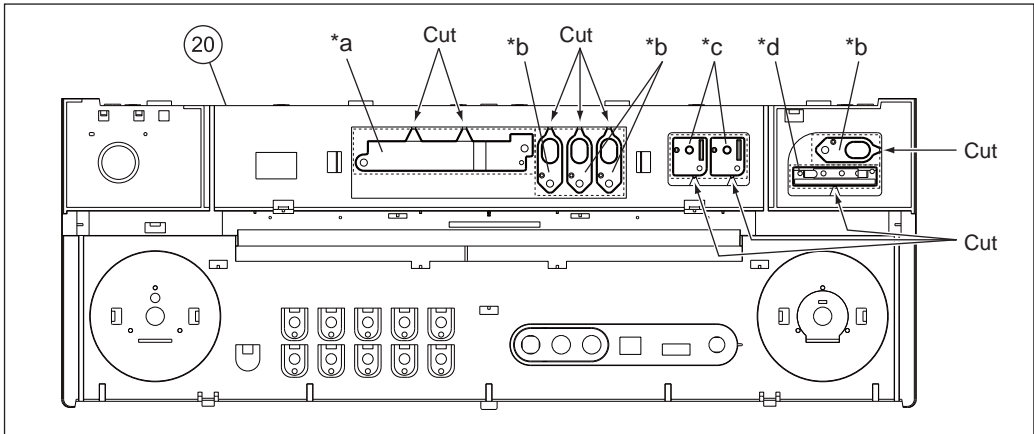
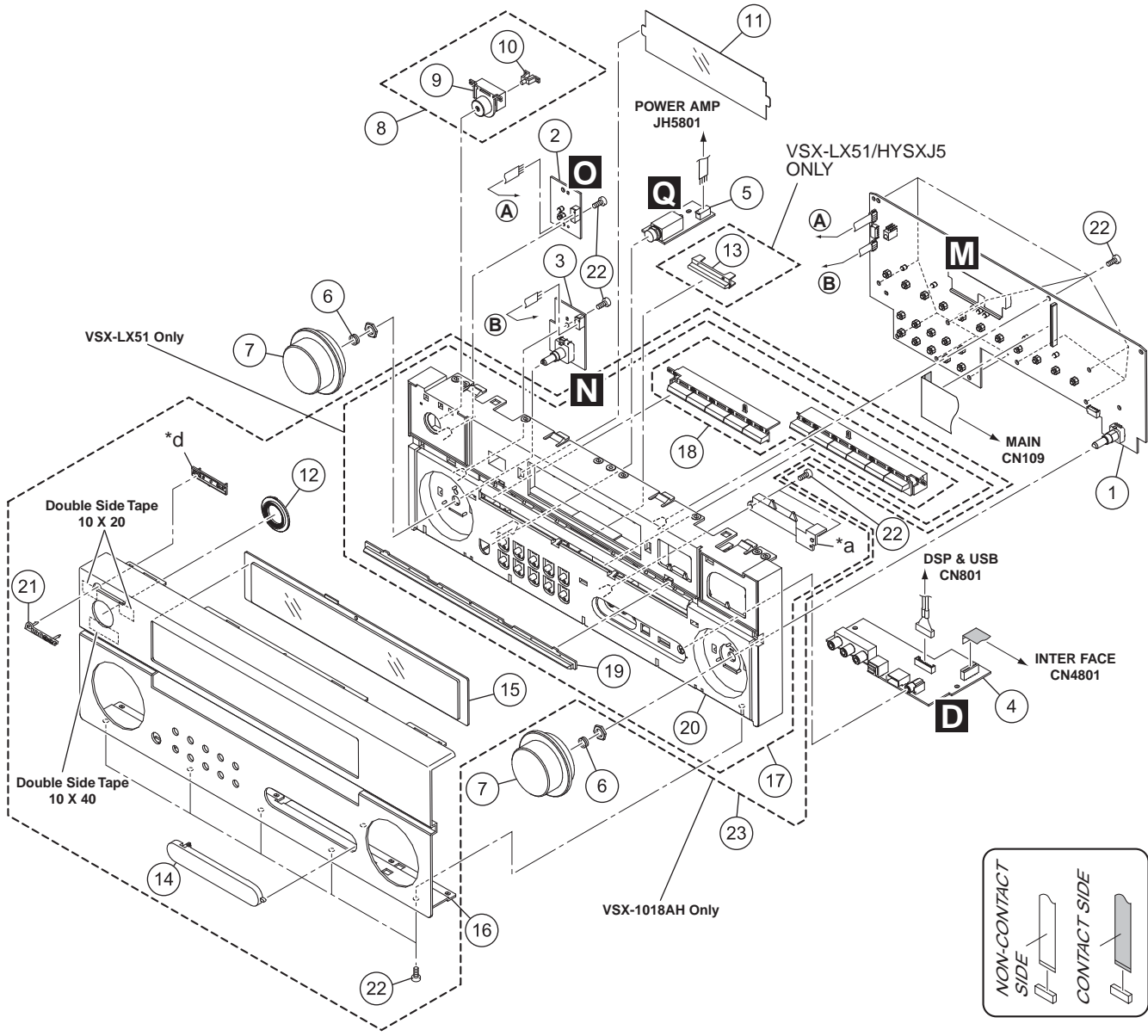
B

C

D

E

F



1 2 3 4

FRONT PANEL SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DISPLAY Assy	See Contrast table(2)	13	IB Lens V5SEL	See Contrast table(2)
2	POWER SW Assy	AWX9118	14	Input Cover	See Contrast table(2)
3	MULTI JOG Assy	AWX9119	15	Window LX51	AAK8433
4	FRONT IN Assy	AWX9121			
5	HEADPHONE Assy	AWX9122	16	Front Panel	See Contrast table(2)
			17	Panel Base Assy	See Contrast table(2)
6	VOL Ring 60	ABH7249	18	Func BTN	See Contrast table(2)
7	VOL.Knob	See Contrast table(2)	19	Center Lens	See Contrast table(2)
8	Standby BTN Assy	See Contrast table(2)	20	Panel Base	See Contrast table(2)
9	Standby BTN	See Contrast table(2)			
NSP 10	Standby Lens V2	XAK3477	21	Pioneer Badge	See Contrast table(2)
			22	Screw	PPZ30P080FNI
11	Filter 60HY	AAK8413	23	Panel Assy	See Contrast table(2)
12	Power Ring	See Contrast table(2)			

(2) CONTRAST TABLE

VSX-LX51/HYSXJ5, VSX-1018AH-K/YSXJ5 and VSX-1018AH-S/YSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-LX51/ HYSXJ5	VSX-1018AH-K/ YSXJ5	VSX-1018AH-S/ YSXJ5
	1	DISPLAY Assy	AWX9117	AWX9214	AWX9214
	7	VOL.Knob	AAA7049	AAA7049	AAA7048
	8	Standby BTN Assy	AAD7773	XAD3216	XAD3217
	9	Standby BTN	AAD7772	XAD3200	XAD3201
	12	Power Ring	AAK8427	AAK8431	AAK8435
	13	IB Lens V5SEL	AAK8430	Not used	Not used
	14	Input Cover	AAK8432	XAK3596	XAK3597
	16	Front Panel	ANB7477	AMB7982	AMB7983
	17	Panel Base Assy	AXG7368	Not used	Not used
	18	Func BTN	AAD7786	AAD7786	AAD7787
	19	Center Lens	AAK8428	AAK8429	AAK8429
	20	Panel Base	AMB7990	AMB7991	AMB7993
	21	Pioneer Badge	BAM1004	XAM3006	VAM1129
	23	Panel Assy	Not used	AXG7372	AXG7373

10. SCHEMATIC DIAGRAM

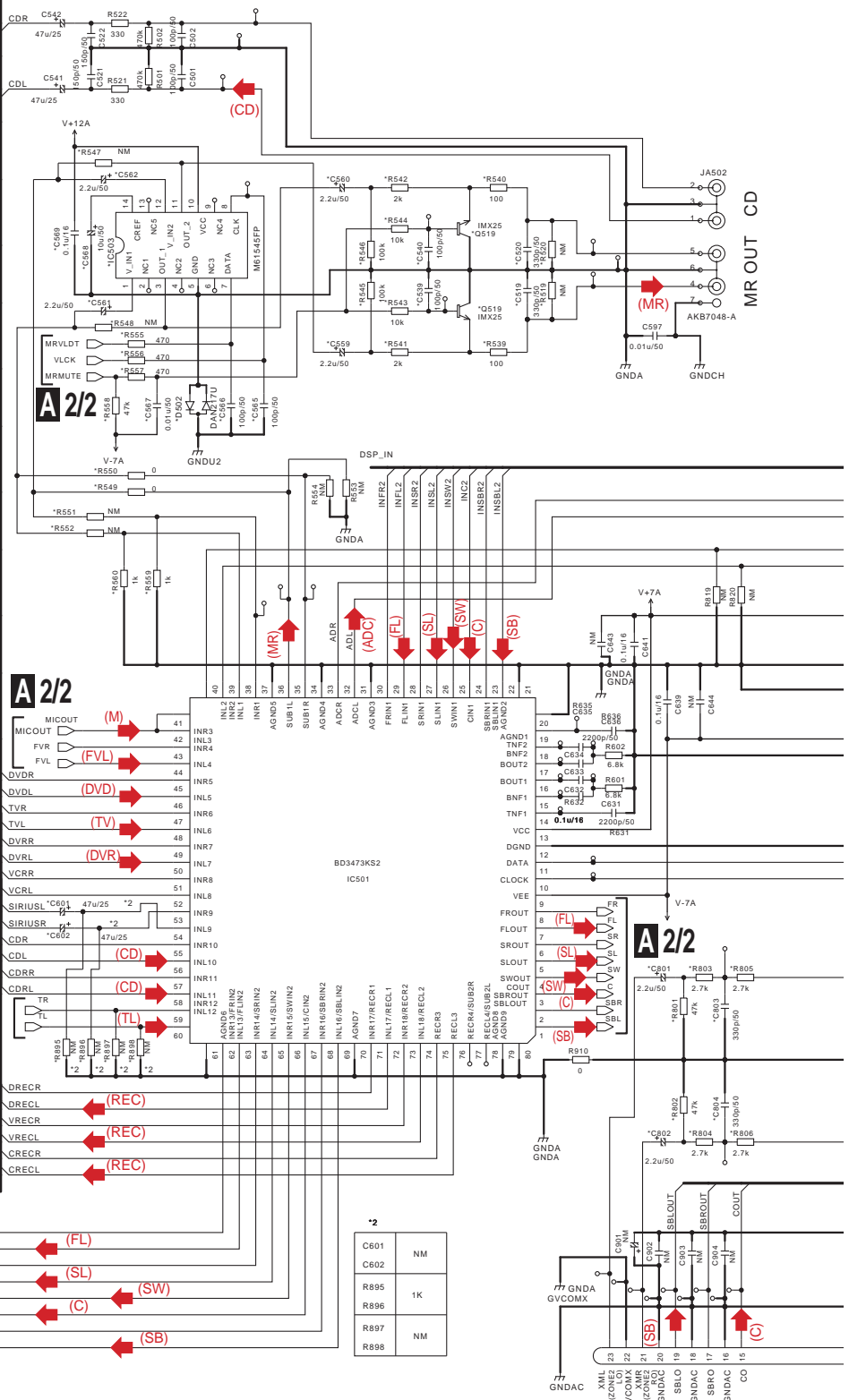
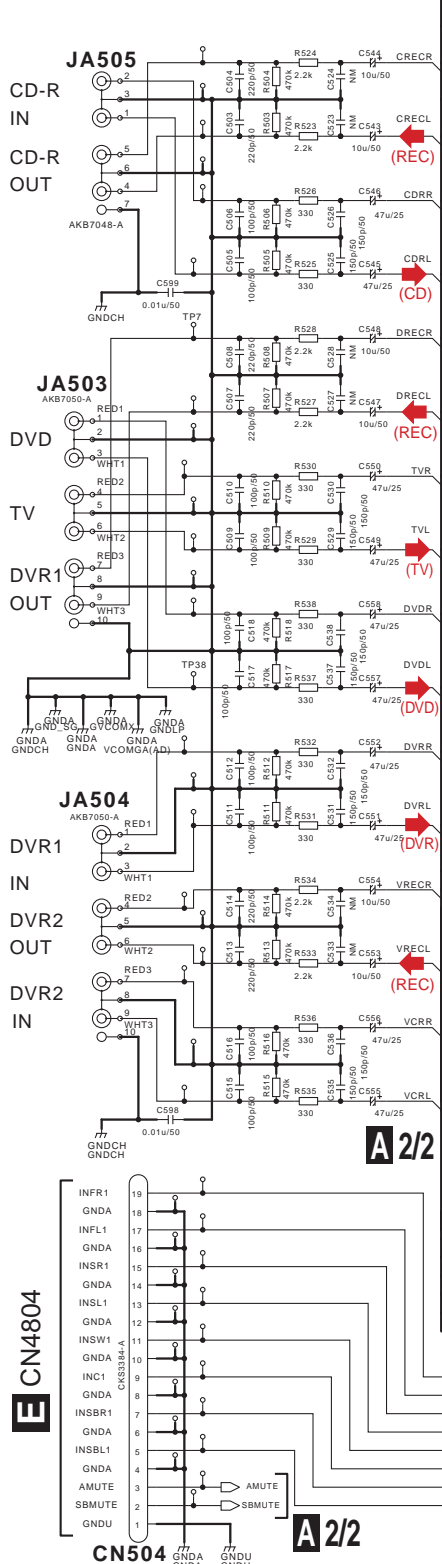
10.1 AUDIO IN ASSY (1/2)

- (DVD) : Audio Signal Route (DVD L ch)
- (DVR) : Audio Signal Route (DVR L ch)
- (TV) : Audio Signal Route (TV L ch)
- (TL) : Audio Signal Route (Tuner L ch)
- (CD) : Audio Signal Route (CD L ch)

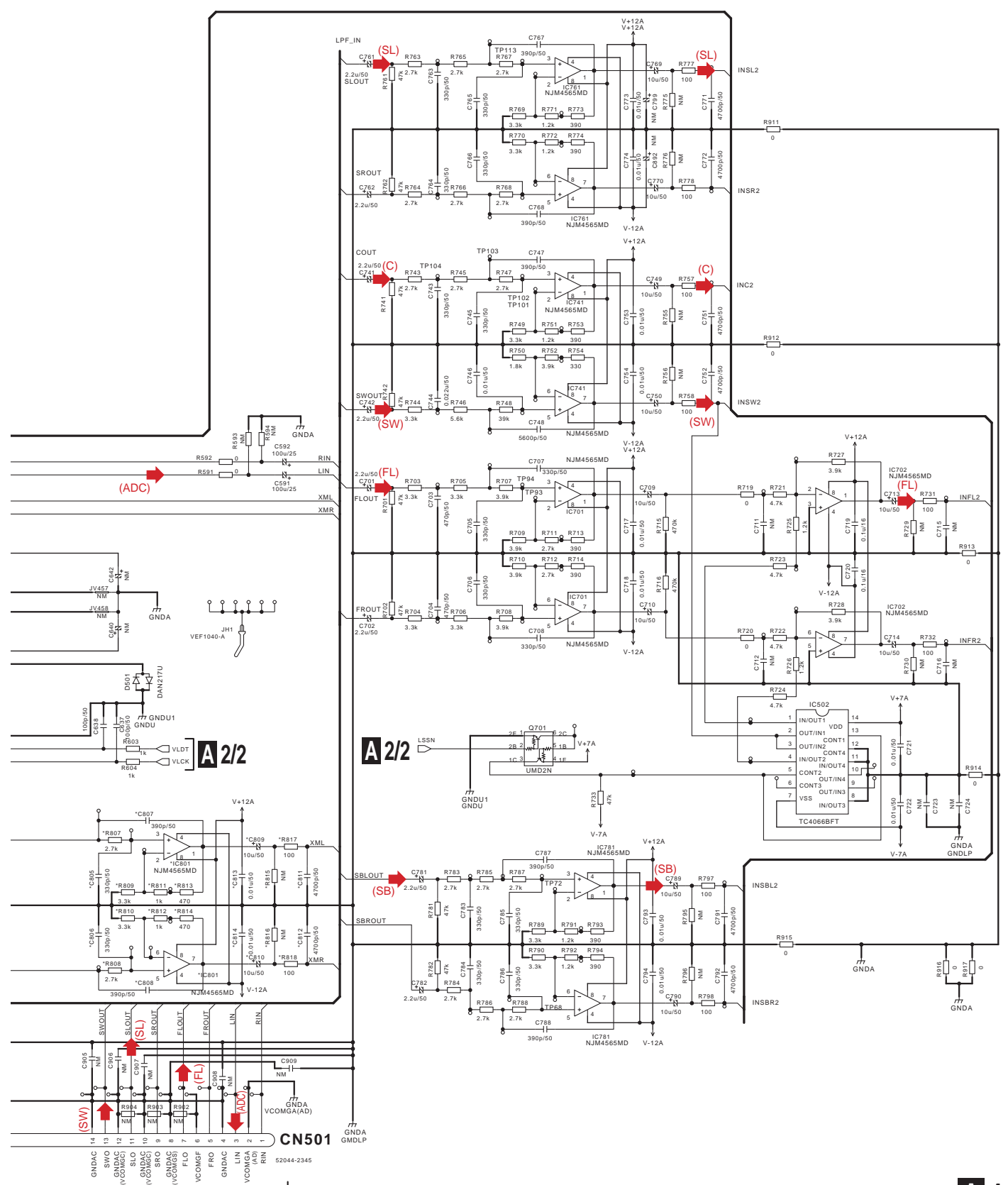
- (FL) : Audio Signal Route (Front L ch)
- (FVL) : Audio Signal Route (Video L ch)
- (SL) : Audio Signal Route (Surround L ch)
- (C) : Audio Signal Route (Center ch)
- (SB) : Audio Signal Route (Surround Back L ch)

- (SW) : Audio Signal Route (SubWoofer ch)
- (M) : Audio Signal Route (Mic ch)
- (MR) : Audio Signal Route (MR ch)
- (ADC) : Audio Signal Route (ADC L ch)
- (REC) : Audio Signal Route (REC L ch)

A
B
C
D
E
F



A 1/2 AUDIO IN ASSY (AWK8051)



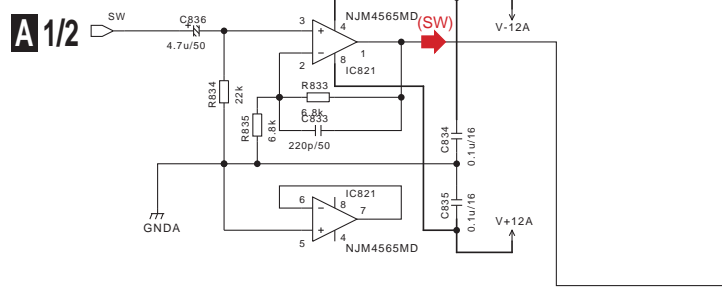
C 3/5 CN601

VSX-LX51

A 1/2

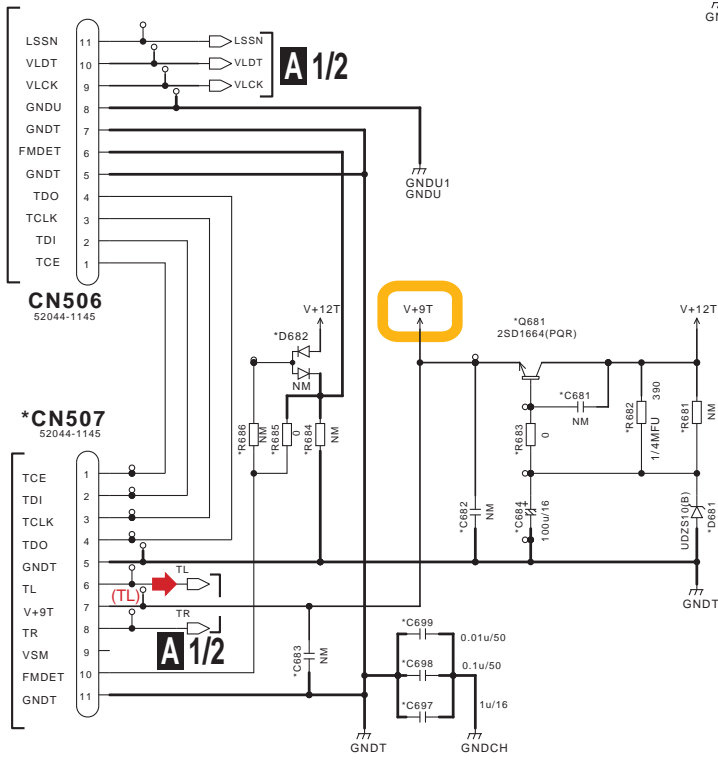
10.2 AUDIO IN ASSY (2/2)

A



B

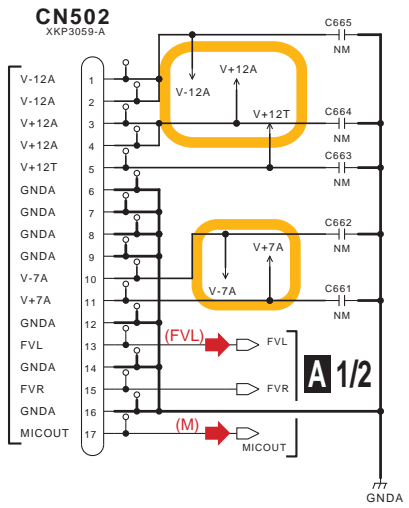
B 4/4
CN110



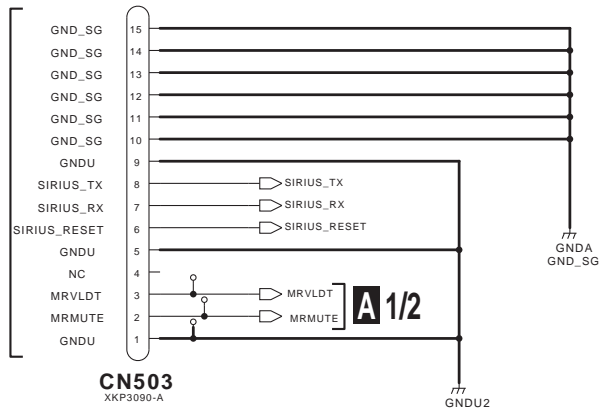
C

D

E
CN4806



E
CN4805

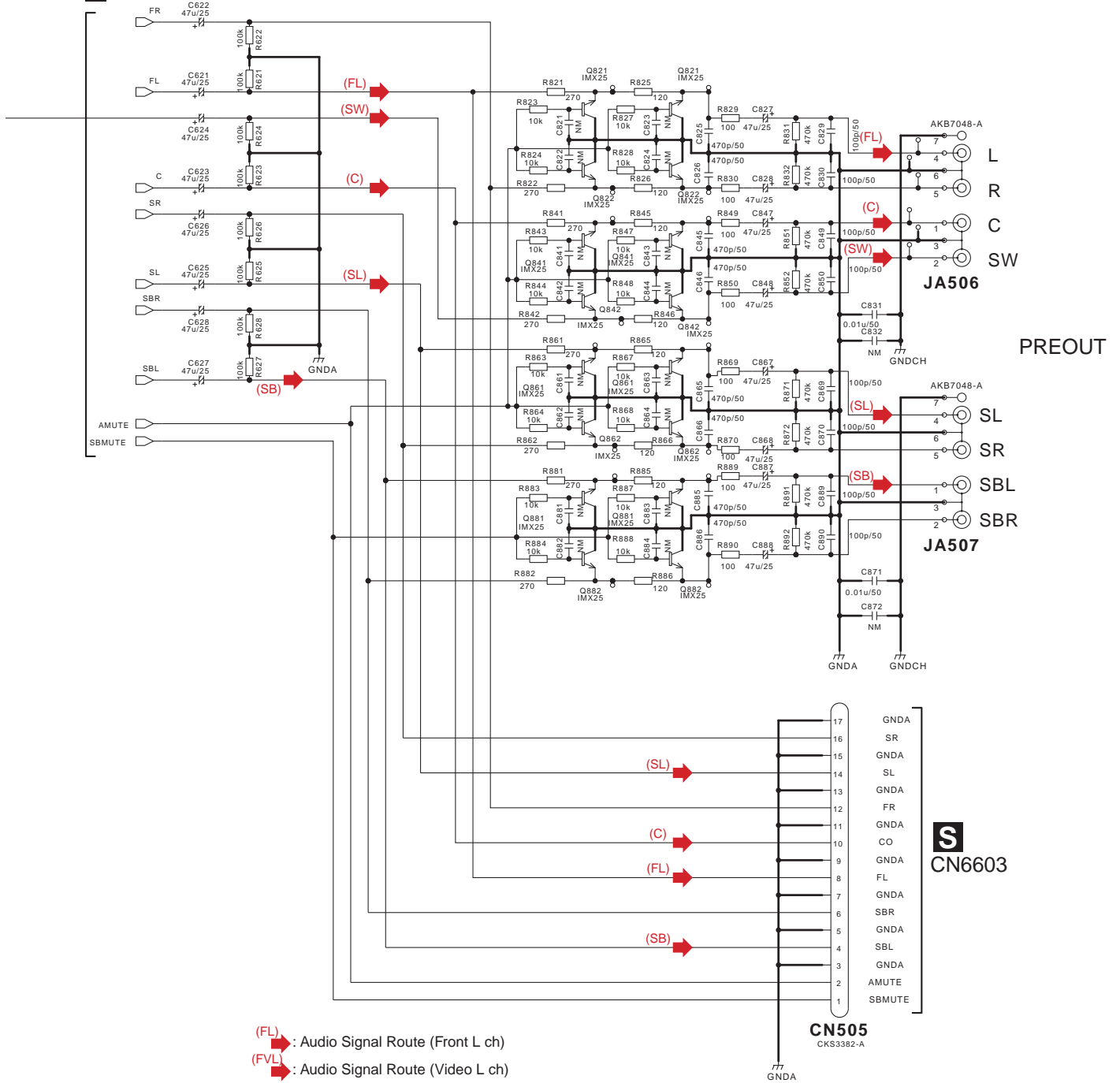


F

A 2/2

A 2/2 AUDIO IN ASSY (AWK8051)

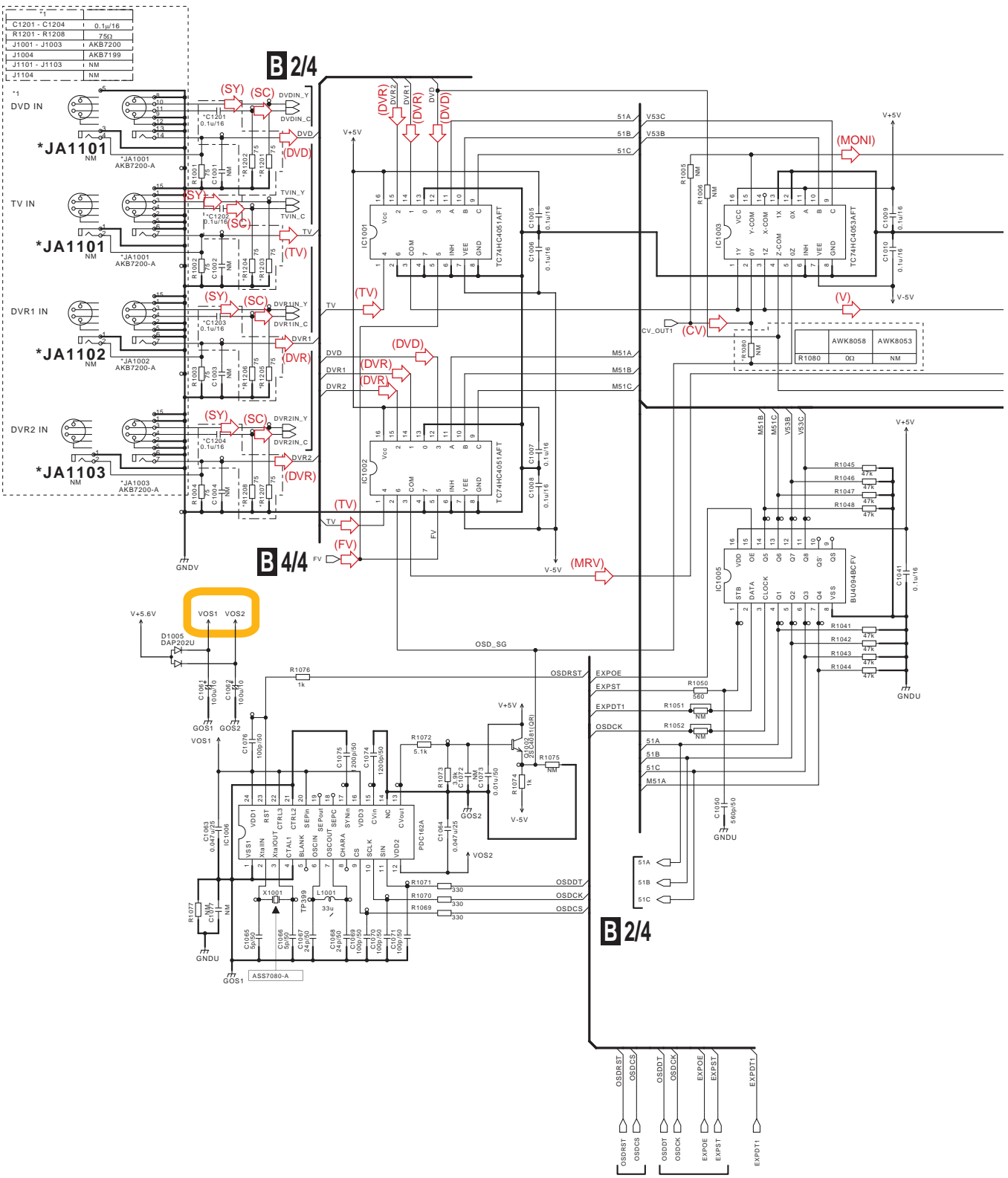
A 1/2



- (FL) → : Audio Signal Route (Front L ch)
- (FVL) → : Audio Signal Route (Video L ch)
- (SL) → : Audio Signal Route (Surround L ch)
- (C) → : Audio Signal Route (Center ch)
- (SB) → : Audio Signal Route (Surround Back L ch)
- (SW) → : Audio Signal Route (SubWoofer ch)
- (TL) → : Audio Signal Route (Tuner L ch)

10.3 MAIN ASSY (1/4)

1 2 3 4



A
B
C
D
E
F

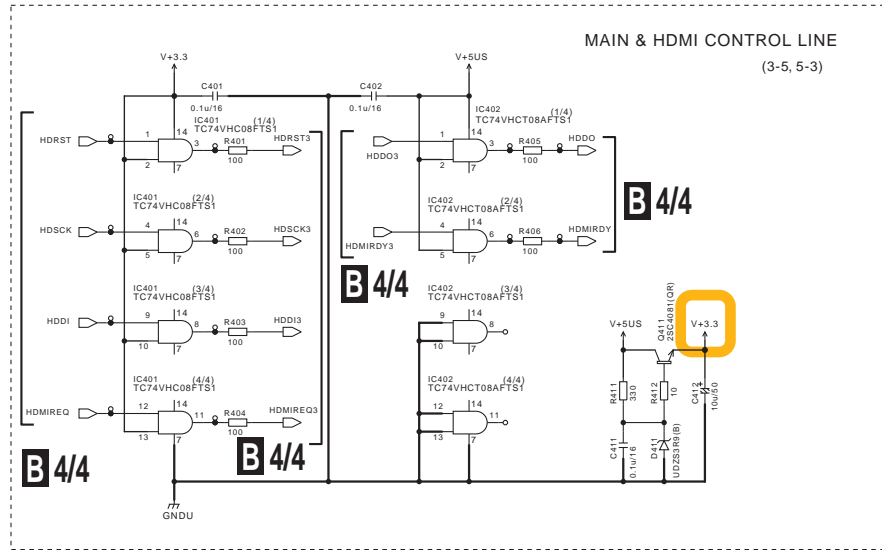
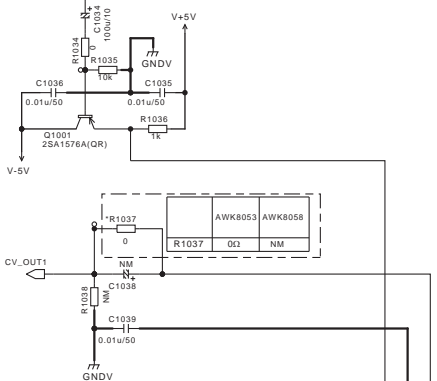
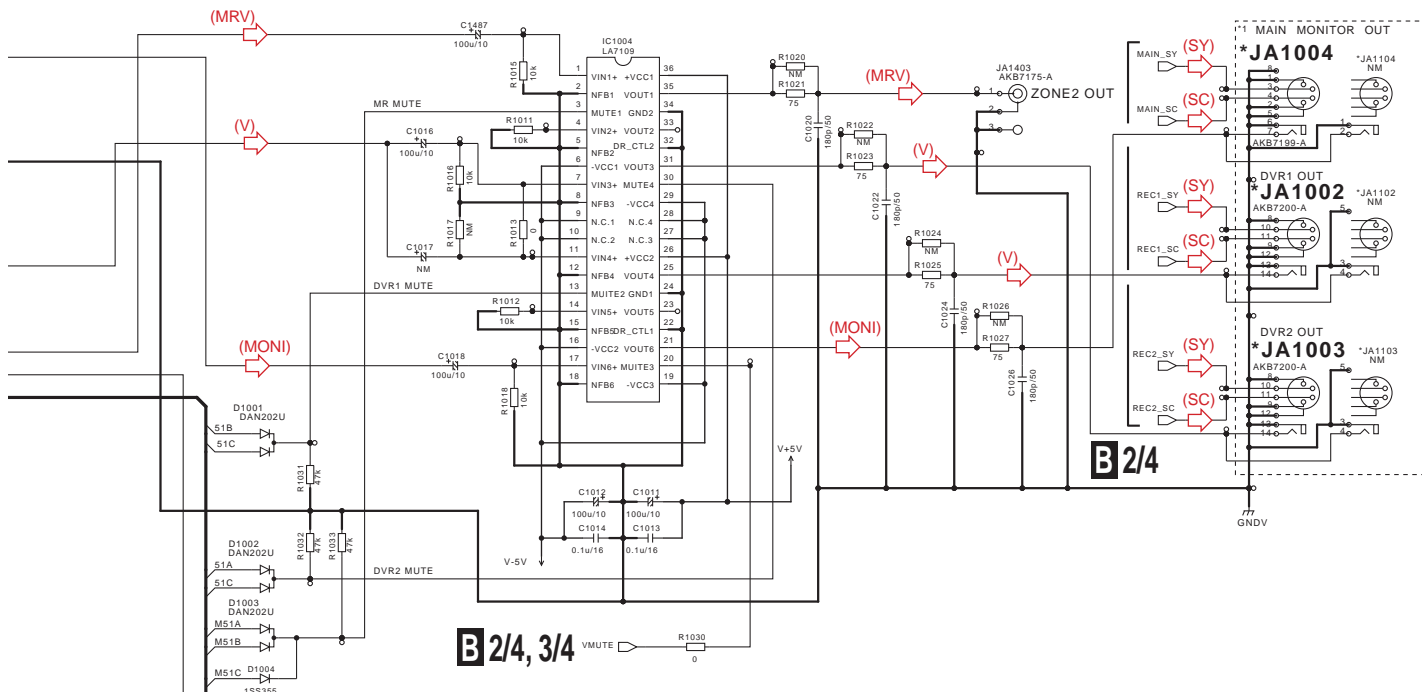
B 1/4

1 2 3 4

B 4/4 B 3/4, 4/4 B 3/4

B 1/4 MAIN ASSY
 (VSX-LX51 : AWK8053)
 (VSX-1018AH : AWK8058)

(V) : Video Signal Route
 (MRV) : Video Signal Route (Zone)
 (MONI) : Video Signal Route (Monitor)



(DVD) : Video Signal Route (DVD ch)
 (TV) : Video Signal Route (TV ch)
 (DVR) : Video Signal Route (DVR ch)
 (FV) : Video Signal Route (Video)
 (CV) : Video Signal Route (Component Video)
 (SY) : S-Video Signal Route (Y ch)
 (SC) : S-Video Signal Route (C ch)

B 4/4

B 4/4

B 4/4

B 4/4

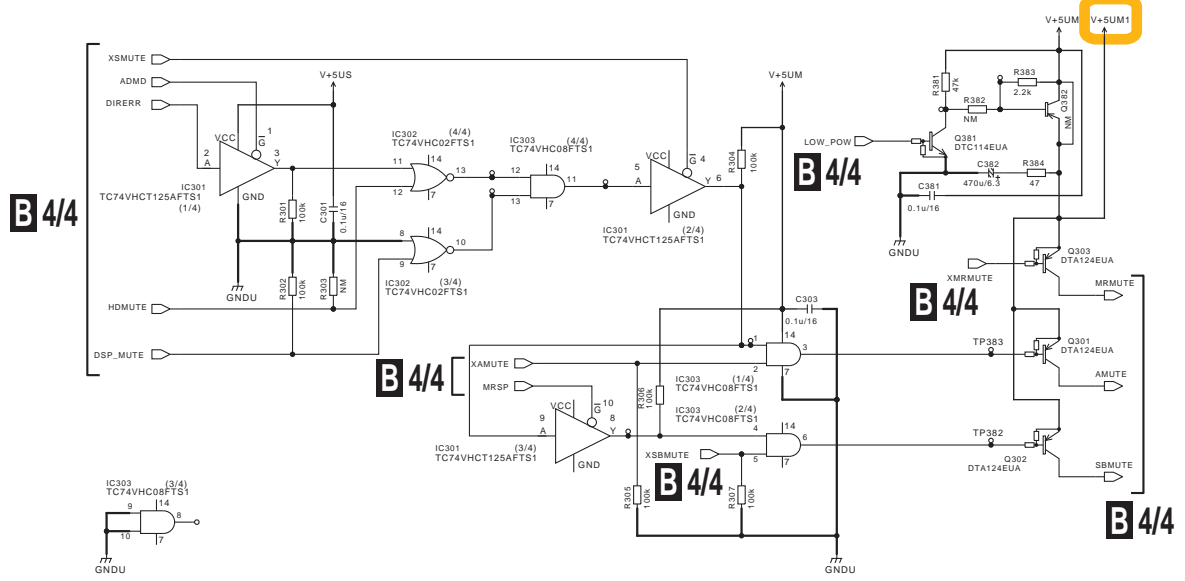
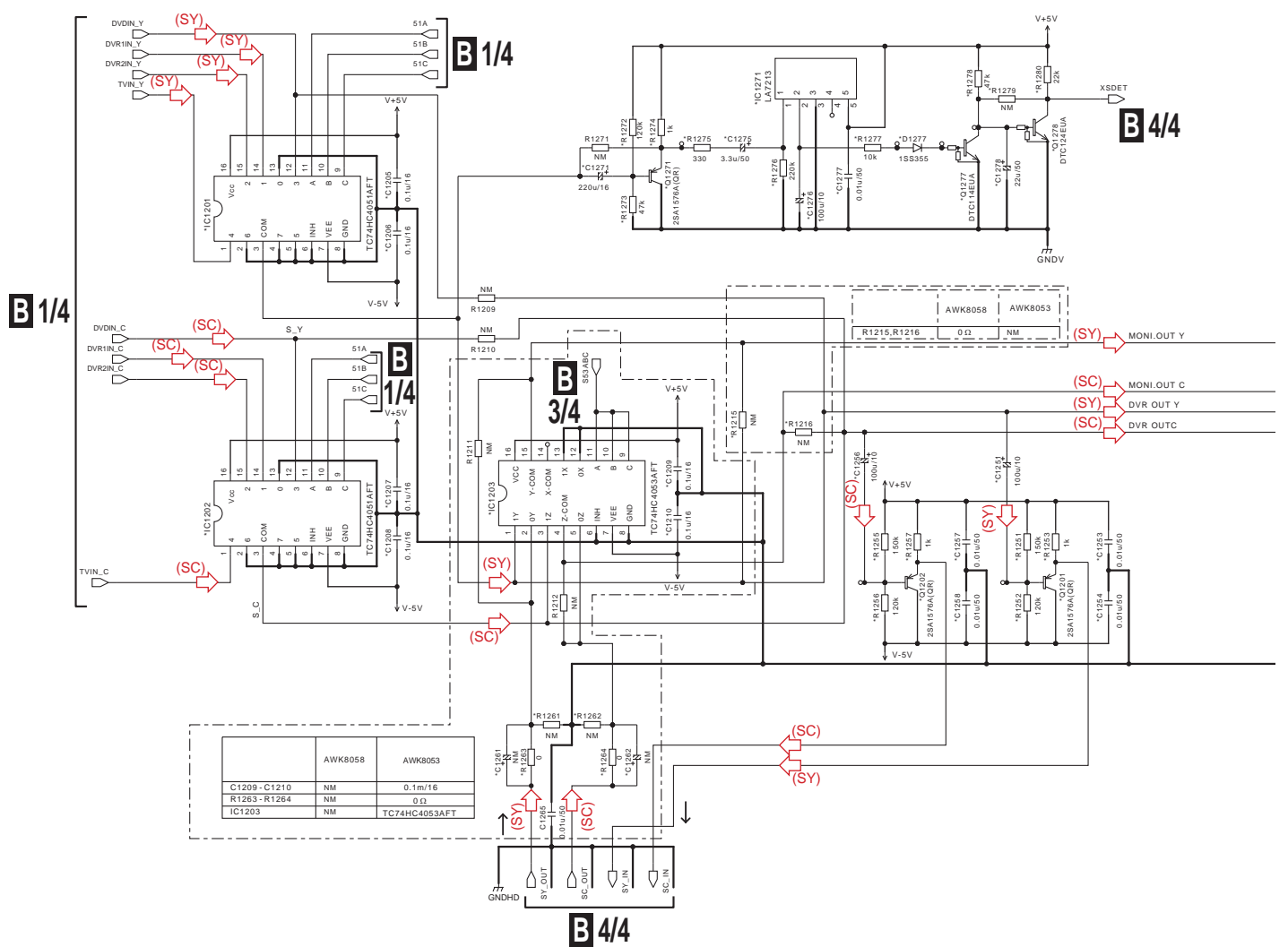
B 4/4

B 1/4

10.4 MAIN ASSY (2/4)

1 2 3 4

A
B
C
D
E
F

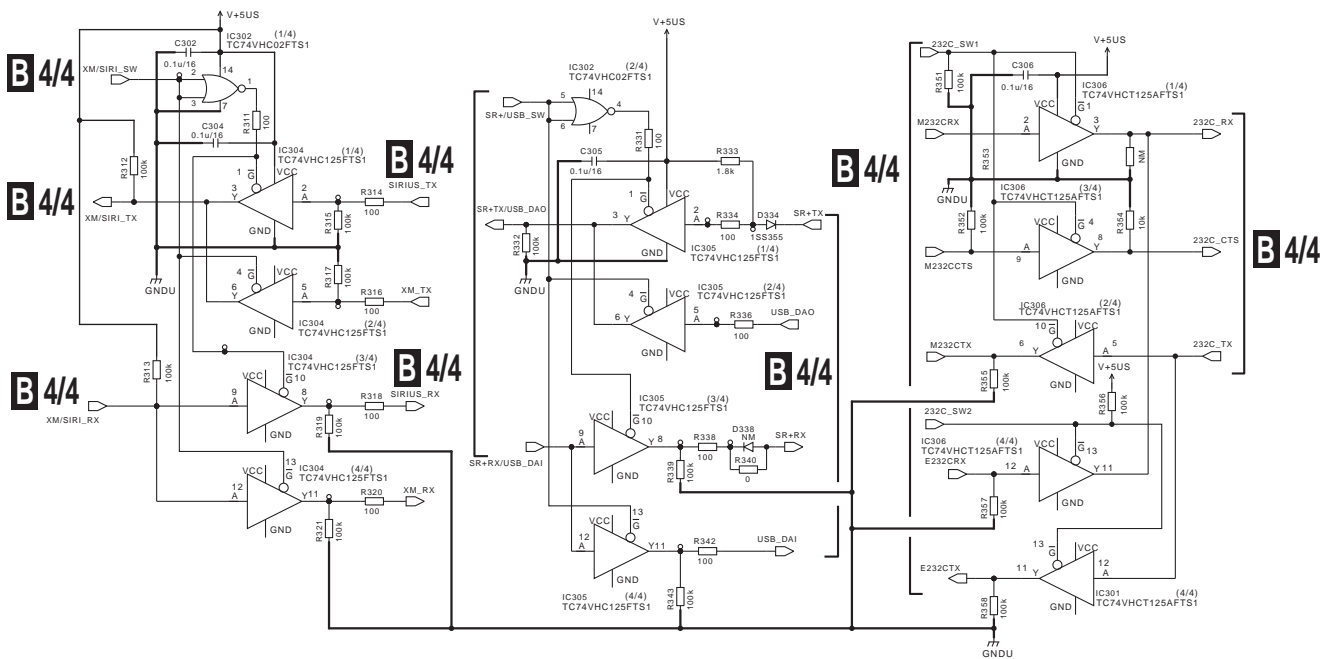
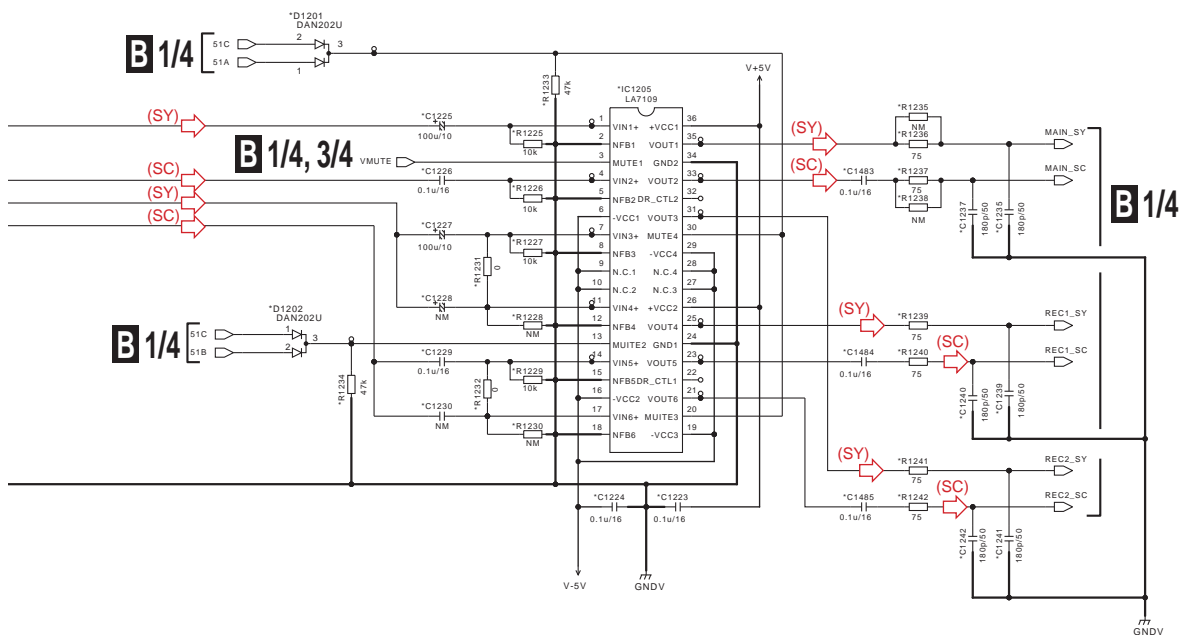


B 2/4

1 2 3 4

B 2/4 MAIN ASSY (VSX-LX51 : AWK8053) (VSX-1018AH : AWK8058)

A
B
C
D
E
F

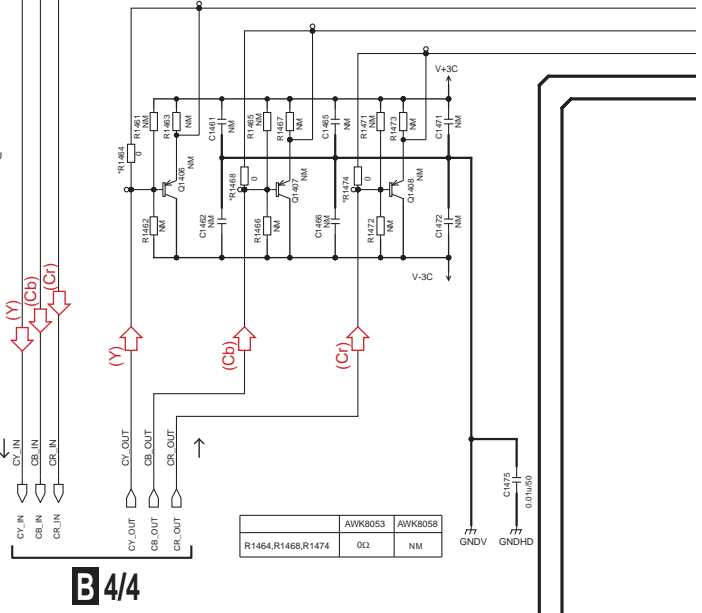
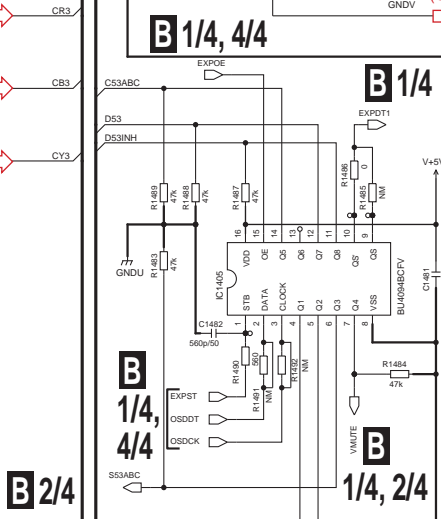
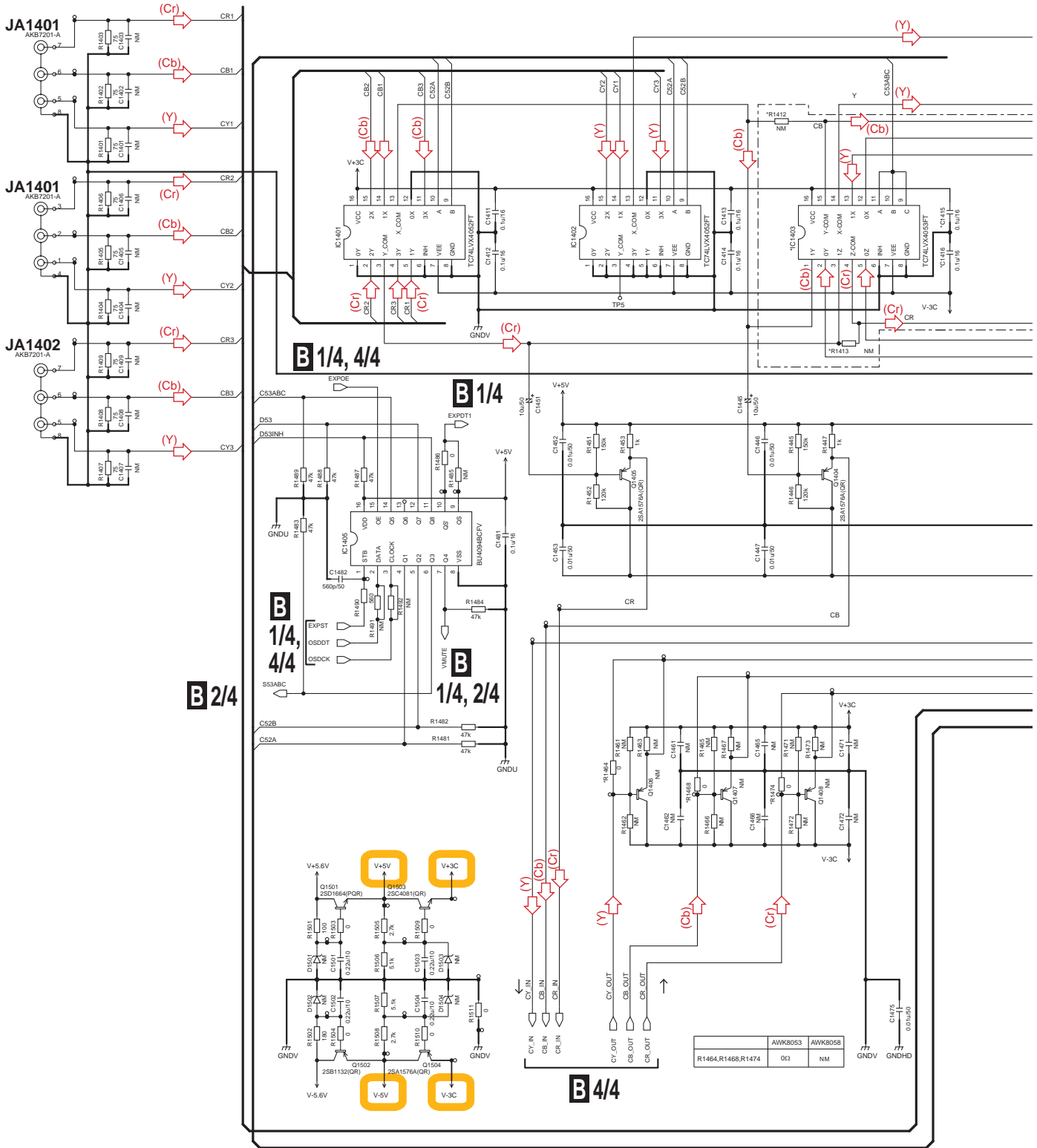


(SY) : S-Video Signal Route (Y ch)
(SC) : S-Video Signal Route (C ch)

10.5 MAIN ASSY (3/4)

1 2 3 4

A
B
C
D
E
F

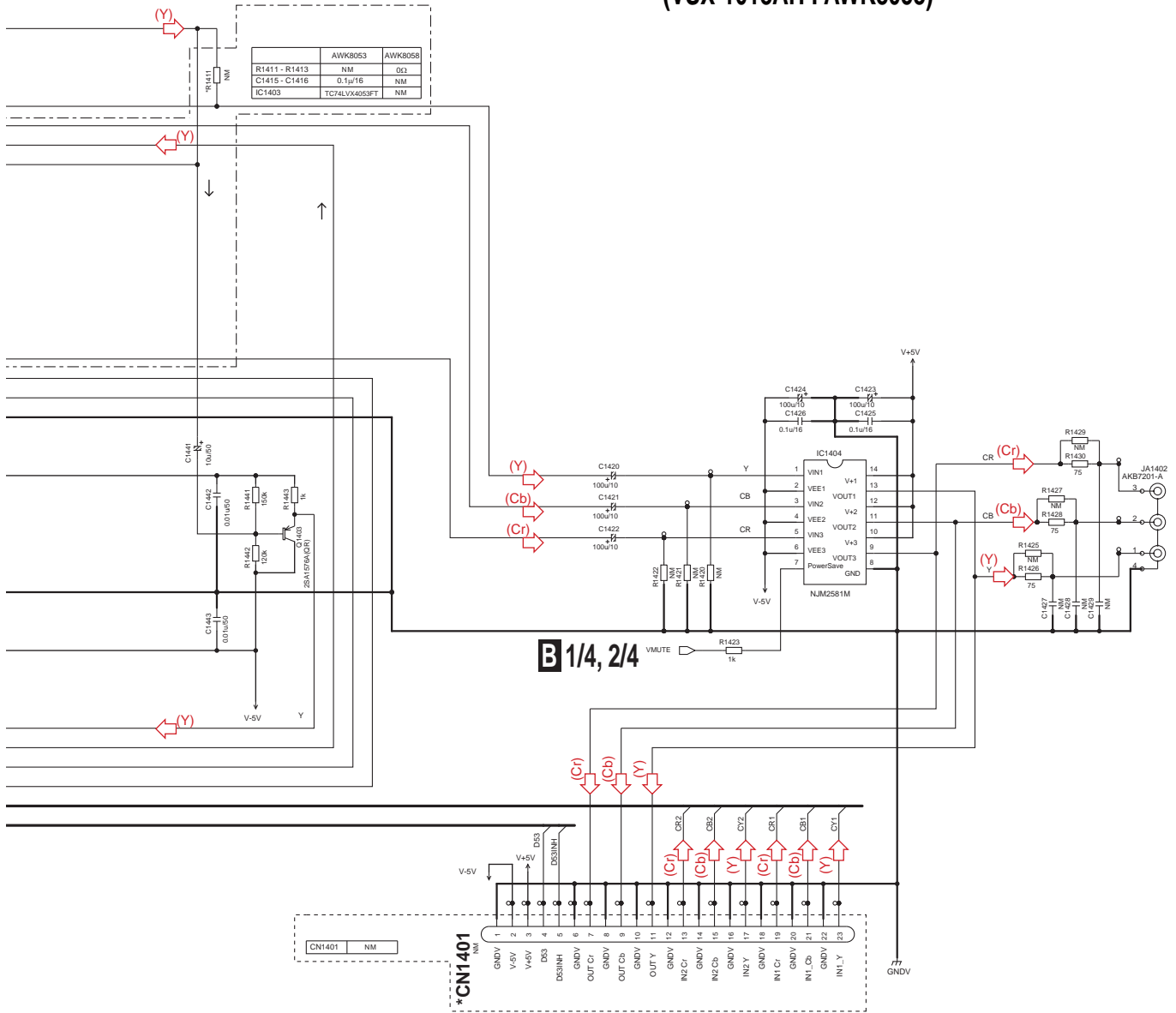


	AWK8053	AWK8058
R1464, R1468, R1474	0G	NM

B 3/4

1 2 3 4

B 3/4 MAIN ASSY
 (VSX-LX51 : AWK8053)
 (VSX-1018AH : AWK8058)



	AWK8053	AWK8058
R1411 - R1413	NM	DO
C1415 - C1416	0.1μF/16	NM
IC1403	TC74LVX4093FT	NM

CN111	KM200NA2
CN118	KM200NA3
R1513,R1517	3.9KΩ
R1514,R1518	47KΩ
C1505,C1507	0.1μF/16
C1505,Q1506	DTC124EUA
Q1509,Q1510	DTA124EUA

W
CN7001

Y
CN7003

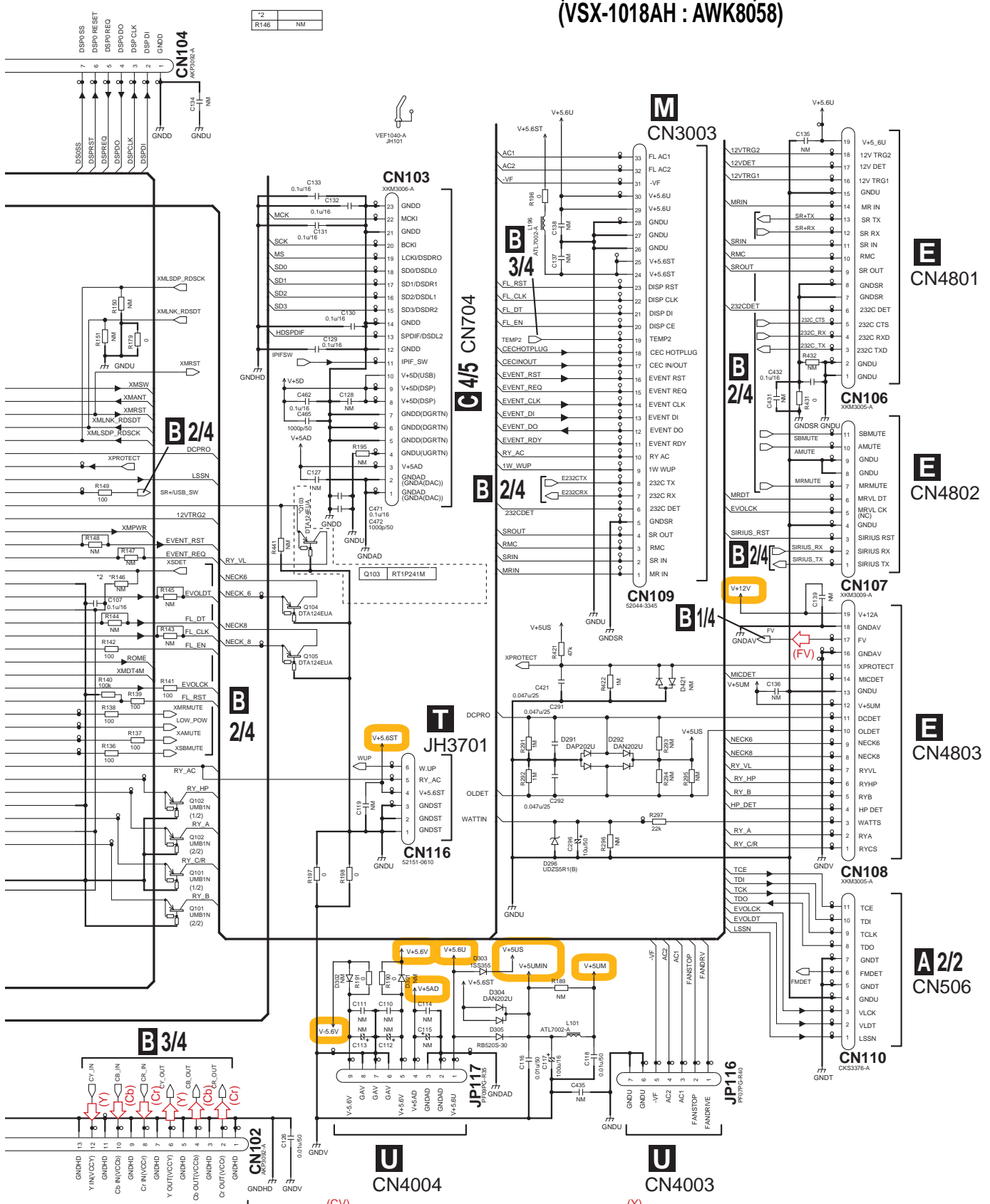
X
CN7002

B 4/4

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

B 3/4

B 4/4 MAIN ASSY
 (VSX-LX51 : AWK8053)
 (VSX-1018AH : AWK8058)



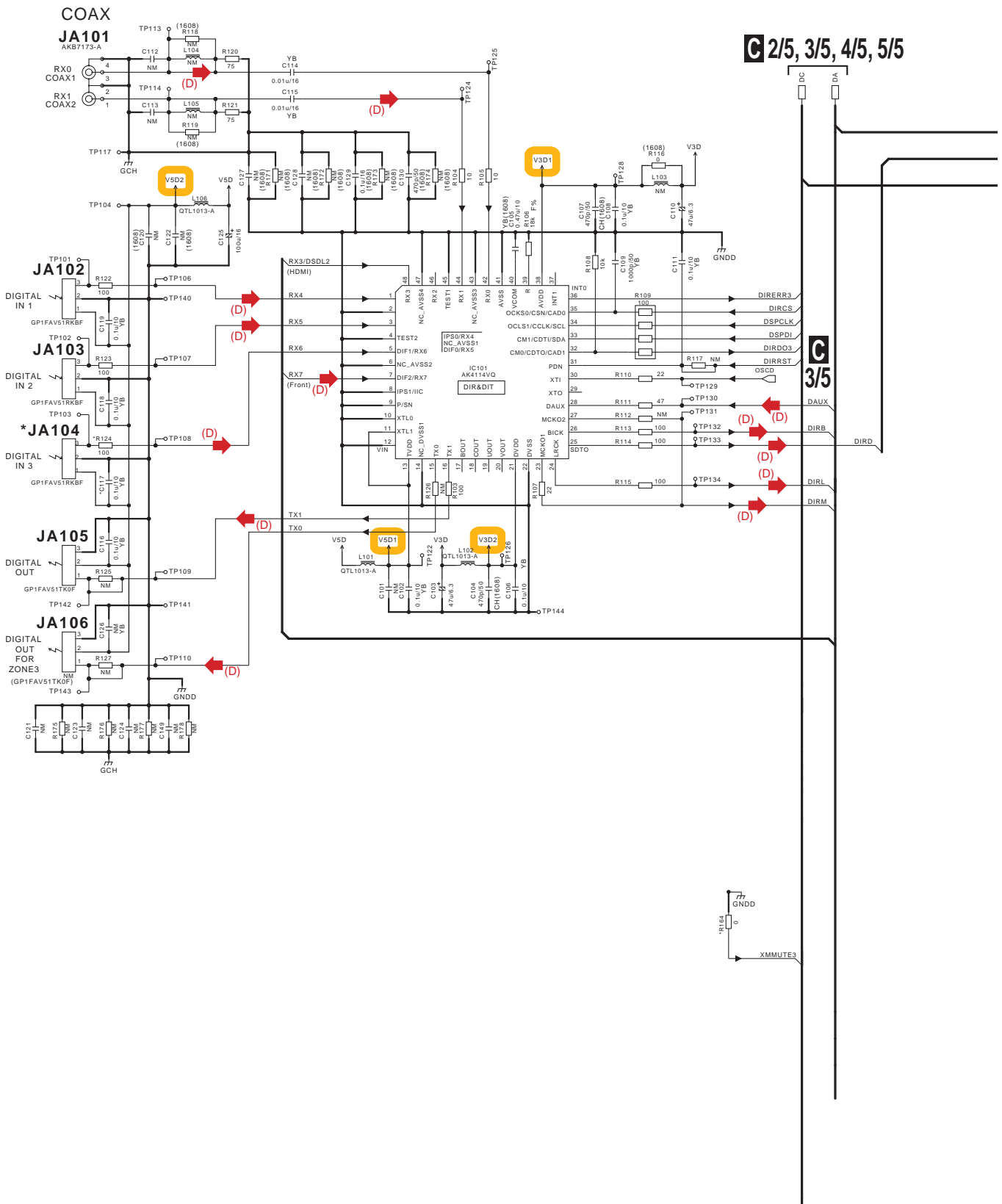
(CV) : Video Signal Route (Component Video)
 (SY) : S-Video Signal Route (Y ch)
 (SC) : S-Video Signal Route (C ch)
 (FV) : Video Signal Route (Video)

(Y) : Video Signal Route (Component Y ch)
 (Cb) : Video Signal Route (Component Cb ch)
 (Cr) : Video Signal Route (Component Cr ch)

10.7 DSP & USB ASSY (1/5)

1 2 3 4

A
B
C
D
E
F



C 2/5, 3/5, 4/5, 5/5

C 3/5

C 1/5

1 2 3 4

C 1/5 DSP & USB ASSY (AWX9176)

A

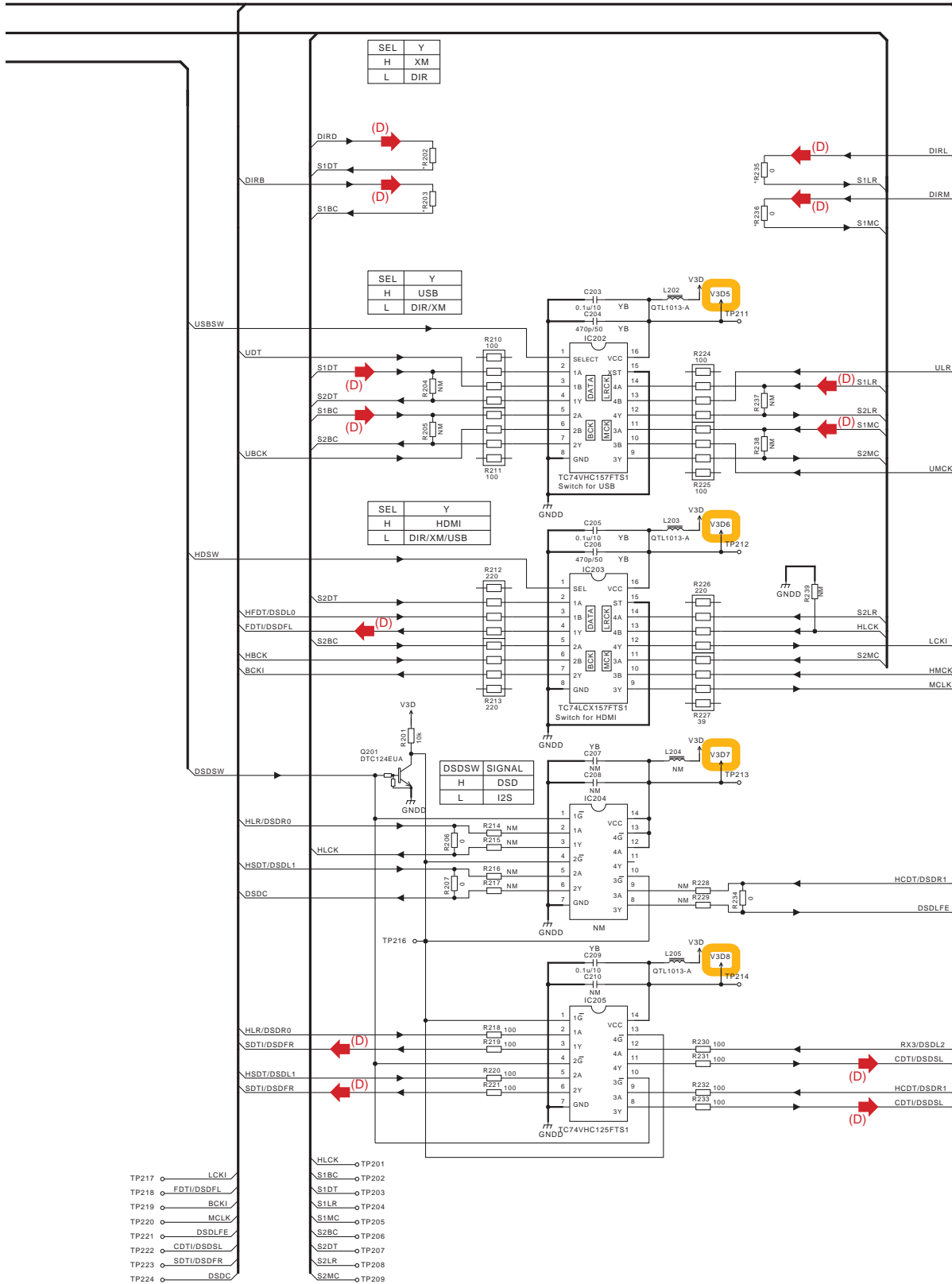
B

C

D

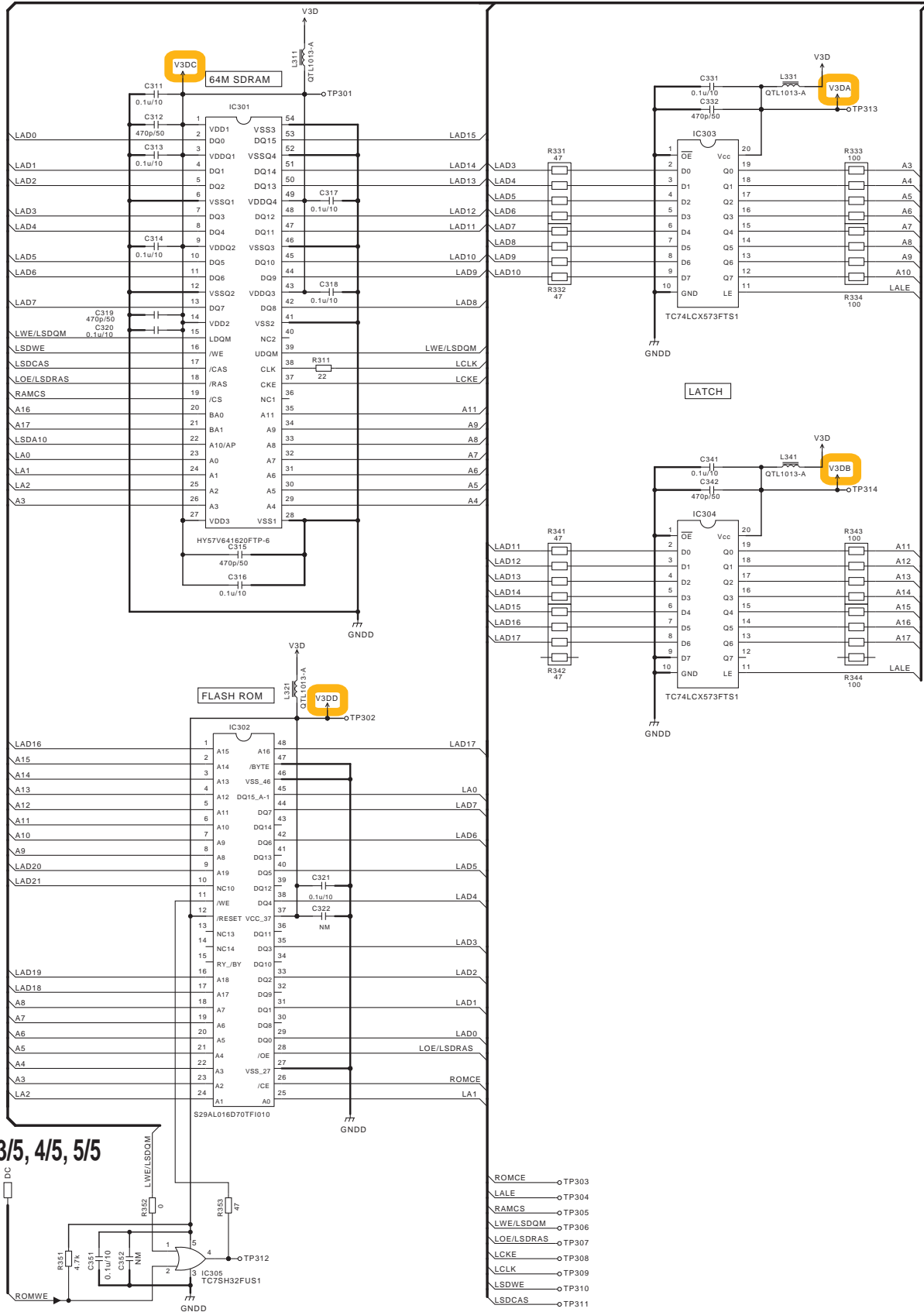
E

F



(D) : Audio Data Route

10.8 DSP & USB ASSY (2/5)



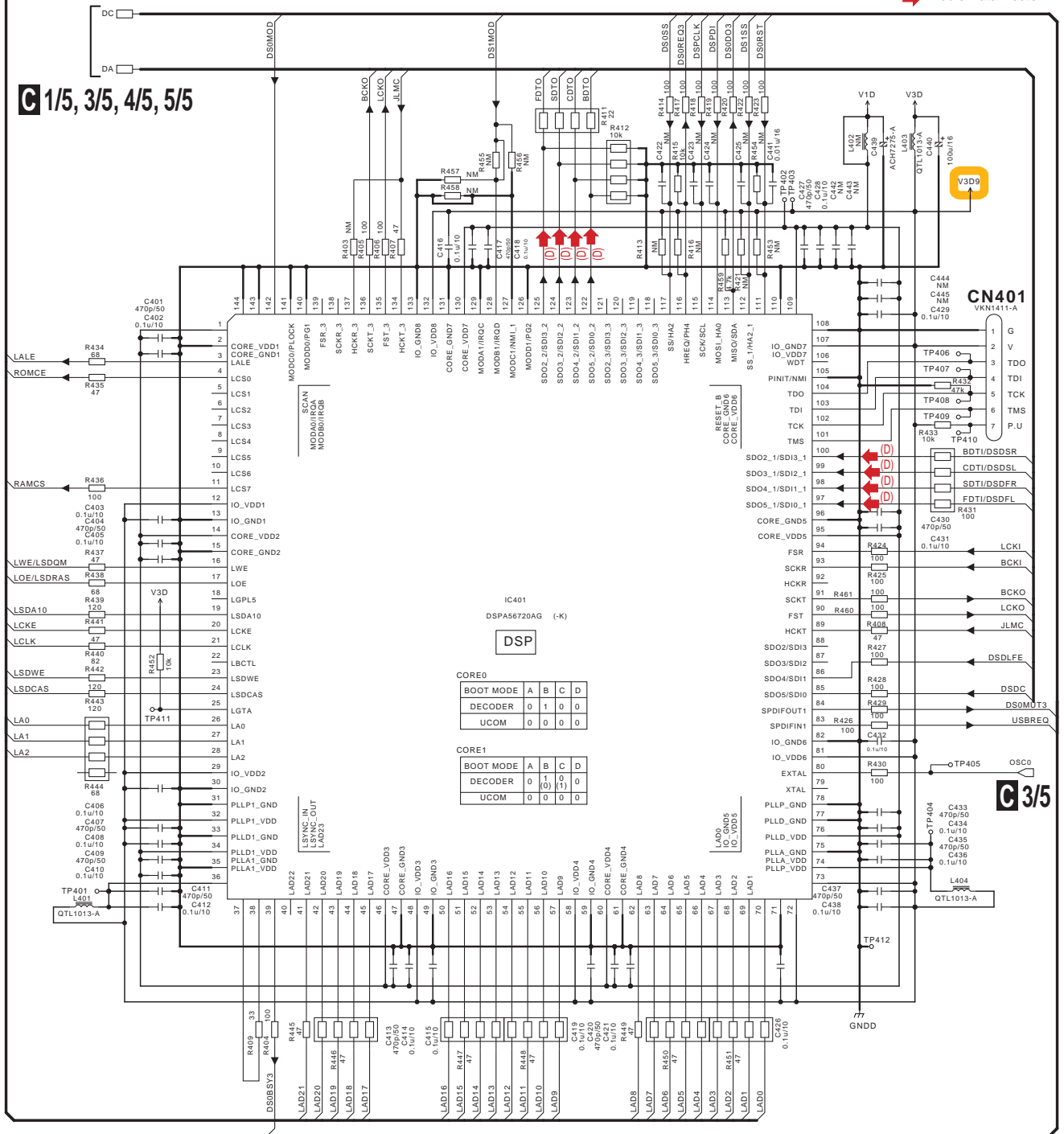
C 1/5, 3/5, 4/5, 5/5

C 2/5

G 2/5 DSP & USB ASSY (AWX9176)

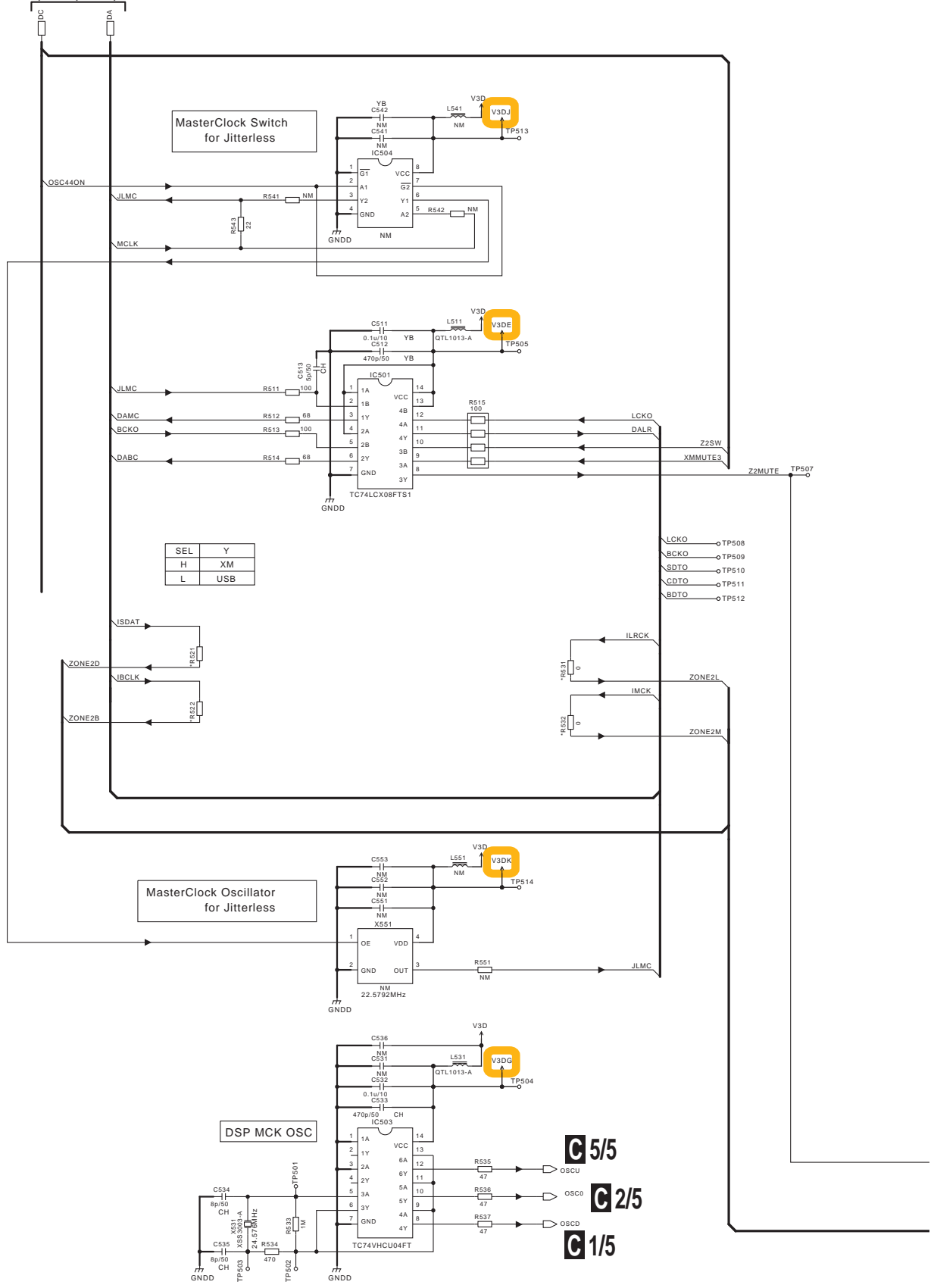
(D) : Audio Data Route

C 1/5, 3/5, 4/5, 5/5



10.9 DSP & USB ASSY (3/5)

C 1/5, 2/5, 4/5, 5/5



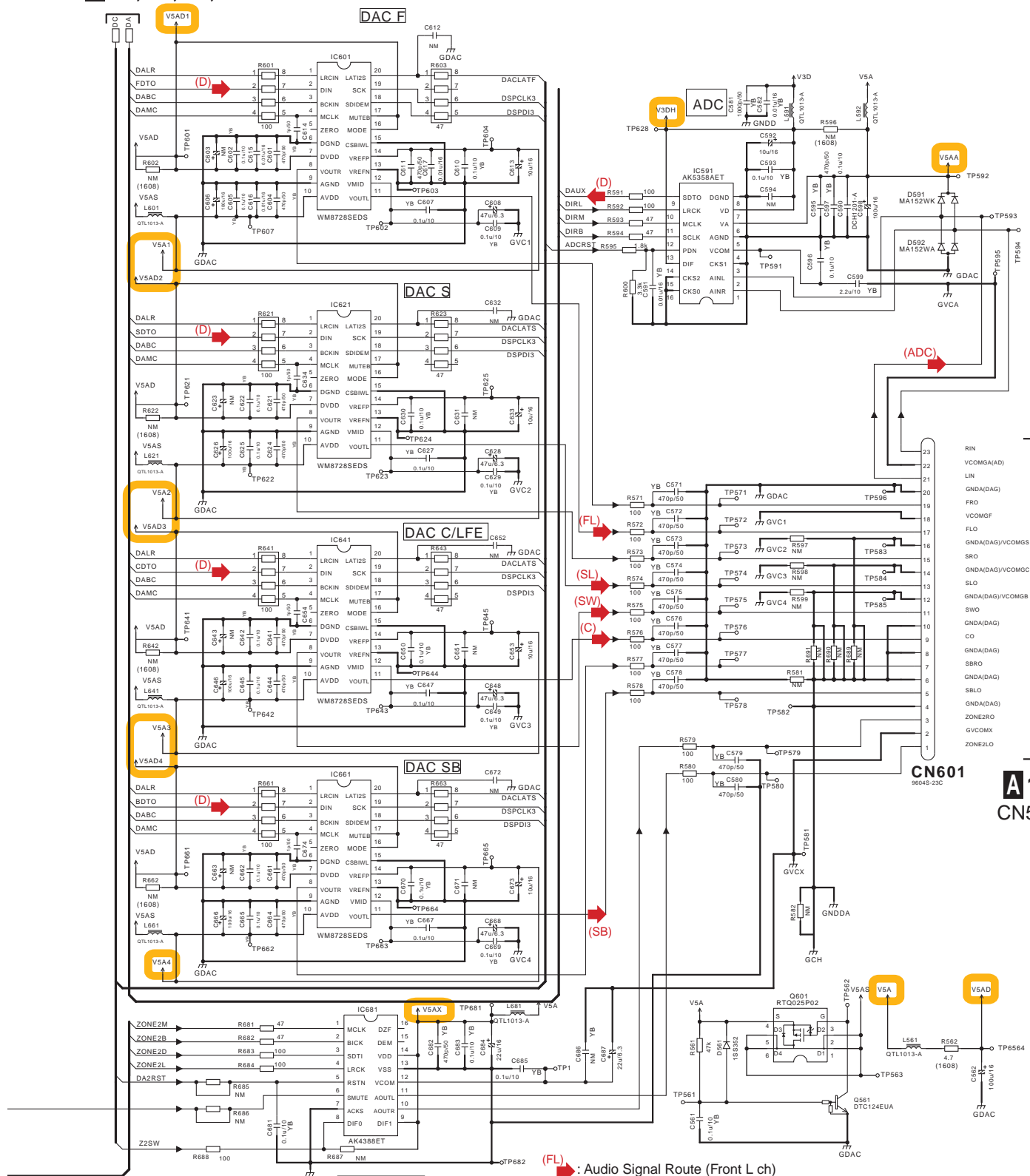
SEL	Y
H	XM
L	USB

C 5/5
C 2/5
C 1/5

C 3/5

C 3/5 DSP & USB ASSY (AWX9176)

C 1/5, 2/5, 4/5, 5/5



- 23 RIN
- 22 VCOMGA(A)
- 21 LN
- 20 GND(A)DAG
- 19 FRO
- 18 VCOMGF
- 17 FLO
- 16 GND(A)DAG/VCOMGS
- 15 SRO
- 14 GND(A)DAG/VCOMCG
- 13 SLO
- 12 GND(A)DAG/VCOMBG
- 11 SWO
- 10 GND(A)DAG
- 9 CO
- 8 GND(A)DAG
- 7 SBRO
- 6 GND(A)DAG
- 5 SBLO
- 4 GND(A)DAG
- 3 ZONE2RO
- 2 GVCOMX
- 1 ZONE2LO

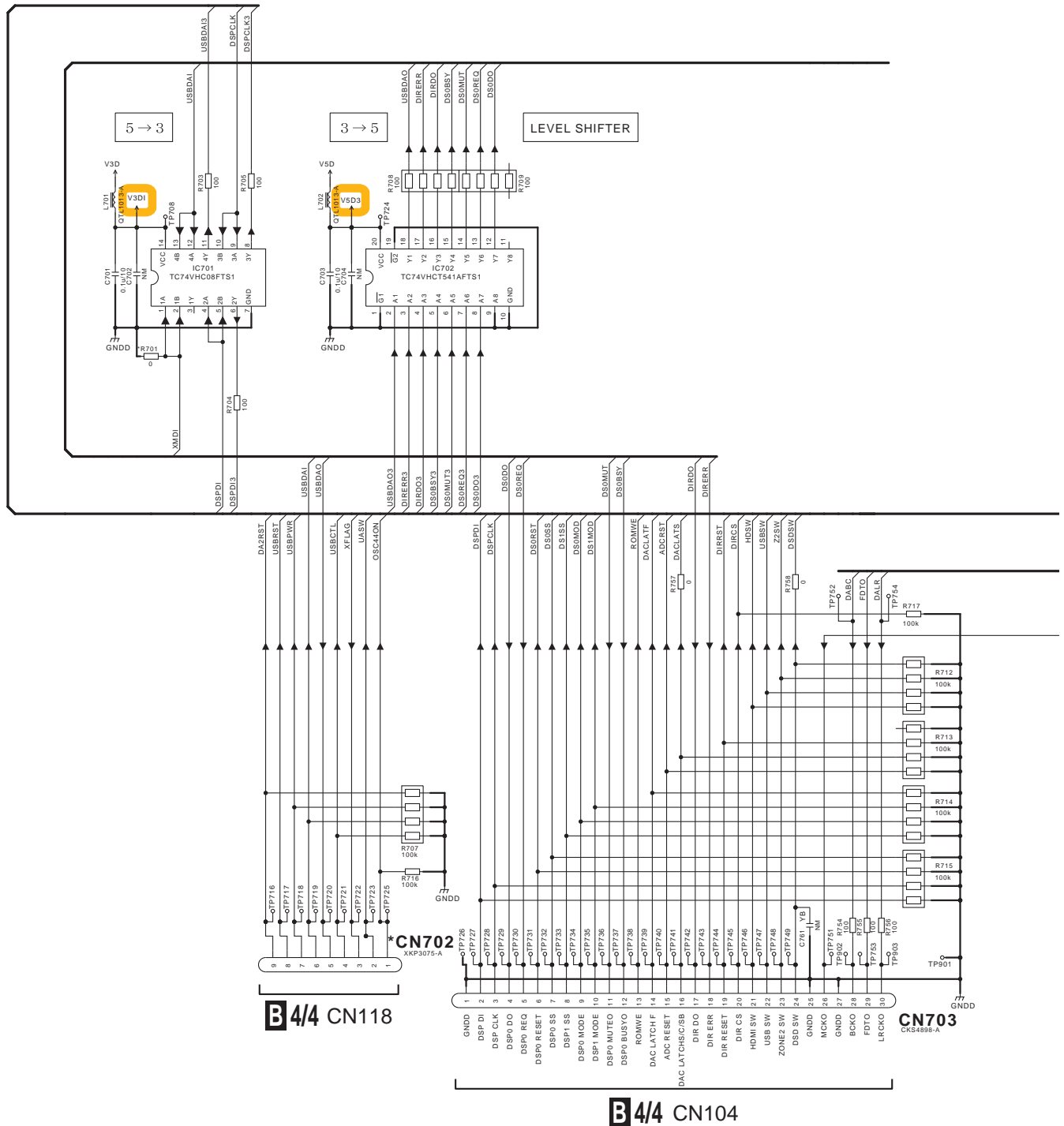
A 1/2
CN501

- (FL) : Audio Signal Route (Front L ch)
- (SL) : Audio Signal Route (Surround L ch)
- (SW) : Audio Signal Route (Surround Back L ch)
- (SB) : Audio Signal Route (SubWoofer ch)
- (D) : Audio Data Route
- (ADC) : Audio Signal Route (ADC L ch)

VSX-LX51

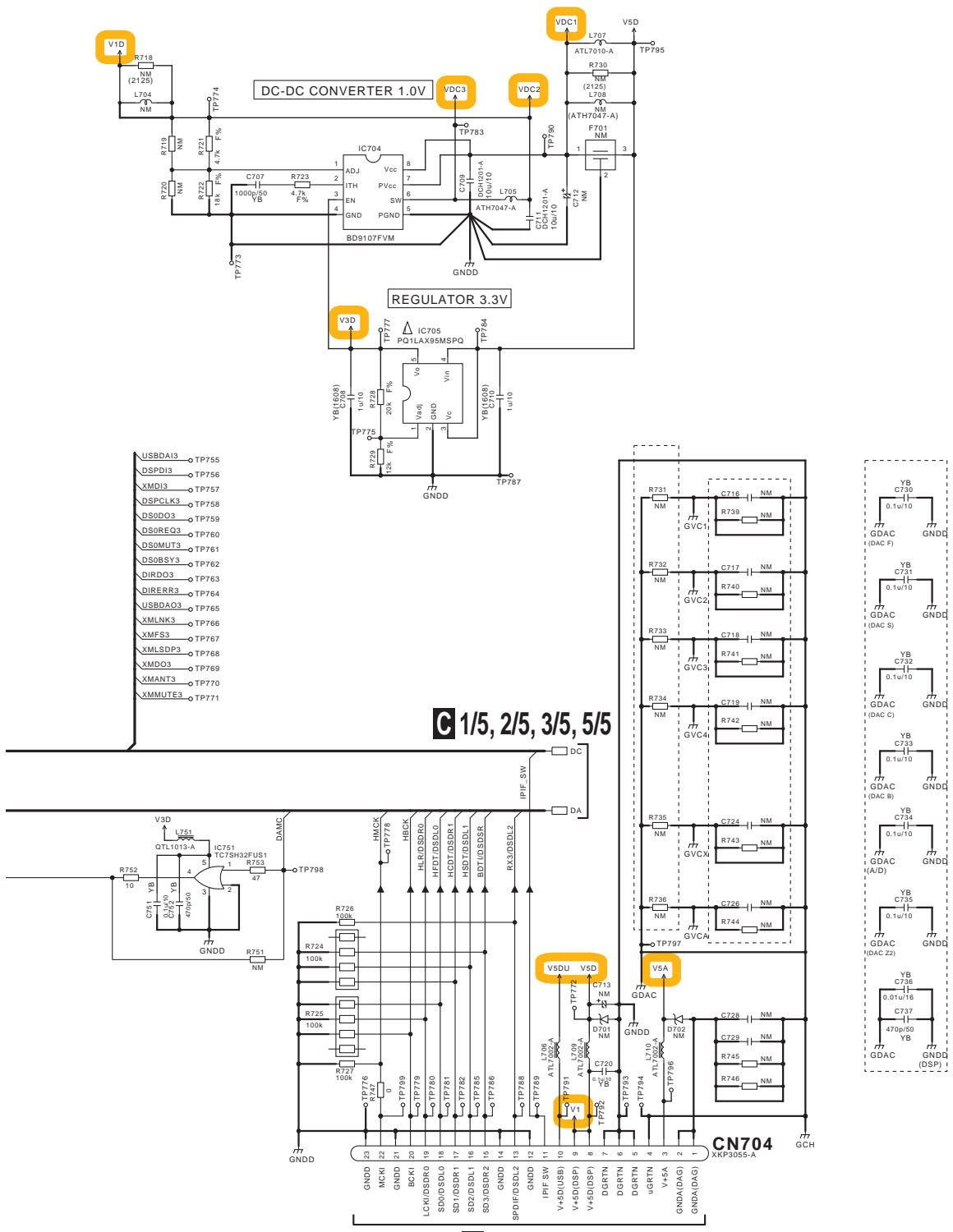
C 3/5

10.10 DSP & USB ASSY (4/5)



G 4/5 DSP & USB ASSY (AWX9176)

A
B
C
D
E
F

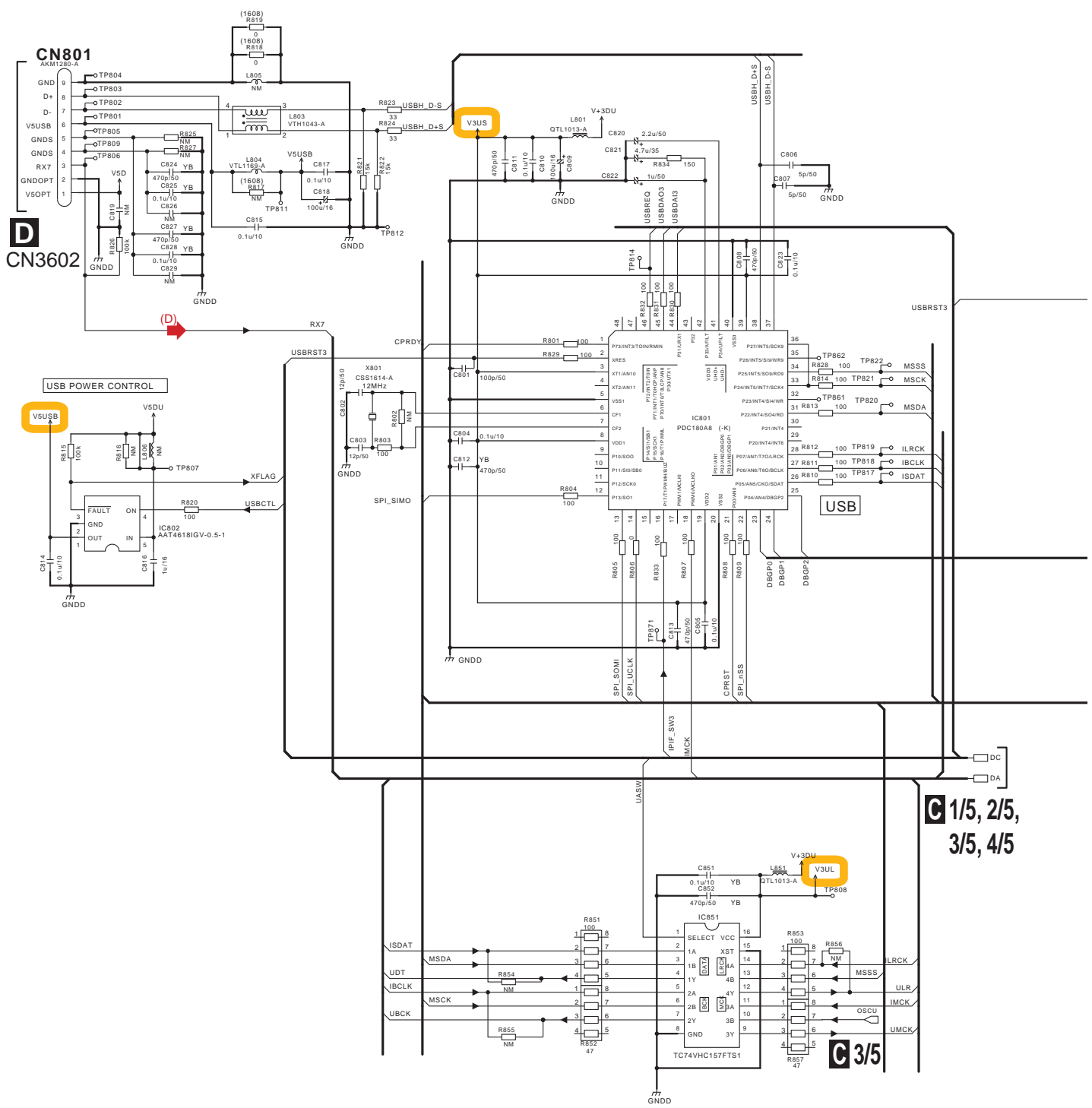


G 1/5, 2/5, 3/5, 5/5

B 4/4 CN103

10.11 DSP & USB ASSY (5/5)

A
B
C
D
E
F



SEL	Y
H	MSC
L	iPod

(D) : Audio Data Route

C 5/5

G 5/5 DSP & USB ASSY (AWX9176)

A

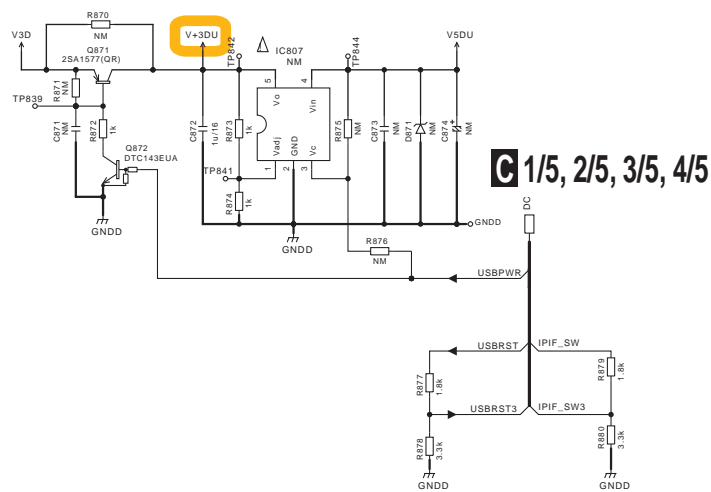
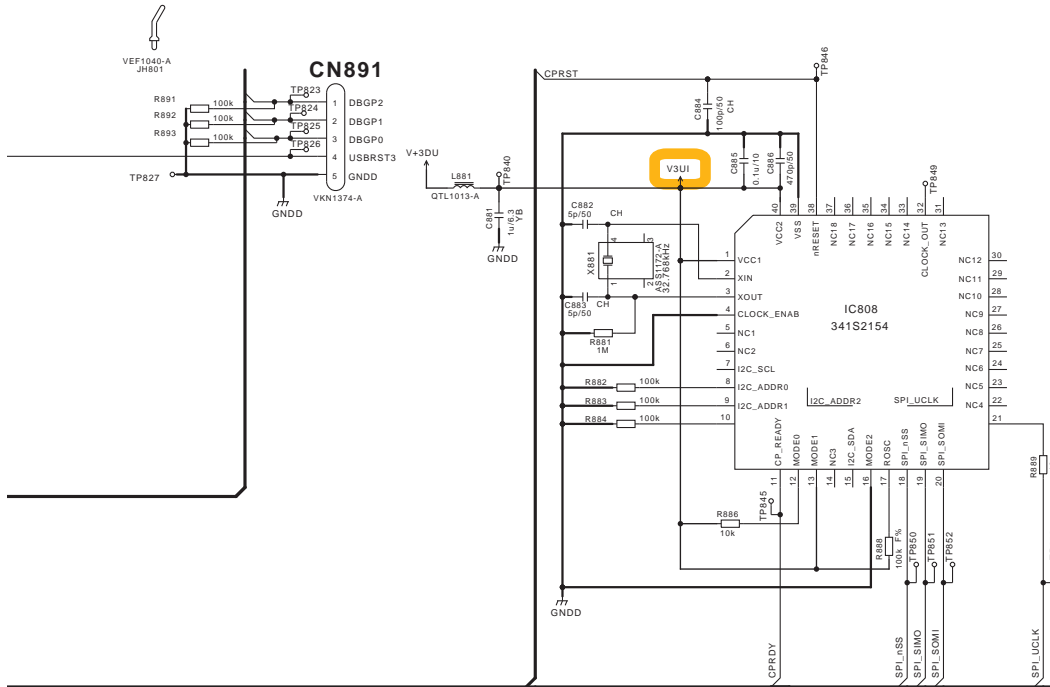
B

C

D

E

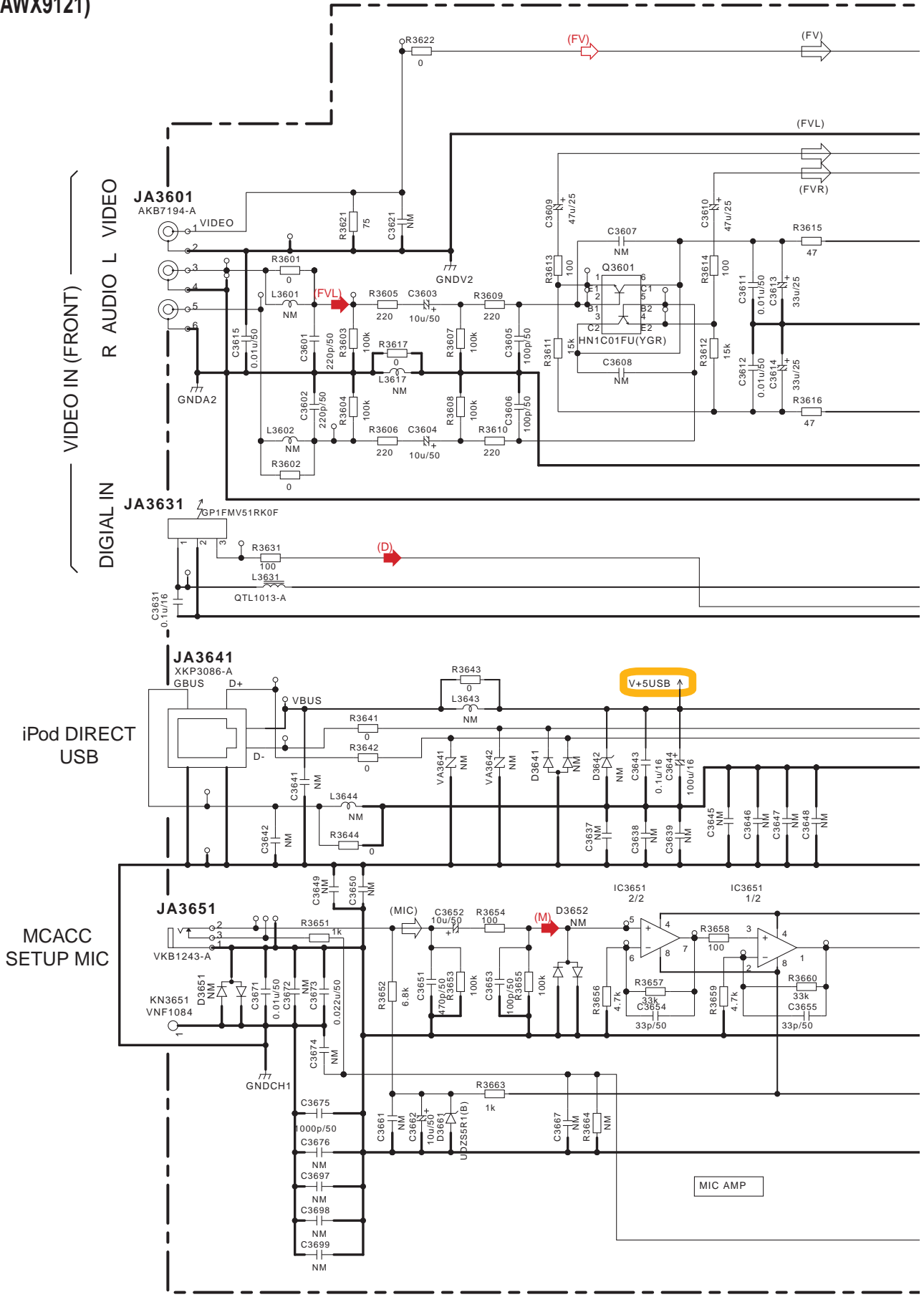
F



10.12 FRONT IN ASSY

D FRONT IN ASSY (AWX9121)

A
B
C
D
E
F



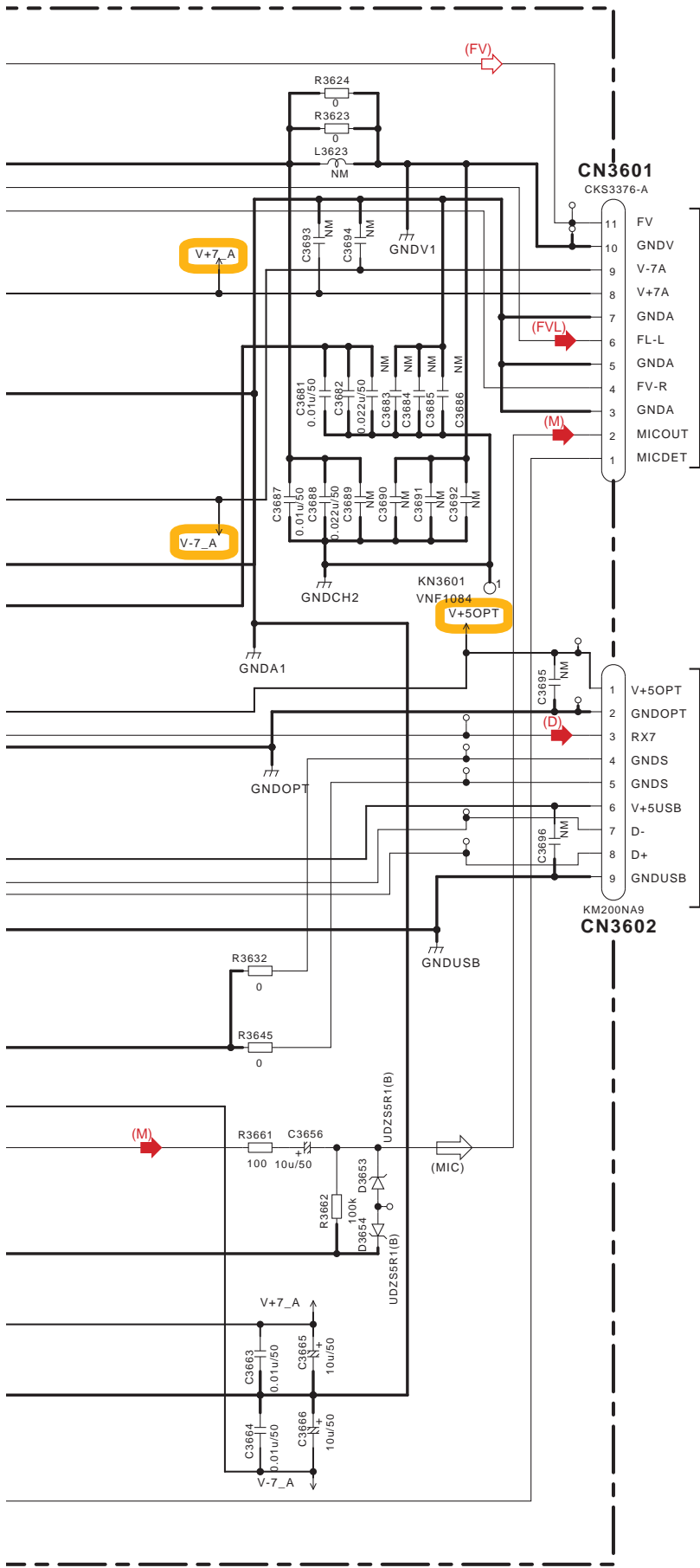
D

1

2

3

4



E
CN4809

C 5/5
CN801

- (FV) : Video Signal Route (Video)
- (FL) : Audio Signal Route (Front L ch)
- (FVL) : Audio Signal Route (Video L ch)
- (M) : Audio Signal Route (Mic ch)
- (D) : Audio Data Route

NOTE

1.RESISTORS

Unit :k-kΩ, M-MΩ or Ω unless otherwise noted.
 Rated:power :1/10W unless otherwise noted.
 Tolerance :.(J)±5% unless otherwise noted.

2.CAPACITORS

Unit :p-pF or μF or unless otherwise noted.
 Ratings :Capacity(μF)/Voltage(V) unless otherwise noted.
 Rated Voltage :50V except for electrolytic capacitors.

3.DIODES

Indicated in 1SS355

10.13 INTERFACE ASSY

1 2 3 4

A

B

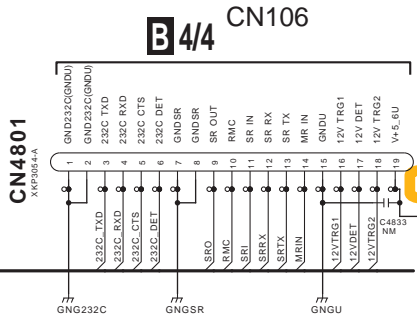
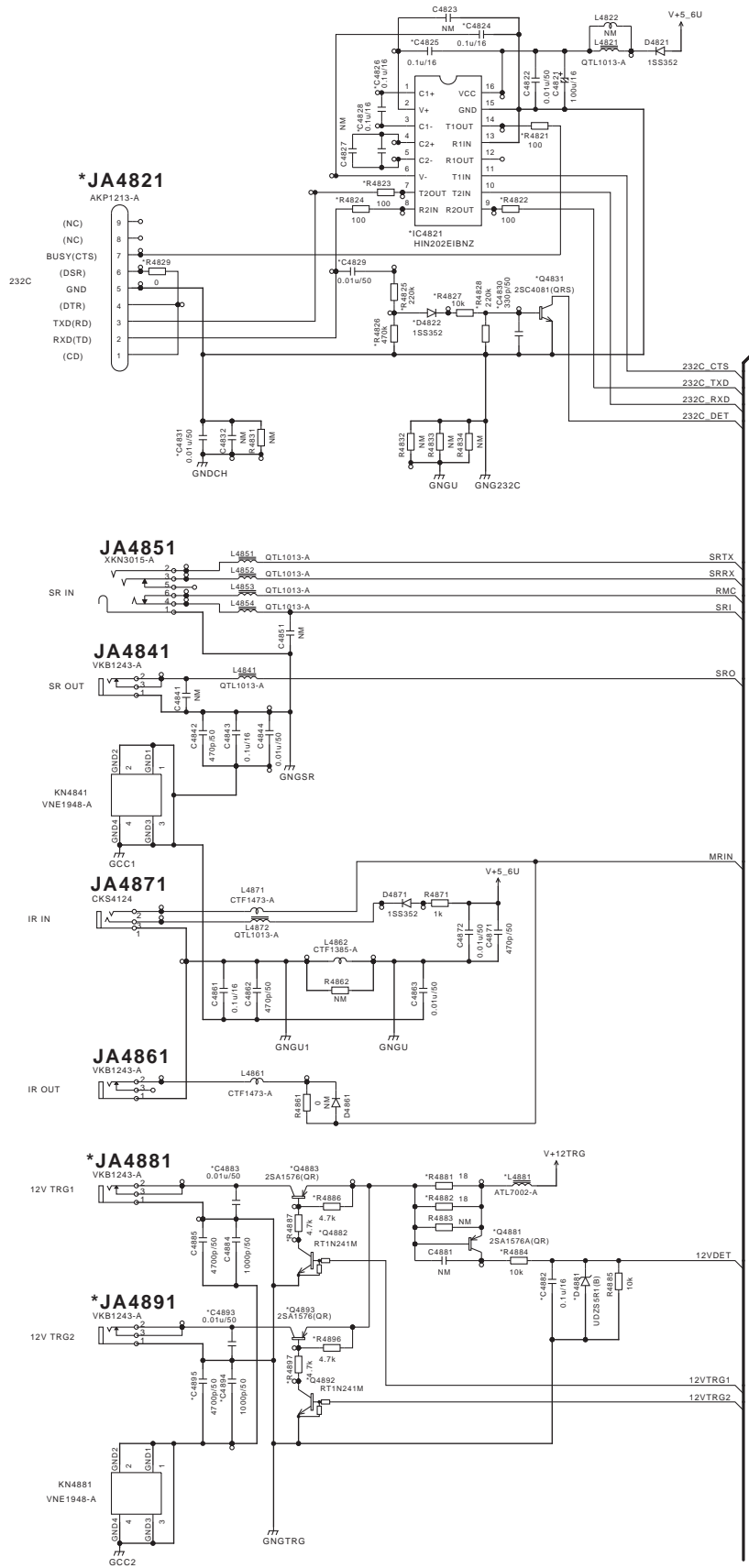
C

D

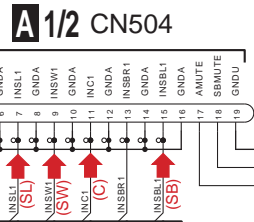
E

F

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.



- AWX8990
- C4824 | 0.1u/16
- C4825 | 0.1u/16
- C4826 | 0.1u/16
- C4829 | 0.01u/50
- C4830 | 330p/50
- C4831 | 0.01u/50
- R4821 | 100
- R4823 | 100
- R4824 | 100
- R4825 | 220k
- R4826 | 470k
- R4827 | 10k
- R4828 | 220k
- R4829 | 0
- IC4821 | HIN202EIBNZ
- D4822 | 1S5352
- JA4821 | AKP1213-A
- Q4831 | 23C4081(QRS)



- AWX8990
- C4893 | 0.01u/50
- C4894 | 1000p/50
- C4895 | 4700p/50
- R4896 | 4.7k
- R4897 | 4.7k
- JA4881 | VKB1243-A
- Q4893 | RT1N241M
- Q4893 | 2SA1576(QR)



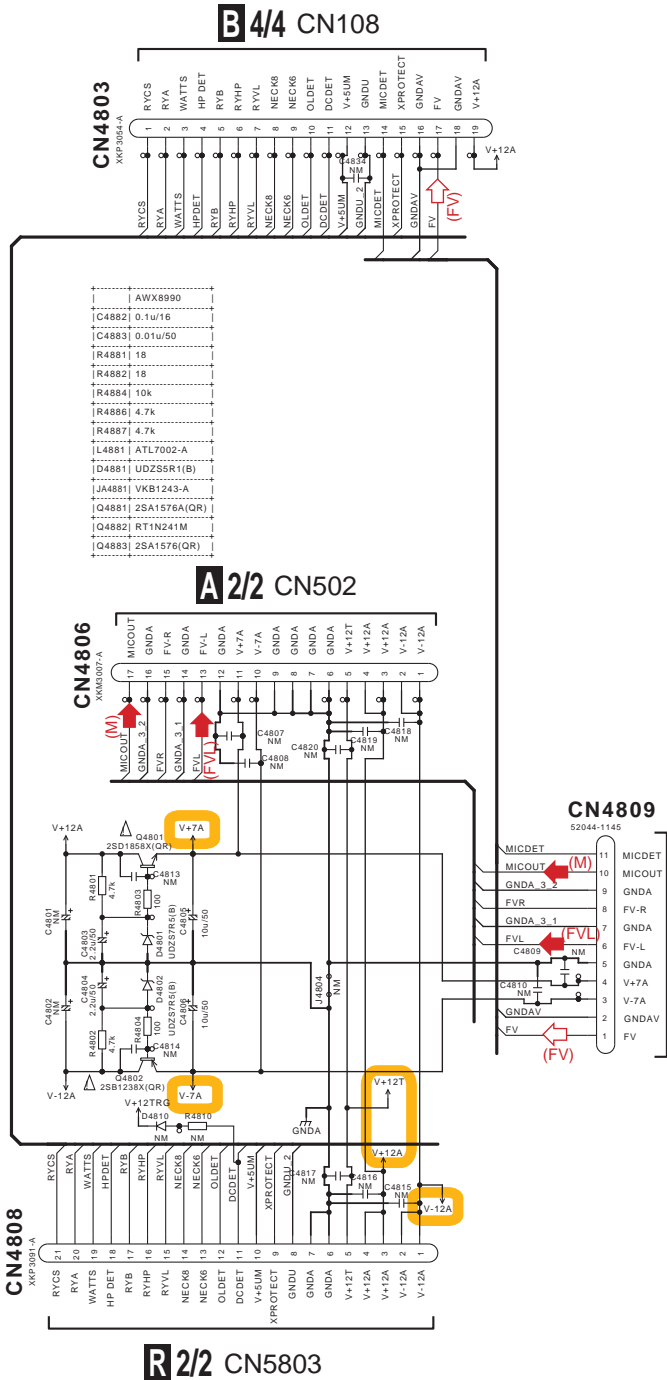
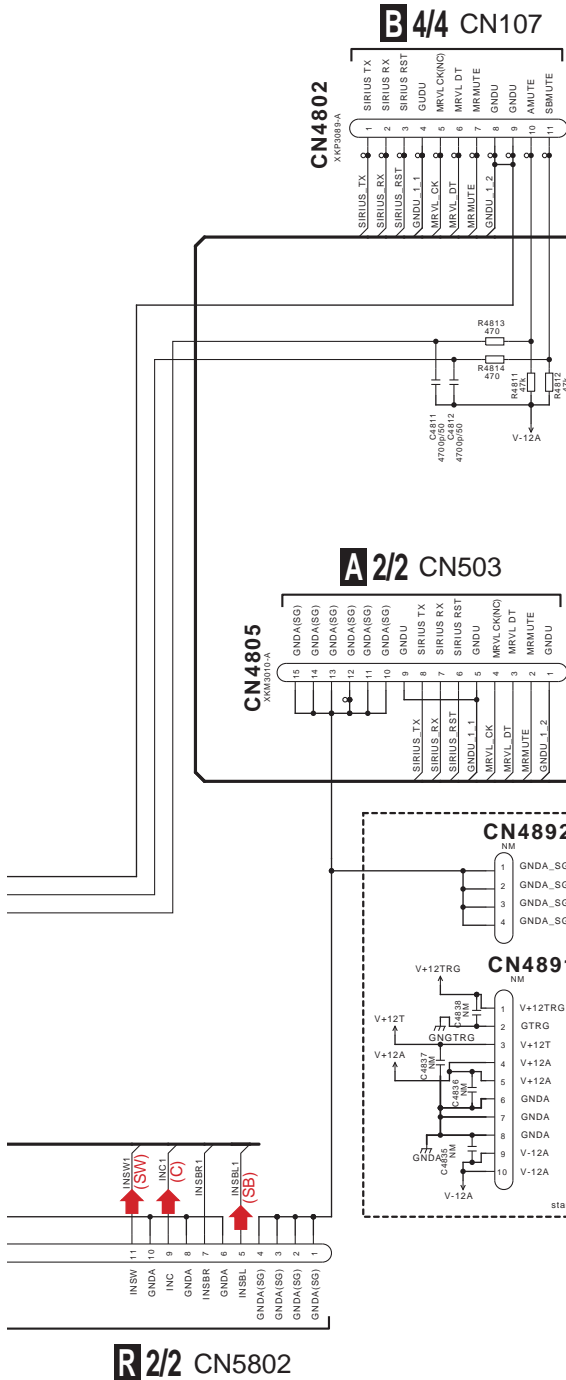
1 2 3 4

INTERFACE ASSY (AWX8990)

NOTE

1. RESISTORS
Unit : k-Ω, M-Ω or Ω unless otherwise noted.
Rated power : 1/16W unless otherwise noted.
Tolerance : (±) 5% unless otherwise noted.

2. CAPACITORS
Unit : p-F, or μ-F unless otherwise noted.
Ratings : Capacity(μF)/Voltage(V) unless otherwise noted.



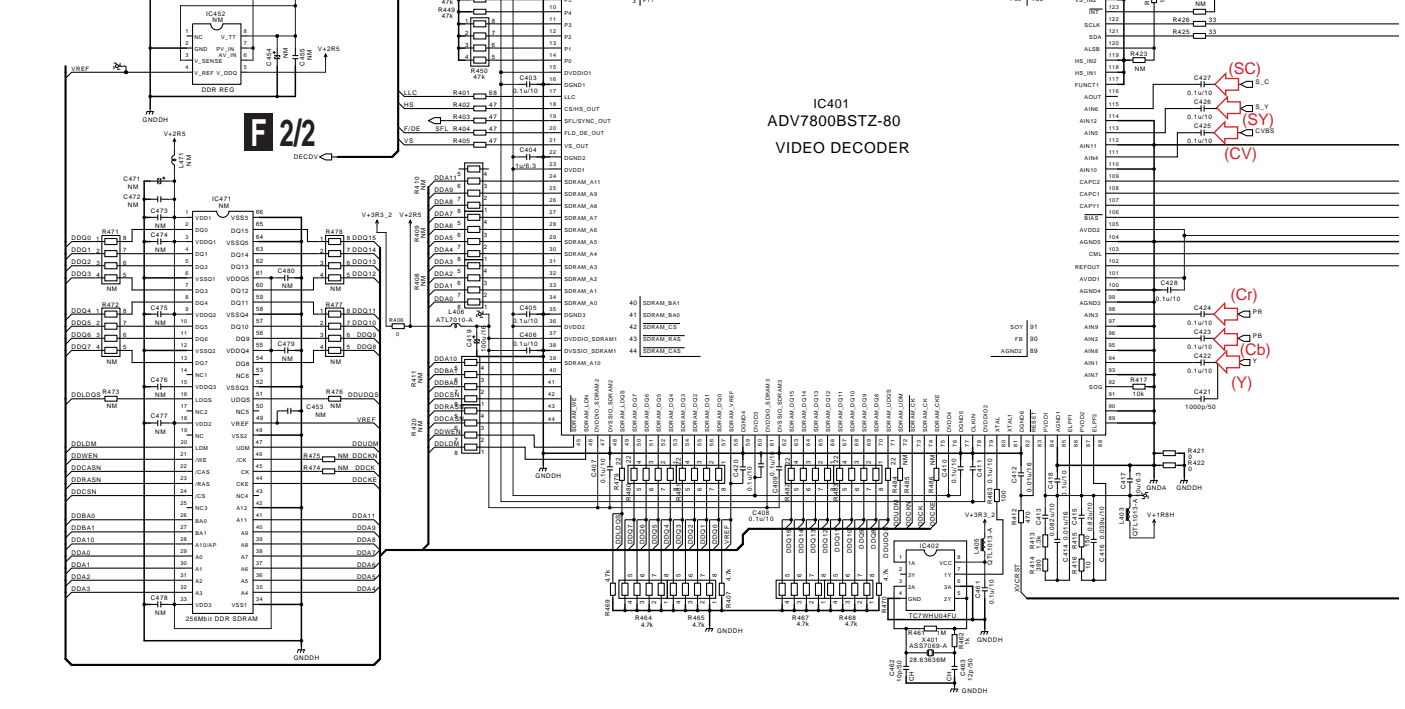
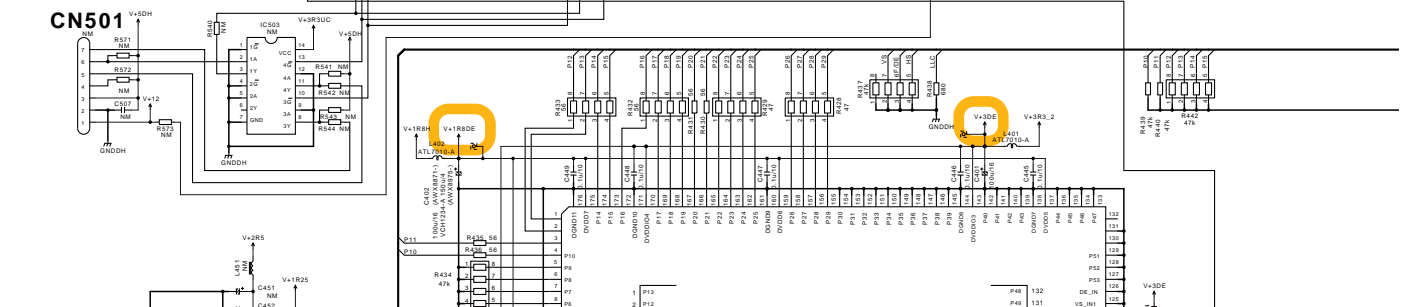
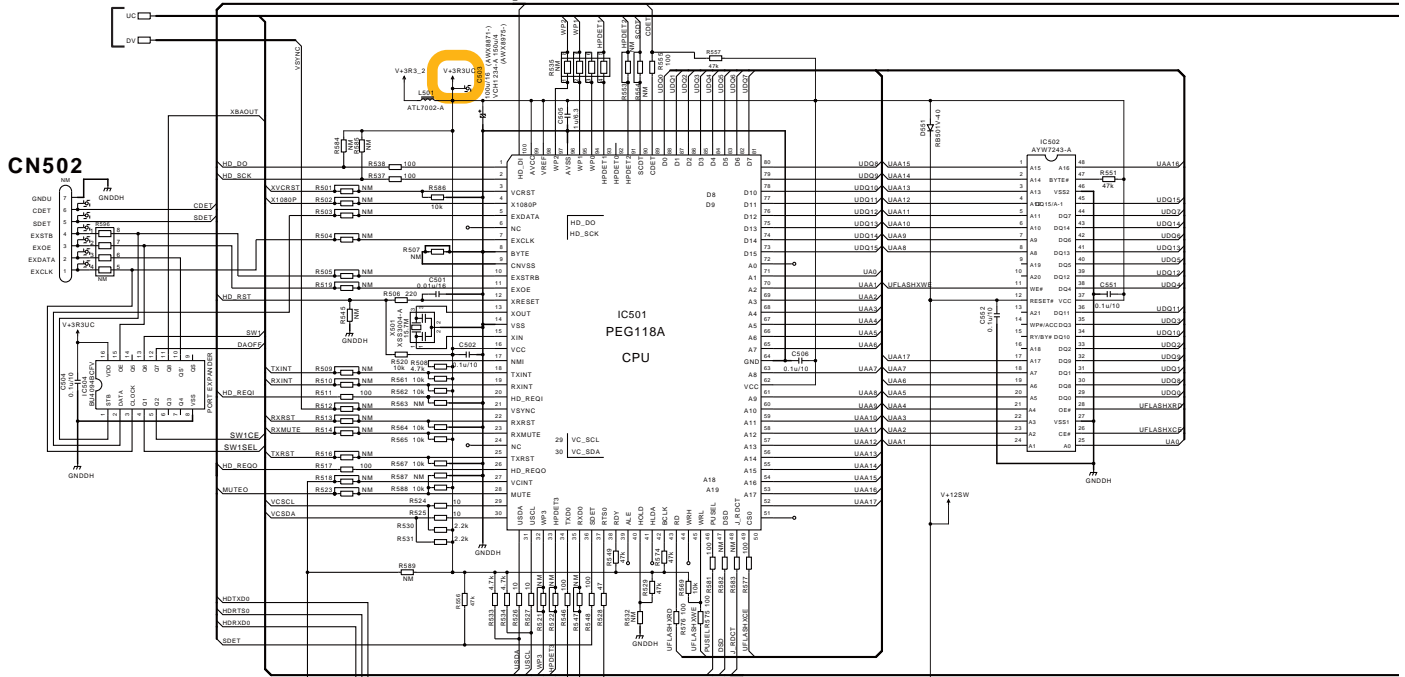
- (FV) : Video Signal Route (Video)
- (FL) : Audio Signal Route (Front L ch)
- (FVL) : Audio Signal Route (Video L ch)
- (SL) : Audio Signal Route (Surround L ch)
- (C) : Audio Signal Route (Center ch)
- (SB) : Audio Signal Route (Surround Back L ch)
- (SW) : Audio Signal Route (SubWoofer ch)
- (M) : Audio Signal Route (Mic ch)

10.14 HDMI & DVC ASSY (1/2) (VSX-LX51)

A
B
C
D
E
F

to HDMI Block

Refer to 4.5 HDMI Block Diagram(High) & F 2/2.



F 1/2

1

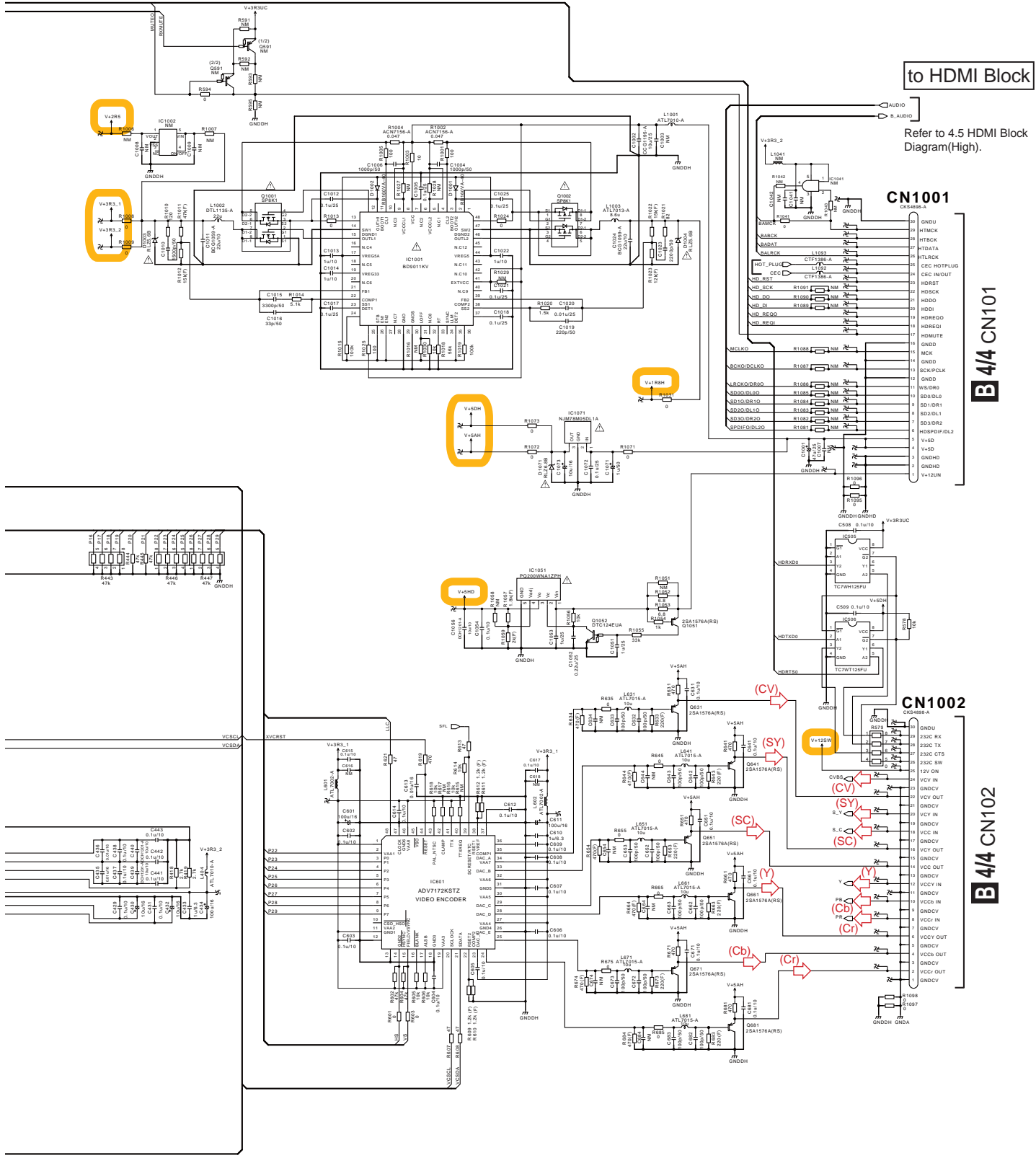
2

3

4

F 1/2 HDMI & DVC ASSY (VSX-LX51 :AWX9170)

A
B
C
D
E
F



to HDMI Block

Refer to 4.5 HDMI Block Diagram(High).

CN1001

B 4/4 CN101

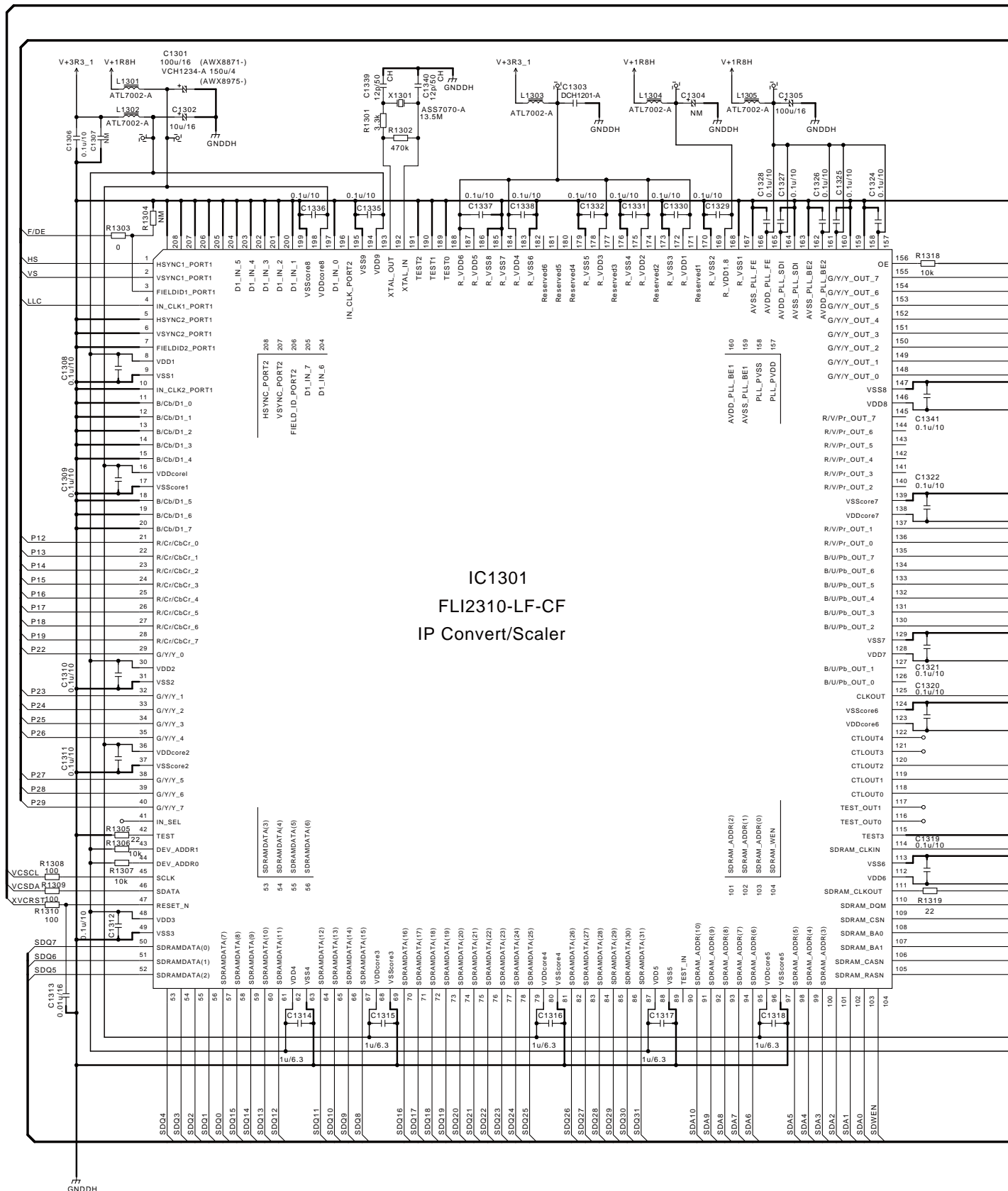
CN1002

B 4/4 CN102

- (Y) : Video Signal Route (Component Y ch)
- (Cb) : Video Signal Route (Component Cb ch)
- (Cr) : Video Signal Route (Component Cr ch)
- (CV) : Video Signal Route (Component Video)
- (SY) : S-Video Signal Route (Y ch)
- (SC) : S-Video Signal Route (C ch)

10.15 HDMI & DVC ASSY (2/2) (VSX-LX51)

A
B
C
D
E
F



IC1301
FLI2310-LF-CF
IP Convert/Scaler

F 2/2 HDMI & DVC ASSY (VSX-LX51 : AWX9170)

A

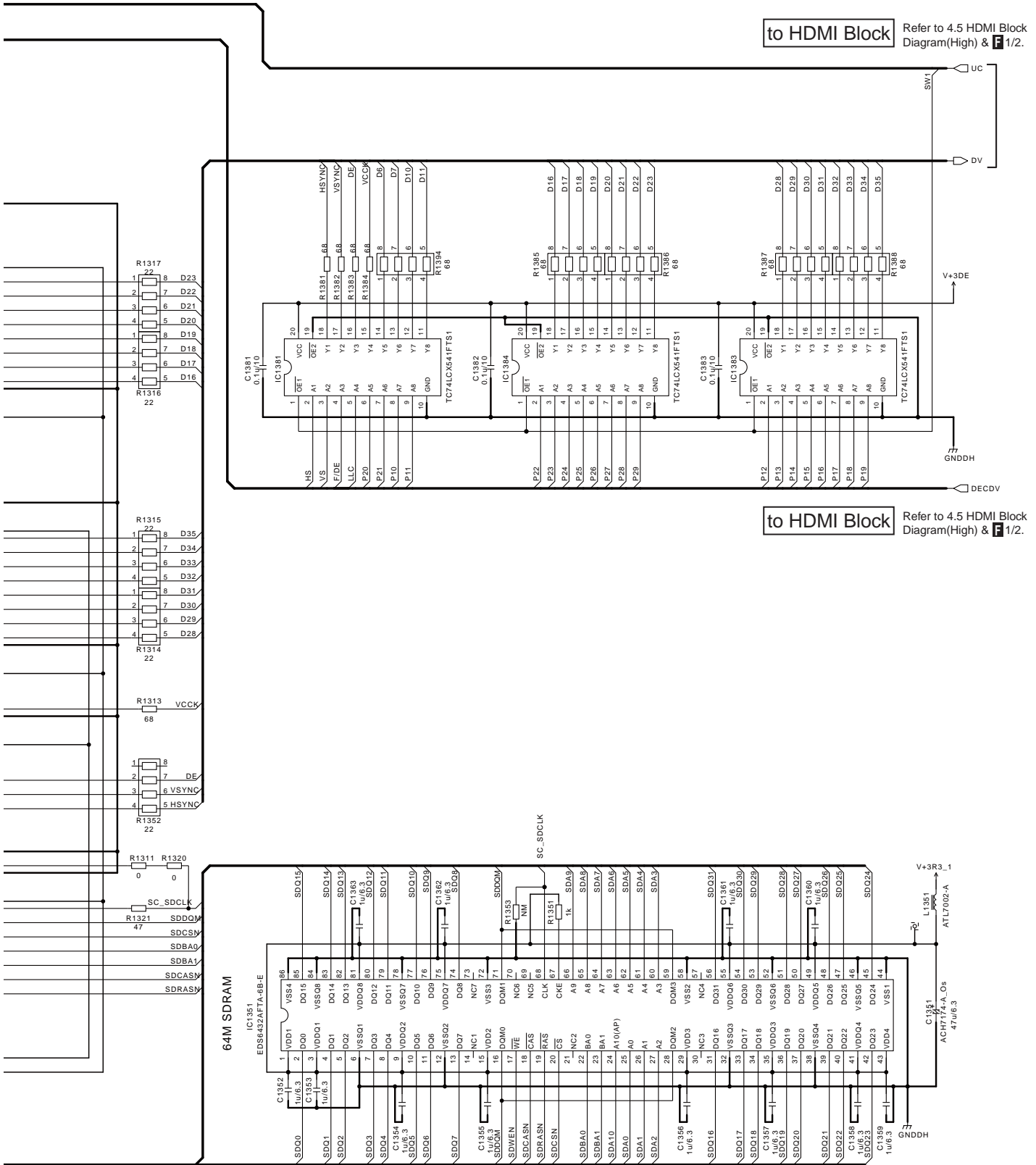
B

C

D

E

F



to HDMI Block Refer to 4.5 HDMI Block Diagram(High) & F 1/2.

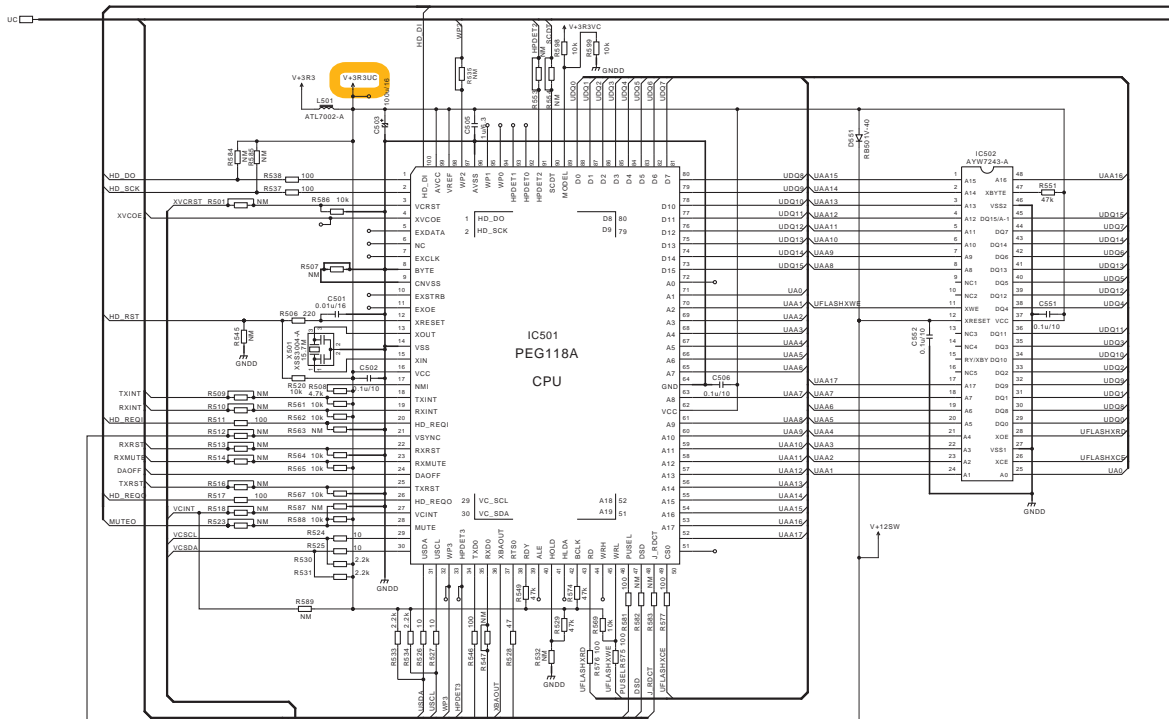
to HDMI Block Refer to 4.5 HDMI Block Diagram(High) & F 1/2.

10.16 HDMI ASSY (VSX-1018AH)

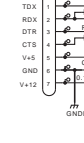
1 2 3 4

to HDMI Block

Refer to 4.6 HDMI Block Diagram(Low).

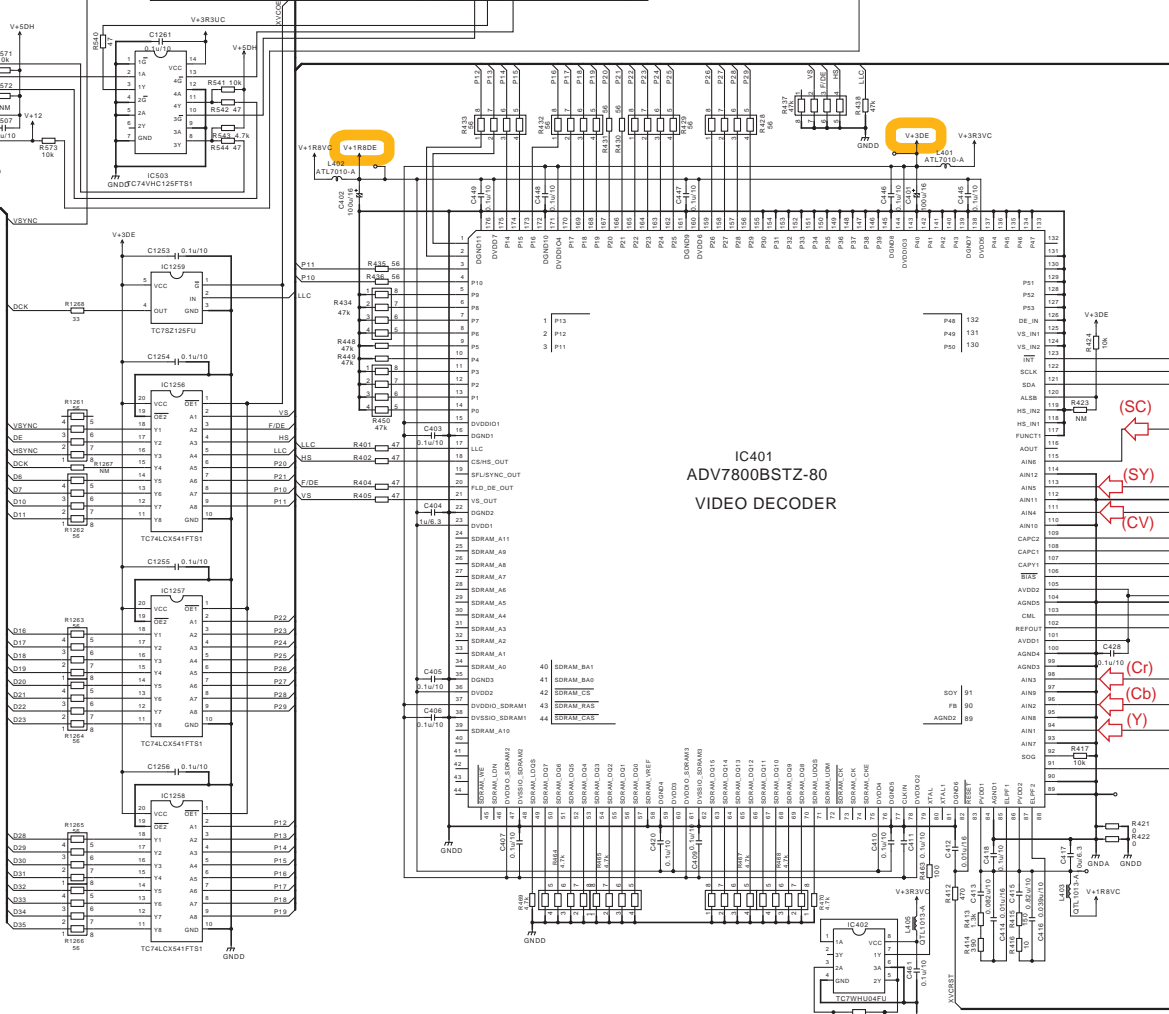


CN501



to HDMI Block

Refer to 4.6 HDMI Block Diagram(Low).



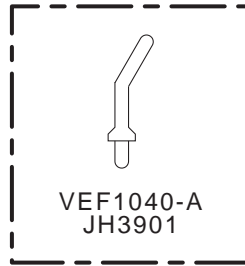
1 2 3 4



10.17 BINDER, BIND L FRONT, BIND L BACK, BIND R FRONT and BIND R BACK ASSYS

A

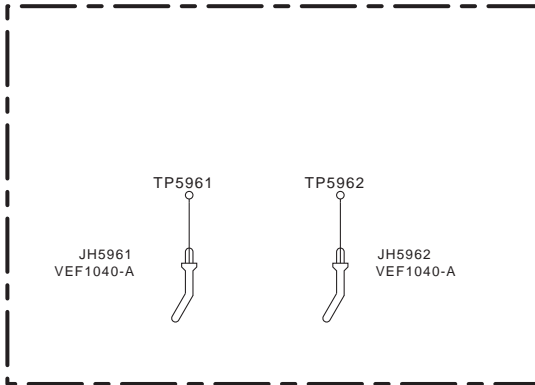
H BINDER ASSY (AWX9120)



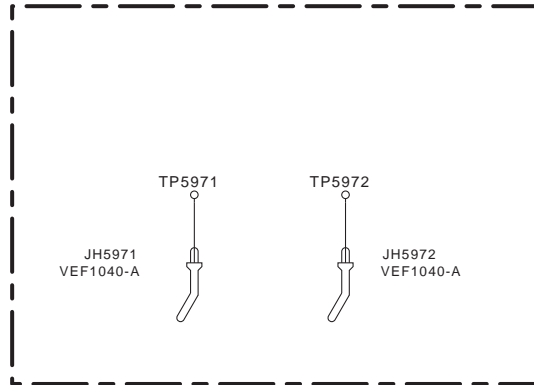
B

C

I BIND L FRONT ASSY (AWX9217)

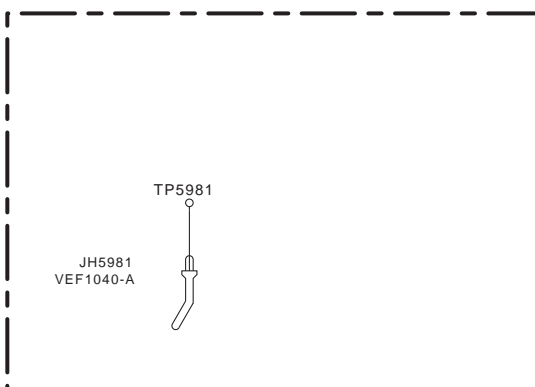


J BIND L BACK ASSY (AWX9218)

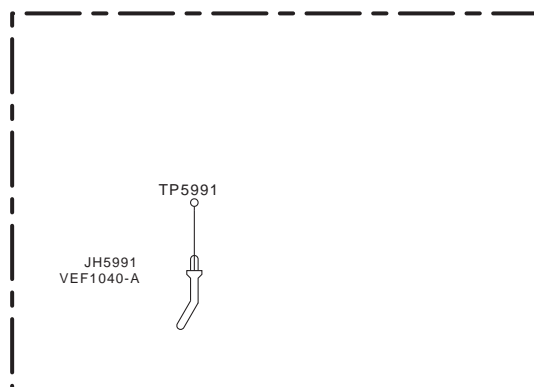


D

K BIND R FRONT ASSY (AWX9219)



L BIND R BACK ASSY (AWX9220)

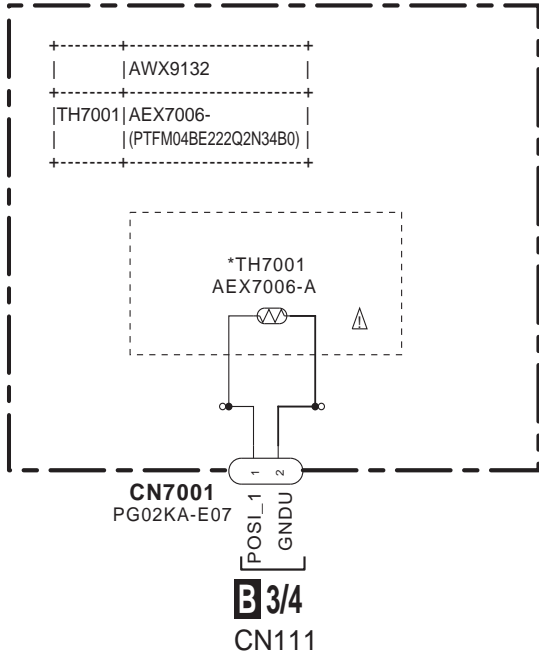


F

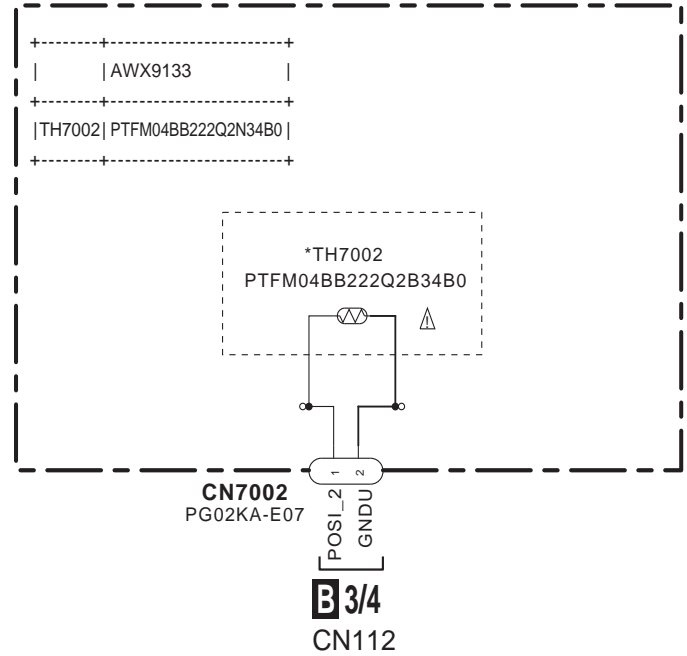


10.18 POSI1, POSI2 and POSI3 ASSYS

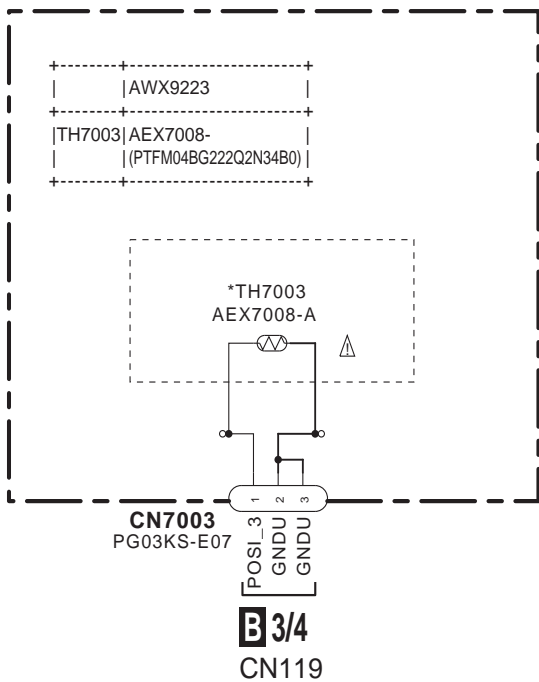
W POSI 1 ASSY (AWX9132)




X POSI 2 ASSY (AWX9133)



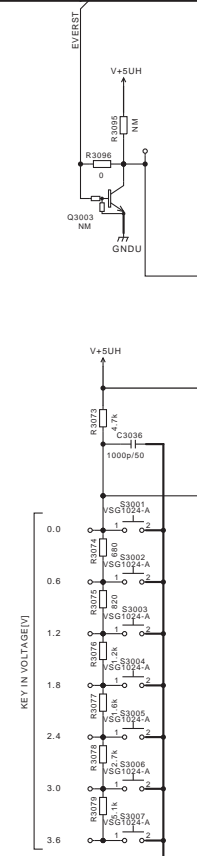
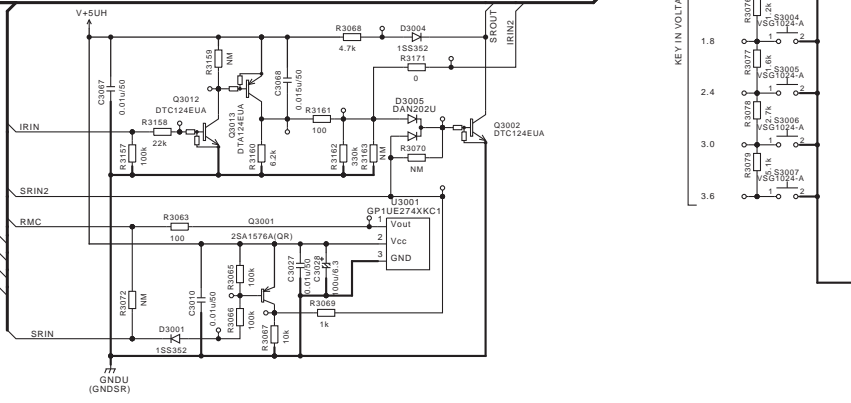
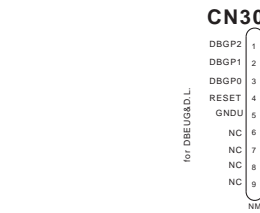
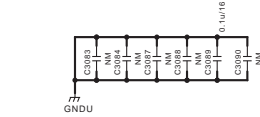
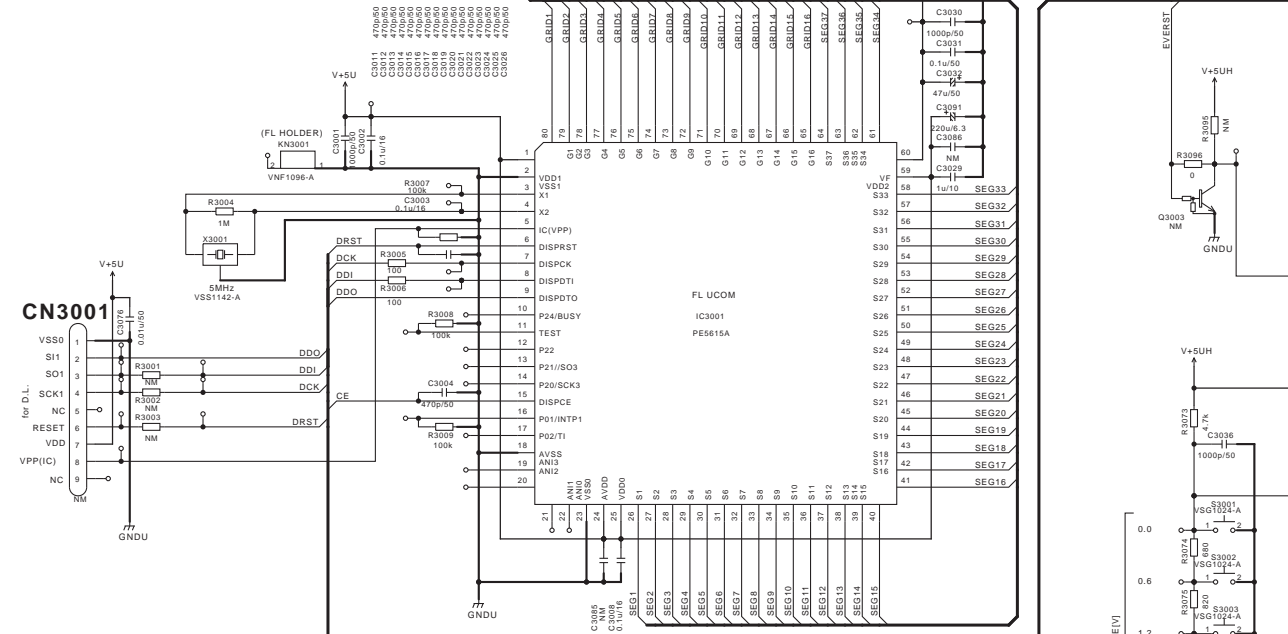
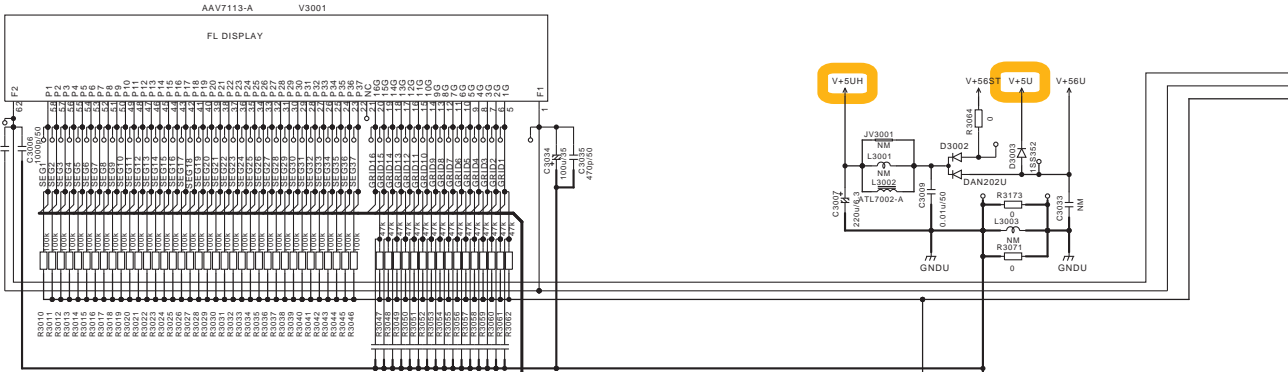
Y POSI 3 ASSY (AWX9223)



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.

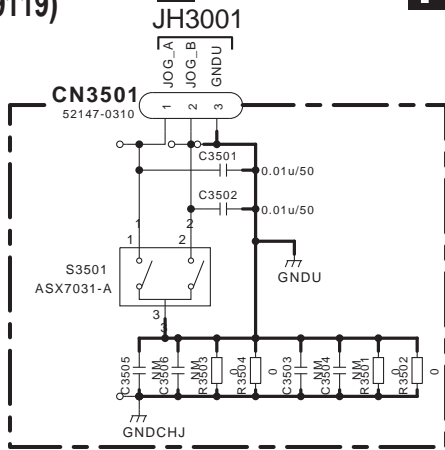
10.19 DISPLAY ASSY

	awx9117	awx9214
[R3111]	680	NM
[R3139]	150	150
[R3148]	560	560
[R3155]	150	150
[D3015]	[SLR343BC4T](JLM)	[SLR343BC4T](JLM)
[D3009]	[SLR343VBC](MNPQ)	NM
[D3017]	[SLR343VBC](MNPQ)	[SLR343VBC](MNPQ)
[D3019]	[SLR343BC4T](JLM)	[SLR343BC4T](JLM)
[Q3006]	DTC143EUA	NM
[Q3009]	DTC143EUA	DTC143EUA
[Q3011]	DTC143EUA	DTC143EUA

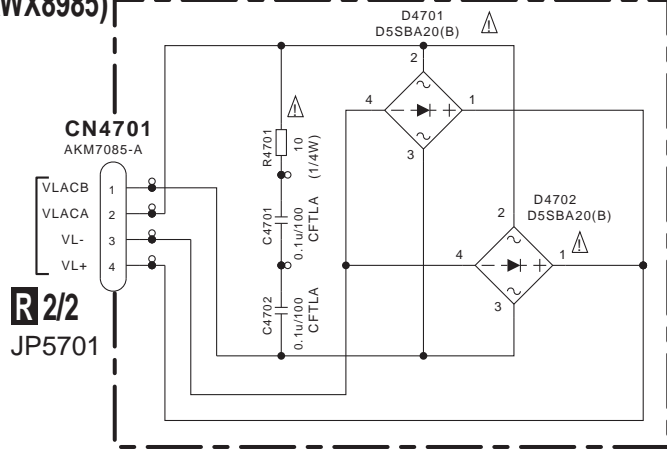


10.20 MULTI JOG, POWER SW, DIODE, HEADPHONE, PRIMARY and DC/DC ASSYS

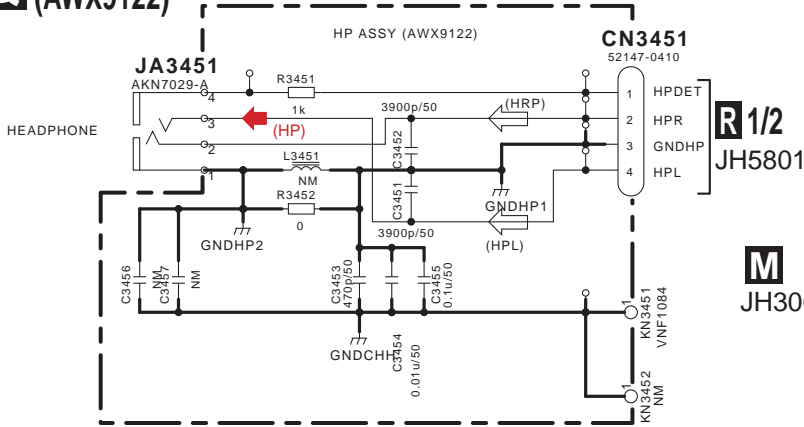
N MULTI JOG ASSY (AWX9119)



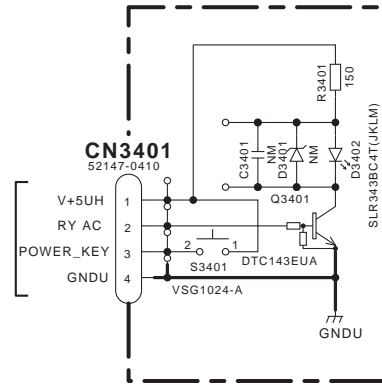
P DIODE ASSY (AWX8985)



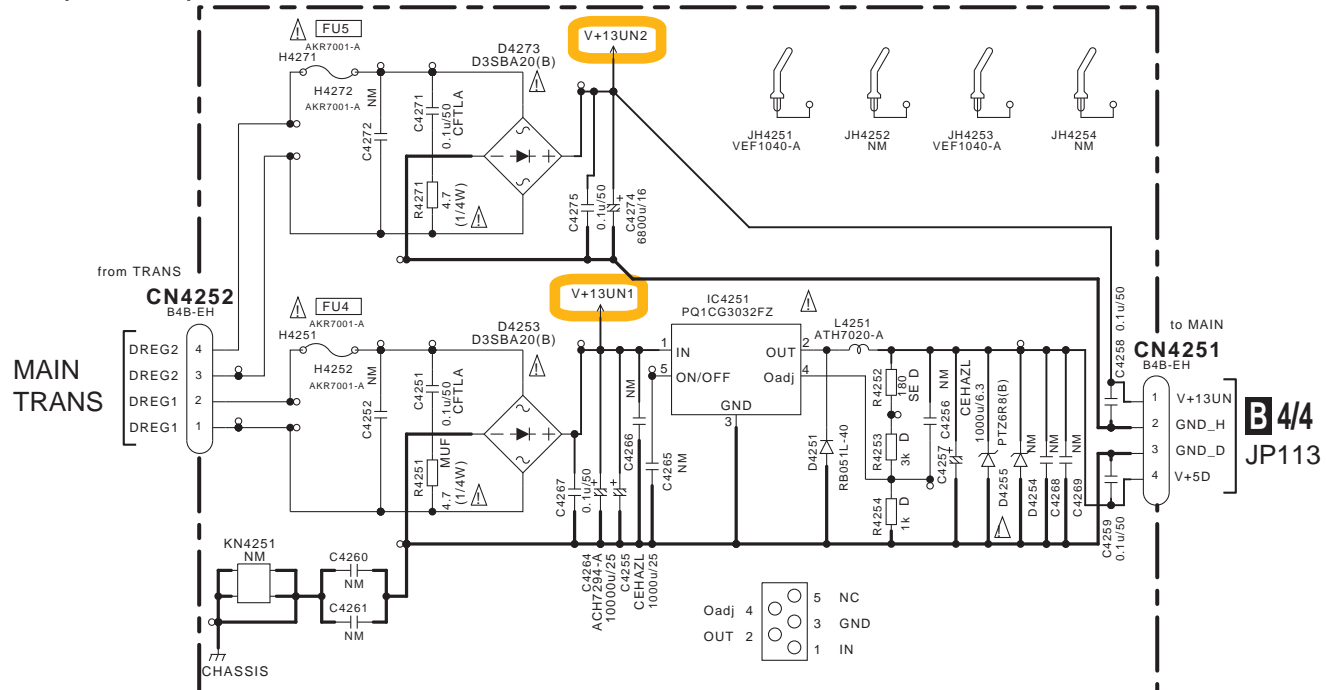
Q HEADPHONE ASSY (AWX9122)



O POWER SW ASSY (AWX9118)



V DC/DC ASSY (AWX8988)

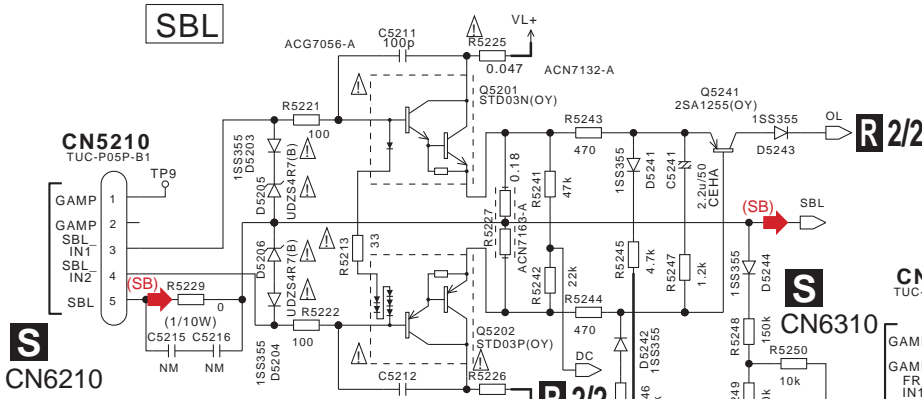


N O P Q V

10.21 POWER AMP ASSY (1/2)

A

SBL



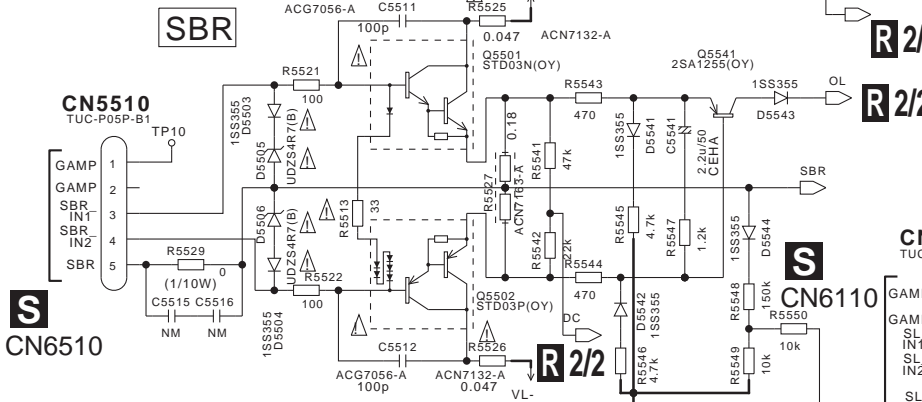
FR

R 2/2

B

CN6210

SBR



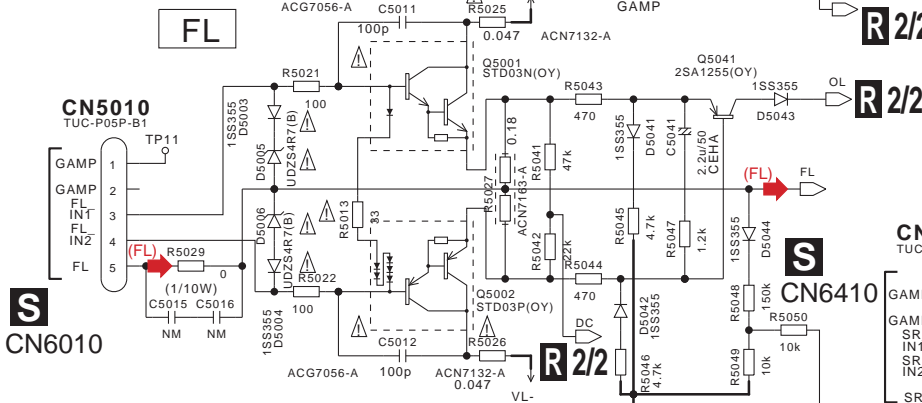
SL

R 2/2

C

CN6510

FL



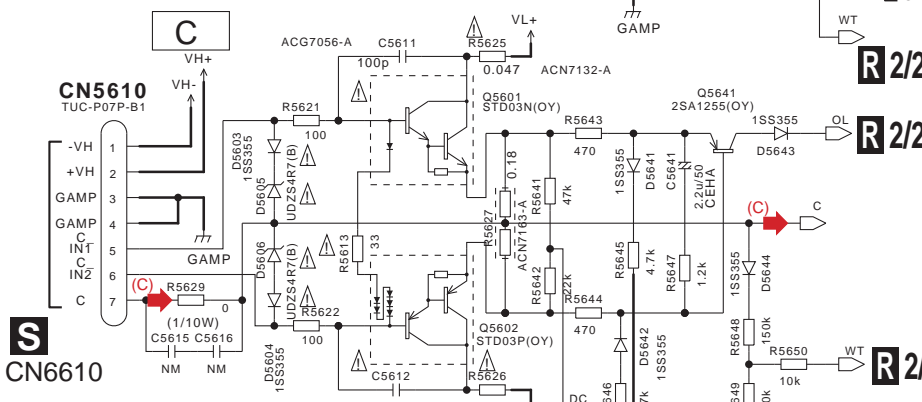
SR

R 2/2

D

CN6010

C



F

R 1/2

1

2

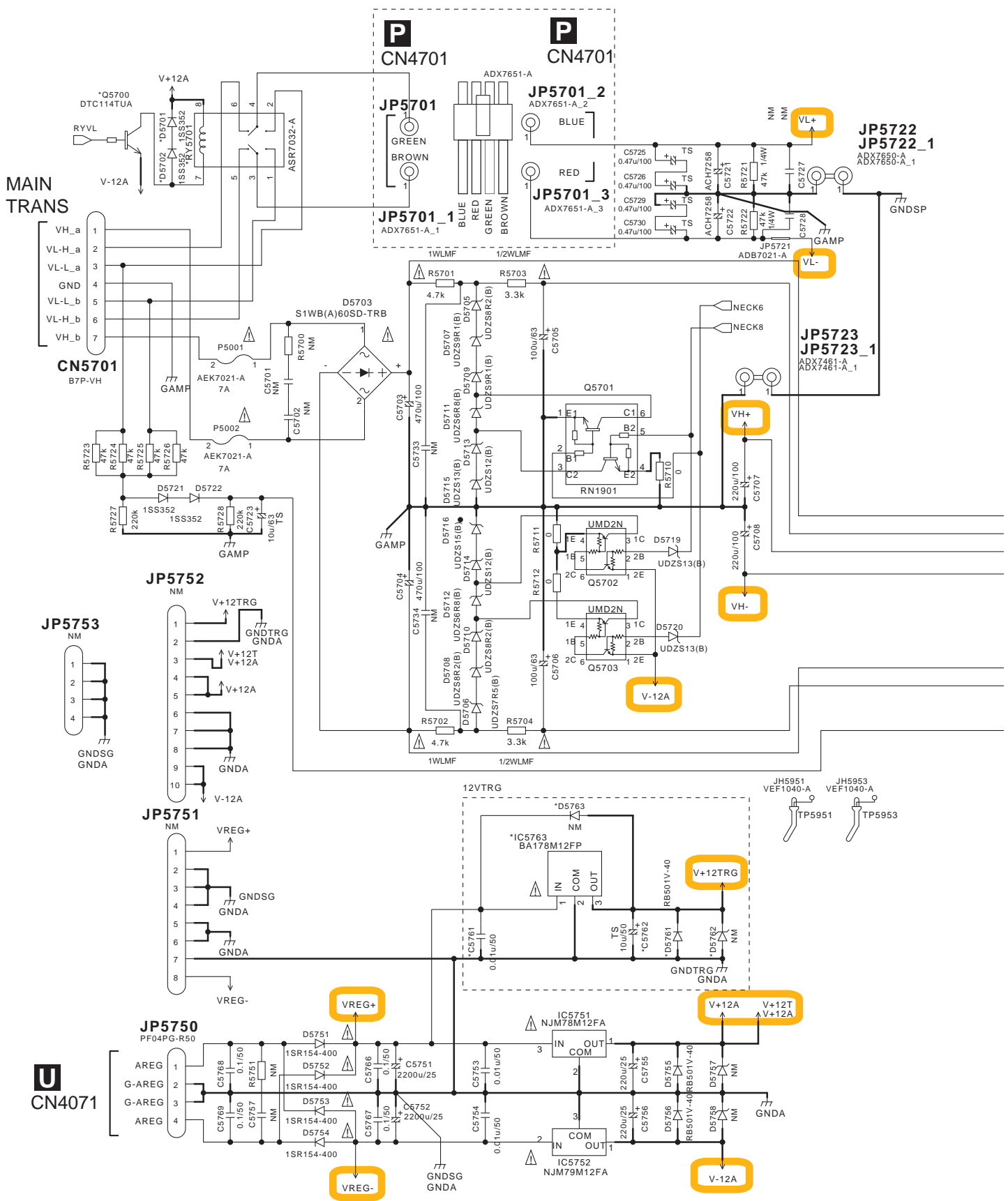
3

4

10.22 POWER AMP ASSY (2/2)

1 2 3 4

A
B
C
D
E
F



1 2 3 4

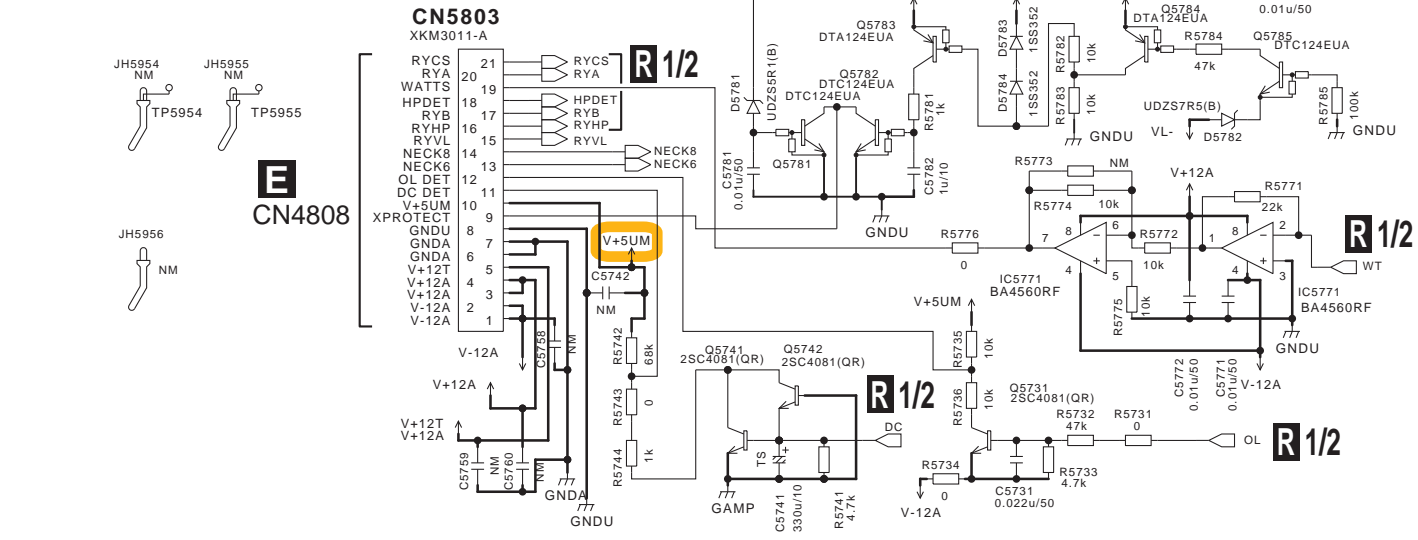
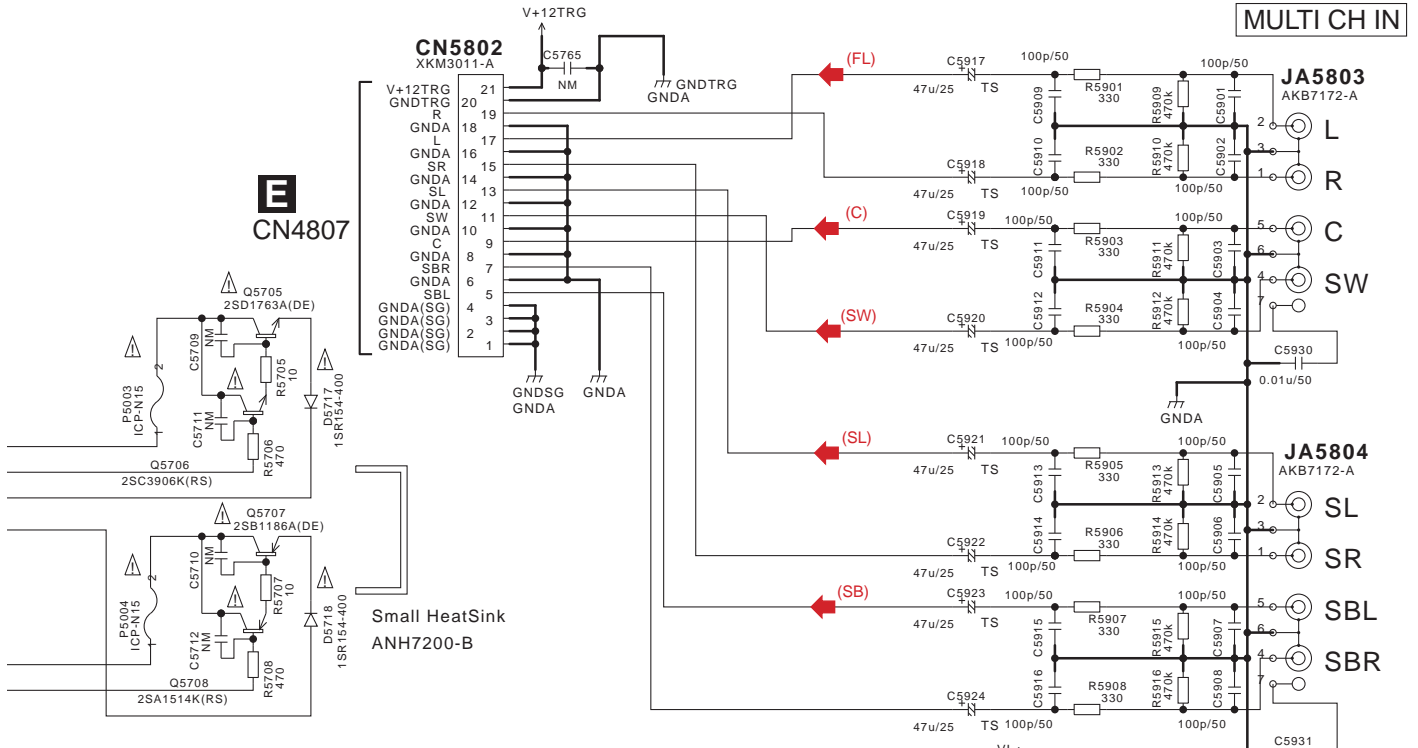
R 2/2 POWER AMP ASSY (AWX8984)

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.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR P5001 and P5002.

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

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N15, MFD BY ROHM CO., LTD. FOR P5003 and P5004.



- (FL) : Audio Signal Route (Front L ch)
- (SL) : Audio Signal Route (Surround L ch)
- (C) : Audio Signal Route (Center ch)
- (SB) : Audio Signal Route (Surround Back L ch)
- (SW) : Audio Signal Route (SubWoofer ch)

10.23 PRE-STAGE AMP ASSY

1

2

3

4

A

B

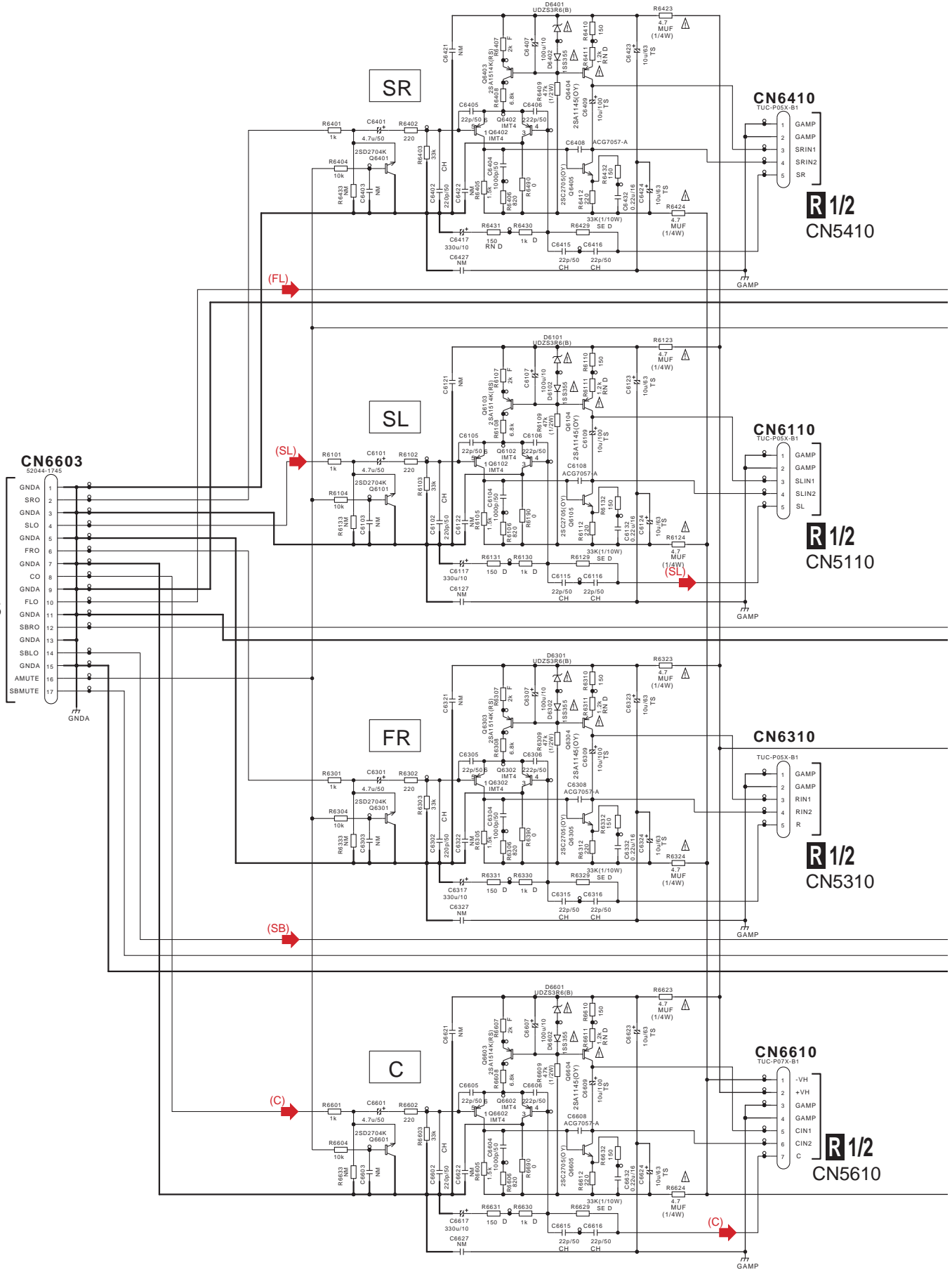
C

D

E

F

A 2/2
CN505



S
128

VSX-LX51

1

2

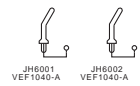
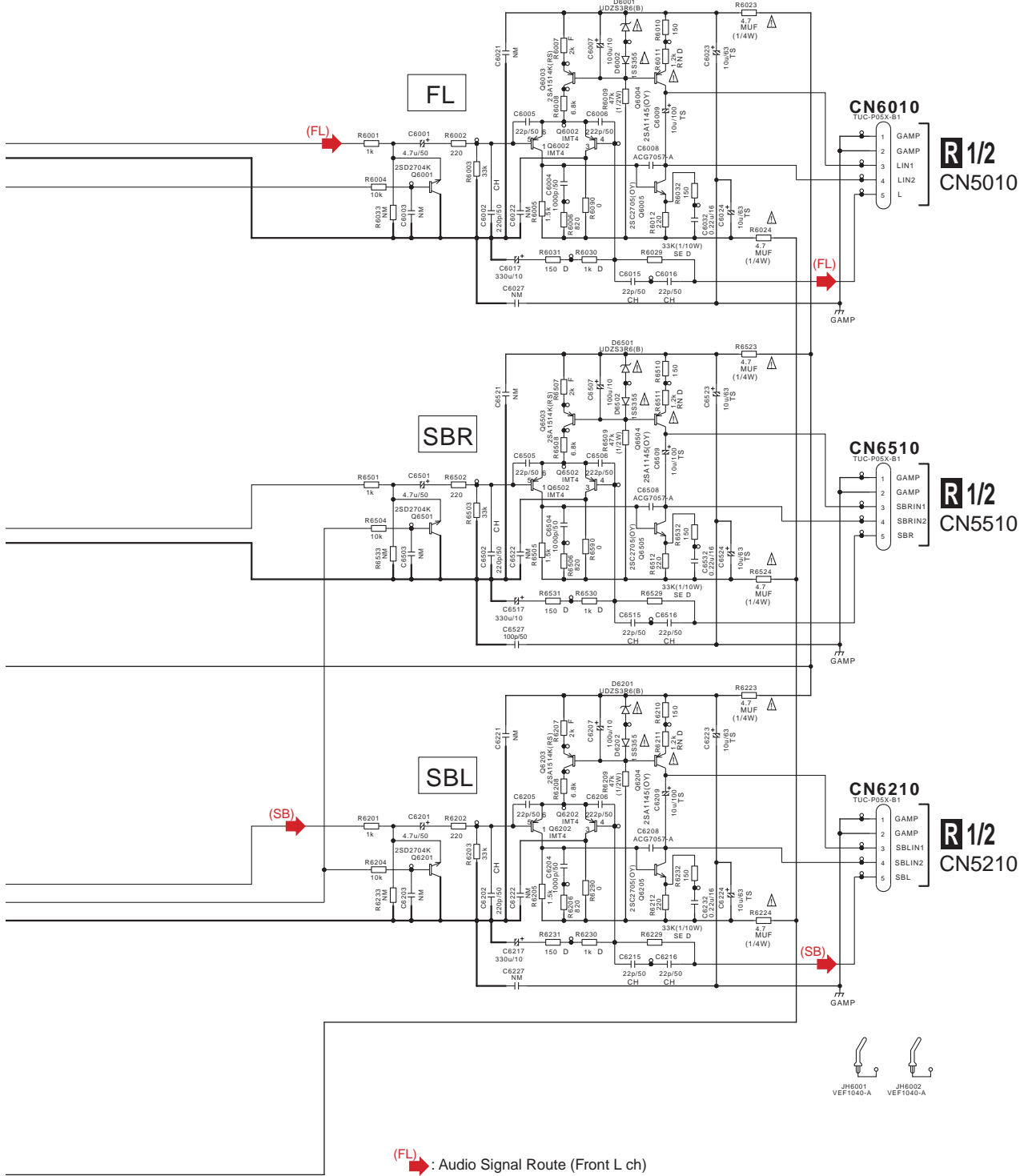
3

4

S PRE-STAGE AMP ASSY (AWX8989)

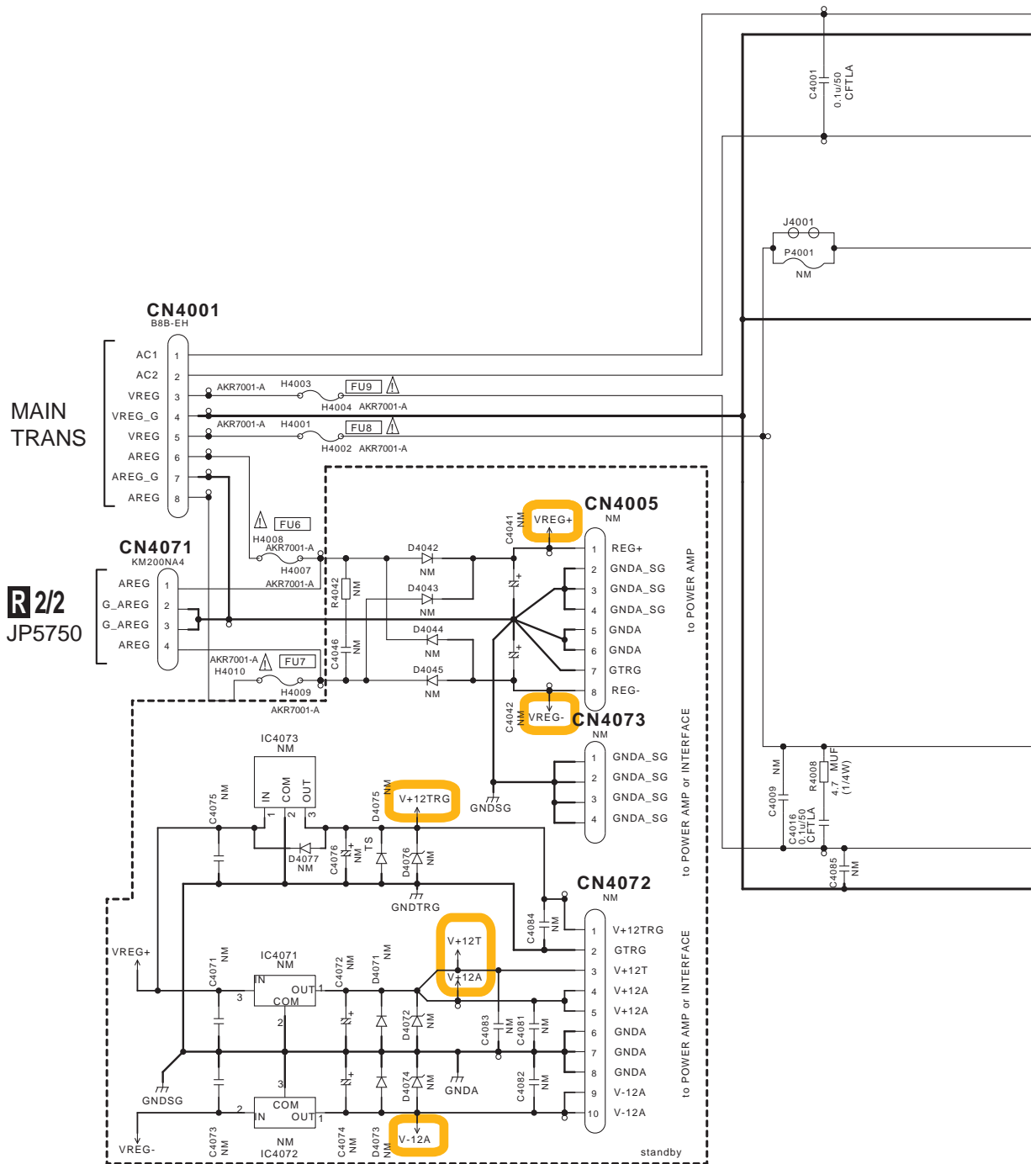
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

NOTE
 1. RESISTORS
 Unit: k Ω , M Ω or Ω unless otherwise noted.
 Rated power: 1/16W unless otherwise noted.
 Tolerance: (J):5% unless otherwise noted.
 2. CAPACITORS
 Unit: p μ F, or μ F unless otherwise noted.
 Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.



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

10.24 REGULATOR ASSY




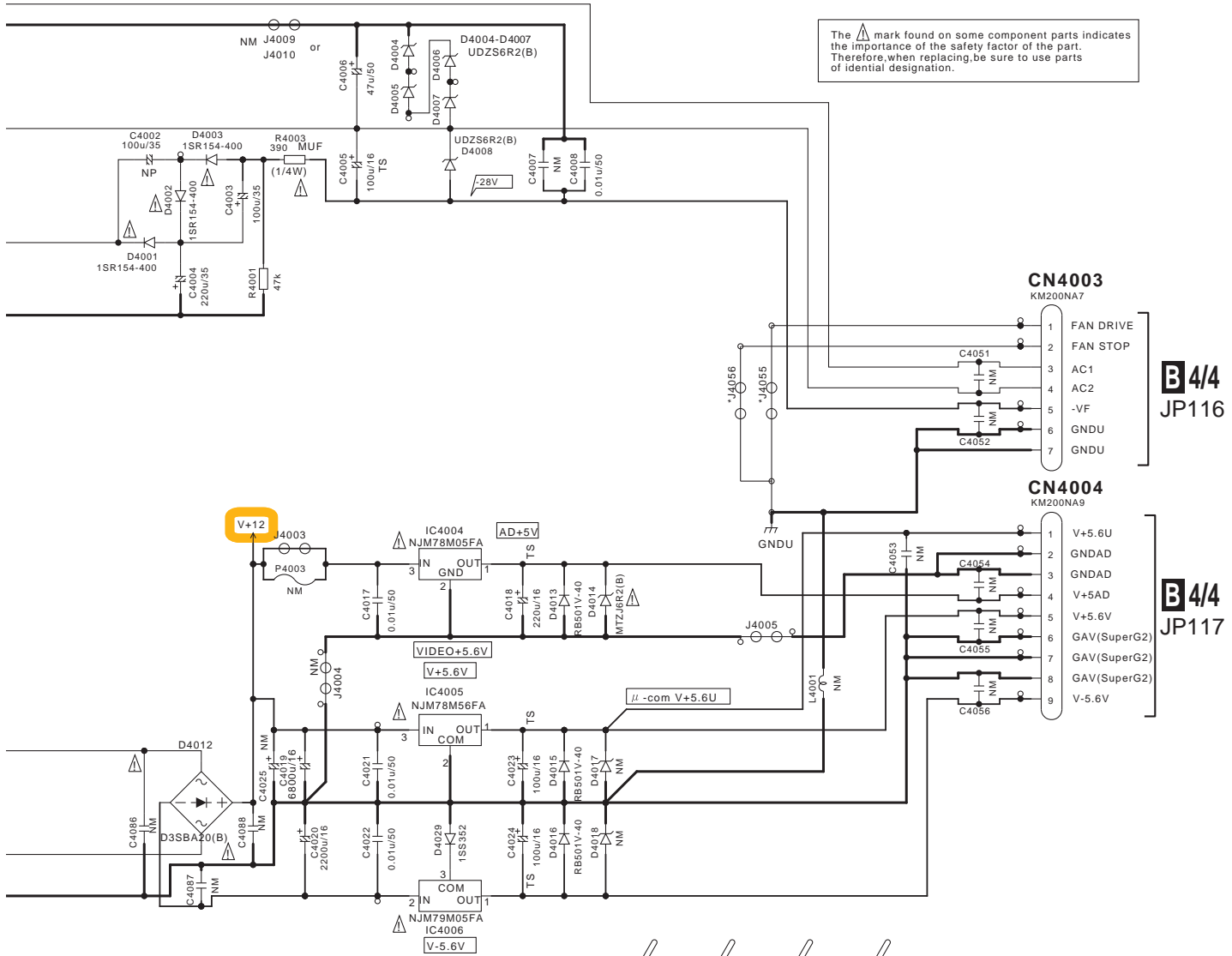
REGULATOR ASSY (AWX8986)

NOTE

1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.

2. CAPACITORS
Unit: p-pF, or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.

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.

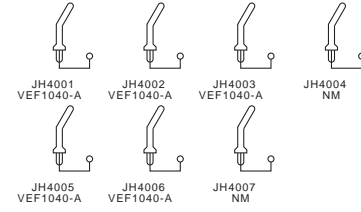


B 4/4
JP116

B 4/4
JP117

Jumper not mount

J4002	J4012	J4037
J4004	J4013	J4038
J4011	J4014	J4039
J4007	J4028	
J4009	J4054	
J4006	J4048	
	J4049	
	J4050	
J4022	J4051	
	J4052	
	J4053	



CAUTION
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. ***** MFD.
BY LITTELFUSE INC. FOR IC*****.

1

2

3

4

A

B

C

D

E


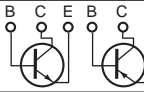

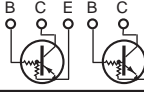



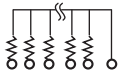


F

5 6 7 8

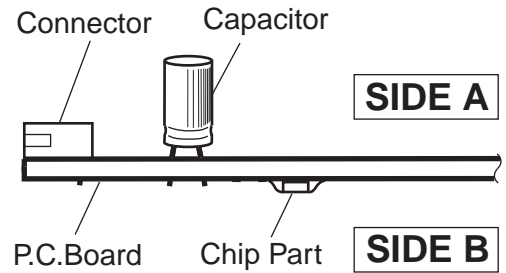
11. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. 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.
4. View point of PCB diagrams.



VSX-LX51

5 6 7 8

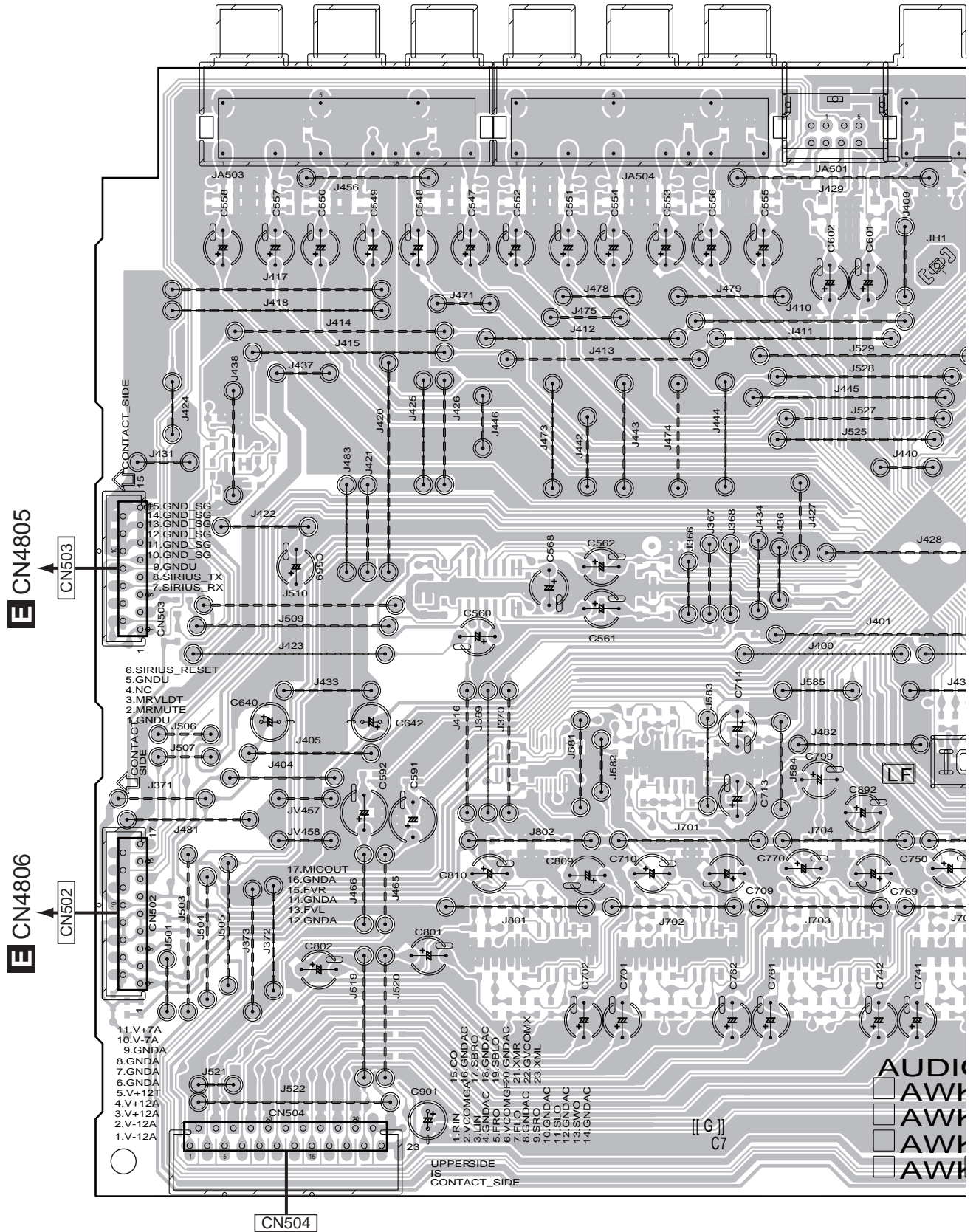
133

11.1 AUDIO IN ASSY

1 2 3 4

SIDE A

A AUDIO IN ASSY



E CN4805

E CN4806

CN504

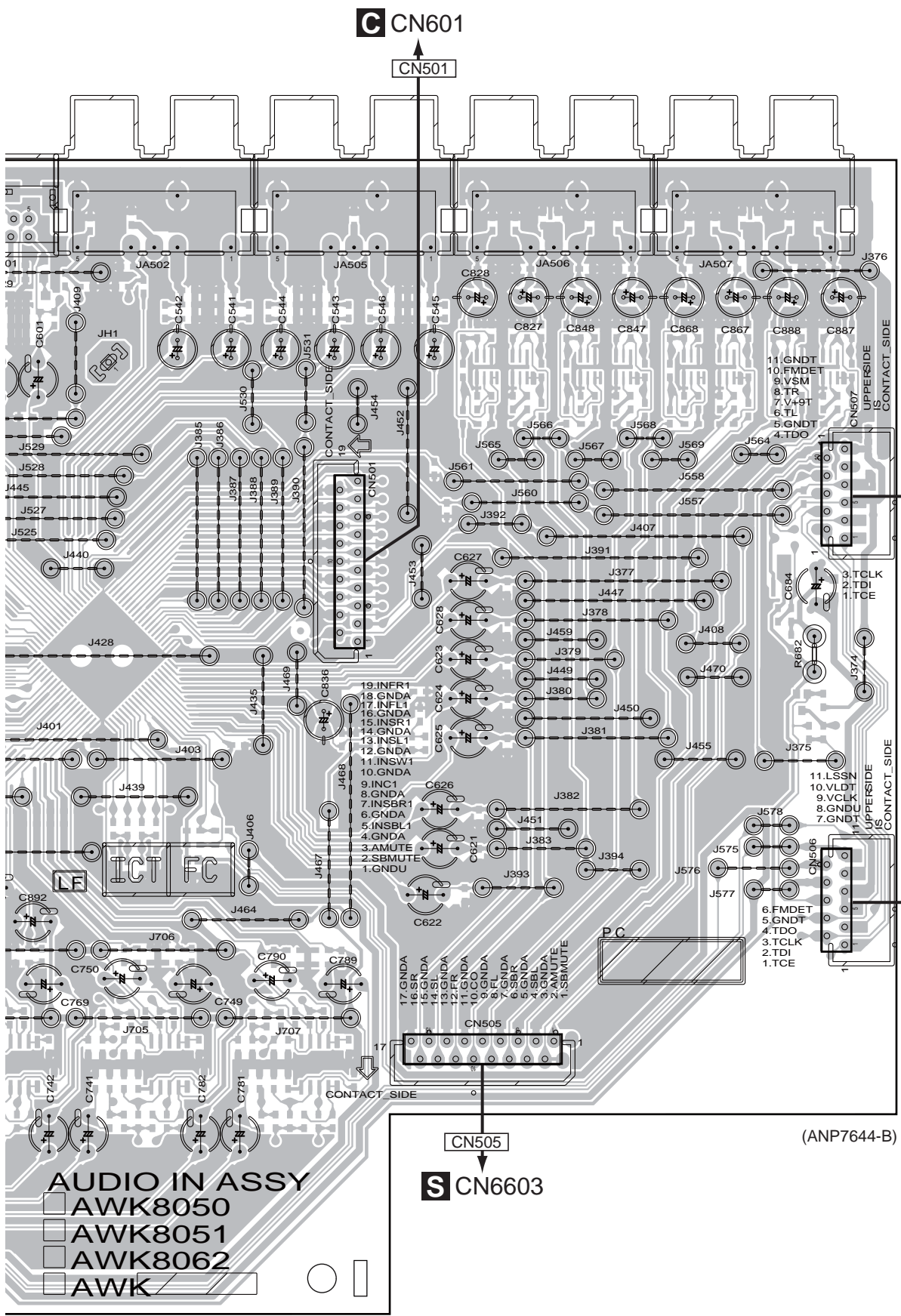
E CN4804

A

1 2 3 4

SIDE A

A
B
C
D
E
F

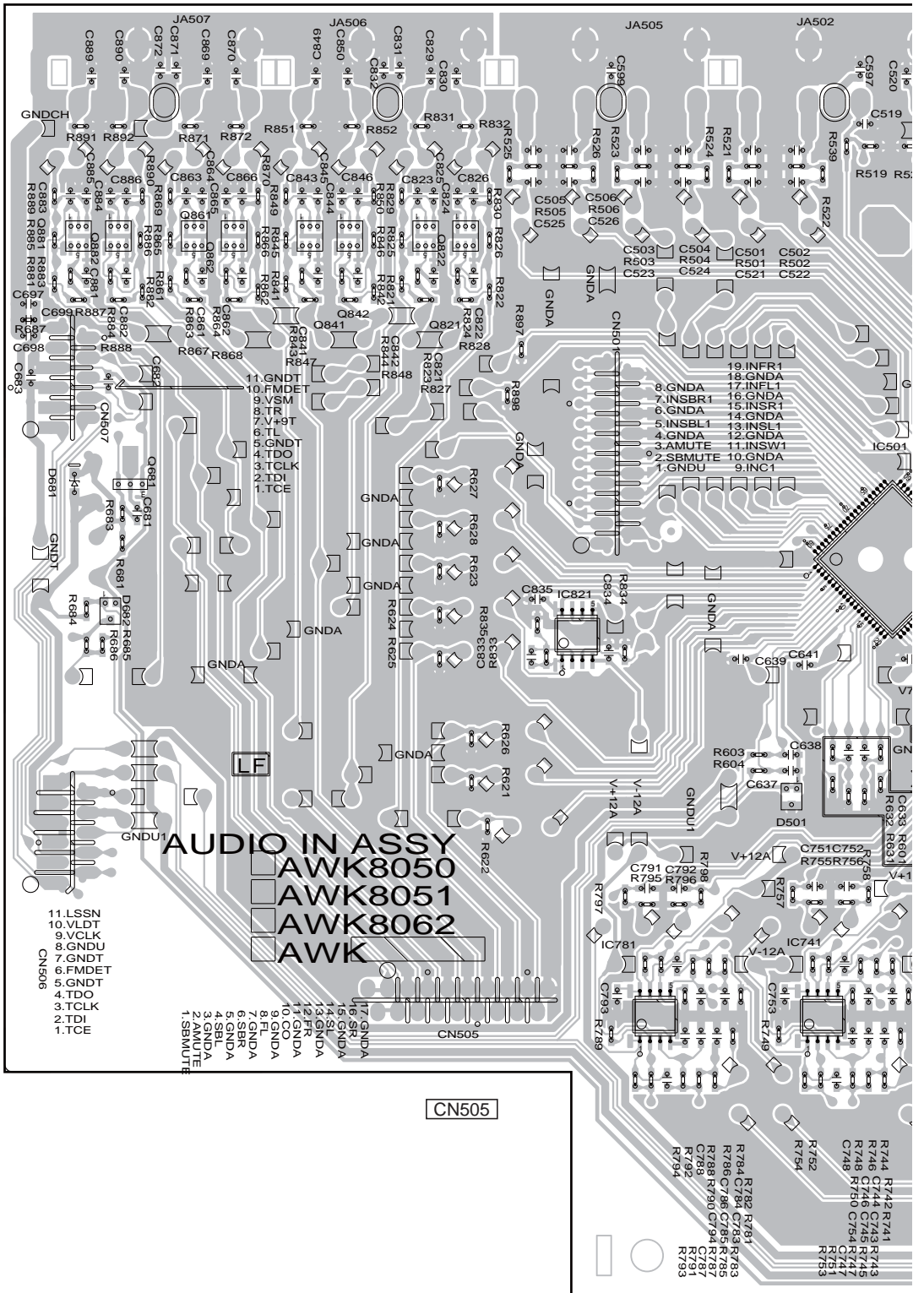


A

SIDE B

A AUDIO IN ASSY

CN501



CN507

CN506

CN505

AUDIO IN ASSY
AWK8050
AWK8051
AWK8062
AWK

- Q861
- Q881
- Q882
- Q862
- Q842
- Q841
- Q821
- Q519
- Q681
- Q701
- Q702

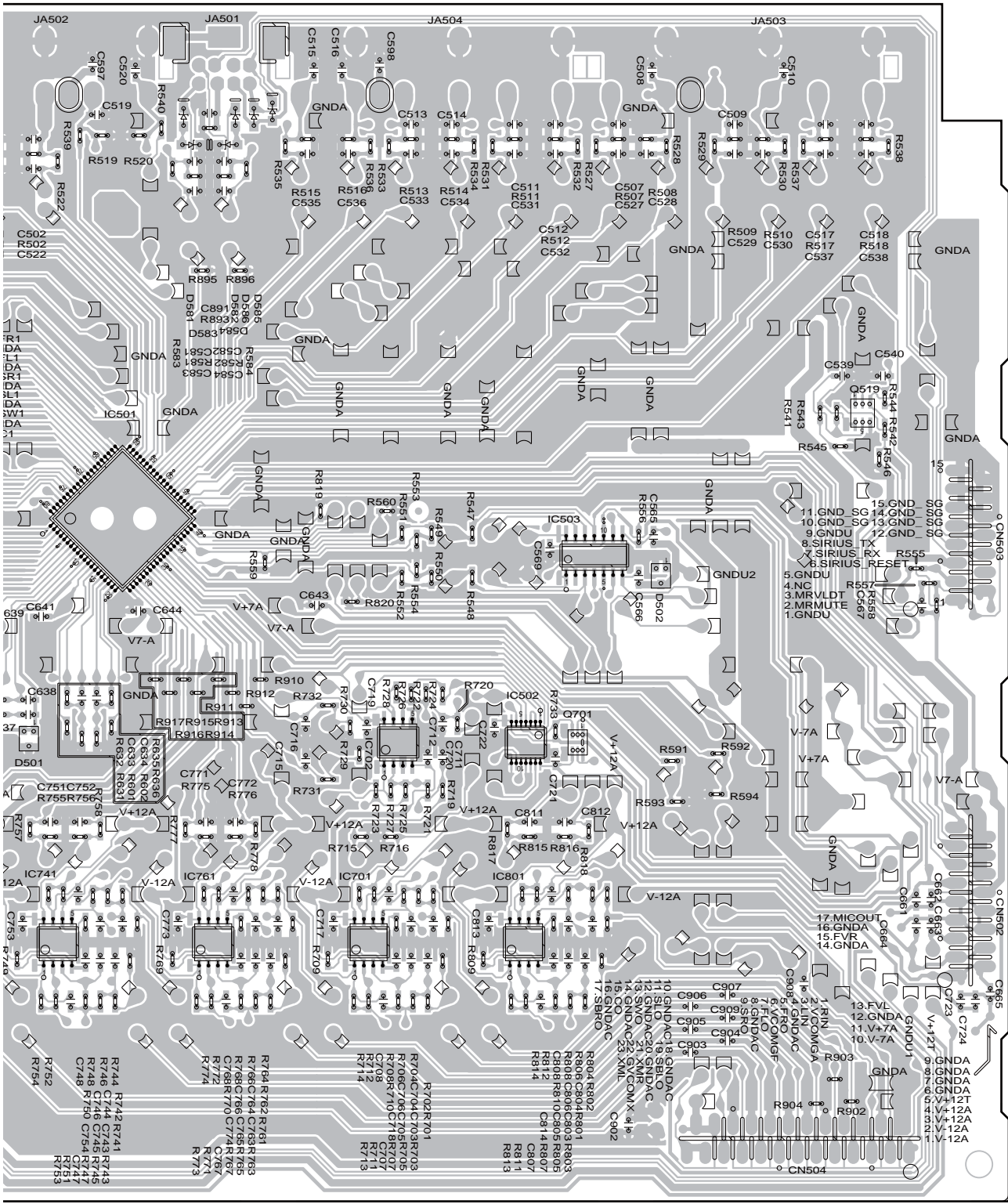
- IC761
- IC701 IC801
- IC781 IC741

- 11. LSSN
- 10. VLDT
- 9. VCLK
- 8. GNDU
- 7. GNDT
- 6. FMDET
- 5. GNDT
- 4. TDO
- 3. TCLK
- 2. TDI
- 1. TCE

- 17. GNDU
- 16. SR
- 15. GNDU
- 14. SL
- 13. GNDU
- 12. PR
- 11. SLD
- 10. SLD
- 9. GNDU
- 8. FL
- 7. GNDU
- 6. SR
- 5. SR
- 4. SR
- 3. GNDU
- 2. AMUTE
- 1. SBMUTE

VSX-LX51

A



CN503

CN502

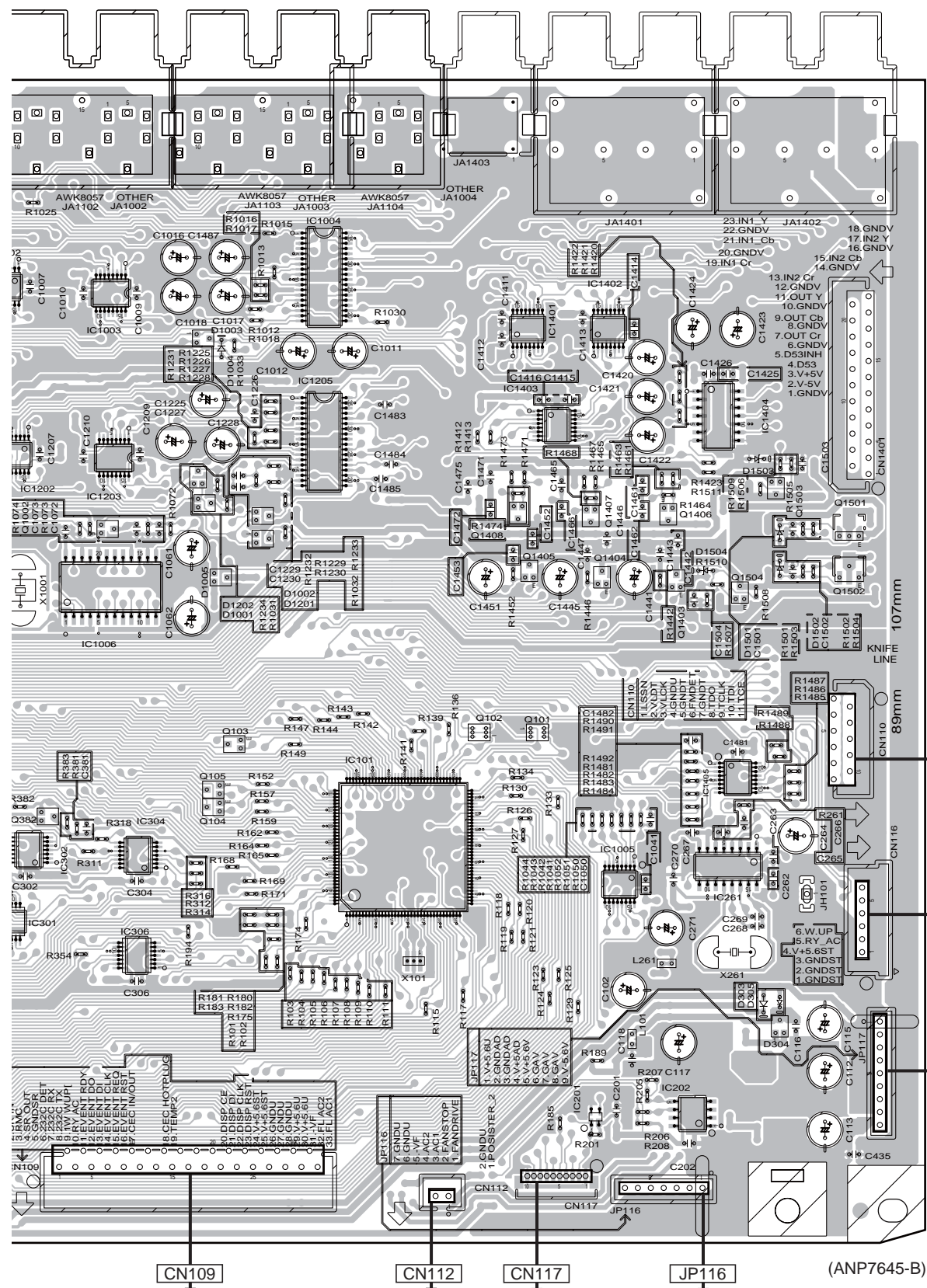
CN504

(ANP7644-B)

VSX-LX51

SIDE A

A
B
C
D
E
F



0

M CN3003

X CN700

For SERVICE

U CN4003

VSX-LX51

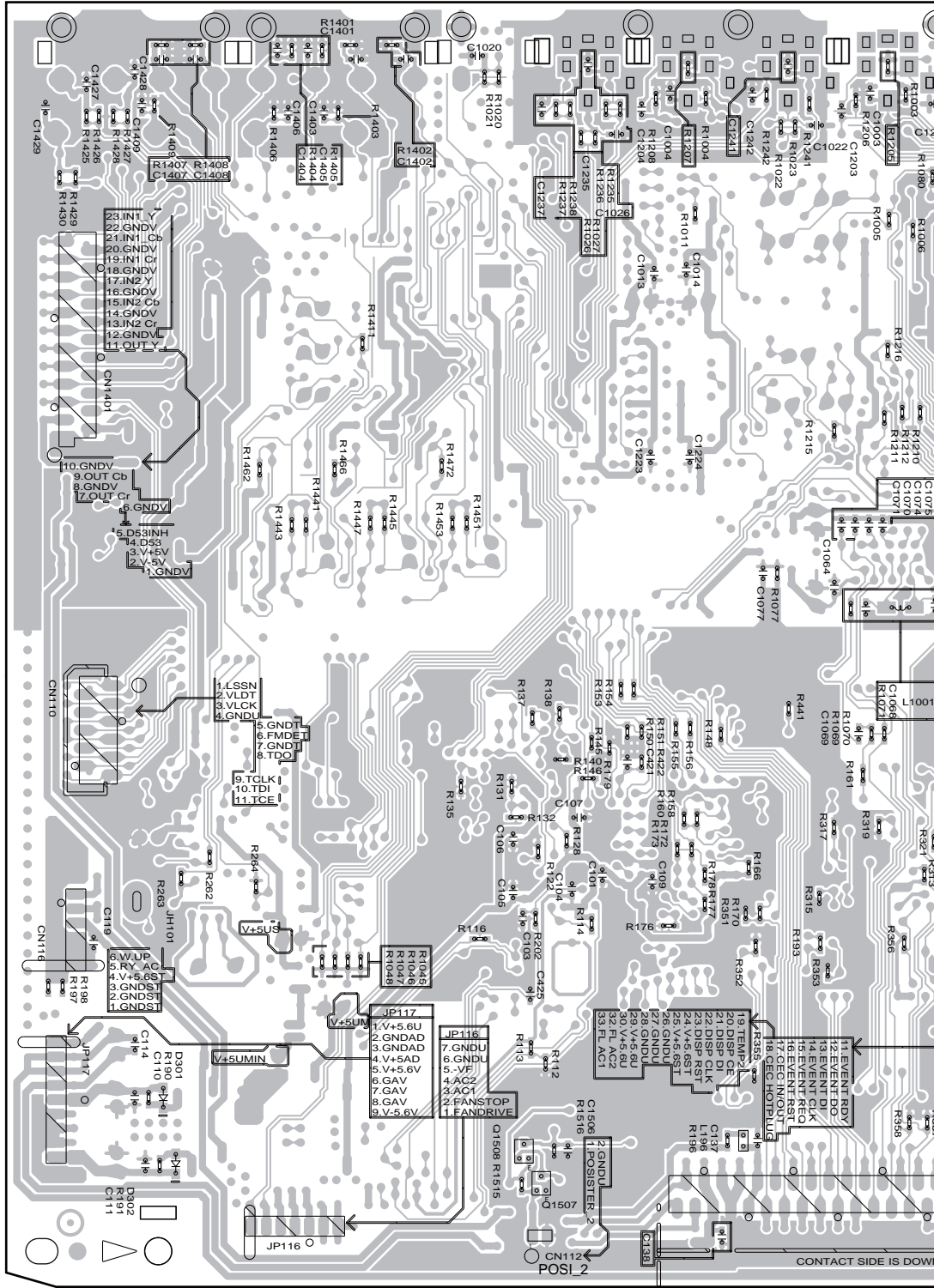
B

SIDE B

B MAIN ASSY

IC Q

Q1277
Q1278
Q1271
Q1508
Q1510 Q1506
Q411
Q1507
Q1509 Q1505



CN110

CN116

JP117

JP116

CN112

CN109

B

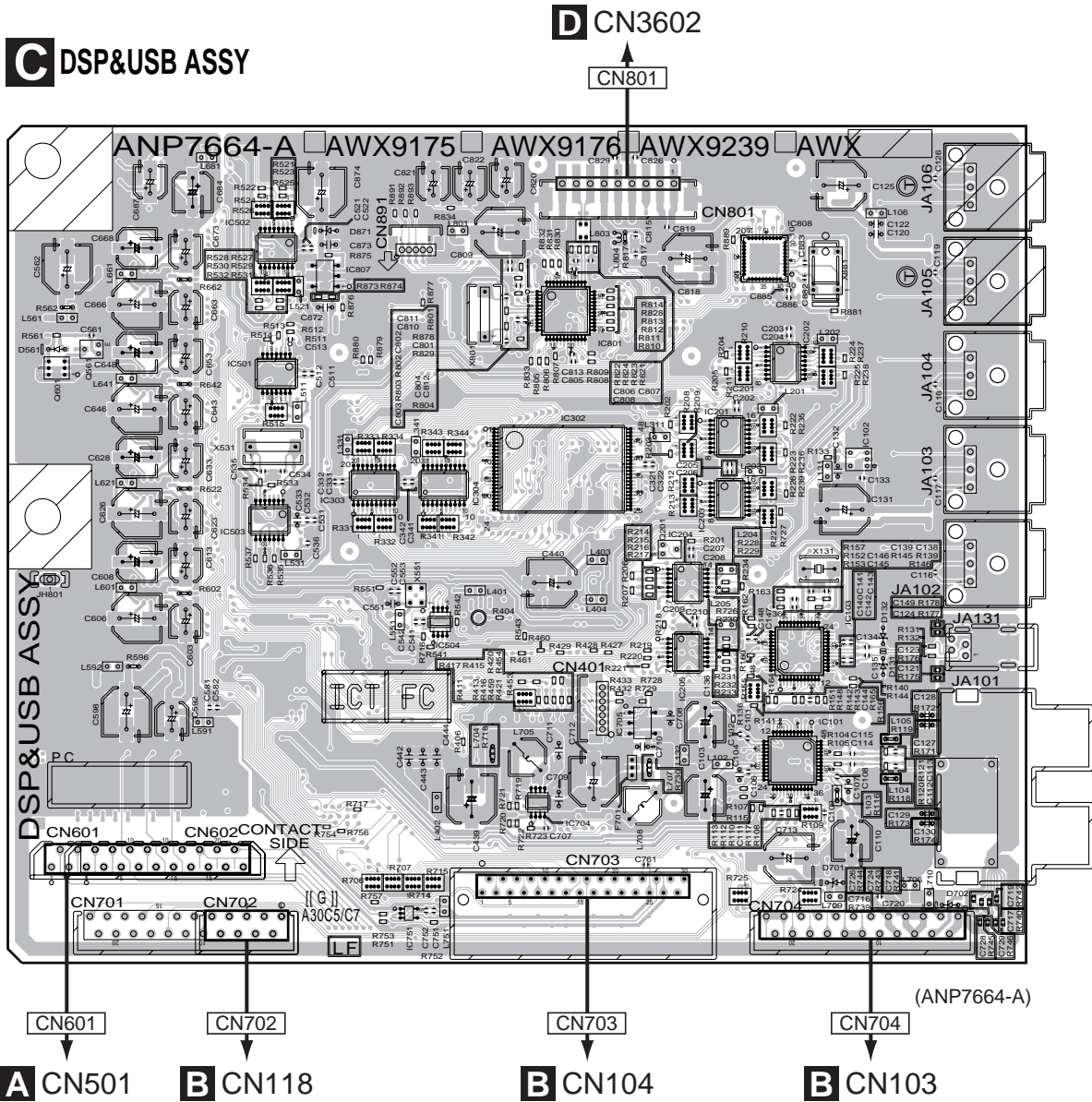
140

VSX-LX51

11.3 DSP & USB ASSY

SIDE A

SIDE A



C

C

SIDE B

SIDE B

A

B

C

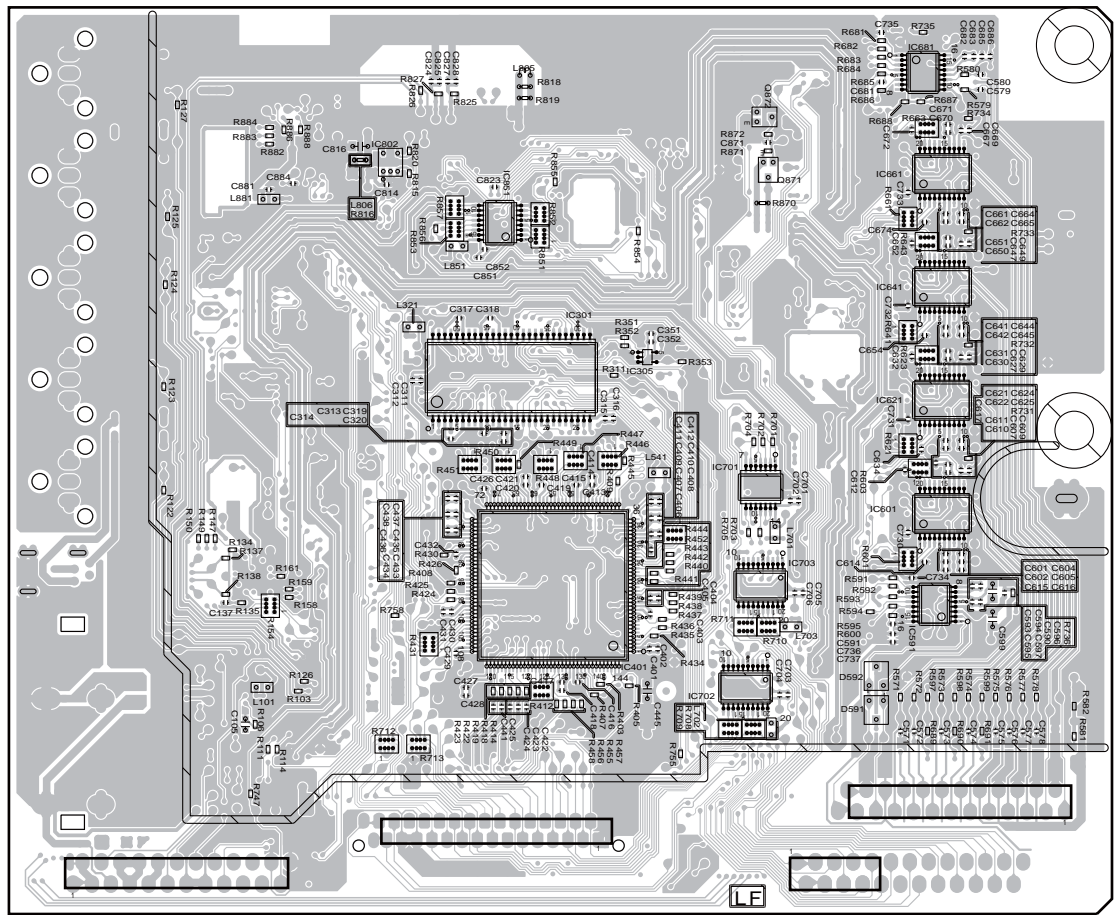
D

E

F

DSP&USB ASSY

- IC Q
- IC681 Q872
- IC802 Q871
- IC661
- IC851
- IC641
- IC301
- IC305
- IC621
- IC701
- IC601
- IC703
- IC591
- IC401
- IC702



(ANP7664-A)

CN704

CN703

CN702

CN601

C

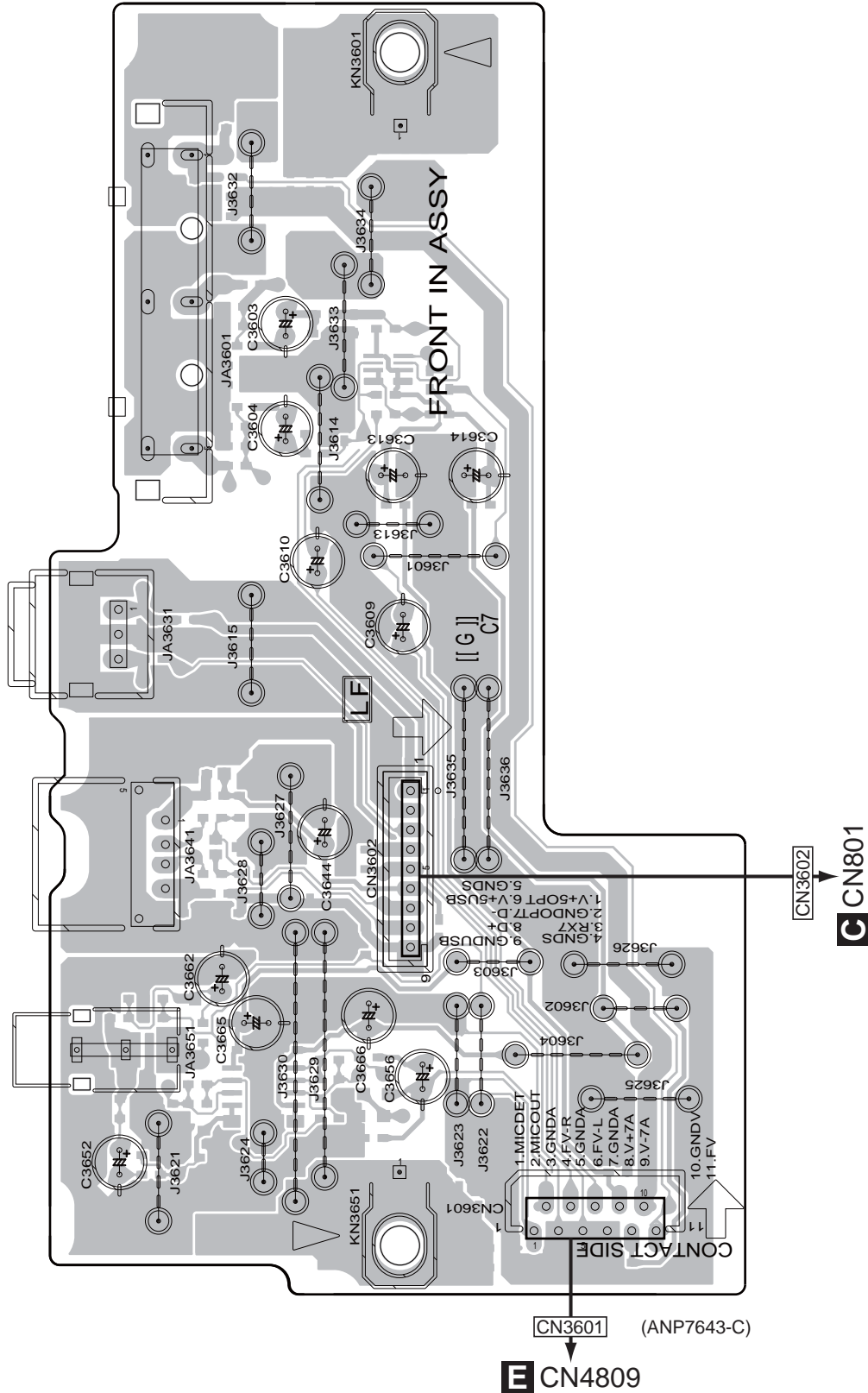
C

11.4 FRONT IN ASSY

SIDE A

SIDE A

D FRONT IN ASSY



E CN4809

D

D

SIDE B

SIDE B

A

D FRONT IN ASSY

IC Q

Q3601

IC3651

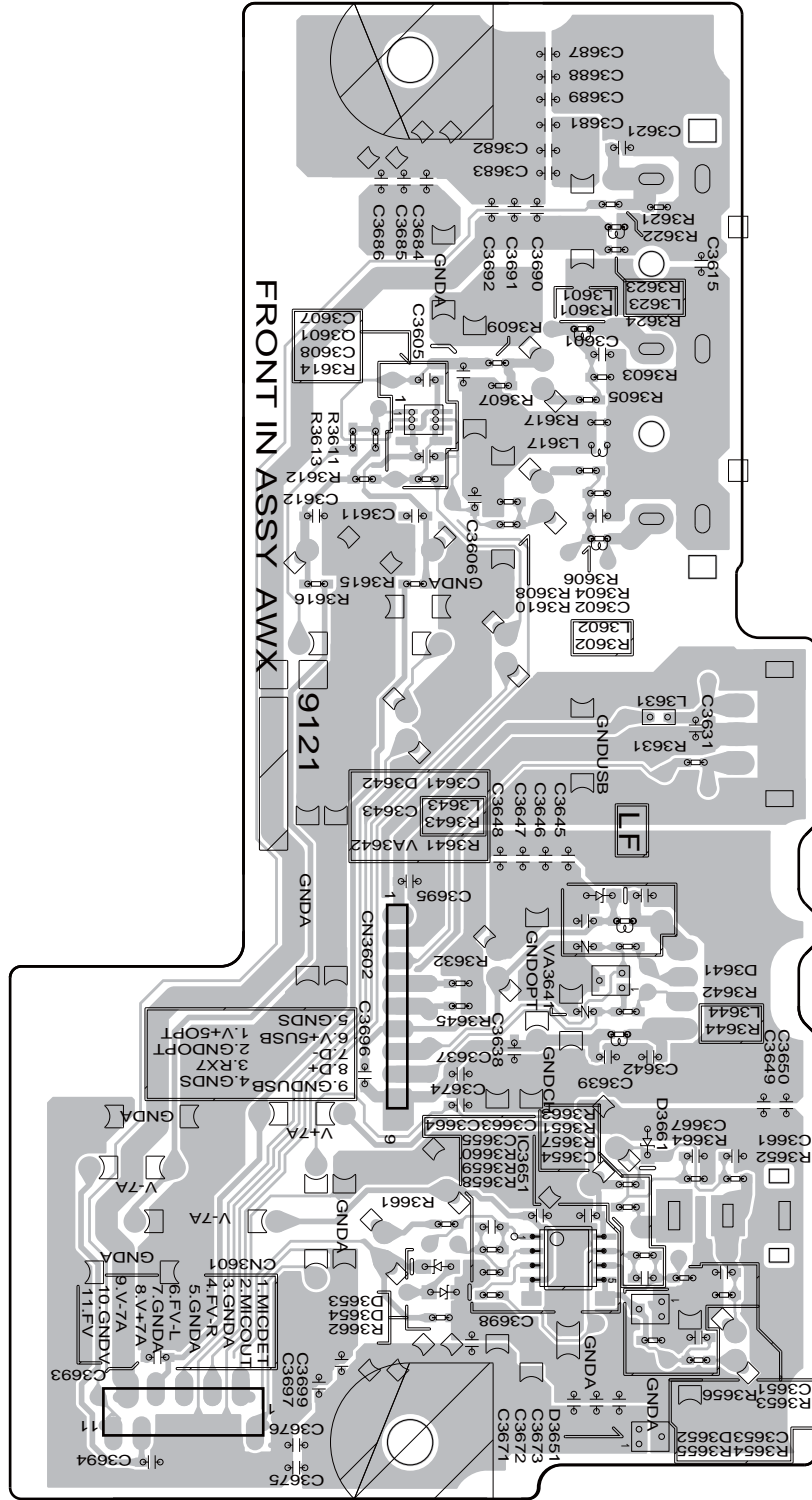
B

C

D

E

F



CN3601

CN3602

(ANP7643-C)

D

VSX-LX51

D

11.5 INTERFACE ASSY

SIDE A

SIDE A

INTERFACE ASSY

D CN3601

R CN5803

R CN5802

CN4809

CN4808

CN4807

IC Q

B
C
D
E

Q4802
Q4801

A CN504

INTERFACE ASSY AWX
 □ AWX8990- □ AWX8991-
 □ AWX8992- □ AWX8993-

CONTACT SIDE

(ANP7642-B)

B CN108

B CN107

B CN106

A CN502

A CN503

E

E

SIDE B

SIDE B

E INTERFACE ASSY

CN4809

IC Q

Q4893

Q4892

Q4883 Q4881

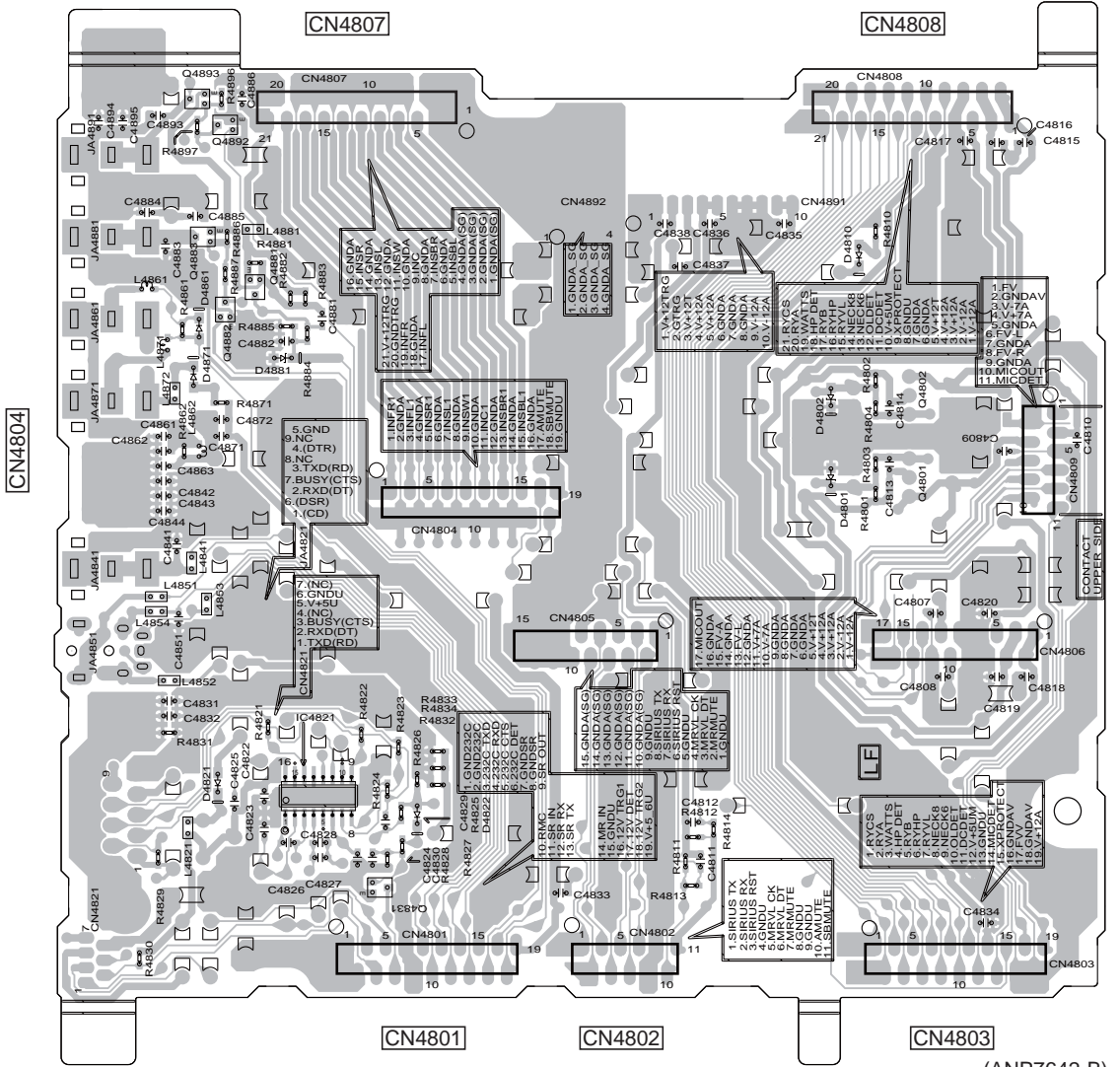
Q4882

Q4802

Q4801

IC4821

Q4831



(ANP7642-B)

CN4805

CN4806



VSX-LX51

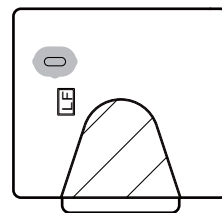
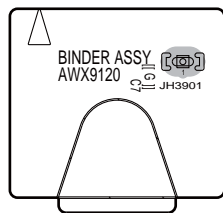
11.8 BINDER, BIND L FRONT and BIND L BACK ASSYS

SIDE A

SIDE B

H BINDER ASSY

H BINDER ASSY



(ANP7643-C)

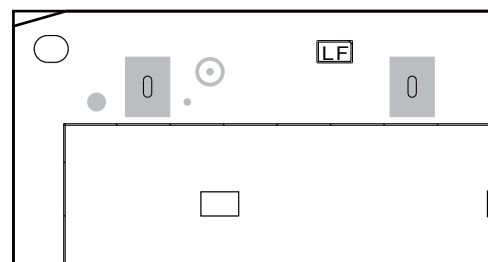
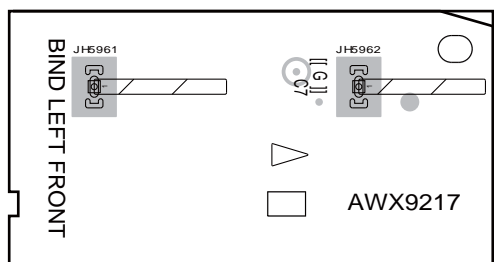
(ANP7643-C)

SIDE A

SIDE B

I BIND L FRONT ASSY

I BIND L FRONT ASSY



(ANP7641-C)

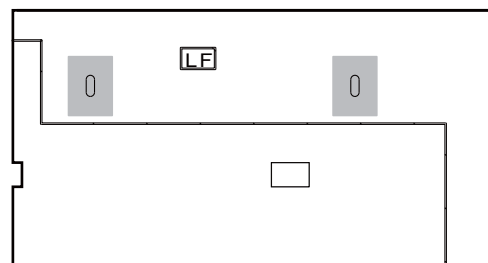
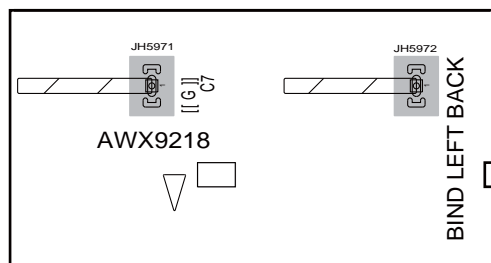
(ANP7641-C)

SIDE A

SIDE B

J BIND L BACK ASSY

J BIND L BACK ASSY



(ANP7641-C)

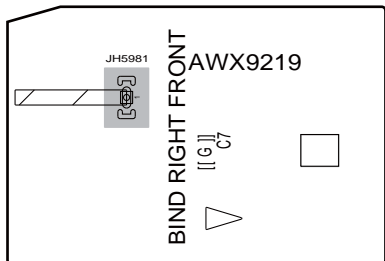
(ANP7641-C)

11.9 BIND R FRONT and BIND R BACK ASSYS

SIDE A

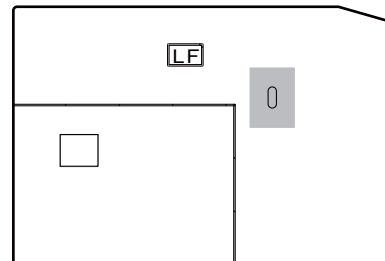
SIDE B

K BIND R FRONT ASSY



(ANP7641-C)

K BIND R FRONT ASSY

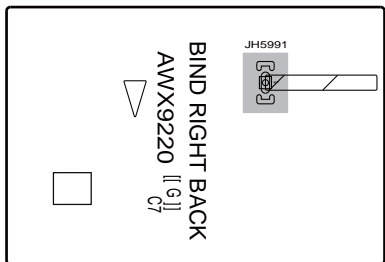


(ANP7641-C)

SIDE A

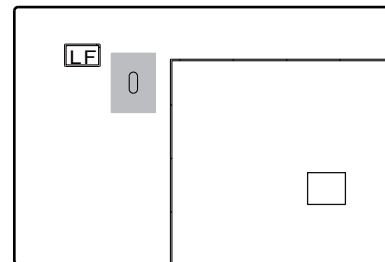
SIDE B

L BIND R BACK ASSY



(ANP7641-C)

L BIND R BACK ASSY

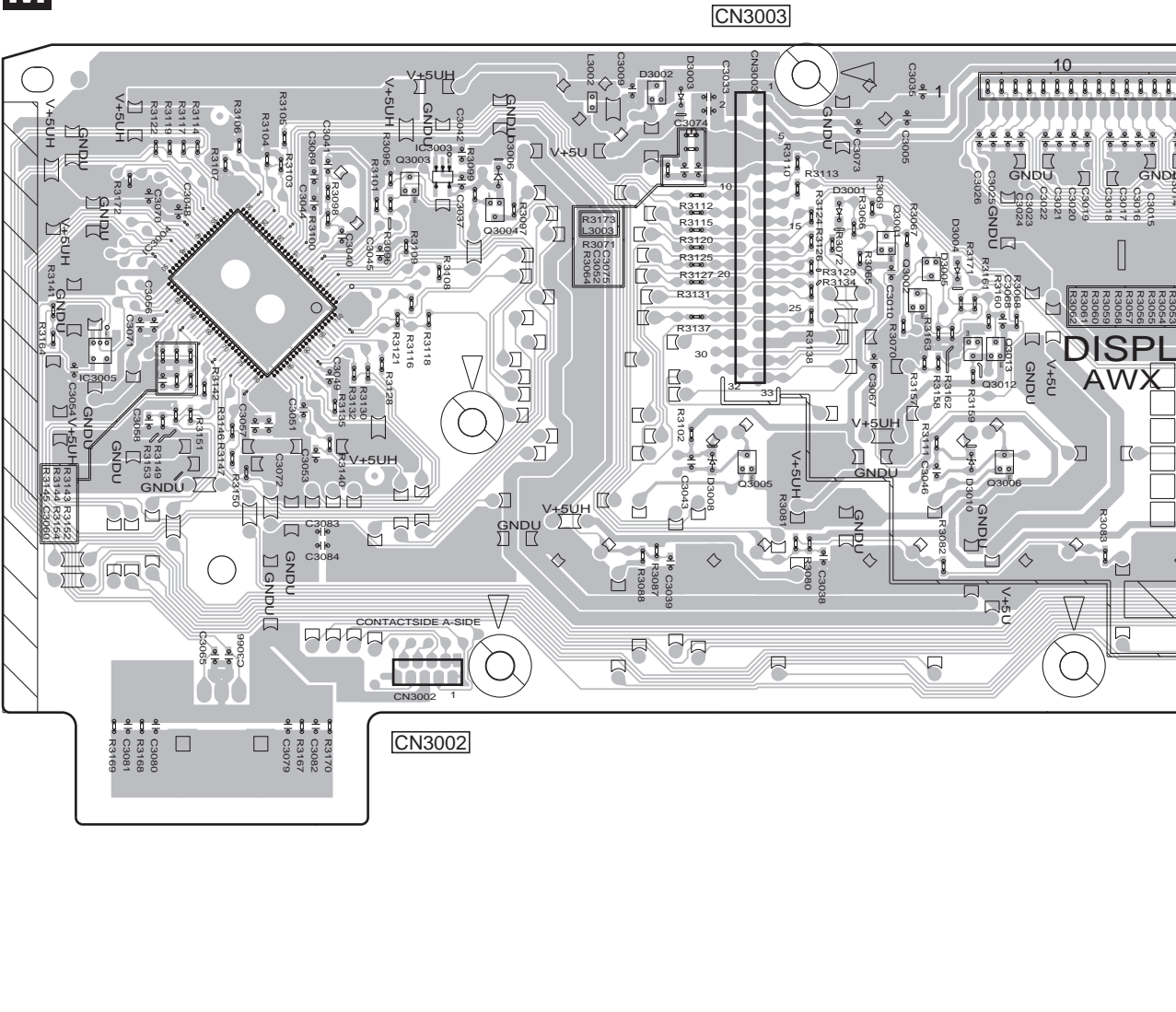


(ANP7641-C)

SIDE B

M DISPLAY ASSY

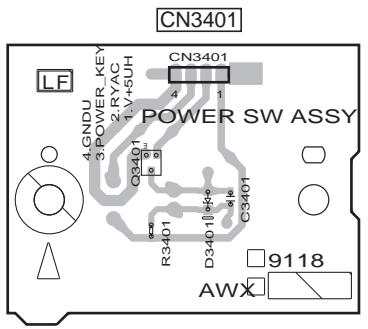
IC Q



A
B
C
D
E
F

POWER SW ASSY

IC Q



(ANP7643-C)



VSX-LX51

SIDE B

A

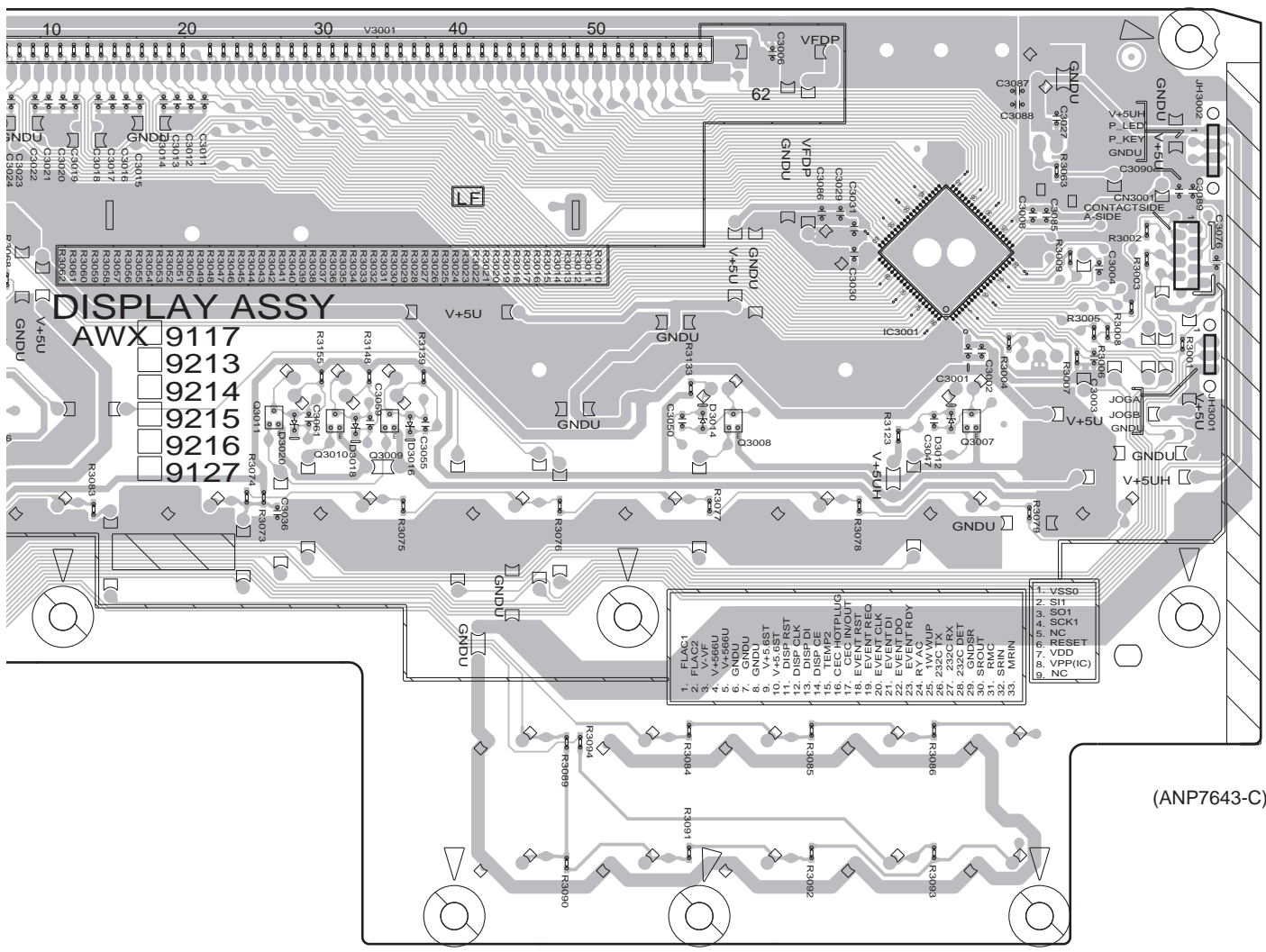
B

C

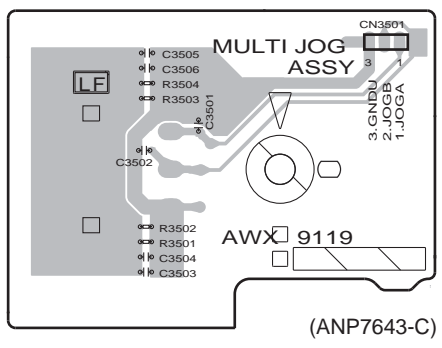
D

E

F



N MULTI JOG ASSY



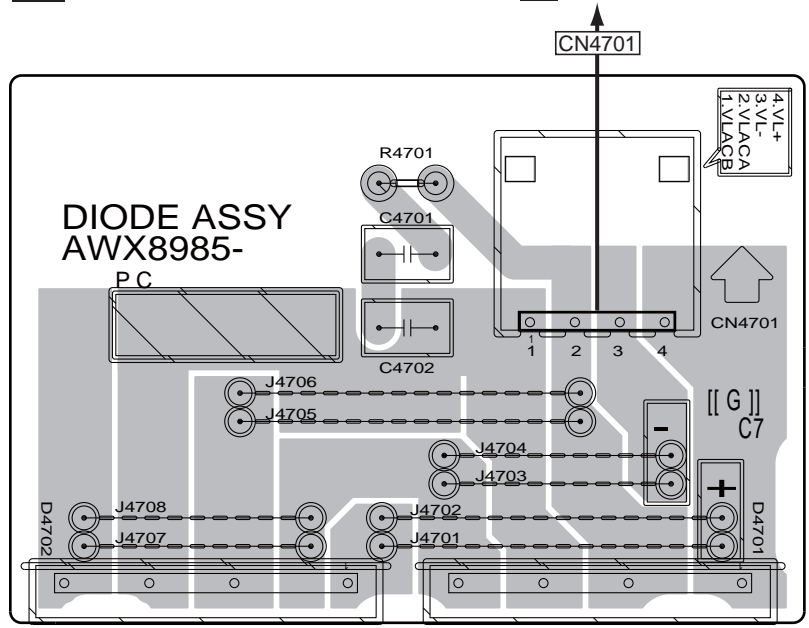
11.11 DIODE ASSY

SIDE A

SIDE A

P DIODE ASSY

R JP5701

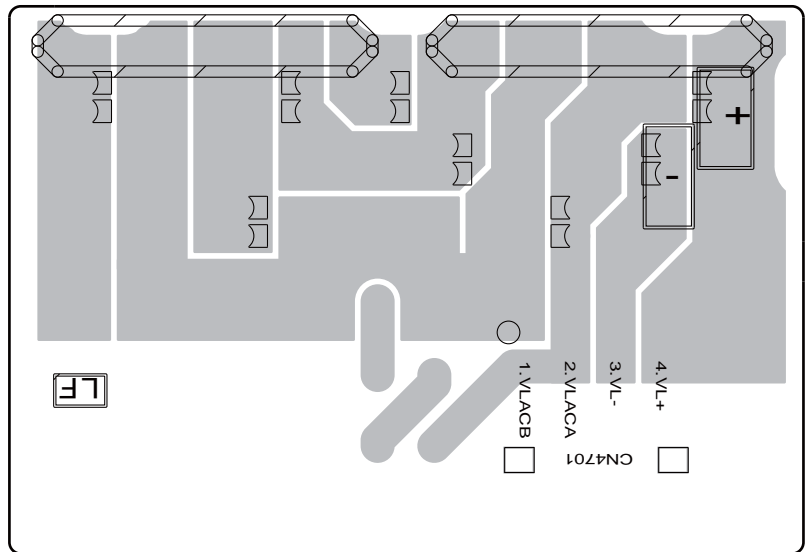


(ANP7642-B)

SIDE B

SIDE B

P DIODE ASSY



(ANP7642-B)

P

P

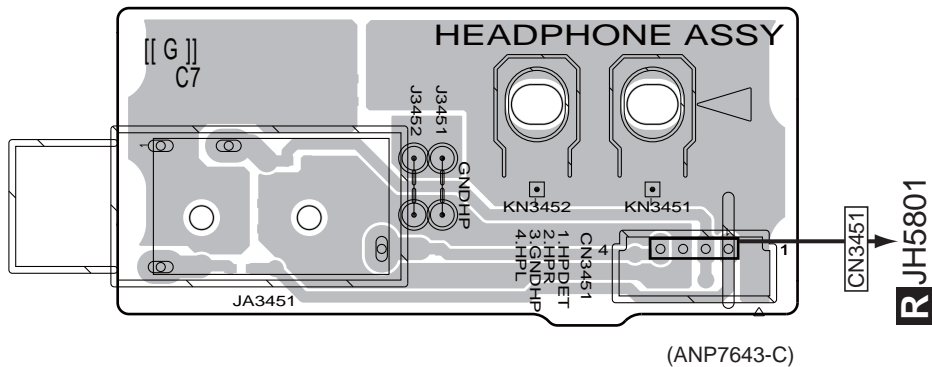
5 6 7 8

11.12 HEADPHONE ASSY

SIDE A

SIDE A

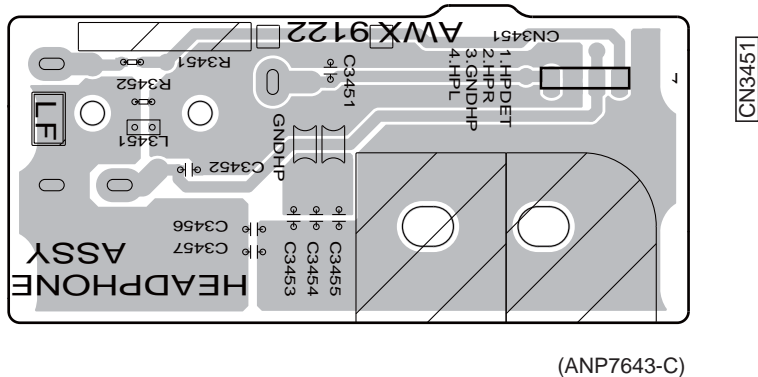
Q HEADPHONE ASSY



SIDE B

SIDE B

Q HEADPHONE ASSY



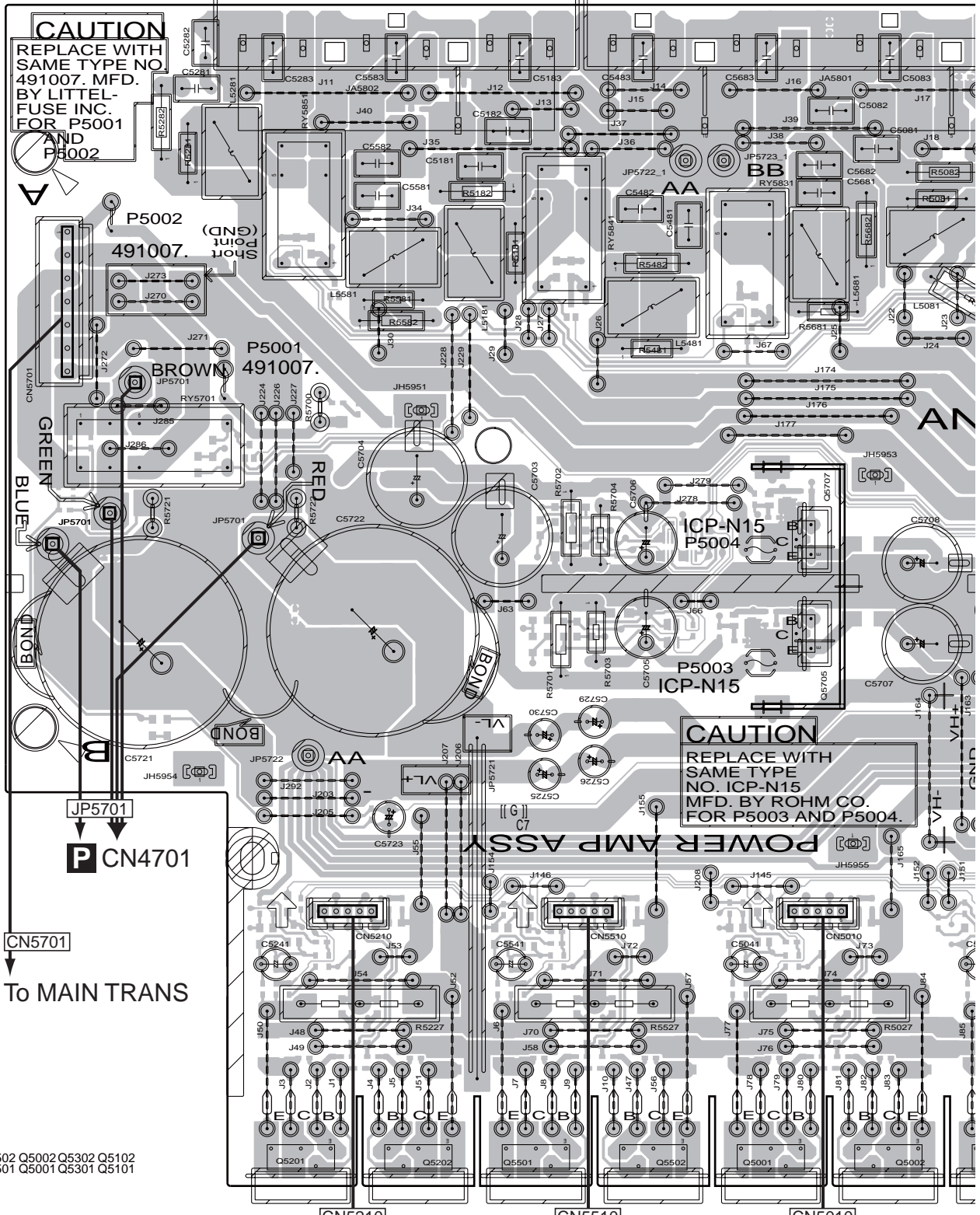
Q

Q

11.13 POWER AMP ASSY

SIDE A

R POWER AMP ASSY



Q5202 Q5502 Q5002 Q5302 Q5102
Q5201 Q5501 Q5001 Q5301 Q5101

R

S CN6210

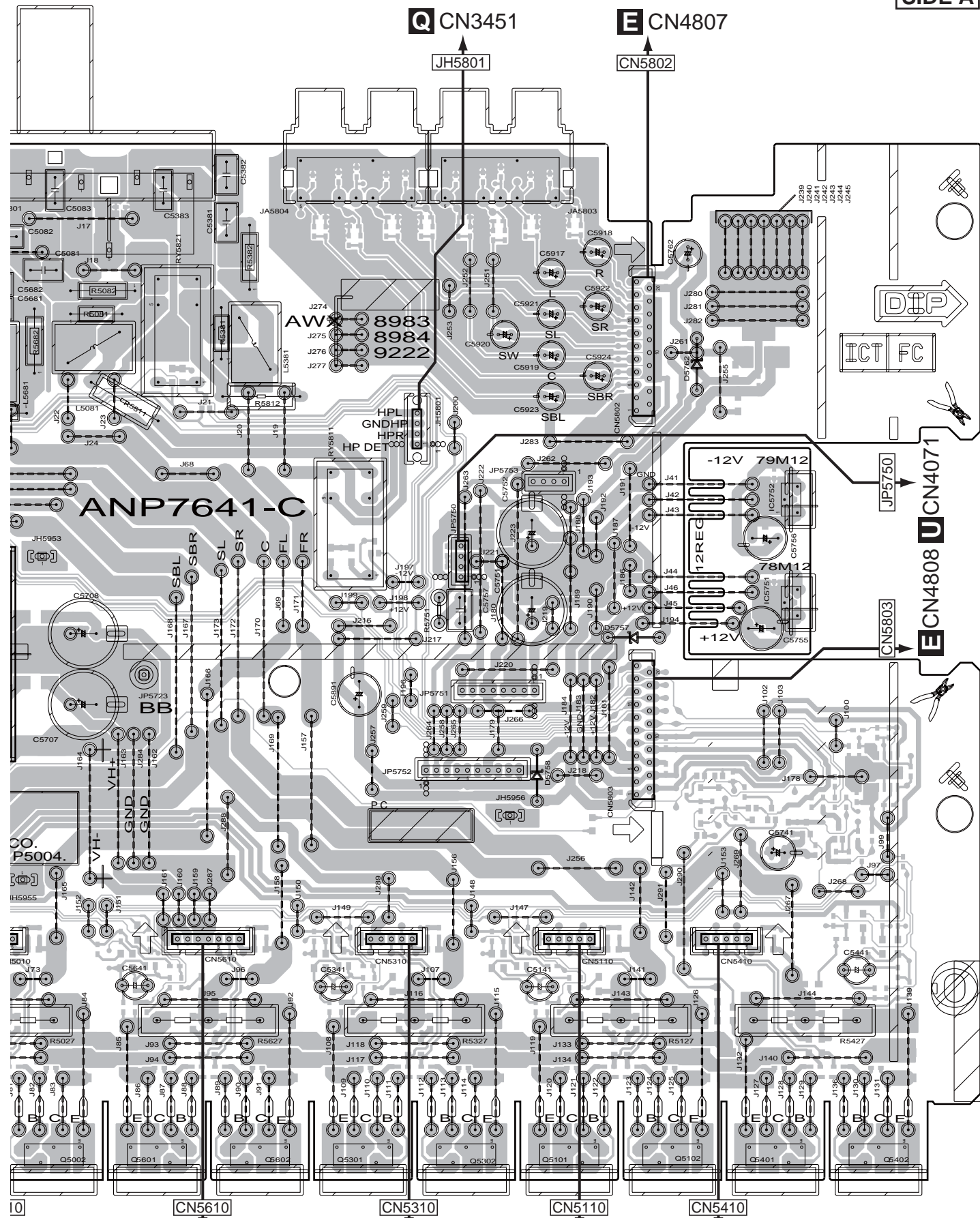
S CN6510

S CN6010

VSX-LX51

SIDE A

A
B
C
D
E
F



3010

S CN6610

S CN6310

S CN6110

S CN6410

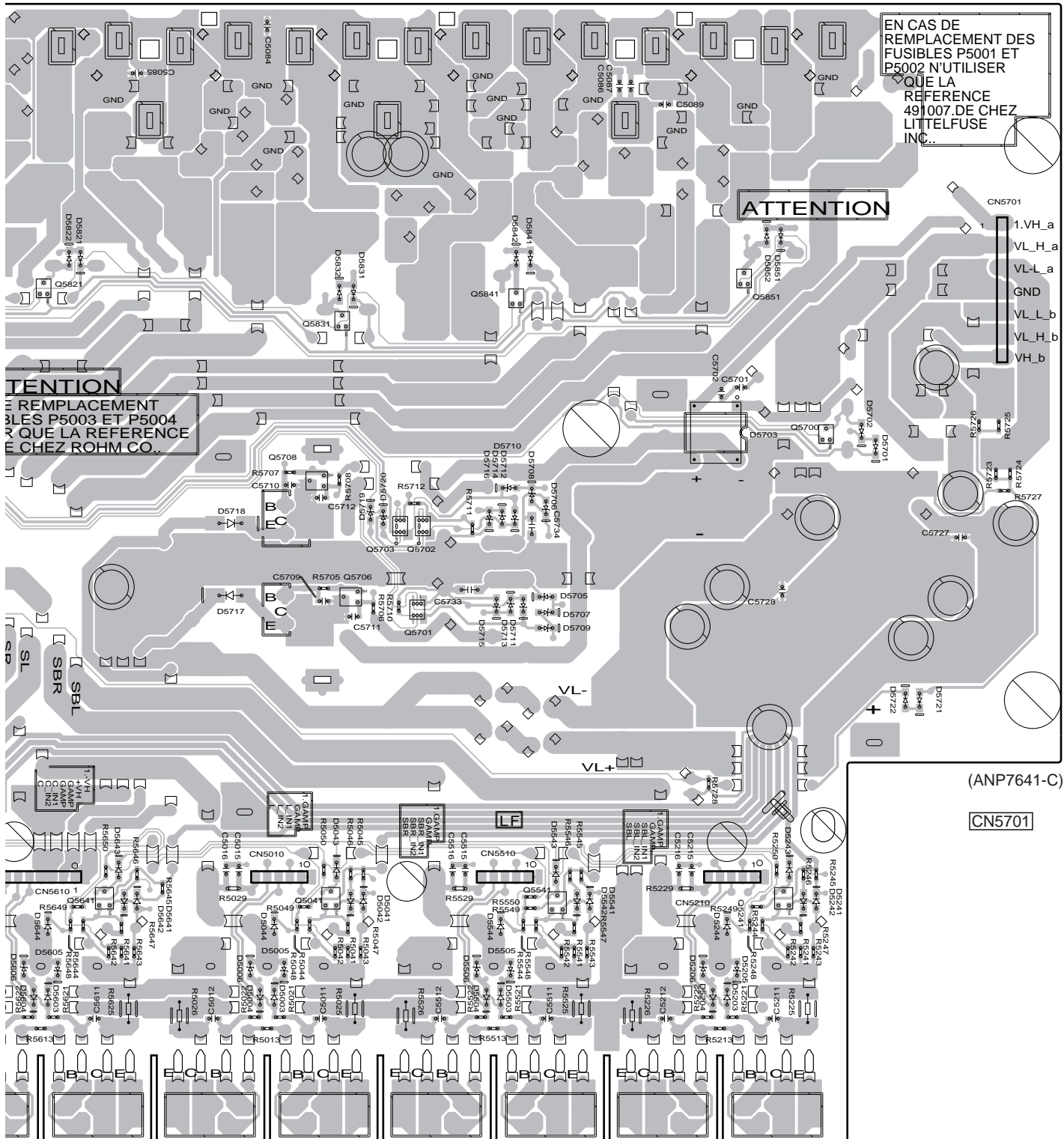
(ANP7641-C)

R

VSX-LX51

SIDE B

A
B
C
D
E
F



EN CAS DE REMPLACEMENT DES FUSIBLES P5003 ET P5004 N'UTILISER QUE LA REFERENCE 491007 DE CHEZ LITTELFUSE INC.

ATTENTION

ATTENTION
 EN CAS DE REMPLACEMENT DES FUSIBLES P5003 ET P5004 N'UTILISER QUE LA REFERENCE 491007 DE CHEZ LITTELFUSE INC.

(ANP7641-C)

CN5701

CN5610

CN5010

CN5510

CN5210

VSX-LX51

R
165

SIDE A

A

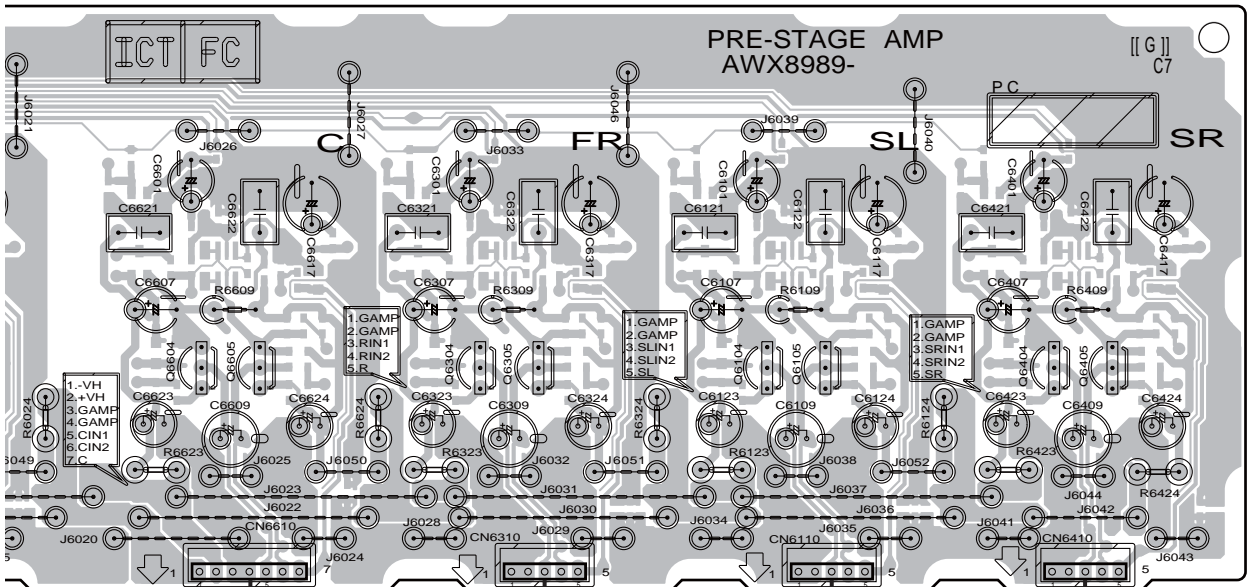
B

C

D

E

F



CN6610
R CN5610

CN6310
R CN5310

CN6110
R CN5110

CN6410
R CN5410

(ANP7642-B)

SIDE B

A

B

C Q

C

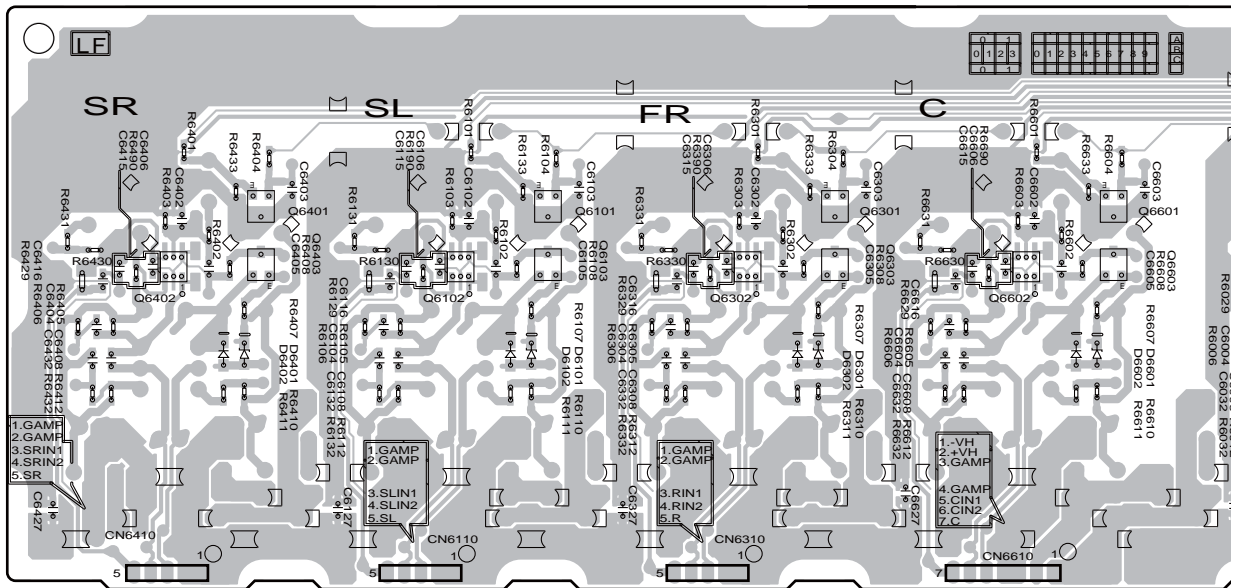
D

E

F

S PRE-STAGE AMP ASSY

- Q6101 Q6601 Q6501
- Q6401 Q6301 Q6001
- Q6201
- Q6403 Q6603 Q6503
- Q6103 Q6303 Q6003
- Q6203
- Q6402 Q6302 Q6202
- Q6102 Q6602 Q6002
- Q6502



CN6410

CN6110

CN6310

CN6610

S

11.15 PRIMARY ASSY

SIDE A

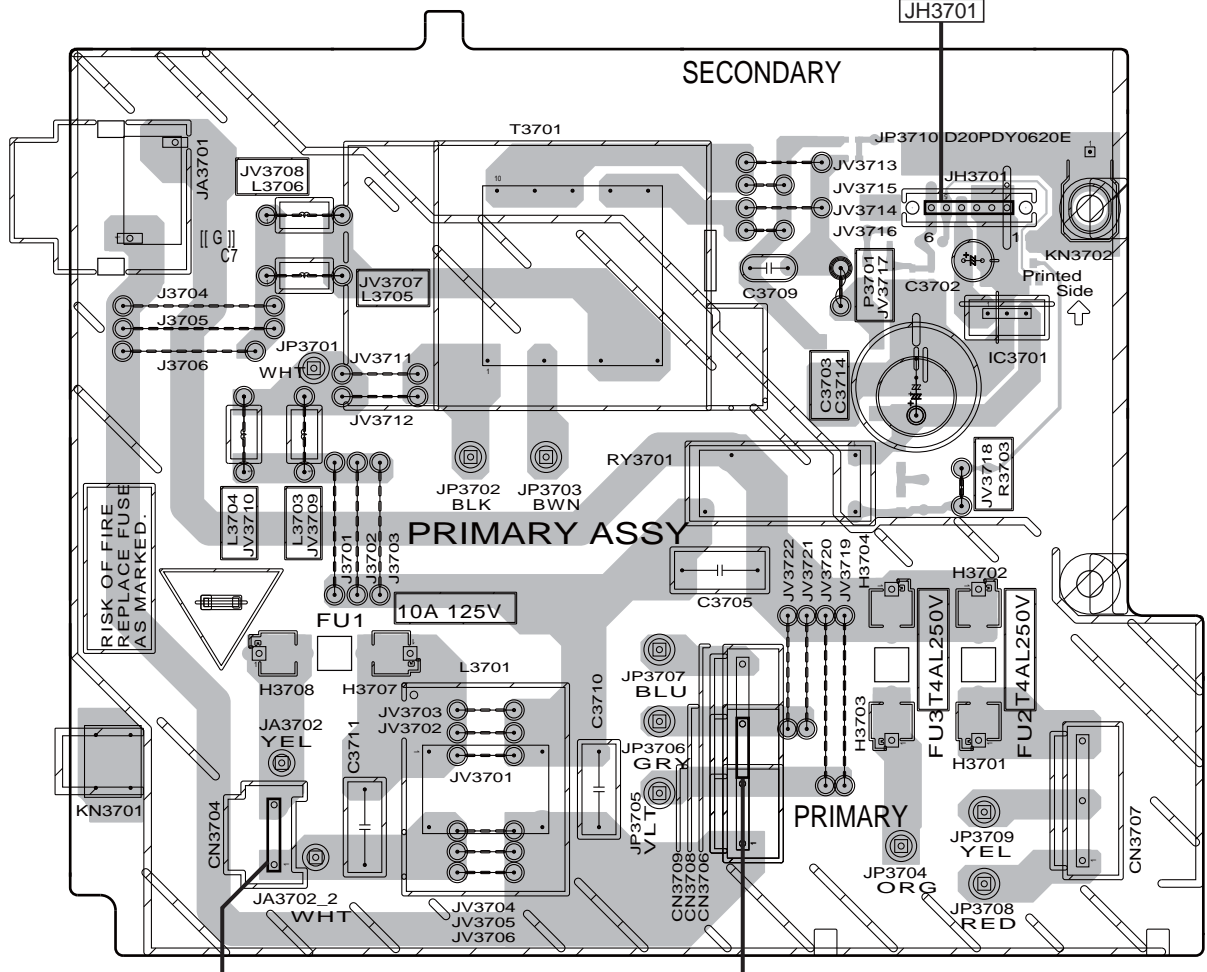
SIDE A

T PRIMARY ASSY

B CN116

IC Q

IC3701



RISK OF FIRE
REPLACE FUSE
AS MARKED.

(ANP7643-C)

To AC CARD

To MAIN TRANS

T

T

SIDE B

SIDE B

A

B

C

D

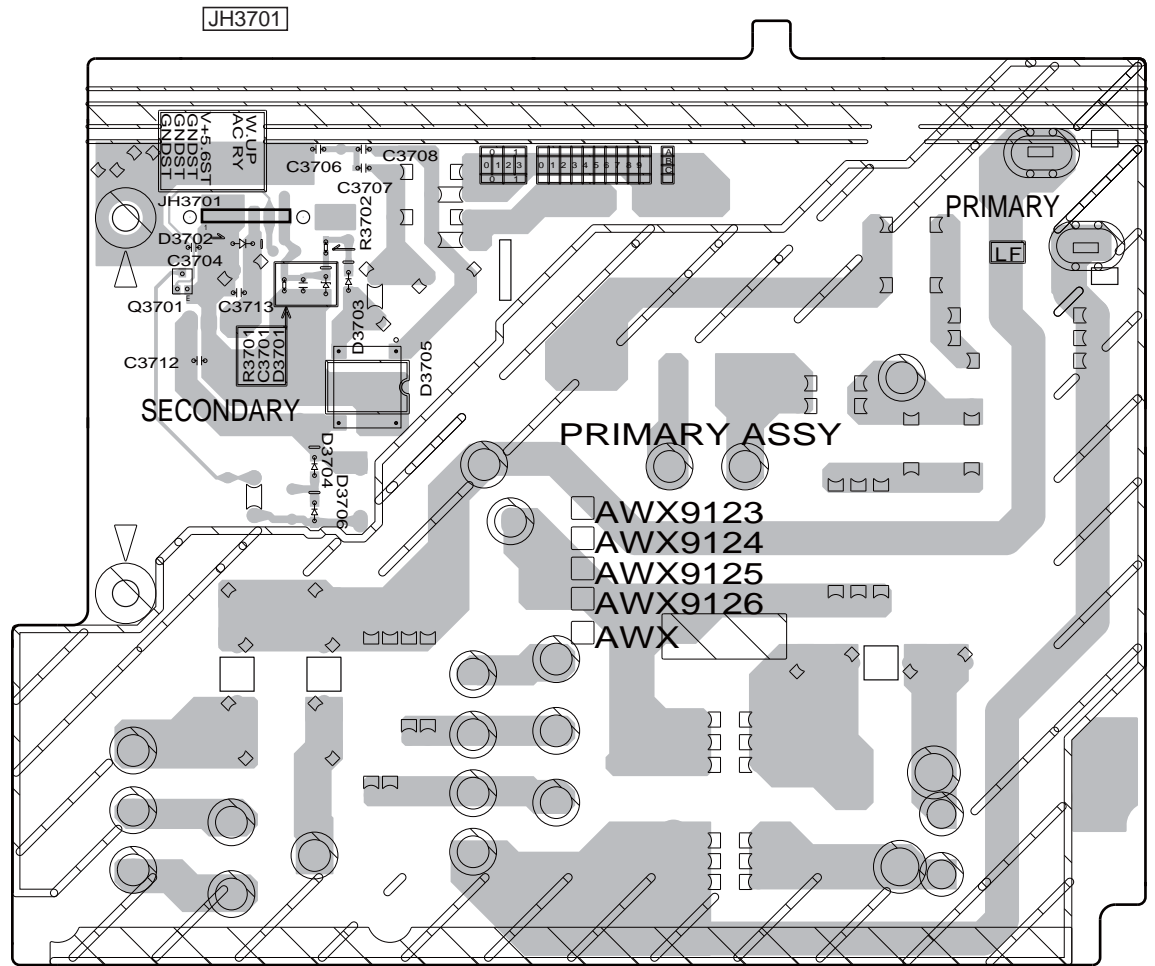
E

F

T PRIMARY ASSY

IC Q

Q3701



(ANP7643-C)

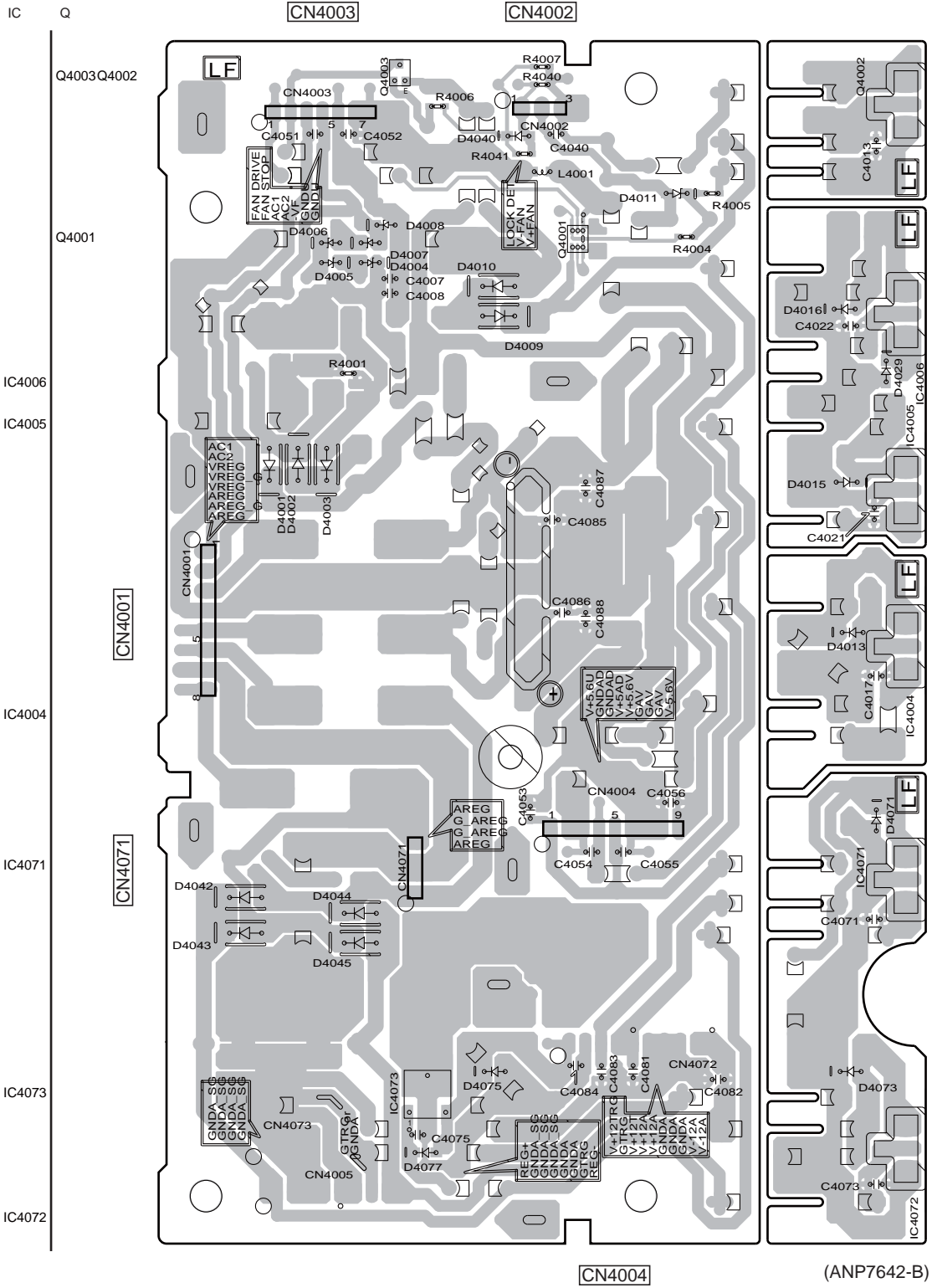
T

T

SIDE B

SIDE B

REGULATOR ASSY

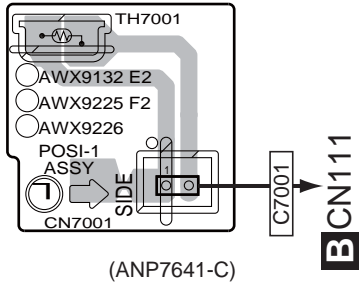


11.18 POSI1, POSI2 and POSI3 ASSYS

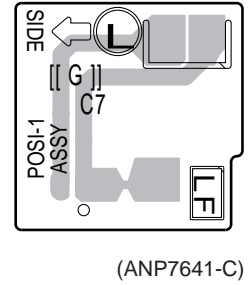
SIDE A

SIDE B

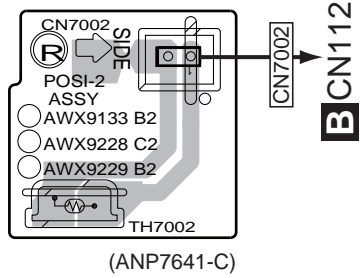
W POSI-1 ASSY



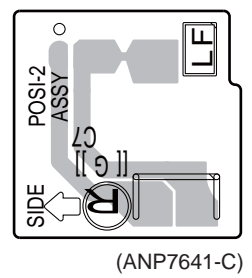
W POSI-1 ASSY



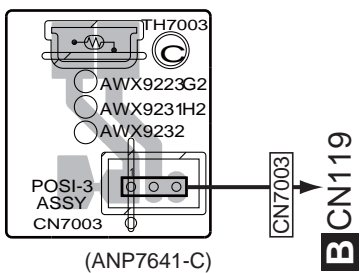
X POSI-2 ASSY



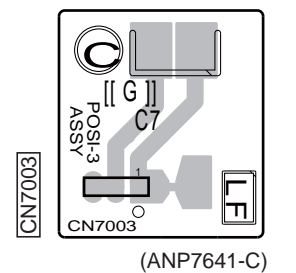
X POSI-2 ASSY



Y POSI-3 ASSY



Y POSI-3 ASSY



W X Y

W X Y

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 RD1/4PU $\boxed{5}$ $\boxed{6}$ $\boxed{7}$ J
 47 k Ω → 47 × 10³ → 473 RD1/4PU $\boxed{4}$ $\boxed{7}$ $\boxed{3}$ J
 0.5 Ω → R50 RN2H \boxed{R} $\boxed{5}$ $\boxed{0}$ K
 1 Ω → 1R0 RS1P $\boxed{1}$ \boxed{R} $\boxed{0}$ 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 $\boxed{5}$ $\boxed{6}$ $\boxed{2}$ $\boxed{1}$ 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

Mark No.	Description	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES				2..DC/DC ASSY	AWX8988
	1..MAIN ASSY(VSX-LX51)	AWK8053		2..PRE-STAGE AMP ASSY	AWX8989
	1..MAIN ASSY(VSX-1018AH)	AWK8058		2..INTERFACE ASSY	AWX8990
	1..AUDIO IN ASSY	AWK8051	NSP	1..AMP ASSY	AWK8038
NSP	1..COMPLEX ASSY(VSX-LX51)	AWK8047		2..POWER AMP ASSY	AWX8984
	1..COMPLEX ASSY(VSX-1018AH)	AWK8064		2..POS11 ASSY	AWX9132
	2..DISPLAY ASSY(VSX-LX51)	AWX9117		2..POS12 ASSY	AWX9133
	2..DISPLAY ASSY(VSX-1018AH)	AWX9214		2..BIND_L_FRONT ASSY	AWX9217
	2..POWER SW ASSY	AWX9118		2..BIND_L_BACK ASSY	AWX9218
	2..MULTI JOG ASSY	AWX9119		2..BIND_R_FRONT ASSY	AWX9219
	2..BINDER ASSY	AWX9120		2..BIND_R_BACK ASSY	AWX9220
	2..FRONT IN ASSY	AWX9121		2..POS13 ASSY	AWX9223
	2..HP ASSY	AWX9122	1..HDMI & DVC ASSY(VSX-LX51)		AWX9170
	2..PRIMARY ASSY	AWX9124	1..HDMI ASSY(VSX-1018AH)		AWX9131
NSP	1..LOCAL POWER ASSY	AWK8041	1..DSP & USB ASSY		AWX9176
	2..DIODE ASSY	AWX8985	1..FM/AM TUNER UNIT		AXX7248
	2..REGULATOR ASSY	AWX8986			

CONTRAST OF PCB ASSEMBLIES

B MAIN ASSY

AWK8053 and AWK8058 are constructed the same except for the following:

Mark	Symbol and Description	AWK8053	AWK8058
	IC1203	TC74HC4053AFT	Not used
	IC1403	TC74LVX4053FT	Not used
	R183 Resistor	Not used	RS1/16S473J
	R1037,R1263,R1264,R1464,R1468,R1474	RS1/16S0R0J	Not used
	R1080,R1215,R1216,R1411,R1412,R1413	Not used	RS1/16S0R0J
	C1209,C1210,C1415,C1416	CKSRYB104K16	Not used

M DISPLAY ASSY

AWX9117 and AWX9214 are constructed the same except for the following:

Mark	Symbol and Description	AWX9117	AWX9214
	Q3006,Q3009,Q3011	DTC143EUA	Not used
	D3015,D3019 LED(blue)	SLR343BC4T(JKLM)	Not used
	D3009 LED(red)	SLR-343VC(NPQ)	Not used
	D3017 LED(white)	SLR343WBCT(MNPQ)	SLR343BC4T(JKLM)

Mark	No.	Description	Part No.
------	-----	-------------	----------

Mark	No.	Description	Part No.
------	-----	-------------	----------

A	Q	103-105,282	DTA124EUA
	Q	281,1278,1505,1507	DTC124EUA
	Q	301-303,1506,1508	DTA124EUA
	Q	381,1277	DTC114EUA
	Q	411,1002,1503	2SC4081
	Q	1001,1201,1202,1271	2SA1576A
	Q	1403-1405,1504	2SA1576A
	Q	1501	2SD1664
	Q	1502	2SB1132
	Q	1509	DTC124EUA
	Q	1510	DTA124EUA
B	D	291,1005	DAP202U
	D	292,304,1001-1003	DAN202U
	D	296	UDZS5R1(B)
	D	303,334,1004,1277	1SS355
	D	305	RB520S-30
	D	411	UDZS3R9(B)
	D	1201,1202	DAN202U

C	C	268,269	CCSRCH270J50
	C	271,1011,1012,1016	CEAT101M10
	C	291,292,421,1063	CKSRYB473K25
	C	301-306,381,401	CKSRYB104K16
	C	382	CEAT471M6R3
	C	402,411,432,451	CKSRYB104K16
	C	453,461-463,471	CKSRYB104K16
	C	464,465,472	CKSRYB102K50
	C	1005-1010,1013,1014	CKSRYB104K16
	C	1018,1034,1061,1062	CEAT101M10
	C	1020,1022,1024,1026	CCSRCH181J50
	C	1041,1201-1210,1223	CKSRYB104K16
	C	1050	CCSRCH561J50
	C	1064	CKSRYB473K25
	C	1065,1066	CCSRCH5R0C50
	C	1067,1068	CCSRCH240J50
	C	1069-1071,1076	CCSRCH101J50
	C	1073,1253,1254,1257	CKSRYB103K50
	C	1074,1075	CKSRYB122K50

MISCELLANEOUS

C	L	101,196 CHIP SOLID INDUCTOR	ATL7002
	L	461,462 INDUCTOR	CTF1386
	L	1001 CHIP COIL	LCYA330J2520
	JA	1001-1003 COMB.JACK(2S+2P)	AKB7200
	JA	1004 COMB.JACK(S+1P)	AKB7199
	JA	1401,1402 6P RCA PINJACK	AKB7201
	JA	1403 PIN JACK(1P)	AKB7175
	X	101 RESONATOR	CSS1716
	X	261 CRYSTAL RESONATOR	ASS7004
	X	1001 CRYSTAL RESONATOR	ASS7080
	CN	101,102,104 30P SOCKET	XKP3092
	CN	103 23P PLUG	XKM3006
	CN	106,108 19P PLUG	XKM3005
	CN	107 11P PLUG	XKM3009
	CN	109 33P CONNECTOR	52044-3345

C	C	1224,1226,1229	CKSRYB104K16
	C	1225,1227,1251,1256	CEAT101M10
	C	1235,1237,1239-1242	CCSRCH181J50
	C	1258,1265,1277,1442	CKSRYB103K50
	C	1271	CEAT221M16
	C	1275	CEAT3R3M50
	C	1276,1420-1424,1487	CEAT101M10
	C	1278	CEAT220M50
	C	1411-1416,1425,1426	CKSRYB104K16
	C	1443,1446,1447,1452	CKSRYB103K50
	C	1445,1451	CEAT100M50
	C	1453,1475	CKSRYB103K50
	C	1481,1483-1485	CKSRYB104K16
	C	1501-1504	CKSRYB224K10
	C	1505-1507	CKSRYB104K16

D	CN	110 CONNECTOR	CKS3376
	CN	111,112 PLUG(2P)	KM200NA2
	CN	116 6PJUMPER CONNECTOR	52151-0610
	CN	117 10P CONNECTOR	VKN1414
	CN	118 9P PLUG	XKP3064
	CN	119 PLUG(3P)	KM200NA3
	JH	101 PCB BINDER	VEF1040
	JP	113 4P HOUSING WIRE ASSY	ADX7652
	JP	116 CONNECTOR ASSY	PF07PG-R40
	JP	117 CONNECTOR ASSY	PF09PG-R35

DSP & USB ASSY
SEMICONDUCTORS

IC	101	AK4114VQ
IC	202,851	TC74VHC157FTS1
IC	203	TC74LCX157FTS1
IC	205	TC74VHC125FTS1
IC	301	HY57V641620FTP-6
IC	302	AYW7213
IC	303,304	TC74LCX573FTS1
IC	305,751	TC7SH32FUS1
IC	401	DSPA56720AG
IC	501	TC74LCX08FTS1
IC	503	TC74VHCU04FT
IC	591	AK5358AET
IC	601,621,641,661	WM8728SEDS
IC	681	AK4388ET
IC	701	TC74VHC08FTS1
IC	702	TC74VHCT541AFTS1
⚠ IC	704	BD9107FVM
⚠ IC	705	PQ1LAX95MSPQ
IC	801	PDC180A8
⚠ IC	802	AAT4618IGV-0.5-1
IC	808	341S2154
Q	201,561	DTC124EUA

RESISTORS
All Resistors

C	C	101,104-107,109	CKSRYB104K16
	C	102,117	CEAT101M16
	C	108,116,118,126	CKSRYB103K50
	C	123,129-133,141	CKSRYB104K16
	C	124,270,452,454	CKSRYB102K50

C	C	140,142	CCSRCH471J50
	C	201	CKSRYB105K16
	C	202,1035,1036,1039	CKSRYB103K50
F	C	264,296,412,1441	CEAT100M50
	C	266	CKSRYB472K50
	C	267,1482	CKSRYB561K50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Q	601		RTQ025P02	R	709,851,853		RAB4CQ101J
Q	871		2SA1577	R	721,723		RS1/16SS4701F
Q	872		DTC143EUA	R	725		RAB4CQ104J
				R	728		RS1/16SS2002F
D	561		1SS352				
D	591		MA152WK	R	729		RS1/16SS1202F
D	592		MA152WA	R	852,857		RAB4CQ470J
				R	888		RS1/16SS1003F
					Other Resistors		RS1/16SS###J
MISCELLANEOUS				CAPACITORS			
L	101,102	CHIP SOLID INDUCTOR	QTL1013	C	102,106,108,111		CKSSYB104K10
L	106,202	CHIP SOLID INDUCTOR	QTL1013	C	103,110,608,628		CEVW470M6R3
L	203,205	CHIP SOLID INDUCTOR	QTL1013	C	104,107,533		CCSRCH471J50
L	311,321	CHIP SOLID INDUCTOR	QTL1013	C	105		CKSRYB474K10
L	331,341	CHIP SOLID INDUCTOR	QTL1013	C	109,581,707		CKSSYB102K50
L	401,403	CHIP SOLID INDUCTOR	QTL1013				
L	404,511	CHIP SOLID INDUCTOR	QTL1013	C	114,115,441,582		CKSSYB103K16
L	531,561	CHIP SOLID INDUCTOR	QTL1013	C	116-119,203,205		CKSSYB104K10
L	591,592	CHIP SOLID INDUCTOR	QTL1013	C	125,440,562,598		CEVW101M16
L	601,621	CHIP SOLID INDUCTOR	QTL1013	C	129		CKSRYB104K16
L	641,661	CHIP SOLID INDUCTOR	QTL1013	C	130		CKSRYB471K50
L	681,701	CHIP SOLID INDUCTOR	QTL1013				
L	702,751	CHIP SOLID INDUCTOR	QTL1013	C	204,206,312,315		CKSSYB471K50
L	705	POWER INDUCTOR	ATH7047	C	209,311,313,314		CKSSYB104K10
L	706,709	CHIP SOLID INDUCTOR	ATL7002	C	316-318,320,321		CKSSYB104K10
				C	319,332,342,401		CKSSYB471K50
				C	331,341,351,402		CKSSYB104K10
L	707	CHIP BEADS	ATL7010				
L	710	CHIP SOLID INDUCTOR	ATL7002				
L	801,851	CHIP SOLID INDUCTOR	QTL1013	C	403,405,406,408		CKSSYB104K10
L	803	COIL	VTH1043	C	404,407,409,411		CKSSYB471K50
L	804	CHIP FERRITE BEADS	VTL1169	C	410,412,414-416		CKSSYB104K10
				C	413,417,420,427		CKSSYB471K50
				C	418,419,421,426		CKSSYB104K10
L	881	CHIP SOLID INDUCTOR	QTL1013				
JA	101	PIN JACK(2P)	AKB7173				
JA	102-104	OPT. LINK IN	GP1FAV51RKBF	C	428,429,431,432		CKSSYB104K10
JA	105	OPT. LINK IN	GP1FAV51TKOF	C	430,433,435,437		CKSSYB471K50
X	531	CRYSTAL RESONATOR	XSS3003	C	434,436,438,511		CKSSYB104K10
				C	439		ACH7275
X	801	CRYSTAL OSCILLATOR	CSS1614	C	512,571-580,595		CKSSYB471K50
X	881	CRYSTAL OSCILLATOR	ASS1172				
CN	401	7P CONNECTOR	VKN1411	C	513,806,807,882		CCSSCH5R0C50
CN	601	CONNECTOR	9604S-23C	C	532,561,593,596		CKSSYB104K10
CN	702	9P SOCKET	XKP3075	C	534,535		CCSSCH8R0D50
				C	590,709,711		DCH1201
				C	591,615-617,736		CKSSYB103K16
CN	703	CONNECTOR	CKS4898				
CN	704	23P SOCKET	XKP3055				
CN	801	CONNECTOR	AKM1280	C	592,613,633,653		CEVW100M16
CN	891	5P CONNECTOR	VKN1374	C	597,602,605,607		CKSSYB104K10
JH	801	PCB BINDER	VEF1040	C	599		CKSQYB225K10
				C	601,604,611,621		CKSSYB471K50
				C	606,626,646,666		CEVW101M16
RESISTORS							
R	106,722		RS1/16SS1802F				
R	109,210,211,224		RAB4CQ101J	C	609,610,622,625		CKSSYB104K10
R	116,818,819		RS1/16SOR0J	C	614,634,654,674		CCSSCK1R0C50
R	212,213,226		RAB4CQ221J	C	624,641,644,661		CKSSYB471K50
R	225,333,334,343		RAB4CQ101J	C	627,629,630,642		CKSSYB104K10
				C	645,647,649,650		CKSSYB104K10
R	227		RAB4CQ390J				
R	331,332,341,342		RAB4CQ470J	C	648,668		CEVW470M6R3
R	344,431,515,601		RAB4CQ101J	C	662,665,667,669		CKSSYB104K10
R	411		RAB4CQ220J	C	664,682,737,752		CKSSYB471K50
R	412		RAB4CQ103J	C	670,681,683,685		CKSSYB104K10
				C	673		CEVW100M16
R	444		RAB4CQ680J				
R	446-448,450,451		RAB4CQ470J	C	684		CEVW220M16
R	562		RS1/16S4R7J	C	687		CEVW220M6R3
R	603,623,643,663		RAB4CQ470J	C	701,703,720		CKSSYB104K10
R	621,641,661,708		RAB4CQ101J	C	708,710		CKSRYB105K10
				C	730-735,751,804		CKSSYB104K10
R	707,712-715,724		RAB4CQ104J				

Mark	No.	Description	Part No.
	C	801,884	CCSSCH101J50
	C	802,803	CCSSCH120J50
A	C	805,810,814,815	CKSSYB104K10
	C	808,811-813,824	CKSSYB471K50
	C	809,818	CEVW101M16
	C	816,872	CKSQYB105K16
	C	817,823,825,828	CKSSYB104K10
	C	820	CEVW2R2M50
	C	821	CEVW4R7M35
	C	822	CEVW1R0M50
	C	827,852,886	CKSSYB471K50
	C	851,885	CKSSYB104K10
	C	881	CKSSYB105K6R3
B	C	883	CCSSCH5R0C50

Mark	No.	Description	Part No.
MISCELLANEOUS			
	L	4821,4841 CHIP SOLID INDUCTOR	QTL1013
	L	4851-4854 CHIP SOLID INDUCTOR	QTL1013
	L	4861,4871 INDUCTOR	CTF1473
	L	4862 INDUCTOR	CTF1385
	L	4872 CHIP SOLID INDUCTOR	QTL1013
	L	4881 CHIP SOLID INDUCTOR	ATL7002
	JA	4821 9P D-SUB SOCKET	AKP1213
	JA	4841,4861,4881,4891 JACK	VKB1243
	JA	4851 MINI JACK(4P) /W SW	XKN3015
	JA	4871 CONNECTOR	CKS4124
	KN	4841,4881 SCREW PLATE	VNE1948
	CN	4801,4803 19P SOCKET	XKP3054
	CN	4802 11P SOCKET	XKP3089
	CN	4804 CONNECTOR	CKS3384
	CN	4805 15P PLUG	XKM3010
	CN	4806 17P PLUG	XKM3007
	CN	4807,4808 21P SOCKET	XKP3091
	CN	4809 11P CONNECTOR	52044-1145

D FRONT IN ASSY

SEMICONDUCTORS

IC	3651	NJM4565MD
Q	3601	HN1C01FU
D	3653,3654,3661	UDZS5R1(B)

MISCELLANEOUS

L	3631 CHIP SOLID INDUCTOR	QTL1013
JA	3601 PIN JACK(3P)	AKB7194
JA	3631 OPTICAL IN MOD.	GP1FMV51RK0F
JA	3641 USB CONNECTOR	XKP3086
JA	3651 JACK	VKB1243
KN	3601,3651 WRAPPING TERMINAL	VNF1084
CN	3601 CONNECTOR	CKS3376
CN	3602 PLUG(9P)	KM200NA9

RESISTORS

All Resistors	RS1/16S###J
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CAPACITORS

C	3601,3602	CKSRYB221K50
C	3603,3604,3652,3656	CEAT100M50
C	3605,3606,3653	CCSRCH101J50
C	3609,3610	CEAT470M25
C	3611,3612,3615,3663	CKSRYB103K50

C	3613,3614	CEAT330M25
C	3631,3643	CKSRYB104K16
C	3644	CEAT101M16
C	3651	CKSRYB471K50
C	3654,3655	CCSRCH330J50

C	3662,3665,3666	CEAT100M50
C	3664,3671,3681,3687	CKSRYB103K50
C	3673,3682,3688	CKSRYB223K50
C	3675	CKSRYB102K50

E INTERFACE ASSY

SEMICONDUCTORS

IC	4821	HIN202EIBNZ
△ Q	4801	2SD1858X
△ Q	4802	2SB1238X
Q	4831	2SC4081
Q	4881,4883,4893	2SA1576A

Q	4882,4892	RT1N241M
D	4801,4802	UDZS7R5(B)
D	4821,4822,4871	1SS352
D	4881	UDZS5R1(B)

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RESISTORS

All Resistors	RS1/16S###J
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CAPACITORS

C	4803,4804	CEAT2R2M50
C	4805,4806	CEAT100M50
C	4811,4812,4885,4895	CKSRYB472K50
C	4821	CEAT101M16
C	4822,4829,4831,4844	CKSRYB103K50

C	4824-4826,4828,4843	CKSRYB104K16
C	4830	CCSRCH331J50
C	4842,4862,4871	CCSRCH471J50
C	4861,4882	CKSRYB104K16
C	4863,4872,4883,4893	CKSRYB103K50

C	4884,4894	CKSRYB102K50
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F HDMI & DVC ASSY (VSX-LX51)

SEMICONDUCTORS

IC	101	SII9135CTU
IC	151	TC74VHC126FTS1
IC	201	TC74VHC541FTS1
IC	202	ICS571MLF
IC	203	TC7WH74FU

IC	204,205	TC7WH157FU
IC	251	TC74LCX157FTS1
IC	301	SII9134CTU
IC	401	ADV7800BSTZ-80
IC	402	TC7WHU04FU

IC	501	PEG118A
IC	502	AYW7243
IC	504	BU4094BCFV
IC	505	TC7WH125FU
IC	506	TC7WT125FU

IC	601	ADV7172KSTZ
△ IC	1001	BD9011KV
△ IC	1051	PQ200WNA1ZPH
△ IC	1071	NJM78M05DL1A
IC	1151	CXB1442AR

IC	1203,1251,1253	S-24CS02AFT
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VSX-LX51

Mark	No.	Description	Part No.
	C	505,610,1314-1318	CKSSYB105K6R3
A	C	551,552,602-609	CKSSYB104K10
	C	612,614,615,617	CKSSYB104K10
	C	631,641,651,661	CKSSYB104K10
	C	632,633,642,643	CCSSCH101J50
	C	652,653,662,663	CCSSCH101J50
■	C	671,681,1054	CKSSYB104K10
	C	672,673,682,683	CCSSCH101J50
	C	1001	CEVW470M25
	C	1002	CCG1195
	C	1005,1012,1017,1018	CKSRYB104K25
B	C	1010	CKSRYB152K50
	C	1011,1024	BCG1059
	C	1013,1014,1022	CKSRYB105K10
	C	1015	CKSRYB332K50
	C	1016	CCSSCH330J50
■	C	1019	CCSSCH221J50
	C	1020	CKSRYB103K25
	C	1021,1025,1072	CKSRYB104K25
	C	1023	CKSRYB222K50
	C	1051,1053	CKSQYB105K25
C	C	1052	CKSQYB224K25
	C	1071	CEVW1R0M50
	C	1152-1159,1203,1204	CKSSYB104K10
	C	1160	DCH1165
	C	1251-1256,1306	CKSSYB104K10
■	C	1305	CEVW101M16
	C	1308-1312,1319-1322	CKSSYB104K10
	C	1324-1332,1335-1338	CKSSYB104K10
	C	1340	CCSSCH120J50
	C	1341,1381-1383	CKSSYB104K10
■	C	1351	ACH7174
	C	1352-1363	CKSSYB105K6R3

Mark	No.	Description	Part No.
	Q	1251	DTC114YUA
	Q	1281	HN1K02FU
	⚠ Q	1288,1289	RSQ035P03
	D	301	UDZS5R1(B)
	D	551	RB501V-40
	⚠ D	1071	RLZ6.8B
	D	1102,1151	DAN202U
	⚠ D	1152,1153	RSX201L-30
	⚠ D	1154,1155	RLZ5.6B
MISCELLANEOUS			
	L	101-104,301-305 CHIP BEADS	ATL7010
	L	105,106 CHIP SOLID INDUCTOR	QTL1013
	L	207,251 CHIP SOLID INDUCTOR	ATL7002
	⚠ L	351-354 COIL	ATH7022
	L	401,402,404,1091 CHIP BEADS	ATL7010
	L	403,405 CHIP SOLID INDUCTOR	QTL1013
	L	501 CHIP SOLID INDUCTOR	ATL7002
	L	1092,1093 INDUCTOR	CTF1386
	L	1094 POWER INDUCTOR(22U)	DTL1100
	L	1095 INDUCTOR	BTH1111
	JA	301,1102,1151 HDMI CONNECTOR	AKP7224
	X	101 CRYSTAL RESONATOR	ASS7085
	X	401 CRYSTAL RESONATOR	ASS7069
	X	501 CERAMIC RESONATOR	XSS3004
	CN	501 7P CONNECTOR	VKN1299
	CN	1001,1002 CONNECTOR	CKS4898

RESISTORS

R	101,103-105	RAB4CQ220J
R	108	RAB4CQ100J
R	115	RAB4CQ680J
R	119,331,333-341	RAB4CQ473J
R	130-132,134-136	RAB4CQ220J
R	141-148	ACN1275
R	204	RAB4CQ330J
R	304	RS1/16SS6800F
R	421,422,1071,1073	RS1/16S0R0J
R	428,429,432,433	RAB4CQ560J
R	434,437,442,443	RAB4CQ473J
R	446,447,450	RAB4CQ473J
R	464,465,467,468	RAB4CQ472J
R	1052,1053	RS1/10S6R8J
R	1057	RS1/16SS1801F
R	1059	RS1/16SS2001F
R	1097,1098	RS1/16S0R0J
R	1261-1266	RAB4CQ560J
R	1293	RS1/16SS6202F
R	1295	RS1/16SS5102F
R	1297,1298,1308,1309	ACN7156
R	1300	RS1/16SS3302F
R	1301	RS1/16SS7502F
R	1304-1307	RS1/10S0R0J
	Other Resistors	RS1/16SS###J

CAPACITORS

C	101,102,301,302	DCH1165
C	103,104,303-305	CKSQYB106K6R3
C	105,113,121,122	CKSSYB105K6R3
C	106-108,110	CKSSYB104K10
C	109,111,131,308	CKSSYB103K16

G HDMI ASSY (VSX-1018AH)**SEMICONDUCTORS**

IC	101	SII9135CTU
IC	201	TC74VHC541FTS1
IC	251	TC74LCX157FTS1
IC	301	SII9134CTU
IC	401	ADV7800BSTZ-80
IC	402	TC7WHU04FU
IC	501	PEG118A
IC	502	AYW7243
IC	503	TC74VHC125FTS1
⚠ IC	1001	BD9842FV
⚠ IC	1051	PQ200WNA1ZPH
⚠ IC	1071	NJM78M05DL1A
IC	1203,1251	S-24CS02AFT
IC	1204,1252	TC7MB3257FK
IC	1256-1258	TC74LCX541FTS1
IC	1259	TC7SZ125FU
Q	101,103	DTC143EUA
Q	102,104	DTA124EUA
Q	351	UMB1N
Q	352,1102,1151,1202	DTC114YUA
Q	1051	2SA1576A
Q	1052	DTC124EUA

Mark	No.	Description	Part No.
C	114,120,123-126		CKSSYB104K10
C	127,463		CCSSCH120J50
C	128,462		CCSSCH100D50
C	129,130,133,307		CKSSYB105K6R3
C	132,134-139,201		CKSSYB104K10
C	210		CKSSYB471K50
C	251,306,309,311		CKSSYB104K10
C	310,312,314		CKSSYB105K6R3
C	313,315,316,351		CKSSYB104K10
C	317-319,404,433		CKSSYB105K6R3
C	361-368		VCG1066
C	401,402,434,503		CEVW101M16
C	403,405-407		CKSSYB104K10
C	409-411,418,420		CKSSYB104K10
C	412,414,435,436		CKSSYB103K16
C	413		CKSSYB823K10
C	415		CKSRYB824K10
C	416		CKSSYB393K10
C	417		CKSQYB106K6R3
C	421		CKSSYB102K50
C	422-429,431,437		CKSSYB104K10
C	430,432,1073		CEVW100M16
C	438,441-443		CKSSYB104K10
C	439,440,1005,1056		DCH1201
C	445-449,461,502		CKSSYB104K10
C	501,1017		CKSSYB103K16
C	505		CKSSYB105K6R3
C	506,507,551,552		CKSSYB104K10
C	1001		CEVW470M25
C	1007,1012		CKSRYB104K16
C	1013,1289		CKSSYB682K25
C	1025		CKSSYB223K16
C	1051,1053		CKSQYB105K25
C	1052		CKSQYB224K25
C	1054,1203,1204		CKSSYB104K10
C	1071		CEVW1R0M50
C	1072		CKSQYB104K25
C	1091,1092,1283,1287		CCG1195
C	1251-1256,1261		CKSSYB104K10
C	1257,1258,1262		DCH1201
C	1268		CCSSCH331J50
C	1280		CCSSCH221J50
C	1281,1285		CKSRYB105K16
C	1290		CCSSCH271J50

H BINDER ASSY

MISCELLANEOUS

JH 3901 PCB BINDER

VEF1040

I BIND L_FRONT ASSY

MISCELLANEOUS

JH 5961,5962 PCB BINDER

VEF1040

J BIND L_BACK ASSY

MISCELLANEOUS

JH 5971,5972 PCB BINDER

VEF1040

Mark No. Description Part No.

K BIND R_FRONT ASSY

MISCELLANEOUS

JH 5981 PCB BINDER

VEF1040

L BIND R_BACK ASSY

MISCELLANEOUS

JH 5991 PCB BINDER

VEF1040

M DISPLAY ASSY

SEMICONDUCTORS

IC 3001

PE5615A

IC 3003

S-1200B33-M5

IC 3004

PDC158A8

Q 3001

2SA1576A

Q 3002,3012

DTC124EUA

Q 3004

2SK2034

Q 3005-3011

DTC143EUA

Q 3013

DTA124EUA

D 3001,3003,3004

1SS352

D 3002,3005

DAN202U

D 3006

RB751V-40

D 3007,3009,3011,3013

SLR-343VC(NPQ)

D 3015,3019

SLR343BC4T(JKLM)

D 3017

SLR343WBCT(MNPQ)

MISCELLANEOUS

L 3002 CHIP SOLID INDUCTOR

ATL7002

KN 3001 FL HOLDER(FE)

VNF1096

V 3001 FL TUBE DISPLAY

AAV7113

S 3001-3020,3025 SWITCH

VSG1024

S 3024 ROTARY ENCODER

ASX7048

X 3001 CERAMIC RESONATOR

VSS1142

X 3002 CRYSTAL OSCILLATOR CRYSTAL OSC

CSS1653

CN 3003 CONNECTOR

CKS3398

RESISTORS

All Resistors

RS1/16S###J

MISCELLANEOUS

JH 3001 3P CABLE HOLDER

51048-0300

JH 3002 4P CABLE HOLDER

51048-0400

JP 3001 JUMPER WIRE

D20PDY0305E

JP 3002 JUMPER WIRE

D20PDY0405E

U 3001 REMOTE RECEIVER UNIT

GP1UE274XKC1

CAPACITORS

C 3001,3006,3030,3036

CKSRYB102K50

C 3002,3003,3008,3045

CKSRYB104K16

C 3004

CCSRCH471J50

C 3007,3091

CEJQ221M6R3

C 3009,3010,3027

CKSRYB103K50

C 3011-3026,3035,3069

CKSRYB471K50

C 3028

CEJQ101M6R3

C 3029,3037,3042,3044

CKSRYB105K10

C 3031

CKSRYB104K50

C 3032

CEAT470M50

C 3034

CEAT101M35

C 3038,3039

CKSRYB102K50

C 3040,3041

CCSRCH120J50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C	3048,3049,3051,3056	CKSRYB104K16	△ IC	5751		NJM78M12FA
	C	3057,3089	CKSRYB104K16	△ IC	5752		NJM79M12FA
A	C	3065-3067,3076	CKSRYB103K50	△ IC	5763		BA178M12FP
	C	3068	CKSRYB153K50	IC	5771		BA4560RF
	C	3070	CKSRYB471K50	△ Q	5001,5101,5201,5301		STD03N

N MULTI JOG ASSY

MISCELLANEOUS

S	3501	ROTARY ENCODER	ASX7031
CN	3501	3P JUMPER CONNECTOR	52147-0310

RESISTORS

B	All Resistors	RS1/16S###J
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CAPACITORS

C	3501,3502	CKSRYB103K50
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O POWER SW ASSY

SEMICONDUCTORS

Q	3401	DTC143EUA
D	3402	SLR343BC4T(JKLM)

MISCELLANEOUS

C	S	3401	SWITCH	VSG1024
	CN	3401	4P JUMPER CONNECTOR	52147-0410

RESISTORS

B	All Resistors	RS1/16S###J
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P DIODE ASSY

SEMICONDUCTORS

△ D	4701,4702	D5SBA20(B)
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MISCELLANEOUS

D	CN	4701	CONNECTOR4P	AKM7085
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RESISTORS

△	All Resistors	RD1/4MUF###J
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CAPACITORS

C	4701,4702	CFTLA104J2A
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Q HEADPHONE ASSY

MISCELLANEOUS

E	JA	3451	PHONE JACK	AKN7029
	KN	3451	WRAPPING TERMINAL	VNF1084
	CN	3451	4P JUMPER CONNECTOR	52147-0410

RESISTORS

All Resistors	RS1/16S###J
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CAPACITORS

C	3451,3452	CKSRYB392K50
C	3453	CKSRYB471K50
C	3454	CKSRYB103K50
C	3455	CKSRYB104K50

R POWER AMP ASSY

SEMICONDUCTORS

△ IC	5751		NJM78M12FA
△ IC	5752		NJM79M12FA
△ IC	5763		BA178M12FP
IC	5771		BA4560RF
△ Q	5001,5101,5201,5301		STD03N
△ Q	5002,5102,5202,5302		STD03P
Q	5041,5141,5241,5341		2SA1255
△ Q	5401,5501,5601		STD03N
△ Q	5402,5502,5602		STD03P
Q	5441,5541,5641		2SA1255
Q	5700,5811,5821,5831		DTC114TUA
Q	5701		RN1901
Q	5702,5703		UMD2N
△ Q	5705		2SD1763A
△ Q	5706		2SC3906K
△ Q	5707		2SB1186A
△ Q	5708		2SA1514K
Q	5731,5741,5742		2SC4081
Q	5781,5782,5785		DTC124EUA
Q	5783,5784		DTA124EUA
Q	5841,5851		DTC114TUA
△ D	5003,5004,5103,5104		1SS355
△ D	5005,5006,5105,5106		UDZS4R7(B)
D	5041-5044,5141-5144		1SS355
△ D	5203,5204,5303,5304		1SS355
△ D	5205,5206,5305,5306		UDZS4R7(B)
D	5241-5244,5341-5344		1SS355
△ D	5403,5404,5503,5504		1SS355
△ D	5405,5406,5505,5506		UDZS4R7(B)
D	5441-5444,5541-5544		1SS355
△ D	5603,5604		1SS355
△ D	5605,5606		UDZS4R7(B)
D	5641-5644		1SS355
D	5701,5702,5721,5722		1SS352
△ D	5703		S1WB(A)60SD
D	5705,5708,5710		UDZS8R2(B)
D	5706,5782		UDZS7R5(B)
D	5707,5709		UDZS9R1(B)
D	5711,5712		UDZS6R8(B)
D	5713,5714		UDZS12(B)
D	5715,5719,5720		UDZS13(B)
D	5716		UDZS15(B)
△ D	5717,5718,5751-5754		1SR154-400
D	5755,5756,5761		RB501V-40
D	5781		UDZS5R1(B)
D	5783,5784,5811,5812		1SS352
D	5821,5822,5831,5832		1SS352
D	5841,5842,5851,5852		1SS352
MISCELLANEOUS			
L	5081,5181,5281,5381	COIL	ATH1053
L	5481,5581,5681	COIL	ATH1053
JA	5801	SPEAKER TERMINAL 8-P	AKE7119
JA	5802	SPEAKER TERMINAL 6-P	AKE7108
JA	5803,5804	PIN JACK(4P)	AKB7172
RY	5701	RELAY	ASR7032
RY	5811,5821,5831,5841	RELAY	ASR7001
RY	5851	RELAY	ASR7001
CN	5010,5110,5210	CONNECTOR(05P)	TUC-P05P-B1
CN	5310,5410,5510	CONNECTOR(05P)	TUC-P05P-B1

Mark	No.	Description	Part No.
	CN	5610 CONNECTOR(07P)	TUC-P07P-B1
	CN	5701 CONNECTOR	B7P-VH
	CN	5802,5803 21P PLUG	XKM3011
		5000 SMALL HEATSINK V5S(M)	ANH7200
		5001,5002 SCREW	BBZ30P080FCC
	JH	5801 4P CABLE HOLDER	51048-0400
	JH	5951,5953 PCB BINDER	VEF1040
	JP	5701 LEAD WITH HOUSING	ADX7651
	JP	5722 AWG14 BOARD IN	ADX7650
	JP	5723 AWG14 BOARD IN	ADX7461
	JP	5750 CONNECTOR ASSY	PF04PG-R50
	JP	5801 JUMPER WIRE	D20PDY0460E
	△ P	5001,5002 PROTECTOR(7A)	AEK7021
	△ P	5003,5004 IC PROTECTOR	ICP-N15

RESISTORS

△ R	5025,5026,5125,5126	ACN7132
△ R	5027,5127,5227,5327	ACN7163
R	5029,5129,5229,5329	RS1/10SOR0J
△ R	5081,5181,5281,5381	RS1/2LMF4R7J
△ R	5082,5182,5282,5382	RS1LMF100J
△ R	5225,5226,5325,5326	ACN7132
△ R	5425,5426,5525,5526	ACN7132
△ R	5427,5527,5627	ACN7163
R	5429,5529,5629	RS1/10SOR0J
△ R	5481,5581,5681	RS1/2LMF4R7J
△ R	5482,5582,5682	RS1LMF100J
△ R	5625,5626	ACN7132
△ R	5701,5702	RS1LMF472J
△ R	5703,5704	RS1/2LMF332J
R	5721,5722	RD1/4MUF473J

△ R 5811,5812
Other Resistors

CAPACITORS

C	5011,5012,5111,5112	ACG7056
C	5041,5141,5241,5341	CEHANP2R2M50
C	5081,5082,5181,5182	CFLA104J50
C	5083,5183,5283,5383	CFLA103J2A
C	5084-5087,5089	CKSRYB272K50
C	5211,5212,5311,5312	ACG7056
C	5281,5282,5381,5382	CFLA104J50
C	5411,5412,5511,5512	ACG7056
C	5441,5541,5641	CEHANP2R2M50
C	5481,5482,5581,5582	CFLA104J50
C	5483,5583,5683	CFLA103J2A
C	5611,5612	ACG7056
C	5681,5682	CFLA104J50
C	5703,5704	CEAT471M2A
C	5705,5706	CEAT101M63
C	5707,5708	CEAT221M2A
C	5721,5722	ACH7258
C	5723	CEAT100M63
C	5725,5726,5729,5730	CEATR47M2A
C	5731	CKSRYB223K50
C	5741	CEAT331M10
C	5751,5752	CEAT222M25
C	5753,5754,5761,5771	CKSRYB103K50
C	5755,5756	CEAT221M25
C	5762	CEAT100M50
C	5766-5769	CKSRYB104K50

Mark	No.	Description	Part No.
C	5772,5781,5930,5931		CKSRYB103K50
C	5782		CKSRYB105K10
C	5891		CEAT101M50
C	5901-5916		CCSRCH101J50
C	5917-5924		CEAT470M25

S PRE-STAGE AMP ASSY**SEMICONDUCTORS**

Q	6001,6101,6201,6301	2SD2704K
Q	6002,6102,6202,6302	IMT4
Q	6003,6103,6203,6303	2SA1514K
△ Q	6004,6104,6204,6304	2SA1145
Q	6005,6105,6205,6305	2SC2705
Q	6401,6501,6601	2SD2704K
Q	6402,6502,6602	IMT4
Q	6403,6503,6603	2SA1514K
△ Q	6404,6504,6604	2SA1145
Q	6405,6505,6605	2SC2705
△ D	6001,6101,6201,6301	UDZS3R6(B)
△ D	6002,6102,6202,6302	1SS355
△ D	6401,6501,6601	UDZS3R6(B)
△ D	6402,6502,6602	1SS355

MISCELLANEOUS

CN	6010,6110,6210 CONNECTOR(05P)	TUC-P05X-B1
CN	6310,6410,6510 CONNECTOR(05P)	TUC-P05X-B1
CN	6603 17P CONNECTOR	52044-1745
CN	6610 CONNECTOR(07P)	TUC-P07X-B1
	6001,6002 PCB BINDER	VEF1040

RESISTORS

R	6007,6107,6207,6307	RS1/16S2001F
R	6009,6109,6209,6309	RD1/2VM473J
R	6011,6111,6211,6311	RN1/16SE1201D
R	6023,6024,6123,6124	RD1/4MUF4R7J
R	6029,6129,6229,6329	RN1/10SE3302D
R	6030,6130,6230,6330	RN1/16SE1001D
R	6031,6131,6231,6331	RN1/16SE1500D
R	6223,6224,6323,6324	RD1/4MUF4R7J
R	6407,6507,6607	RS1/16S2001F
R	6409,6509,6609	RD1/2VM473J
R	6411,6511,6611	RN1/16SE1201D
R	6423,6424,6523,6524	RD1/4MUF4R7J
R	6429,6529,6629	RN1/10SE3302D
R	6430,6530,6630	RN1/16SE1001D
R	6431,6531,6631	RN1/16SE1500D
R	6623,6624	RD1/4MUF4R7J
	Other Resistors	RS1/16S###J

CAPACITORS

C	6001,6101,6201,6301	CEHAT4R7M50
C	6002,6102,6202,6302	CCSRCH221J50
C	6004,6104,6204,6304	CKSRYB102K50
C	6005,6006,6015,6016	CCSRCH220J50
C	6007,6107,6207,6307	CEHAT101M10
C	6008,6108,6208,6308	ACG7057
C	6009,6109,6209,6309	CEHAT100M2A
C	6017,6117,6217,6317	CEHAT331M10
C	6023,6024,6123,6124	CEHAT100M63
C	6032,6132,6232,6332	CKSRYB224K16
C	6105,6106,6115,6116	CCSRCH220J50

Mark	No.	Description	Part No.
	C	6205,6206,6215,6216	CCSRCH220J50
	C	6223,6224,6323,6324	CEHAT100M63
A	C	6305,6306,6315,6316	CCSRCH220J50
	C	6401,6501,6601	CEHAT4R7M50
	C	6402,6502,6602	CCSRCH221J50
	C	6404,6504,6604	CKSRYB102K50
	C	6405,6406,6415,6416	CCSRCH220J50
	C	6407,6507,6607	CEHAT101M10
	C	6408,6508,6608	ACG7057
	C	6409,6509,6609	CEHAT100M2A
	C	6417,6517,6617	CEHAT331M10
	C	6423,6424,6523,6524	CEHAT100M63
	C	6432,6532,6632	CKSRYB224K16
B	C	6505,6506,6515,6516	CCSRCH220J50
	C	6527	CCSRCH101J50
	C	6605,6606,6615,6616	CCSRCH220J50
	C	6623,6624	CEHAT100M63

Mark	No.	Description	Part No.
MISCELLANEOUS			
	H	4001-4004,4007-4010 FUSE CLIP	AKR7001
	CN	4001 8P TOP POST	B8B-EH
	CN	4003 PLUG(7P)	KM200NA7
	CN	4004 PLUG(9P)	KM200NA9
	CN	4071 PLUG(4P)	KM200NA4
		4001-4003,4005,4006 PCB BINDER	VEF1040
RESISTORS			
	R	4001	RS1/16S473J
	⚠	Other Resistors	RD1/4MUF###J
CAPACITORS			
	C	4001,4016	CFTLA104J50
	C	4002	CEANP101M35
	C	4003	CEAT101M35
	C	4004	CEAT221M35
	C	4005,4023,4024	CEAT101M16
	C	4006	CEAT470M50
	C	4008,4017,4021,4022	CKSRYB103K50
	C	4018	CEAT221M16
	C	4019	CEAT682M16
	C	4020	CEAT222M16

T PRIMARY ASSY SEMICONDUCTORS

⚠	IC	3701	NJM78M56FA
	Q	3701	DTC143EUA
	D	3701	UDZS5R1(B)
C	D	3703,3704,3706	1SS352
⚠	D	3705	S1WB(A)60SD

MISCELLANEOUS

⚠	L	3701 LINE FILTER	XTF3004
	H	3707,3708 FUSE CLIP	AKR7001
	KN	3701 SCREW PLATE	VNE1948
⚠	RY	3701 JOE LOWPOWER RELAY	ASR7013
⚠	T	3701 STANDBY TRANSFORMER	ATT7040
⚠	CN	3704 AC CODE SOCKET	RKP1751
⚠	CN	3708 CONNECTOR(VH)	B3P5-VH
	JH	3701 6P CABLE HOLDER	51048-0600
D	JP	3710 JUMPER WIRE	D20PDY0620E

RESISTORS

R	3703	RD1/4MUF101J
	Other Resistors	RS1/16S###J

CAPACITORS

C	3701,3713	CKSRYB103K50	
C	3702	CEAT100M50	
⚠	C	3705	XCG3010
C	3709	CFTLA103J50	
⚠	C	3710	ACE7013

E	C	3712	CKSRYB102K50
	C	3714	CEAT102M25

U REGULATOR ASSY SEMICONDUCTORS

⚠	IC	4004	NJM78M05FA
⚠	IC	4005	NJM78M56FA
⚠	IC	4006	NJM79M05FA
⚠	D	4001-4003	1SR154-400
	D	4004-4008	UDZS6R2(B)

F	⚠	D	4012
	D	4013,4015,4016	D3SBA20(B)
	⚠	D	4014
	D	4029	RB501V-40
			MTZJ6R2(B)
			1SS352

V DC/DC ASSY SEMICONDUCTORS

⚠	IC	4251	PQ1CG3032FZ
	D	4251	RB051L-40
⚠	D	4253,4273	D3SBA20(B)
⚠	D	4255	PTZ6R8(B)

MISCELLANEOUS

L	4251 INDUCTOR	ATH7020
H	4251,4252,4271,4272 FUSE CLIP	AKR7001
CN	4251,4252 CONNECTOR	B4B-EH
	4251,4253 PCB BINDER	VEF1040

RESISTORS

⚠	R	4251,4271	RD1/4MUF4R7J
	R	4252	RN1/16SE1800D
	Other Resistors		RS1/16S###D

CAPACITORS

C	4251,4271	CFTLA104J50
C	4255	CEHAZL102M25
C	4257	CEHAZL102M6R3
C	4258,4259,4267,4275	CKSRYB104K50
C	4264	ACH7294
C	4274	CEAT682M16

W POS1 ASSY SEMICONDUCTORS

⚠	TH	7001	AEX7006
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MISCELLANEOUS

CN	7001 CONNECTOR ASSY	PG02KA-E07
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X POS2 ASSY SEMICONDUCTORS

⚠	TH	7002	PTFM04BB222Q2N34B0
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Mark No. Description _____ **Part No.** _____

MISCELLANEOUS

CN 7002 CONNECTOR ASS'Y PG02KA-E07

A

Y POSI3 ASSY

SEMICONDUCTORS

△ TH 7003 AEX7008

■

MISCELLANEOUS

CN 7003 CONNECTOR ASS'Y PG03KS-E07

B

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C

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D

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E

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F