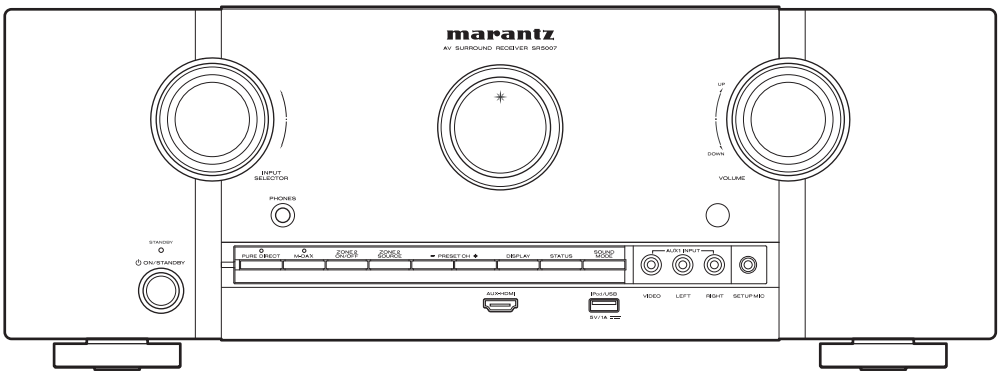
Service Manual

SR5007 /U1B,K1B
N1SG,N1B

AV Surround Receiver



- For purposes of improvement, specifications and design are subject to change without notice.
- Please use this service manual with referring to the operating instructions without fail.
- Some illustrations using in this service manual are slightly different from the actual set.

marantz®

SR5007

Ver. 2
Please refer to the MODIFICATION NOTICE.

S0545-0V02DM/DG1209

CONTENTS

ABOUT THIS MANUAL

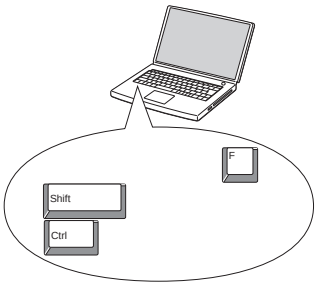
Read the following information before using the service manual.

What you can do with this manual

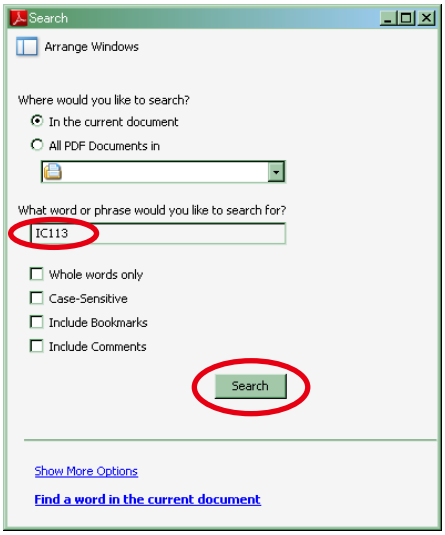
Search for a Ref. No. (phrase) (Ctrl+Shift+F)

You can use the search function in Acrobat Reader to search for a Ref. No. in schematic diagrams, printed wiring board diagrams, block diagrams, and parts lists.

1.Press **Ctrl**+**Shift**+**F** on the keyboard.
- The Search window appears.



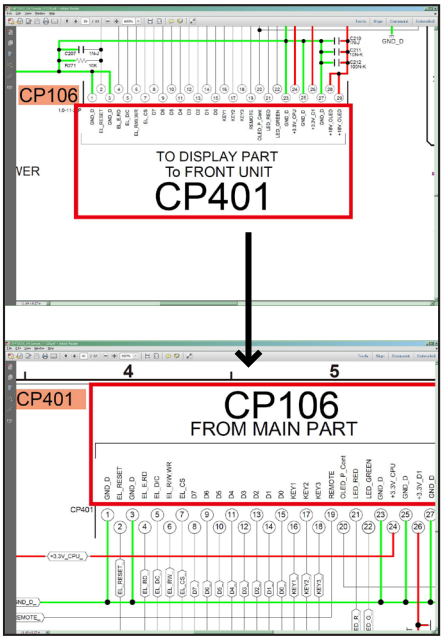
2.Enter the Ref. No. you want to search for in the Search window, and then click the **Search** button.
- A list of search results appears.



3.Click an item on the list.
- The screen jumps to the page for that item, and the search phrase is displayed.

Jump to the target of a schematic diagram connector

Click the Ref. No. of the target connector in the red box around a schematic diagram connector.
- The screen jumps to the target connector.



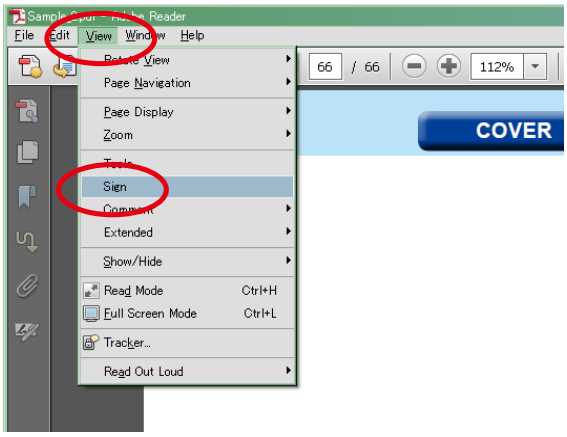
- Page magnification stays the same as before the jump.

Using Adobe Reader (Windows version)

Add notes to this data (Sign)

The Sign function lets you add notes to the data in this manual.
Save the file once you have finished adding notes.

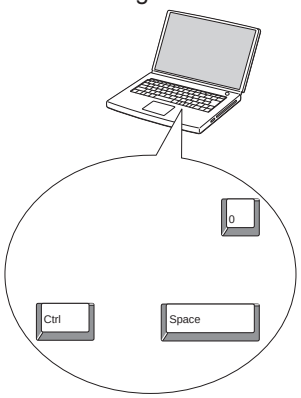
[Example using Adobe Reader X]
On the "**View**" menu, click "**Sign**".
- The Sign pane appears.



[Example using Adobe Reader 9]
On the "**Document**" menu, click "**Sign**".

Magnify schematic / printed wiring board diagrams - 1 (Ctrl+Space, mouse operation)

[Example using Adobe Reader 9,X]
Press **Ctrl**+**Space** on the keyboard and drag the mouse to select the area you want to view.
- The selected area is magnified.

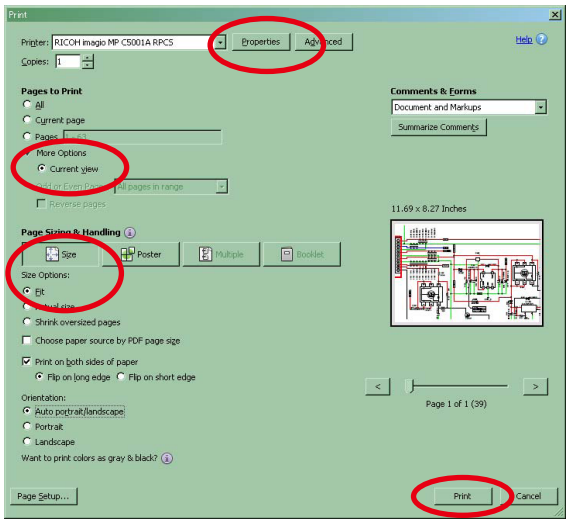


- When you want to move the area shown, hold down **Space** and drag the mouse.
- When you want to show a full page view, press **Ctrl**+**0** on the keyboard.

Print a magnified part of the manual

The Properties dialog box and functions will vary depending on your printer.

1. Drag the mouse to magnify the part you want to print.
2. On the "**File**" menu, click "**Print**".
3. Configure the following settings in the Print dialog box.



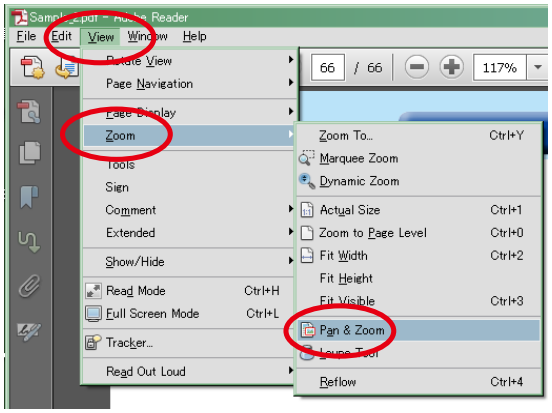
- **Properties**
  Click this button and check that the printer is set to a suitable paper size.
- **Page to print**
  Select the following checkbox.
  "**More Options**" : "**Current View**"
- **Page Sizing & Handling**
  Select the following checkbox.
  "**Size**" / "**Size Options**" : "**Fit**"

4. Click the **Print** button to start printing.

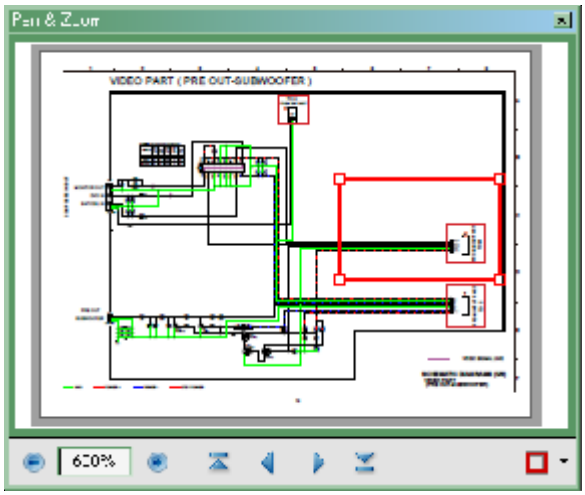
Magnify schematic / printed wiring board diagrams - 2
(Pan & Zoom function)

The Pan & Zoom function lets you see which part of a magnified diagram is being shown in a separate window.

[Example using Adobe Reader X]
On the "**View**" menu, point to "**Zoom**", and then click "**Pan & Zoom**".



- The Pan & Zoom window appears on the screen.

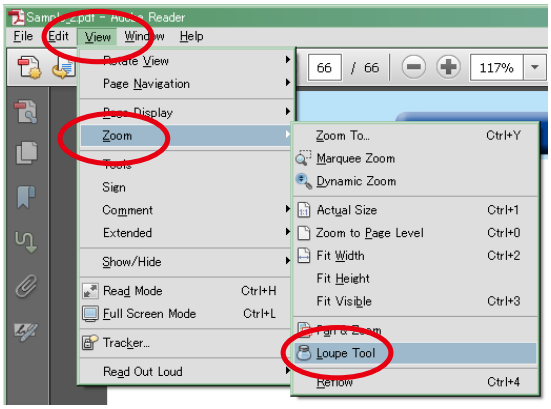


[Example using Adobe Reader 9]
On the "**Tools**" menu, point to "**Select & Zoom**", and then click "**Pan & Zoom Window**".

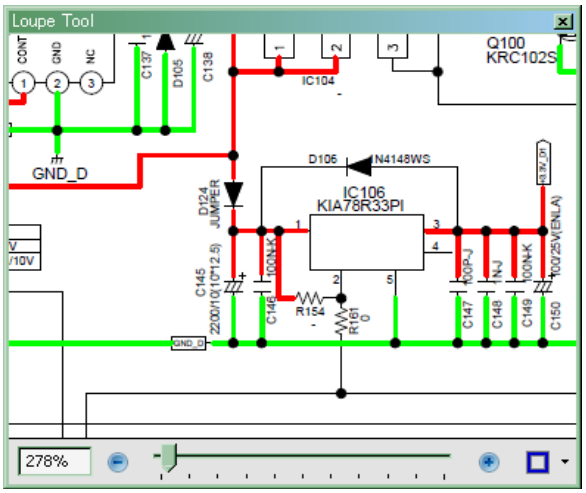
Magnify schematic / printed wiring board diagrams - 3
(Loupe Tool function)

The Loupe Tool function lets you magnify a specific part of a diagram in a separate window.

[Example using Adobe Reader X]
On the "**View**" menu, point to "**Zoom**", and then click "**Loupe Tool**".



- The Loupe Tool window appears on the screen.



[Example using Adobe Reader 9]
On the "**Tools**" menu, point to "**Select & Zoom**", and then click "**Loupe Tool Window**".

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.
Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or agent.
ORDERING PARTS :
Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order :
1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

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NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠.
Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠ がついている部品は、安全上重要な部品です。必ず指定されている部品番号のものを使用して下さい。

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.
Ref. UL Standard No. 60065.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

091105DM/DG

SAFETY PRECAUTIONS

The following items should be checked for continued protection of the customer and the service technician.

LEAKAGE CURRENT CHECK

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.
Be sure to test for leakage current with the AC plug in both polarities, in addition, when the set's power is in each state (on, off and standby mode), if applicable.

CAUTION Please heed the following cautions and instructions during servicing and inspection.

◎ Heed the cautions!

Cautions which are delicate in particular for servicing are labeled on the cabinets, the parts and the chassis, etc. Be sure to heed these cautions and the cautions described in the handling instructions.

◎ Cautions concerning electric shock!

(1) An AC voltage is impressed on this set, so if you touch internal metal parts when the set is energized, you may get an electric shock. Avoid getting an electric shock, by using an isolating transformer and wearing gloves when servicing while the set is energized, or by unplugging the power cord when replacing parts, for example.
(2) There are high voltage parts inside. Handle with extra care when the set is energized.

◎ Caution concerning disassembly and assembly!

Through great care is taken when parts were manufactured from sheet metal, there may be burrs on the edges of parts. The burrs could cause injury if fingers are moved across them in some rare cases. Wear gloves to protect your hands.

◎ Use only designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). Be sure to use parts which have the same properties for replacement. The burrs have the same properties. In particular, for the important safety parts that are indicated by the ⚠ mark on schematic diagrams and parts lists, be sure to use the designated parts.

◎ Be sure to mount parts and arrange the wires as they were originally placed!

For safety seasons, some parts use tapes, tubes or other insulating materials, and some parts are mounted away from the surface of printed circuit boards.
Care is also taken with the positions of the wires by arranging them and using clamps to keep them away from heating and high voltage parts, so be sure to set everything back as it was originally placed.

◎ Make a safety check after servicing!

Check that all screws, parts and wires removed or disconnected when servicing have been put back in their original positions, check that no serviced parts have deteriorate the area around. Then make an insulation check on the external metal connectors and between the blades of the power plug, and otherwise check that safety is ensured.

(Insulation check procedure)
Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and on the power. Using a 500V insulation resistance tester, check that the insulation resistance value between the inplug and the externally exposed metal parts (antenna terminal, headphones terminal, input terminal, etc.) is 1MΩ or greater. If it is less, the set must be inspected and repaired.

CAUTION Concerning important safety parts

Many of the electric and the structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and the use of replacement parts with higher ratings (rated power and withstand voltage) does not necessarily guarantee that safety performance will be preserved. Parts with safety properties are indicated as shown below on the wiring diagrams and the parts list in this service manual. Be sure to replace them with the parts which have the designated part number.

(1) Schematic diagrams.....Indicated by the ⚠ mark.
(2) Parts lists.....Indicated by the ⚠ mark.
The use of parts other than the designated parts could cause electric shocks, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:
Parts indicated by the ⚠ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.
CAUTION:
Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.
WARNING:
DO NOT return the set to the customer unless the problem is identified and remedied.
NOTICE:
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM
ALL CAPACITANCE VALUES ARE EXPRESSED IN MICRO FARAD, UNLESS OTHERWISE INDICATED. P INDICATES MICRO-MICRO FARAD. EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION. CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE FOR PARTS LIST

1. Parts indicated by "nsp" on this table cannot be supplied.
2. When ordering a part, make a clear distinction between "1" and "I" (i) to avoid mis-supplying.
3. A part ordered without specifying its part number can not be supplied.
4. Part indicated by "★" mark is not illustrated in the exploded view.
5. General-purpose Carbon Film Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
6. General-purpose Carbon Chip Resistors are not included are not included in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING: Parts indicated by the ⚠ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

TECHNICAL SPECIFICATIONS

❑ Audio Section

- **Power amplifier**

  Rated output:

  Front :
  100 W + 100 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
  Center :
  100 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
  Surround :
  100 W + 100 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
  Surround back:
  100 W + 100 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)

  Maximum effective output power:

  Front :
  150 W + 150 W (6 Ω, 1 kHz with 10 % T.H.D.)
  Center :
  150 W (6 Ω, 1 kHz with 10 % T.H.D.)
  Surround :
  150 W + 150 W (6 Ω, 1 kHz with 10 % T.H.D.)
  Surround back:
  150 W + 150 W (6 Ω, 1 kHz with 10 % T.H.D.)

  Output connectors: 6 – 8 Ω

- **Analog**

  Input sensitivity/Input impedance: 200 mV/47 kΩ
  Frequency response: 10 Hz – 100 kHz — +1, –3 dB (DIRECT mode)
  S/N : 100 dB (IHF–A weighted, DIRECT mode)

❑ Video section

- **Standard video connectors**

  Input/output level and impedance: 1 Vp-p, 75 Ω
  Frequency response : 5 Hz – 10 MHz — 0, –3 dB

- **Color component video connector**

  Input/output level and impedance:
  Y (brightness) signal — 1 Vp-p, 75 Ω
  P_B / C_B signal — 0.7 Vp-p, 75 Ω
  P_R / C_R signal — 0.7 Vp-p, 75 Ω
  Frequency response : 5 Hz – 60 MHz — 0, –3 dB

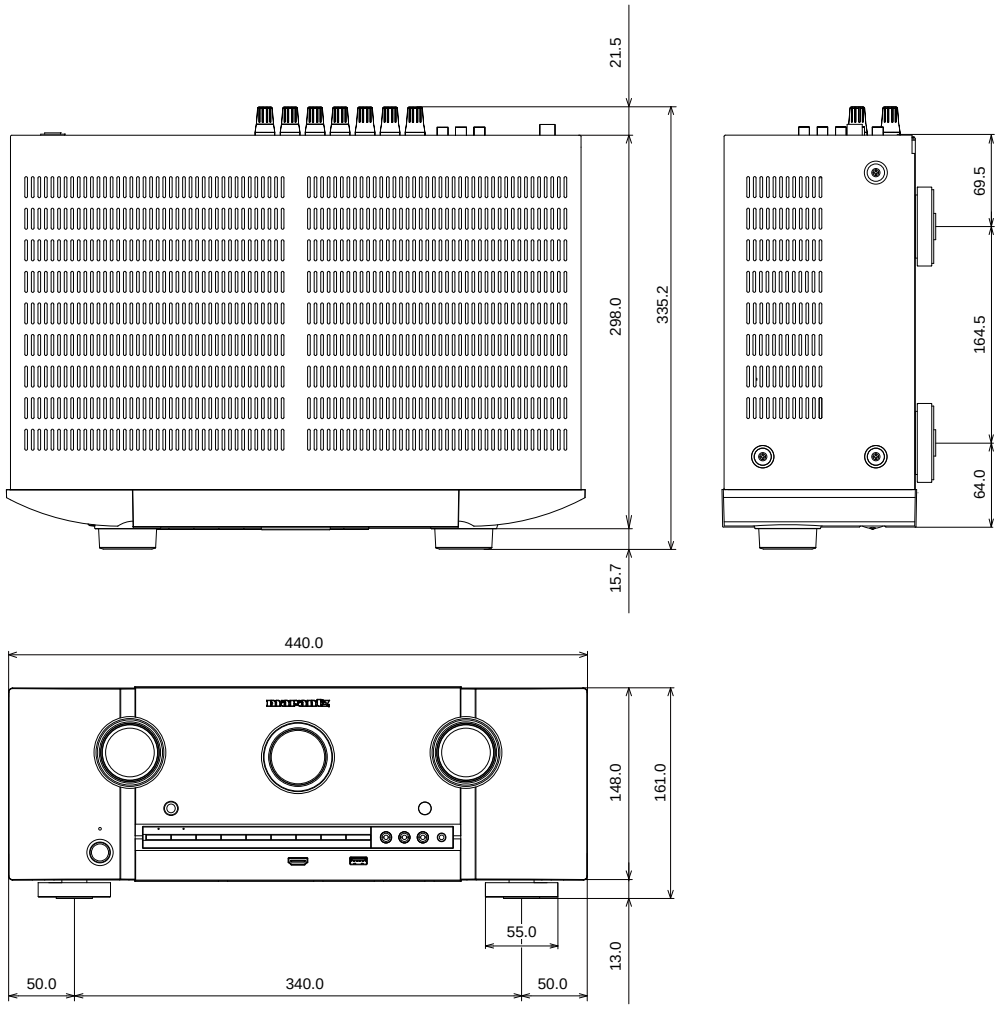
❑ Tuner section

[FM](Note: µV at 75 Ω, 0 dBf = 1 x 10^{-15} W)
Receiving Range (for U model)**:**
[FM] 87.5 MHz – 107.9 MHz
Receiving Range (for N, K model)**:**
[FM] 87.5 MHz – 108.0 MHz
Usable Sensitivity:
[FM] 1.2 µV (12.8 dBf)
50 dB Quieting Sensitivity (for U model)**:**
[FM] MONO 2.8 µV (20.2 dBf)
50 dB Quieting Sensitivity (for N, K model)**:**
[FM] MONO 2.0 µV (17.3 dBf)
S/N (IHF-A) (for U model) **:**
[FM] MONO 70 dB(IHF–A weighted, DIRECT mode)
STEREO 67 dB(IHF–A weighted, DIRECT mode)
S/N (IHF-A) (for N, K model)**:**
[FM] MONO 72 dB (DIRECT mode)
STEREO 67 dB (DIRECT mode)
Total harmonic Distortion (at 1 kHz) (for U model)**:**
[FM] MONO 0.7 %
STEREO 1.0 %
Total harmonic Distortion (at 1 kHz) (for N, K model)**:**
[FM] MONO 0.3 %
STEREO 0.7 %

❑ General

Power supply (for U model) **:** AC 120 V, 60 Hz
Power supply (for N model) **:** AC 230 V, 50/60 Hz
Power supply (for K model) **:** AC 220 V, 50 Hz
Power consumption:
650 W
0.2 W (Standby)
0.5 W (CEC standby)

DIMENSION



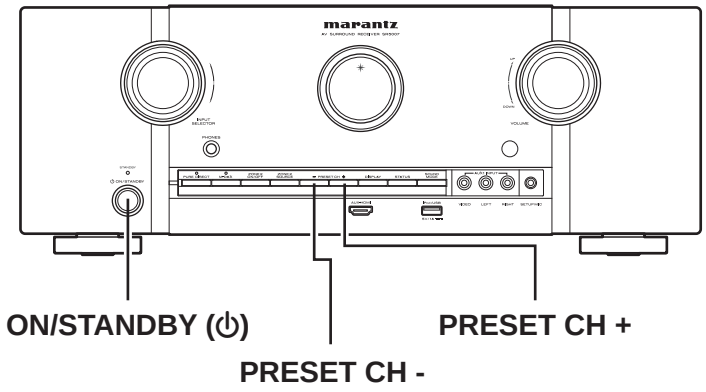
CAUTIONS IN SERVICING

Initializing AV Surround Receiver

AV Surround Receiver initialization should be performed when the µcom, peripheral parts of µcom, and Digital PCB. were replaced.

1. Turn off the power pressing "ON/STANDBY (⏻)" button.
2. Press "ON/STANDBY (⏻)" button while simultaneously while pressing "PRESET CH +" and "PRESET CH –" buttons.
3. Check that the entire display is flashing at intervals of about 1 second, and then release the 2 buttons.
   The microprocessor will be initialized.

NOTE: • If step 3 fails, start over from step 1.
• All user settings will be lost and the factory setting will be recovered after the set is initialized.
So make sure to note down your setting beforehand for restoring after the initialization.



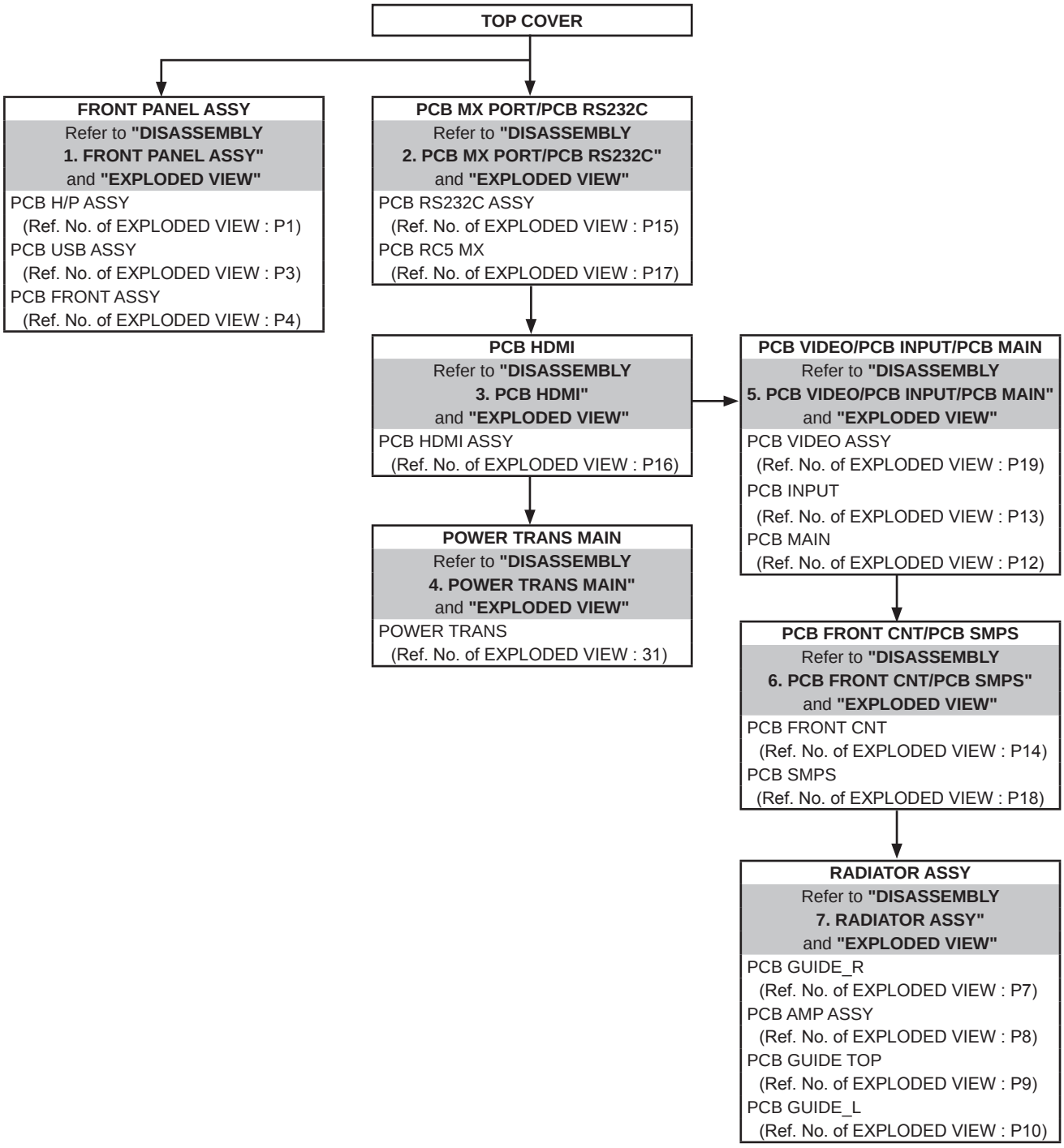
Service Jig

When you repair the printing board, you can use the following JIG (Extension cable kit).
Please order it from Marantz Official Service Distributor in your region if necessary.

8U-110084S : EXTENSION UNIT KIT : 1 Set
(Refer to 53 page.)

DISASSEMBLY

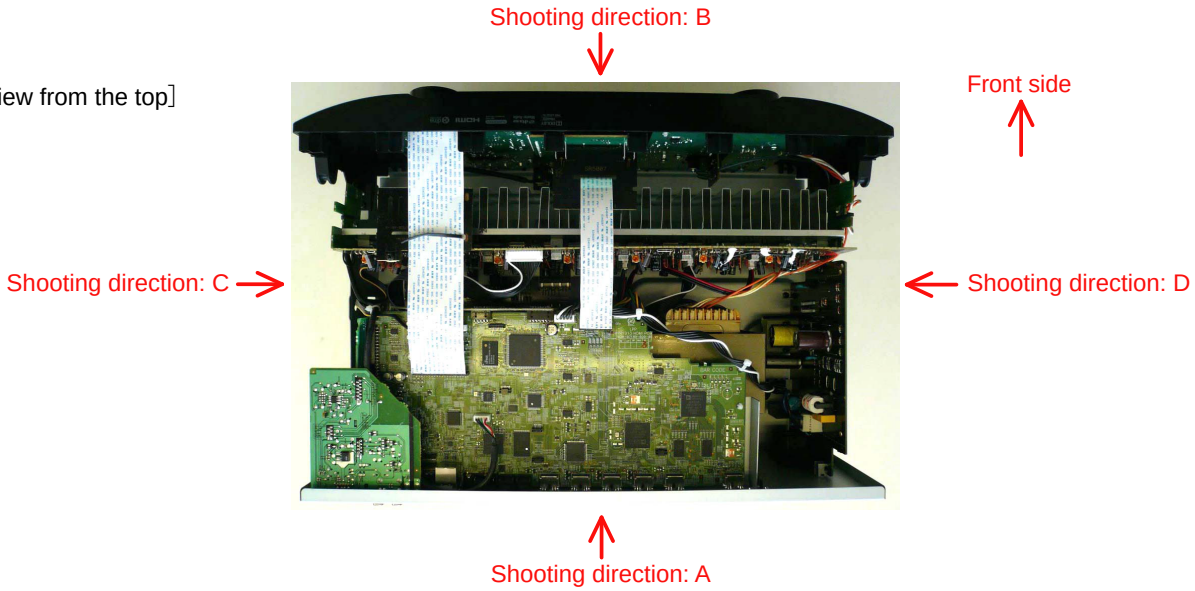
- Disassemble in order of the arrow in the following figure.
- In the case of the re-assembling, assemble it in order of the reverse of the following flow.
- In the case of the re-assembling, observe "attention of assembling".
- If wire bundles are untied or moved to perform adjustment or replace parts etc., be sure to rearrange them neatly as they were originally bundled or placed afterward.
  Otherwise, incorrect arrangement can be a cause of noise generation.



About the photos used for "descriptions of the DISASSEMBLY" section

- The shooting direction of each photograph used herein is indicated on the left side of the respective photograph as "Shooting direction: ***".
- Refer to the diagram below about the shooting direction of each photograph.
- Photographs with no shooting direction indicated were taken from the top of the set..

The viewpoint of each photograph (Shooting direction)

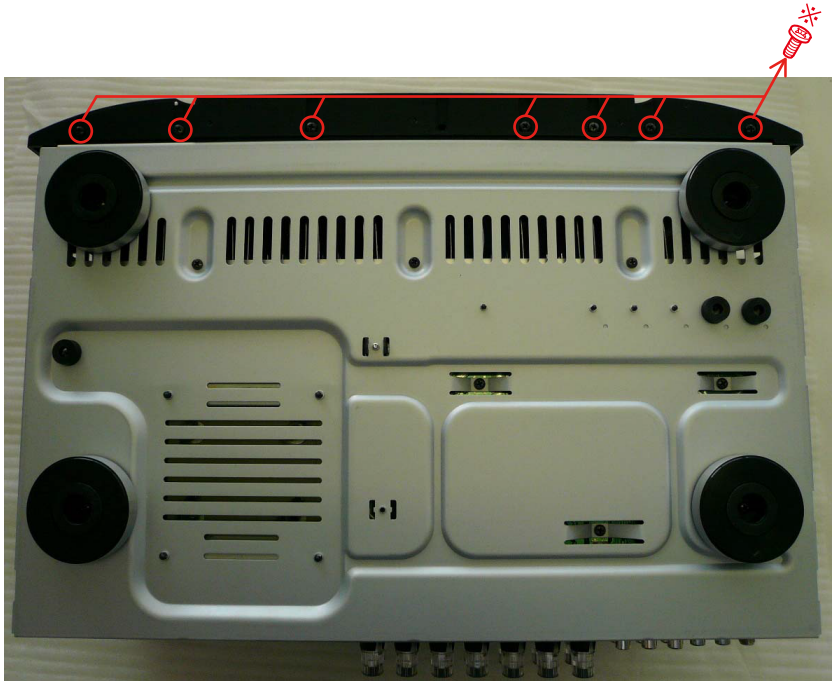


1. FRONT PANEL ASSY

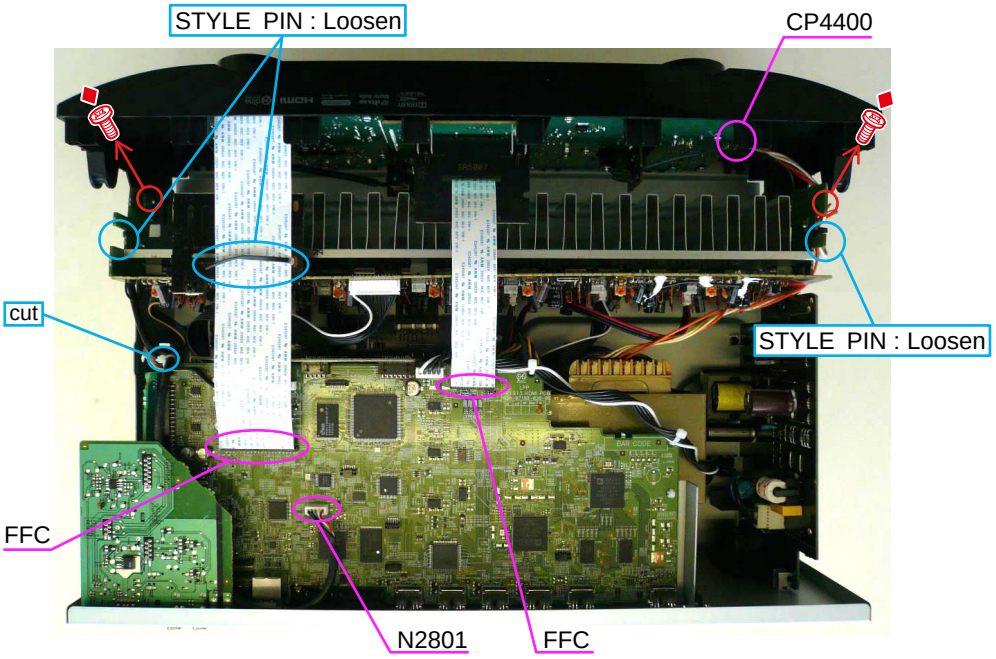
Proceeding : TOP COVER → FRONT PANEL ASSY

(1) Remove the screws.

View from the bottom



(2) Cut the wire clamp band, then disconnect the connector wires and FFC. Remove the screws.



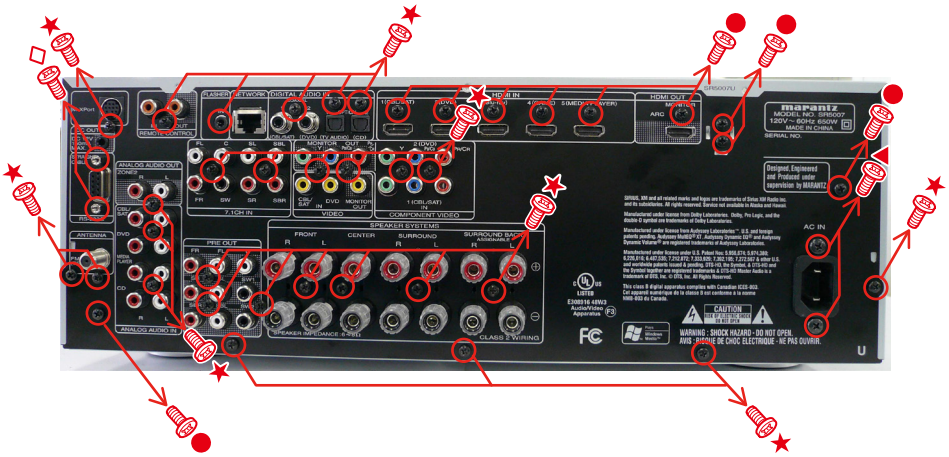
Please refer to "EXPLODED VIEW" for the disassembly method of each PCB included in FRONT PANEL ASSY.

2. PCB MX PORT/PCB RS232C

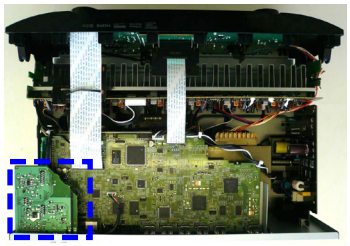
Proceeding : TOP COVER → BACK CHASSIS → PCB MX PORT/PCB RS232C

(1) Remove the screws.

Shooting of photograph: A



(2) Disconnect the connector board.



Board to board

PCB RC5_MX

PCB RS232

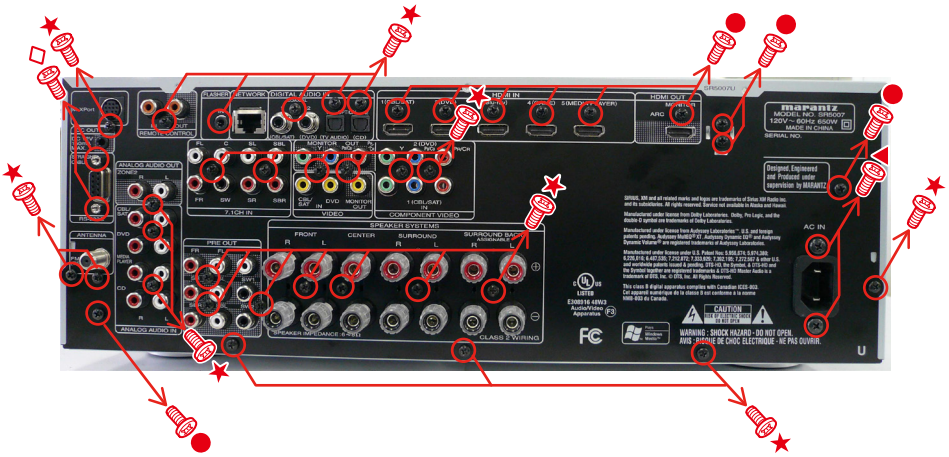
Please refer to "EXPLODED VIEW" for the disassembly method of PCB RC5_MX and PCB RS232C.

3. PCB HDMI

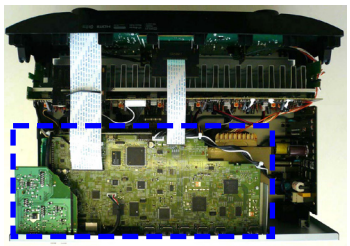
Proceeding : TOP COVER → BACK CHASSIS → PCB HDMI

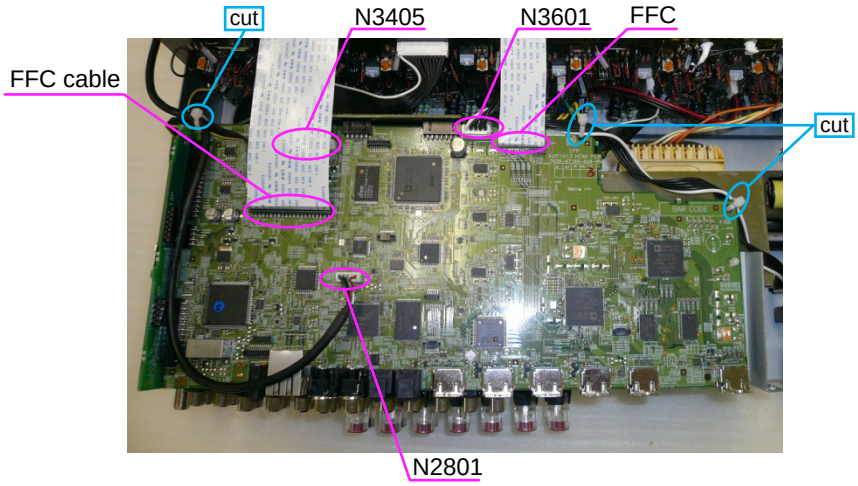
(1) Remove the screws.

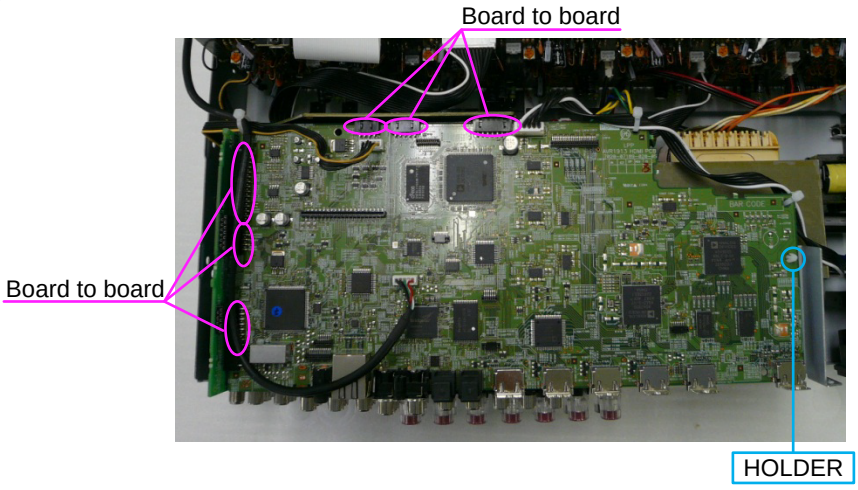
Shooting of photograph: A



(2) Cut the wire clamp band, then disconnect the connector wires and FFC, then disconnect the connector board and HOLDER.



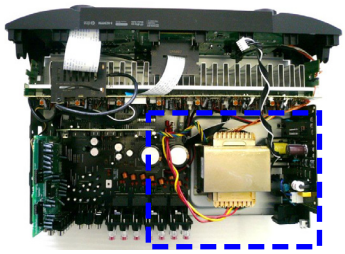


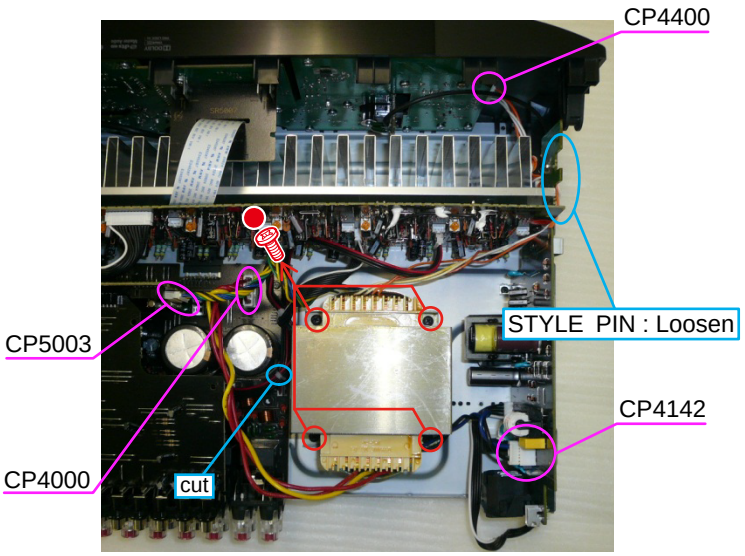


4. POWER TRANS MAIN

Proceeding : TOP COVER → BACK CHASSIS → PCB HDMI → POWER TRANS MAIN

(1) Disconnect the connector wires, then remove the screws.

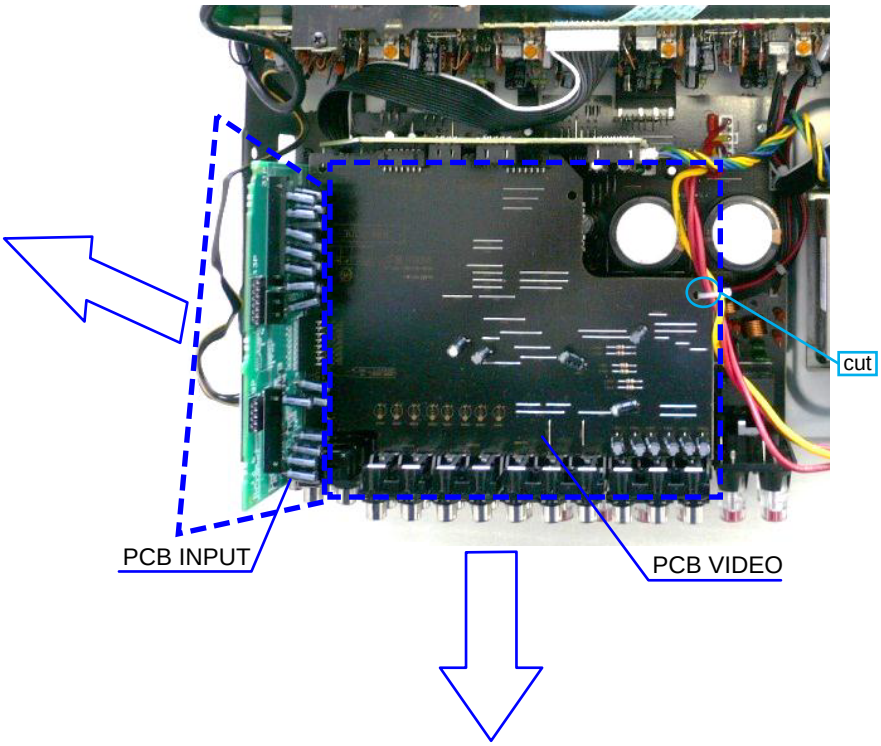


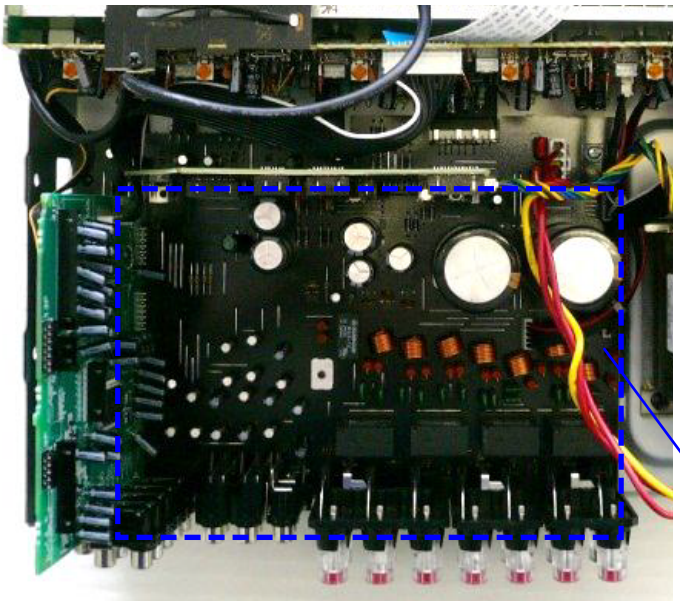


5. PCB VIDEO/PCB INPUT/PCB MAIN

Proceeding : TOP COVER → BACK CHASSIS → PCB HDMI → PCB VIDEO/PCB INPUT/PCB MAIN

(1) Disconnect the connector board.





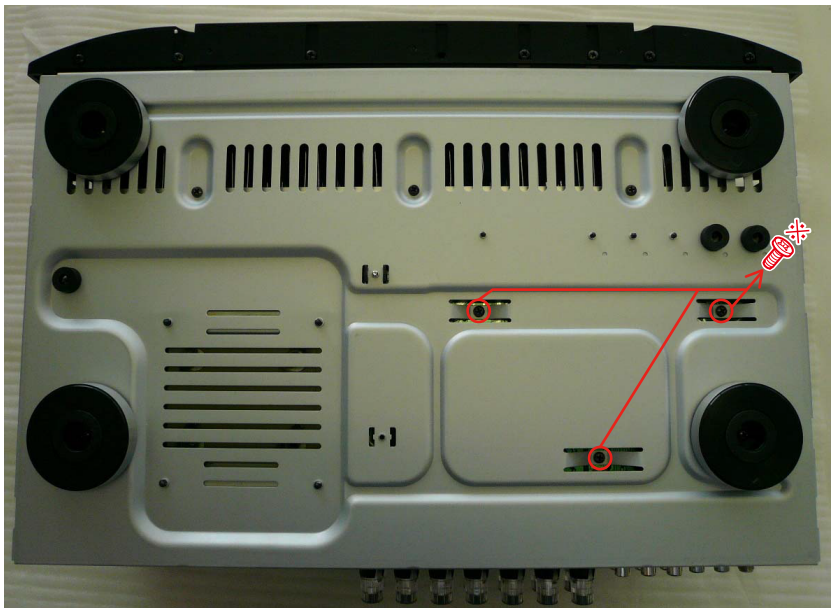
Please refer to "EXPLODED VIEW" for the disassembly method of each PCB.

6. PCB FRONT CNT/PCB SMPS

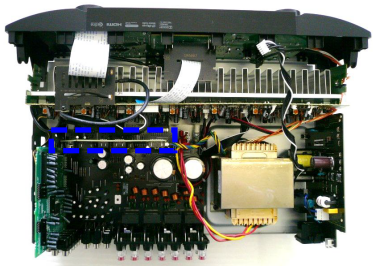
Proceeding : TOP COVER → BACK CHASSIS → PCB HDMI → PCB VIDEO → PCB FRONT CNT/PCB SMPS

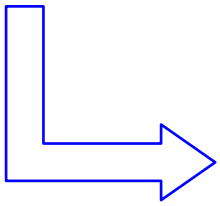
(1) Remove the screws.

View from the bottom



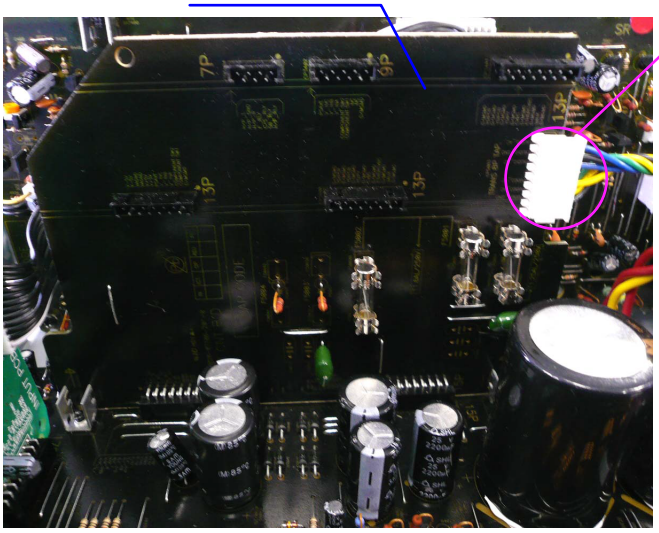
(2) Disconnect the connector wire.



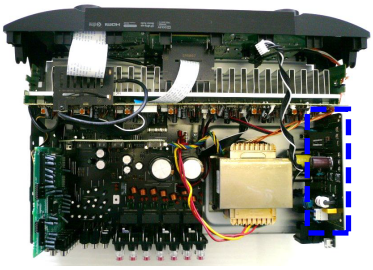


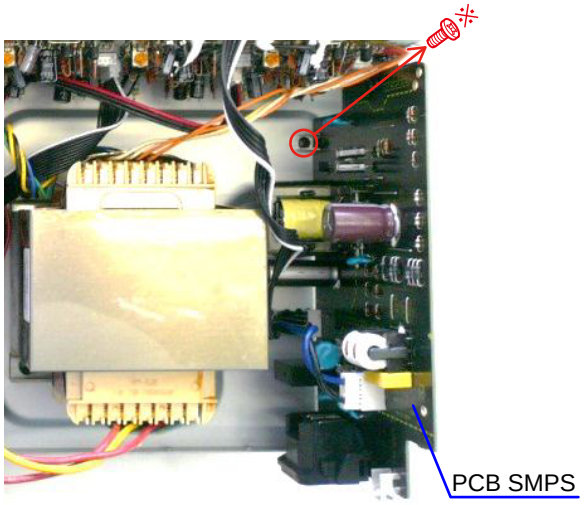
PCB FRONT CNT

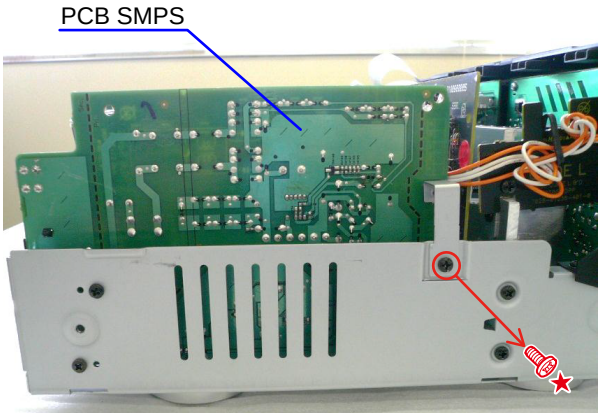
CP5003



(3) Remove the screws.







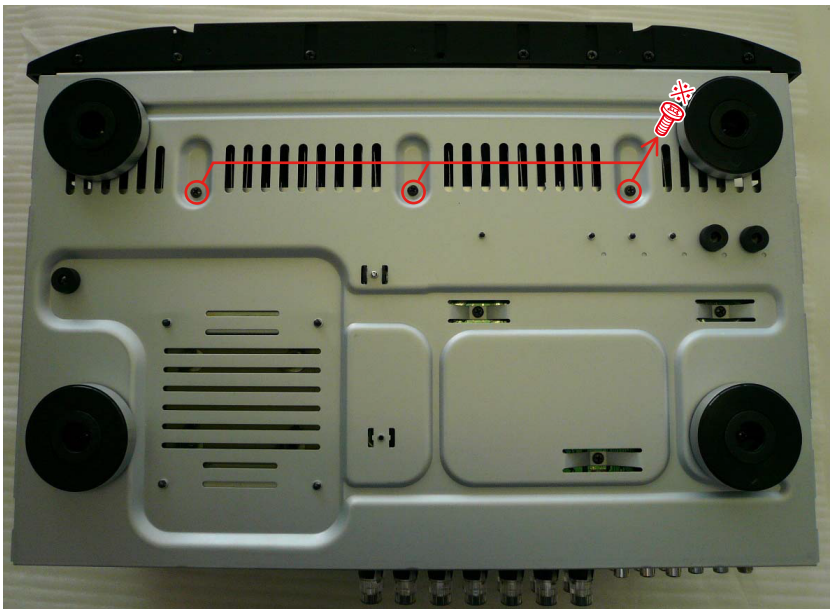
Please refer to "EXPLODED VIEW" for the disassembly method of each PCB.

7. RADIATOR ASSY

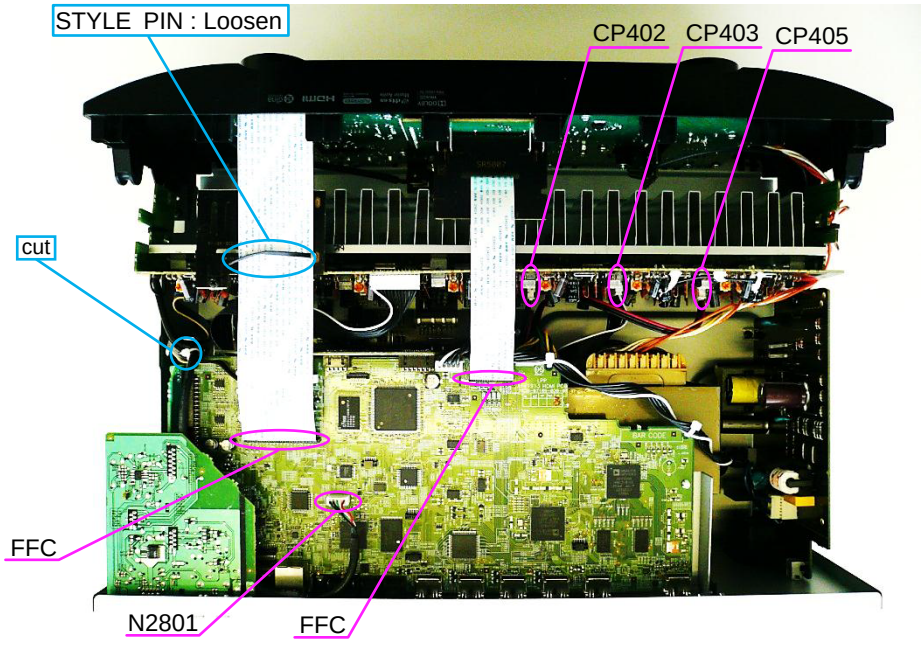
Proceeding : TOP COVER → RADIATOR ASSY

(1) Remove the screws.

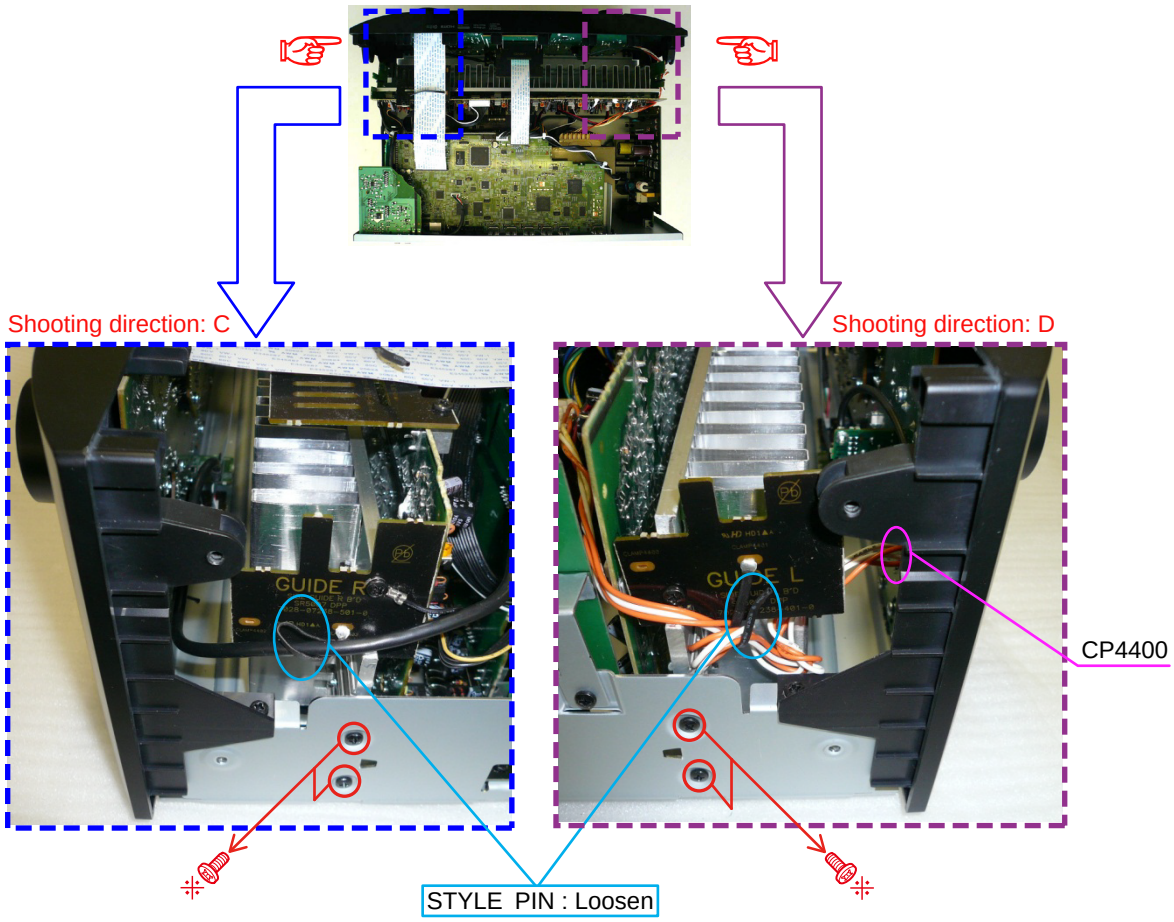
View from the bottom



(2) Cut the wire clamp band, then disconnect the connector wires and FFC.



(3) Remove the screws.



Please refer to "EXPLODED VIEW" for the disassembly method of each PCB included in RADIATOR ASSY.

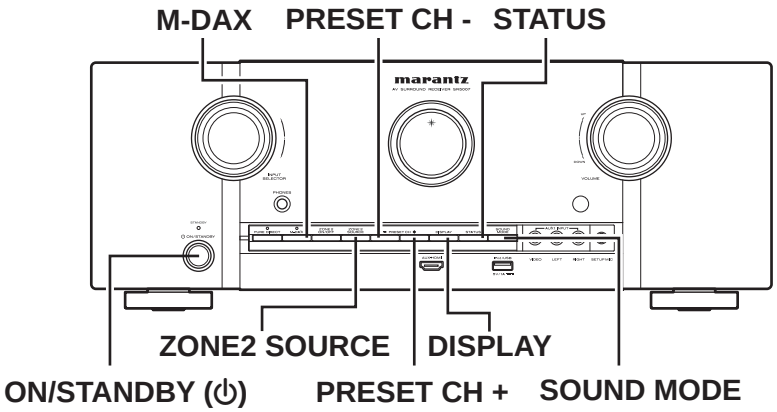
SPECIAL MODE

Special mode setting button

※ No.1 - 7 : Press the "ON/STANDBY (⏻)" button to turn on the power while pressing both the button A and the button B at the same time.

※ No.8 - 10 : Turn on the power, then press and hold down the button A and button B for over 3 seconds.

No.	Mode	Button A	Button B	Contents
1	Version display (µcom/DSP Error Display)	DISPLAY	STATUS	Firmware versions such as Main or DSP are displayed in the FL Display. Errors are displayed when they occur. (Refer to 23 page)
2	User Initialization mode (Installer Setup settings are not initialized.)	ZONE2 SOURCE	M-DAX	Backup data initialization is carried out. (Installer Setup settings are not initialized.)
3	Factory Initialization mode (Installer Setup settings are also initialized.)	PRESET CH +	PRESET CH –	Backup data initialization is carried out. (Installer Setup settings are also initialized.)
4	PANEL/REMOTE LOCK Selection mode	DISPLAY	M-DAX	Selects to reject operations through panel buttons and the master volume knob on the main unit and operations via the remote control.
5	Service Related Selection mode	ZONE2 SOURCE	STATUS	Selects the “Diagnostic mode” or “Displaying the protection history mode”.
6	Mode for switching tuner frequency step (U/N model only)	DISPLAY	PRESET CH –	Change tuner frequency step to FM:50kHz/200kHz
7	Installer Setup mode	SOUND MODE	STATUS	Access the Remote Maintenance mode via the internet. Installer Setup is displayed on GUI/Option Menu. ※ Refer to AVR_RemoteMaintenance_.pdf of SDI.
8	Memory Backup	PRESET CH +	PRESET CH –	Backup of DUAL BACKUP MEMORY is performed. (Refer to 35 page)
9	Memory Recovery	PRESET CH +	DISPLAY	Recovery of DUAL BACKUP MEMORY is performed. (Refer to 35 page)
10	Memory Backup Clear	SOUND MODE	PRESET CH –	Backup of DUAL BACKUP MEMORY is cleared. (Refer to 35 page)



1. µcom/DSP Version display mode

1.1. Operation specifications

µcom/DSP version display mode:
When the set is started up in this mode, the version information is displayed.

Starting up:

Press the "ON/STANDBY (⏻)" button to turn on the power while pressing the "DISPLAY" and "STATUS" buttons.
Now, press the "STATUS" button to the display the 2nd item information on the FL Display.
※ When the version is displayed on the FL Display, the version list is also displayed on the GUI.

1.2. Display Order

Error information(Refer to **1.3. Error display**) → ① Model destination information → ② Firmware Package Version → ③ Main µ-com / FBL(1st Boot Loader) Version → ④ DSP ROM Version → ⑤ Audio PLD Version → ⑥ GUI SFLASH Version → ⑦ Ethernet(DM860A) 1st Boot Loader, Hardware ID → ⑧ Ethernet(DM860A) 2nd Boot Loader, Rhapsody Flag → ⑨ Ethernet(DM860A) IMAGE → ⑩ Ethernet(DM860A)MAC ADDRESS information

① Model destination information :

SR5007 U model

FLD	S	R	5	0	0	7		U
		S	N	–	*	*	*	*
			*	*	*	*	*	*

SR5007 N model

FLD	S	R	5	0	0	7		N
		S	N	–	*	*	*	*
			*	*	*	*	*	*

SR5007 K model

FLD	S	R	5	0	0	7		K
		S	N	–	*	*	*	*
			*	*	*	*	*	*

② Firmware Package Version :

FLD	P	A	C	K	A	G	E	
					0	0	0	0

③ Main µ-com / FBL(1st Boot Loader) Version :

FLD	M	A	I	N				
	*	*	*	*	*	*	*	*
	B	L	–	*	*	.	*	*

④ DSP ROM Version :

FLD	D	S	P					
				*	*	.	*	*

⑤ Audio PLD Version :

FLD	A	.	P	L	D			
				*	*	.	*	*

⑥ GUI S-FLASH Version :

SR5007 U model

FLD	G	U	I					
	1	4	2	1	*	*	*	*

SR5007 N model

FLD	G	U	I					
	1	4	2	2	*	*	*	*

SR5007 K model

FLD	G	U	I					
	1	4	2	5	*	*	*	*

⑦ Ethernet(DM860A) 1st Boot Loader, Hardware ID :

FLD	N	E	T		F	B	L	
	*	*	*	*	*	*		
						–	A	A

⑧ Ethernet(DM860A) 2nd Boot Loader, Rhapsody Flag :

FLD	N	E	T		S	B	L	
	*	*	*	*	*	*	*	*
	*	*	*	*	*	–	0	A

⑨ Ethernet(DM860A) IMAGE :

FLD	N	E	T		I	M	G	
	*	*	*	*	*	*	*	*
	*	*	*	*	*			

⑩ Ethernet(DM860A) MAC ADDRESS information :

FLD	N	E	T		M	A	C	
			*	*	*	*	*	*
		–	*	*	*	*	*	*

1.3. Error display

See the following table for each "Error information" display and its explanation (status).
Display order is ①,②,③,④,⑤.

Condition	Status	FL Display	Trouble shooting
① Firm Check NG	Compared with the destination setting on the board. This is displayed when the model name or destination information written into the firmware does not match. (※)	FIRM ERROR	• Please check the destination-resistors (R773/R776, HDMI B'D). • Please write the firmware of correct destination.
② DIR NG	No response from DIR	DIR ERROR 01	• Please check DIR (IC21, HDMI B'D) and around circuits.
③ DSP NG	When DSP code boot is performed, the DSP FLAG0 port does not change to "H" even if DSP reset is executed.	DSP ERROR 01	• Please check DSP (U8, HDMI B'D) and around circuits.
	Before DSP command is issued, the DSP BUSY port does not change to "L".	DSP ERROR 02	
	When DSP data read is performed, executing WRITE="L" does not result in ACK="H".	DSP ERROR 03	
	When DSP data read is performed, executing REQ="L" does not result in ACK="L".	DSP ERROR 04	
	When DSP data writing is performed, executing WRITE="H" does not result in ACK="H".	DSP ERROR 05	
	When DSP data writing is performed, executing REQ="L" does not result in ACK="L".	DSP ERROR 06	
④ IP SCALER NG	An error occurred in testing writing data between IP SCALER and DRR.	IP SCALER ERR 01	• Please check IP SCALER (U1601, HDMI B'D) and around circuits.
	Testing writing data between IP SCALER and DRR resulted in no response.	IP SCALER ERR 02	
⑤ EEPROM NG	Error occurs in EEPROM checksum. (*** is a block address number.)	E2PROM ERROR ***	

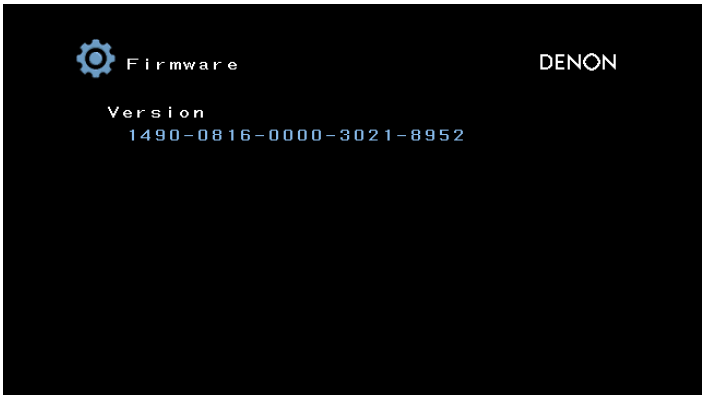
Status	FL Display
※ The written Firmware and product settings (model name, brand name, destination) are compared. If Firmware that is not designed for this product is written, ▲ is displayed in the upper right column, as shown on the right.	MAIN ▲ BL-**.** ** A.PLD ▲ **.** ** DSP ▲ **.** ** GUI ▲ ********

1.4. Version display on the Setup Menu

Use the following procedure to display the firmware version.

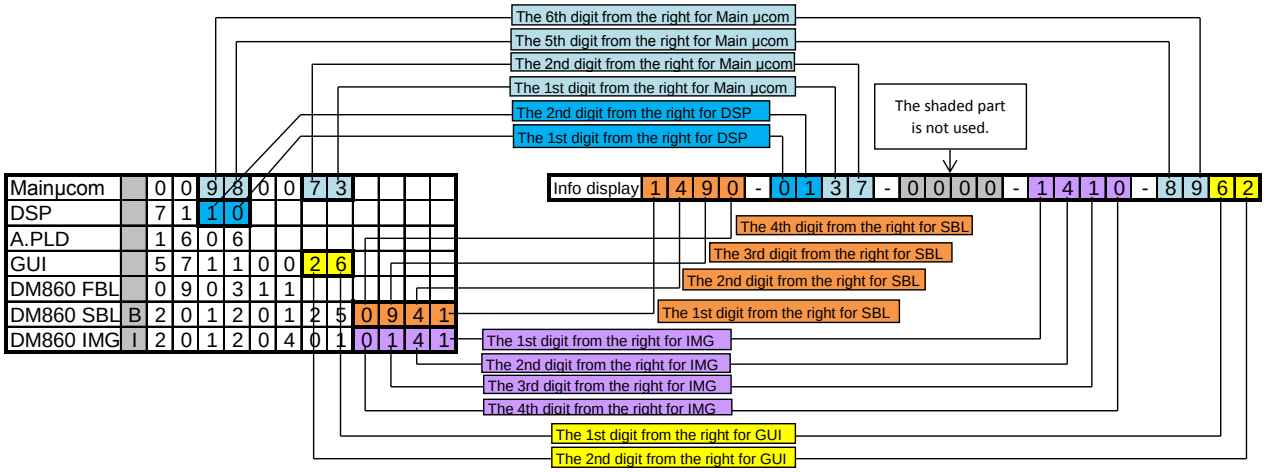
(1) Press the “SETUP” button on the remote control.
(2) Select “General-Information-Firmware”.

A version with 20 digits is displayed as shown in the following image.



GUI Image

The displayed 20 digits are derived from each device version as shown below.



※ This firmware version No. (xxxx-xxxx-xxxx-xxxx) is included in the service contact document.
These 20 digits are also included in the document.

2. PANEL/REMOTE LOCK Selection mode

2.1. Behavior specifications

In this mode, you can switch between the PANEL LOCK MODE and the Mode for preventing remote control acceptance.

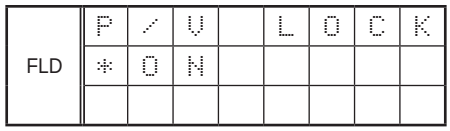
2.2. Starting up

Press the "ON/STANDBY (⏻)" button to turn on power while pressing the "DISPLAY" and "M-DAX" buttons.
Press the "PRESET CH +" button to select the mode and the "STATUS" button to confirm the selection.

2.3. Mode selection method and how each mode is displayed

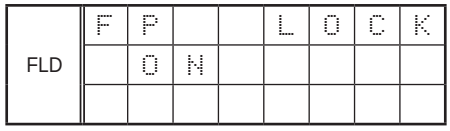
Each time you press the "PRESET CH +" button, the mode displayed on the FL DISPLAY changes.
While the desired mode name is displayed on the FL DISPLAY, press the "STATUS" button. The set is restarted and the selected mode takes effect.
The currently set item is marked with " ∗ ".

①



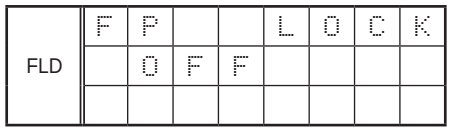
Operations using the main unit panel buttons and the master volume knob are rejected.

②



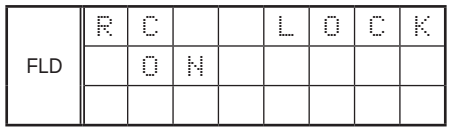
Operations using the main unit panel buttons are rejected.

③



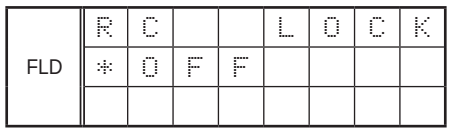
Panel lock mode is cancelled.

④



Operations using the remote control are rejected.

⑤



RC lock mode is cancelled.

3. Service Related Selection mode

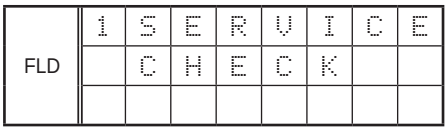
3.1. Behavior specifications

In this mode, you can switch between the Diagnostic mode (SERVICE CHECK), the Displaying the protection mode (PROTECTION) and the 232C clear mode (RS232C RESET).

3.2. Starting up

Press the "ON/STANDBY (⏻)" button to turn on power while pressing the "ZONE2 SOURCE" and "STATUS" buttons. Press the "PRESET CH +" button to select the mode and press the "STATUS" button to restart the set and make the setting take effect.

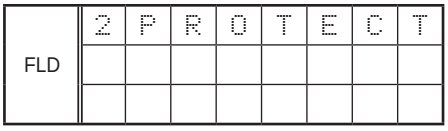
①



This mode is used for confirming the Video and Audio (signal) paths. (Diagnostic mode)

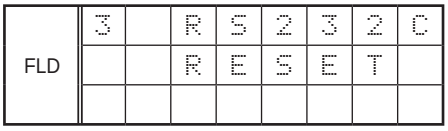
The signal paths of the set can be easily confirmed after repair.

②



The protection history can be checked.

③



The 232C standby mode is changed to the Normal standby mode.

3.3. Canceling diagnostic mode

Turn off the power by pressing the "ON/STANDBY (⏻)" button.

Personal notes:

3.4. DIAGNOSTIC MODE (Video/Audio (signal) path confirmation mode)

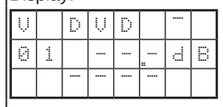
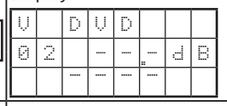
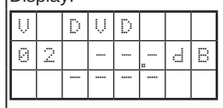
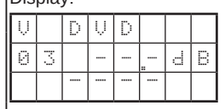
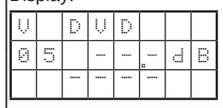
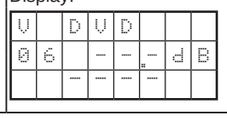
This mode is used for confirming the Video and Audio (signal) paths. (Troubleshooting)
Confirming the operation of unit can be easily done after repair.
Backup data will not be lost.

3.4.1. Operation

Use the remote control (RC014SR) that is supplied with the SRxx06 model. Press buttons on the remote control in the order indicated in the “Details of how to operate remote control” column in the following table to establish the confirmation path.
You will find using another remote control unit with the macro functions very useful. To use the macro functions, program a macro function to output a remote control code in accordance with the steps in the table below.

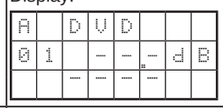
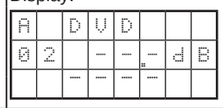
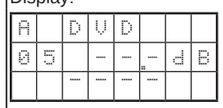
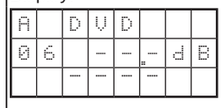
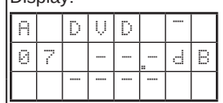
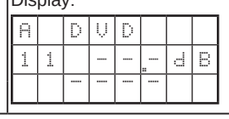
3.4.2. Video system confirmation items

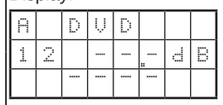
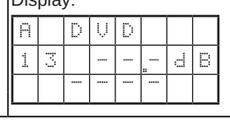
fig.XX : Refer to the block diagram of the fig.XXth.

	Confirmation item	Setting and display	Details of how to operate remote controller *a)	Output sequence of remote control codes ※ It is useful to form a macro program. *b)	Contents of confirmation	Remarks
1	Analog Video (signal) Path **fig.1**	Video Convert (IP Scaler) : OFF All ZONE : ON Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : CVBS / Output : CVBS ·Input : Component / Output : Component ·Input : USB (Picture) / Output : CVBS (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [1/AUTO]	②KEY1/AUTO (Main Zone) (Initialization & Video Convert All OFF)		
			6.Press [Z2] 7.Press [POWER ON]	③ZONE2 POWER ON		
			8.Press [AMP] 9.Press [DVD] twice	④DVD (Main Zone)		
2	Analog or HDMI to HDMI (signal) Path **fig.2**	Video Convert (IP Scaler) : ON IP Scaler : Analog&HDMI Resolution : Auto Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : CVBS / Output : HDMI ·Input : Component / Output : HDMI ·Input : HDMI / Output : HDMI ·Input : USB (Picture) / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	Confirm the input pass one by one. Because it becomes only the input of the highest input becomes Convert/IP Scaler (signal) Path if it inputs it at the same time.
			4.Press [AMP] 5.Press [2/STEREO]	②KEY2/STEREO (Main Zone) (Initialization & Video Convert All OFF & IP Scaler "Analog & HDMI")		
			6.Press [DVD] twice	③DVD (Main Zone)		
3	GUI FUNCTION **fig.3**	Video Convert (IP Scaler) : ON IP Scaler : Analog&HDMI Resolution : Auto Menu : ON All ZONE :ON Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·GUI Display / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [2/STEREO]	②KEY2/STEREO (Main Zone) (Initialization & Video Convert All OFF & IP Scaler "Analog & HDMI")		
			6.Press [Z2] 7.Press [POWER ON]	③ZONE2 POWER ON		
			8.Press [AMP] 9.Press [DVD] twice	④DVD (Main Zone)		
			10.Press [AMP MENU]	⑤GUI MENU (Main Zone)		
4	CEC FUNCTION (Control Monitor : HDMI Monitor1) **fig.4**	HDMI Control : ON Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·When the power supply of a TV is put in the standby mode, make sure that the power supply of this unit is also put in the standby mode. (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [3/M-DAX]	②KEY3/M-DAX (Main Zone) (Initialization & CEC Control ON & Select Control Monitor 1)		
			6.Press [DVD] twice	③DVD (Main Zone)		
5	HDMI Audio (signal) Path (Audio : AMP) **fig.5**	Audio : AMP(When checking the audio output from AMP) Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : HDMI (Signal of PCM, DolbyDigital or DTS) / Output : Speakers ·Input : HDMI (Signal of HD Audio) / Output : Speakers (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [5/HT-EQ]	②KEY5/HT-EQ (Main Zone) (Initialization & Select Audio AMP)		
			6.Press [DVD] twice	③DVD (Main Zone)		
6	HDMI Audio (signal) Path (Audio : TV) **fig.6**	Audio : TV(When checking the audio output from TV) Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : HDMI (Signal of PCM, DolbyDigital or DTS) / Output : TV (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [6/V.SEL]	②KEY6/V.SEL (Main Zone) (Initialization & Select Audio TV)		
			6.Press [DVD] twice	③DVD (Main Zone)		

3.4.3. Audio system confirmation items

fig.XX : Refer to the block diagram of the fig.XXth.

	Confirmation item	Setting and display	Details of how to operate remote controller	Output sequence of remote control codes ※ It is useful to form a macro program.	Contents of confirmation	Remarks
1	Analog (signal) Path **fig.7**	Input Mode : Fixed ANALOG SURROUND mode : DIRECT Amp assign : NORMAL Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (Front L/R) ·Input : Analog / Output : Pre OUT(Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [7/T.TONE]	②KEY7/T.TONE (Main Zone) (Initialization & Amp assign NORMAL& Input Mode Fixed ANALOG & SURROUND mode DIRECT)		
			6.Press [DVD] twice	③DVD (Main Zone)		
2	DIGITAL (signal) Path (MAIN) **fig.8**	Input Mode : Fixed DIGITAL Amp assign : NORMAL Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Digital / Output : Speakers (Front L/R) ·Input : Digital / Output : Pre OUT(Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [8/CH LVL]	②KEY8/CH LVL (Main Zone) (Initialization & Amp assign NORMAL& Input Mode Fixed DIGITAL)		
			6.Press [DVD] twice	③DVD (Main Zone)		
3	HDMI (signal) Path **fig.10**	Input Mode : Fixed HDMI Amp assign : NORMAL Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : HDMI / Output : Speakers (Front L/R) ·Input : HDMI / Output : Pre OUT(Front L/R), SW(20Hz) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [SURROUND]	②SURROUND (Initialization & Amp assign NORMAL & Input Mode Fixed HDMI)		
			6.Press [DVD] twice	③DVD (Main Zone)		
4	A/D (signal) Path (Main Zone) **fig.11**	Amp assign : NORMAL SURROUND mode : Multi ch STEREO Vol -20dB Speaker Config : SSSSY (Front/Center/Surround/SourroundBack : Small, SW : Yes) Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (Front L/R) ·Input : Analog / Output : Pre OUT(Front L/R), SW(20Hz) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [PURE DIRECT]	②PURE DIRECT (Initialization & Amp assign ZONE2 & SURROUND mode : Multi ch STEREO & ZONE2 Volume -20dB)		
			6.Press [DVD] twice	③DVD (Main Zone)		
5	Analog Audio (signal) Path (ZONE2) **fig.12**	Amp assign : ZONE2 ZONE2 Function : Source Zone2 Vol -20dB Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT(ZONE2 L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [P2]	②P2 (Initialization & Amp assign ZONE2 & SURROUND mode : Multi ch STEREO & ZONE2 Volume -20dB)		
			6.Press [Z2] 7.Press [POWER ON]	③ZONE2 POWER ON		
			8.Press [AMP] 9.Press [DVD] twice	④DVD (Main Zone)		
6	Amp Assign (signal) Path (Amp Assign : SPKR-C) **fig.13**	Amp assign : BiAMP SURROUND mode : Multi ch STEREO Vol -20dB Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [DISP]	②DISPLAY (Initialization & Amp assign SPKR-C & SURROUND mode : Multi ch STEREO & Volume -20dB)		
			6.Press [DVD] twice	③DVD (Main Zone)		

	Confirmation item	Setting and display	Details of how to operate remote controller	Output sequence of remote control codes ※ It is useful to form a macro program.	Contents of confirmation	Remarks
7	Amp Assign (signal) Path (Amp Assign : Front) **fig.14**	Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [SHIFT/TOP MENU]	②SHIFT/TOP MENU (Initialization & Amp assign Front B & SURROUND mode : Multi ch STEREO & Volume -20dB)		
			6.Press [DVD] twice	③DVD (Main Zone)		
8	Amp Assign (signal) Path (Amp Assign : Front Height) **fig.15**	Amp assign : Front Height SURROUND mode : Multi ch STEREO Vol -20dB Surround Parameter-Speaker : F.Height Display: 	1.Press [AMP] 2.Press [Z2] 3.Press [STANDBY]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [AMP] 5.Press [+10/SLEEP]	②+10/SLEEP (Main Zone) (Initialization & Amp assign Front Height & SURROUND mode : Multi ch STEREO & Volume -20dB)		
			6.Press [DVD] twice	③DVD (Main Zone)		

Personal notes:

Personal notes:

3.5. Errors checking mode (Displaying the protection history)

3.5.1. Operation specifications

Error mode (Displaying the protection history):

When the set is started up in this mode, the error information is displayed.

3.5.2. About the display on the FL display

When the "STATUS" button is pressed after the error (protection history display) mode is set, a history like the one shown below is displayed, depending on the conditions.

(1) Normal (when there has been no protection incident)

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	N	O					

(2) For ASO (when the last protection incident was ASO protection)

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	A	S	O				

Cause: The line between speaker terminals is shorted, or speakers with impedance of less than the rated value.
Supplementary information: As the excess current is detected after operation of the speaker relay, a short on the speaker terminal and the connected speaker can be identified.

If the power is turned on without correcting the abnormality, the protection function will work about 5 seconds later and the power supply will be shut off.

(3) For DC (when the last protection incident was DC protection)

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	D	C					

Cause: DC output of the power amplifier is abnormal.

If the power is turned on without correcting the abnormality, the protection function will work about 5 seconds later and the power supply will be shut off.

(4) For THERMAL (when the last protection incident was THERMAL(A) or THERMAL(B) protection)

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	T	H	M		A		

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	T	H	M		B		

Cause: The temperature of the heat sink is excessive.

If the power is turned on without correcting the abnormality, the protection function will work about 5 seconds later and the power supply will be shut off.

※ Additional causes of protection can be due to loose connections, associated components, Microprocessor, etc.

When the "STATUS" button is pressed again after the protection history as shown above is displayed, the normal display reappears.

3.5.3. Clearing the protection history

There are two ways to clear the protection history, as described below.

(1) Start up the set in error (protection display) mode and display the error, then press and hold down the "DISPLAY" button for 3 seconds.

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	D	C					

Press and hold down "DISPLAY" button for 3 seconds.

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
		C	L	E	A	R		

The above is displayed and the protection history is cleared.

FLD	P	R	O	T	E	C	T	
		H	I	S	T	O	R	Y
	:	N	O					

(2) Initialize. (Refer to "Initializing AV Surround Receiver" 10 page.)

※ If you want to save a backup, perform the method in 2.3.(1).

Warning indication by the POWER LED

If the power is turned off when a protection incident has been detected, the POWER LED (red) flashes as a warning according to the conditions in which the protection incident occurred.

(1) ASO/DC PROTECTION : Flashes at intervals of 0.5 seconds (0.25 seconds lit, 0.25 seconds off)
(2) THERMAL (A/B) PROTECTION : Flashes at intervals of 2 seconds (1 second lit, 1 second off)

3.6. 232C standby clear mode

3.6.1. Operation specifications

232C standby clear mode:
This switches the 232C standby mode to the Normal standby mode.
Starting up:
Press the "STATUS" button while the following is displayed to switch to the Normal standby mode.

FLD	3		R	S	2	3	2	C
			R	E	S	E	T	

4. DUAL BACKUP MEMORY

This product has a Dual Backup Memory function. The conventional Backup functions to memorize, in the EEPROM (U3003) in the circuit, a current setting of the moment the main power is turned off so that it can be restored when it is turned ON again. Meanwhile, the DUAL BACKUP MEMORY is capable of memorizing any arbitrary setting that is configured while the product is in operation so as to restore it at any time. When servicing units returned from end-users for repairs, use this function to back up the current setting (e.g. Tuner Preset). This will enable the units to be returned to the users after repairs, with the setting unchanged.

NOTE: If end-users use this function, the data will be overwritten.
The contents of the memory do not disappear even if you initialize this unit.
If you want to erase, please refer to **3.2. SERVICE PRECAUTIONS**.

4.1. HOW TO OPERATE

-Backup-

(1) Configure a setting you would like to save in the MEMORY and hold down the "PRESET CH +" and "PRESET CH –" buttons on the Front Panel at the same time for 3 seconds or more.
(2) The FL Display indicates "MEMORY SAVING" while the Recovery is being performed.

FLD								
		M	E	M	O	R	Y	
		S	A	V	I	N	G	

(3) The FL Display indicates "COMPLETE" when the Backup is completed.

FLD								
	C	O	M	P	L	E	T	E

-Recovery-

(1) Hold down the "PRESET CH +" and "DISPLAY" buttons at the same time for 3 seconds or more.
(2) The FL Display indicates "MEMORY LOAD" while the Backup is being performed.

FLD								
		M	E	M	O	R	Y	
		L	O	A	D			

(3) After the FL Display indicates "COMPLETE", the product goes into Standby mode. When the power is restored, the Recovery is completed.

FLD								
	C	O	M	P	L	E	T	E

The FL Display indicates "NO BACKUP" if the DUAL BACKUP MEMORY has not been activated with no data to be recovered saved in the Memory.

FLD								
		N	O					
		B	A	C	K	U	P	

4.2. SERVICE PRECAUTIONS

When the Flash Rom (U3003) on the HDMI PWB is replaced make sure, in order to maintain consistency with the Backup Memory, to clear the DUAL BACKUP MEMORY in thefollowing way :

-How to clear the Backup Memory-

(1) Hold down the "SOUND MODE" and "PRESET CH –" buttons at the same time for 3 seconds or more.
(2) The FL Display indicates "BACKUP CLEAR" while the memory is being cleared.

FLD								
		B	A	C	K	U	P	
		C	L	E	A	R		

(3) After the FL Display indicates "COMPLETE", the operation is completed.

FLD								
	C	O	M	P	L	E	T	E

Personal notes:

BLOCK DIAGRAM

fig.1

VIDEO BLOCK DIAGRAM

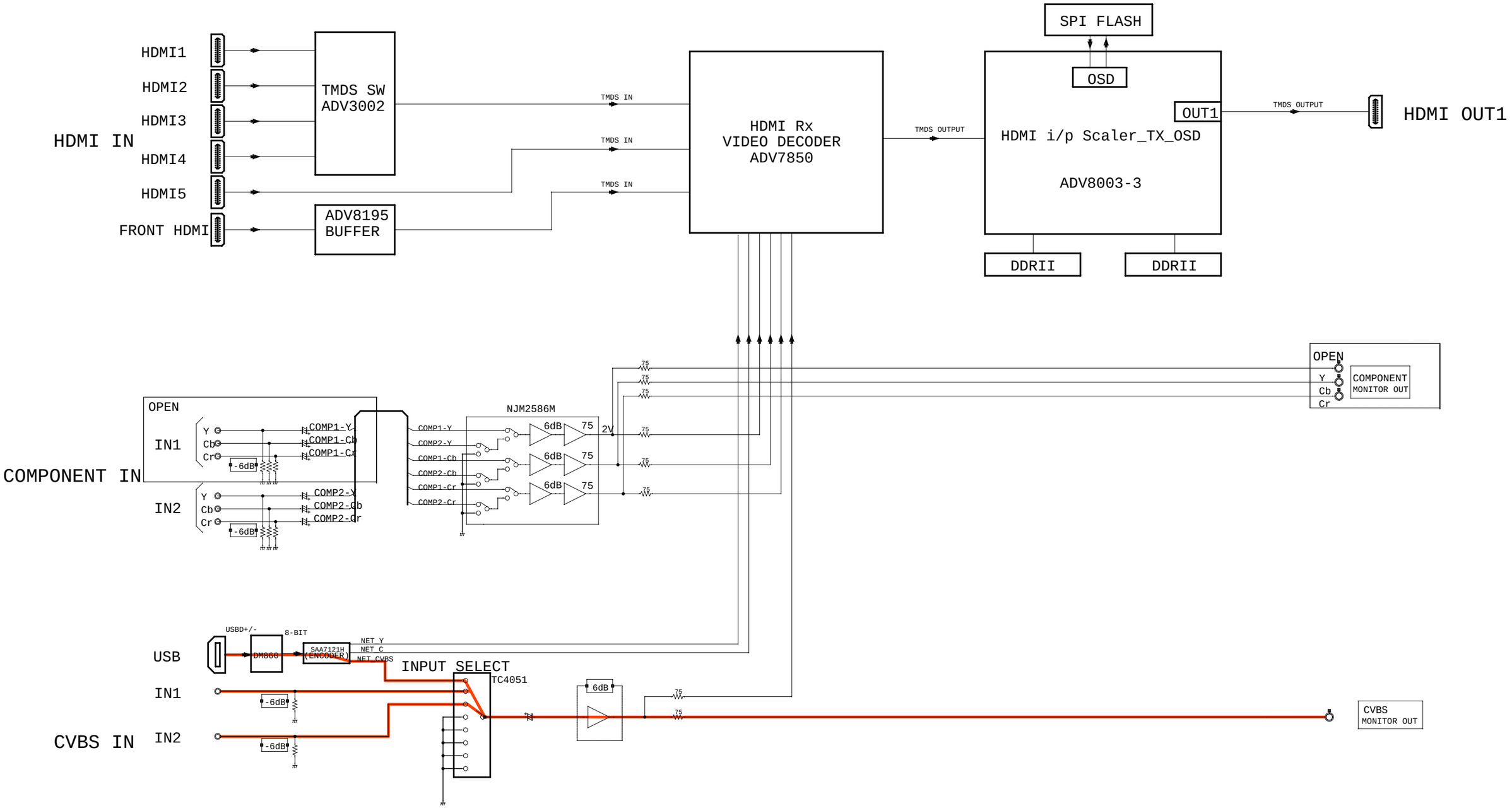


fig.2

VIDEO BLOCK DIAGRAM

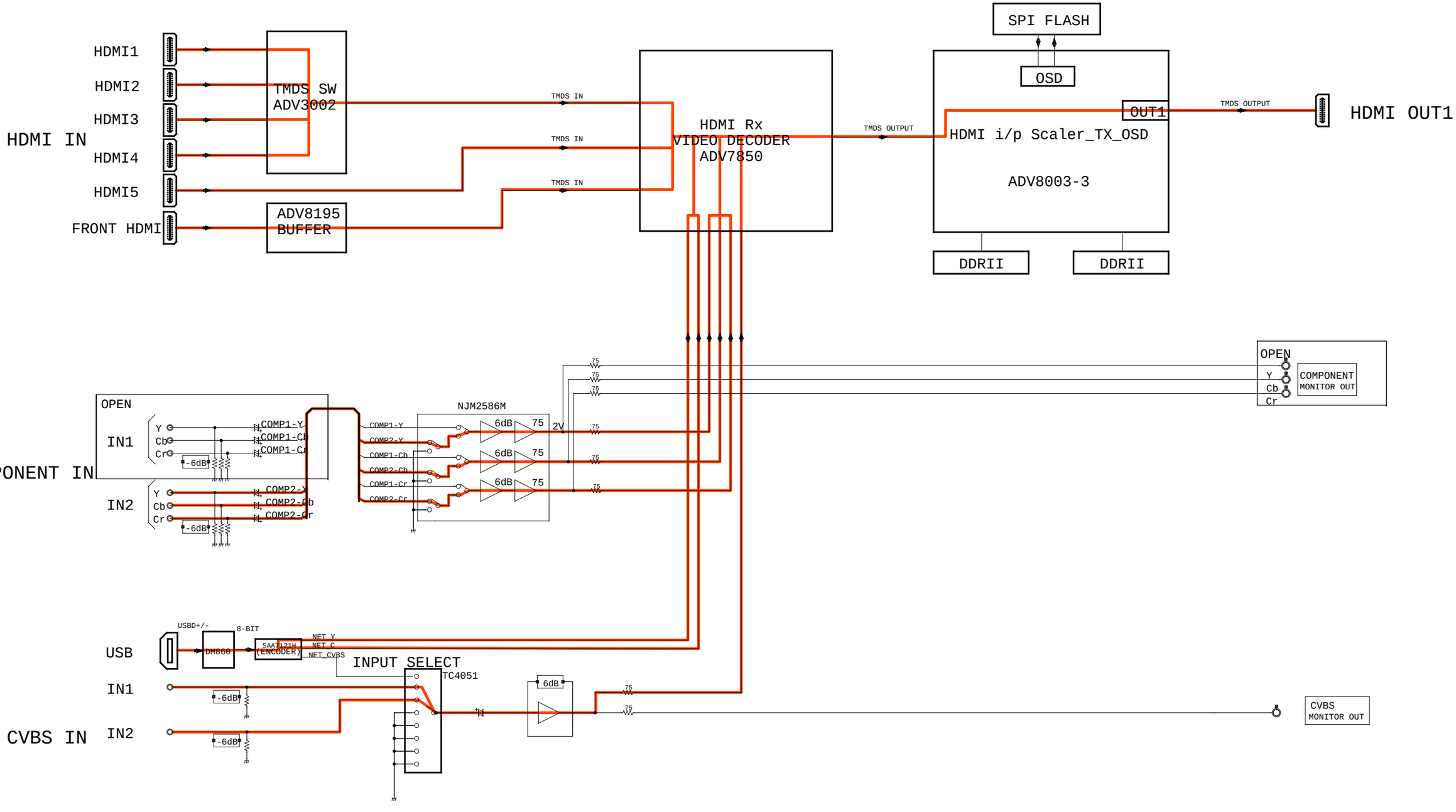


fig.3

VIDEO BLOCK DIAGRAM

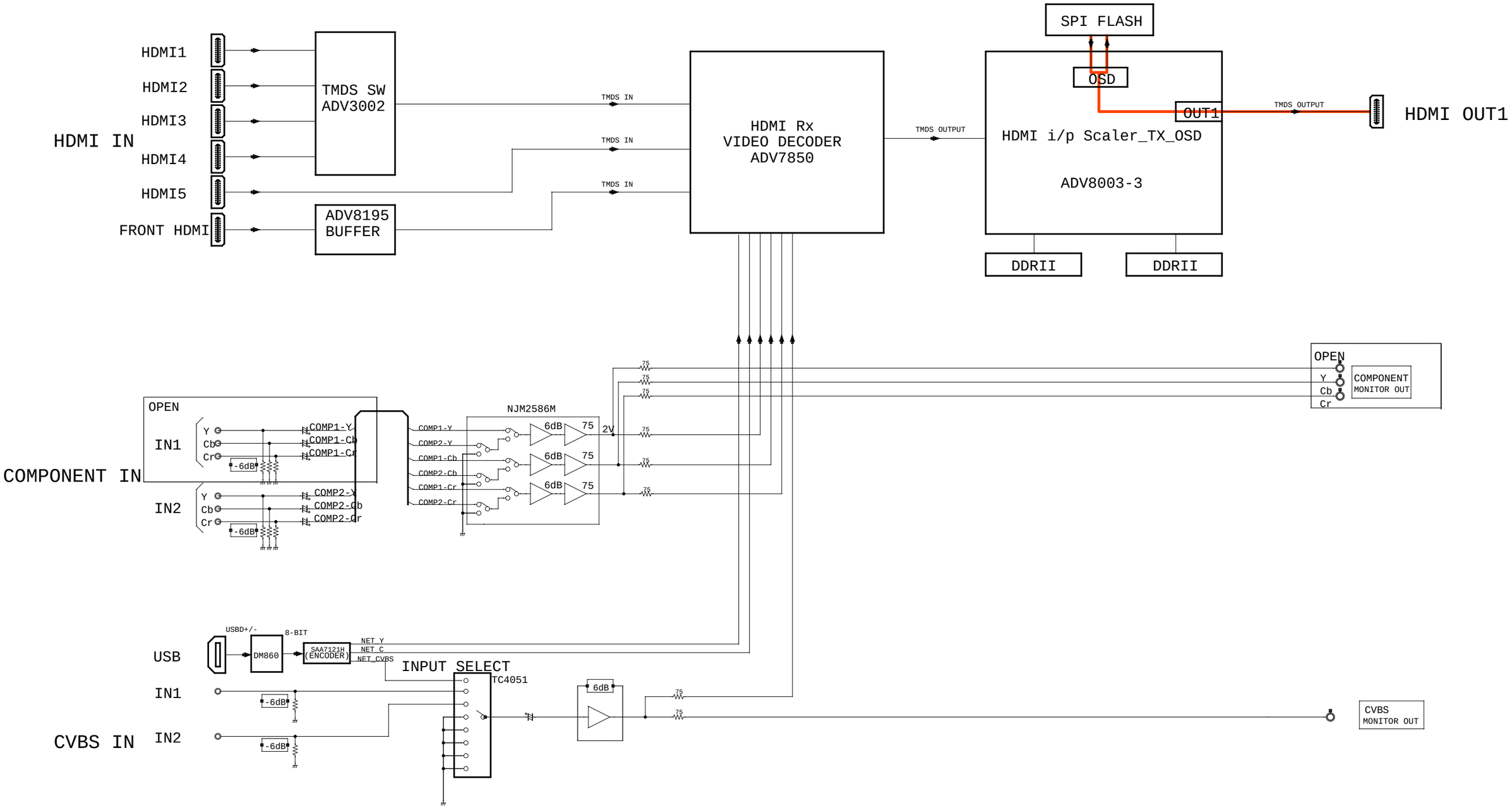


fig.4

VIDEO BLOCK DIAGRAM

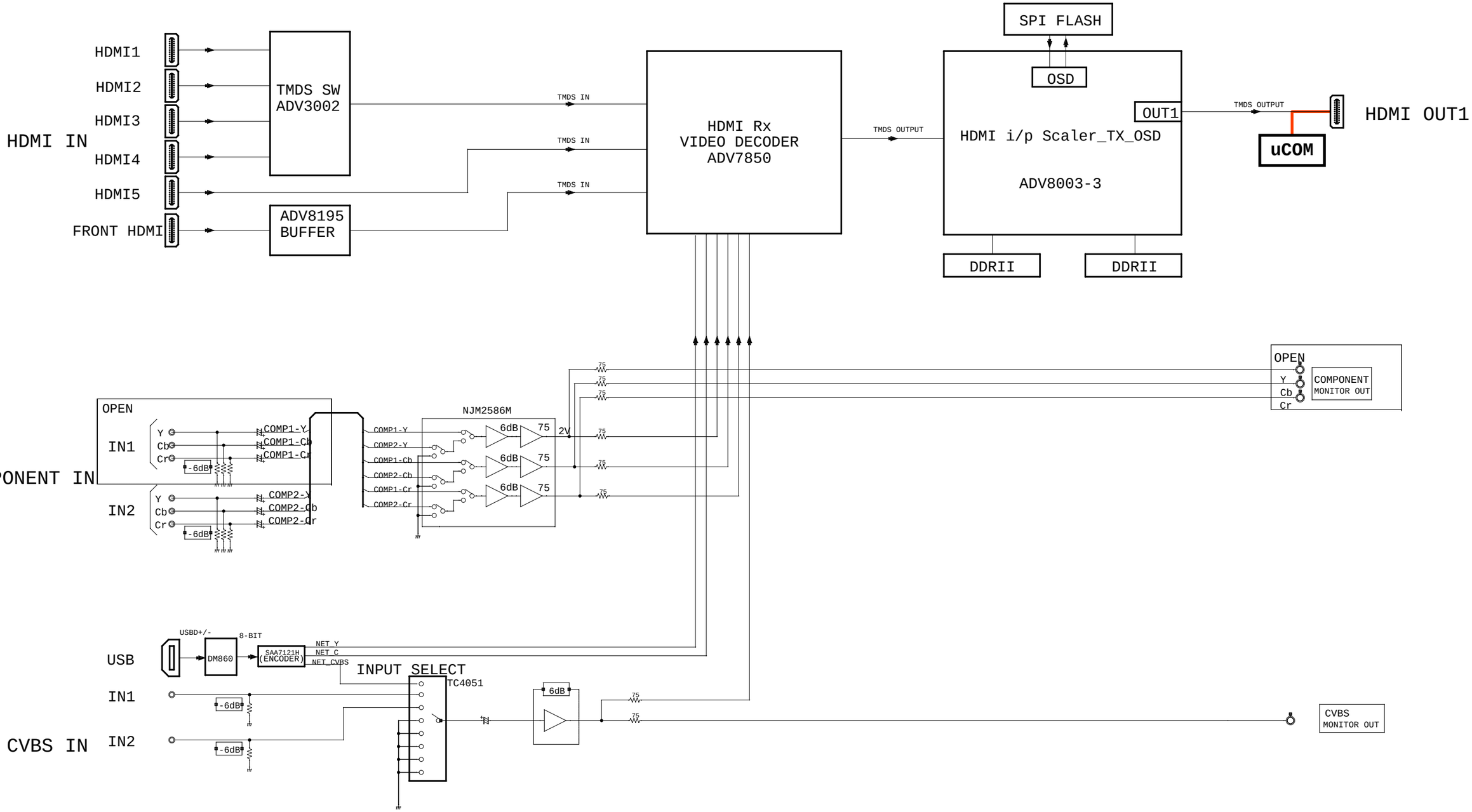


fig.5

AUDIO BLOCK DIAGRAM

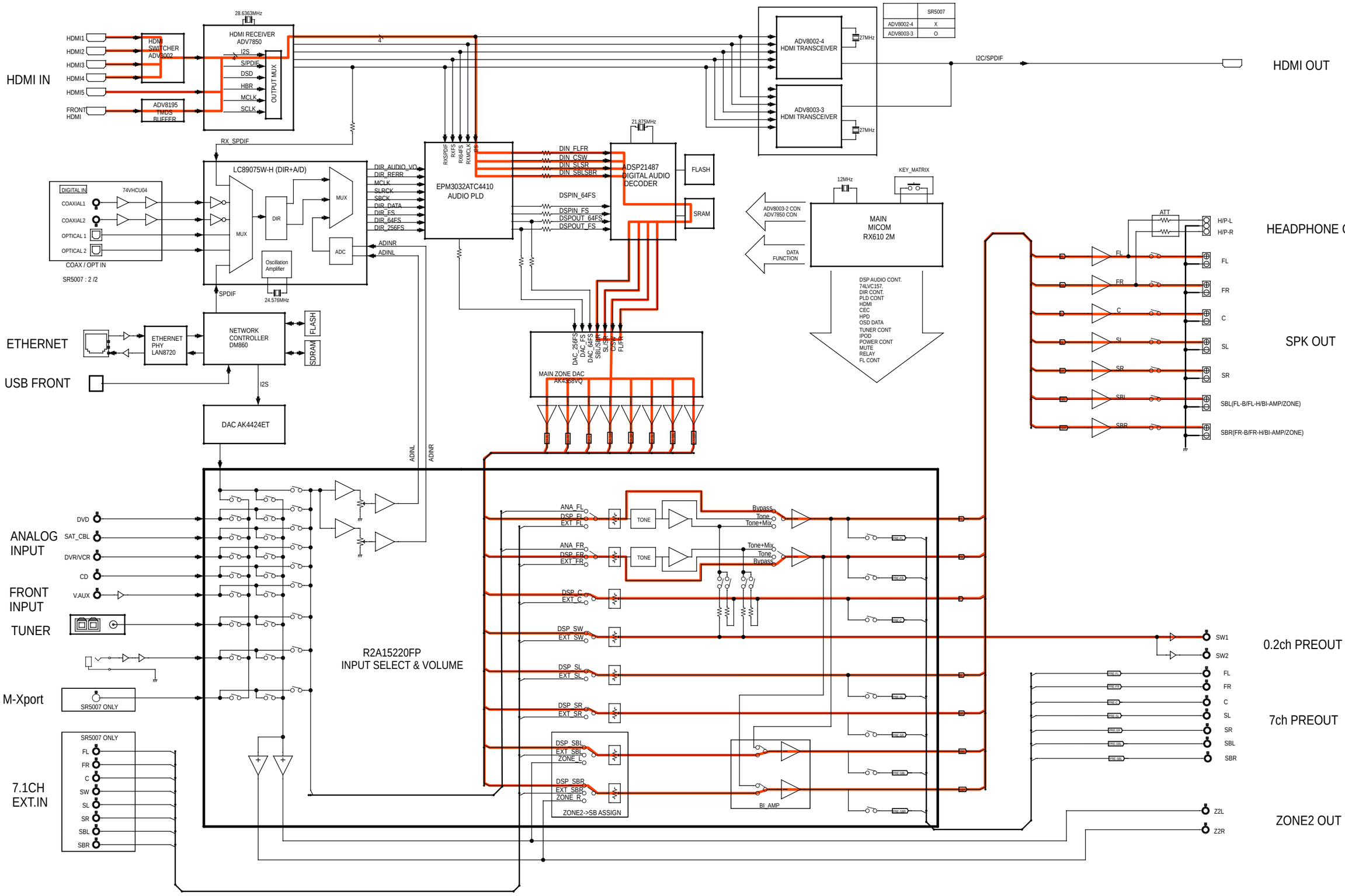


fig.6

AUDIO BLOCK DIAGRAM

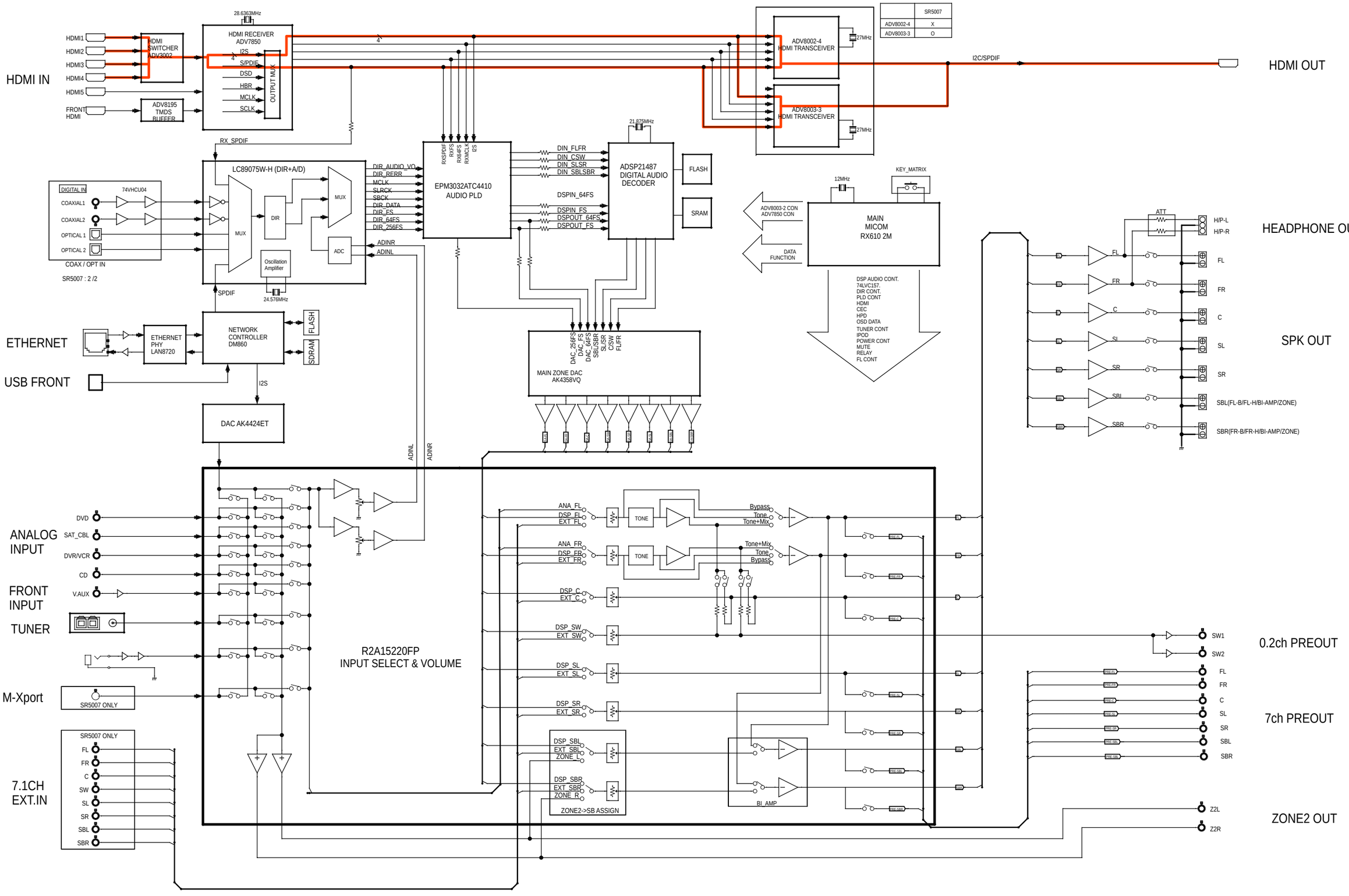


fig.7

AUDIO BLOCK DIAGRAM

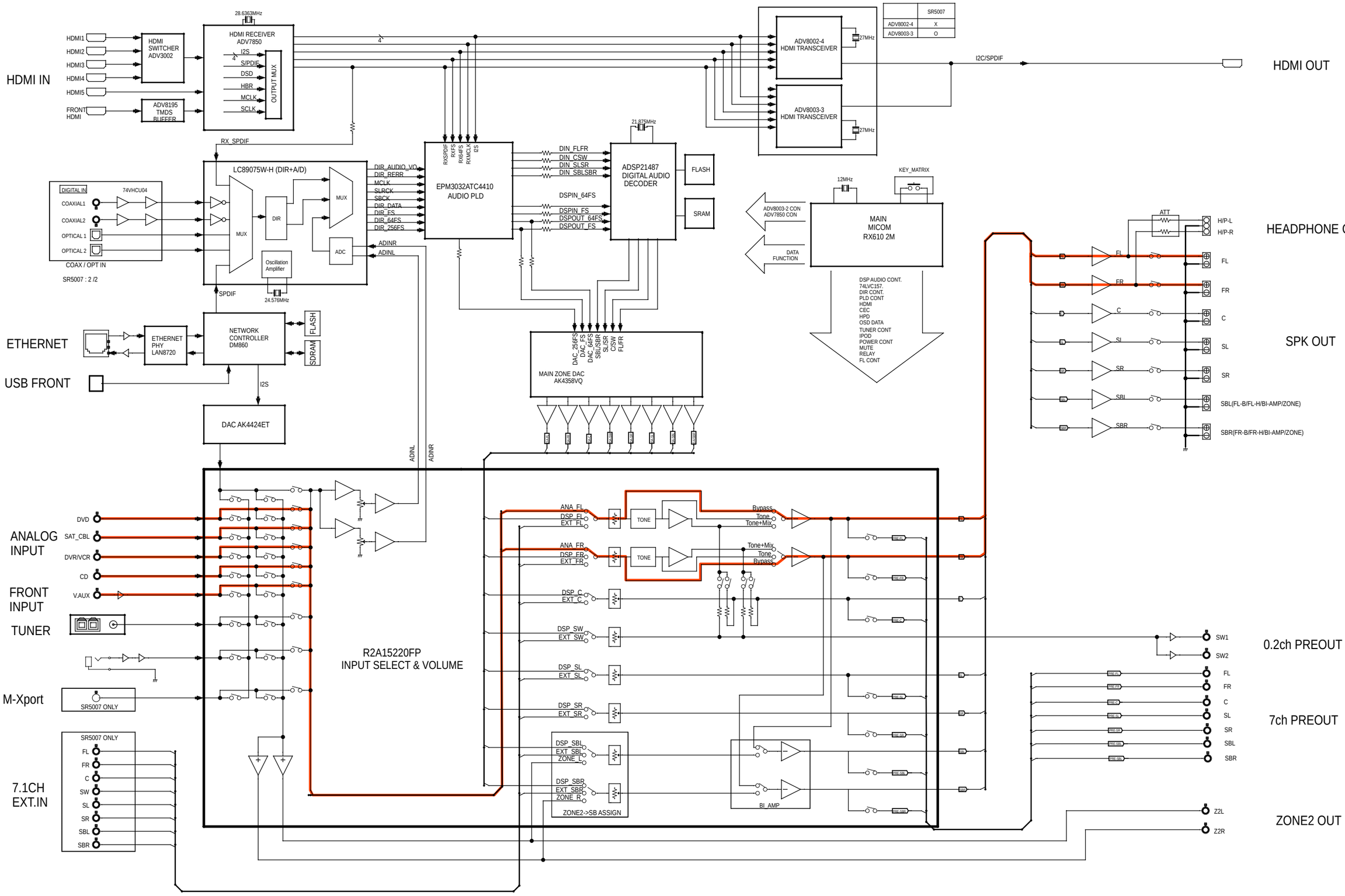


fig.8

AUDIO BLOCK DIAGRAM

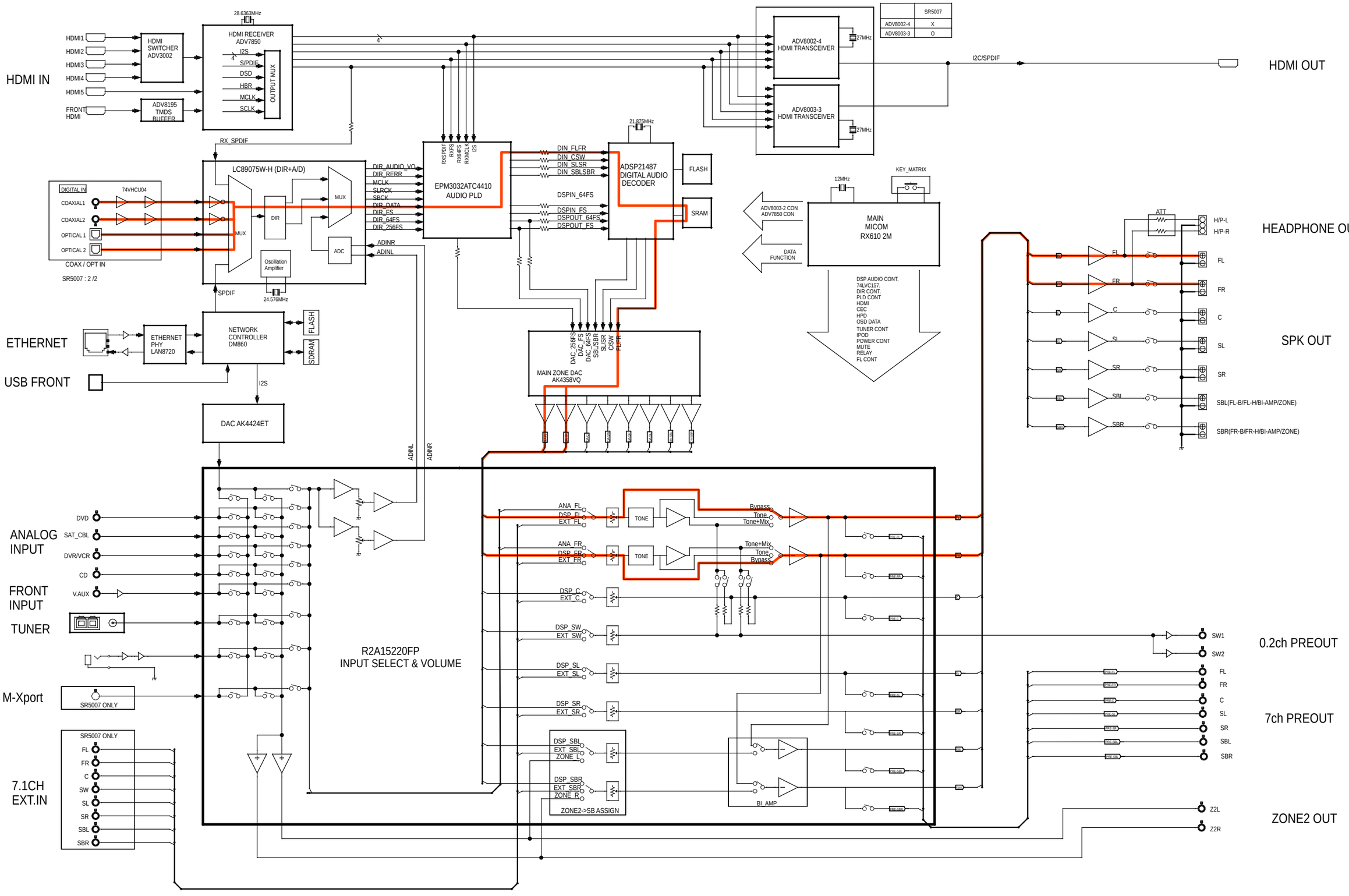


fig.9

AUDIO BLOCK DIAGRAM

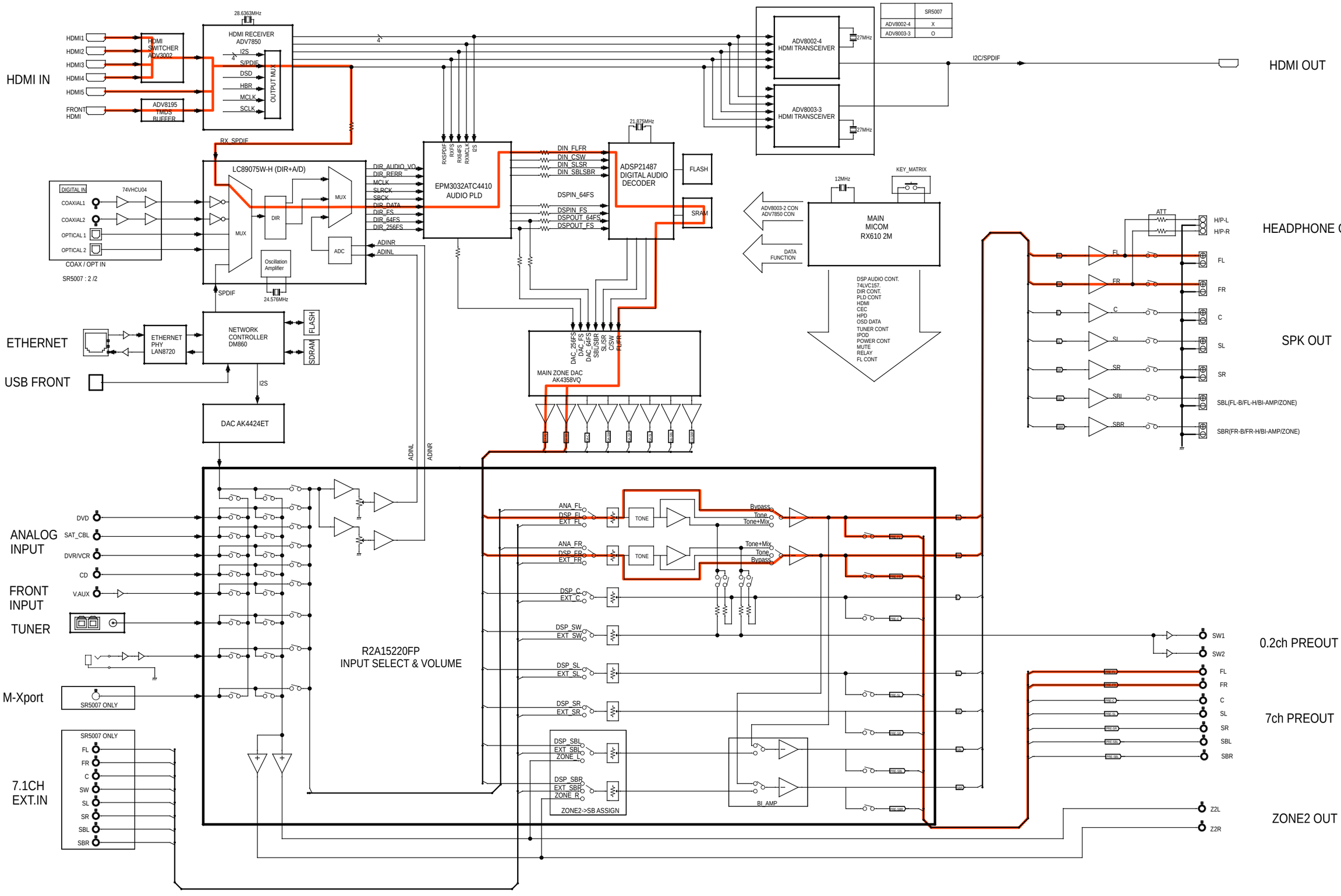


fig.10

AUDIO BLOCK DIAGRAM

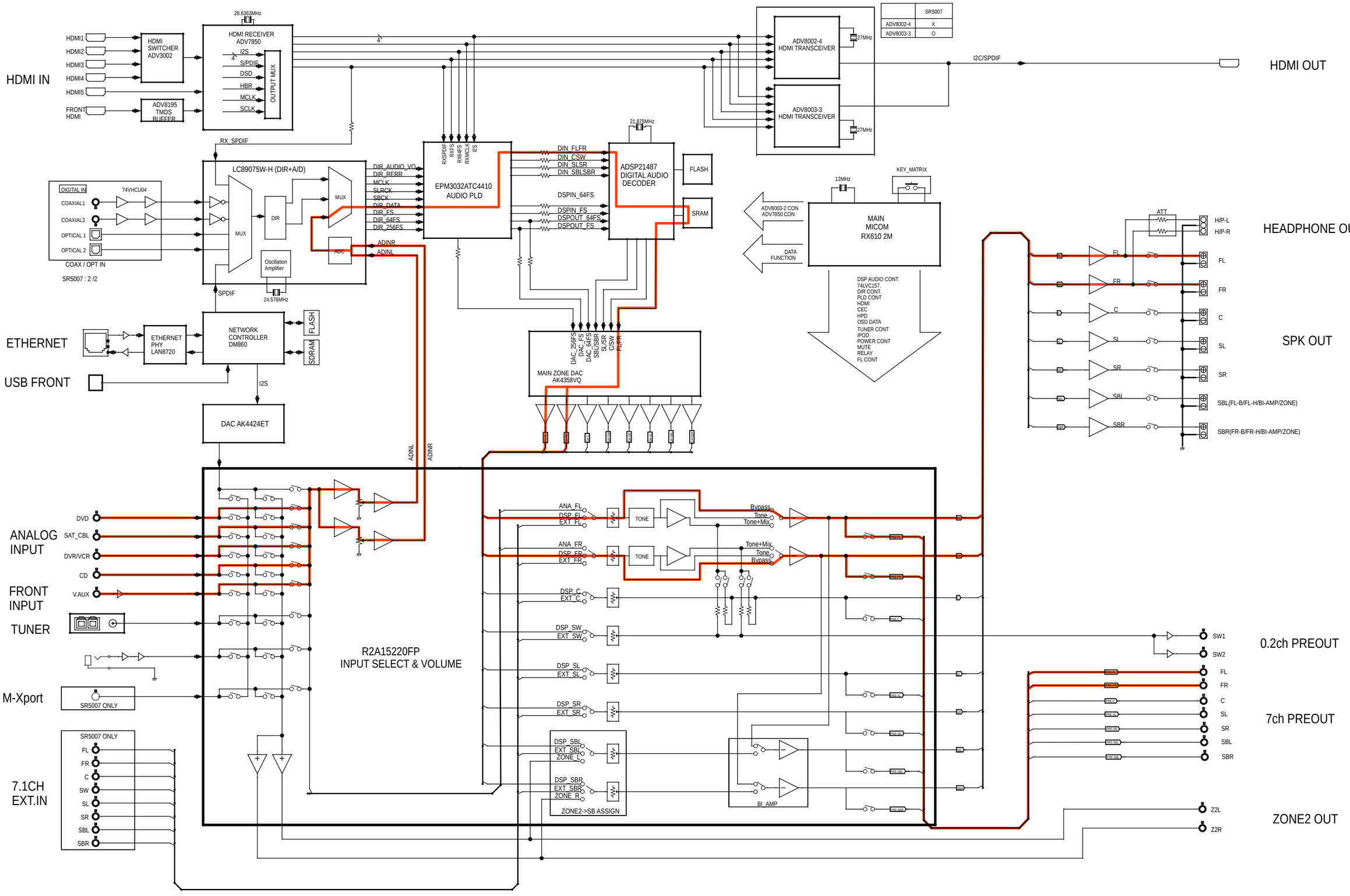


fig.11

AUDIO BLOCK DIAGRAM

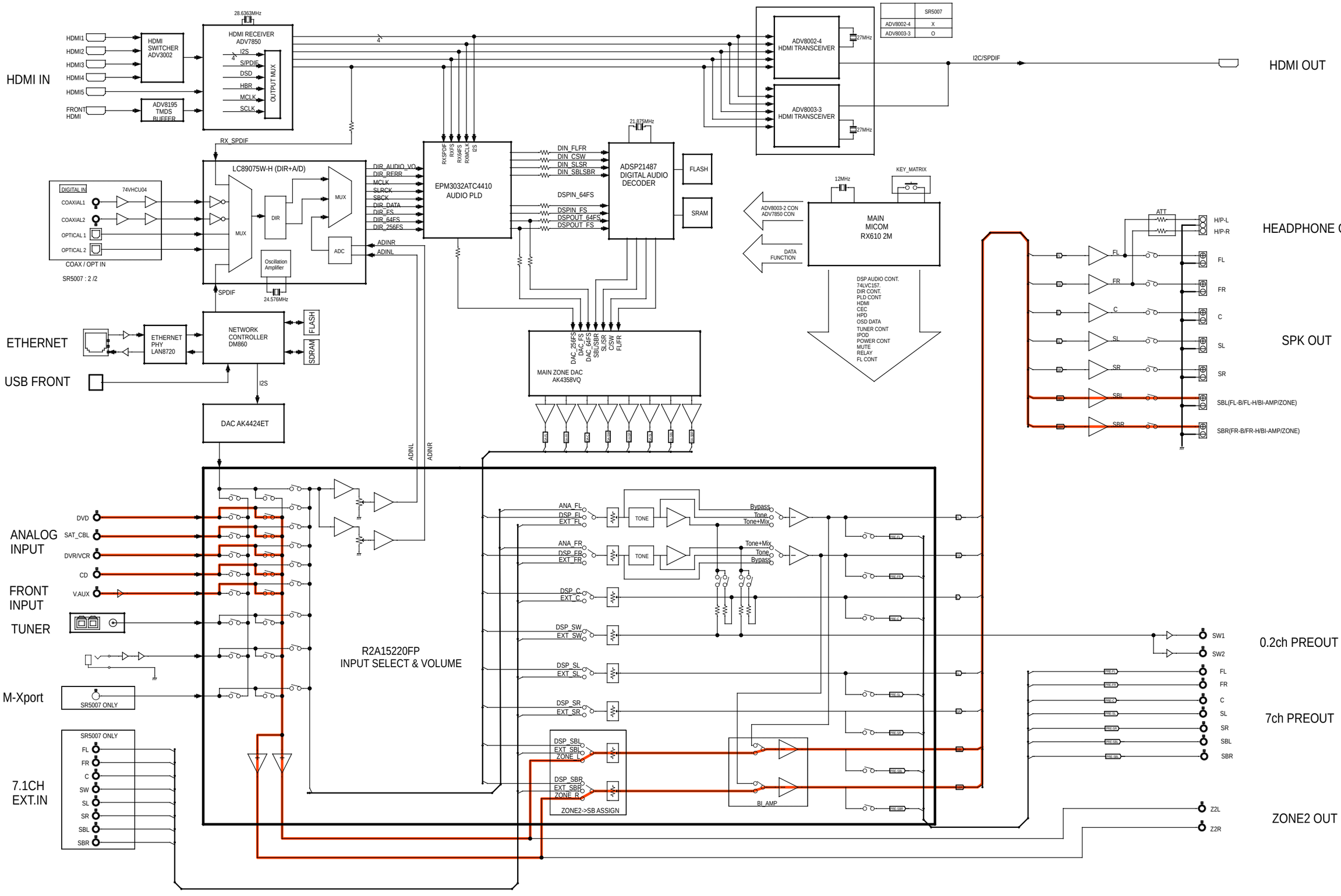


fig.12

AUDIO BLOCK DIAGRAM

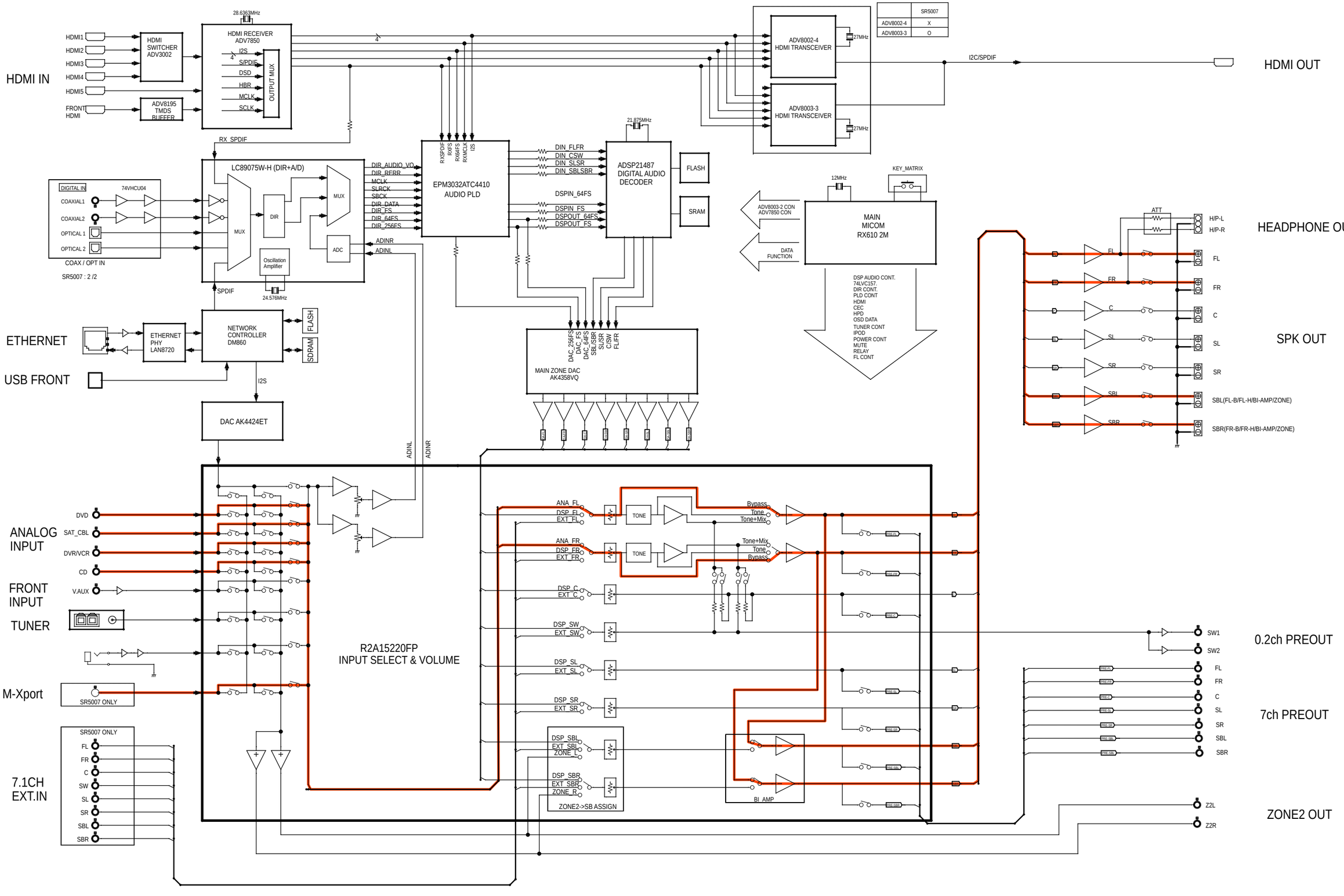


fig.13

AUDIO BLOCK DIAGRAM

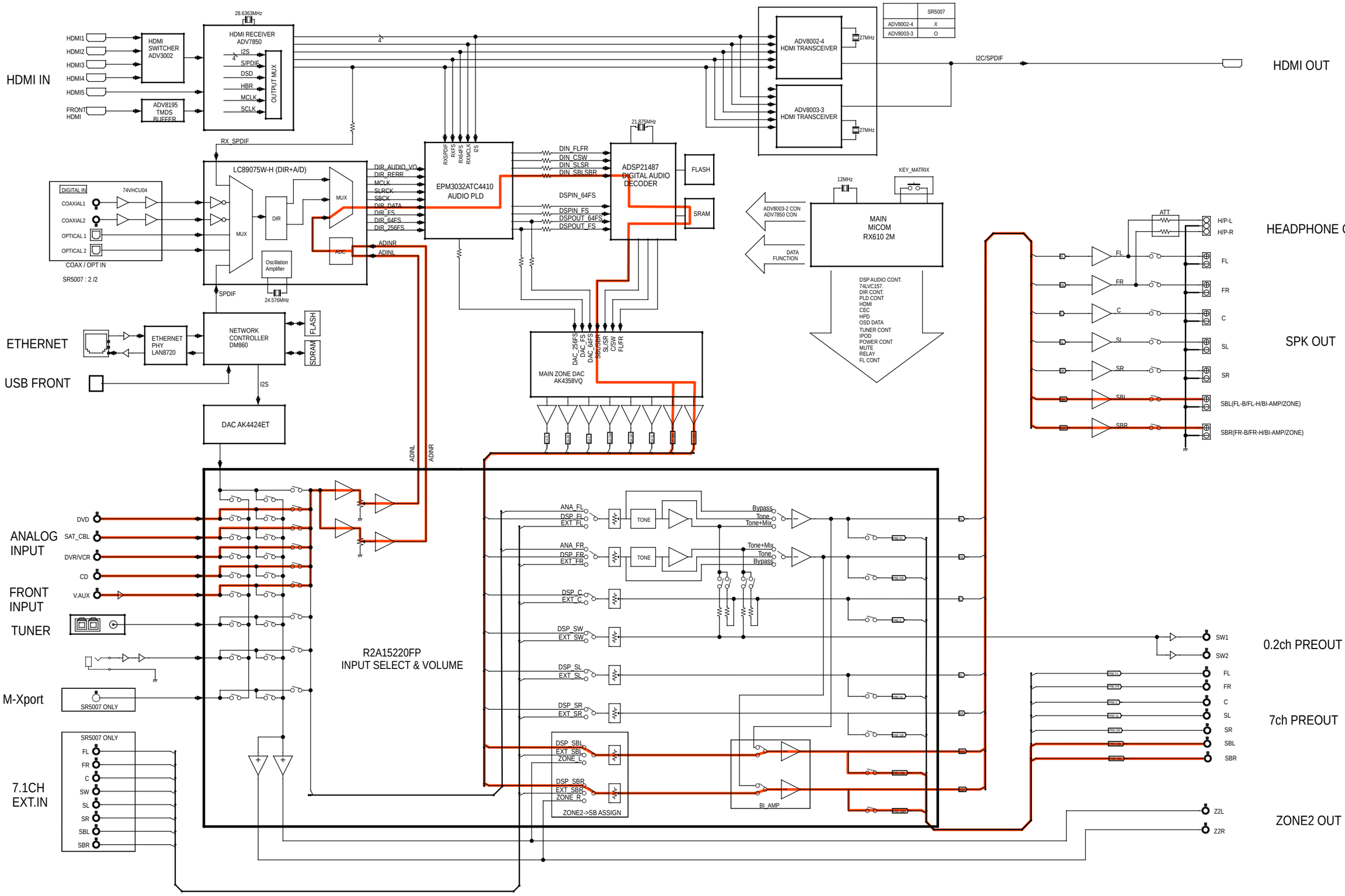
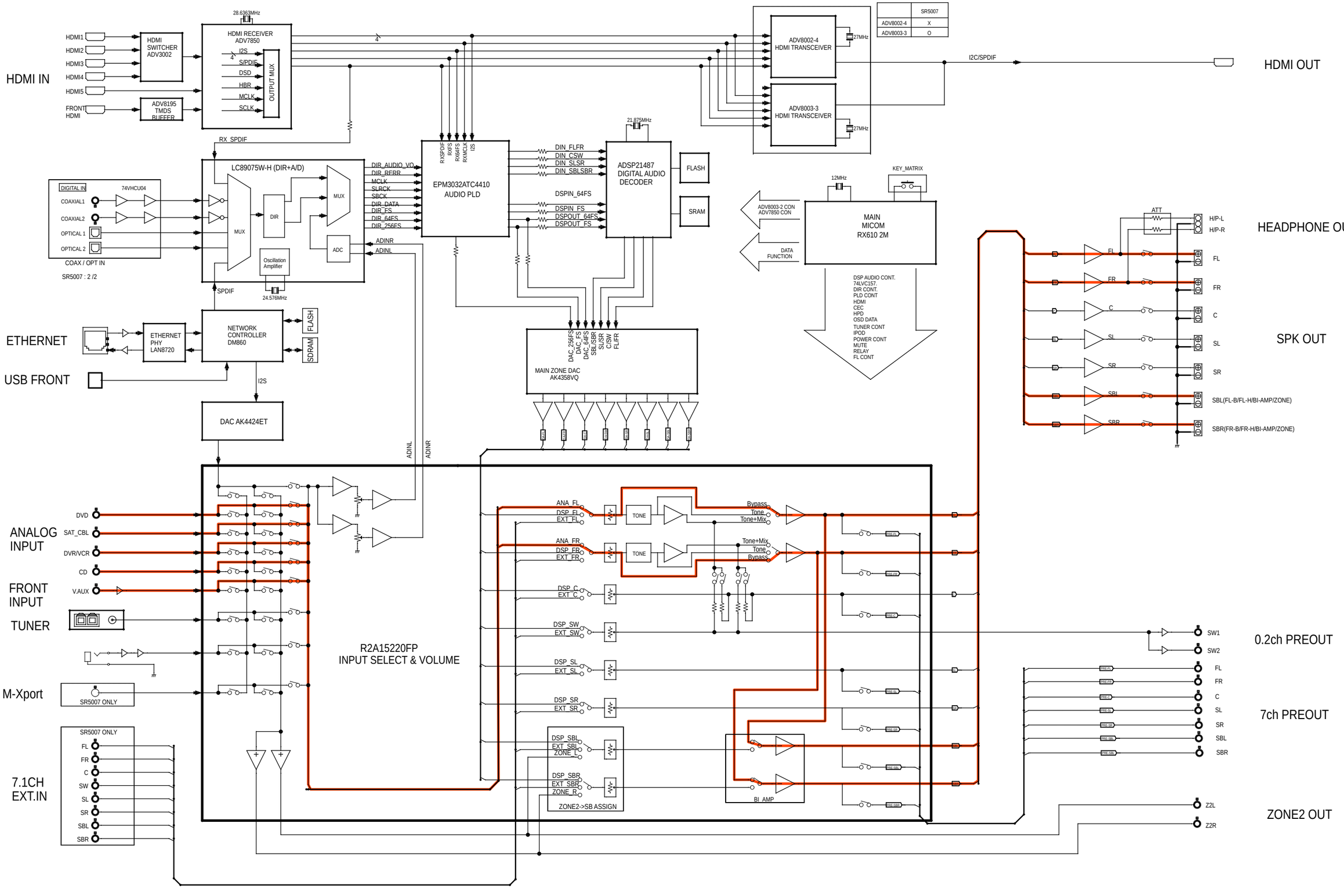
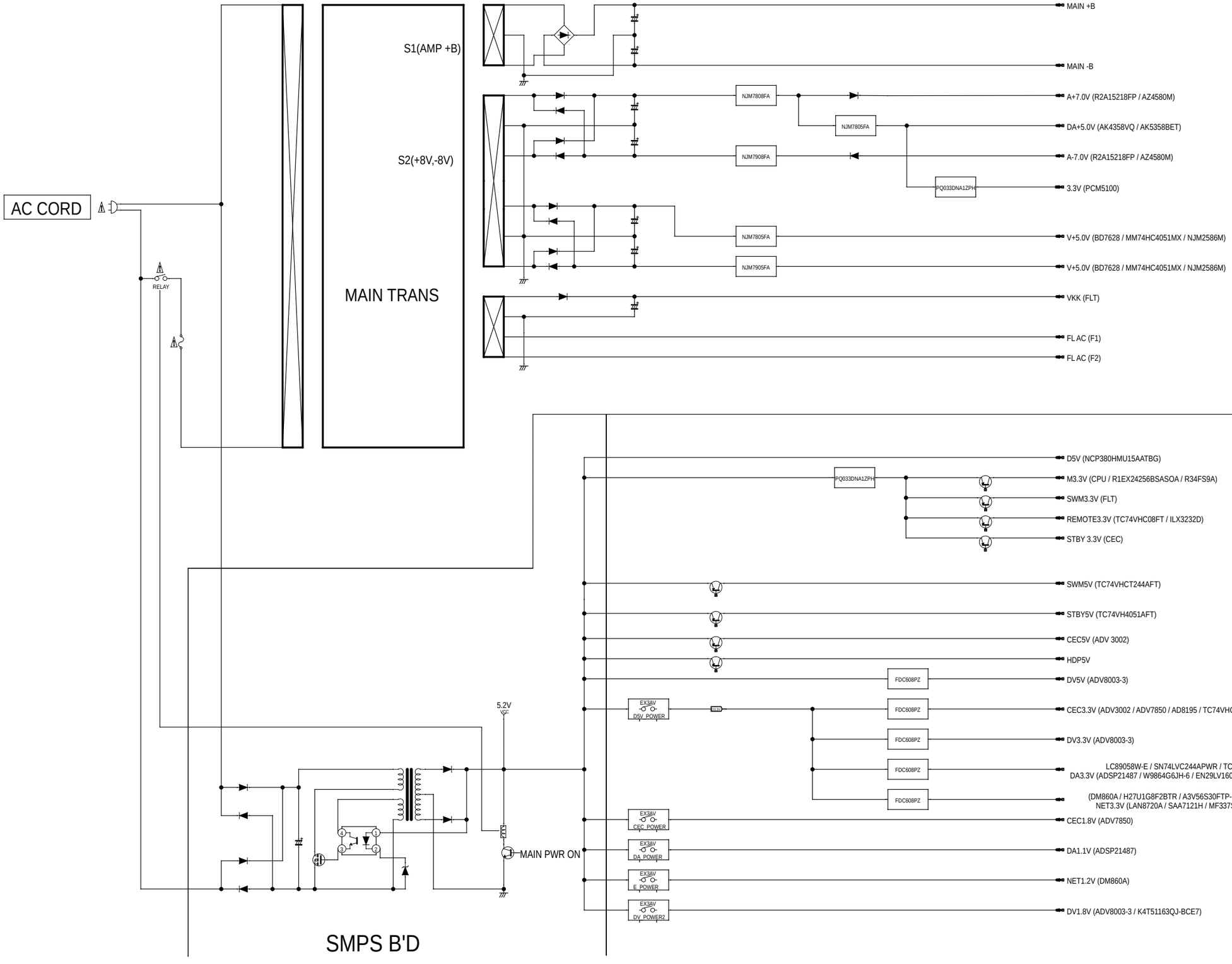


fig.14

AUDIO BLOCK DIAGRAM



VCC DIAGRAM


AC CORD
RELAY
S1(AMP +B)
S2(+8V,-8V)
MAIN TRANS
MAIN +B
MAIN -B
NJM7808FA
A+7.0V (R2A15218FP / AZ4580M)
NJM7805FA
DA+5.0V (AK4358VQ / AK5358BET)
NJM7908FA
A-7.0V (R2A15218FP / AZ4580M)
PQ033DNA1ZPH
3.3V (PCM5100)
NJM7805FA
V+5.0V (BD7628 / MM74HC4051MX / NJM2586M)
NJM7905FA
V+5.0V (BD7628 / MM74HC4051MX / NJM2586M)
VKK (FLT)
FL AC (F1)
FL AC (F2)
SPK B'D
HDMI B'D
D5V (NCP380HMU15AATBG)
PQ033DNA1ZPH
M3.3V (CPU / R1EX24256BSASOA / R34FS9A)
SWM3.3V (FLT)
REMOTE3.3V (TC74VHC08FT / ILX3232D)
STBY 3.3V (CEC)
SWM5V (TC74VHCT244AFT)
STBY5V (TC74VH4051AFT)
CEC5V (ADV 3002)
HDP5V
FDC608PZ
DV5V (ADV8003-3)
5.2V
EX34V
D5V_POWER
FDC608PZ
CEC3.3V (ADV3002 / ADV7850 / AD8195 / TC74VHCT244AFT)
FDC608PZ
DV3.3V (ADV8003-3)
FDC608PZ
LC89058W-E / SN74LVC244APWR / TC74VHCU04FT)
DA3.3V (ADSP21487 / W9864G6JH-6 / EN29LV160BB / EPM3032A
FDC608PZ
(DM860A / H27U1G8F2BTR / A3V56S30FTP-G6)
NET3.3V (LAN8720A / SAA7121H / MF337S3959)
EX34V
CEC_POWER
CEC1.8V (ADV7850)
EX34V
DA_POWER
DA1.1V (ADSP21487)
EX34V
E_POWER
NET1.2V (DM860A)
EX34V
DV_POWER2
DV1.8V (ADV8003-3 / K4T51163QJ-BCE7)
MAIN PWR ON
SMPS B'D

Personal notes:

Personal notes:

JIG FOR SERVICING

When you repair the printing board, you can use the following JIG (Extension cable kit).
Please order it from Marantz Official Service. Distributor in your region if necessary.

NOTE: The incorrect connection with in the JIG (EXTENSION UNIT KIT) may cause damage.

8U-110084S : EXTENSION UNIT KIT : 1 Set

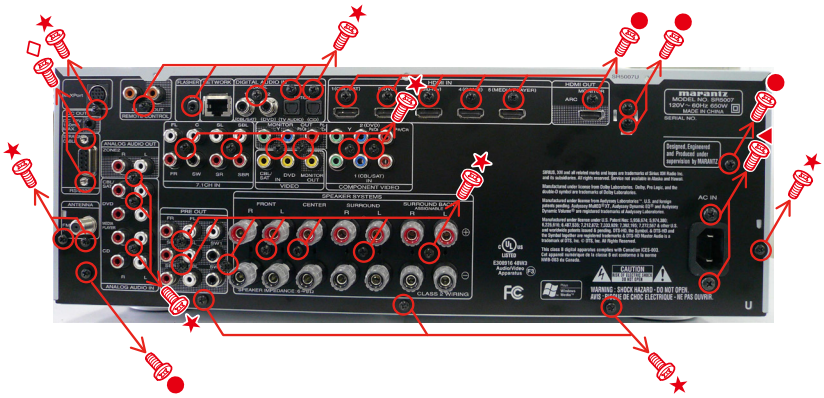
• Connection of PCB HDMI JIG

-Preparation-

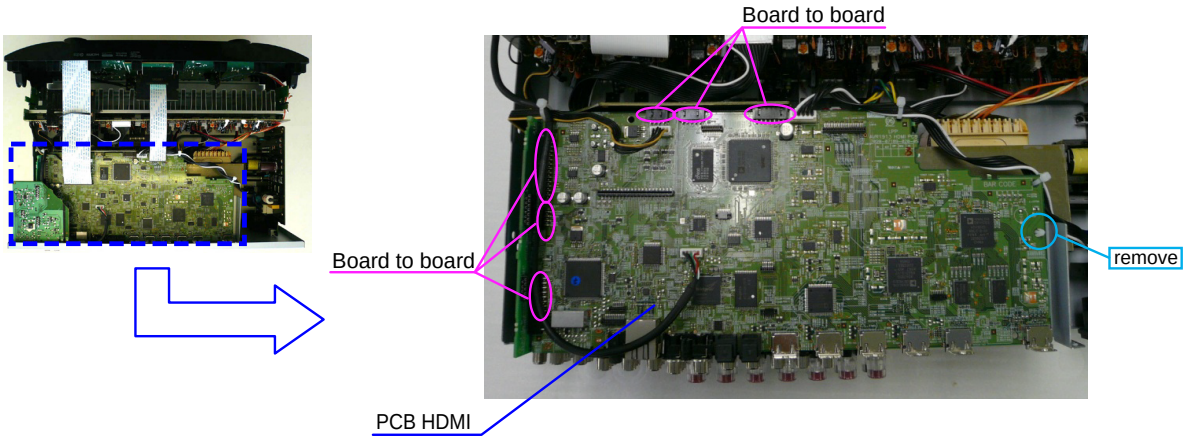
8U-110084S : EXTENSION UNIT KIT : 1 Set
Insulation sheet (Do not supply it) : 1 sheet
Ground lead (Do not supply it) : 1 pc

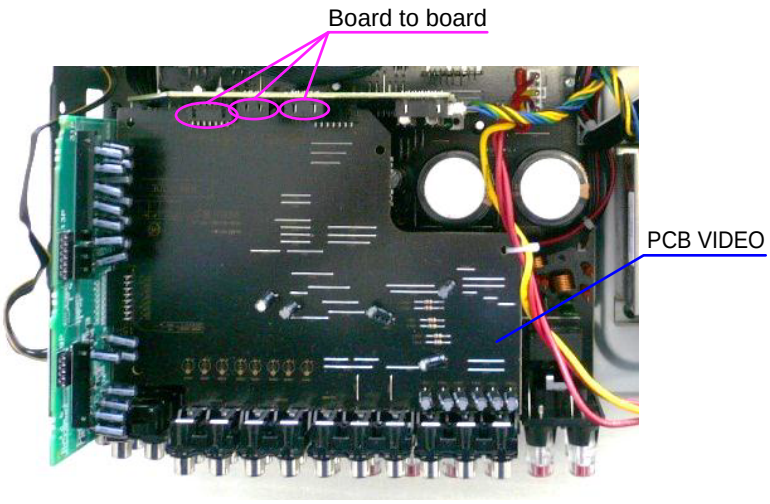
-Procedures-

(1) Remove the screws.

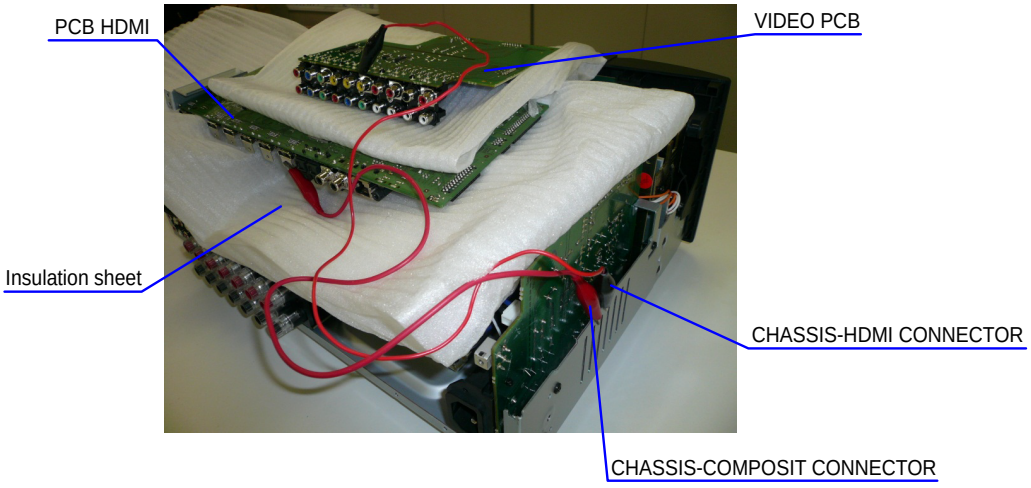


(2) Disconnect the connector board and HOLDER.

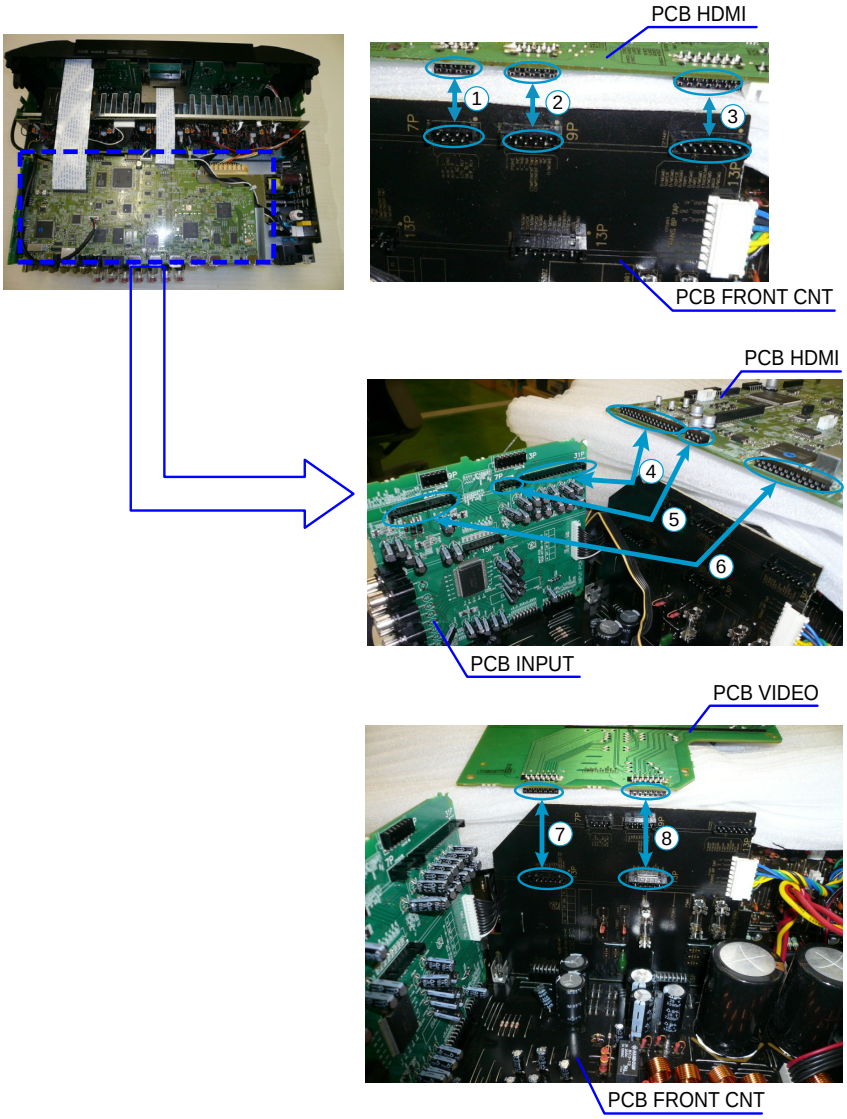




(3) Detach PCB HDMI is detached from the chassis, and turn it over.
Please put an insulation sheet that is larger than PCB HDMI under PCB.
※ Connect the ground point of PCB to the chassis with a ground lead or the like.



(4) Connect the six extension jig cables.



Connection table of Board to Board

No.	Pin	Ref. No.	PCB		Ref. No.	PCB
①	7pin	CP3404	FRONT CNT	⟷	N3404	HDMI
②	9pin	CP3402	FRONT CNT	⟷	N3402	HDMI
③	13pin	CP3401	FRONT CNT	⟷	N3401	HDMI
④	23pin	CP4200	INPUT PCB	⟷	N3407	HDMI
⑤	7pin	CP4203	INPUT PCB	⟷	N3406	HDMI
⑥	31pin	CP4201	INPUT PCB	⟷	N3403	HDMI
⑦	13pin	CP5001	FRONT CNT	⟷	CN5001	VIDEO
⑧	13pin	CP5000	FRONT CNT	⟷	CN5000	VIDEO

WHEN THE MICROPROCESSOR IS REPLACED WITH A NEW ONE

When the U-PRO (Microprocessor) or the Flash ROM is replaced, confirm the following.

PWB Name	Ref. No.	Description	After replaced	Remark
HDMI	U3002	R5F56108VNFP	**B**	SOFTWARE: Main
HDMI	U2003	EN29LV160BB-70TIP	**B**	SOFTWARE: DSP ROM
HDMI	U2205	EPM3032A-TC44	**B**	SOFTWARE: AUDIO PLD
HDMI	U1602	MX25L3206EM2I-12G	**B**	SOFTWARE: OSD ROM (U model)

After replacing

A : Mask ROM (With software). No need for write-in of software to the microprocessor.

B : Flash ROM (With software). Usually, no need for write-in of software. But, when the software was updated, you should write the new software on the microprocessor or flash ROM. Please check the software version.

C : Empty Flash ROM (Without software). You should write the software on the microprocessor or flash ROM. Refer to "Update procedure" or "writing procedure", when you write the software.

PROCEDURE FOR UPGRADING THE VERSION OF THE FIRMWARE

NOTE: When the following are replaced, always rewrite with updated firmware using DFW. (Refer to parts list of "HDMI PCB UNIT ASS'Y" (207 page)

- PCB HDMI ASSY
- U1602 (MX25L6406EM2I-12G)
- U2205 (EPM3032A-TC44)
- U3002 (R5F56108VNFP)
- U2003 (EN29LV160BB-70TIP)

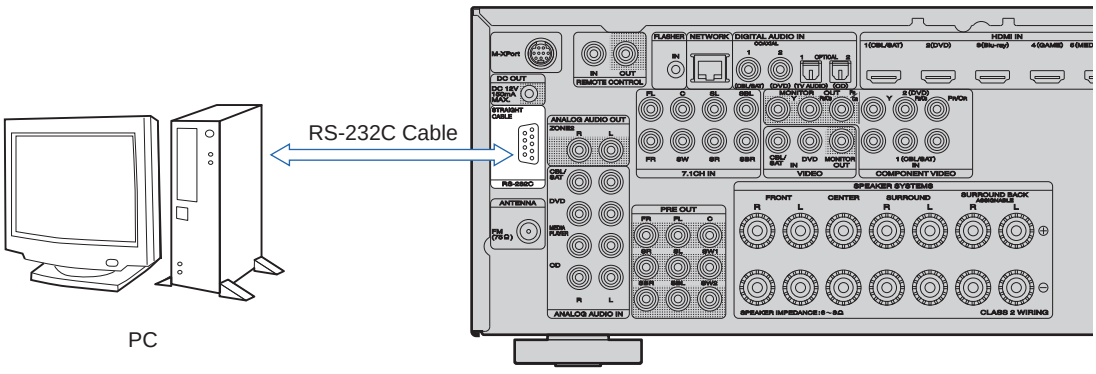
1. How to update by DFW

1.1. Preparations before starting the operation

(1) Personal Computer (Installed "DFW_0014_SR5007_(Rev.X.X.X).exe".
(2) RS-232 cable (9P (Male), Straight).

1.2. Connection of AV receiver

(1) Confirm the power on/off switch of the AV receiver is turning off.
(2) Connect the RS-232C cable from PC with the "RS232C Terminal of AV receiver".



1.3. Turn on the AV receiver

Operate the following. Turn on the AV receiver.

(1) Connect the power cable to the AC outlet while simultaneously pushing the "SOUND MODE" button and the "STATUS" button of the front panel.

(2) Confirm the power indicator is green and "WRITTING" is displayed in the front panel.

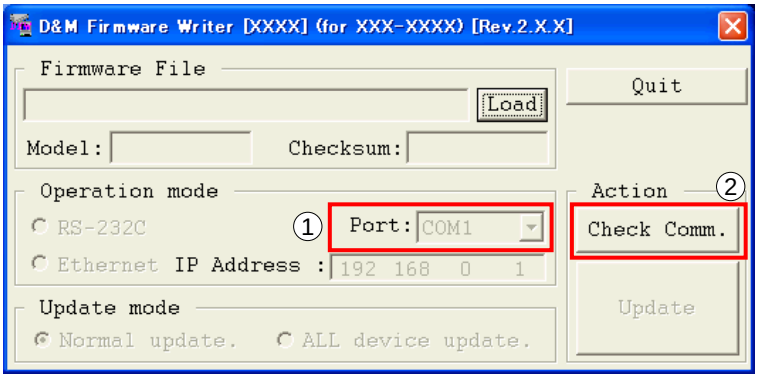
1.4. Run the DFW

Run the "DFW_0014_SR5007_(Rev.X.X.X).exe" on desktop of PC.

1.5. Communication check

(1) Select the serial port number of RS-232C in PC.

(2) Click the "Check Comm." button.



(3) When connection is good, then you can see the "Communication check OK." message.

(4) If connection is not good, then you can see the "Communication check NG" message.

Please confirm the following

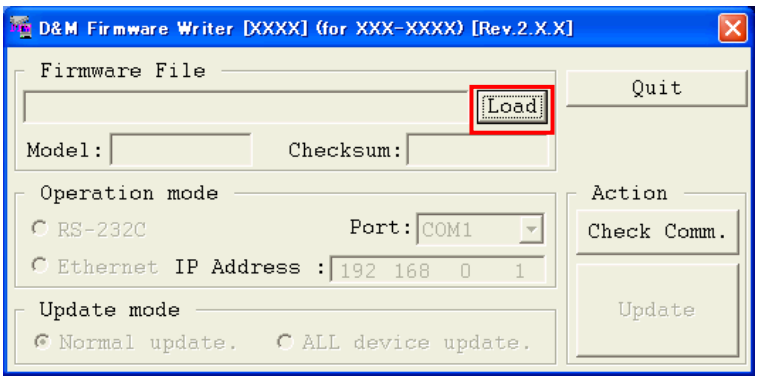
(a) Check the connection of the AV receiver and PC. (refer to "**1.2. Connection of the AV receiver**")

(b) Check the operation mode of the AV receiver. (refer to "**1.3.Turn on the AV receiver**")

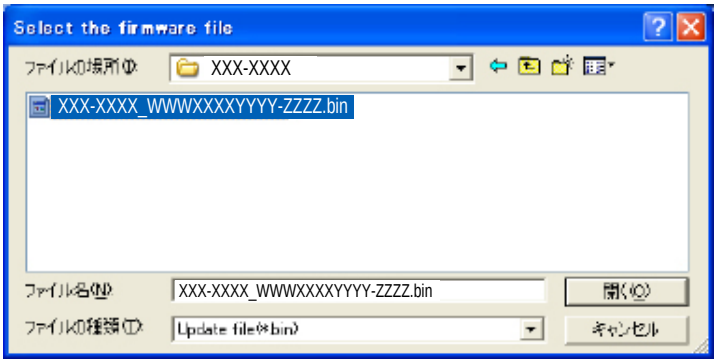
(c) Check the selection of the RS-232C port number of PC.

1.6. Download the firmware

(1) Click the "Load" button.

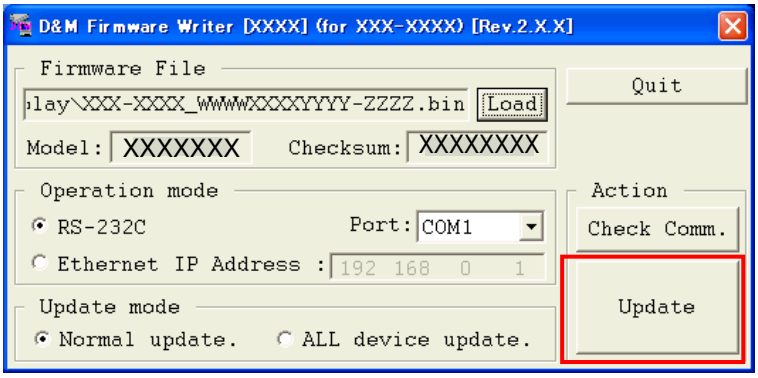


(2) Download the firmware from the specified download source to PC.

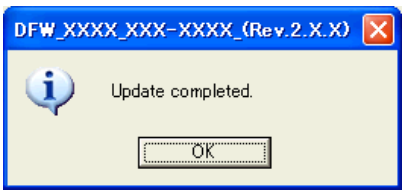


1.7. Complete the firmware updating

(1) Click the "Update" button.



(2) When writing of the firmware is completed, the power of AV receiver turns on automatically and you can see the "Update completed" message.



(3) If you can’t complete the firmware update, please retry the firmware update from "1.3. Turn on the AV receiver".

1.8. Notice:

Please keep the following notice for firmware update.

(a) Keep the PC environment
(b) Avoid the communication cable from the electrical noise source.
(e.g. telephone cable, AC line, a fluorescent light)
(c) Don’t remove cable during update.
(d) Don’t turn off the power during update.
(e) Don’t run other PC application during update.
(f) Stop the resident program on PC (Virus checker and System check utility, etc)
(g) Stop the screen saver on PC.
(h) Stop the power save ability on PC.
(i) In case of laptop PC, Use the AC adaptor.

Confirming the firmware’s number after upgraded

After updating the firmware, check the version. Refer to "**1. µcom/DSP Version display mode**" (23 page).

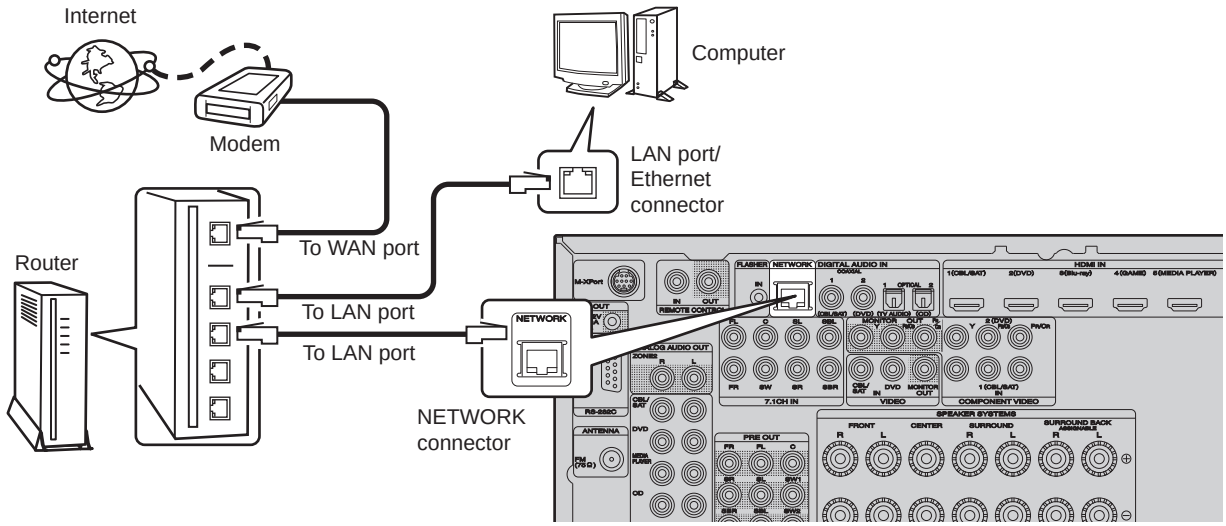
2. How to update by DPMS

You can update the firmware by downloading the latest version from the Internet.

2.1. Connecting to the Network

(1) System requirements
- Internet Connection by Broadband Circuit
- Modem
- Router
- Ethernet cable (CAT-5 or greater recommended)

(2) Setting



2.2. Checking and updating the firmware

Check if the latest firmware exists. You can also check approximately time required to complete an update.

(1) Press the "SETUP" button on the remote control to display the GUI menu.
(2) Use the cursor buttons to select "System Setup" → "Option Setup" → "Firmware Update" → "Check for Update".
(3) Press the "ENTER" button.
- The latest version of the firmware on the website is displayed.
- If the firmware on the website is latest, proceed to (4).
- If the latest firmware has been already installed, press the "SETUP" button to close the menu.

(4) Use the cursor buttons to select "Update", then press the "ENTER" button.
- During update, the power indicator lights in red and the GUI screen disappears. And an approximately remaining time is indicated on the display.
- When updating is complete the power indicator lights in green and normal status is resumed.

--- Cautions on Firmware Update ---

- In order to update the firmware, you must have the correct system requirements and settings for a broadband Internet connection.
- Do not turn off the power until updating is completed.
- Even with a broadband connection to the Internet, approximately 1 hour is required for the updating procedure to be completed.
  Once updating starts, normal operations on the SR5007 cannot be performed until updating is completed. Also, setting items of the GUI menu of SR5007 or setting items of the image adjustment may be initialized.
  Note down the settings before updating, and set them again after updating.

2.3. About the error code

See the table below for error codes, details of faults, and coping strategies when the firmware is updated through DPMS.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
01	Log-in to DPMS failed.	Login failed 01	Reset and update again. Carry out the update in an environment that has little network load.
02	Line, etc., is busy when logging into DPMS.	Server is busy 02	Carry out the update in an environment that has little network load.
03	Connection to DPMS failed.	ConnectionFail 03	Check the network connection. Carry out the update in an environment that has little network load.
04	Firmware file data was requested but error message was received.	ConnectionFail 04	Check the network connection. Carry out the update in an environment that has little network load.
05	Firmware file data was requested but it timed out.	ConnectionFail 05	Check the network connection. Carry out the update in an environment that has little network load.
06	Firmware file data was requested but error message was received.	ConnectionFail 06	Check the network connection. Carry out the update in an environment that has little network load.
07	All firmware file data was requested but it timed out.	ConnectionFail 07	Check the network connection. Carry out the update in an environment that has little network load.
08	Firmware file data of Main CPU was requested but error message was received.	ConnectionFail 08	Check the network connection. Carry out the update in an environment that has little network load.
09	Firmware file data of Main CPU was requested but it timed out.	ConnectionFail 09	Check the network connection. Carry out the update in an environment that has little network load.
0A	Error (NG) message was received when firmware of Main CPU was downloaded.	Download fail 0A	Check the network connection. Carry out the update in an environment that has little network load.
0B	Error (line congestion) message was received when firmware of Main CPU was downloaded.	Download fail 0B	Check the network connection. Carry out the update in an environment that has little network load.
0C	Error (connection failure) message was received when firmware of Main CPU was downloaded.	Download fail 0C	Check the network connection. Carry out the update in an environment that has little network load.
0D	Received Package Version is wrong.	Connection fail 0D	Check the network connection. Carry out the update in an environment that has little network load.
0E	Connection to DPMS failed. (can not get NTP)	Connection fail 0E	Check the network connection. Carry out the update in an environment that has little network load.
10	Main CPU failed to receive firmware for rewriting sent from DM860A (when timed out).	Main 10 Updating failed	Turn off and on the power. Updating starts automatically.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
11	Main CPU failed to receive firmware for rewriting sent from DM860A (when an error occurred).	Main 11 Updating failed	Turn off and on the power. Updating starts automatically.
12	There was invalid data in the firmware for rewriting sent from DM860A to Main CPU (when a Check Sum error occurred).	Main 12 Updating failed	Turn off and on the power. Updating starts automatically.
13	The deletion of block data failed before Main CPU was rewritten.	Main 13 Erase failed	Turn off and on the power. Updating starts automatically.
14	The rewriting of block data failed when Main CPU was rewritten.	Main 14 Updating failed	Turn off and on the power. Updating starts automatically.
15	The data verification was invalid after Main CPU was rewritten.	Main 15 Update CheckNG	Turn off and on the power. Updating starts automatically.
20	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (AutoIP).	Connection fail 20	Check the network connection. Carry out the update in an environment that has little network load.
21	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).	Connection fail 21	Check the network connection. Carry out the update in an environment that has little network load.
22	Log-in to DPMS failed.	Login failed 22	Reset and update again. Carry out the update in an environment that has little network load.
23	Line, etc., is busy when logging into DPMS.	Server is busy 23	Carry out the update in an environment that has little network load.
24	Connection to DPMS failed.	Connection fail 24	Check the network connection. Carry out the update in an environment that has little network load.
25	Mode change failure of DM860A.	Connection fail 25	Reset and update again.
26	Data acquisition failed (timed out) when firmware of Main CPU was downloaded. Received Package Version is wrong.	Download fail 26	Check the network connection. Carry out the update in an environment that has little network load.
27	Mode change failure of DM860A.	Connection fail 27	Reset and update again.
36	Log-in to DPMS failed when Main CPU was rewritten.	Main 36 Login failed	Carry out the update in an environment that has little network load.
37	Line, etc., is busy when logging into DPMS when Main CPU was rewritten.	Main 37 Server is busy	Carry out the update in an environment that has little network load.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
38	Connection to DPMS failed when Main CPU was rewritten.	Main 38 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
39	Connection to DPMS timed out when Main CPU was rewritten.	Main 39 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
3A	Error (NG) message was received when firmware was downloaded or Main CPU was rewritten.	Main 3A Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3B	Error (line congestion) message received when downloading firmware when Main CPU was rewritten.	Main 3B Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3C	Error (connection failure) message received when downloading firmware when Main CPU was rewritten.	Main 3C Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3D	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (AutoIP).	Main 3D Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
3E	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).	Main 3E Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
50	Log-in to DPMS failed when firmware such as DSP and PLD was rewritten.	DSP 50 Login failed	Carry out the update in an environment that has little network load.
51	Line, etc., is busy when the log-in to DPMS when firmware such as DSP and PLD was rewritten.	DSP 51 Server is busy	Carry out the update in an environment that has little network load.
52	Connection to DPMS failed when firmware such as DSP and PLD was rewritten.	DSP 52 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
54	Error message received regarding firmware data after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	DSP 54 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
55	When firmware such as DSP and PLD was rewritten, request was made for firmware data after the log-in to DPMS, but it timed out.	DSP 55 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
56	Downloading firmware failed after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	DSP 56 Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
57	Firmware download error received (line congestion) after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	DSP 57 Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
58	Firmware download error received (connection failure) after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	DSP 58 Downloa d failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
5A	NACK was received when "C" command sent to DSP, PLD etc.	DSP 5A Connect failed	Turn off and on the power. Updating starts automatically.
5B	NACK was received when "L" command sent to DSP, PLD etc.	DSP 5B Updating failed	Turn off and on the power. Updating starts automatically.
5C	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when timed out).	DSP 5C Updating failed	Turn off and on the power. Updating starts automatically.
5D	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when an error occurred).	DSP 5D Updating failed	Turn off and on the power. Updating starts automatically.
5E	Data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (when a Check Sum error occurred).	DSP 5E Updating failed	Turn off and on the power. Updating starts automatically.
5F	Invalid data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (invalid data was received).	DSP 5F Updating failed	Turn off and on the power. Updating starts automatically.
60	NACK was received when "P" command sent to DSP, PLD etc.	DSP 60 Updating failed	Turn off and on the power. Updating starts automatically.
61	NACK was received when "I" command sent to DSP, PLD etc.	DSP 61 Update CheckNG	Turn off and on the power. Updating starts automatically.
80	Acquisition of serial flash data failed before serial flash was deleted.	GUI 80 Updating failed	Turn off and on the power. Updating starts automatically.
81	Deleting data failed before serial flash was rewritten.	GUI 81 Updating failed	Turn off and on the power. Updating starts automatically.
82	Receiving firmware for rewriting serial flash sent by DM860A failed (when timed out).	GUI 82 Updating failed	Turn off and on the power. Updating starts automatically.
83	Receiving firmware for rewriting serial flash sent by DM860A failed (when an error).	GUI 83 Updating failed	Turn off and on the power. Updating starts automatically.
84	Receiving firmware for rewriting serial flash sent by DM860A failed (when a Check Sum error).	GUI 84 Updating failed	Turn off and on the power. Updating starts automatically.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
85	Receiving firmware for rewriting serial flash sent by DM860A failed (when invalid data was received).	GUI 85 Updating failed	Turn off and on the power. Updating starts automatically.
86	The data verification was invalid after serial flash was rewritten.	GUI 86 Updating failed	Turn off and on the power. Updating starts automatically.
A0	Acquisition of (Application Mode) IP address failed before DM860A was rewritten (AutoIP).	EIMG A0 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
A1	Acquisition of (Application Mode) IP address failed before DM860A was rewritten (when timed out).	EIMG A1 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
A2	Invalid login via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	EIMG A2 Login failed	Check the network connection. Carry out the update in an environment that has little network load.
A3	Line congestion via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	EIMG A3 Server is busy	Check the network connection. Carry out the update in an environment that has little network load.
A4	Connection failure via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	EIMG A4 Connect failed	Check the network connection. Carry out the update in an environment that has little network load.
A6	Firmware data error message was received after DPMS login when DM860A related firmware was rewritten (Application Mode).	EIMG A6 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
A7	When DM860A related firmware was rewritten (Application Mode), request was made for firmware data after DPMS login but it timed out.	EIMG A7 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
AE	Firmware download error message received (when download fails) when DM860A related firmware was rewritten (Boot Loader Mode).	EIMG AE Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
AF	Firmware download error message received (line congestion) when DM860A related firmware was rewritten (Boot Loader Mode).	EIMG AF Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B0	Firmware download error message received (connection failure) when DM860A related firmware was rewritten (Boot Loader Mode).	EIMG B0 Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B1	DM860A related firmware download error message. (Timeout failure)	EIMG B1 Download failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B2	Error message received when DM860A related firmware was rewritten.	EIMG B2 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.

Error Code	Details of Error code	Display (Eight digits or more are the scrolling displays.)	Coping strategies
B3	Firmware writing error message. (Timeout failure)	EIMG B3 Updating failed	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B4	Mode change failure of DM860A. (Boot Loader Mode)	EIMG B4 Updating failed	Reset and update again.
B5	Mode change failure of DM860A. (Application Mode)	EIMG B5 Updating failed	Reset and update again.

Device display during firmware update

Display of target device during firmware update.

Target device	Display	Error code when an error occurs
Main	Main ***min **%	08 - 0C 10 - 15 22 - 24 36 - 3E
Audio PLD	APLD ***min **%	50 - 52 54 - 58 5A - 61
DSP	DSP ***min **%	50 - 52 54 - 58 5A - 61
GUI Serial Flash	GUI ***min **%	50 - 52 54 - 58 5A - 61 80 - 86
DM860A Boot Loader	ESBL ***min ***	A0 - A4 A6 - A7 AE - B5
DM860A Image	EIMG ***min ***	A0 - A4 A6 - A7 AE - B5
DM860A Image (Emergency Mode)	Update Retry	–

3. How to update by USB Memory

You can update the firmware by downloading the latest version with USB Memory.

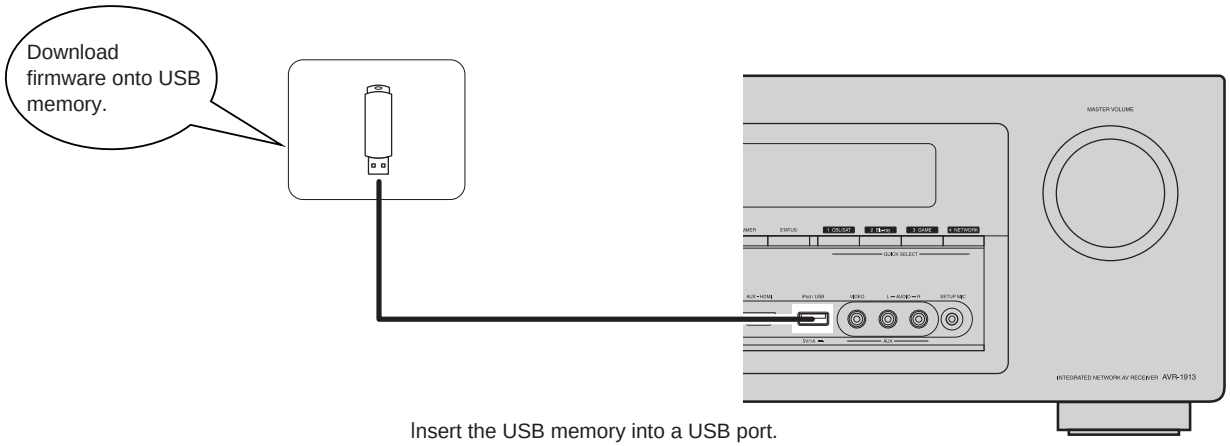
3.1. Connecting to the Network

(1) Requirements
- USB Memory capacity : FAT16 : 2 GB, FAT32 : 2 TB
- USB memory devices will not work via a USB hub.
- It is not possible to use this unit by connecting the unit's USB port to a PC via a USB cable.
- Do not use an extension cable when connecting a USB memory device.
  This may cause radio interference.

Place the USB update File in an appropriate folder. The folder name should be the Product ID based on the Model name/area.

Model Name	Model Area	Product ID
SR5007	North America (U)	100100140100
	Europe (N)	100100140200
	China (K)	100100140200

(2) Setting



Insert the USB memory into a USB port.

3.2. Download the firmware

(1) While pressing the "PRESET CH +" button and the "STATUS" button at the same time, power on this unit.
(2) "USB Update Start" appears in the FL Display.
(3) Press the "ENTER" button on remote control. "UpdateFileCheck" appears in the FL Display and the Update of the Firmware starts.
(4) During the update, the power indicator lights in red and the GUI screen display disappears.
The remaining update time appears in the display on the main unit.
When the update is completed, "Updateing Complete" appears in the FL Display and then this unit returns to the normal state.
(5) Execute a initialization (10 page).

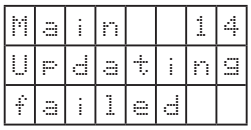
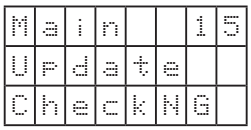
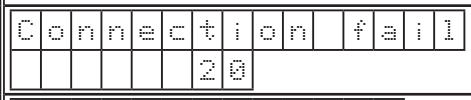
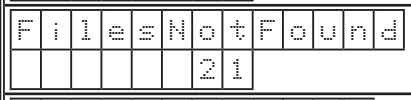
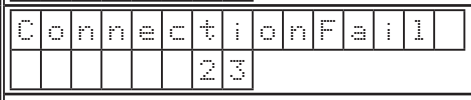
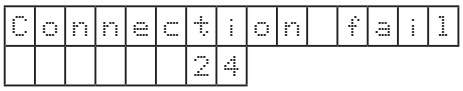
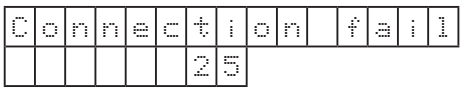
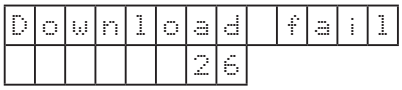
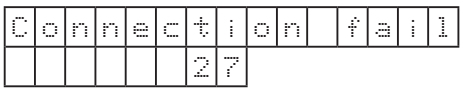
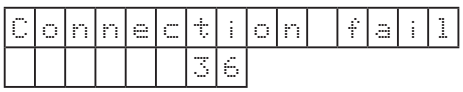
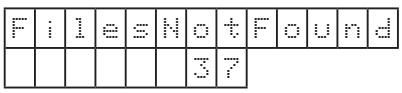
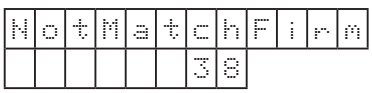
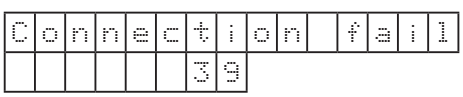
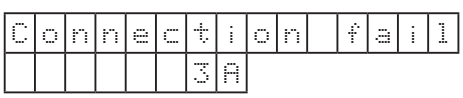
--- Cautions on Firmware Update ---

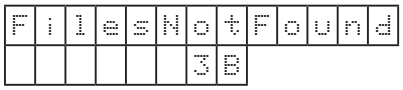
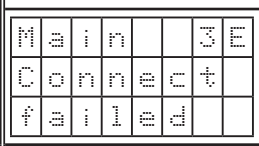
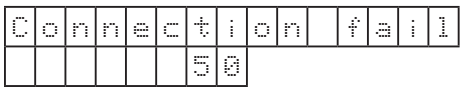
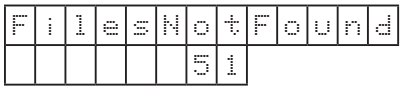
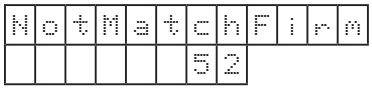
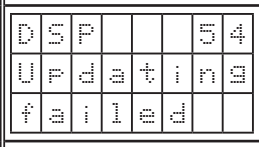
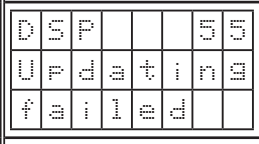
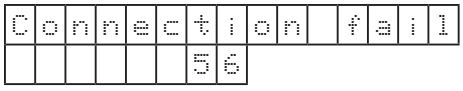
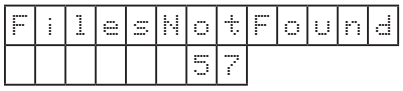
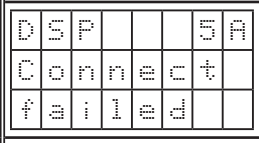
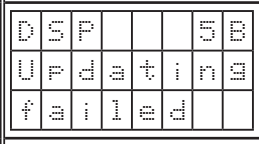
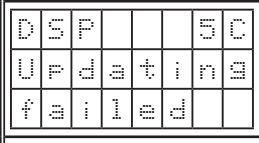
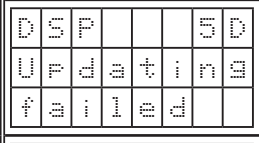
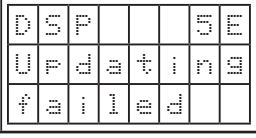
- Do not remove a USB memory until updating is completed.
- Do not turn off the power until updating is completed.
  Approximately 1 hour is required for the updating procedure to be completed.
  Once updating starts, normal operations on the this unit cannot be performed until updating is completed. Also, setting items of the GUI menu of this unit or setting items of the image adjustment may be initialized.
  Note down the settings before updating, and set them again after updating.

3.3. About the error code

See the table below for error codes and details of faults when the firmware is updated through USB memory.

Error Code	Details of Error code	Display	Coping strategies
01	Log-in to DPMS failed.	ConnectionFail 01	Disconnect and connect the USB memory.
02	Line, etc., is busy when logging into DPMS.	FilesNotFound 02	Make sure that the FirmwareFile is in the USB memory.
03	Connection to DPMS failed.	ConnectionFail 03	Check the supported Model name/area for the FirmwareFile.
04	Firmware file data was requested but error message was received.	ConnectionFail 04	Start the USB Update again.
05	Firmware file data was requested but it timed out.	ConnectionFail 05	Start the USB Update again.
06	Firmware file data was requested but error message was received.	ConnectionFail 06	Start the USB Update again.
07	All firmware file data was requested but it timed out.	ConnectionFail 07	Start the USB Update again.
08	Firmware file data of Main CPU was requested but error message was received.	ConnectionFail 08	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
09	Firmware file data of Main CPU was requested but it timed out.	ConnectionFail 09	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
0A	Error (NG) message was received when firmware of Main CPU was downloaded.	Download fail 0A	Check the network connection. Carry out the update in an environment that has little network load.
0B	Error (line congestion) message was received when firmware of Main CPU was downloaded.	FilesNotFound 0B	Check the network connection. Carry out the update in an environment that has little network load.
0D	Received Package Version is wrong.	ConnectionFail 10	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
10	Main CPU failed to receive firmware for rewriting sent from DM860A (when timed out).	Main 10 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
11	Main CPU failed to receive firmware for rewriting sent from DM860A (when an error occurred).	Main 11 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
12	There was invalid data in the firmware for rewriting sent from DM860A to Main CPU (when a Check Sum error occurred).	Main 12 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
13	The deletion of block data failed before Main CPU was rewritten.	Main 13 Erase failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
14	The rewriting of block data failed when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
15	The data verification was invalid after Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
20	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (AutoIP).		Disconnect and connect the USB memory.
21	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).		Disconnect and connect the USB memory.
22	Log-in to DPMS failed.		Check the supported Model name/area for the FirmwareFile.
23	Line, etc., is busy when logging into DPMS.		Disconnect and connect the USB memory.
24	Connection to DPMS failed.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
25	Mode change failure of DM860A.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
26	Data acquisition failed (timed out) when firmware of Main CPU was downloaded. Received Package Version is wrong.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
27	Mode change failure of DM860A.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
36	Log-in to DPMS failed when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the POWER button for five seconds.
37	Line, etc., is busy when logging into DPMS when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
38	Connection to DPMS failed when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
39	Connection to DPMS timed out when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
3A	Error (NG) message was received when firmware was downloaded or Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
3B	Error (line congestion) message received when downloading firmware when Main CPU was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
3F	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
50	Log-in to DPMS failed when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
51	Line, etc., is busy when the log-in to DPMS when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
52	Connection to DPMS failed when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
54	Error message received regarding firmware data after the log-in to DPMS when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
55	When firmware such as DSP and PLD was rewritten, request was made for firmware data after the log-in to DPMS, but it timed out.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
56	Downloading firmware failed after the log-in to DPMS when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
57	Firmware download error received (line congestion) after the log-in to DPMS when firmware such as DSP and PLD was rewritten.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
5A	NACK was received when "C" command sent to DSP, PLD etc.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
5B	NACK was received when "L" command sent to DSP, PLD etc.		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
5C	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when timed out).		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
5D	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when an error occurred).		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
5E	Data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (when a Check Sum error occurred).		This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
5F	Invalid data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (invalid data was received).	DSP 5F Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
60	NACK was received when "P" command sent to DSP, PLD etc.	DSP 60 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
61	NACK was received when "I" command sent to DSP, PLD etc.	DSP 61 Update CheckNG	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
62	NACK was received when "P" command sent to DSP, PLD etc.	DSP 62 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
63	NACK was received when "I" command sent to DSP, PLD etc.	DSP 63 Update CheckNG	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
64	NACK was received when "I" command sent to DSP, PLD etc.	DSP 64 Update CheckNG	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
80	Acquisition of serial flash data failed before serial flash was deleted.	GUI 80 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
81	Deleting data failed before serial flash was rewritten.	GUI 81 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
82	Receiving firmware for rewriting serial flash sent by DM860A failed (when timed out).	GUI 82 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
83	Receiving firmware for rewriting serial flash sent by DM860A failed (when an error).	GUI 83 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
84	Receiving firmware for rewriting serial flash sent by DM860A failed (when a Check Sum error).	GUI 84 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
85	Receiving firmware for rewriting serial flash sent by DM860A failed (when invalid data was received).	GUI 85 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
86	The data verification was invalid after serial flash was rewritten.	GUI 86 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
A2	Invalid login via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	Connection fail A2	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
A3	Line congestion via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	FilesNotFound A3	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
A4	Connection failure via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	NotMatchFirm A4	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
A6	Firmware data error message was received after DPMS login when DM860A related firmware was rewritten (Application Mode).	EIMG A6 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
A7	When DM860A related firmware was rewritten (Application Mode), request was made for firmware data after DPMS login but it timed out.	EIMG A7 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
AE	Firmware download error message received (when download fails) when DM860A related firmware was rewritten (Boot Loader Mode).	Connection fail AE	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
AF	Firmware download error message received (line congestion) when DM860A related firmware was rewritten (Boot Loader Mode).	FilesNotFound AF	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
B1	DM860A related firmware download error message. (Timeout failure)	Download fail B1	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
B2	Error message received when DM860A related firmware was rewritten.	EIMG B2 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
B3	Firmware writing error message. (Timeout failure)	EIMG B3 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
B4	Mode change failure of DM860A. (Boot Loader Mode)	EIMG B4 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.
B5	Mode change failure of DM860A. (Application Mode)	EIMG B5 Updating failed	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the "ON/ STANDBY (⏻)" button for five seconds.

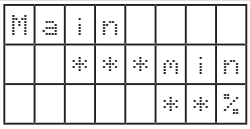
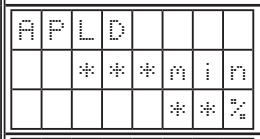
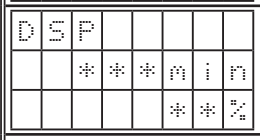
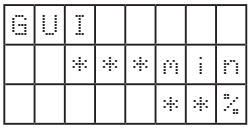
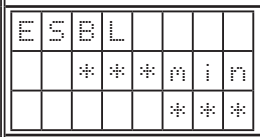
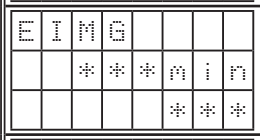
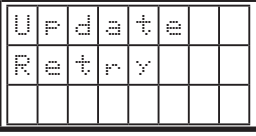
--- Cautions on Firmware Update ---

When an error code as shown above appears in the DISPLAY, check the following:

- Check whether the Firmware downloaded to the USB memory is correct (whether the MODEL name and area of the downloaded Firmware match those for the product, and whether the USB Memory contains data other than the latest Firmware).
- Update after resetting the product.
- Use a different USB memory.

3.4. Device display during firmware update

Display of target device during firmware update.

Target device	Display	Error code when an error occurs
Main		08 - 0C 10 - 15 22 - 24 36 - 3E
Audio PLD		50 - 52 54 - 58 5A - 61
DSP		50 - 52 54 - 58 5A - 61
GUI Serial Flash		50 - 52 54 - 58 5A - 61 80 - 86
DM860A Boot Loader		A0 - A4 A6 - A7 AE - B5
DM860A Image		A0 - A4 A6 - A7 AE - B5
DM860A Image (Emergency Mode)		–

Confirming the firmware's number after upgraded

After updating the firmware, check the version. Refer to "**1. µcom/DSP Version display mode**" (23 page).

ADJUSTMENT

Audio Section

Adjusting Idling Current

Required measurement equipment: DC Voltmeter

1. Preparation

(1) Temperature should be at avoid direct blow from an air conditioner or an electric fan and humidity should be moderate, and place the set at normal usage environment.
15 °C ~ 30 °C (59 °F ~ 86 °F)

(2) Presetting

- POWER (Power source switch) STANDBY
- SPEAKER (Speaker terminal) No load

(Do not connect speaker, dummy resistor, etc.)

2. Adjustment

(1) Remove the top cover and set VR401, VR402, VR403, VR404, VR405, VR406, VR407 on at fully 7CH AMP UNIT at fully counterclockwise (↺) position.

(2) Connect DC Voltmeter to test points (FRONT-Lch: TP401, FRONT-Rch: TP402, CENTER ch: TP403, SURROUND-Lch: TP404, SURROUND-Rch: TP405, SURROUND-BACK Lch: TP406, SURROUND-BACK Rch: TP407.

(3) Connect the power cord to AC Line, and set the power switch to "ON".

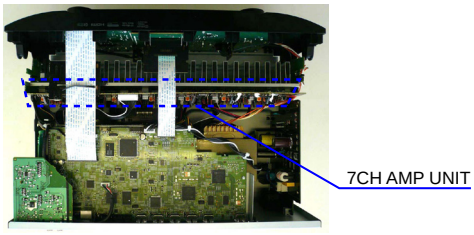
(4) Presetting.

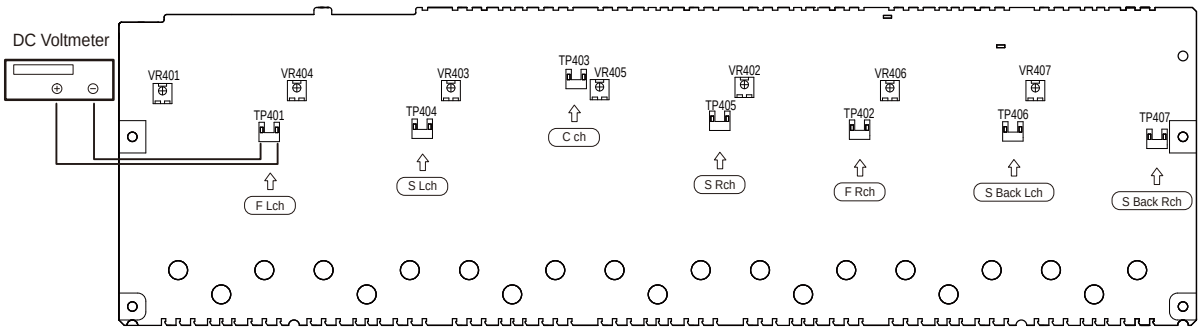
MASTER VOLUME : "---" counterclockwise (↺ min.)
SPEAKER (Speaker terminal) : No load
(Do not connect speaker, dummy resistor, etc.)
MODE : MCH STEREO
FUNCTION : DVD

(5) Within 2 minutes after the power on, turn VR401 clockwise (↻) to adjust the TEST POINT voltage to 6.5mV ± 0.5mV DC.

(6) After 10 minutes from the preset above, turn VR401 to set the voltage to 8.0mV ± 0.5mV DC.

(7) Adjust the Variable Resistors of each channel in the same way.





This unit is equipped with a digital signal processing circuit that lets you play program sources in the sound mode to achieve the same sense of presence as in a movie theater.

Sound modes and surround parameters

This table shows the speakers that can be used in each sound mode and the surround parameters adjustable in each sound mode.

Symbols in the table

○ This indicates the audio output channels or surround parameters that can be set.
◎ This indicates the audio output channels. The output channels depend on the settings of "Speaker Config.".

Sound Mode	Channel output						Surround Parameter			
	Front L/R	Center	Surround L/R	Surround back L/R	Front height L/R	Subwoofer	Home Theater EQ	Loudness Management ∗2	Dynamic Compression ∗3	Low Frequency Effects ∗4
DIRECT/PURE DIRECT (2channel)∗1	○					◎∗5		○	○	
DIRECT/PURE DIRECT (Multi-channel)∗1	○	◎	◎	◎∗6	◎∗6	◎		○	○	○
STEREO	○					◎		○	○	○
MULTI CH IN	○	◎	◎	◎	◎∗7	◎	○∗8			○
DOLBY PRO LOGIC IIz	○	◎	◎		◎	◎	○	○	○	
DOLBY PRO LOGIC IIx	○	◎	◎	◎		◎	○∗9	○	○	
DOLBY PRO LOGIC II	○	◎	◎			◎	○∗10	○	○	
DOLBY PRO LOGIC	○	◎	◎			◎	○	○	○	
DTS NEO:6	○	◎	◎	◎		◎	○∗7	○	○	
DOLBY DIGITAL	○	◎	◎	◎	◎∗7	◎	○∗8			○
DOLBY DIGITAL Plus	○	◎	◎	◎	◎∗7	◎	○∗8			○
DOLBY TrueHD	○	◎	◎	◎	◎∗7	◎	○∗8	○	○	○
DTS SURROUND	○	◎	◎	◎	◎∗7	◎	○∗8			○
DTS 96/24	○	◎	◎	◎	◎∗7	◎	○∗8			○
DTS-HD	○	◎	◎	◎	◎∗7	◎	○∗8			○
DTS Express	○	◎	◎	◎	◎∗7	◎	○∗8			○
MULTI CH STEREO	○	◎	◎	◎	◎	◎		○	○	○
VIRTUAL	○					◎		○	○	○

∗1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
∗2 This item can be selected when a Dolby TrueHD signal is played.
∗3 This item can be selected when a Dolby Digital or DTS signal is played.
∗4 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.
∗5 Only when "Subwoofer Mode" is set to "LFE+Main", sound is output from the subwoofer.
∗6 A signal for each channel contained in an input signal is output as audio.
∗7 Audio is output from the front height speaker when the set sound mode name contains "+PLIIz". For information on how to check the sound mode.
∗8 This setting is unavailable when the set sound mode name contains "+PLIIx Music". For information on how to check the sound mode.
∗9 This setting is possible when the sound mode is "PLIIx Movie" or "DTS NEO:6 Cinema".
∗10 This setting is possible when the sound mode is "PLII Movie".

Sound Mode	Surround Parameter				Subwoofer	Tone ∗11	Audyssey ∗12			M-DAX ∗14
	PRO LOGIC IIz/IIx Music mode only			NEO:6 Music mode only						
	Panorama	Dimension	Center Width	Center Image			MultEQ® XT	Dynamic EQ ∗13	Dynamic Volume ∗13	
DIRECT/PURE DIRECT (2channel)∗1					○∗5					
DIRECT/PURE DIRECT (Multi-channel)∗1					○					
STEREO						○	○	○	○	○
MULTI CH IN					○	○	○	○	○	
DOLBY PRO LOGIC IIz					○	○	○	○	○	○
DOLBY PRO LOGIC IIx	○	○	○		○	○	○	○	○	○
DOLBY PRO LOGIC II	○	○	○		○	○	○	○	○	○
DOLBY PRO LOGIC	○	○	○		○	○	○	○	○	○
DTS NEO:6				○	○	○	○	○	○	○
DOLBY DIGITAL					○	○	○	○	○	
DOLBY DIGITAL Plus					○	○	○	○	○	
DOLBY TrueHD					○	○	○	○	○	
DTS SURROUND					○	○	○	○	○	
DTS 96/24					○	○	○	○	○	
DTS-HD					○	○	○	○	○	
DTS Express					○	○	○	○	○	
MULTI CH STEREO					○	○	○	○	○	○
VIRTUAL					○	○	○	○	○	○

∗1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
∗5 Only when “Subwoofer Mode” is set to “LFE+Main”, sound is output from the subwoofer.
∗11 This item cannot be set when “Dynamic EQ” is set to “On”.
∗12 For HD Audio whose sampling frequency of an input signal is more than 96 kHz, this sound parameter cannot be set.
∗13 This item cannot be set when “MultEQ® XT” is set to “Off” or “Graphic EQ”.
∗14 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

❑ Types of input signals, and corresponding sound modes

This table shows the input signal that can be played in each sound mode. Check the audio signal of the input source then select the sound mode.

Symbols in the table

● This indicates the default sound mode.
○ This indicates the selectable sound mode.

Sound Mode	NOTE	Input signal types and formats															
			PCM		DTS-HD		DTS					DOLBY		DOLBY DIGITAL			
		ANALOG	PCM (multi ch)	PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1ch)	DOLBY DIGITAL (2ch)
DTS SURROUND																	
DTS-HD MSTR					●												
DTS-HD HI RES						●											
DTS ES DSCRT6.1	∗1∗2							●									
DTS ES MTRX6.1	∗1∗2								●								
DTS SURROUND								○	○	●							
DTS 96/24											●						
DTS (–HD) + PLIIx MOVIE	∗1∗3				○	○	○			○	○						
DTS (–HD) + PLIIx MUSIC	∗1∗2				○	○	○			○	○						
DTS (–HD) + PLIIz	∗4∗5				○	○	○	○	○	○	○						
DTS EXPRESS							●										
DTS (–HD) + NEO:6	∗1∗2				○	○	○			○	○						
DTS NEO:6 CINEMA		○		○													○
DTS NEO:6 MUSIC		○		○													○
DOLBY SURROUND																	
DOLBY TrueHD												●					
DOLBY DIGITAL+													●				
DOLBY DIGITAL EX	∗1∗2													○	○	○	
DOLBY (D+) (HD) +EX	∗1∗2											○	○				
DOLBY DIGITAL														○	●	●	
DOLBY (D) (D+) (HD) +PLIIx MOVIE	∗1∗3											○	○	●	○	○	
DOLBY (D) (D+) (HD) +PLIIx MUSIC	∗1∗2											○	○	○	○	○	
DOLBY (D) (D+) (HD) +PLIIz	∗4											○	○	○	○	○	
DOLBY PRO LOGIC IIx MOVIE	∗1∗2	○		○													○
DOLBY PRO LOGIC IIx MUSIC	∗1∗2	○		○													○
DOLBY PRO LOGIC IIx GAME	∗1∗2	○		○													○
DOLBY PRO LOGIC IIz	∗4∗5	○		○													○
DOLBY PRO LOGIC II MOVIE		○		○													○
DOLBY PRO LOGIC II MUSIC		○		○													○
DOLBY PRO LOGIC II GAME		○		○													○
DOLBY PRO LOGIC		○		○													○

∗1 This sound mode can be selected when “Assign Mode” is set to “Surround Back”.
∗2 If “Speaker Config.” – “Surr. Back” is set to “None”, this sound mode cannot be selected.
∗3 If “Speaker Config.” – “Surr. Back” is set to “1spkr” or “None”, this sound mode cannot be selected.
∗4 If “Speaker Config.” – “Front Height” is set to “None”, this sound mode cannot be selected.
∗5 This sound mode can be selected when “Assign Mode” is set to “Front Height”.

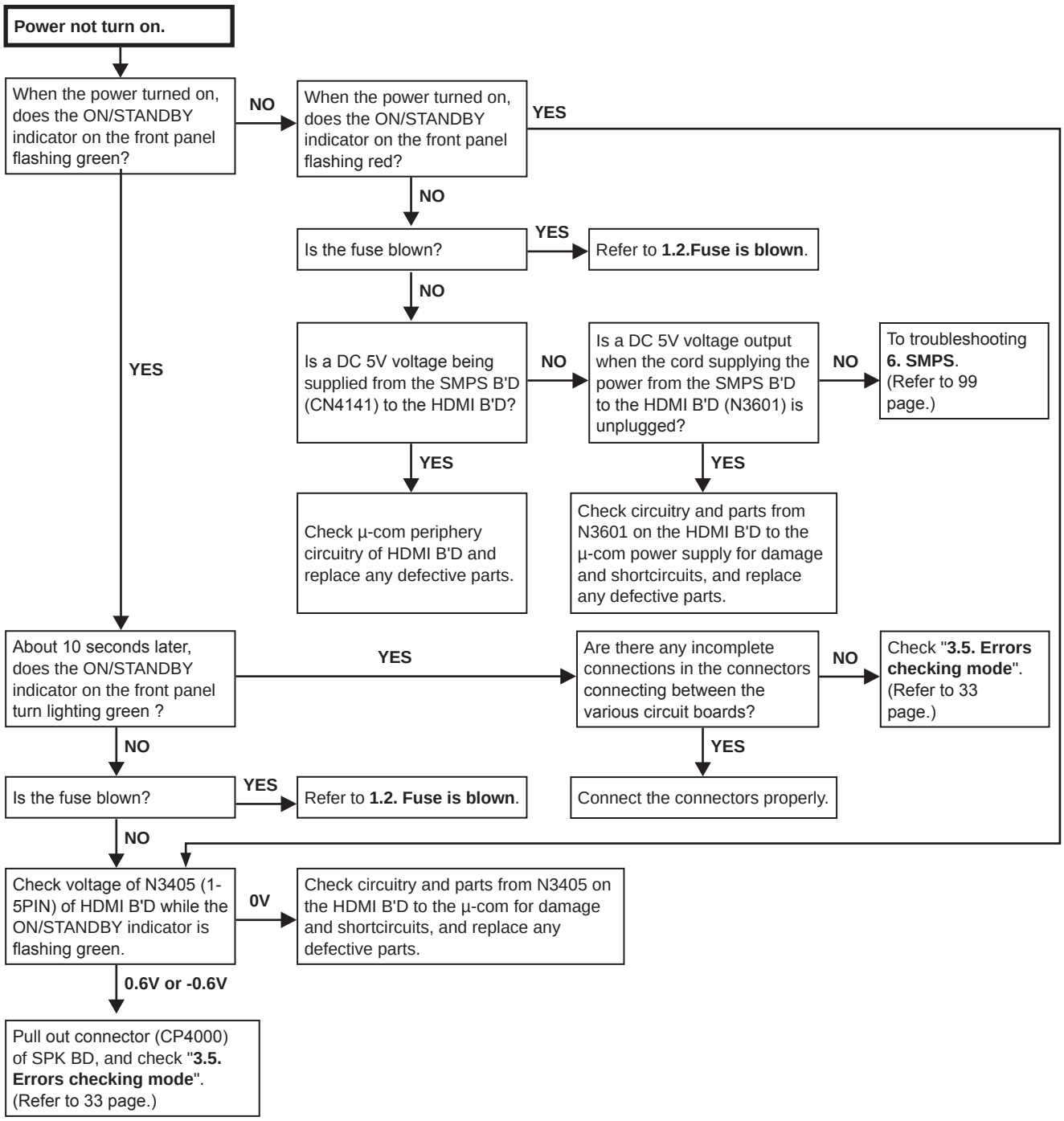
Sound Mode	NOTE	Input signal types and formats															
		ANALOG	PCM		DTS-HD		DTS					DOLBY		DOLBY DIGITAL			
			PCM (multi ch)	PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1ch)	DOLBY DIGITAL (2ch)
MULTI CH IN																	
MULTI CH IN			●														
MULTI CH IN + PLIIx MOVIE	∗1∗3		○														
MULTI CH IN + PLIIx MUSIC	∗1∗2		○														
MULTI CH IN + PLIIz	∗4∗5		○														
MULTI CH IN + Dolby EX	∗1∗2		○														
MULTI CH IN 7.1	∗1∗2		● (7.1)														
DIRECT																	
DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PURE DIRECT																	
PURE DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DSP SIMULATION																	
MULTI CH STEREO		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIRTUAL		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO																	
STEREO		●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○

∗1 This sound mode can be selected when “Assign Mode” is set to “Surround Back”.
∗2 If “Speaker Config.” – “Surr. Back” is set to “None”, this sound mode cannot be selected.
∗3 If “Speaker Config.” – “Surr. Back” is set to “1spkr” or “None”, this sound mode cannot be selected.
∗4 If “Speaker Config.” – “Front Height” is set to “None”, this sound mode cannot be selected.
∗5 This sound mode can be selected when “Assign Mode” is set to “Front Height”.

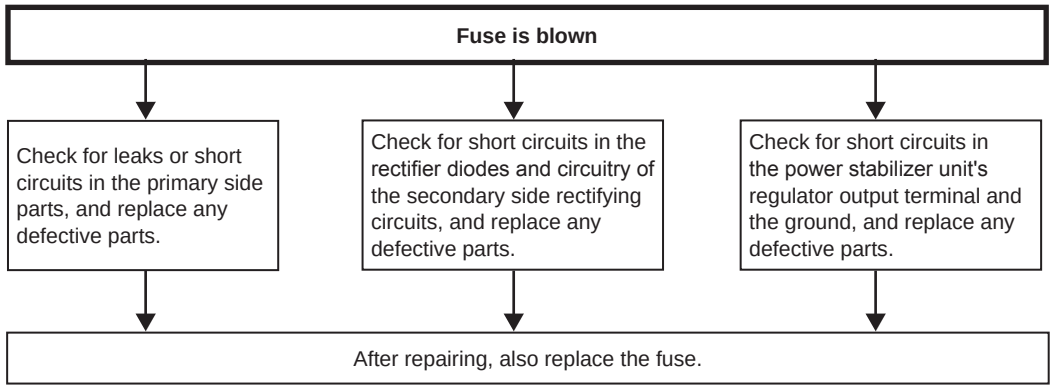
TROUBLE SHOOTING

1. POWER

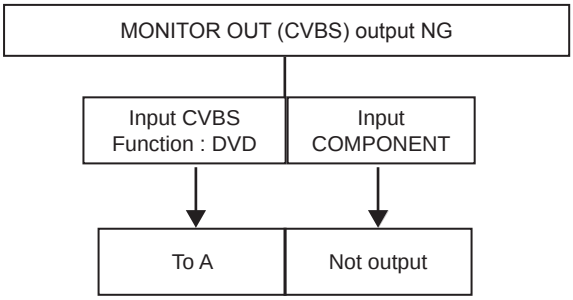
1.1. Power not turn on

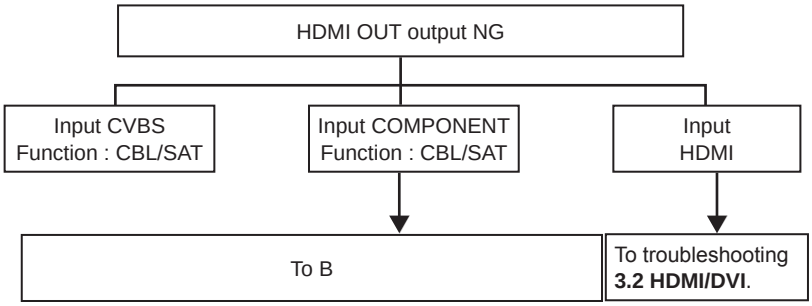


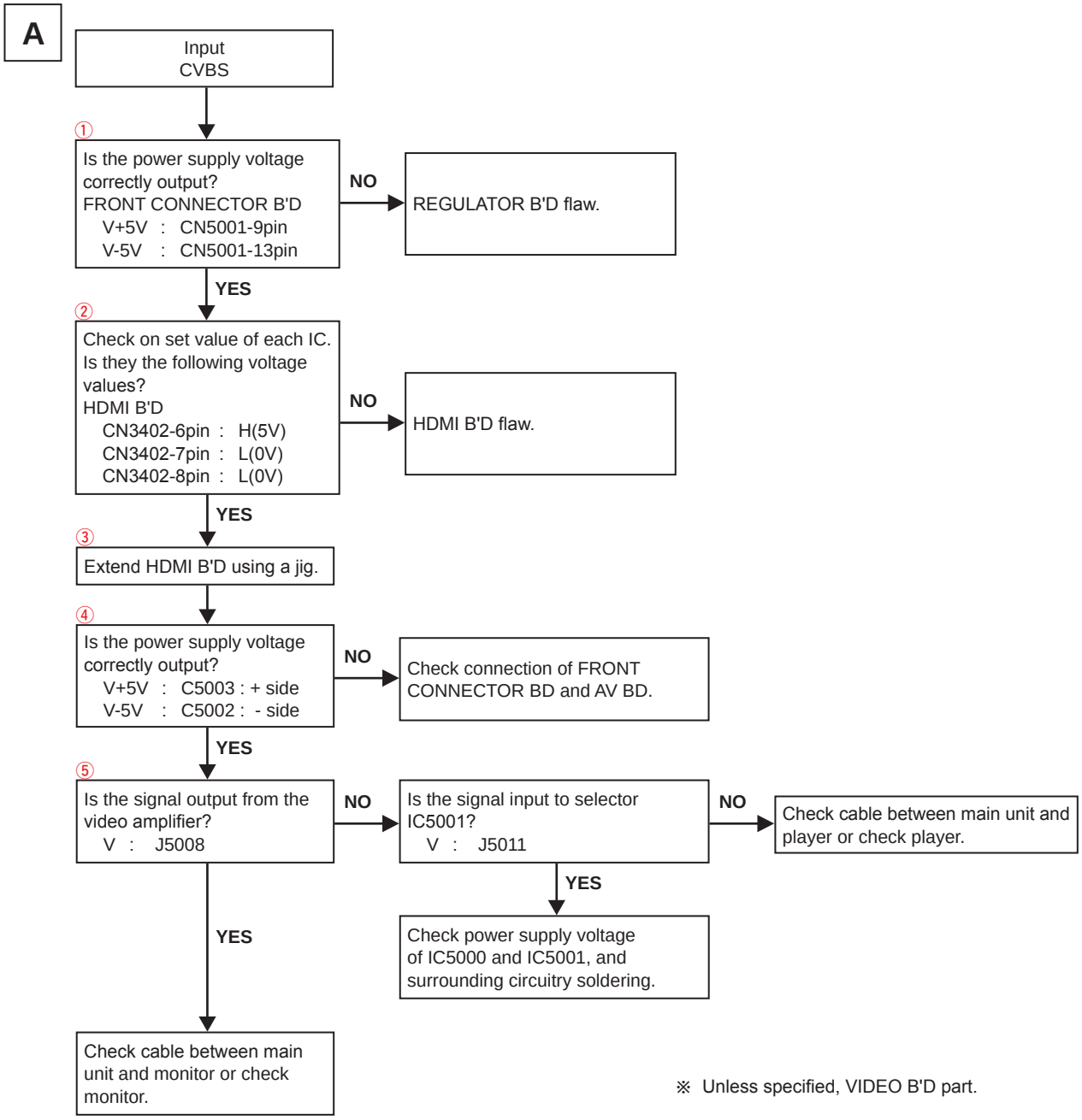
1.2. Fuse is blown



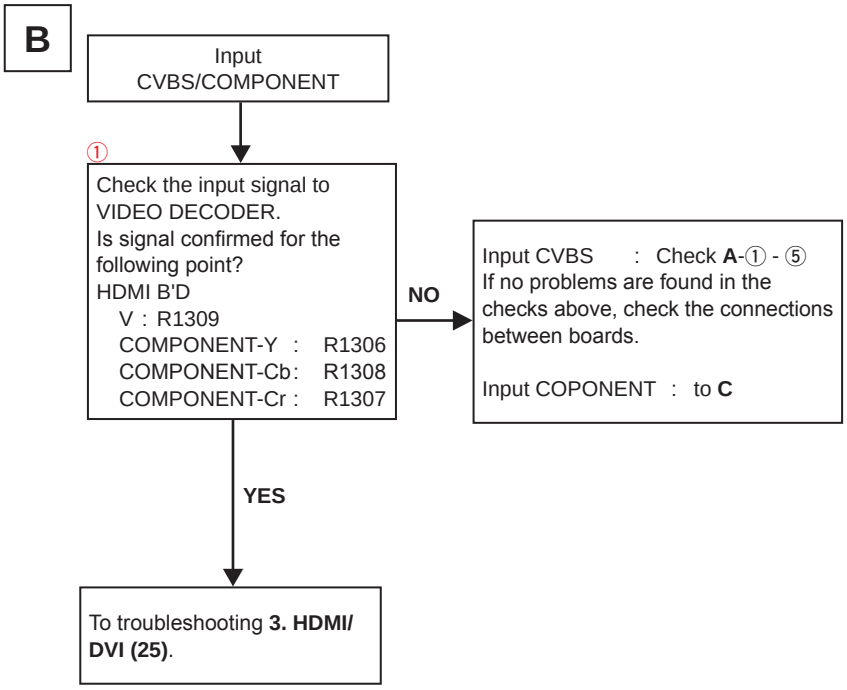
2. Analog video

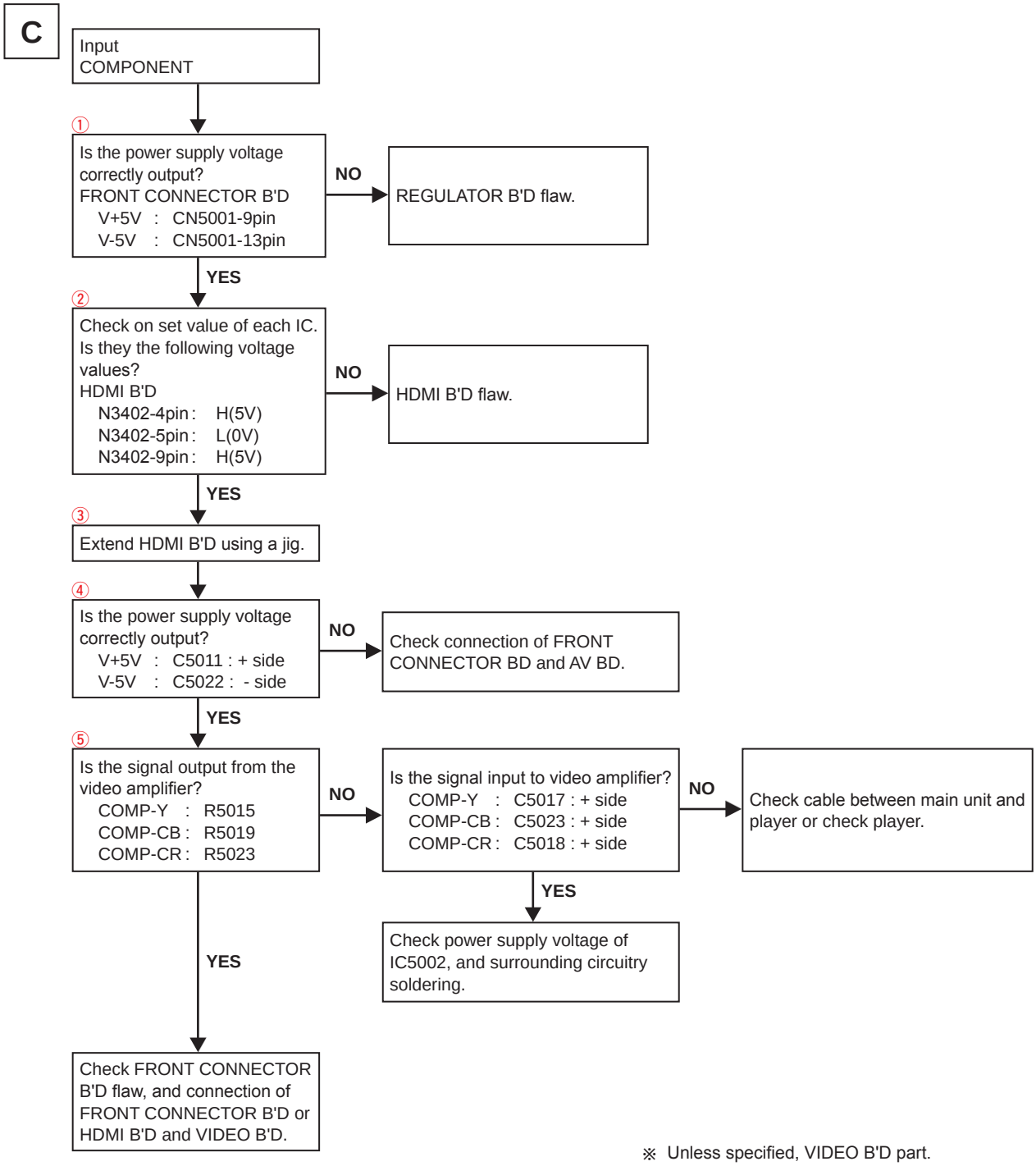






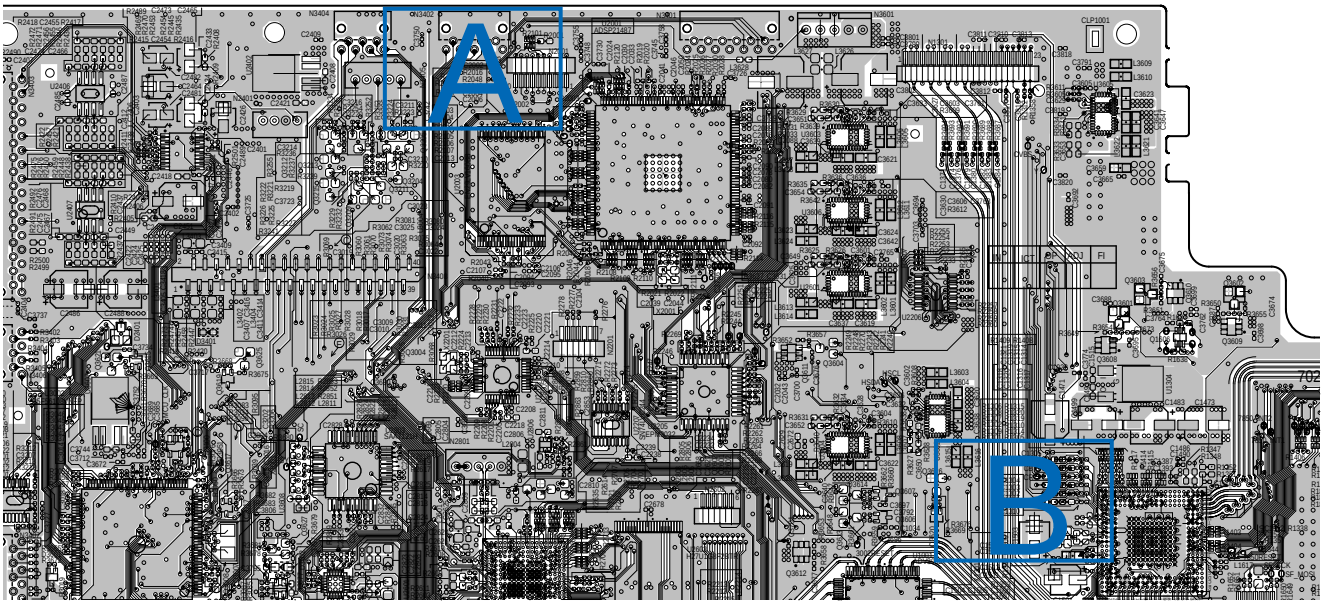
※ Unless specified, VIDEO B'D part.


B
Input
CVBS/COMPONENT
①
Check the input signal to
VIDEO DECODER.
Is signal confirmed for the
following point?
HDMI B'D
V : R1309
COMPONENT-Y : R1306
COMPONENT-Cb : R1308
COMPONENT-Cr : R1307
NO
Input CVBS : Check A-① - ⑤
If no problems are found in the
checks above, check the connections
between boards.
Input COPONENT : to C
YES
To troubleshooting 3. HDMI/
DVI (25).



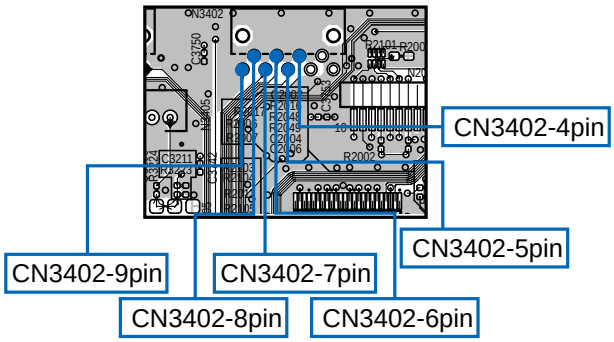
※ Unless specified, VIDEO B'D part.

HDMI test point

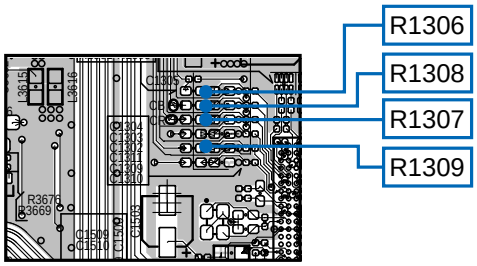


(COMPONENT SIDE)

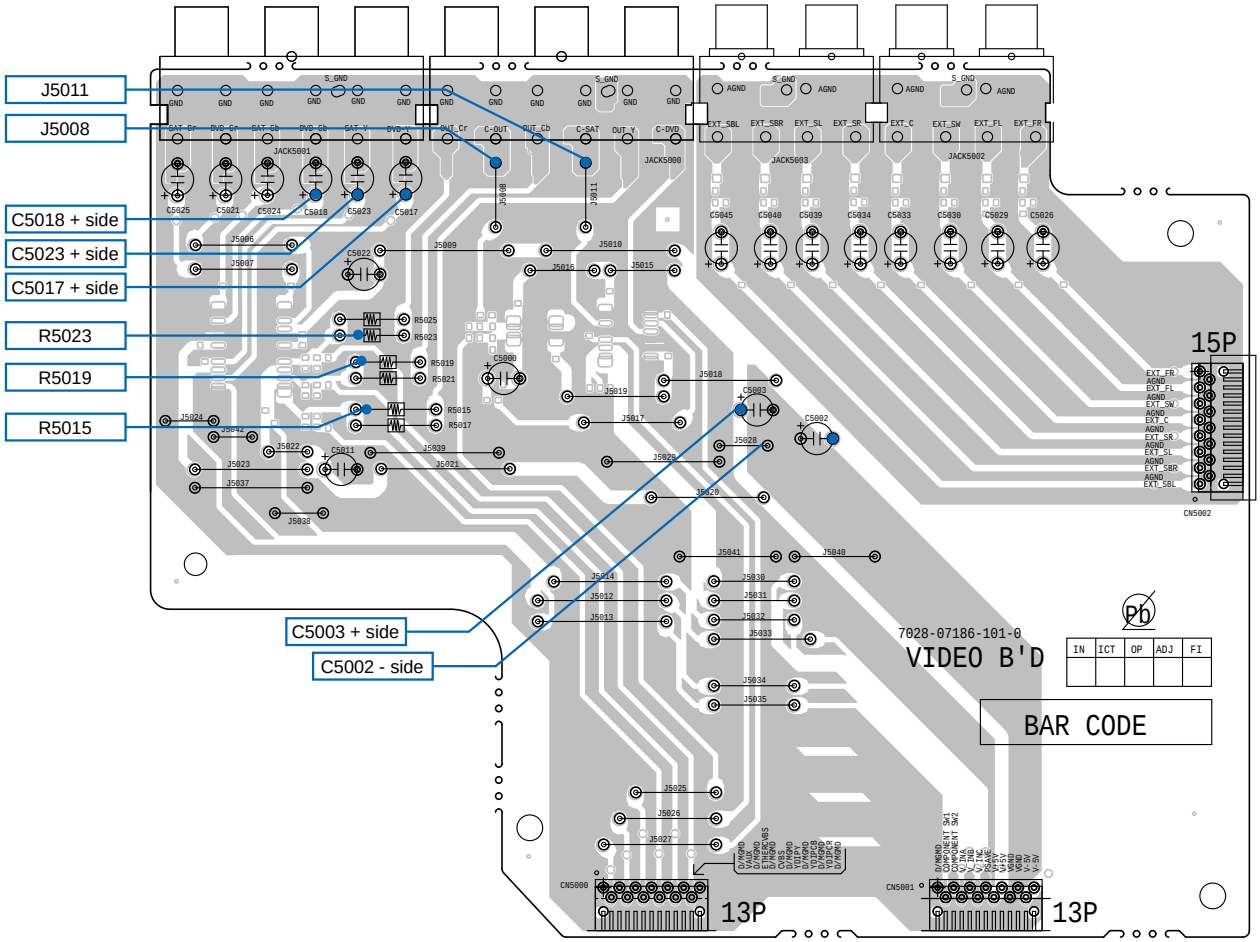
Detail A



Detail B

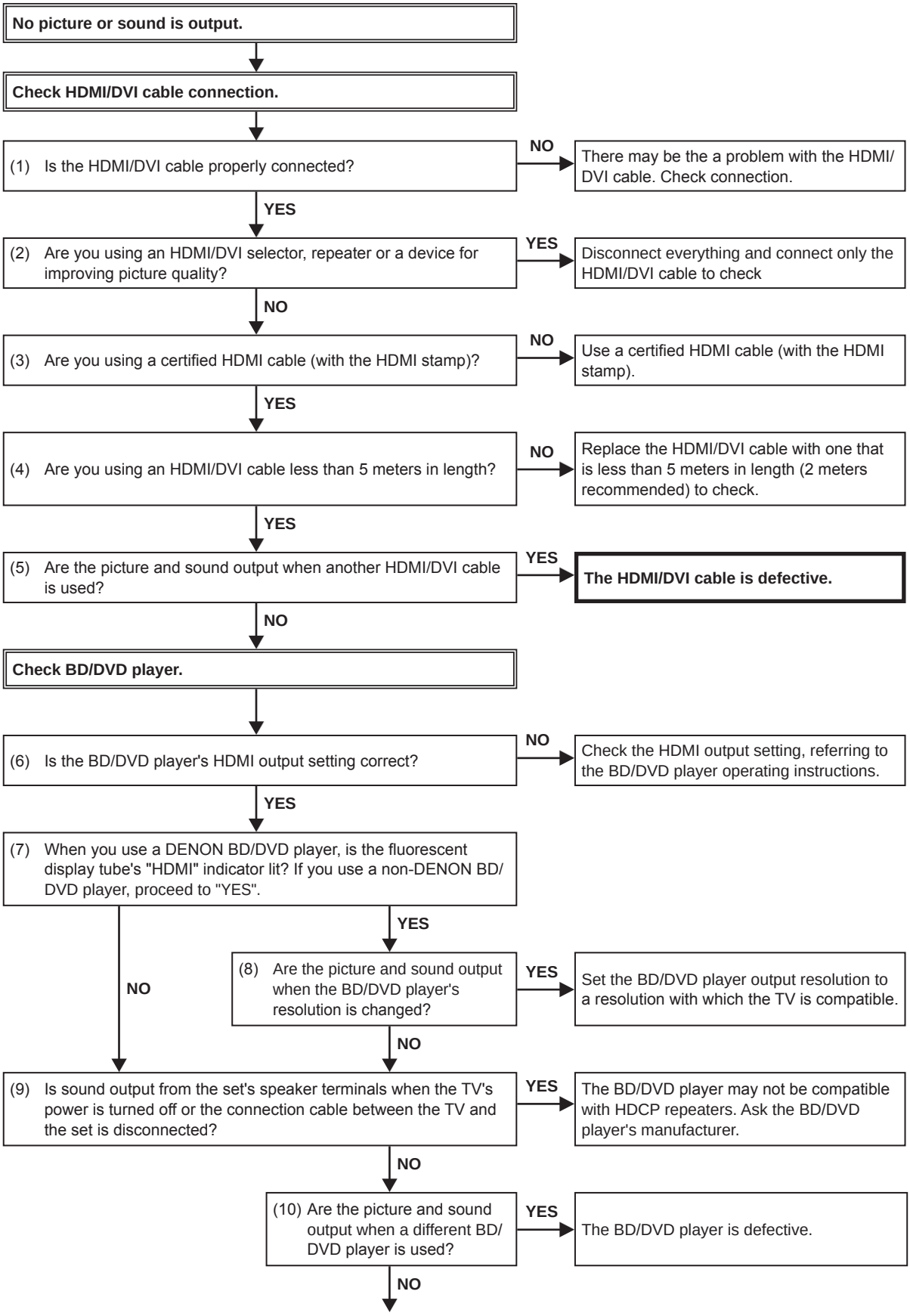


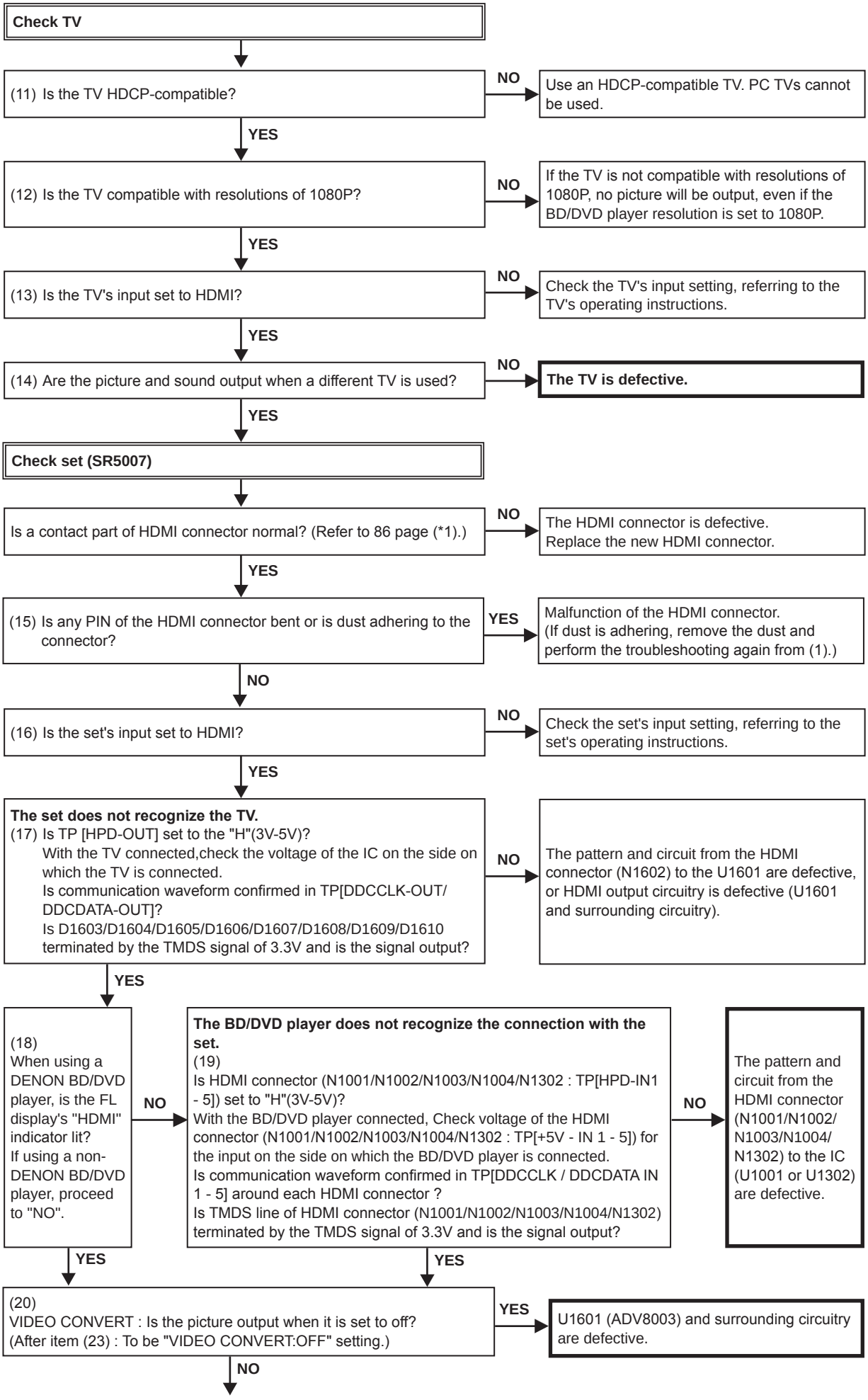
VIDEO test point

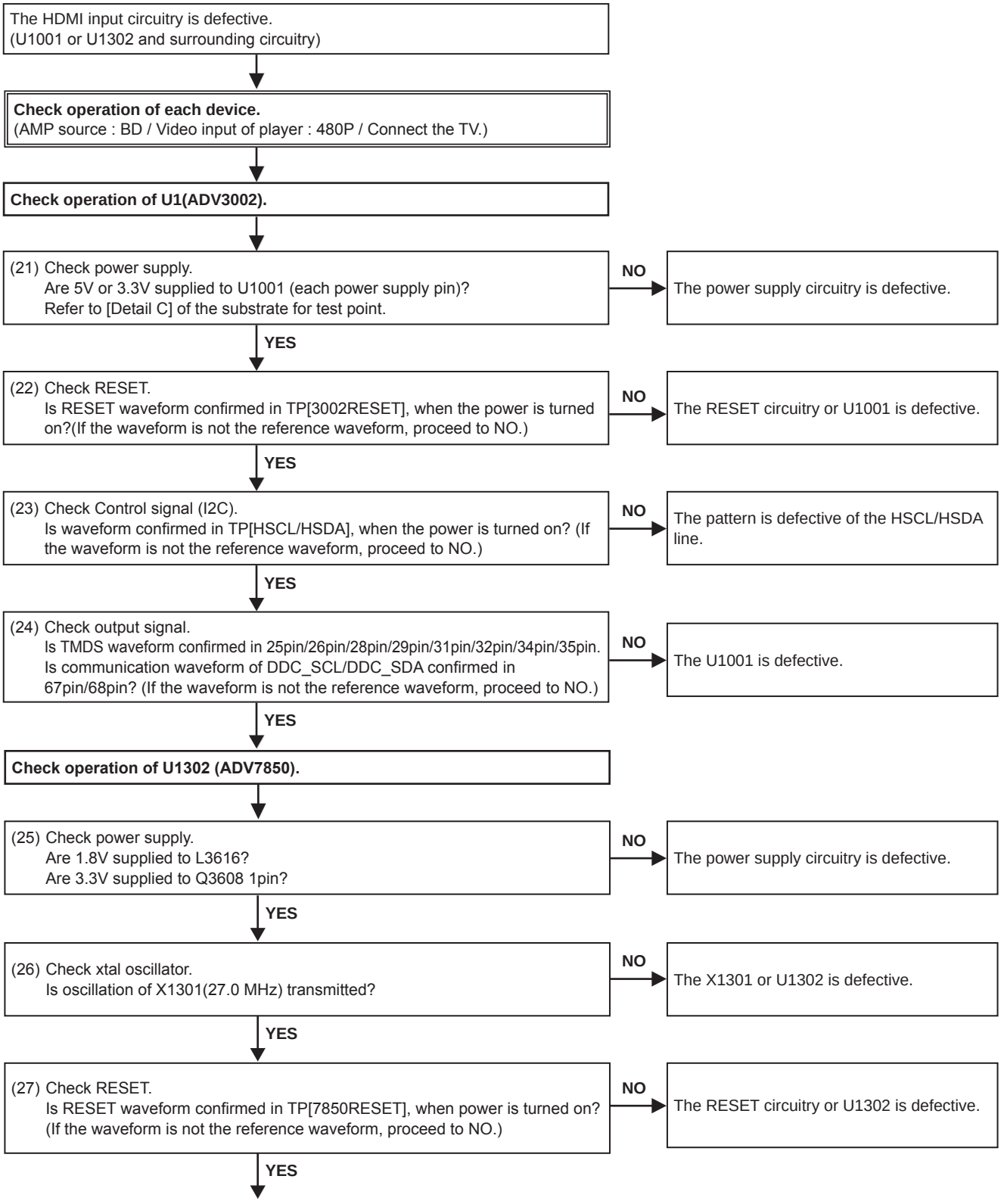


3. HDMI/DVI

3.1. No picture or sound is output (HDMI to HDMI)




Check TV
(11) Is the TV HDCP-compatible?
NO
Use an HDCP-compatible TV. PC TVs cannot be used.
YES
(12) Is the TV compatible with resolutions of 1080P?
NO
If the TV is not compatible with resolutions of 1080P, no picture will be output, even if the BD/DVD player resolution is set to 1080P.
YES
(13) Is the TV's input set to HDMI?
NO
Check the TV's input setting, referring to the TV's operating instructions.
YES
(14) Are the picture and sound output when a different TV is used?
NO
The TV is defective.
YES
Check set (SR5007)
Is a contact part of HDMI connector normal? (Refer to 86 page (*1).)
NO
The HDMI connector is defective.
Replace the new HDMI connector.
YES
(15) Is any PIN of the HDMI connector bent or is dust adhering to the connector?
YES
Malfunction of the HDMI connector.
(If dust is adhering, remove the dust and perform the troubleshooting again from (1).)
NO
(16) Is the set's input set to HDMI?
NO
Check the set's input setting, referring to the set's operating instructions.
YES
The set does not recognize the TV.
(17) Is TP [HPD-OUT] set to the "H"(3V-5V)?
With the TV connected,check the voltage of the IC on the side on which the TV is connected.
Is communication waveform confirmed in TP[DDCCLK-OUT/ DDCDATA-OUT]?
Is D1603/D1604/D1605/D1606/D1607/D1608/D1609/D1610 terminated by the TMDS signal of 3.3V and is the signal output?
NO
The pattern and circuit from the HDMI connector (N1602) to the U1601 are defective, or HDMI output circuitry is defective (U1601 and surrounding circuitry).
YES
(18)
When using a DENON BD/DVD player, is the FL display's "HDMI" indicator lit?
If using a non-DENON BD/DVD player, proceed to "NO".
NO
The BD/DVD player does not recognize the connection with the set.
(19)
Is HDMI connector (N1001/N1002/N1003/N1004/N1302 : TP[HPD-IN1 - 5]) set to "H"(3V-5V)?
With the BD/DVD player connected, Check voltage of the HDMI connector (N1001/N1002/N1003/N1004/N1302 : TP[+5V - IN 1 - 5]) for the input on the side on which the BD/DVD player is connected.
Is communication waveform confirmed in TP[DDCCLK / DDCDATA IN 1 - 5] around each HDMI connector ?
Is TMDS line of HDMI connector (N1001/N1002/N1003/N1004/N1302) terminated by the TMDS signal of 3.3V and is the signal output?
NO
The pattern and circuit from the HDMI connector (N1001/N1002/ N1003/N1004/ N1302) to the IC (U1001 or U1302) are defective.
YES
YES
(20)
VIDEO CONVERT : Is the picture output when it is set to off?
(After item (23) : To be "VIDEO CONVERT:OFF" setting.)
YES
U1601 (ADV8003) and surrounding circuitry are defective.
NO


The HDMI input circuitry is defective.
(U1001 or U1302 and surrounding circuitry)
Check operation of each device.
(AMP source : BD / Video input of player : 480P / Connect the TV.)
Check operation of U1(ADV3002).
(21) Check power supply.
Are 5V or 3.3V supplied to U1001 (each power supply pin)?
Refer to [Detail C] of the substrate for test point.
NO
The power supply circuitry is defective.
YES
(22) Check RESET.
Is RESET waveform confirmed in TP[3002RESET], when the power is turned on?(If the waveform is not the reference waveform, proceed to NO.)
NO
The RESET circuitry or U1001 is defective.
YES
(23) Check Control signal (I2C).
Is waveform confirmed in TP[HSCL/HSDA], when the power is turned on? (If the waveform is not the reference waveform, proceed to NO.)
NO
The pattern is defective of the HSCL/HSDA line.
YES
(24) Check output signal.
Is TMDS waveform confirmed in 25pin/26pin/28pin/29pin/31pin/32pin/34pin/35pin.
Is communication waveform of DDC_SCL/DDC_SDA confirmed in 67pin/68pin? (If the waveform is not the reference waveform, proceed to NO.)
NO
The U1001 is defective.
YES
Check operation of U1302 (ADV7850).
(25) Check power supply.
Are 1.8V supplied to L3616?
Are 3.3V supplied to Q3608 1pin?
NO
The power supply circuitry is defective.
YES
(26) Check xtal oscillator.
Is oscillation of X1301(27.0 MHz) transmitted?
NO
The X1301 or U1302 is defective.
YES
(27) Check RESET.
Is RESET waveform confirmed in TP[7850RESET], when power is turned on?
(If the waveform is not the reference waveform, proceed to NO.)
NO
The RESET circuitry or U1302 is defective.
YES

Check operation of U1601 (ADV8003)

(28) Check power supply.
Are 1.8V supplied to L3622?
Are 3.3V supplied to Q3610 1pin?

NO → The power supply circuitry is defective.

YES

(29) Check xtal oscillator.
Is oscillation of X1601(27MHz) transmitted?

NO → The X1601 or U1601 is defective.

YES

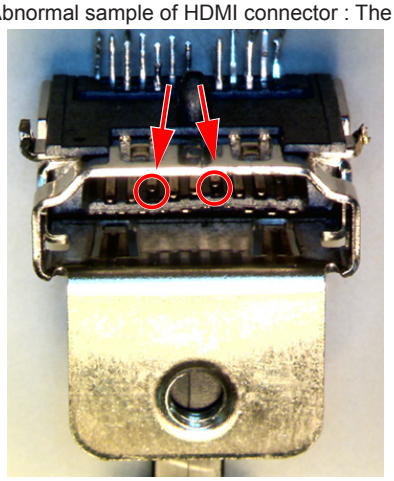
(30) Check RESET.
Is RESET waveform confirmed in TP[8003 RESET], when power is turned on? (If not reference waveform, proceed to "NO".)

NO → The RESET circuitry or U1601 is defective.

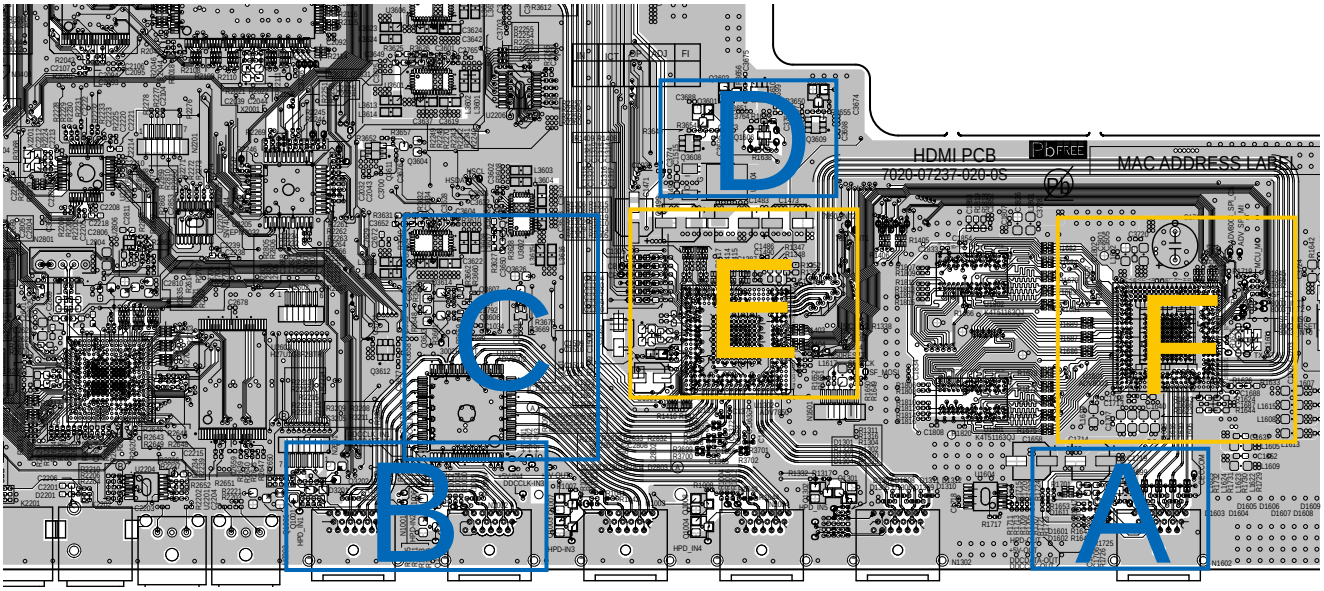
YES

The pattern and circuit from the HDMI connector (N1602) to the IC(U1601) is defective, or HDMI output circuitry is defective.

(*1) Abnormal sample of HDMI connector : The internal terminal has bent.

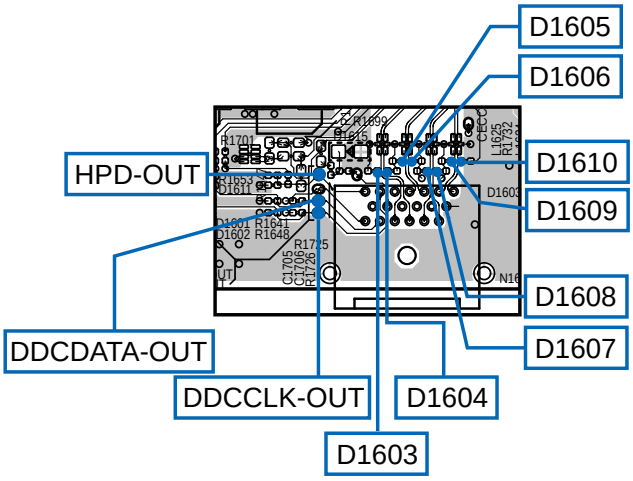


HDMI test point and waveforms

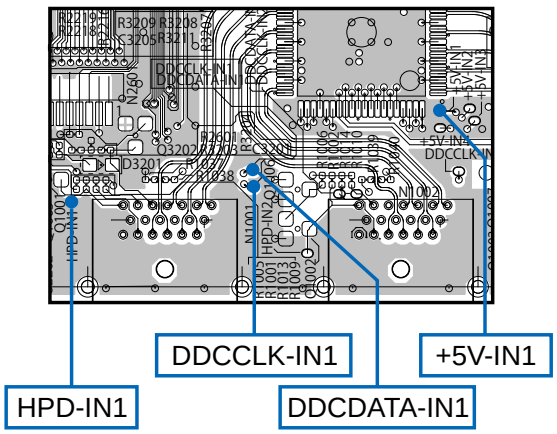


(COMPONENT SIDE)

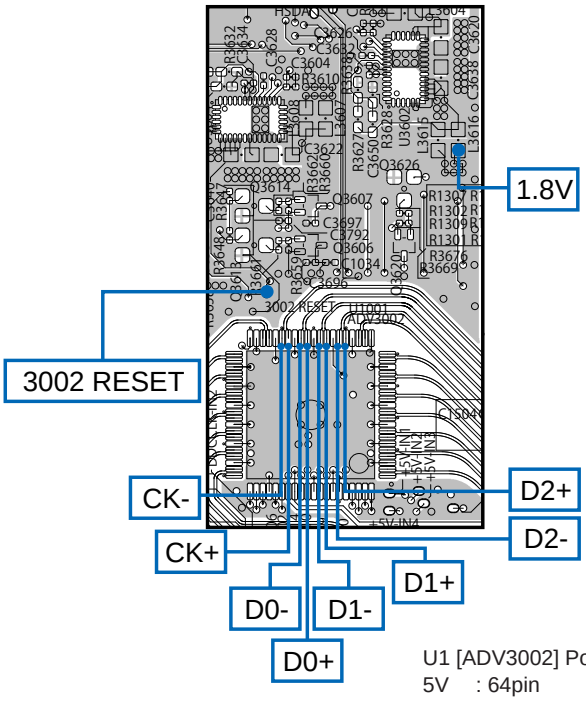
Detail A



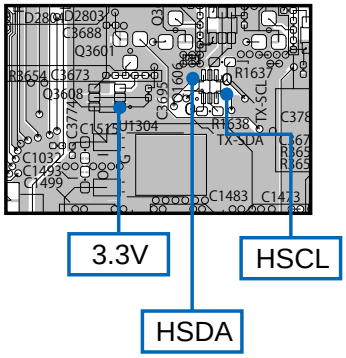
Detail B



Detail C

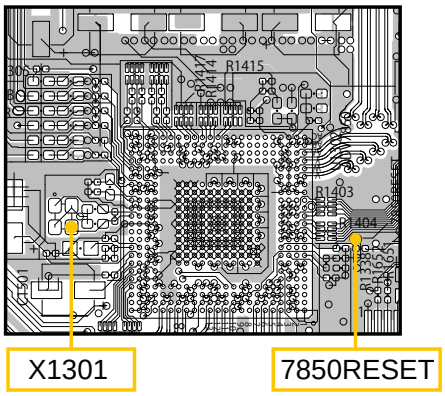


Detail D

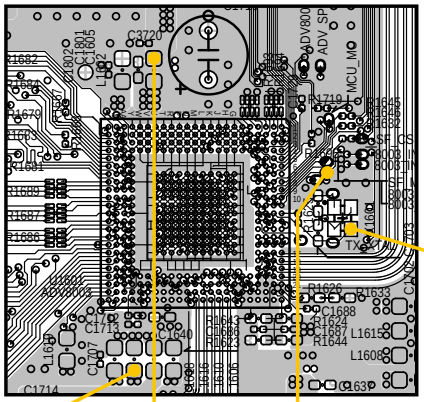


U1 [ADV3002] Power pin
5V : 64pin
3.3V : 9pin / 18pin / 33pin / 43pin /52pin

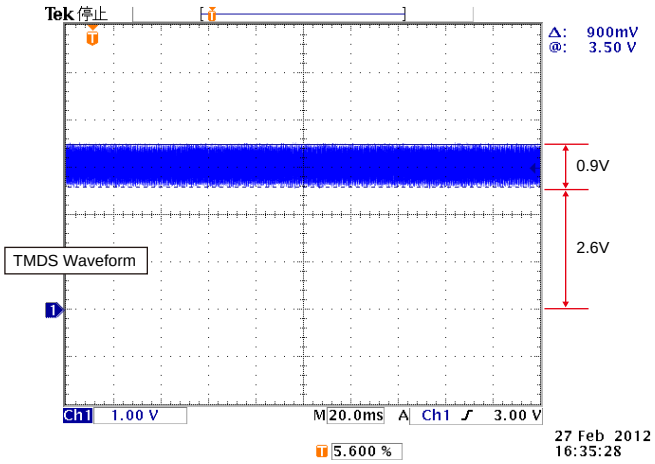
Detail E

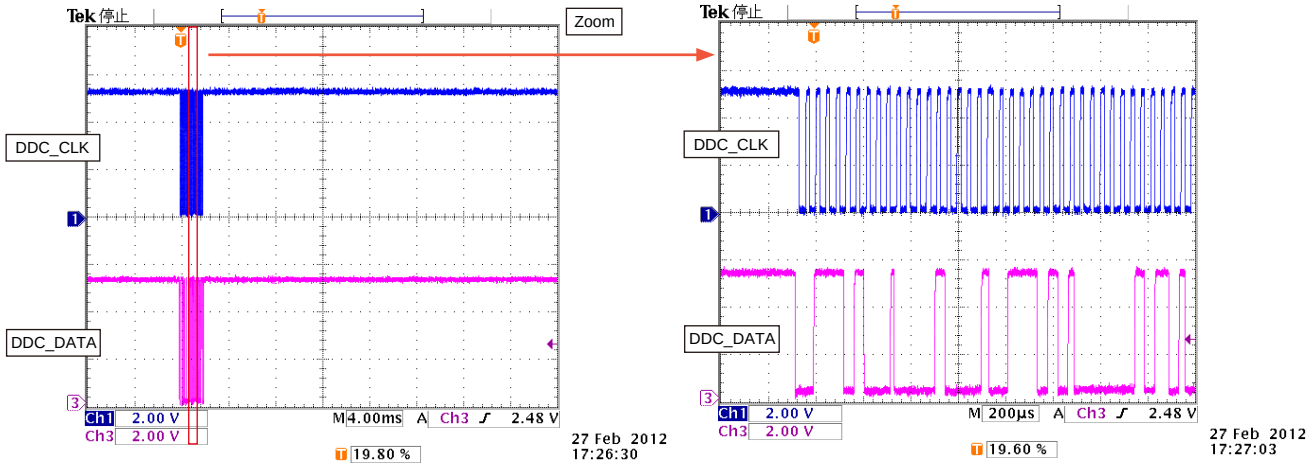


Detail F

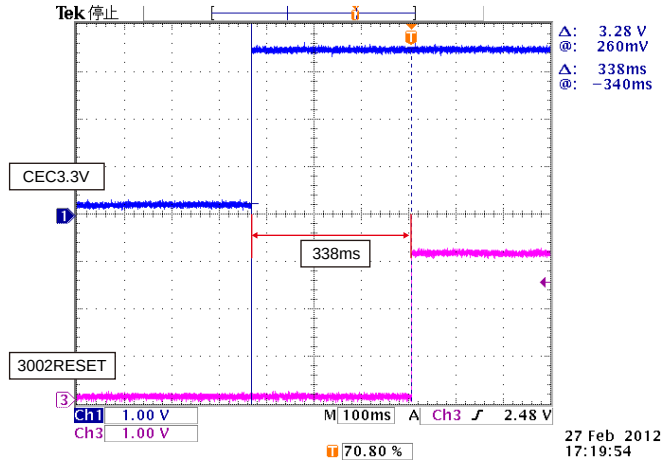


DDC_CLK/DDC_DATA/TMDS : Check items HDMI to HDMI (17)/(19)/(24)

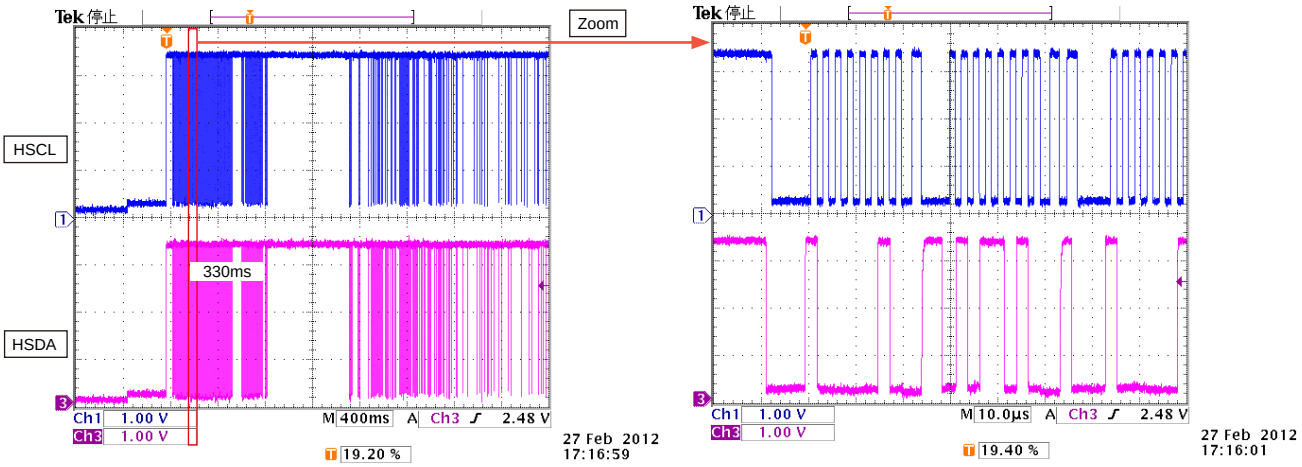




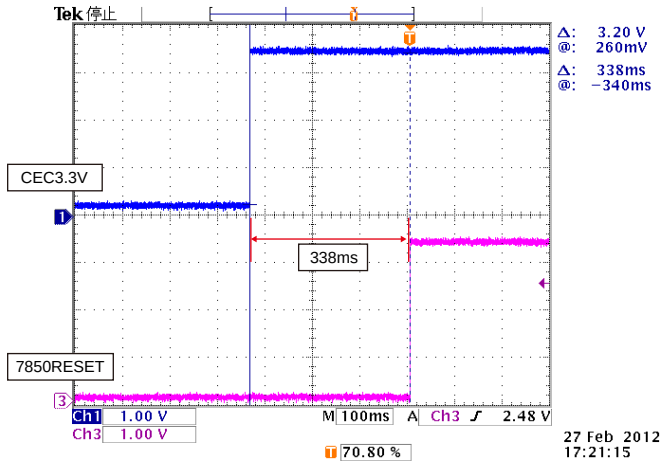
Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (22)



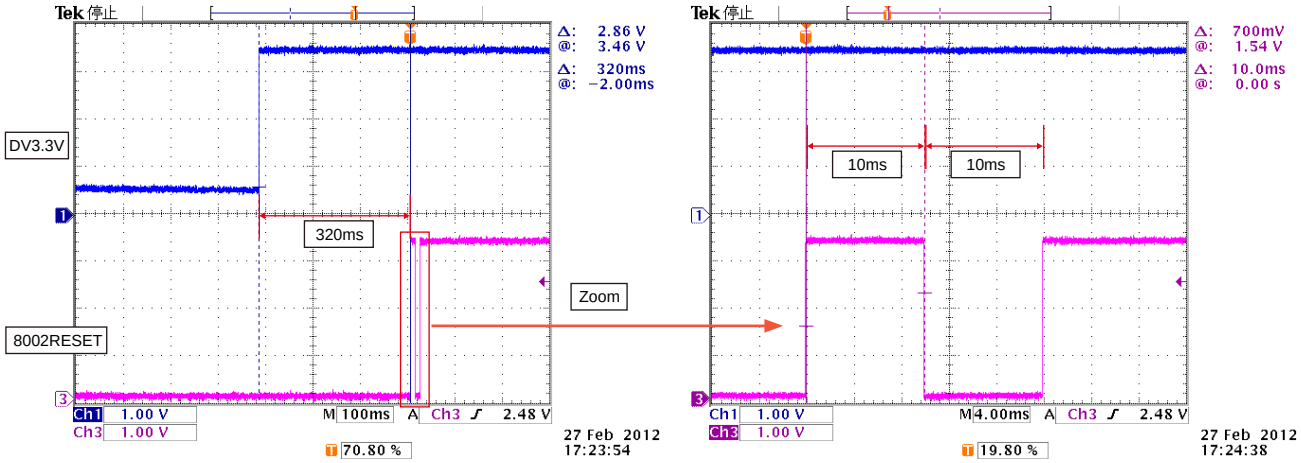
Controlled waveform (I2C), when power is turned on : Check items (23)



Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (27)



Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (30)



4. AUDIO

4.1. AUDIO CHECK

Audio output NG. Refer to "**Audio Check PATH**" (103 page).

CHECK1	INPUT	SURROND MODE	SOURCE
Audio output OK?	ANALOG 2CH	DIRECT	ANALOG

NO → Check ANALOG audio BLOCK.

YES

CHECK2	INPUT	SURROND MODE	SOURCE
Audio output OK?	COAX or OPT	Don't care	Legacy (PCM or DolbyDigital or dts…)

NO → Check Digital audio BLOCK.

YES

CHECK3	INPUT	SURROND MODE	SOURCE
Audio output OK?	ANALOG 2CH	MULTICH STEREO	ANALOG

NO → Check ADC BLOCK

YES

CHECK4	INPUT	SURROND MODE	SOURCE
Audio output OK?	HDMI	Don't care	Legacy (PCM2ch or DolbyDigital or dts…)

NO → Check HDMI BLOCK.

YES

CHECK5	INPUT	SURROND MODE	SOURCE
Audio output OK?	HDMI	Don't care	HBR audio (DolbyTrueHD or dtsHD MA)

YES (Digital audio Block is OK) → Check other factors.

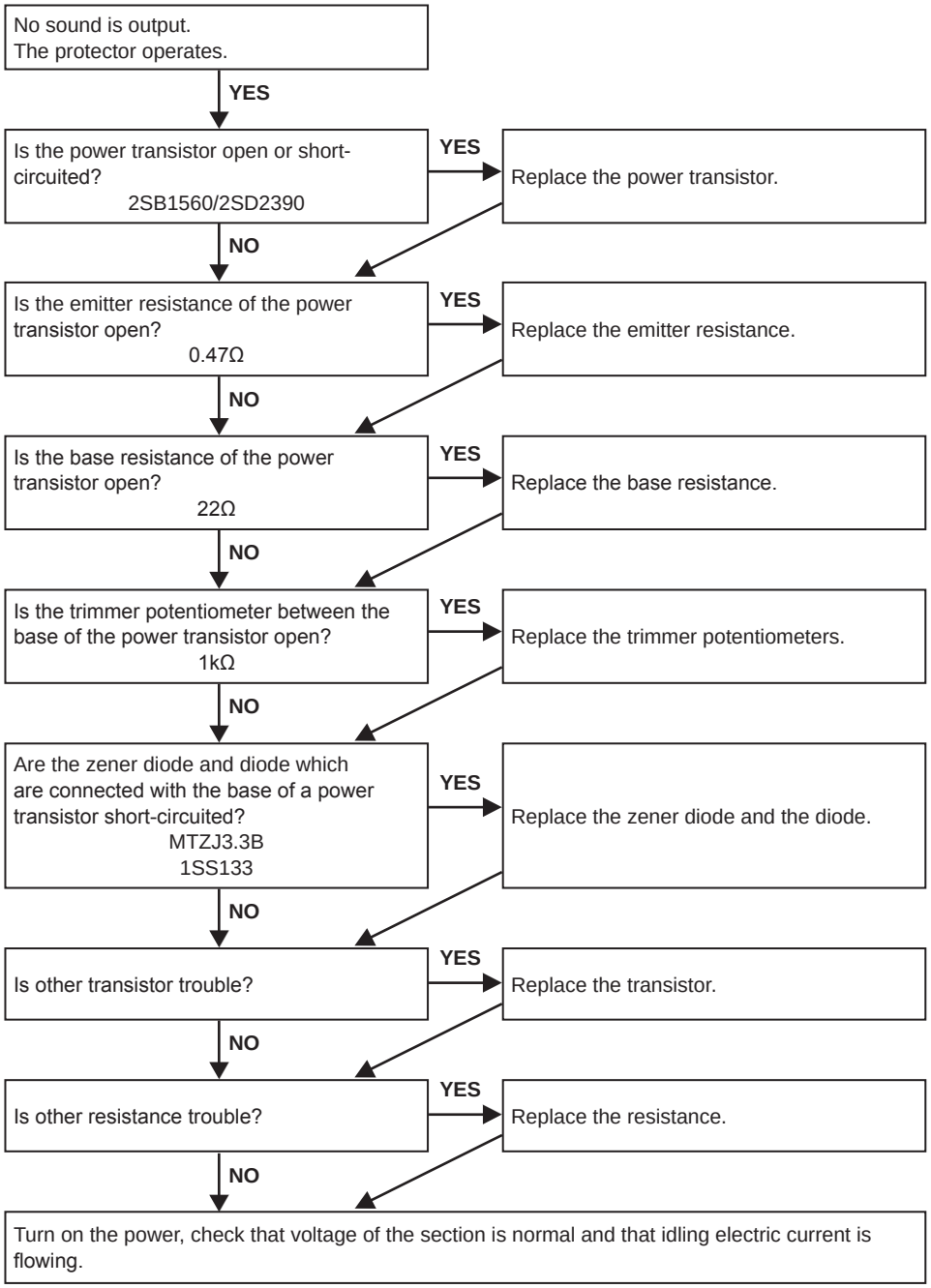
NO

CHECK6	INPUT	Connect	
AVR's (connected in HDMI) audio output OK?	HDMI	This unit's HDMI OUT → Other AVR's HDMI IN	
	Setting	SURROND MODE	SOURCE
	CEC STANDBY	Don't care	HBR audio(DolbyTrueHD or dtsHD MA)

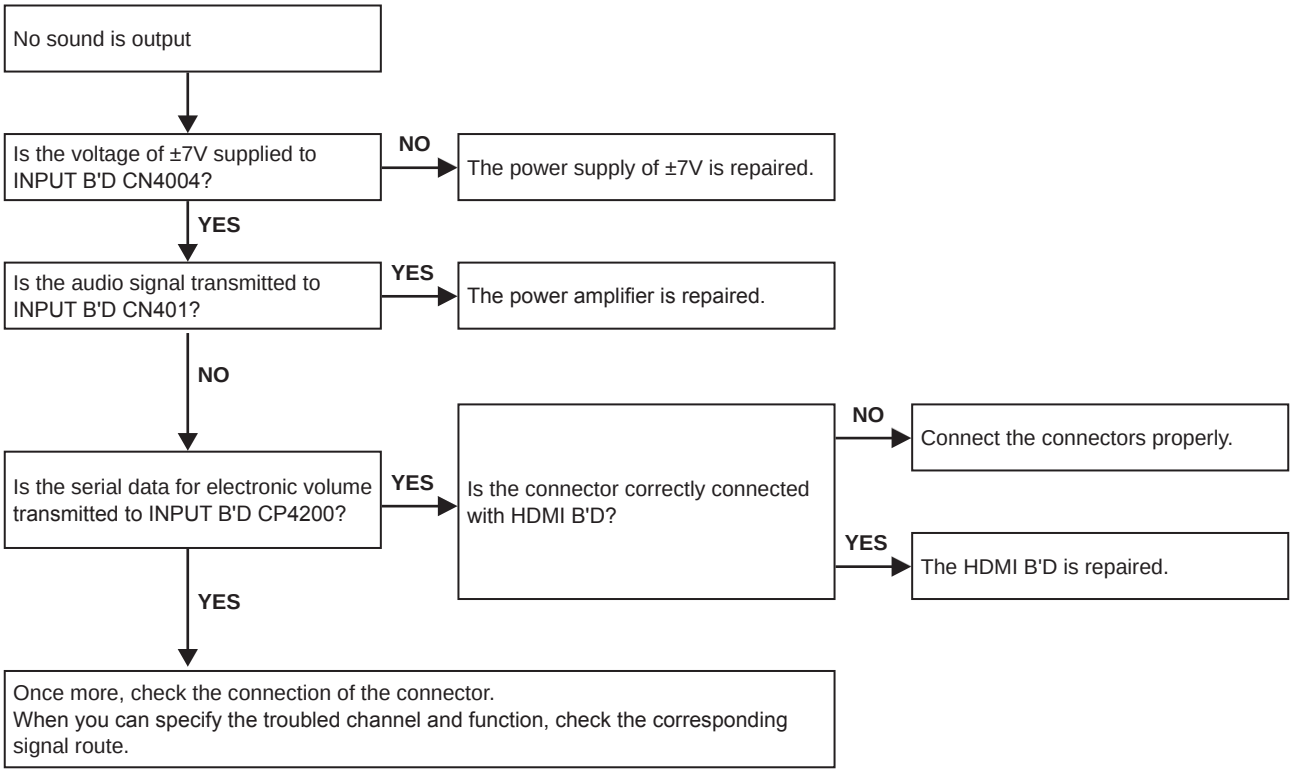
YES → Check Digital audio BLOCK

NO → Check HDMI BLOCK.

4.2. Power AMP (AMP UNIT)

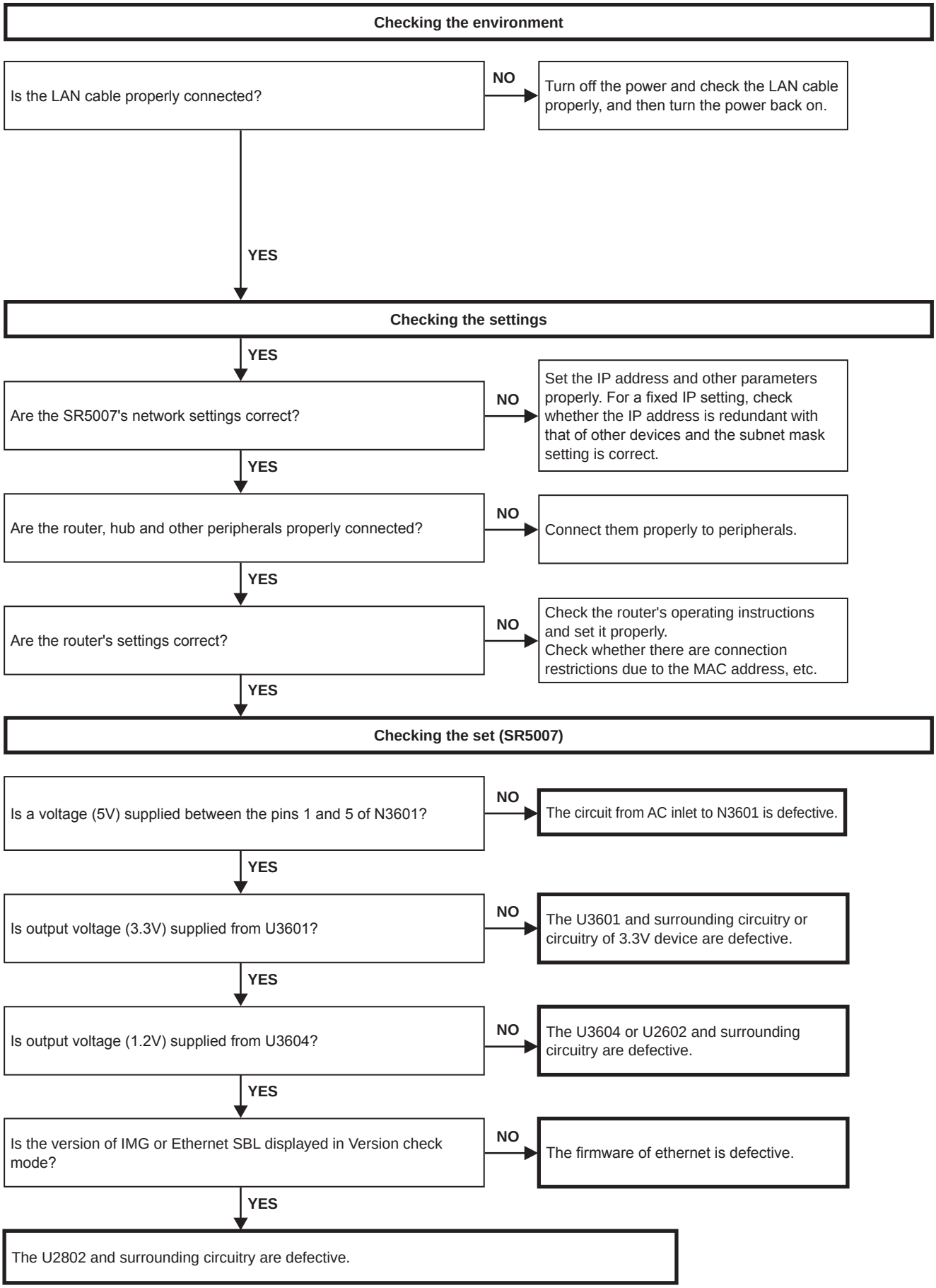


4.3. Analog audio

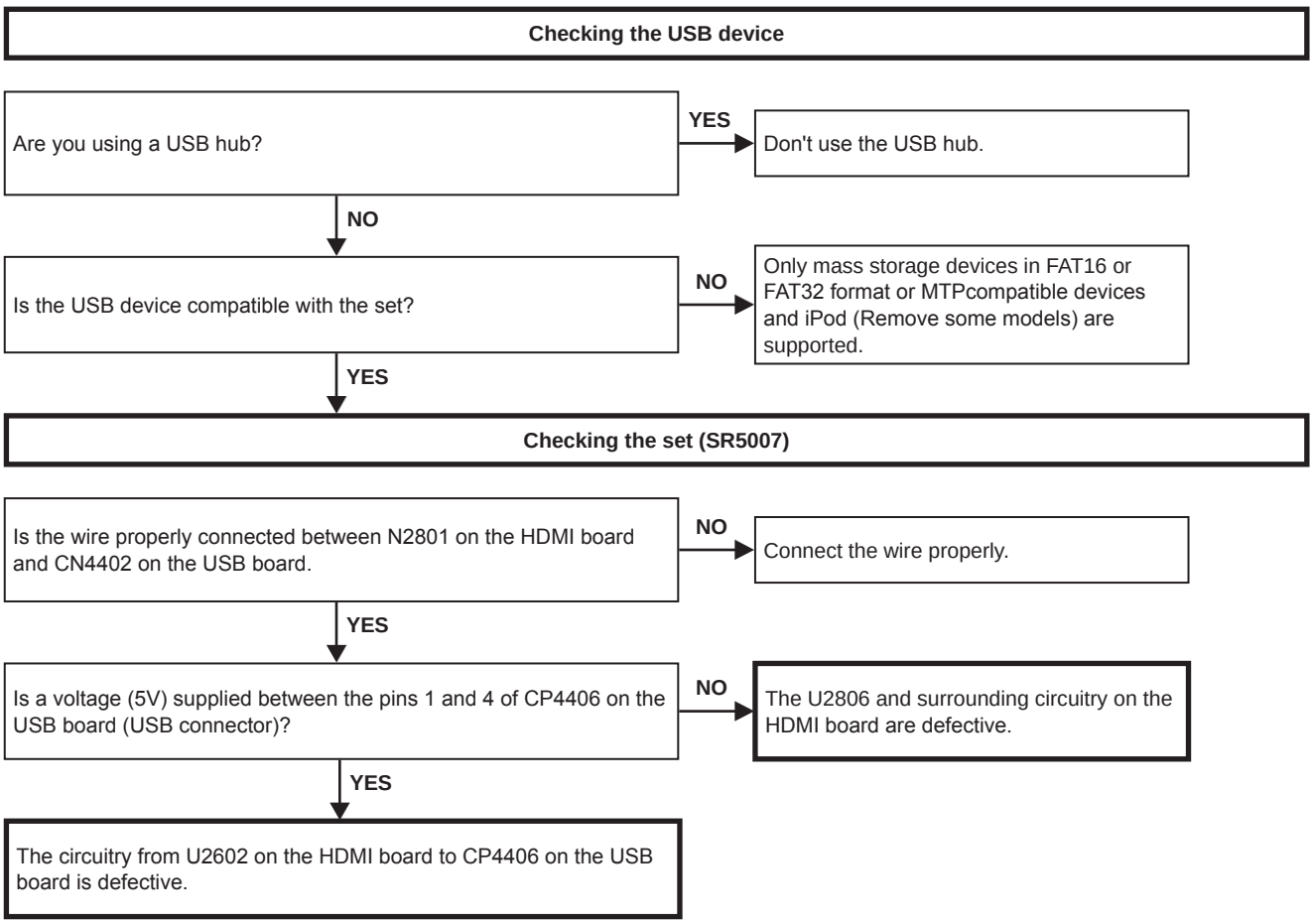


5. Network/USB

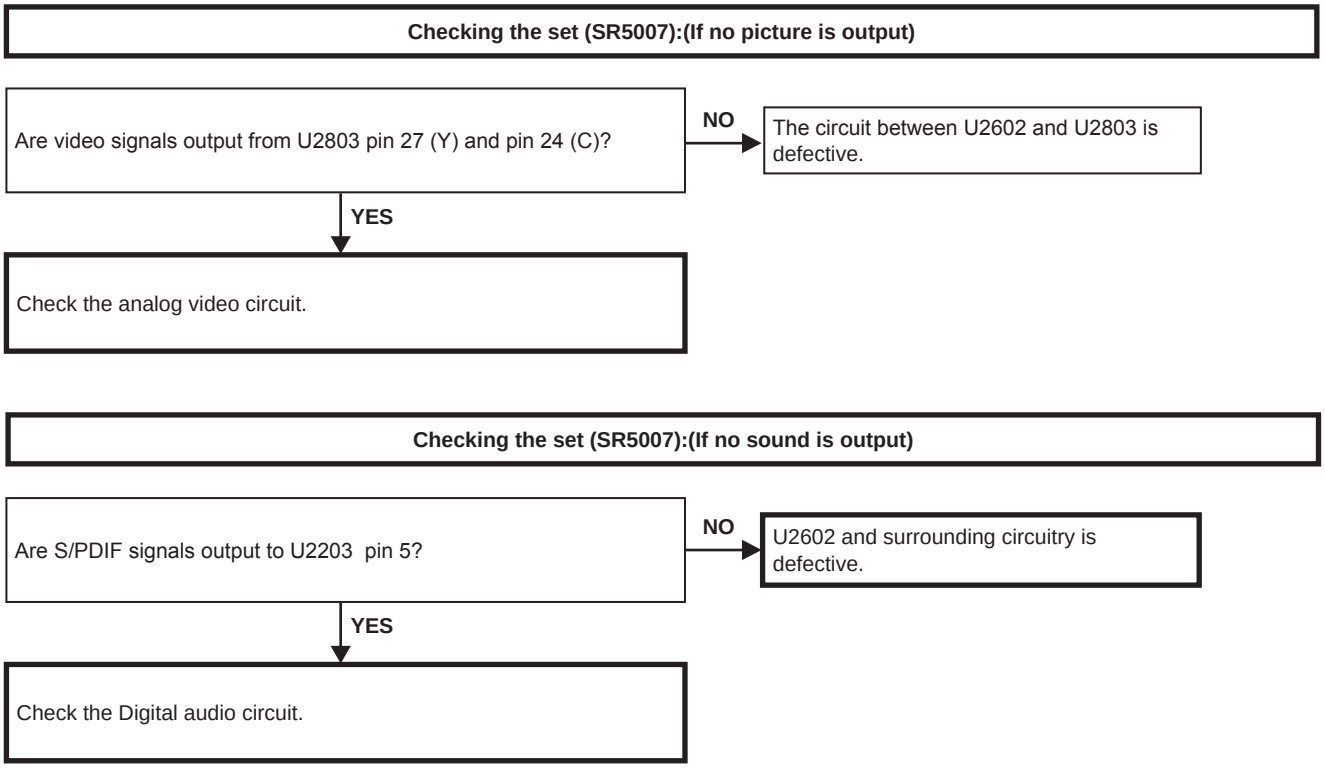
5.1. Cannot connect to network



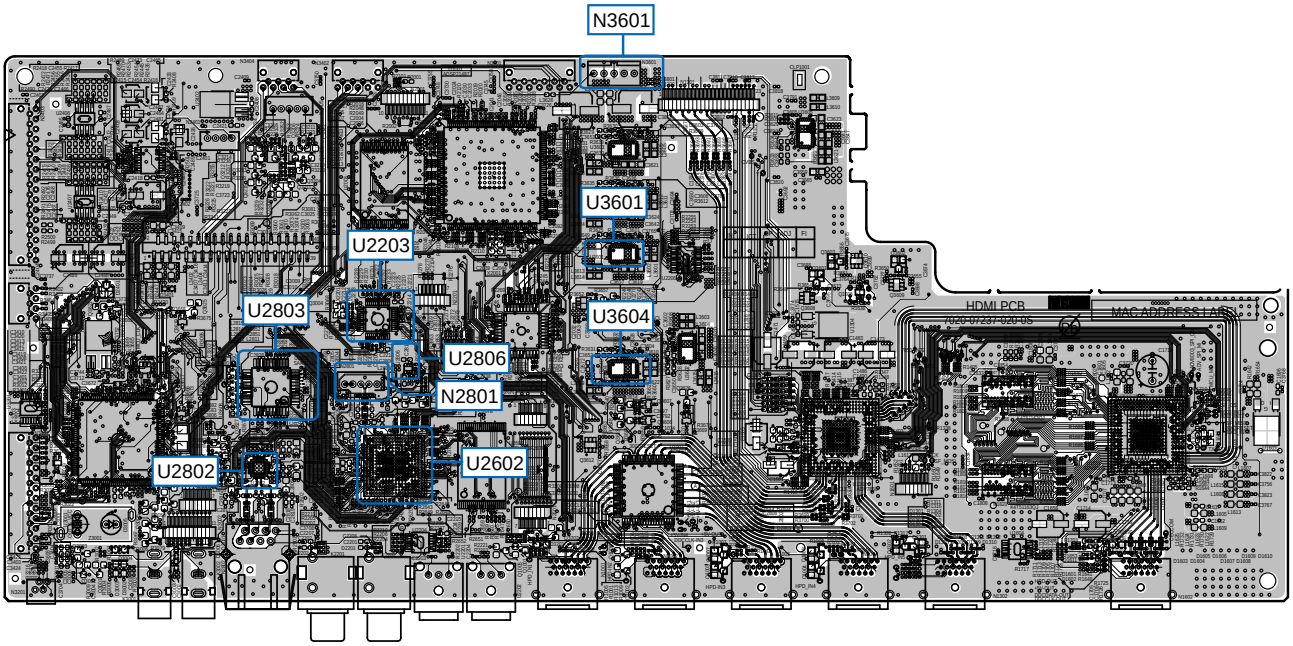
5.2. USB device is not recognized



5.3. No picture or no sound is output

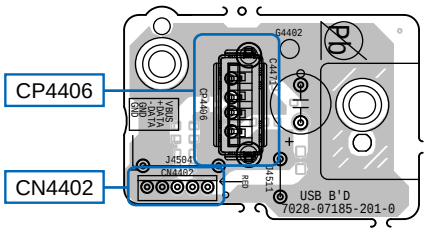


HDMI test point



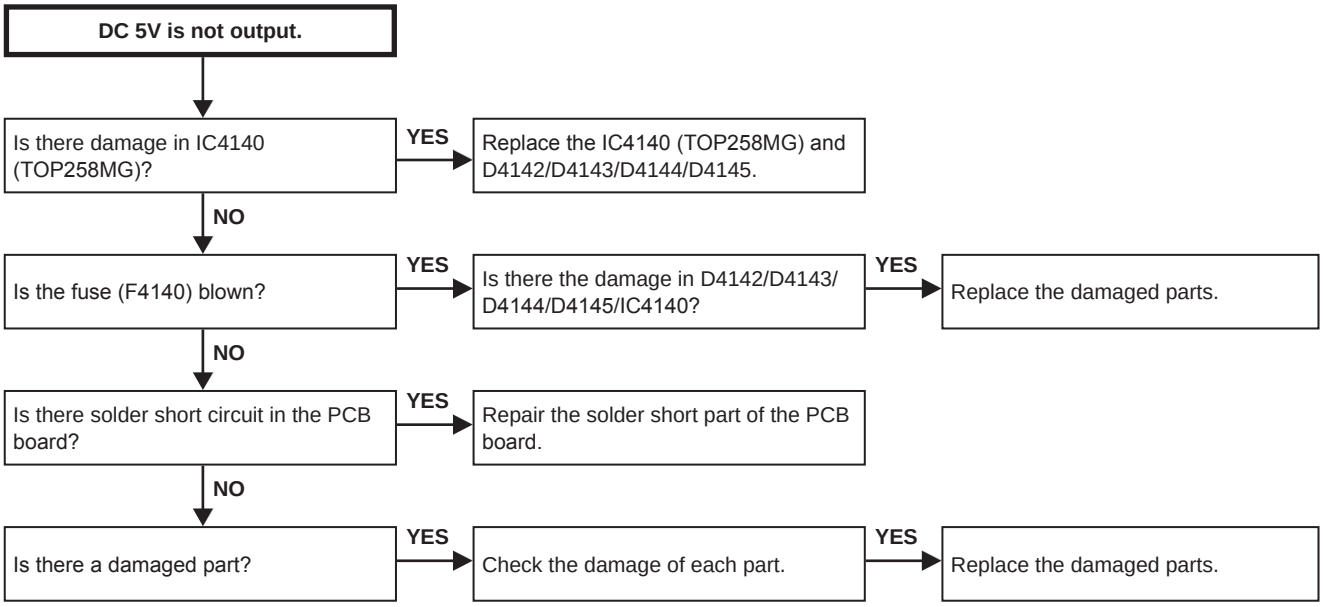
(COMPONENT SIDE)

USB test point

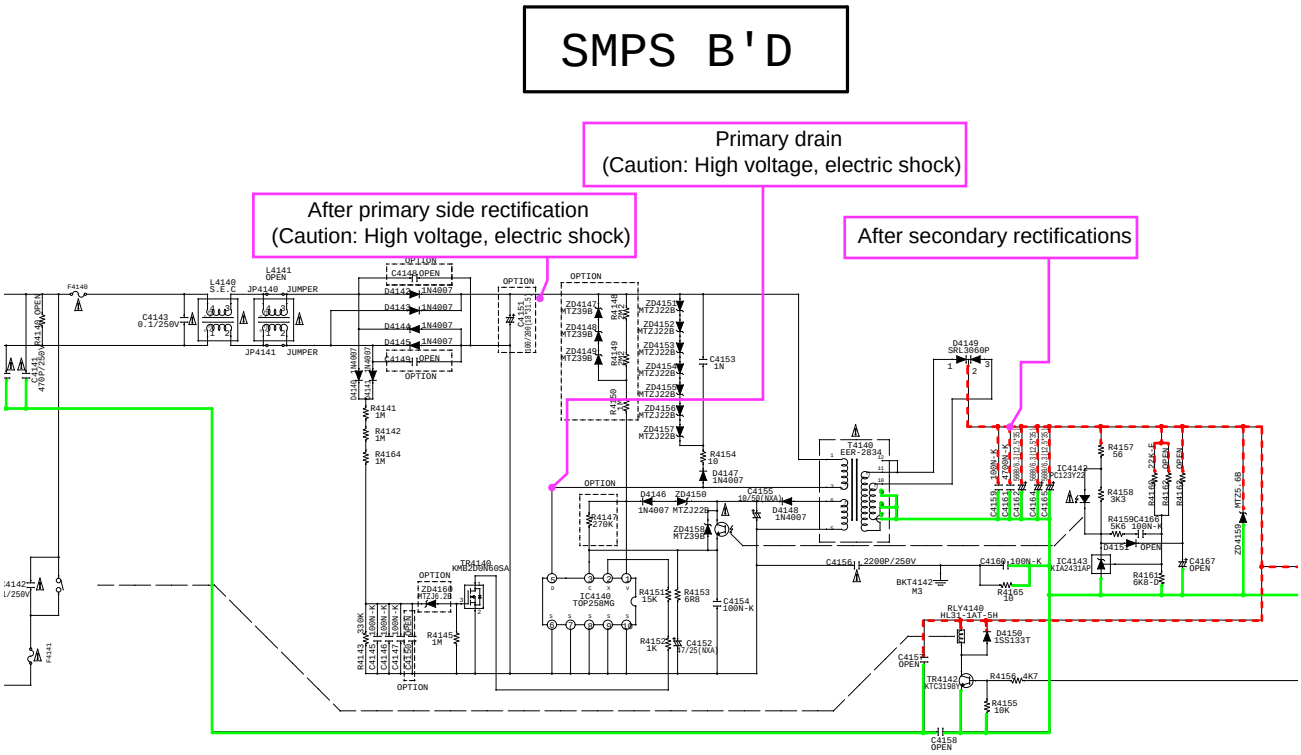


(COMPONENT SIDE)

6. SMPS

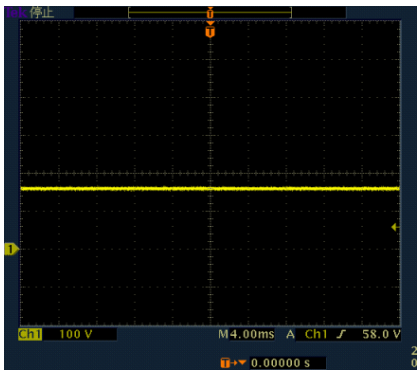

DC 5V is not output.
Is there damage in IC4140 (TOP258MG)?
YES
Replace the IC4140 (TOP258MG) and D4142/D4143/D4144/D4145.
NO
Is the fuse (F4140) blown?
YES
Is there the damage in D4142/D4143/ D4144/D4145/IC4140?
YES
Replace the damaged parts.
NO
Is there solder short circuit in the PCB board?
YES
Repair the solder short part of the PCB board.
NO
Is there a damaged part?
YES
Check the damage of each part.
YES
Replace the damaged parts.

Operation waveform for each part

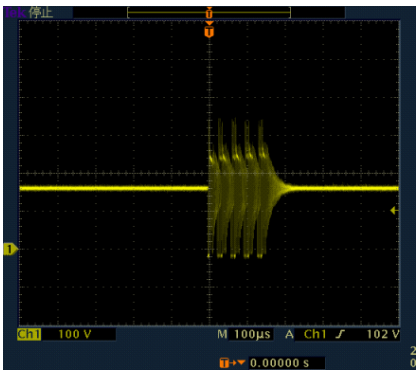


SMPS unit
(Unloaded)

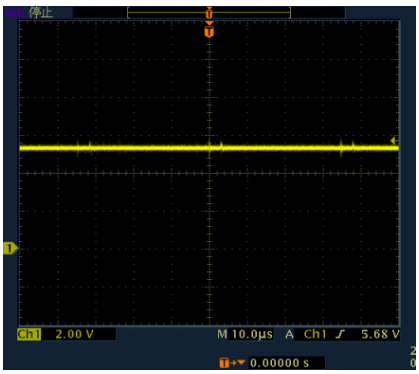
A



B

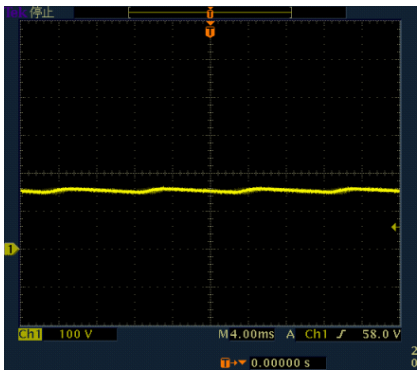


C

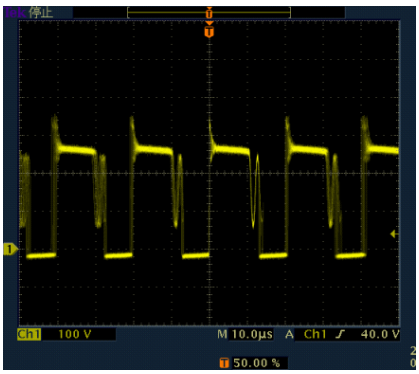


Set

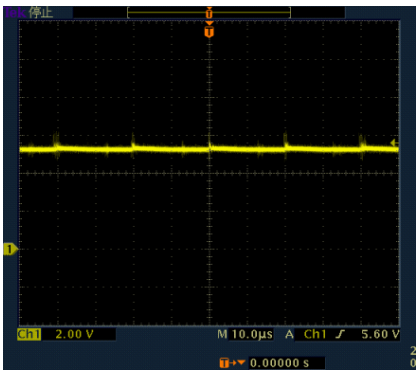
A



B



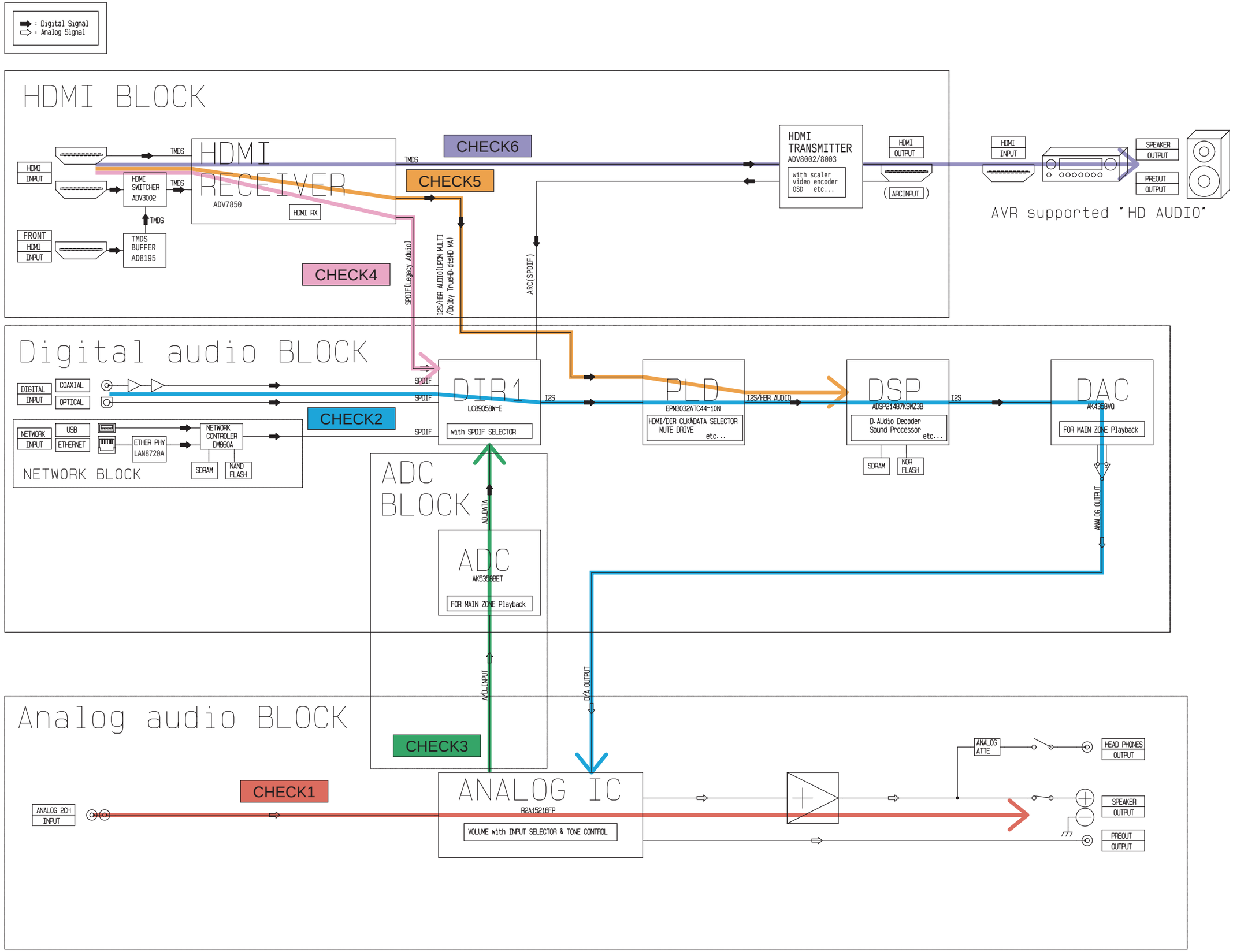
C



Personal notes:

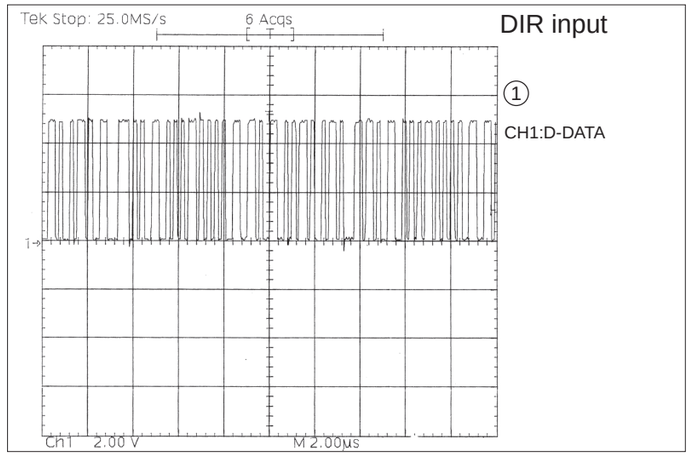
Audio Check PATH

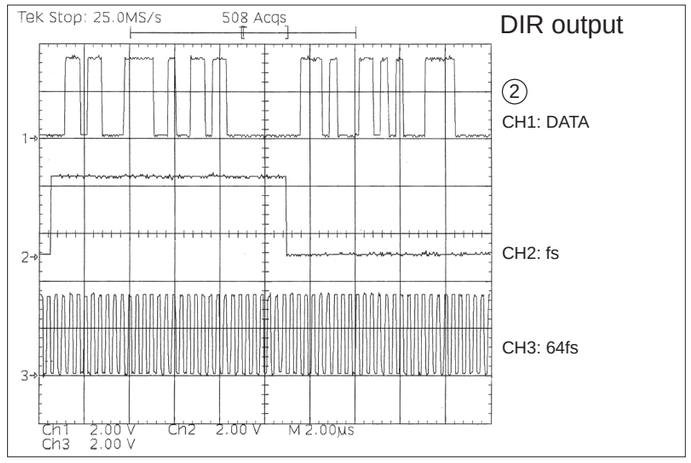
Refer to troubleshooting "**4.1. AUDIO CHECK**"(93 page).

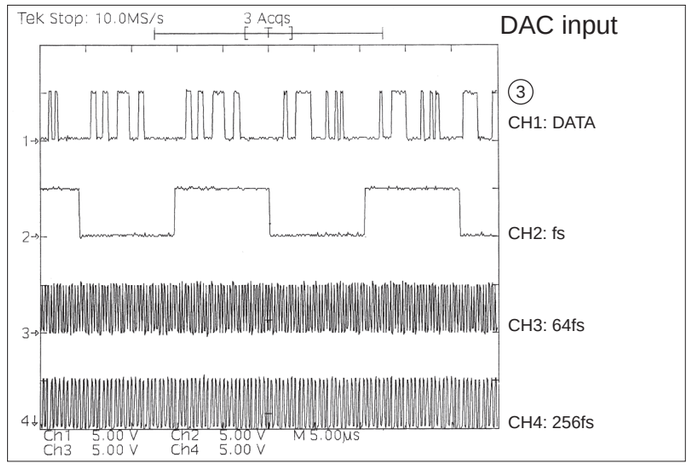


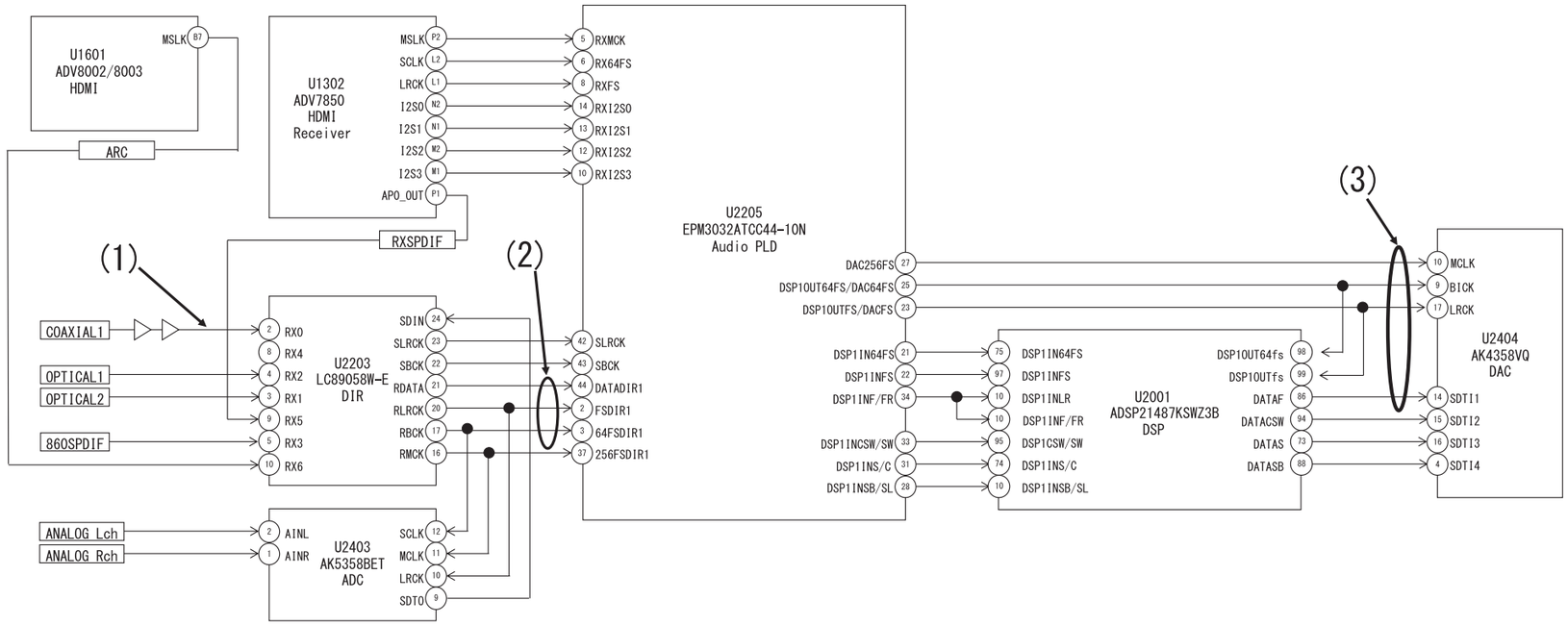
CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

WAVE FORM

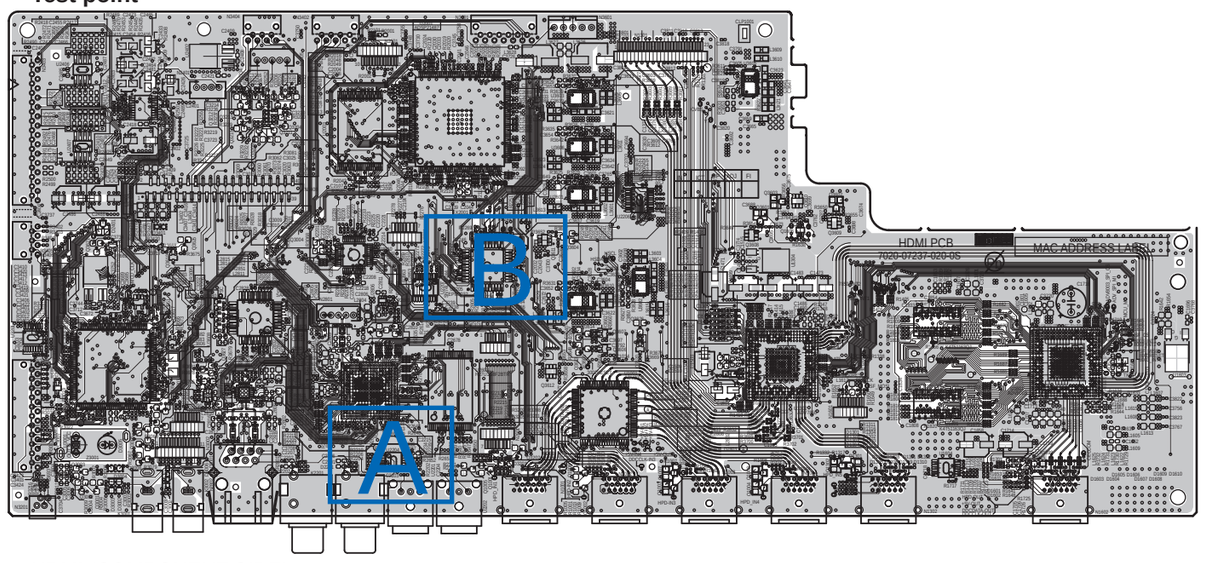






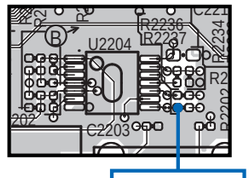


Test point

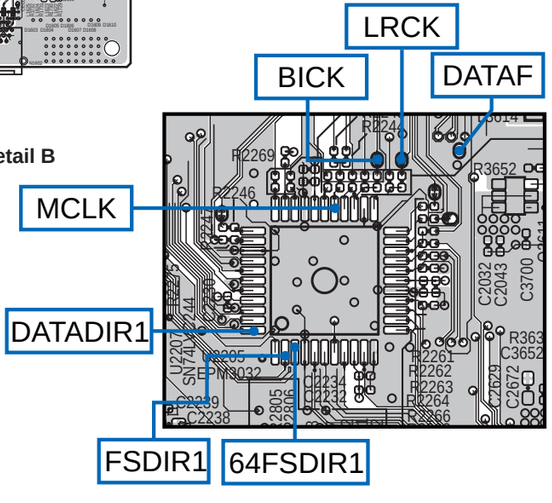


HDMI (COMPONENT SIDE)

Detail A

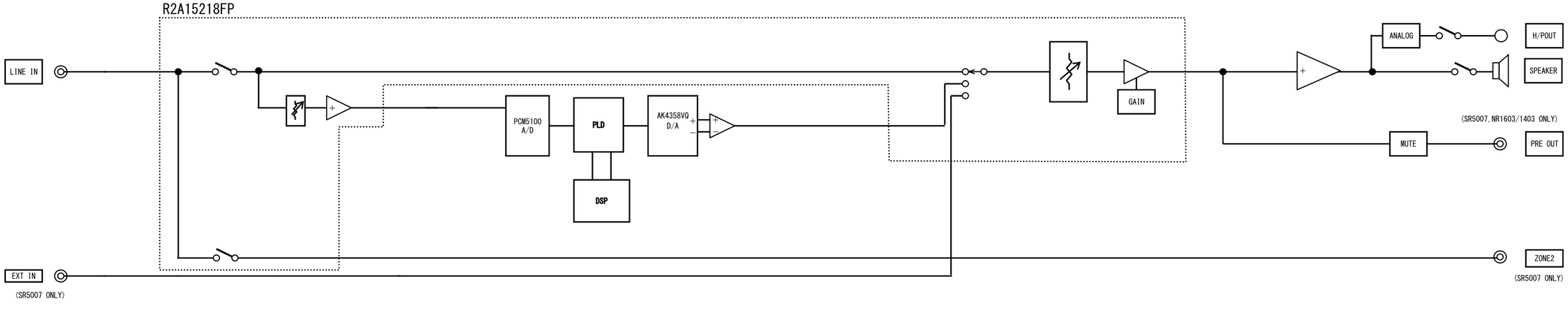


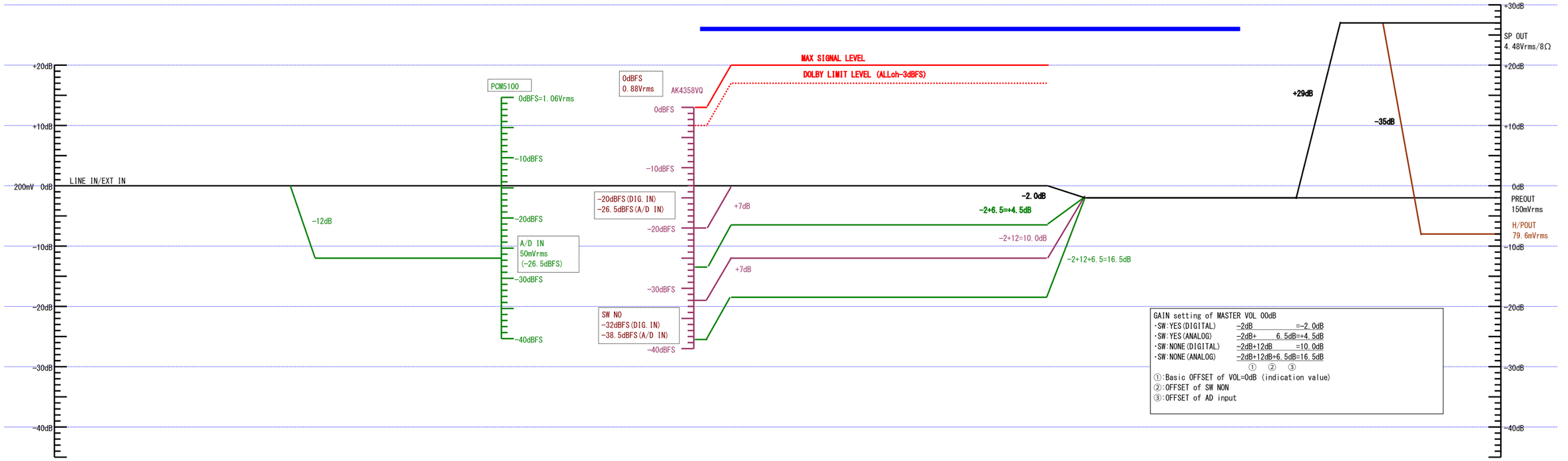
Detail B



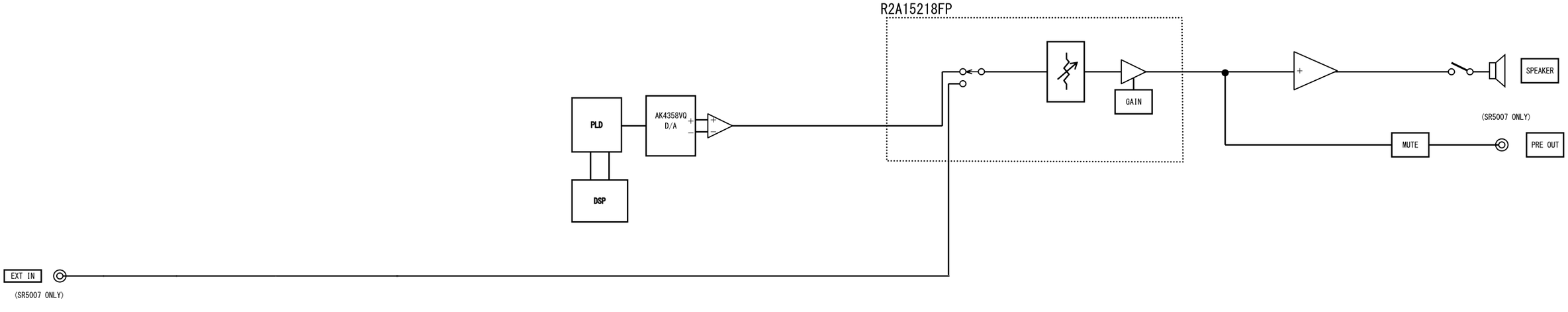
LEVEL DIAGRAM

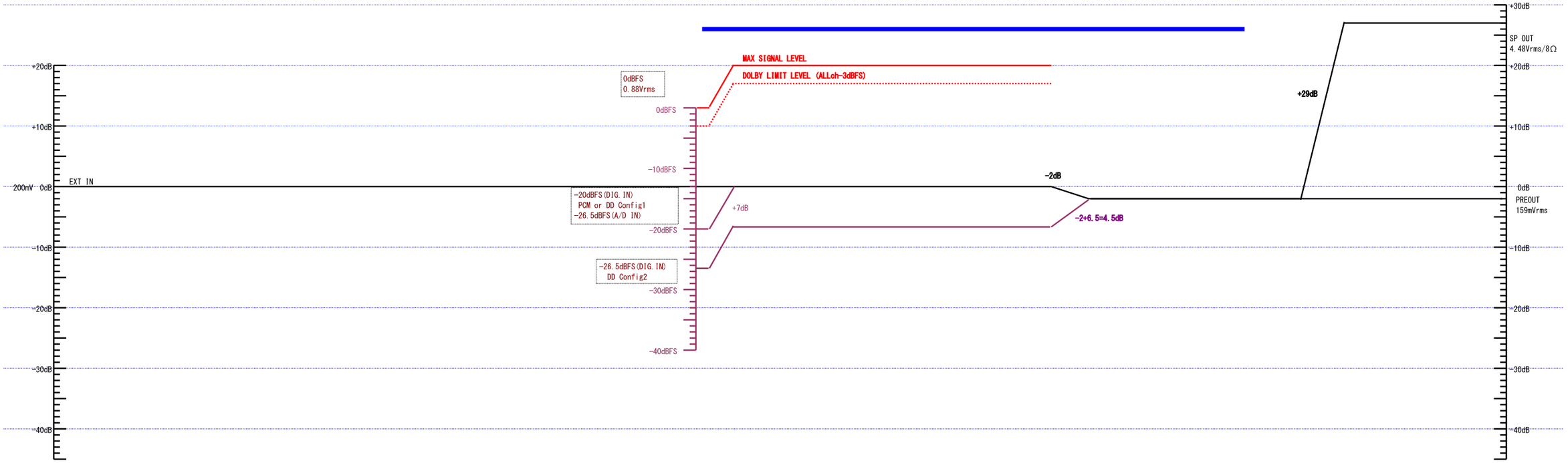
LEVEL DIAGRAM
FRONT ch



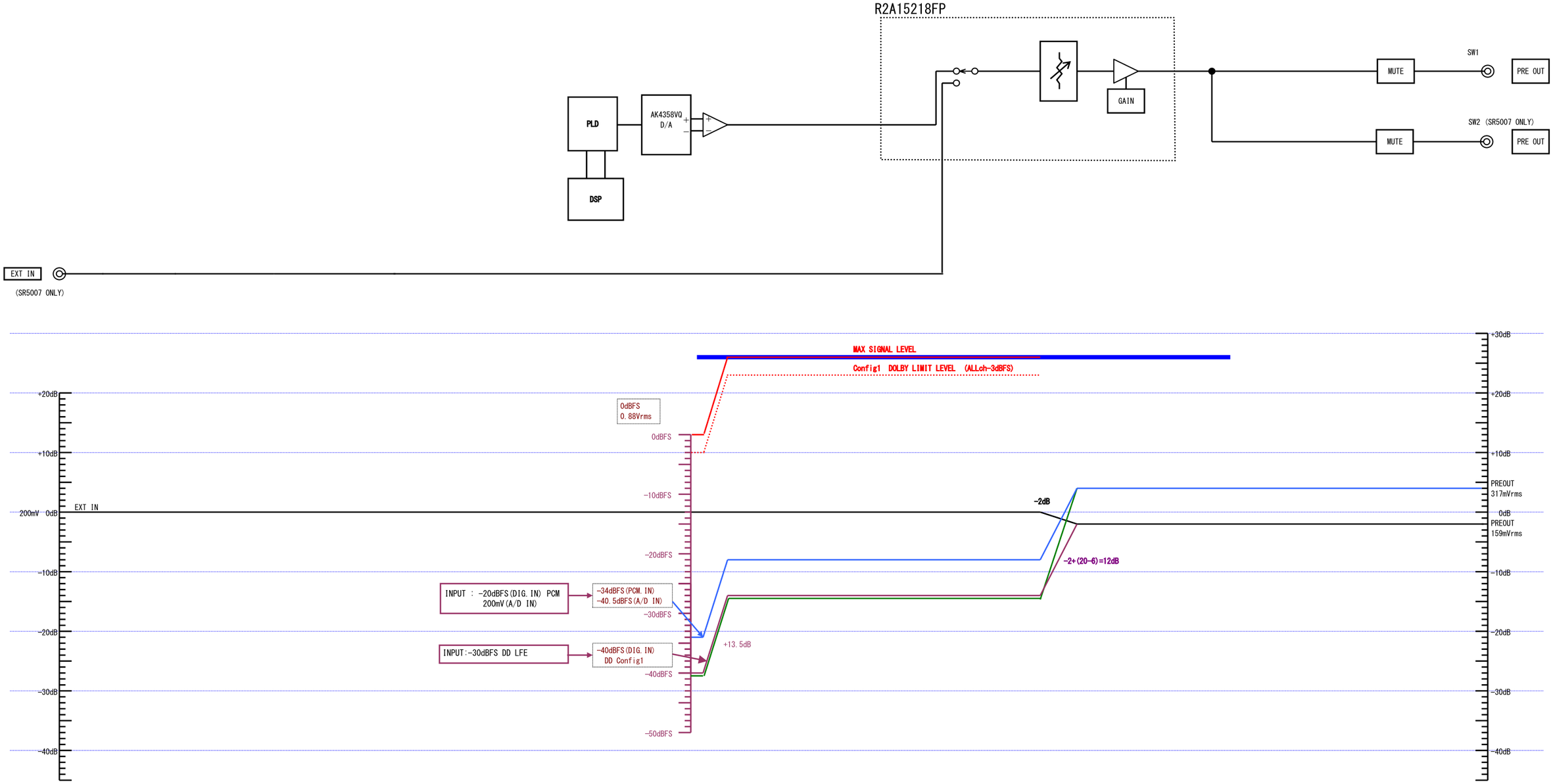


LEVEL DIAGRAM
CENTER ch

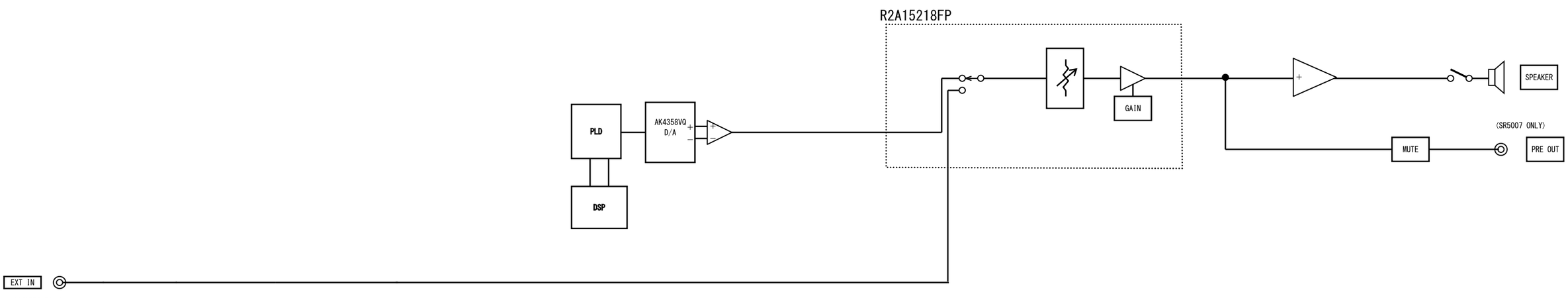


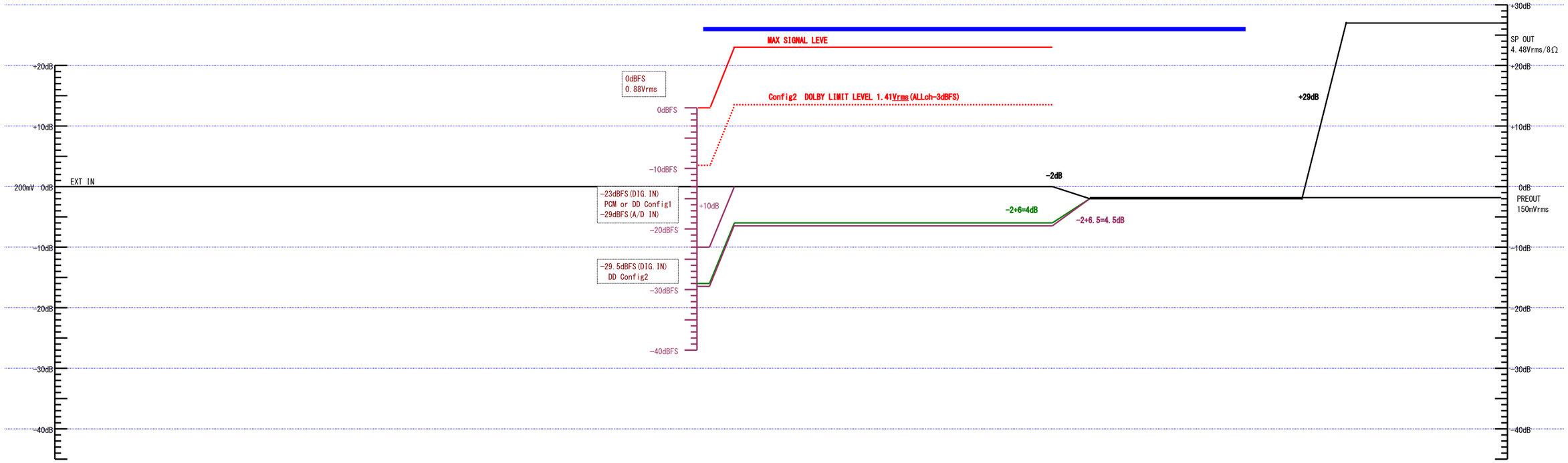


LEVEL DIAGRAM
SUBWOOFER ch

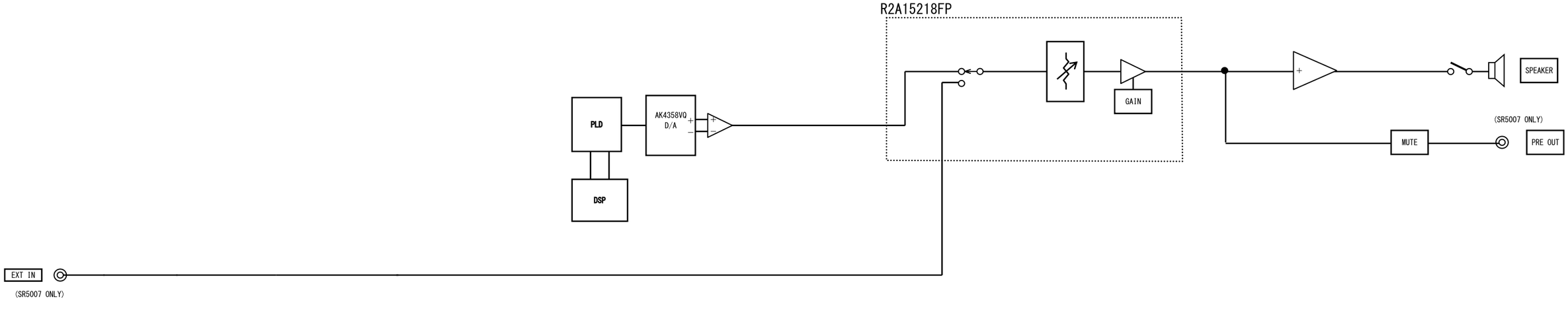


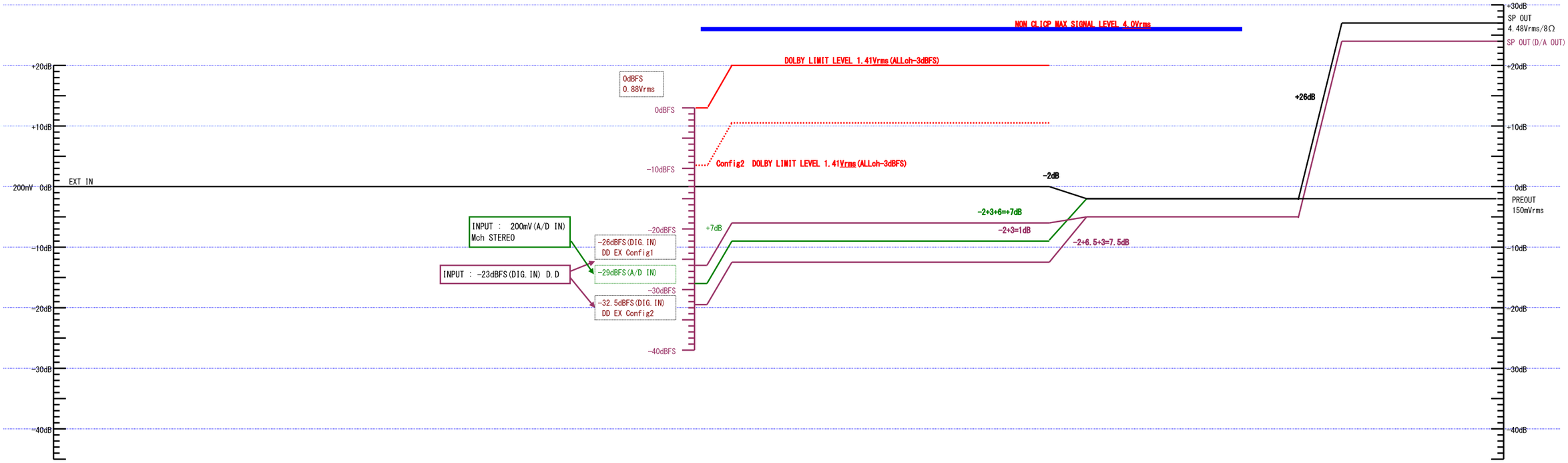
LEVEL DIAGRAM
SURROUND ch





LEVEL DIAGRAM
SURR.BACK ch





LEVEL DIAGRAM
ZONE2