DENON

Ver. 6

Please refer to the MODIFICATION NOTICE.

SERVICE MANUAL

MODEL	JP	E3	E2	EK	EA	E1C	E1K	CI
AVR-3312CI		✓						
AVR-3312			✓ 2			✓ 2		

INTEGRATED NETWORK AV 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.

DENON

D&M Holdings Inc.

S0377-1V06DM/DG1110

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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 ⚠2

❑ Audio Section

- **Power amplifier**

  Rated output :

  Front :
  125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
  165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

  Center :
  125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
  165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

  Surround :
  125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
  165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

  Surround back:
  125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
  165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

  Dynamic power : 130 W x 2ch (8 Ω)
  190 W x 2ch (4 Ω)

  Output connectors : 6 – 16 Ω

- **Analog**

  Input sensitivity/Input impedance : 200 mV/47 kΩ
  Frequency response: 10 Hz – 100 kHz — +1, –3 dB (DIRECT mode)
  S/N : 102 dB (IHF–A weighted, DIRECT mode)
  Distortion: 0.005 % (20 Hz – 20 kHz) (DIRECT mode)
  Rated output : 1.2 V

- **Digital**

  D/A output : Rated output — 2 V (at 0 dB playback)
  Total harmonic distortion — 0.008 % (1 kHz, at 0 dB)
  S/N ratio — 102 dB
  Dynamic range — 100 dB

  Digital input : Format — Digital audio interface

- **Phono equalizer (PHONO input — REC OUT)**

  Input sensitivity : 2.5 mV
  RIAA deviation: ±1 dB (20 Hz to 20 kHz)
  S/N : 74 dB (A weighting, with 5 mV input)
  Rated output: 150 mV
  Distortion factor : 0.03 % (1 kHz, 3 V)

❑ Video section

- **Standard video connectors**

  Input/output level and impedance : 1 Vp-p, 75 Ω
  Frequency response : 5 Hz – 10 MHz — 0, –3 dB
  (when "Video Convert" set to "OFF")

- **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
  (when "Video Convert" set to "OFF")

❑ Tuner section (E3 model)

[FM](Note: µV at 75 Ω, 0 dBf = 1 x 10^{-15} W)
Receiving Range :
[FM] 87.5 MHz – 107.9 MHz **[AM]**530 kHz – 1710 kHz
Usable Sensitivity :
[FM]1.5 µV (14.8 dBf) **[AM]**20 µV
S/N (IHF-A) :
[FM]MONO 78 dB **[AM]**
STEREO 68 dB
HD 85 dB 85 dB
Total harmonic Distortion :
[FM]MONO 0.1 % (1 kHz) **[AM]**
STEREO 0.2 % (1 kHz)
HD 0.02 % (1 kHz) 0.02 % (1 kHz)

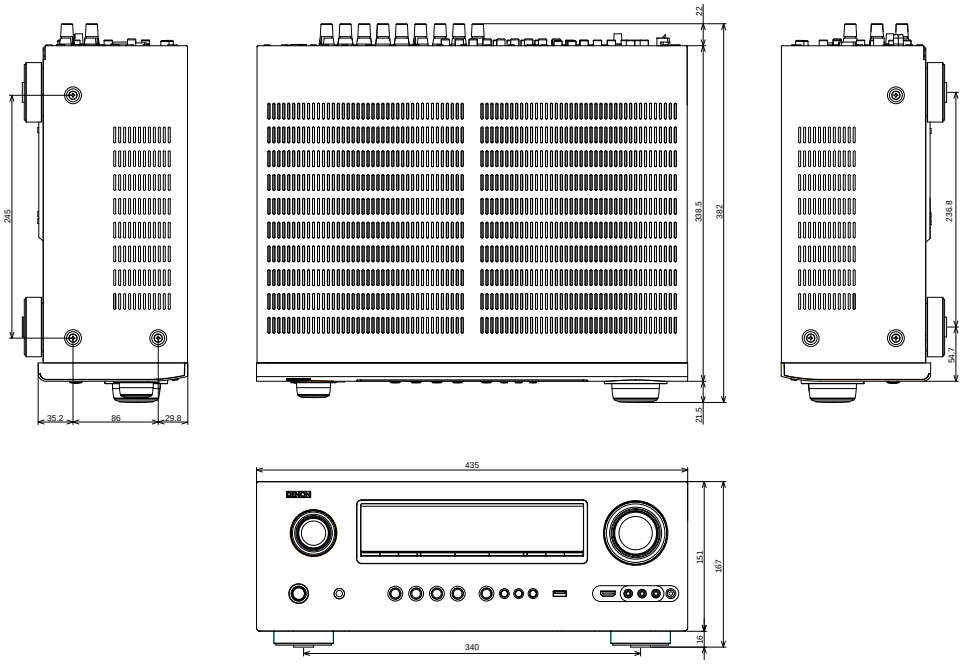
❑ Tuner section (E2,E1C model)

[FM](Note: µV at 75 Ω, 0 dBf = 1 x 10^{-15} W)
Receiving Range :
[FM] 87.5 MHz – 108.0 MHz **[AM]**522 kHz – 1611 kHz
Usable Sensitivity :
[FM]1.2 µV (12.8 dBf) **[AM]**18 µV
50 dB Quieting Sensitivity :
[FM]MONO 2.0 µV (17.3 dBf)
STEREO 34.5 µV (42 dBf)
S/N :
[FM]MONO 72 dB (IHF–A weighted, DIRECT mode)
STEREO 67 dB (IHF–A weighted, DIRECT mode)
Total harmonic Distortion :
[FM]MONO 0.3 % (1 kHz)
STEREO 0.7 % (1 kHz)

❑ General

Power supply : AC 120 V, 60 Hz (E3 model)
AC 230 V, 50/60 Hz (E2 model)
AC 220 V, 50 Hz (E1C model)
Power consumption :
670 W
0.1 W (Standby)
2.2 W (CEC standby)
Maximum external dimensions :
435 (W) x 167 (H) x 382 (D) mm
Weight : 11.8 kg

DIMENSION



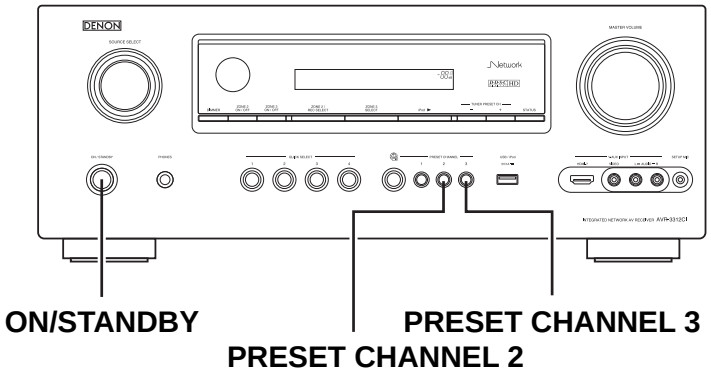
CAUTIONS IN SERVICING

Initializing INTEGRATED NETWORK AV RECEIVER

INTEGRATED NETWORK AV RECEIVER initialization should be performed when the µcom, peripheral parts of µcom, and Digital P.W.B. were replaced.

1. Turn off the power pressing ON/STANDBY button.
2. Press ON/STANDBY button while simultaneously while pressing PRESET CHANNEL 2 and PRESET CHANNEL 3 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.



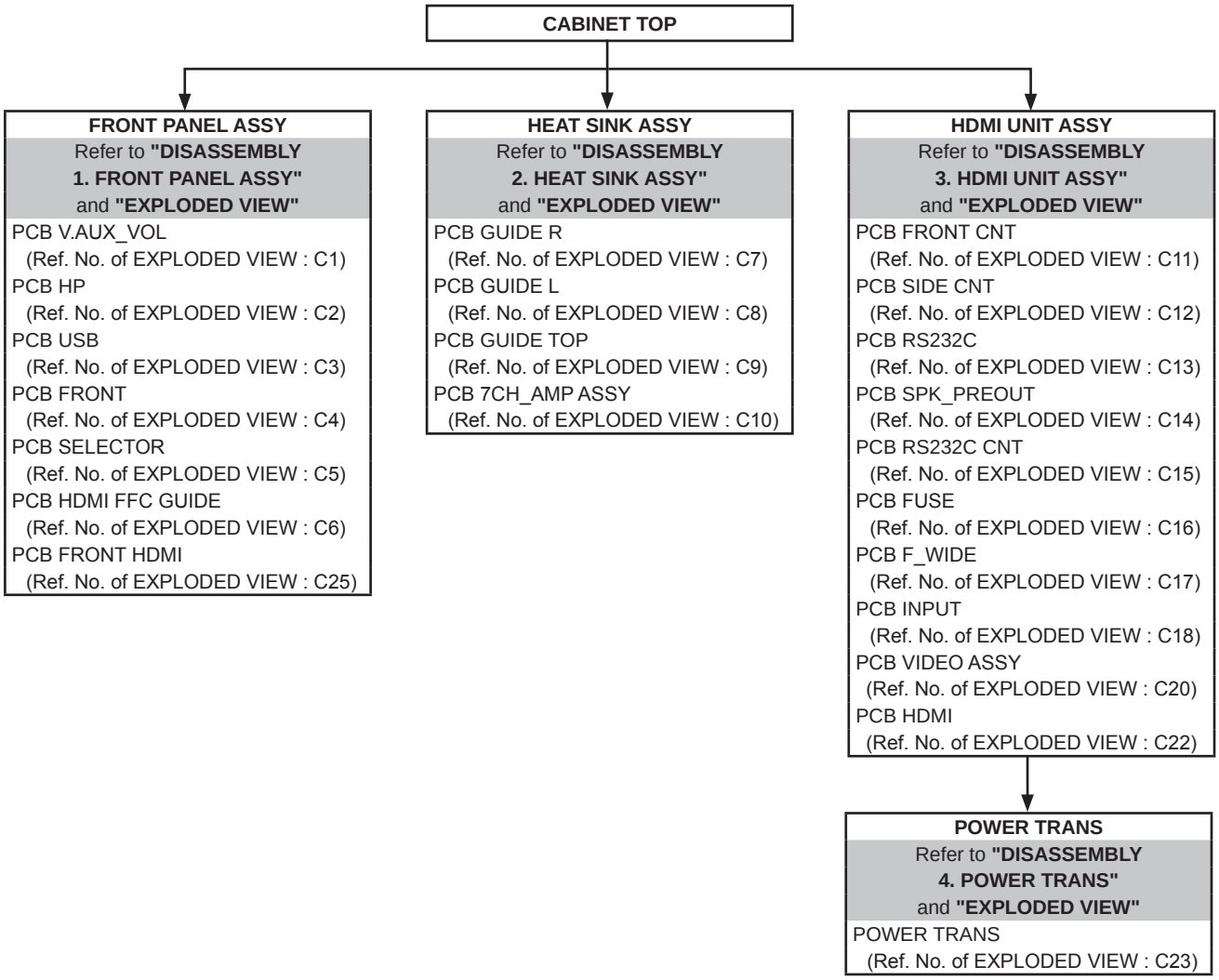
Service Jig ⚠3

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

8U-110084S : EXTENSION UNIT KIT : 1 Set
(Refer to 63 page.)

DISASSEMBLY

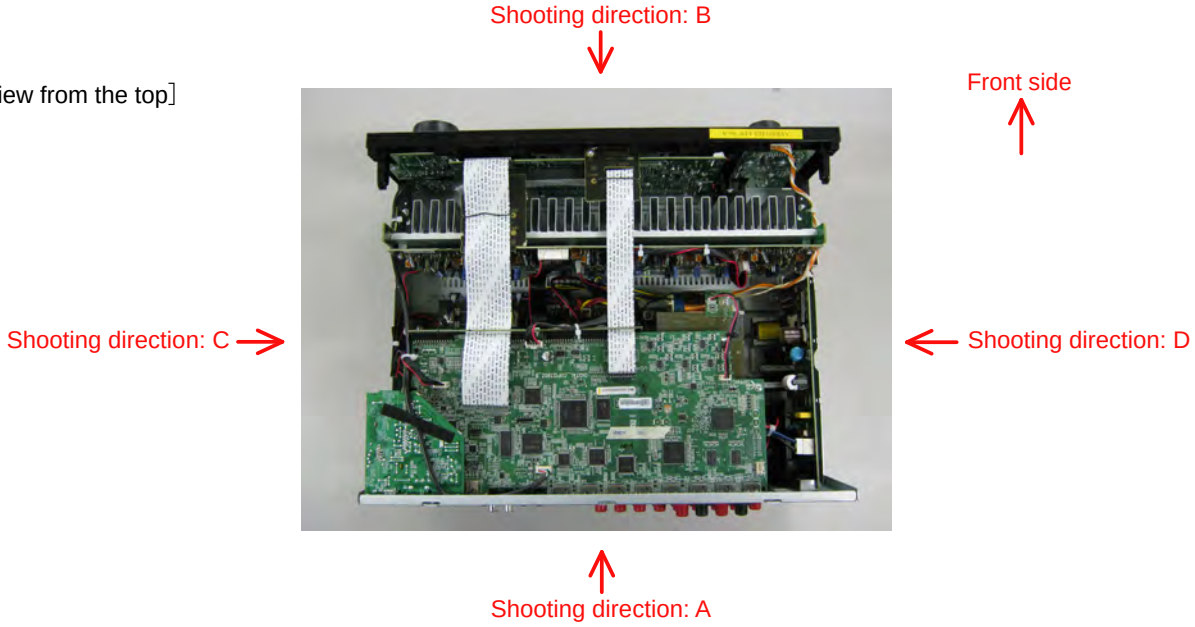
- Disassemble in order of the arrow in the following figure.
- In the case of the re-assembling, assemble it in order of the reverse of the following flow.
- In the case of the re-assembling, observe "attention of assembling".
- If wire bundles are untied or moved to perform adjustment or replace parts 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 photograph is AVR-3312CIE3 model.

The viewpoint of each photograph (Shooting direction)

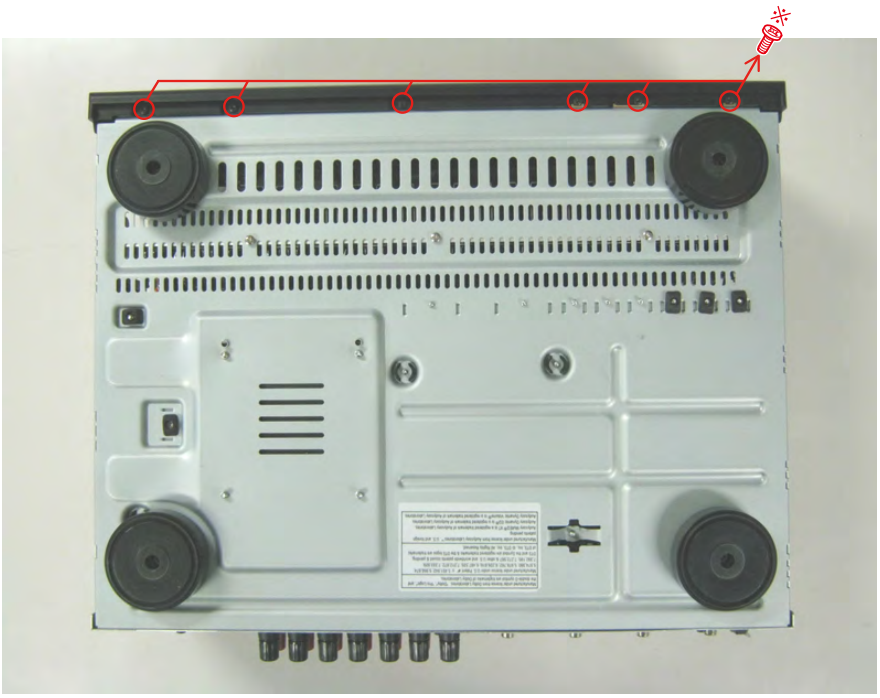


1. FRONT PANEL ASSY

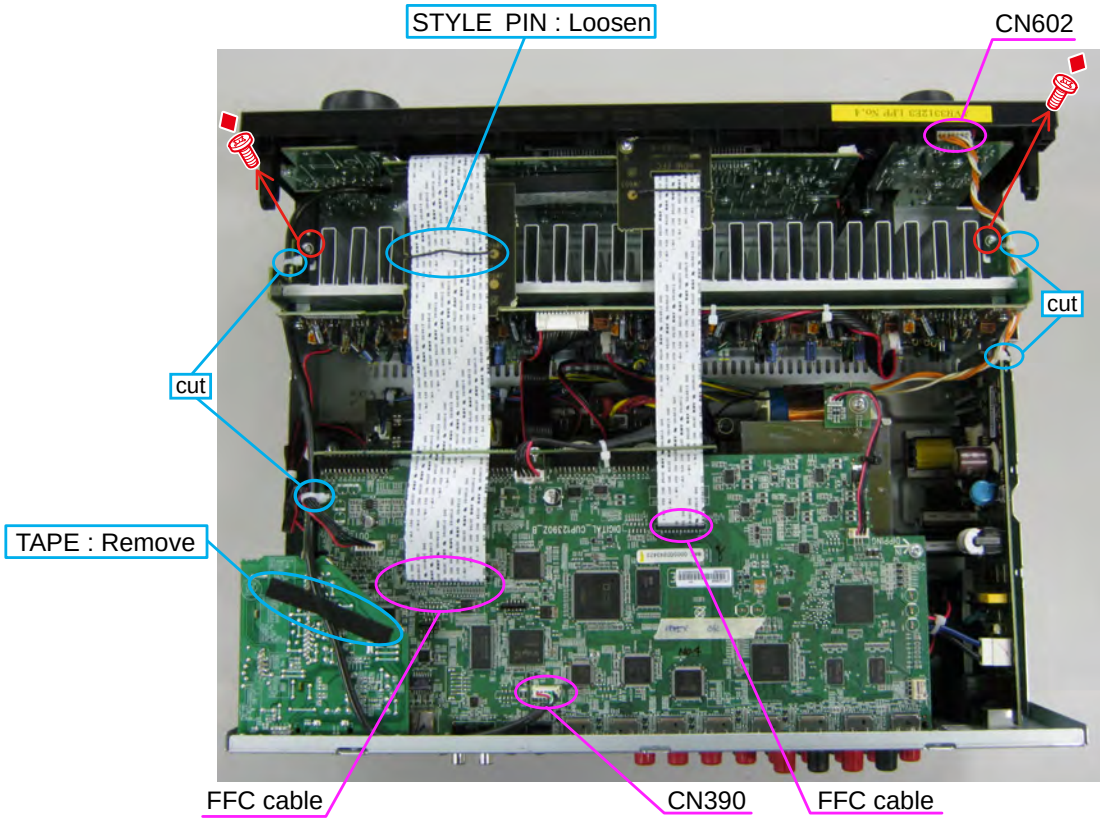
Proceeding : CABINET TOP → FRONT PANEL ASSY

(1) Remove the screws.

View from the bottom



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



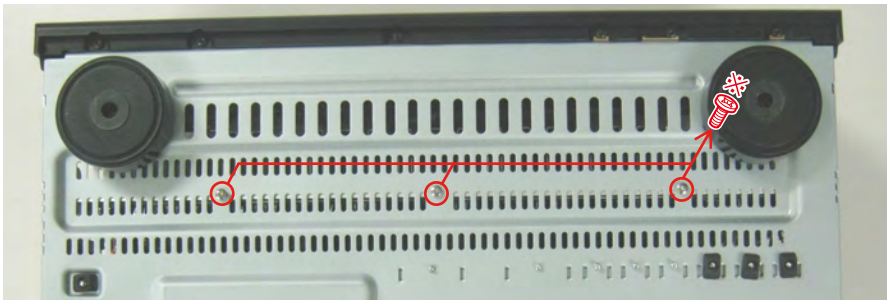
Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in FRONT PANEL ASSY.

2. HEAT SINK ASSY

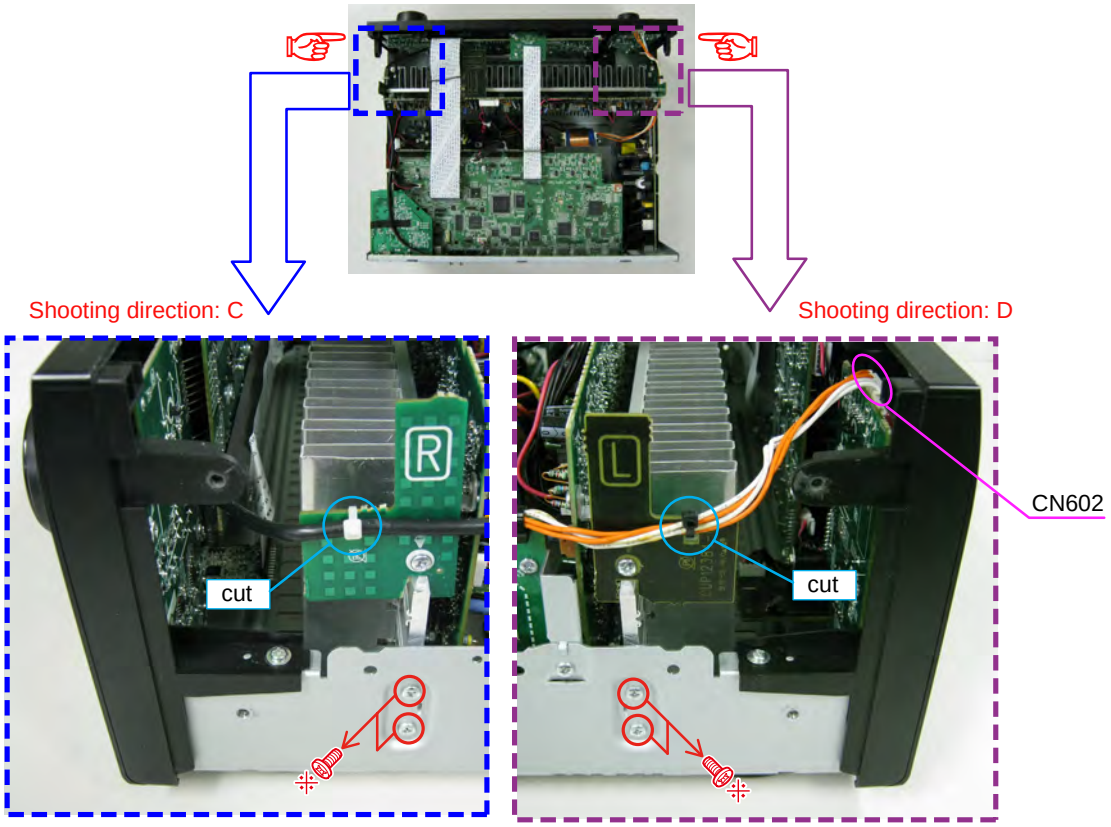
Proceeding : CABINET TOP → HEAT SINK ASSY

(1) Remove the screws.

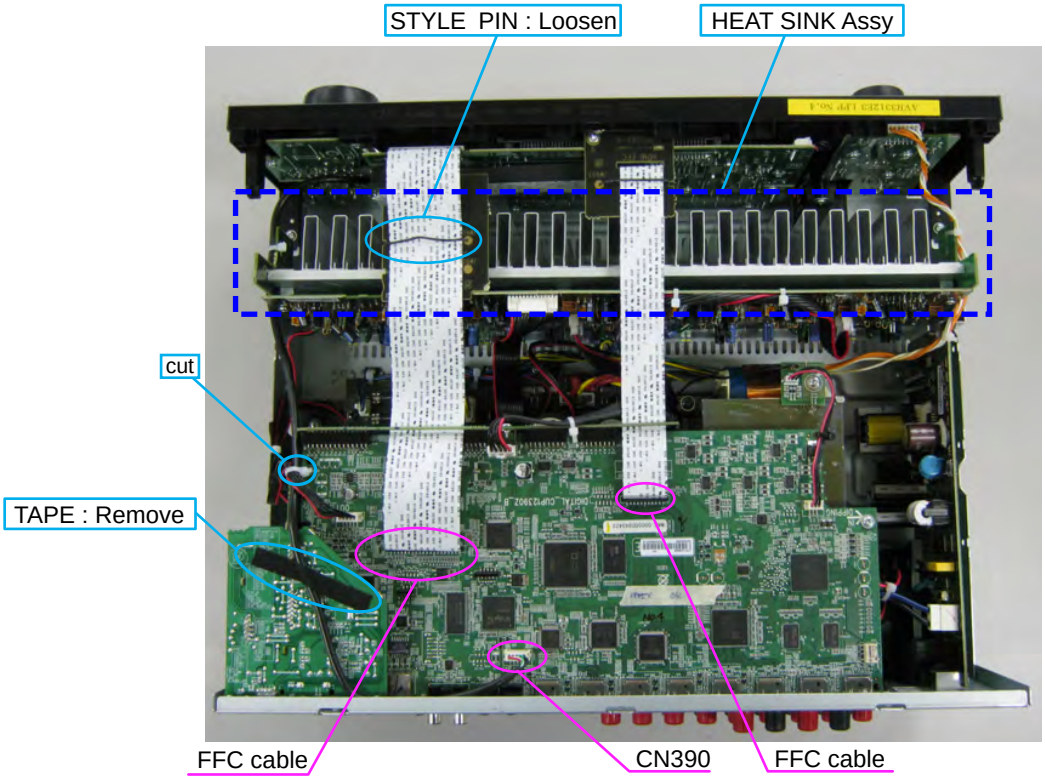
View from the bottom



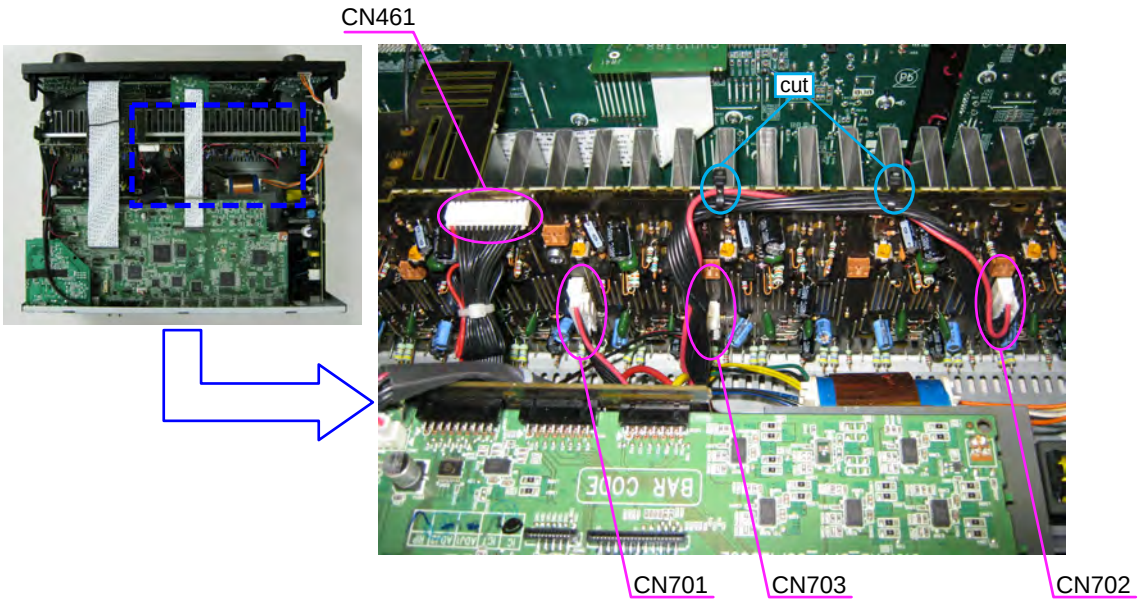
(2) Cut the wire clamp band, then remove the screws. Disconnect the connector wires.



(3) Cut the wire clamp band, then disconnect the connector wire and FFC cables .



(4) Cut the wire clamp bands, then disconnect the connector wires.



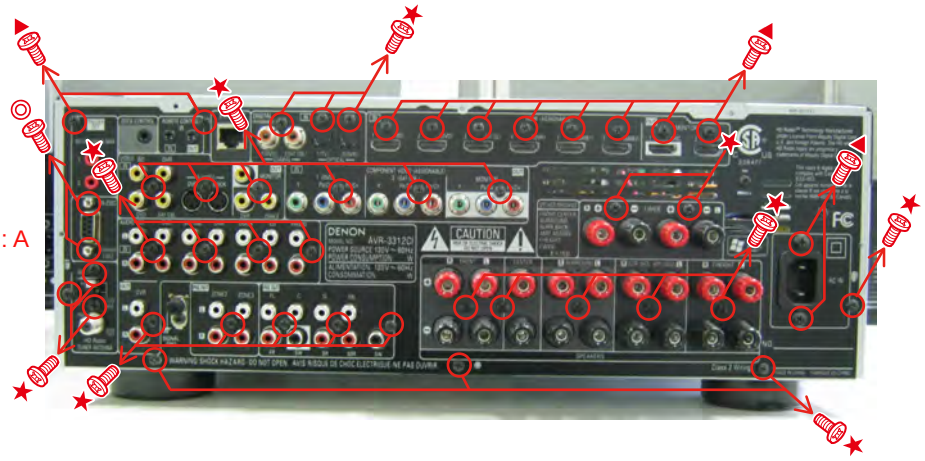
Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in HEAT SINK ASSY.

3. HDMI UNIT ASSY

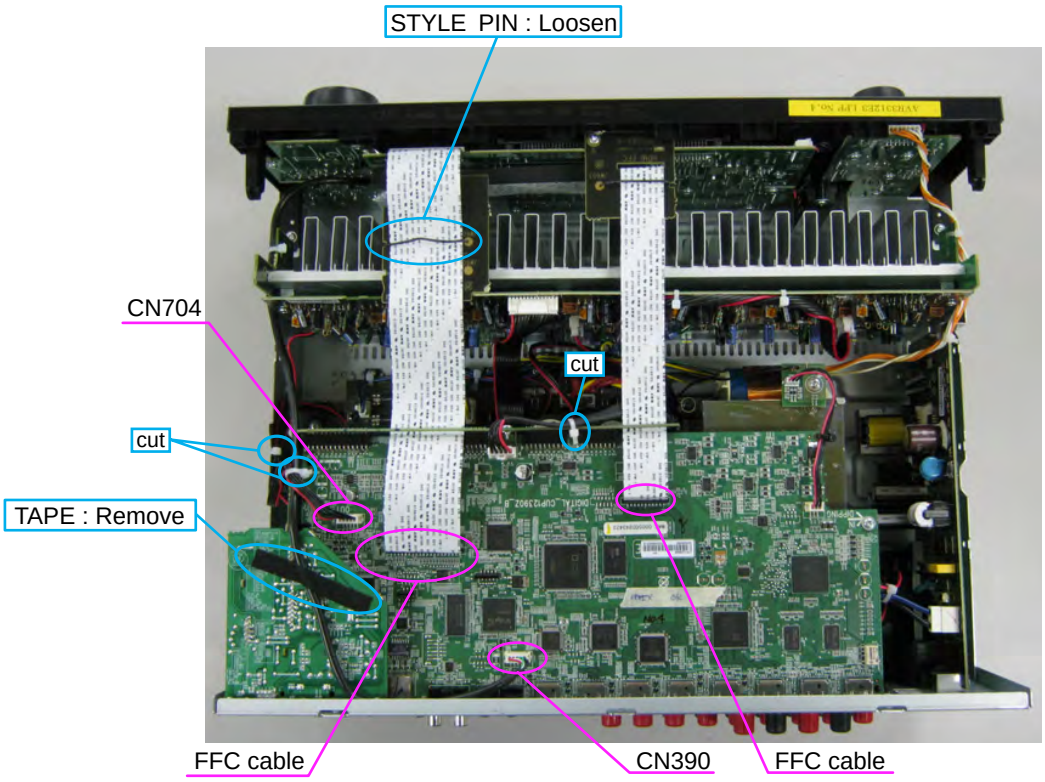
Proceeding : CABINET TOP → HDMI UNIT ASSY

(1) Remove the screws, then remove the BACK PANEL and the HDMI BRACKET.

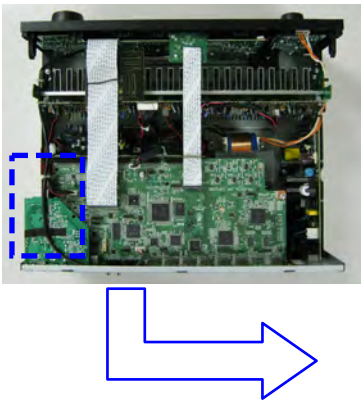
Shooting of photograph: A

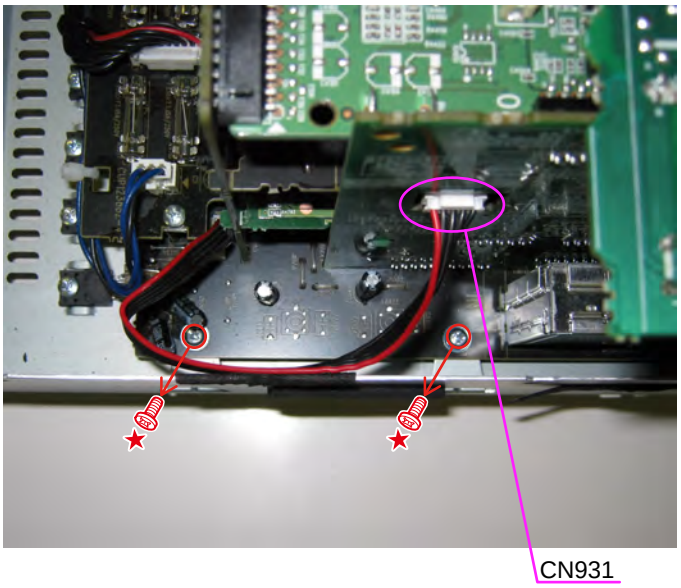


(2) Cut the wire clamp band, then disconnect the connector wires and the FFC cables.
Remove the PCB DOCK from the PCB SIDE CNT and PCB RS232C(Board to board).

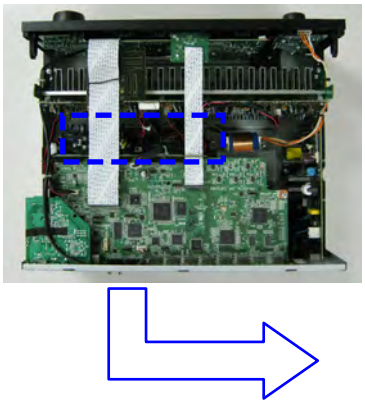


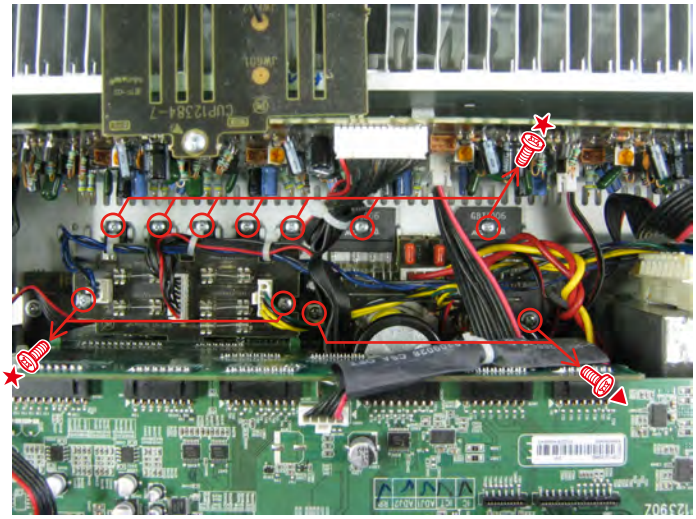
(3) Disconnect the connector wire. Remove the screws.



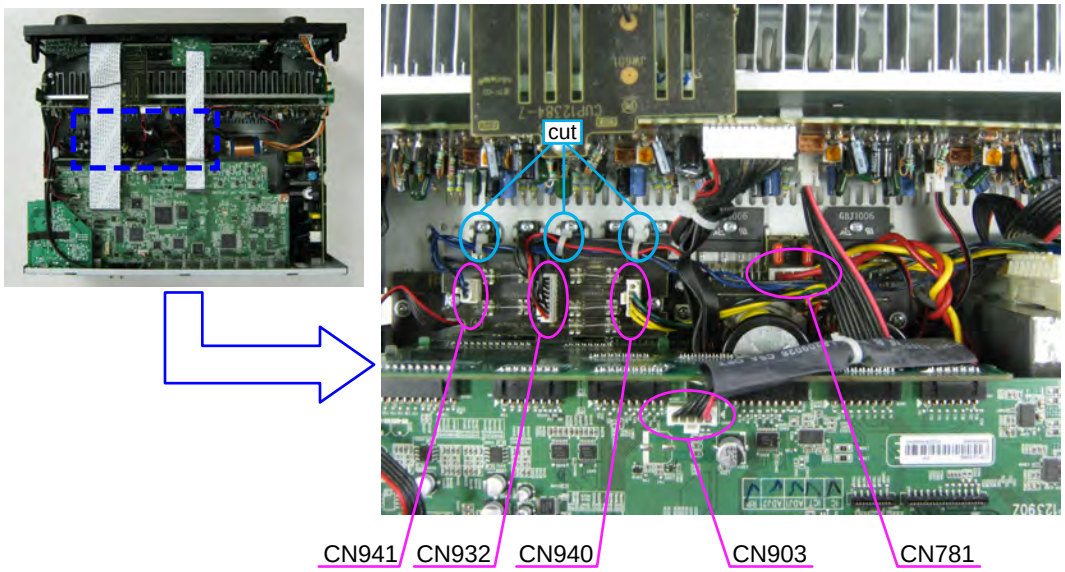


(4) Remove the screws.

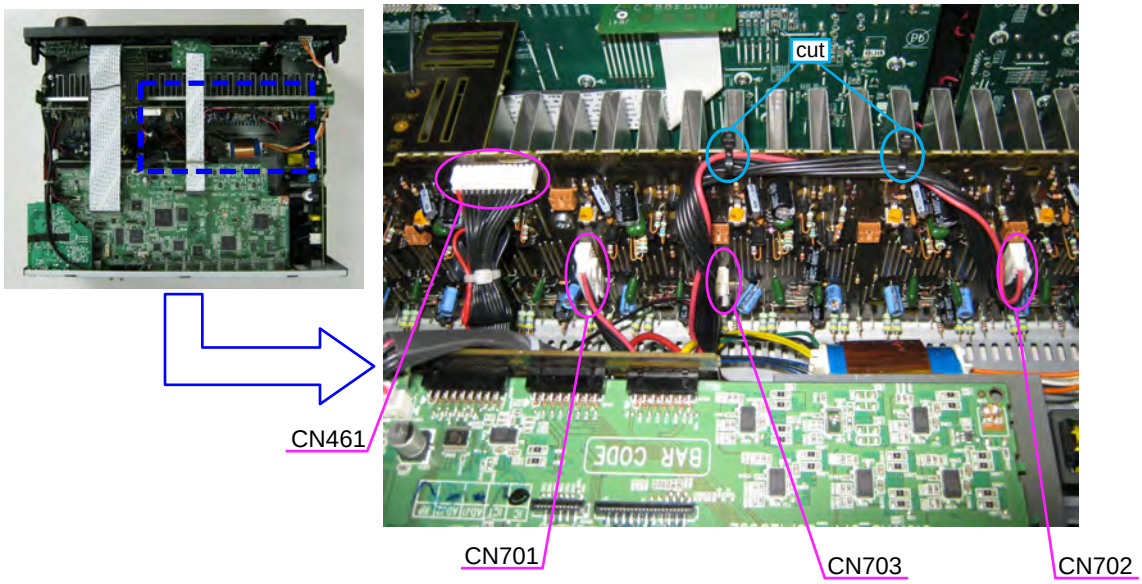




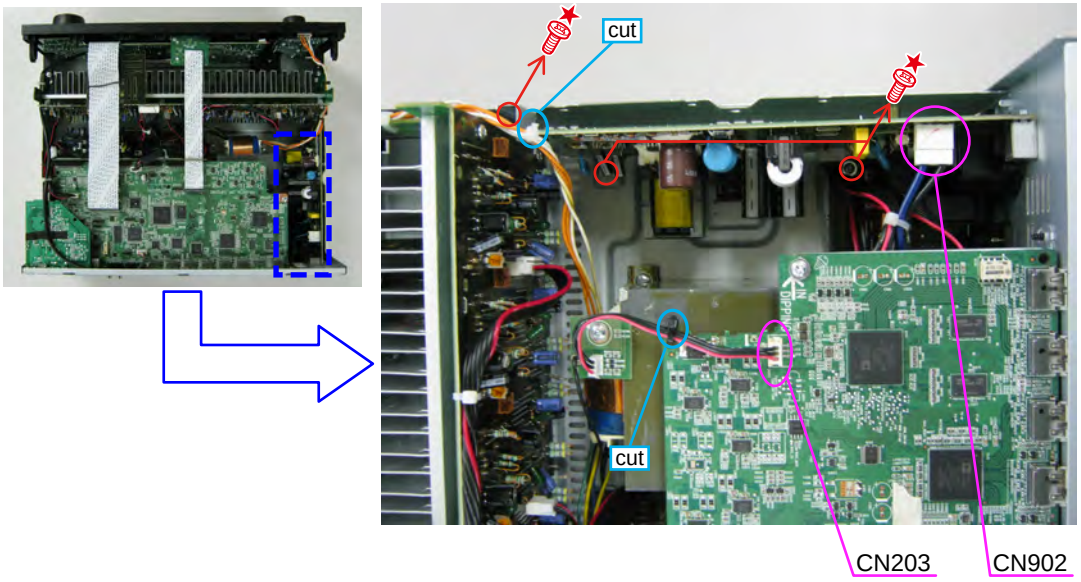
(5) Cut the wire clamp band, then disconnect the connector wires.



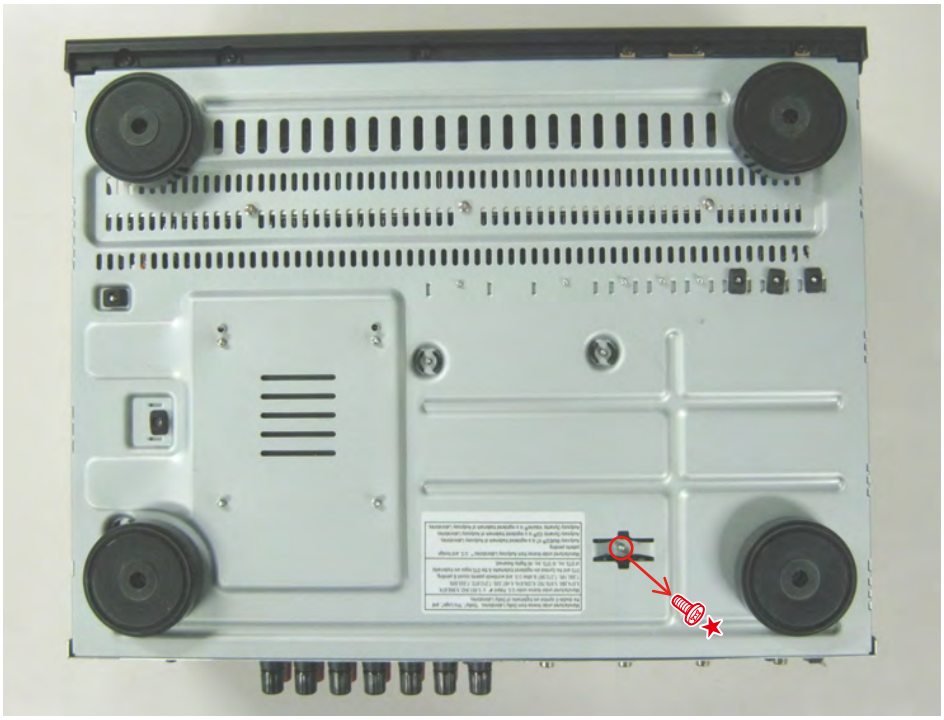
(6) Cut the wire clamp band, then disconnect the connector wires.



(7) Cut the wire clamp bands, then disconnect the connector wires, and remove the screws.



(8) Remove the screw.



Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in HDMI UNIT ASSY.

4. TRANS MAIN

Proceeding : CABINET TOP → HDMI UNIT ASSY → POWER TRANS

Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in TRANS MAIN.

SPECIAL MODE ⚠3

Special mode setting button

※ No.1 - 10, 12 : Press the ON/STANDBY button to turn on the power while pressing both the button A and the button B at the same time.

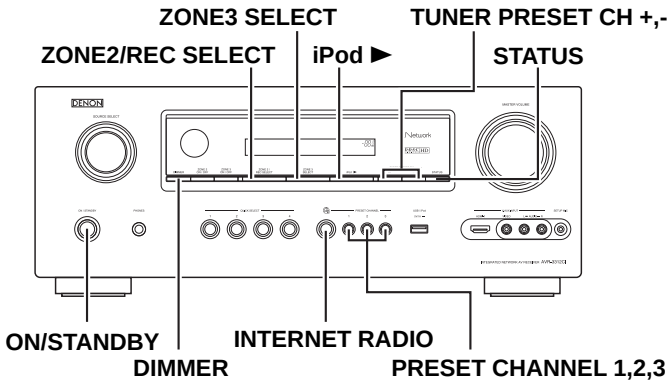
※ No.11 : Press and hold both buttons A and B for over 3 second with the power turned on.

No.	Mode	Button A	Button B	Contents
1	Version display (µcom/DSP Error Display)	TUNER PRESET CH +	STATUS	Firmware versions such as Main or DSP are displayed in the FL manager. Errors are displayed when they occur. (Refer to 17 page)
2	Displaying the protection history mode	TUNER PRESET CH -	STATUS	The protection history is displayed. (Refer to 20 page)
3	IInitialization mode (Remove settings for Installer Setup.)	PRESET CHANNEL 2	PRESET CHANNEL 3	Backup data initialization is carried out. (Remove settings for Installer Setup.)
4	IInitialization mode (Includes settings for Installer Setup.)	PRESET CHANNEL 1	PRESET CHANNEL 2	Backup data initialization is carried out. (Includes settings for Installer Setup.)
5	Mode for switching tuner frequency step (E2 model Only)	ZONE3 SELECT	iPod ►	Change tuner frequency step to FM:200kHz/AM:10kHzSTEP
6	Mode for preventing remote control acceptance	PRESET CHANNEL 1	INTERNET RADIO	Operations using the remote control are rejected. (Mode cancellation: Turn off the power and execute the same button operations as when performing setup.)
7	Panel lock mode	PRESET CHANNEL 2	iPod ►	Operations using the main unit panel buttons or the master volume knob are rejected.
8	Panel lock mode (Master volume is not locked.)	PRESET CHANNEL 2	TUNER PRESET CH -	Operations using the main unit panel buttons are rejected.
9	Cancellation of panel lock mode	TUNER PRESET CH -	DIMMER	Panel lock mode is cancelled.
10	Diagnostic mode	PRESET CHANNEL 1	STATUS	This mode is used for confirming the Video and Audio (signal) paths. (Troubleshooting) The signal paths of the set can be easily confirmed after repair.
11	Remote ID Setup mode	PRESET CHANNEL 1	STATUS	When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.(Refer to 22 page)
12	Installer Setup mode	ZONE2/REC SELECT	STATUS	Access the Remote Maintenance mode via the internet.Installer Setup is displayed on GUI/Option Menu. ※ Refer to AVR_RemoteMaintenance_.pdf of SDI.

NOTE:

If " REC " is displayed on the fluorescent display, the set is in the special developer's mode and the RS-232C communications are not possible.

Turn on the power, then press and hold down the "PRESET CHANNEL 2" and " STATUS " buttons for over 3 seconds to turn off "Q" on the display. RS-232C communications are now enabled.



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 "STATUS" and "PRESET CH +" 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 OSD.

1.2. Display Order

Error information(Refer to **1.3. Error display**) → ① Model destination information → ② Firmware Package Version
→ ③ Main µ-com/MAIN FBL(1st Boot Loader) Version → ④ Sub µ-com/Sub FBL → ⑤ DSP version → ⑥ Audio PLD
→ ⑦ GUI SFLASH → ⑧ Ethernet(DM860) 1st Boot Loader, Hardware ID
→ ⑨ Ethernet(DM860) 2nd Boot Loader, Rhapsody Flag → ⑩ Ethernet(DM860) IMAGE
→ ⑪ Ethernet(DM860)MAC ADDRESS information → ⑫ HD RADIO SDK/HD RADIO BBP(AVR-3312CIE3 only)
→ ⑬ MultEQ Pro APP(Displayed when Audyssey Pro is complete)
→ ⑭ MultEQ Pro ICL(Displayed when Audyssey Pro is complete

① Model destination information :

Upper	A	V	R	3	3	1	2		E	3		:	*	*	*	*
Lower	S	/	N	.			*	*	*	*	*	*	*	*	*	*

② Firmware Package Version :

Upper		F	i	r	m	.		P	a	c	k	a	g	e		
Lower								V	e	r	.	:	*	*	*	*

③ Main µ-com & MAIN FBL version :

Upper		M	a	i	n						:	*	*	.	*	*
Lower		M	a	i	n		F	B	L		:	*	*	.	*	*

④ Sub µ-com & Sub FBL :

Upper		S	u	b							:	*	*	.	*	*
Lower		S	u	b		F	B	L			:	*	*	.	*	*

⑤ DSP ROM :

Upper		D	S	P							:	*	*	.	*	*
Lower																

⑥ Audio PLD :

Upper		A	u	d	i	o		P	L	D	:	*	*	.	*	*
Lower																

⑦ GUI SFLASH :

Upper		G	U	I		:	*	*	*	*	*	*	*	*		
Lower																

⑧ Ethernet(DM860) 1st Boot Loader, Hardware ID :

Upper		E	t	h	e	r	n	e	t		F	B	L			
Lower	*	*	*	*	*	*	-	A	A							

⑨ Ethernet(DM860) 2nd Boot Loader, Rhapsody Flag :

Upper		E	t	h	e	r	n	e	t		S	B	L			
Lower	*	*	*	*	*	*	*	*	*	*	*	*	*	-	B	B

⑩ Ethernet(DM860) IMAGE :

Upper		E	t	h	e	r	n	e	t		I	M	G			
Lower	*	*	*	*	*	*	*	*	*	*	*	*	*			

⑪ Ethernet(DM860)MAC ADDRESS information :

Upper	*	E	t	h	e	r	n	e	t		M	A	C			
Lower		*	*	*	*	*	*	-	*	*	*	*	*	*		

⑫ HD RADIO SDK/HD RADIO BBP (AVR-3312CIE3 onlly) :

Upper	*	M	u	l	t	E	Q		P	r	o		A	P	P	
Lower	*	*	.	*	*	.	*	*	.	*	*	*	*			

⑬ MultEQ Pro APP :

Upper	*	M	u	l	t	E	Q		P	r	o		A	P	P	
Lower	*	*	.	*	*	.	*	*	.	*	*	*	*			

⑭ MultEQ Pro ICL :

Upper	*	M	u	l	t	E	Q		P	r	o		I	C	L	
Lower	*	*	.	*	*	.	*	*	.	*	*	*	*			

1.3. Error display ⚠2

See the following table for each "Error information" display and its explanation (status).
Display order is ①,②,③,④,⑤,⑥,⑦,⑧.

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. (※1)	FIRM ERROR	• Please check the destination-resistors (R2060/R2061, HDMI B'D). • Please write the firmware of correct destination.
② GUI Version NG	Error occurs in GUI version and Main μ-com version.(※2)	GUI VER. ERROR	• Please check the firmware of correct version.
③ SUB NG	No response from SUB microcomputer.	SUB ERROR 01	• Please check SUB (IC231) and arroud circuits.
④ DIR NG	No response from DIR	DIR ERROR 01	• Please check DIR (IC403/IC404/IC405, HDMI B'D) and around circuits.
⑤ 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 (IC408, 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	
⑥ IP SCALER NG	An error has occurred in the i/p Scaler (ADV8002)initial settings. The error is a DDR memory Loopback Test error.	IP SCALER ERR 01	• Please check ADV8002 (IC151) and arroud circuits.
⑦ E2PROM NG	Error occurs in E2PROM checksum.(*** is a block address number.)	E2PROM ERR***	
⑧ Both DSP / EEPROM OK		(No error display, version display only)	

Status	FL Display
※1, ※2 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 first column, as shown on the right.	▲Main :***.**
	▲SUB :***.**
	▲DSP :***.**
	▲Audio PLD:***.**
	▲GUI :********

2. Errors checking mode (Displaying the protection history)

2.1. Operation specifications

Error mode (Displaying the protection history):

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

Starting up:

• Common in all the models

Press the "ON/STANDBY" button to turn on the power while pressing the "STATUS" and "TUNER PRESET-" buttons.
The error (protection history display) mode is set.
Now, press the "STATUS" button to turn on the FL display.

2.2. About the display on the FL display

When the "STATUS" button is pressed after setting 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)

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

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

Upper	P	R	O	T	E	C	T		H	I	S	T	O	R	Y	
Lower	:	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)

Upper	P	R	O	T	E	C	T		H	I	S	T	O	R	Y	
Lower	:	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 protection)

Upper	P	R	O	T	E	C	T		H	I	S	T	O	R	Y	
Lower	:	T	H	E	R	M	A	L		*						

*: A~D

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 above protection history as shown above is displayed, the normal display reappears.(Refer to "PROTECTION DIAGRAM" 23 page.)

2.3. 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 "INTERNET RADIO" button for 3 seconds.

Upper	P	R	O	T	E	C	T		H	I	S	T	O	R	Y	
Lower	:	T	H	E	R	M	A	L		A						

Press the "INTERNET RADIO" button for 3 seconds.

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

The above is displayed and the protection history is cleared.

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

(2) Initialize. (Refer to "Initializing INTEGRATED NETWORK AV RECEIVER" 6 page.)

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

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/C/D) PROTECTION : Flashes at intervals of 2 seconds (1 second lit, 1 second off)

3. Remote ID Setup mode

3.1. Specifications

When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.

2.2. Setting the AV receivers

Starting up:

Press and hold both "STATUS" and "PRESET 1" buttons for over 3 second with the power turned on.

(1) When Remote ID Setup mode is started, the following is displayed.

Upper																
Lower				R	E	M	O	T	E		I	D		?		

(2) Press the "QUICK SELECT 1 - 4" button that corresponds to the number you want to set.

Button	FL Display
QUICK SELECT 1	REMOTE ID 1
QUICK SELECT 2	REMOTE ID 2
QUICK SELECT 3	REMOTE ID 3
QUICK SELECT 4	REMOTE ID 4

(3) Turn off the power using "ON/STANDBY" button.
(4) Turn on the power using "ON/STANDBY" button.

※ When Remote ID Setup mode is running, operations other than the "QUICK SELECT 1 - 4" buttons or "ON/STANDBY" buttons on the main unit are not received.

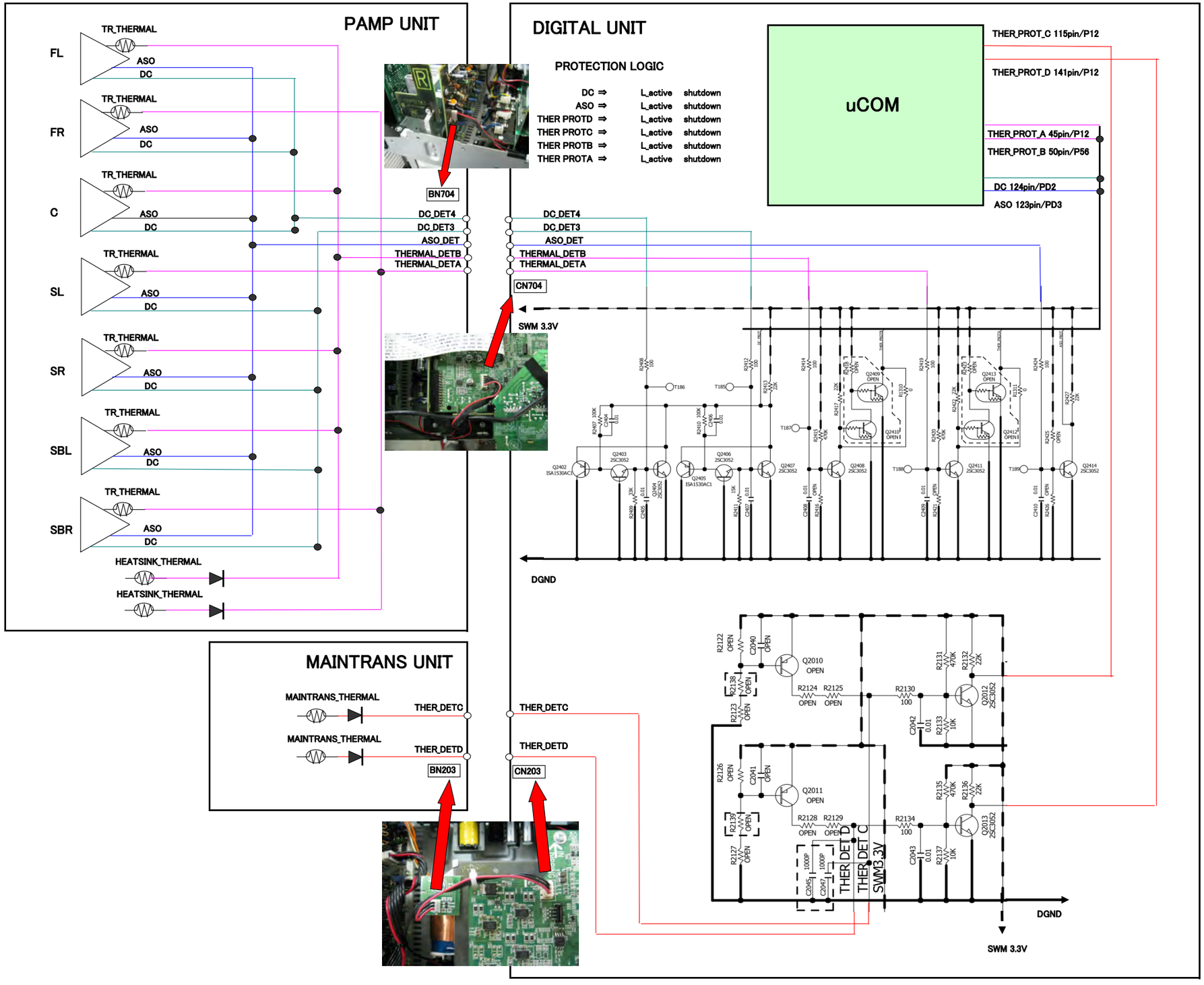
2.2. Setting the Remote control unit

(1) Press and hold both "ZONE/DEVICE (1)" button for at least 3 second.
The zone mode indicator flashes twice.
(2) Press the "AMP" button.
The zone mode indicator flashes twice.
(3) Press the "1, 2, 3 or 4" button.
The zone mode indicator flashes twice.

NOTE:

If the IDs do not match, "AVAMP∗" (∗ is the main unit's remote control ID) appears on the display when the remote control unit is operated.

PROTECTION DIAGRAM ③



4. DIAGNOSTIC MODE (Video/Audio (signal) path confirmation mode) ⚠3

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.

4.1. Starting diagnostic mode

Press the "PRESET CHANNEL 1" and "STATUS" button while simultaneously pressing those two buttons of this unit.
Q1, Q2 and Q3 are lit in FL display.

4.2. Canceling diagnostic mode

Turn off the power by pressing the ON/Standby button.

4.3. Operation

When you perform remote operation in accordance with the instructions in "Details of how to operate remote controller" *a) in the table below using the remote control unit (RC-1156).
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 *b) in the table below.

4.4. 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 Sources All ZONE : ON Display: V01 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : CVBS / Output : CVBS ·Input : CVBS / Output : CVBS RECOUT (DVR) ·Input : CVBS / Output : CVBS ZONE2 ·Input : S-Video / Output : CVBS ·Input : Component / Output : Component (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [1/./]	③KEY 1/CODE1 (Main Zone) Initialization & Video Convert All OFF		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "ZONE3" 11.Press [ZONE ON]	⑤ZONE3 POWER ON		
			12.Press [ZONE SELECT], Select "MAIN" 13.Press [DVD]	⑥DVD (Main Zone)		
2	Analog Video Convert (signal) Path **fig.2**	Video Convert(IP Scaler) : ON , All Sources Display: V02 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : CVBS / Through : V.Decoder and V.Encoder / Output : CVBS ·Input : CVBS / Through : V.Decoder and V.Encoder / Output : Component ·Input : S-Video / Through V.Decoder and V.Encoder / Output : CVBS ·Input : S-Video / Through V.Decoder and V.Encoder / Output : Component ·Input : Component / Through V.Decoder and V.Encoder / Output : CVBS ·Input : Component / Through V.Decoder and V.Encoder / Output : Component (※ As the input source, you can switch from DVD to other ones.)	only AVR3312 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. (HDMI input > Component input > S-VIDEO input > CVBS input) Do not connect anything with HDMI Monitor OUT. Because the Convert pass is used with Analog to HDMI when connecting it.
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [2/ABC]	③KEY 2/ABC (Main Zone) Initialization & Video Convert All ON & IP Scaler "Analog & HDMI"		
			8.Press [DVD]	④DVD (Main Zone)		
3	HDMI (signal) Path **fig.3**	Video Convert(IP Scaler) : OFF, All Sources All ZONE:ON Display: V01 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : HDMI / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [1/./]	③KEY1/CODE1 (Main Zone) Initialization & Video Convert All OFF		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "ZONE3" 11.Press [ZONE ON]	⑤ZONE3 POWER ON		
			12.Press [ZONE SELECT], Select "MAIN" 13.Press [DVD]	⑥DVD (Main Zone)		

	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
4	Analog or HDMI to HDMI (signal) Path **fig.4**	Video Convert(IP Scaler) : ON, All Sources IP Scaler : Analog & HDMI , All Sources Resolution : "AUTO", All Sources Display: U02 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input CVBS / Through : IP Scaler / Output : HDMI ·Input S-VIDEO / Through : IP Scaler / Output : HDMI ·Input Component / Through : IP Scaler / Output : HDMI ·Input HDMI / Through : IP Scaler / 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. (HDMI input > Component input > S-VIDEO input > CVBS input)
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [2/ABC]	③KEY 2/ABC (Main Zone) Initialization & Video Convert All ON & IP Scaler "Analog & HDMI"		
			8.Press [DVD]	④DVD (Main Zone)		
5	OSD FUNCTION **fig.5**	Video Convert(IP Scaler) : ON, All Sources IP Scaler : Analog & HDMI , All Sources Resolution : "AUTO", All Sources Menu : ON All ZONE :ON Display: U02 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·OSD Display / Output : CVBS ·OSD Display / Output : Component ·OSD Display / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	Connect HDMI Monitor OUT / Output : OSD from HDMI No connect HDMI Monitor OUT / Output : OSD from Component No output other terminal. ※ AVR2312/3312 are nothing ZONE2 OSD
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [2/ABC]	③KEY 2/ABC (Main Zone) Initialization &VideoConvert All ON & IP Scaler"Analog&HDMI"		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "ZONE3" 11.Press [ZONE ON]	⑤ZONE3 POWER ON		
			12.Press [ZONE SELECT], Select "MAIN" 13.Press [DVD]	⑥DVD (Main Zone)		
			14.Press [AMP] 15.Press [MENU]	⑦GUI MENU (Main Zone)		
6	CEC FUNCTION (Control Monitor : HDMI Monitor1) **fig.6**	HDMI Control : ON Control Monitor Monitor1 (When checking the HDMI Monitor Out1) Display: U03 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [3/DEF]	③KEY 3/DEF (Main Zone) Initialization & CEC Control ON & Select Control Monitor 1		
			8.Press [DVD]	④DVD (Main Zone)		
7	CEC FUNCTION (Control Monitor : HDMI Monitor 2) **fig.7**	HDMI Control : ON Control Monitor Monitor 2 (When checking the HDMI Monitor Out 2) Display: U04 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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.)	only AVR3312
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [4/GHI]	③KEY 4/GHI (Main Zone) Initialization & CEC Control ON & Select Control Monitor 2		
			8.Press [DVD]	④DVD (Main Zone)		
8	HDMI Audio (signal) Path (Audio : AMP) **fig.8**	Audio : AMP(When checking the audio output from AMP) Display: U05 DVD	1.Press [AMP] 2.Press [ZONE SELECT], Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [5/JKL]	③KEY 5/JKL (Main Zone) Initialization & Select Audio AMP		
			8.Press [DVD]	④DVD (Main Zone)		
9	HDMI Audio (signal) Path (Audio : TV) **fig.9**	Audio : TV(When checking the audio output from TV) Display: U06 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : HDMI (Signal of PCM or DolbyDigital or DTS) / Output : HDMI (Audio output from connected TV) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [6/MNO]	③KEY 6/MNO (Main Zone) Initialization & Audio Select TV		
			8.Press [DVD]	④DVD (Main Zone)		

3.5. 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.10**	Input Mode : Fixed ANALOG SURROUND mode : DIRECT Amp assign : NORMAL Display: A01 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [7/PQRS]	③KEY 7/PQRS (Main Zone) Initialization & Amp assign NORMAL& Input Mode Fixed ANALOG & SURROUND mode DIRECT		
			8.Press [DVD]	④DVD (Main Zone)		
2	DIGITAL (signal) Path (MAIN) **fig.11**	Input Mode : Fixed DIGITAL Amp assign : NORMAL Display: A02 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [8/TUV]	③KEY 8/TUV (Main Zone) Initialization & Amp assign NORMAL& Input Mode Fixed DIGITAL		
			8.Press [DVD]	④DVD (Main Zone)		
3	DIGITAL (signal) Path (ZONE2) **fig.12**	Input Mode : Fixed DIGITAL Amp assign : ZONE2 ZONE2 Function : Source Display: A03 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Digital / Output : Speakers (SURR BACK L/R) ·Input : Digital / Output : Pre OUT(ZONE2 L/R) (※ As the input source, you can switch from DVD to other ones.)	AVR2312: Only "NET/USB" corresponds to the input source.
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [9/WXYZ]	③KEY9/WXYZ (Main Zone) Initialization & Amp assign ZONE2 & Input Mode Fixed DIGITAL		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "MAIN" 11.Press [DVD]	⑤DVD (Main Zone)		
4	DIGITAL (signal) Path (ZONE3) **fig.13**	Input Mode : Fixed DIGITAL Amp assign : ZONE3 ZONE3 Function : Source Display: A04 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Digital / Output : Speakers (SURR BACK L/R) ·Input : Digital / Output : Pre OUT(ZONE3 L/R) (※ As the input source, you can switch from DVD to other ones.)	only AVR3312
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [0/_*]	③KEY 0/CODE2 (Main Zone) Initialization & Amp assign ZONE3 & Input Mode Fixed DIGITAL		
			8.Press [ZONE SELECT], Select "ZONE3" 9.Press [ZONE ON]	④ZONE3 POWER ON		
			10.Press [ZONE SELECT], Select "MAIN" 11.Press [DVD]	⑤DVD (Main Zone)		
5	HDMI (signal) Path **fig.14**	Input Mode : Fixed HDMI Amp assign : NORMAL Display: A05 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : HDMI / Output : Speakers (Front L/R) ·Input : HDMI / Output : Pre OUT(Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [MOVIE]	③MOVIE Initialization &Amp assign NORMAL & Input Mode Fixed HDMI		
			8.Press [DVD]	④DVD (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
6	A/D (signal) Path (Main Zone) **fig.15**	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 [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [MUSIC]	③MUSIC Initialization &Amp assign NORMAL & SURROUND mode : Multi ch STEREO & Volume -20dB		
			8.Press [DVD]	④DVD (Main Zone)		
7	Amp Assign (signal) Path (Amp Assign : ZONE2) **fig.16**	Amp assign : ZONE2 ZONE2 Function : Source Zone2 Vol -20dB Display: 	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	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 [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [GAME]	③GAME Initialization & Amp assign ZONE2 & SURROUND mode : Multi ch STEREO & ZONE2 Volume -20dB		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "MAIN" 11.Press [DVD]	⑤DVD (Main Zone)		
8	Amp Assign (signal) Path (Amp Assign : ZONE3) **fig.17**	Amp assign : ZONE3 SURROUND mode : Multi ch STEREO Zone3 Vol -20dB Display: 	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT (ZONE3 L/R) (※ As the input source, you can switch from DVD to other ones.)	only AVR3312
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [DIRECT]	③DIRECT Initialization & Amp assign ZONE3 & SURROUND mode : Multi ch STEREO & ZONE3 Volume -20dB		
			8.Press [ZONE SELECT], Select "ZONE3" 9.Press [ZONE ON]	④ZONE3 POWER ON		
			10.Press [ZONE SELECT], Select "MAIN" 11.Press [DVD]	⑤DVD (Main Zone)		
9	Amp Assign (signal) Path (Amp Assign : ZONE2/ZONE3-MONO) **fig.18**	Amp assign : ZONE2/ZONE3-MONO SURROUND mode : Multi ch STEREO ZONE2 Vol -20dB ZONE3 Vol -20dB Display: 	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT (ZONE2 L/R) ·Input : Analog / Output : Pre OUT (ZONE3 L/R) (※ As the input source, you can switch from DVD to other ones.)	only AVR3312
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [◀◀]	③◀◀ Initialization & Amp assign ZONE2/ZONE3- MONO & SURROUND mode : Multi ch STEREO & ZONE2 Volume -20dB & ZONE3 Volume -20dB		
			8.Press [ZONE SELECT], Select "ZONE2" 9.Press [ZONE ON]	④ZONE2 POWER ON		
			10.Press [ZONE SELECT], Select "ZONE3" 11.Press [ZONE ON]	⑤ZONE3 POWER ON		
			12.Press [ZONE SELECT], Select "MAIN" 13.Press [DVD]	⑥DVD (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
10	Amp Assign (signal) Path (Amp Assign : 2CH) **fig.19**	Amp assign : 2CH SURROUND mode : DIRECT Vol -20dB Display: A 1 0 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT (Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [▶▶]	③▶▶ Initialization &Amp assign 2CH & SURROUND mode : DIRECT & Volume -20dB		
			8.Press [DVD]	④DVD (Main Zone)		
11	Amp Assign (signal) Path (Amp Assign : BiAMP) **fig.20**	Amp assign : BiAMP SURROUND mode : Multi ch STEREO Vol -20dB Display: A 1 1 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT (SB L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [I◀◀]	③I◀◀ Initialization & Amp assign BiAMP & SURROUND mode : Multi ch STEREO & Volume -20dB		
			8.Press [DVD]	④DVD (Main Zone)		
12	Amp Assign (signal) Path (Amp Assign : Front-B) **fig.20**	Amp assign : Front-B SURROUND mode : Multi ch STEREO Vol -20dB Display: A 1 2 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (SURR BACK L/R) ·Input : Analog / Output : Pre OUT (SB L/R) (※ As the input source, you can switch from DVD to other ones.)	
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [▶▶I]	③▶▶I Initialization & Amp assign Front-B & SURROUND mode Multi ch STEREO & Volume -20dB		
			8.Press [DVD]	④DVD (Main Zone)		
13	Front Height (signal) Path **fig.22**	Amp assign : Front Height (As AVR2312) Amp assign : NORMAL (As AVR3312) SURROUND mode : Multi ch STEREO Vol -20dB Surround Parameter-Speaker : F.Height Display: A 1 4 DVD	1.Press [AMP] 2.Press [ZONE SELECT] , Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (F.HEIGHT L/R) (※ As the input source, you can switch from DVD to other ones.)	AVR2312 and AVR3312, operate differently
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [+10/MEMORY]	③MEMORY/+10 (Main Zone) As AVR2312 Initialization & Amp assign Front Height & SURROUND mode:Multi ch STEREO & Volume -20dB As AVR3312 Initialization & Amp assign NORMAL & SURROUND mode:Multi ch STEREO & Volume -20dB & Surround Parameter- Speaker : F.Height		
			8.Press [DVD]	④DVD (Main Zone)		
14	Front Wide (signal) Path **fig.23**	Amp assign : NORMAL SURROUND mode : Multi ch STEREO Vol -20dB Surround Parameter-Speaker : F.Wide Display: A 1 5 DVD	1.Press [AMP] 2.Press [ZONE SELECT], Select "ZONE2" 3.Press [ZONE OFF]	①ZONE2 POWER OFF	·Input : Analog / Output : Speakers (F.WIDE L/R) (※ As the input source, you can switch from DVD to other ones.)	only AVR3312
			4.Press [ZONE SELECT], Select "ZONE3" 5.Press [ZONE OFF]	②ZONE3 POWER OFF		
			6.Press [ZONE SELECT], Select "MAIN" 7.Press [SLEEP]	③SLEEP MODE Initialization &Amp assign NORMAL & SURROUND mode:Multi ch STEREO & Volume -20dB Surround Parameter-Speaker : F.Wide		
			8.Press [DVD]	④DVD (Main Zone)		

BLOCK DIAGRAM ⚠3

fig.1

AVR3312/2312 VIDEO BLOCK

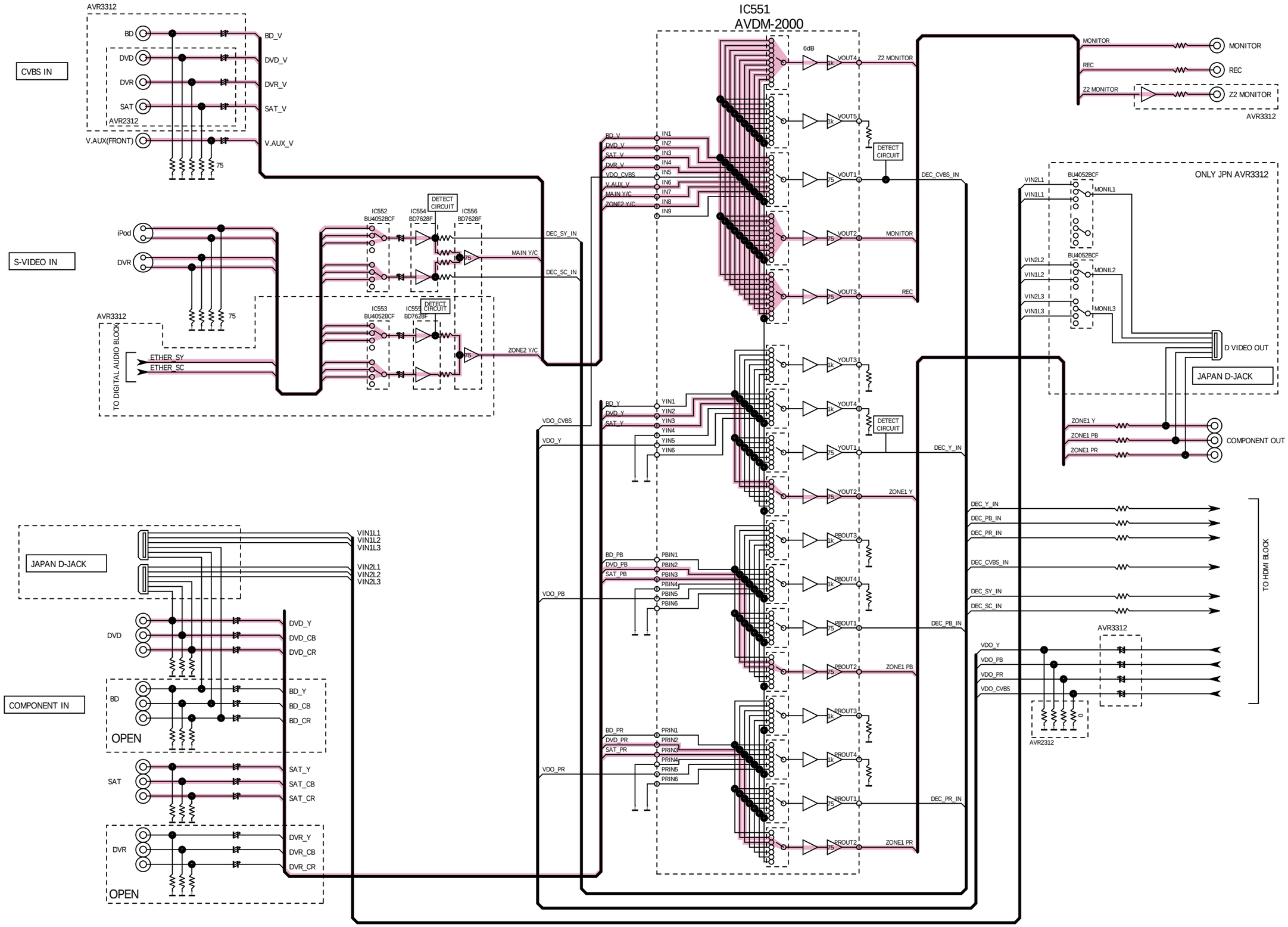


fig.2 (1/2)

AVR3312/2312 VIDEO BLOCK

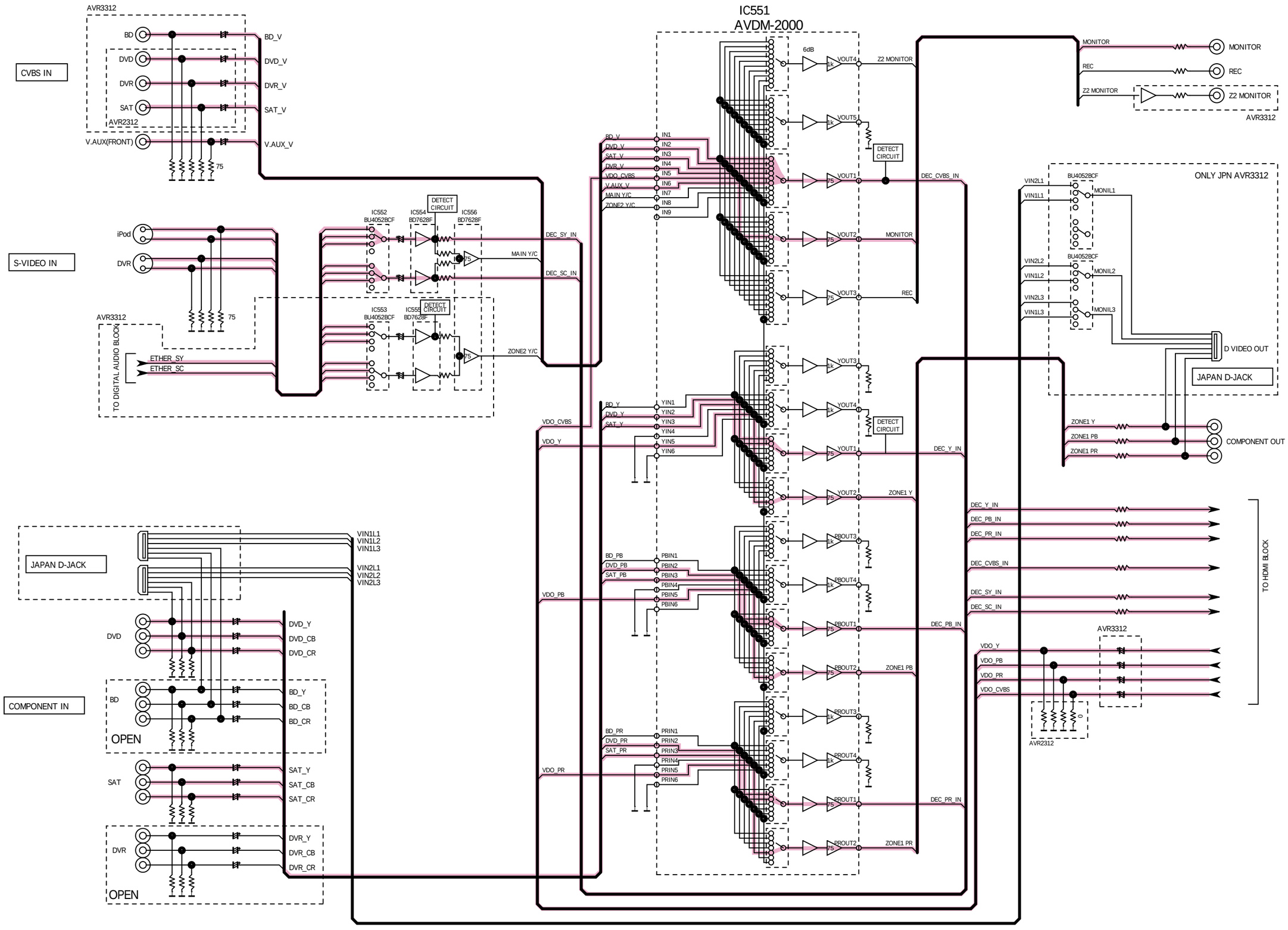
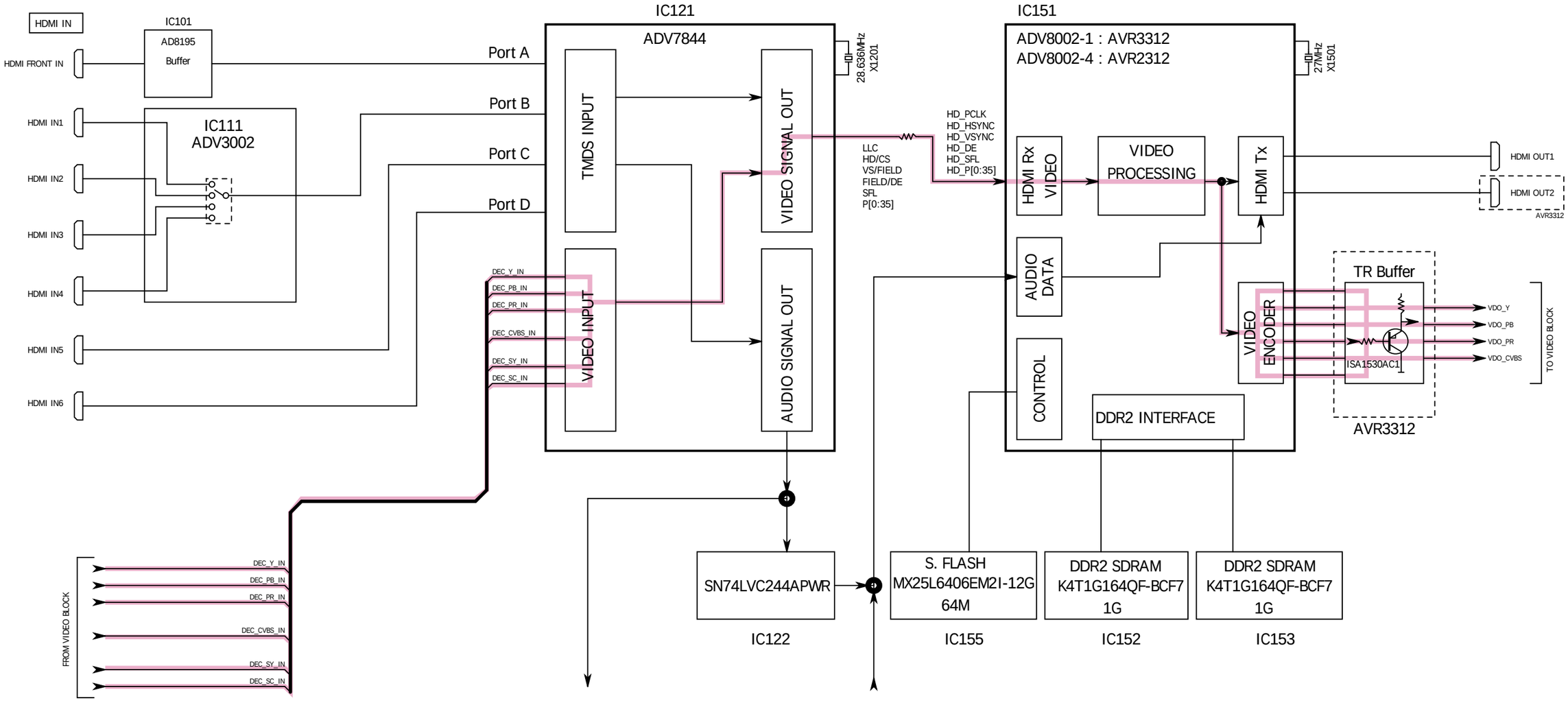


fig.2 (2/2)

AVR3312/2312 HDMI VIDEO BLOCK



< TO / FROM AUDIO PLD >

fig.3

AVR3312/2312 HDMI VIDEO BLOCK

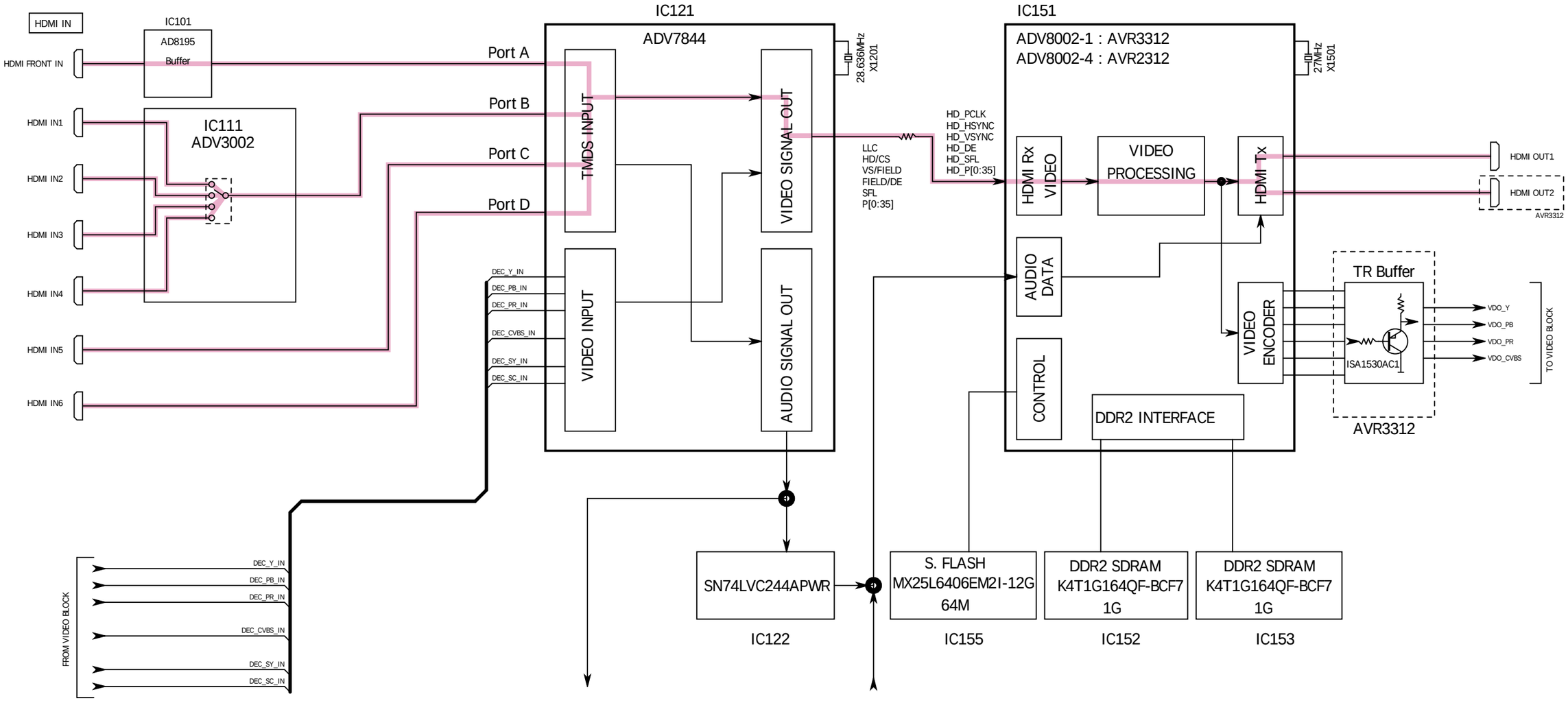


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fig.4 (1/2)

AVR3312/2312 VIDEO BLOCK

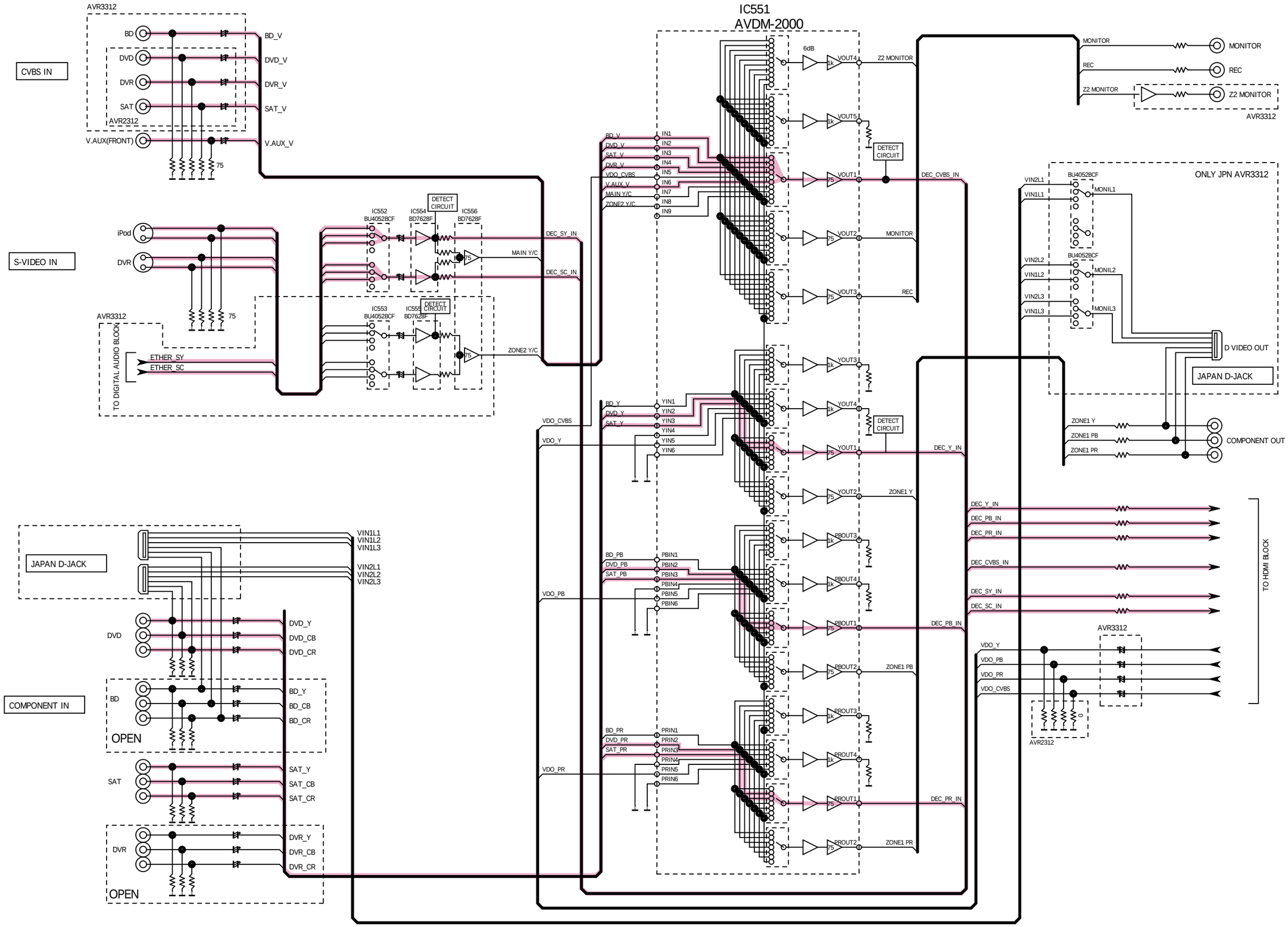

fig.4 (2/2)

AVR3312/2312 HDMI VIDEO BLOCK

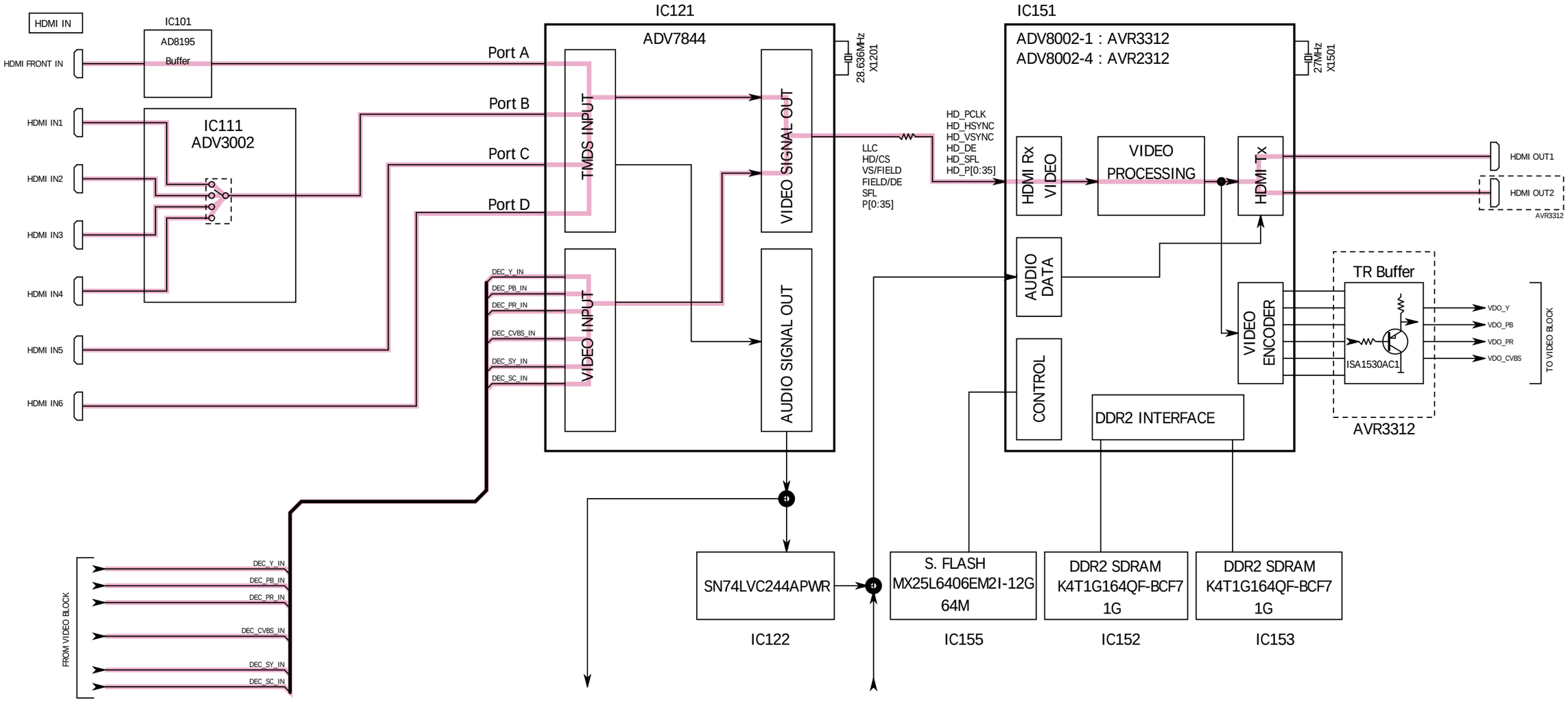

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fig.5 (1/2)

AVR3312/2312 HDMI VIDEO BLOCK

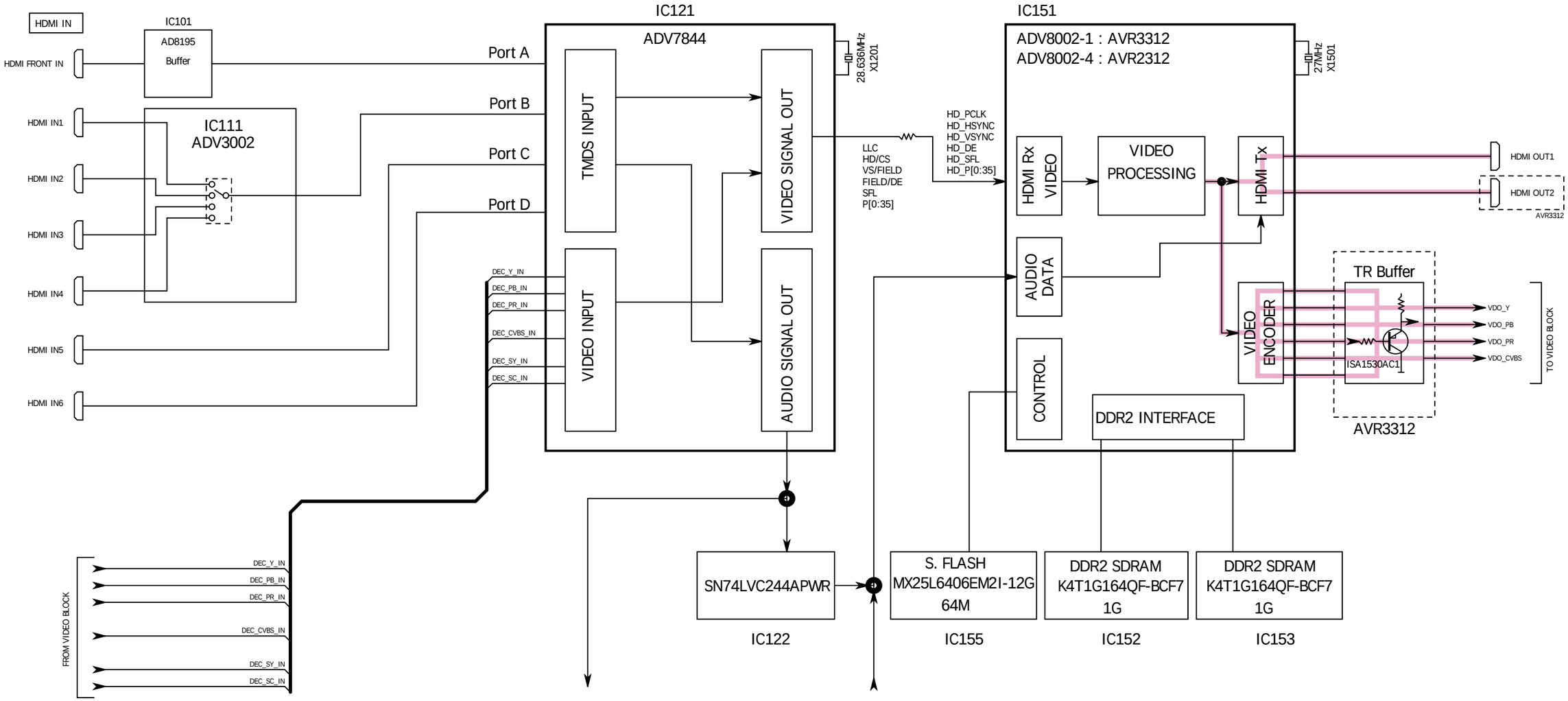

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fig.5 (2/2)

AVR3312/2312 VIDEO BLOCK

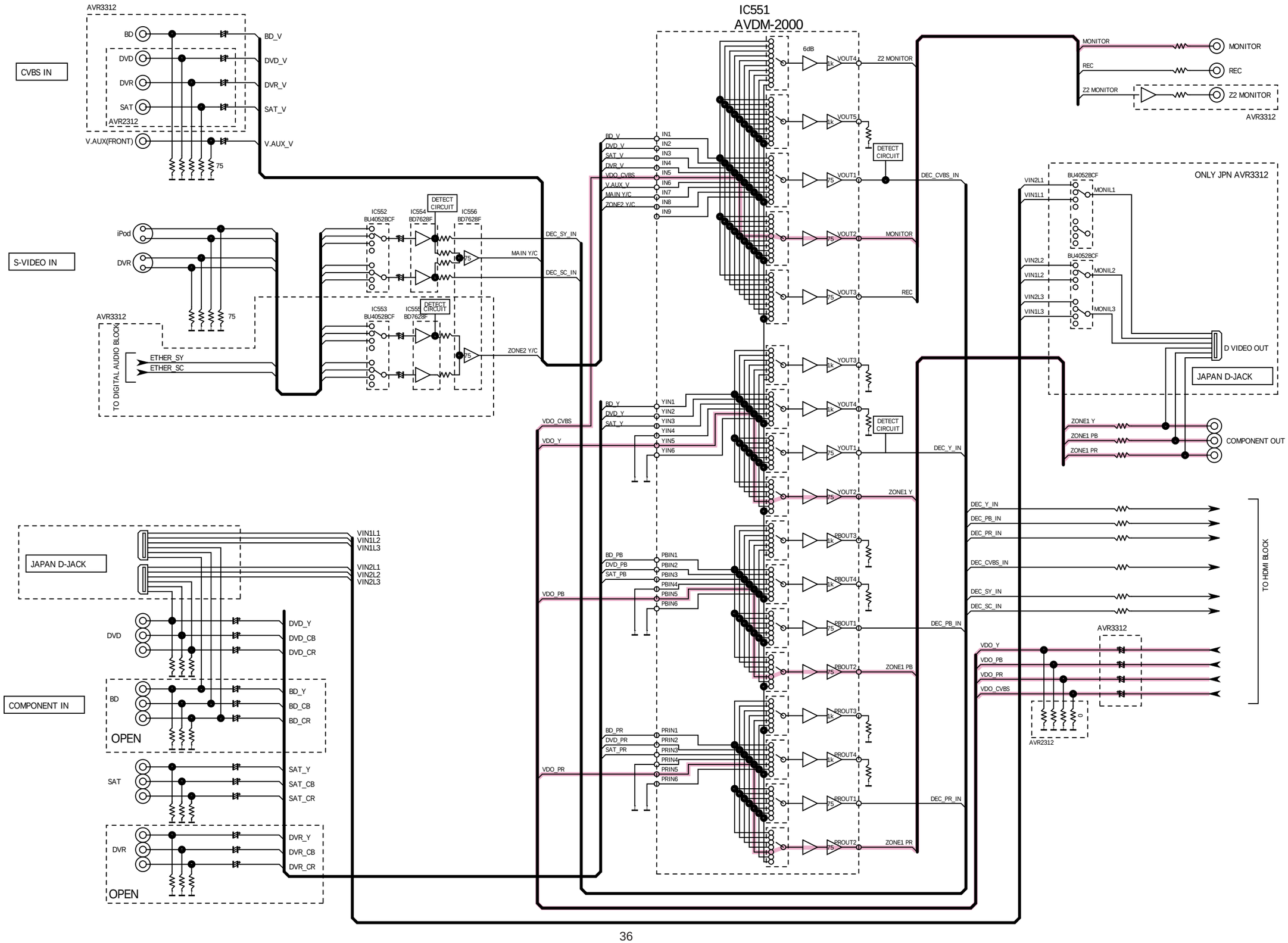

fig.6

AVR3312/2312 HDMI VIDEO BLOCK

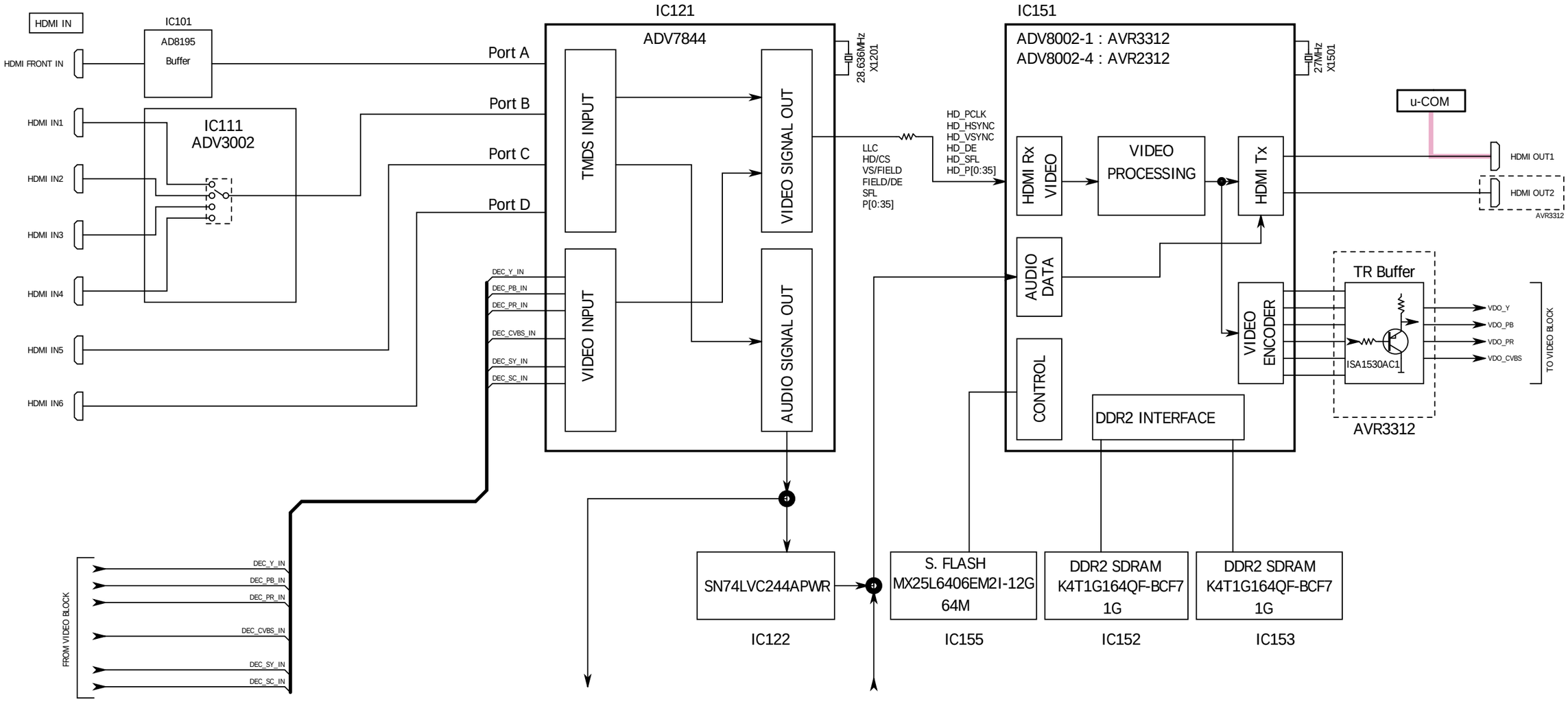

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fig.7

AVR3312/2312 HDMI VIDEO BLOCK

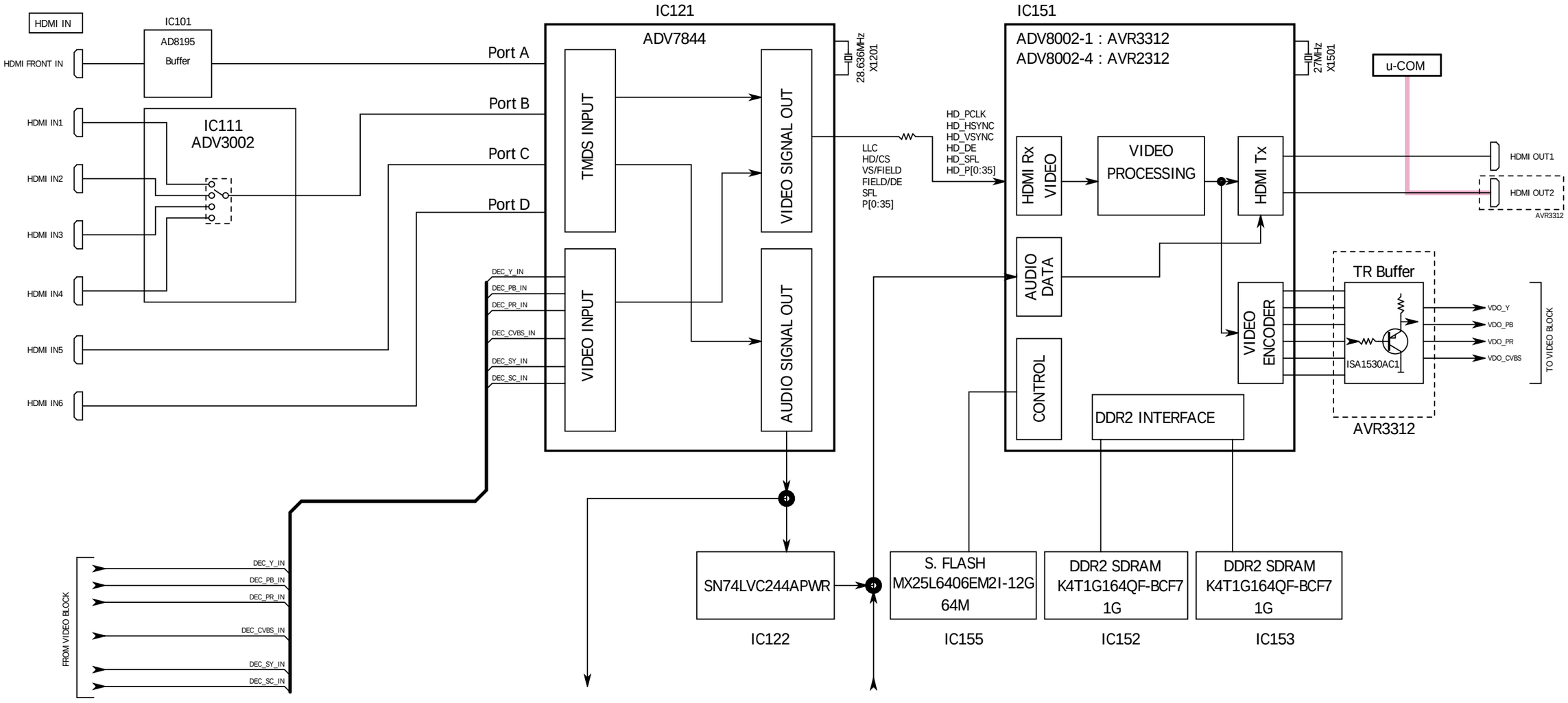

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fig.8 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

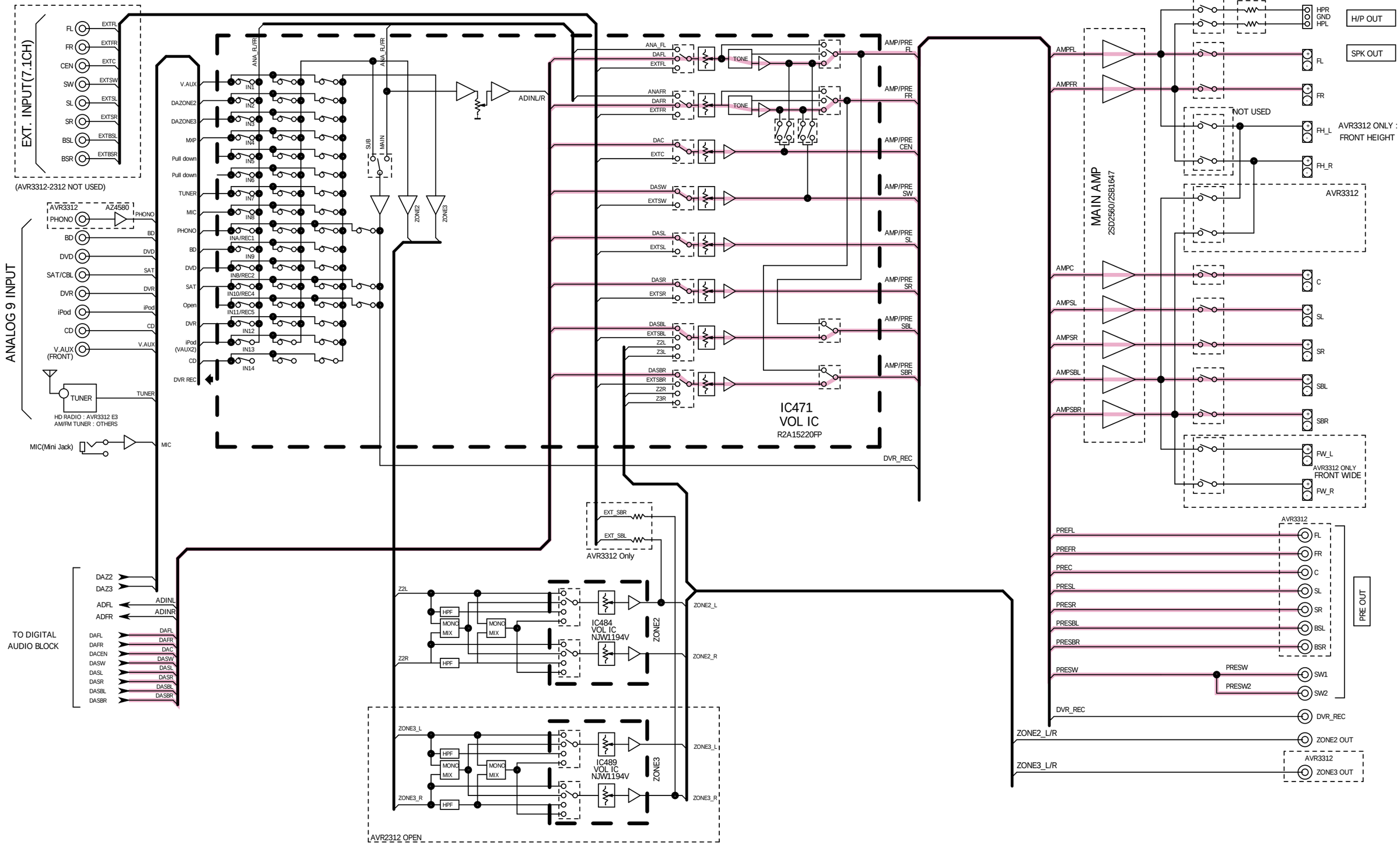


fig.8 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

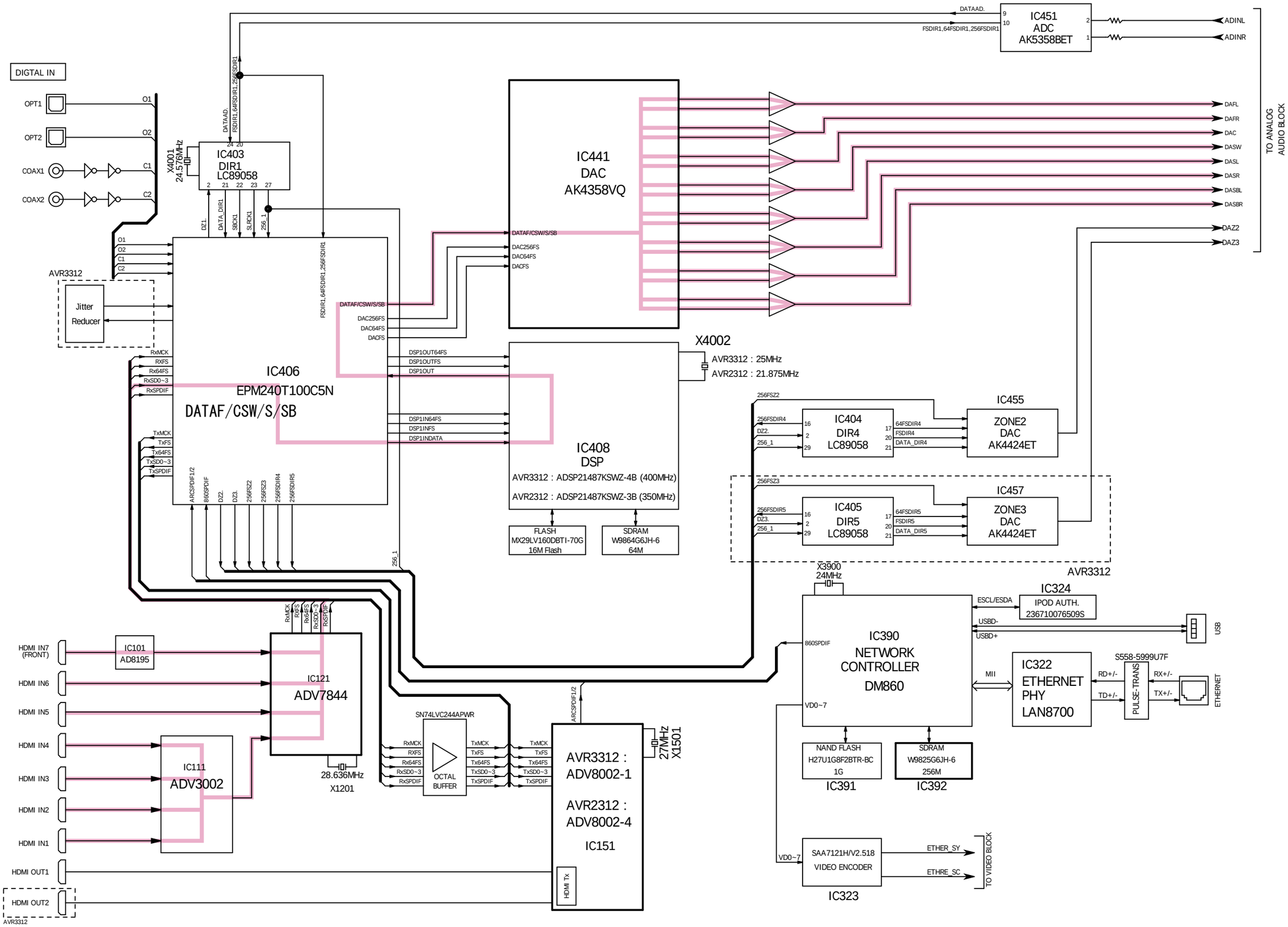


fig.9

AVR3312/2312 DIGITAL AUDIO BLOCK

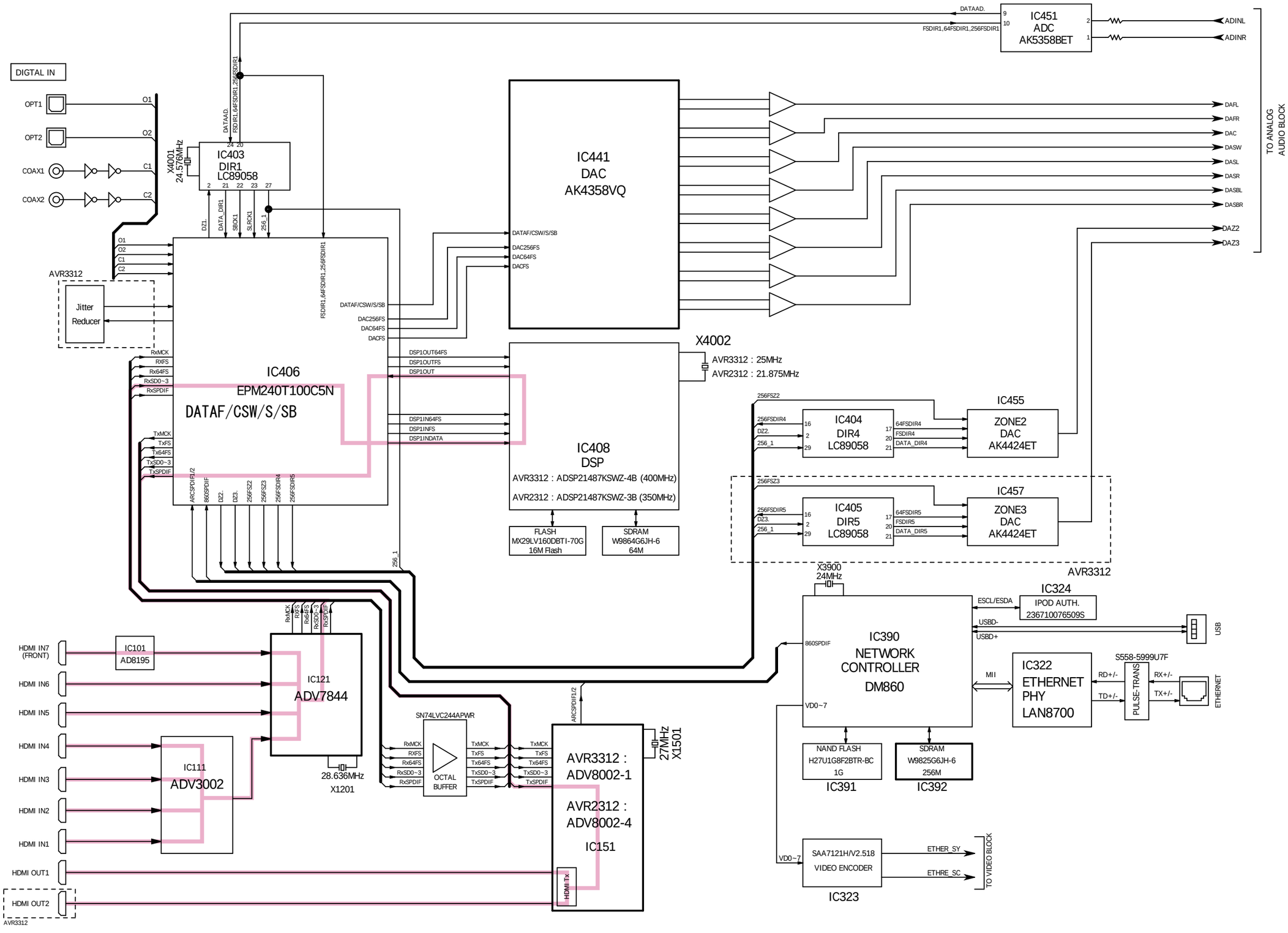


fig.10

AVR3312/2312 ANALOG AUDIO BLOCK

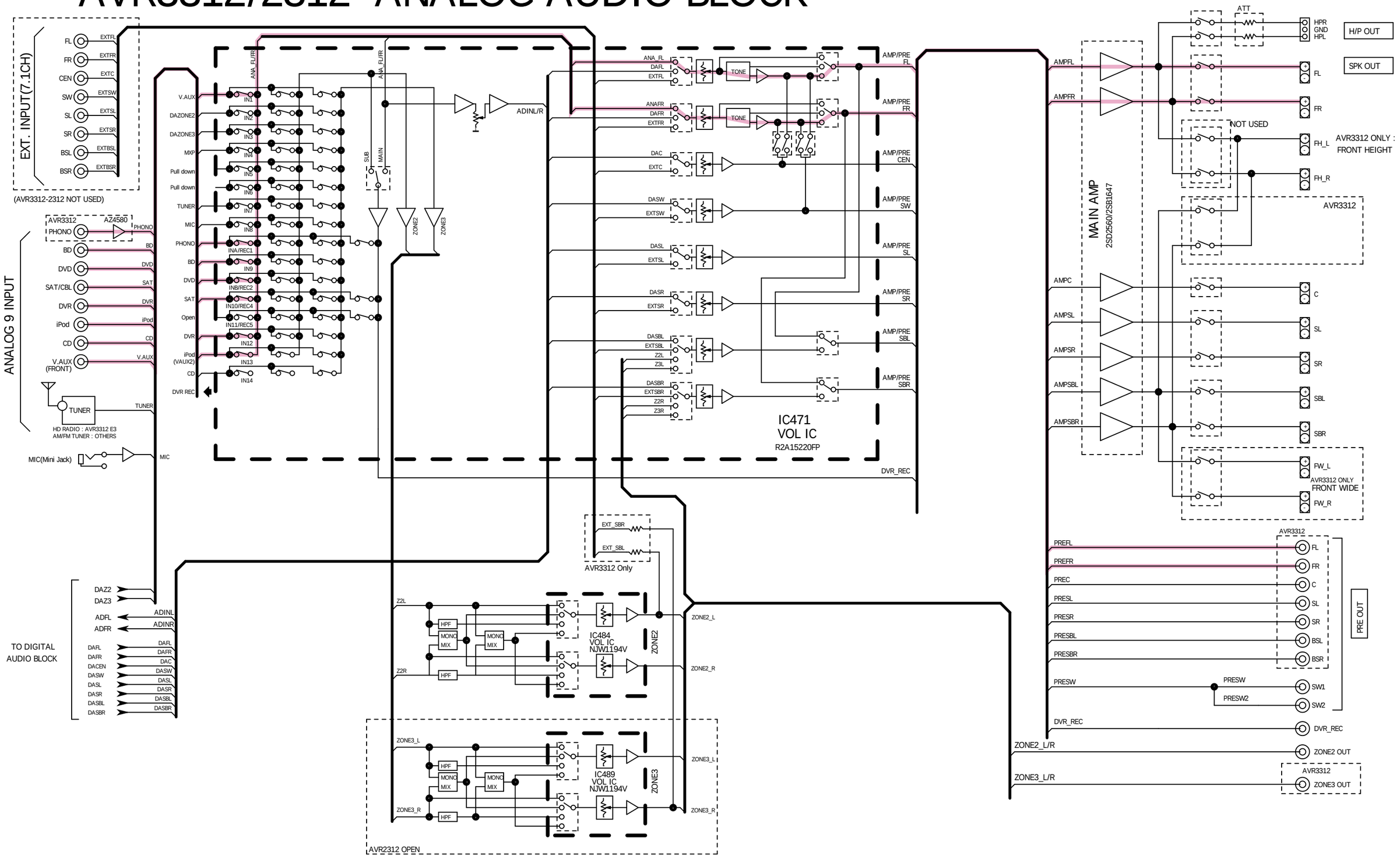


fig.11 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

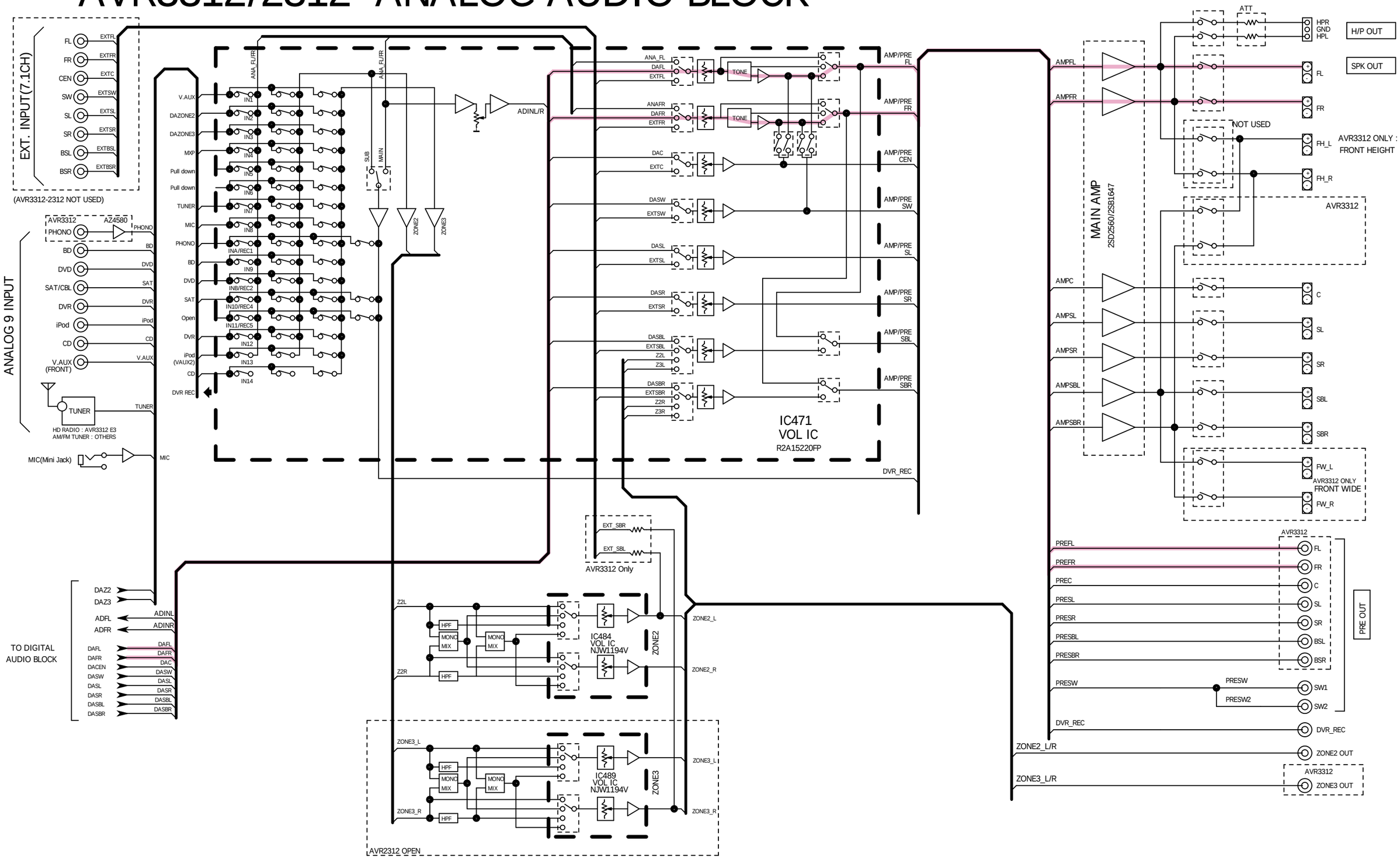


fig.11 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

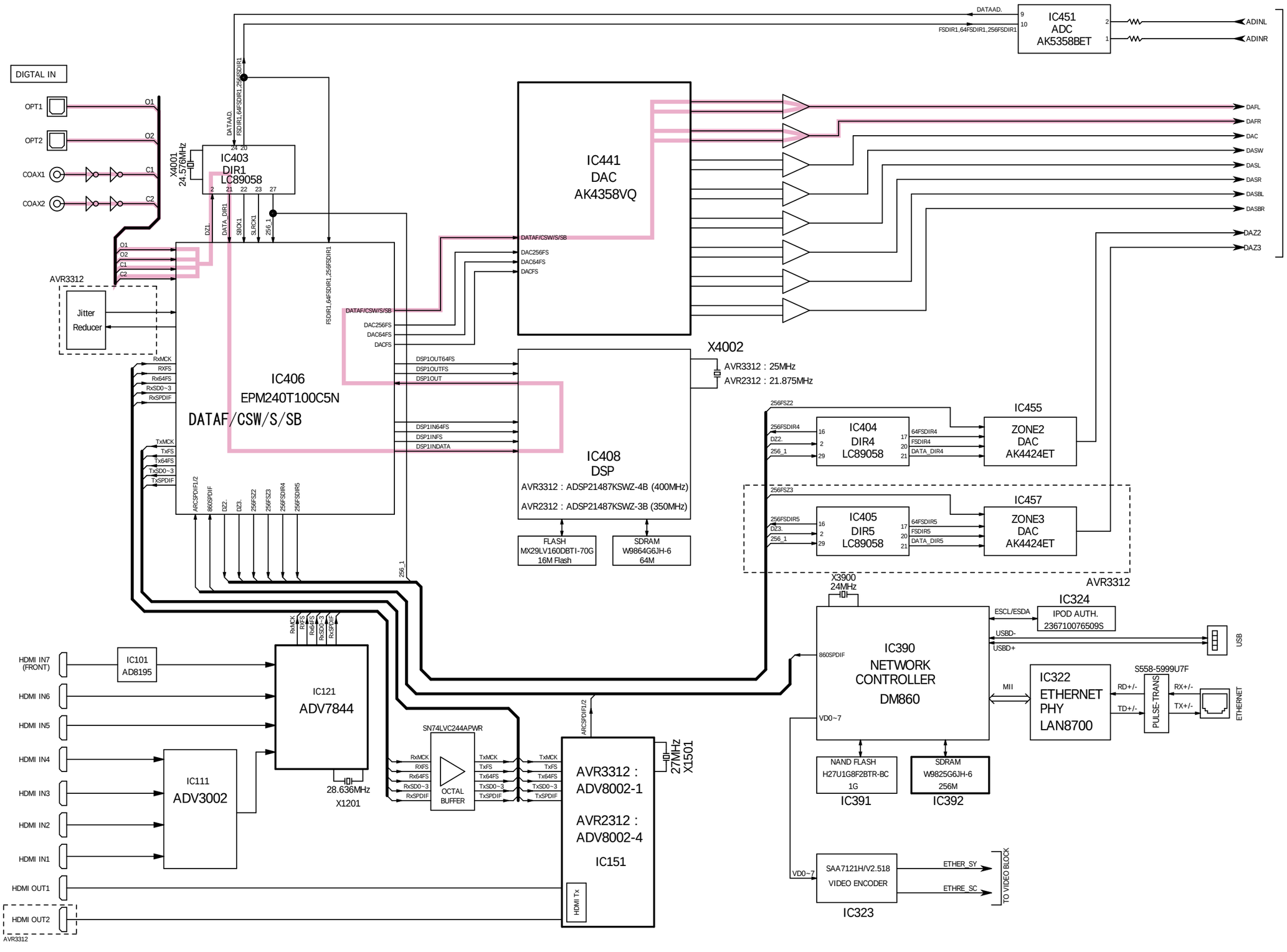


fig.12 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

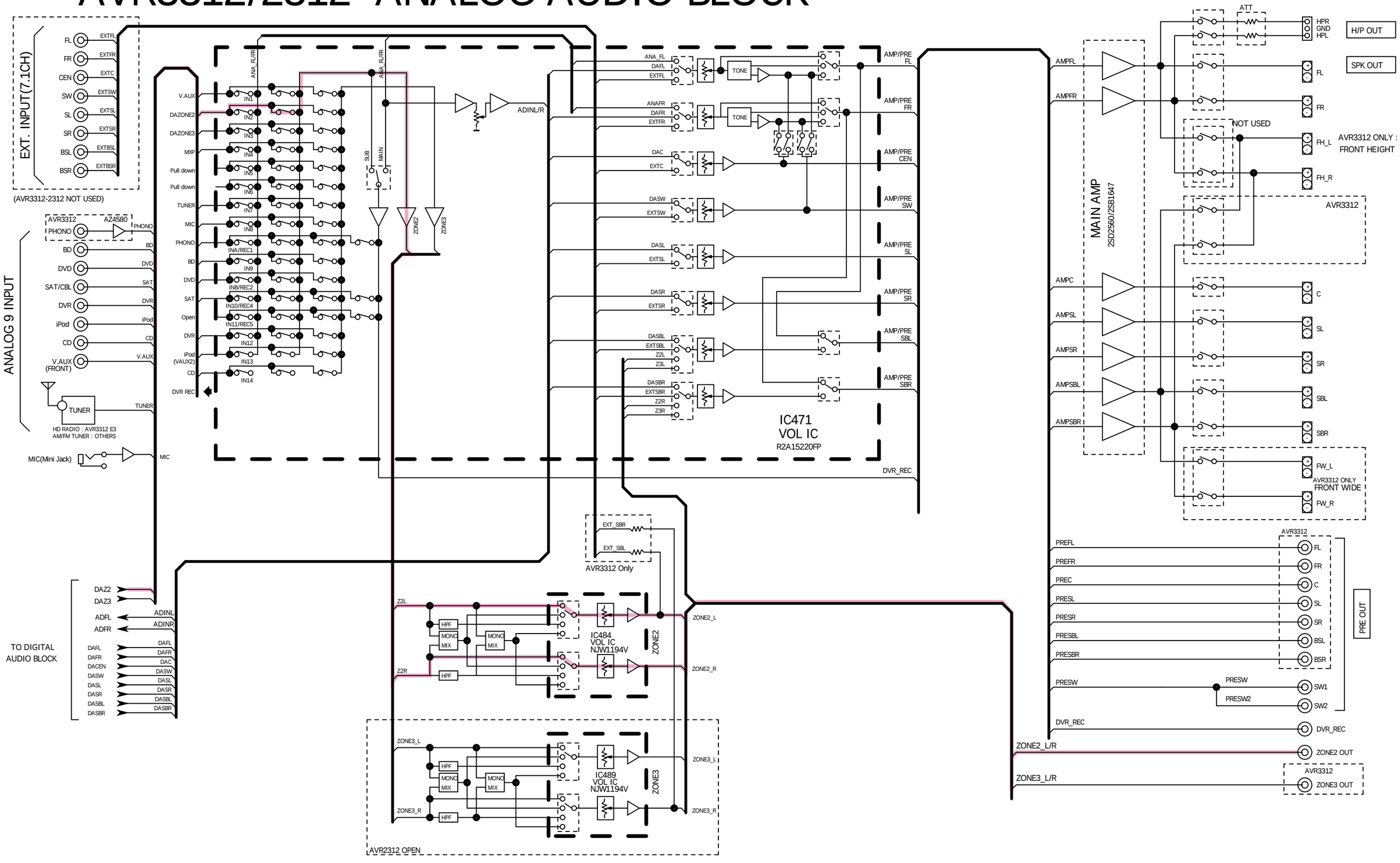


fig.12 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

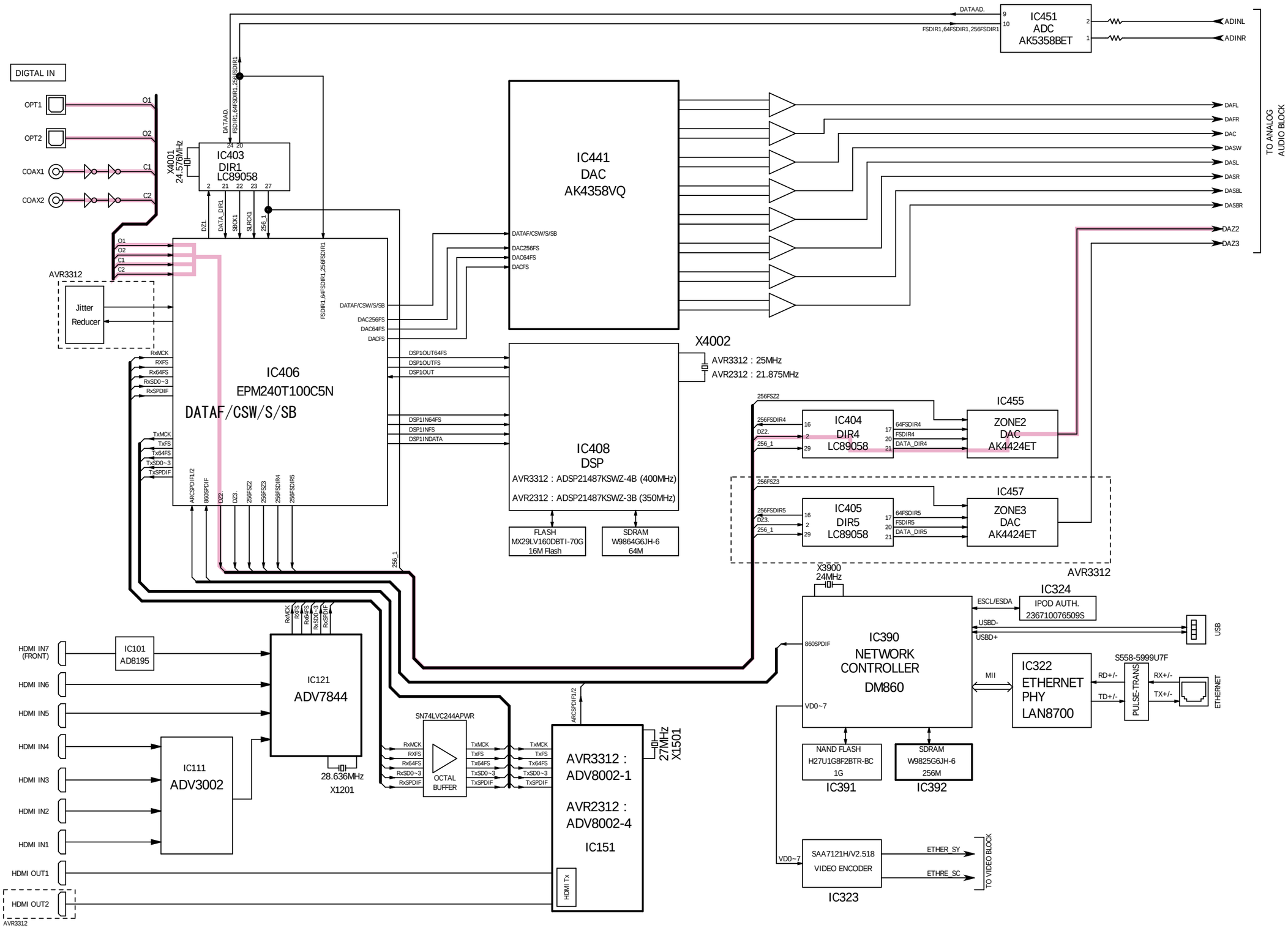


fig.13 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

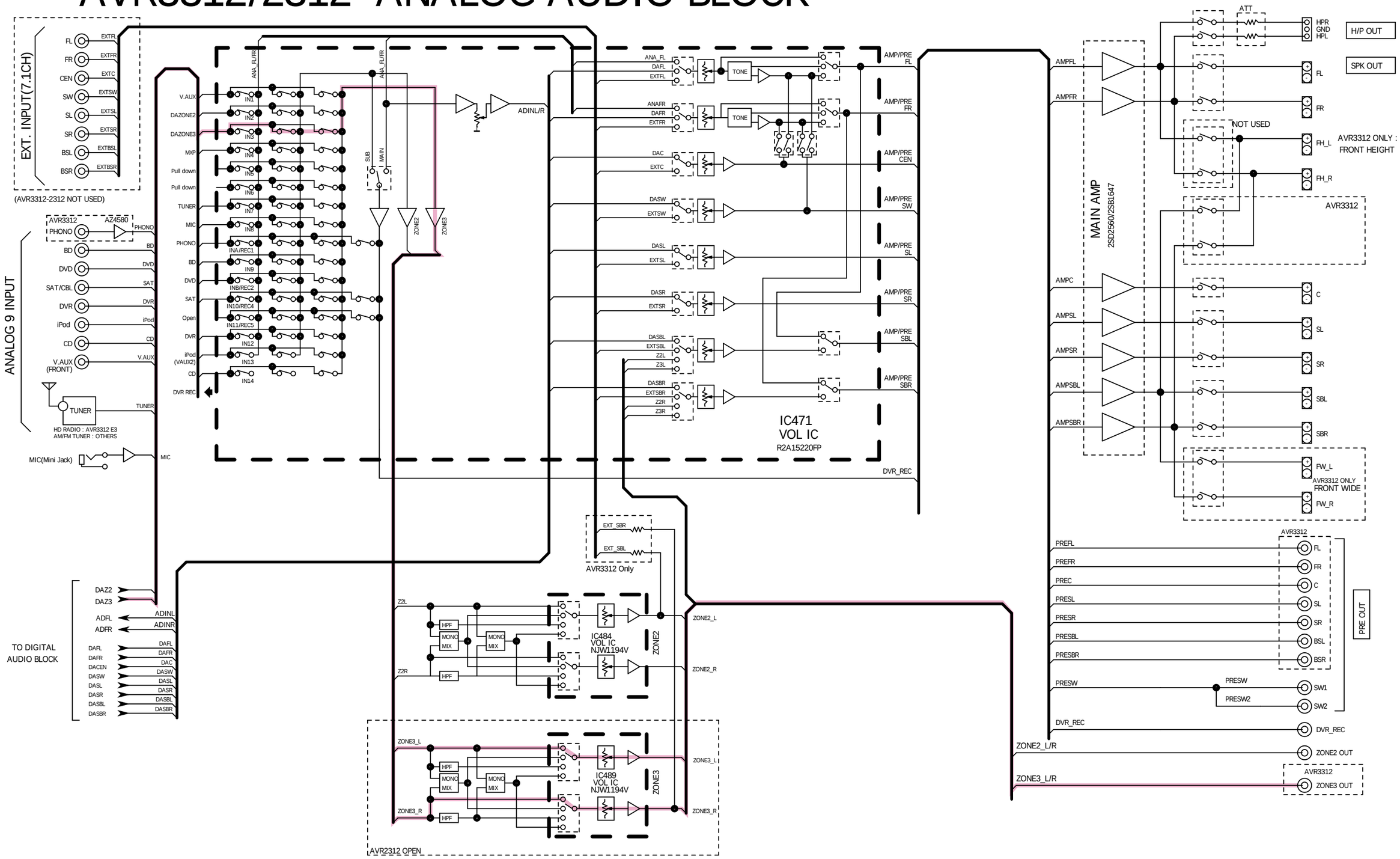


fig.13 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

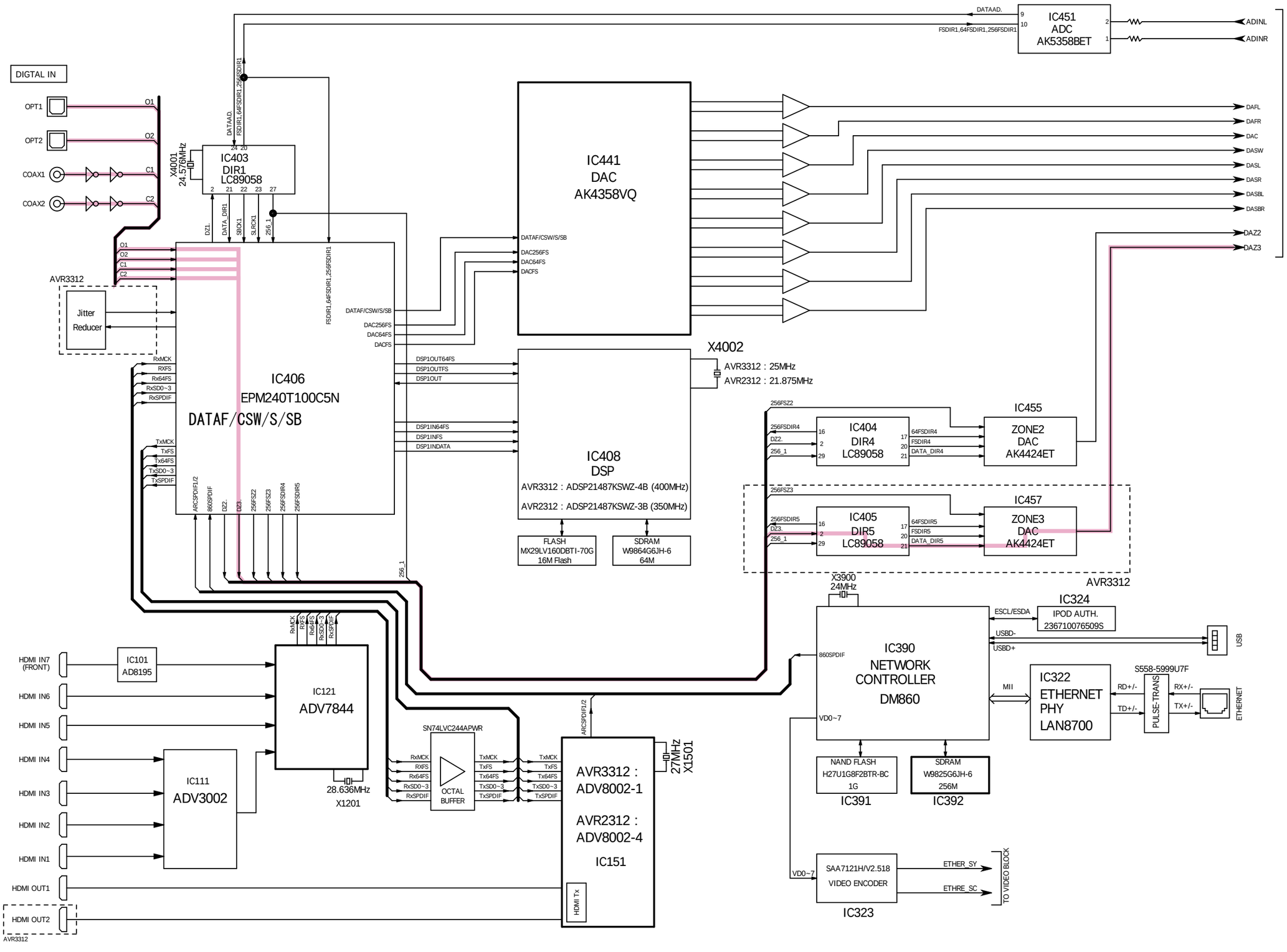


fig.14 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

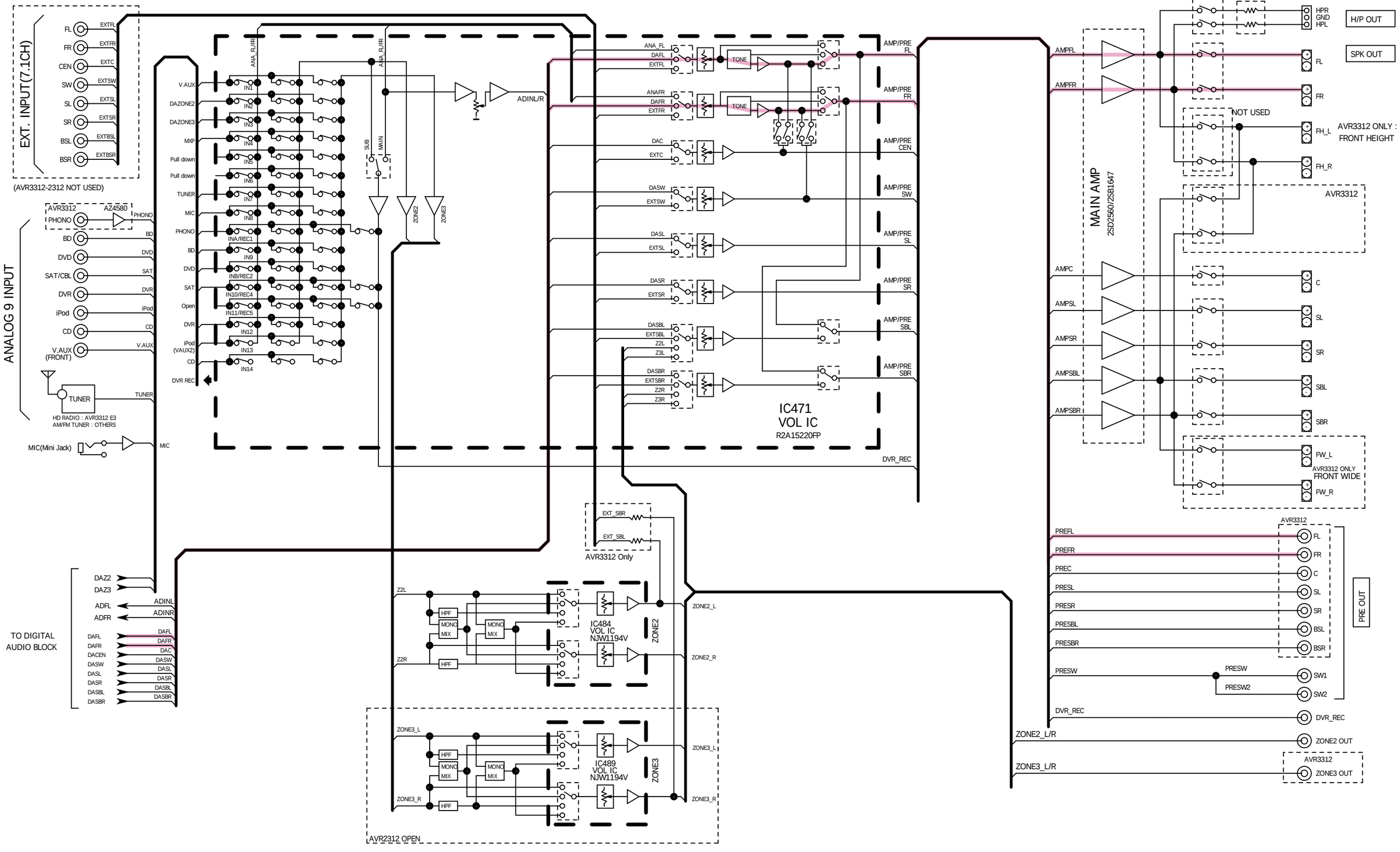


fig.14 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

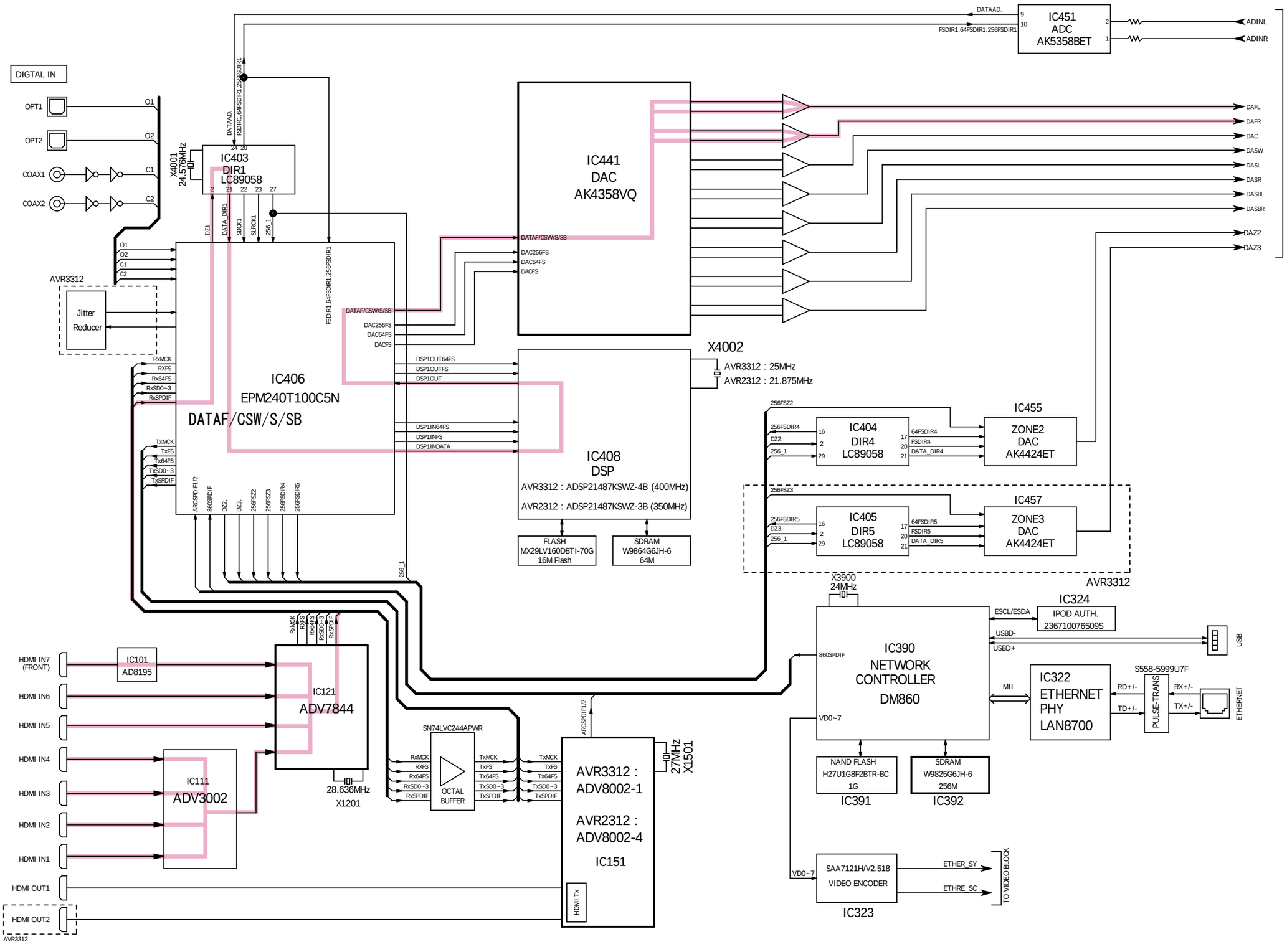


fig.15 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

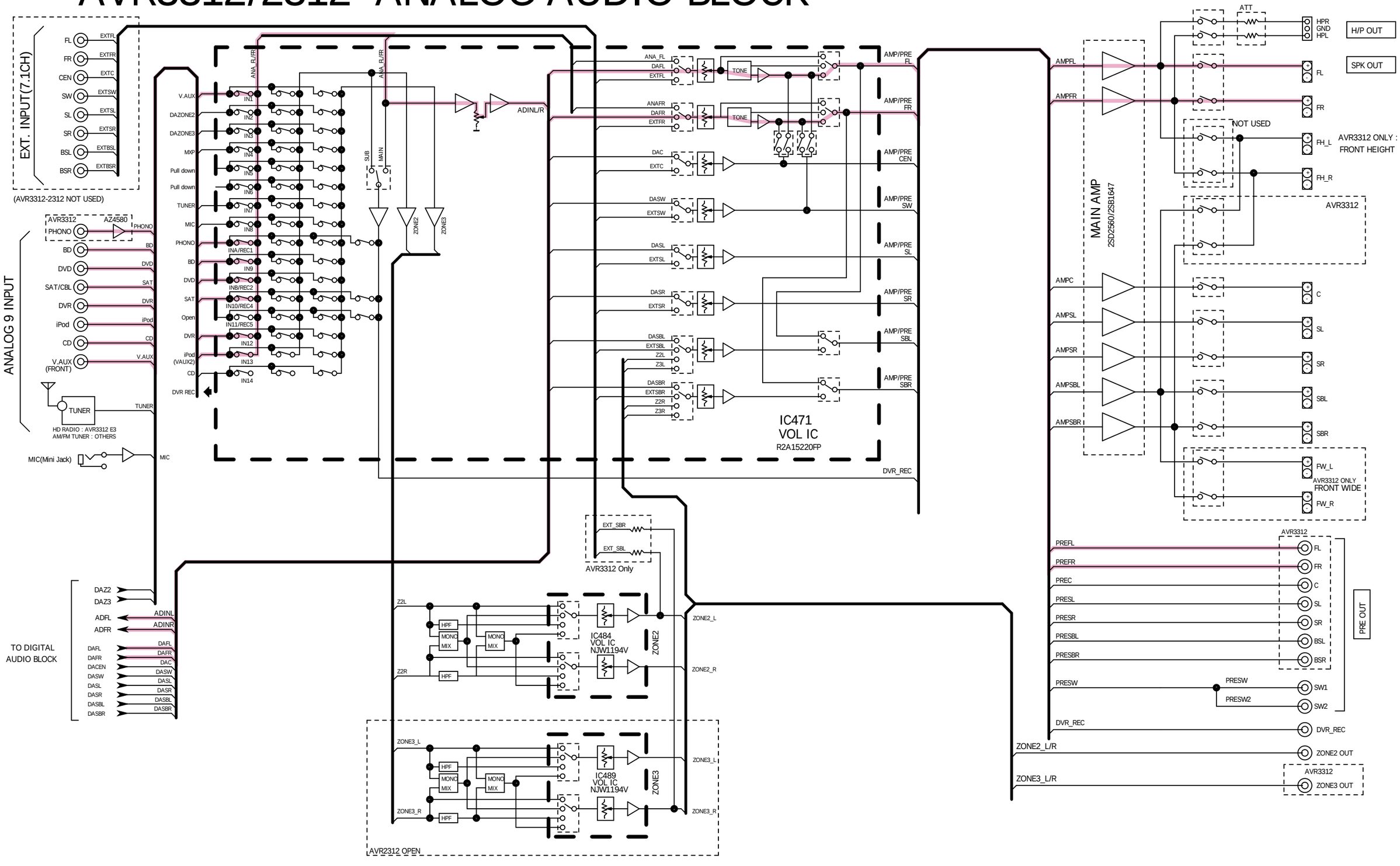


fig.15 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

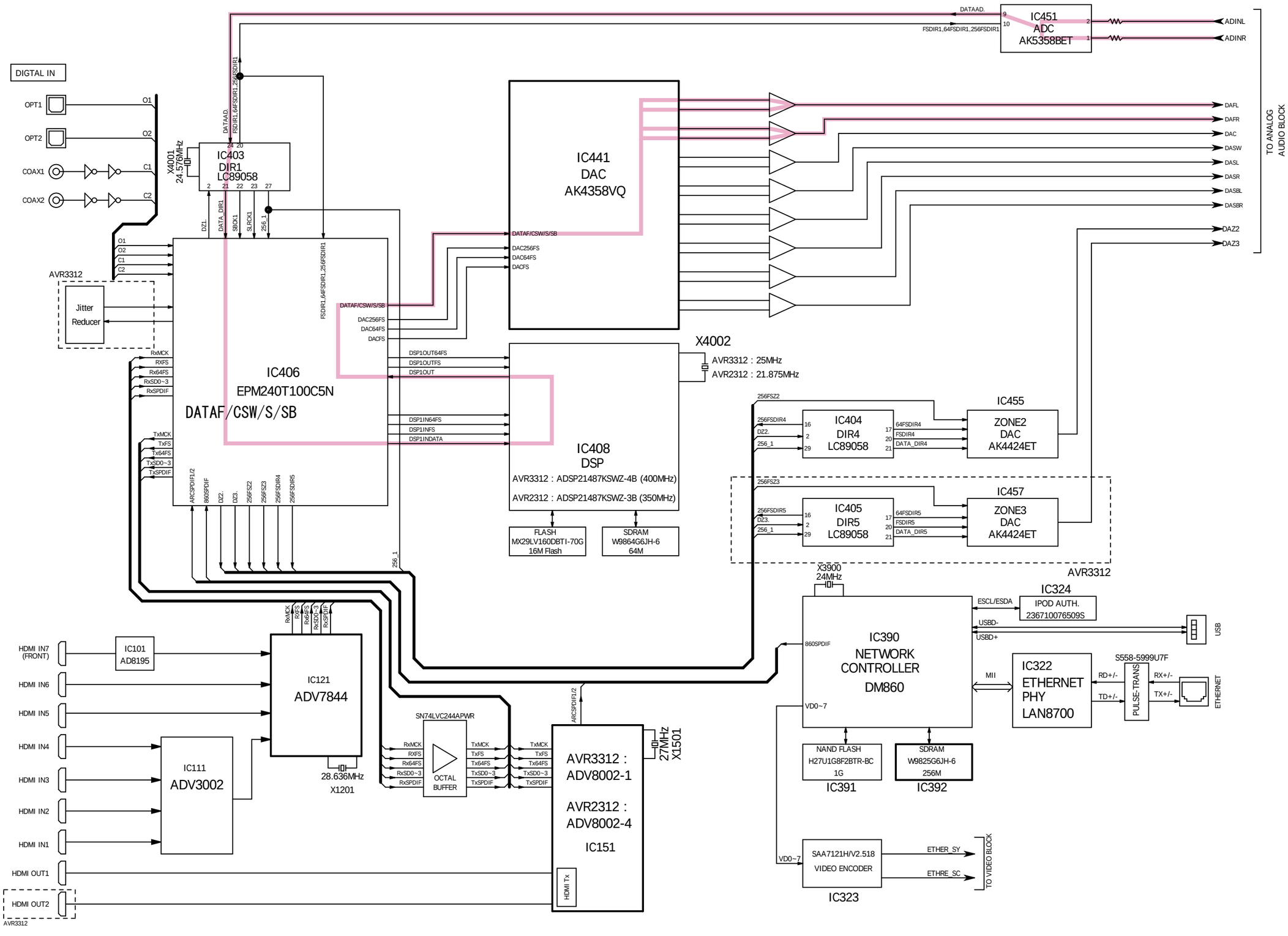


fig.16

AVR3312/2312 ANALOG AUDIO BLOCK

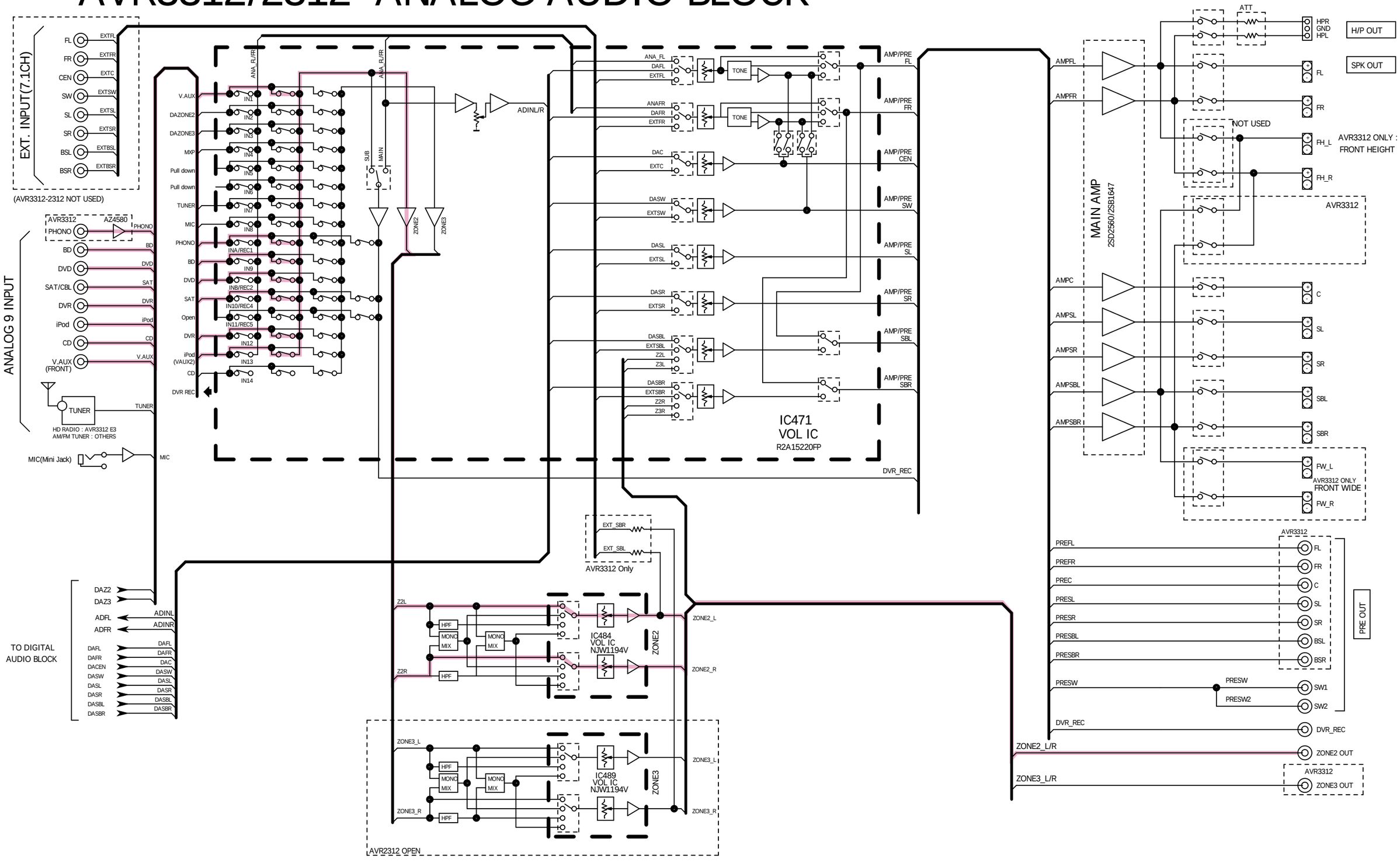


fig.17

AVR3312/2312 ANALOG AUDIO BLOCK

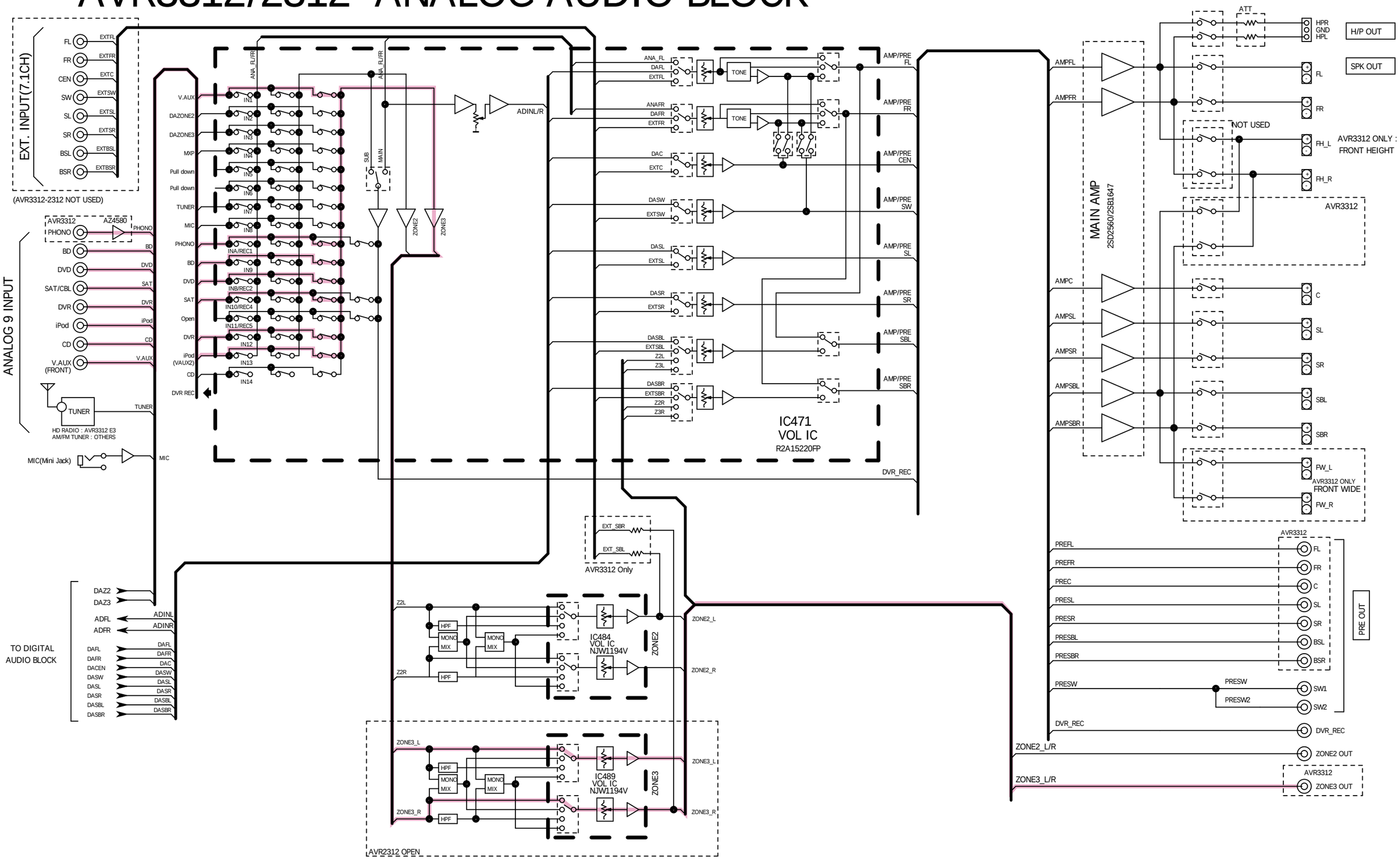


fig.18

AVR3312/2312 ANALOG AUDIO BLOCK

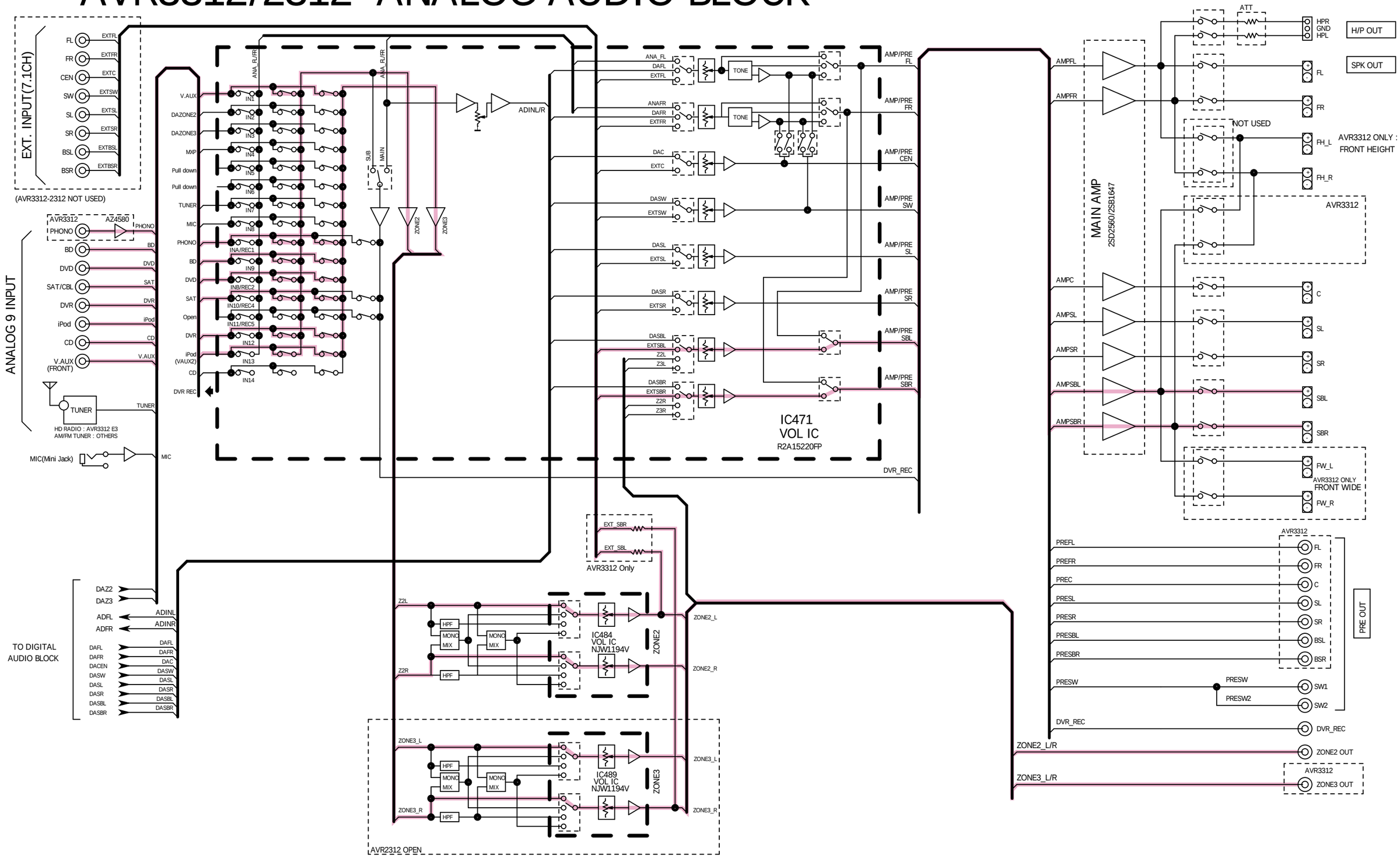


fig.19, 20

AVR3312/2312 ANALOG AUDIO BLOCK

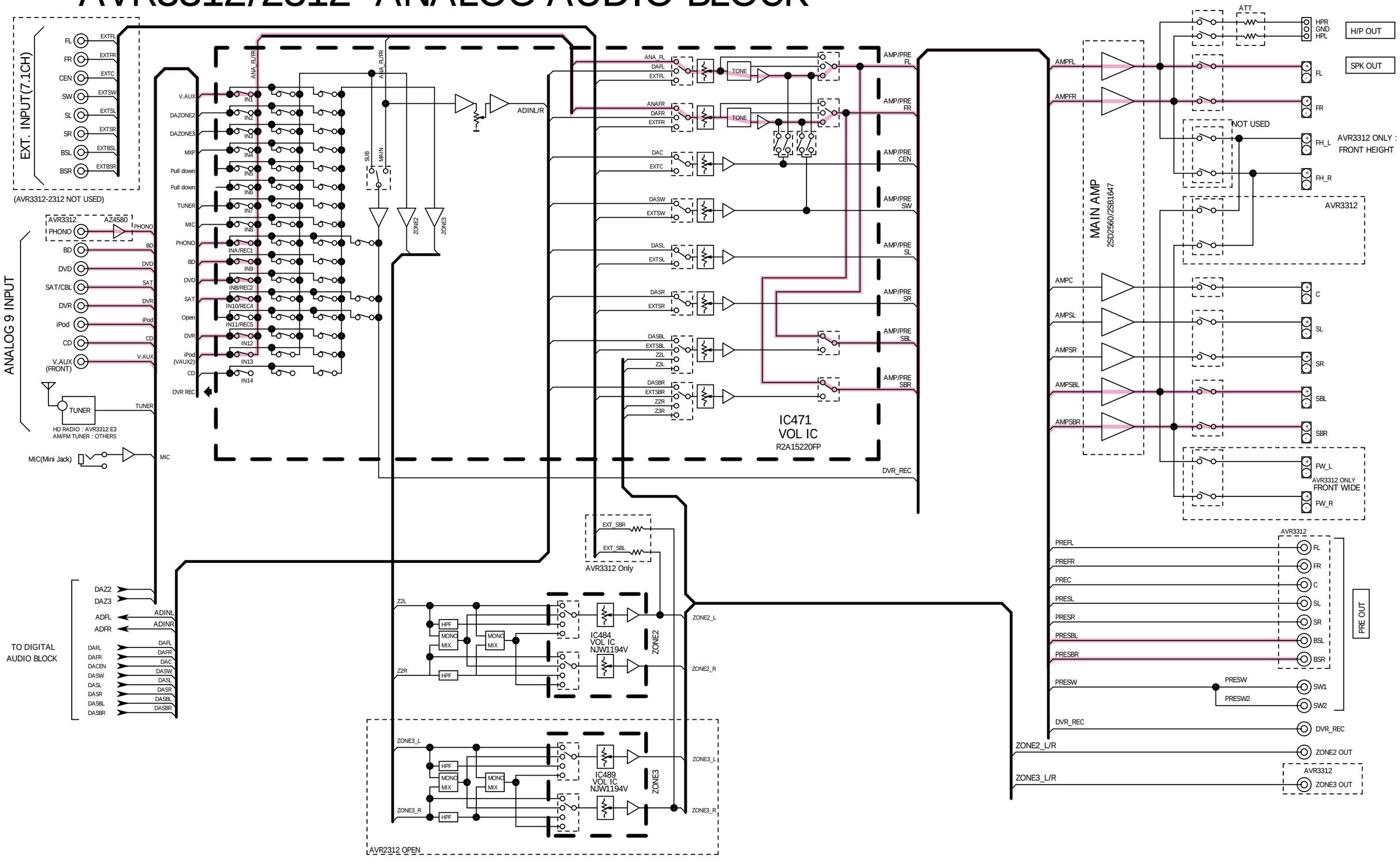


fig.22 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

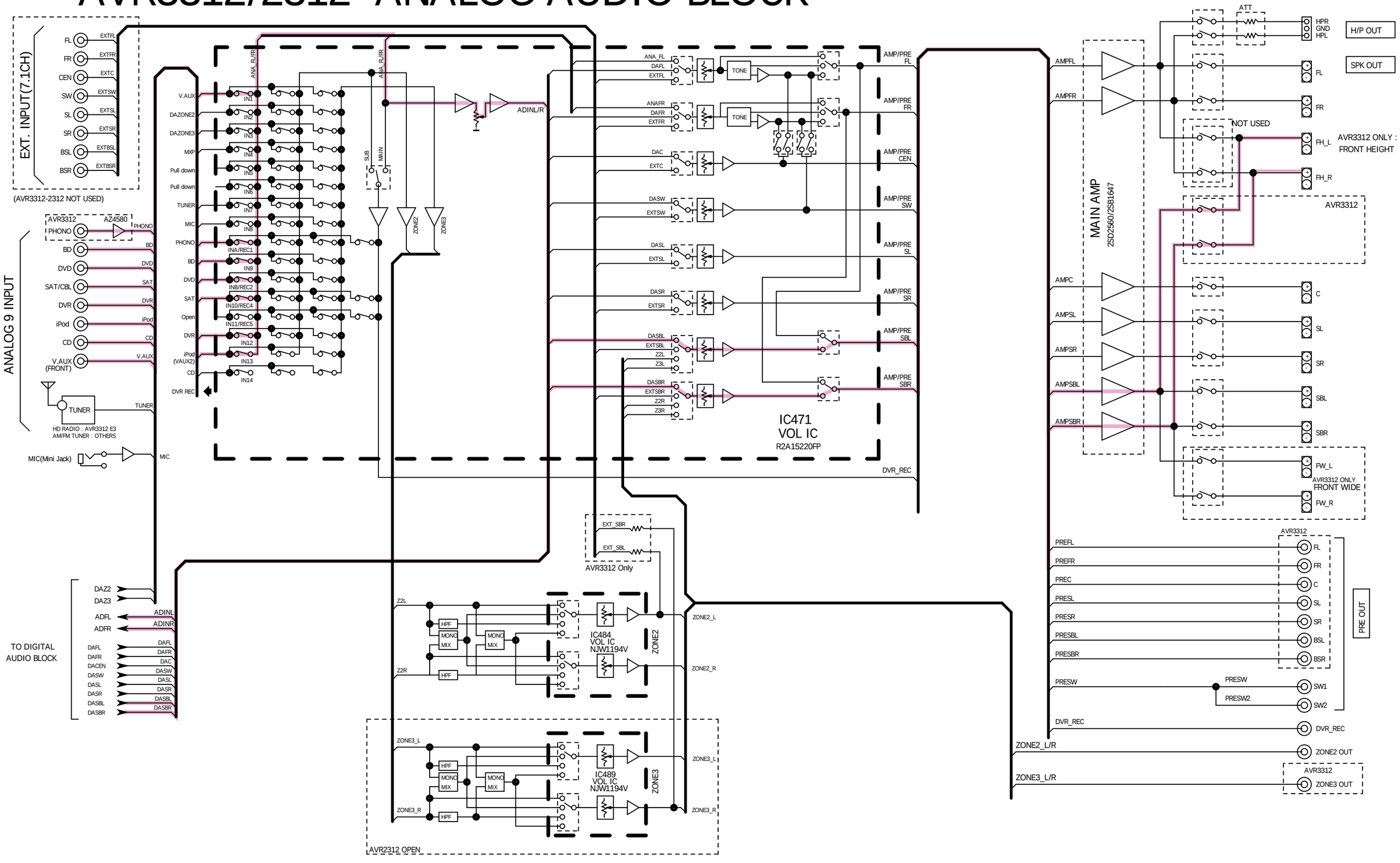


fig.22 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK

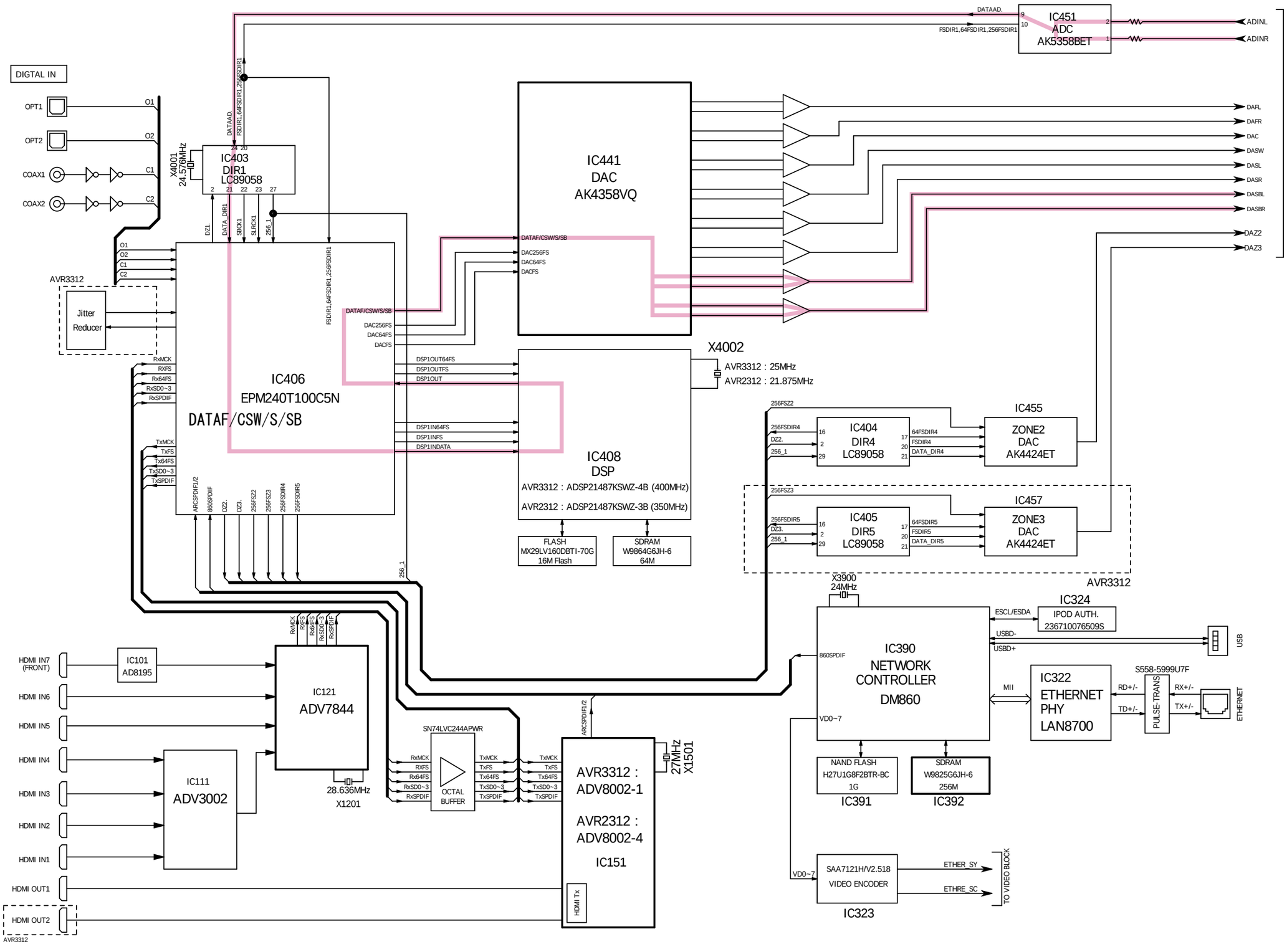


fig.23 (1/2)

AVR3312/2312 ANALOG AUDIO BLOCK

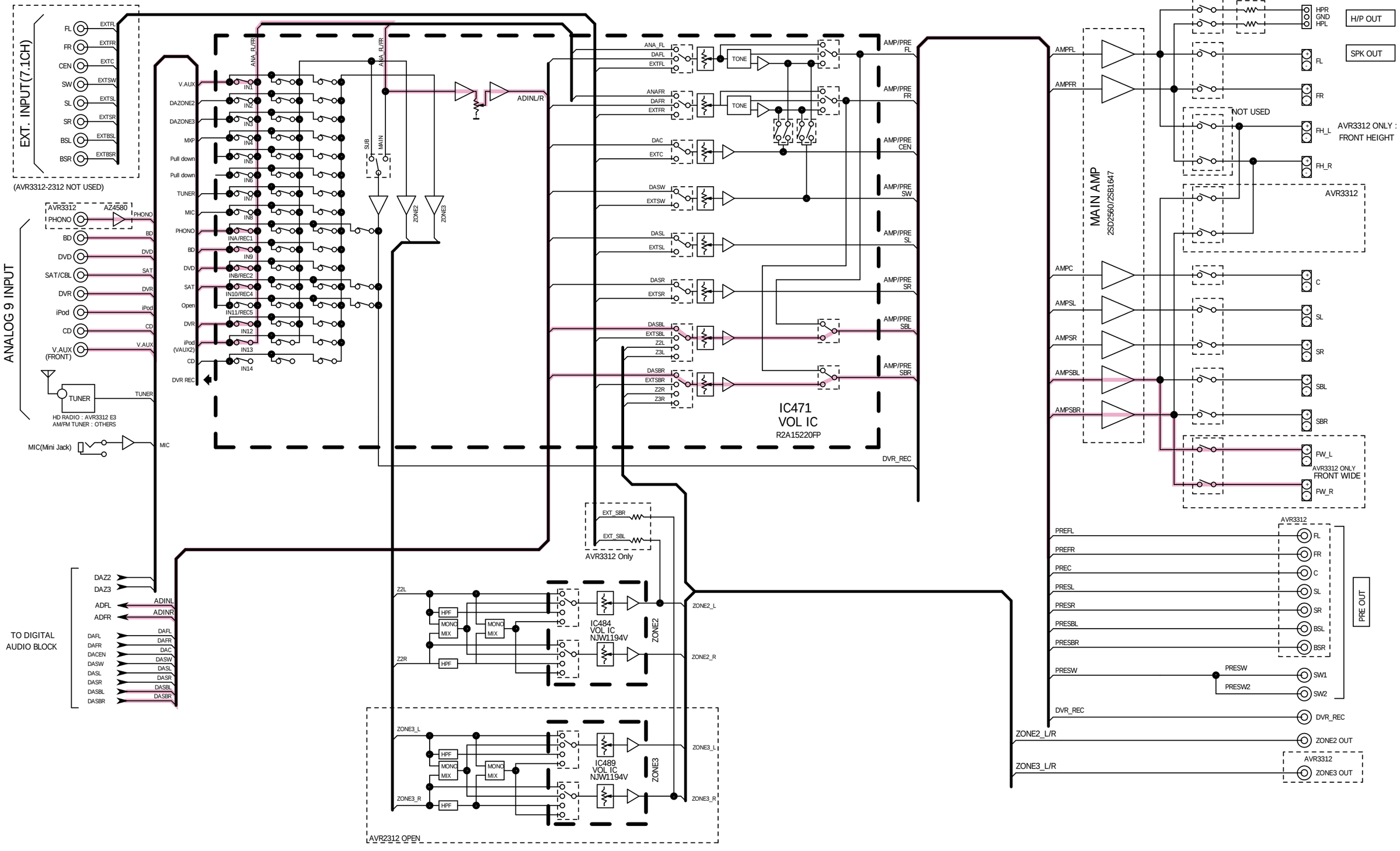
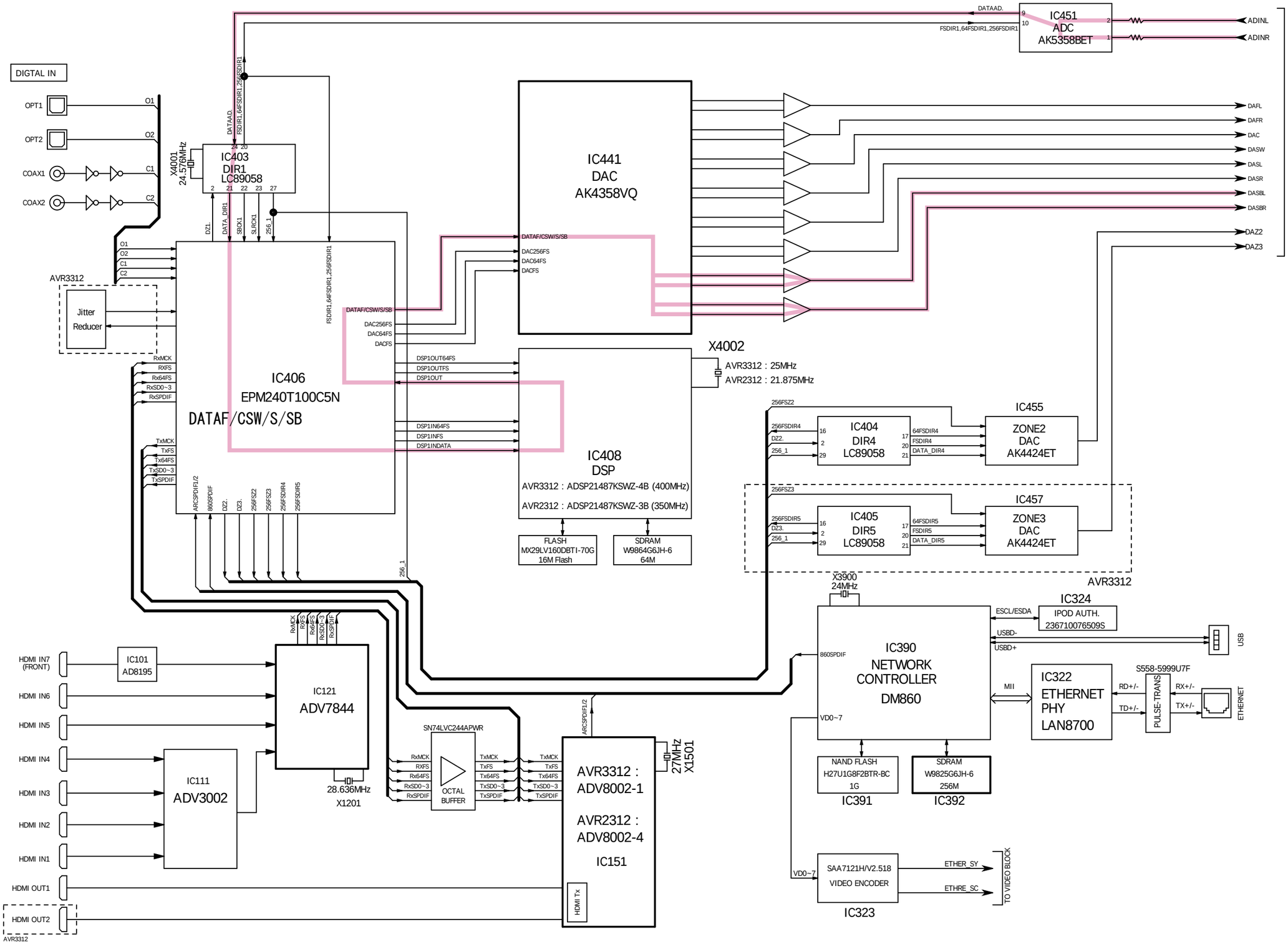
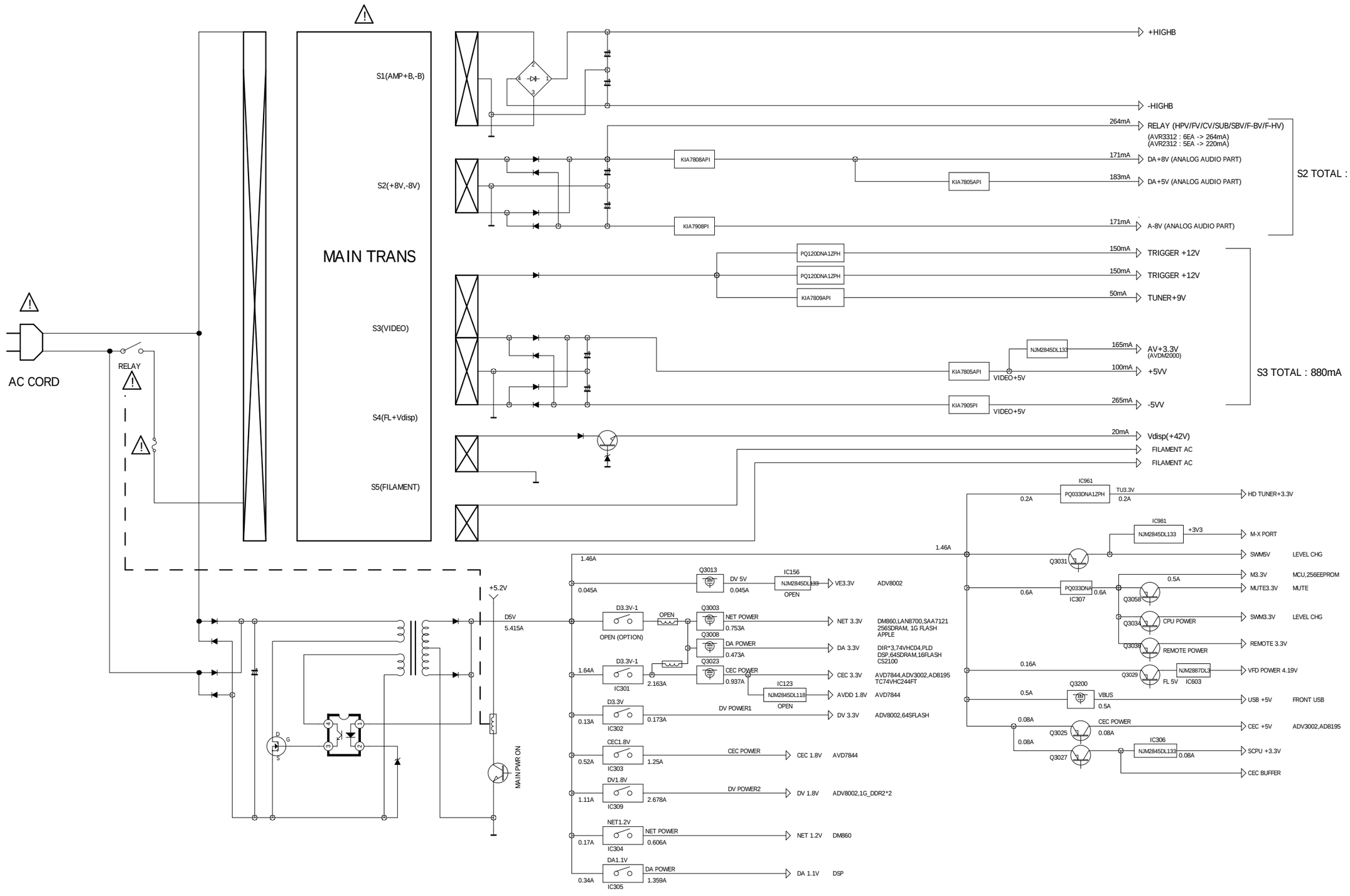


fig.23 (2/2)

AVR3312/2312 DIGITAL AUDIO BLOCK



AVR3312/2312 VCC BLOCK DIAGRAM



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 DENON 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

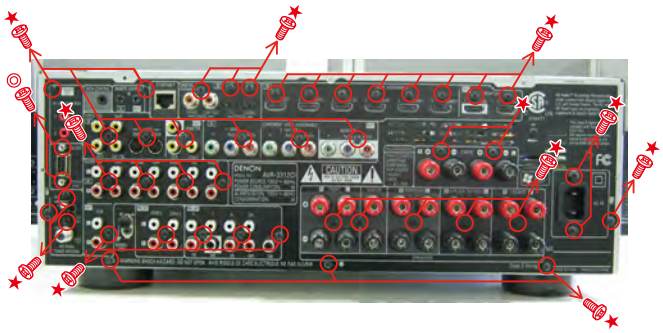
• Connection of PCB HDMI JIG

-Preparation-

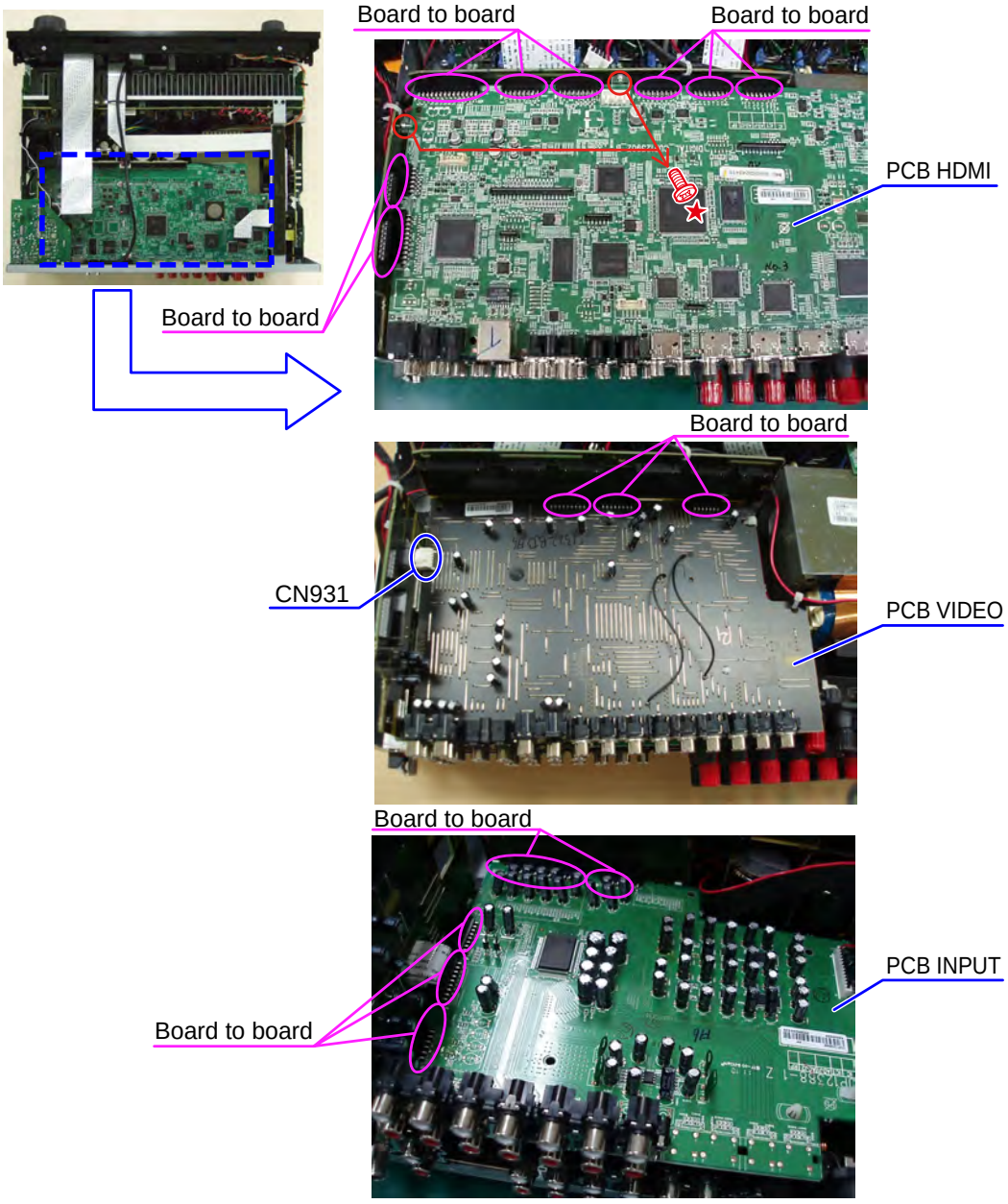
8U-110084S : EXTENSION UNIT KIT : 1 Set
Insulation sheet (Do not supply it) : 3 sheets
Ground lead (Do not supply it) : 3 pcs

-Procedures-

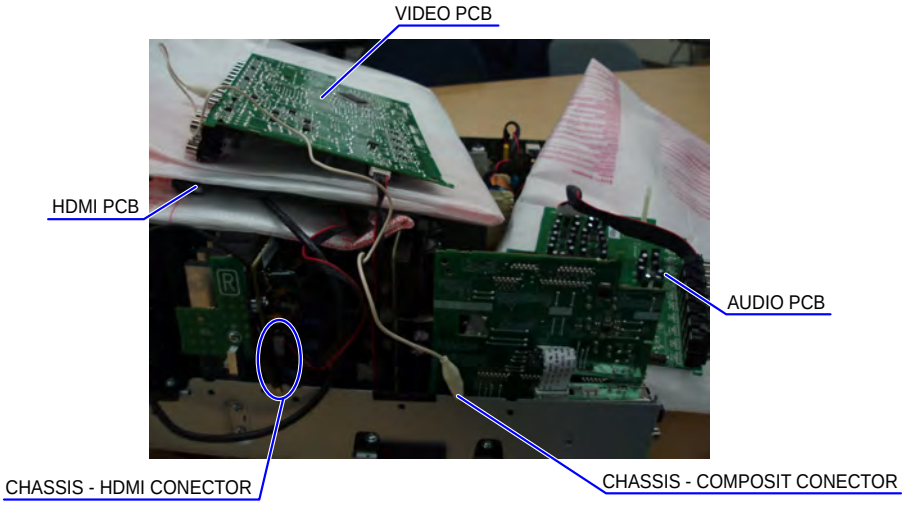
(1) Remove the screws.



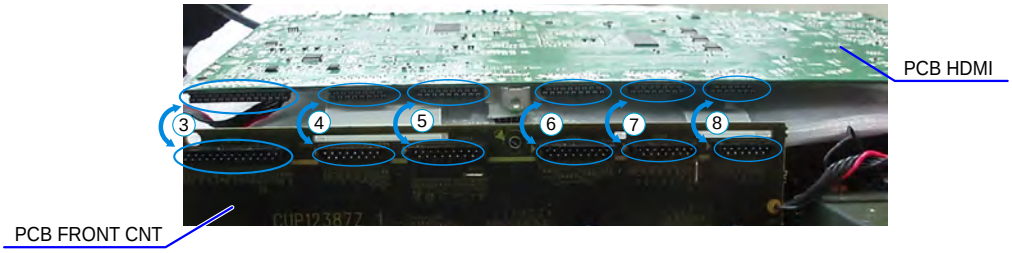
(2) Disconnect the connector board.

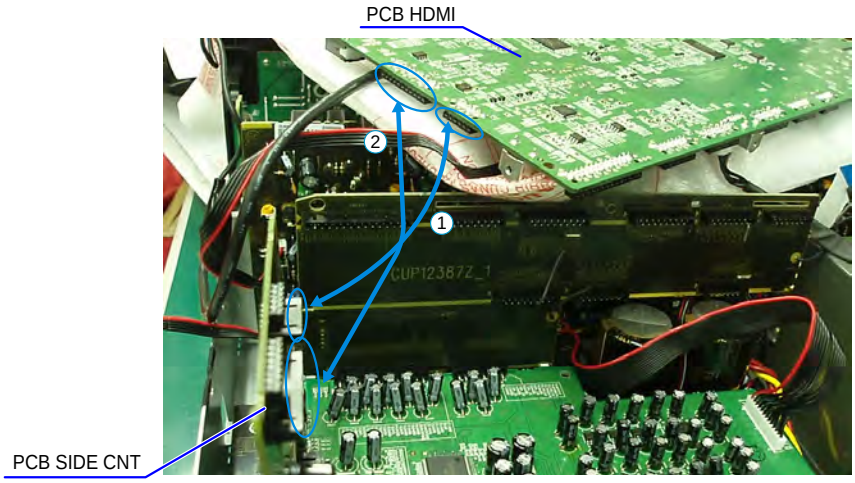


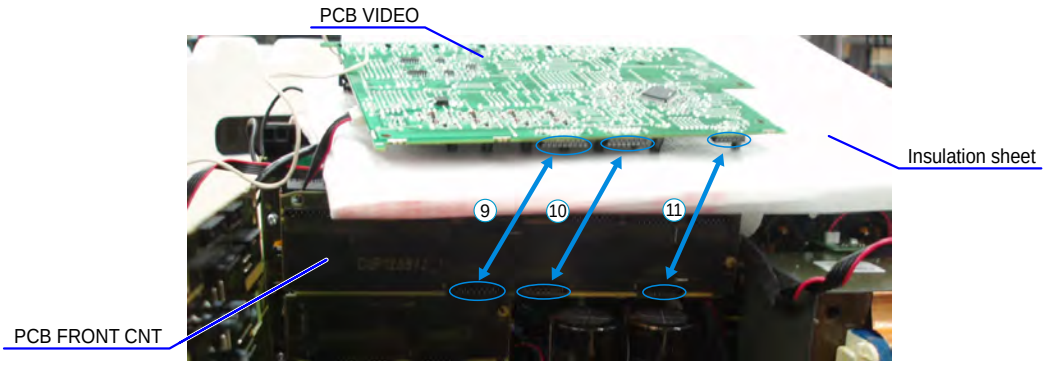
(3) Detach PCB HDMI from the chassis, and turn it over.
Please put an insulation sheet that is larger than PCB HDMI under PCB.
※ Connect the ground point of PCB to the chassis with a ground lead or the like.

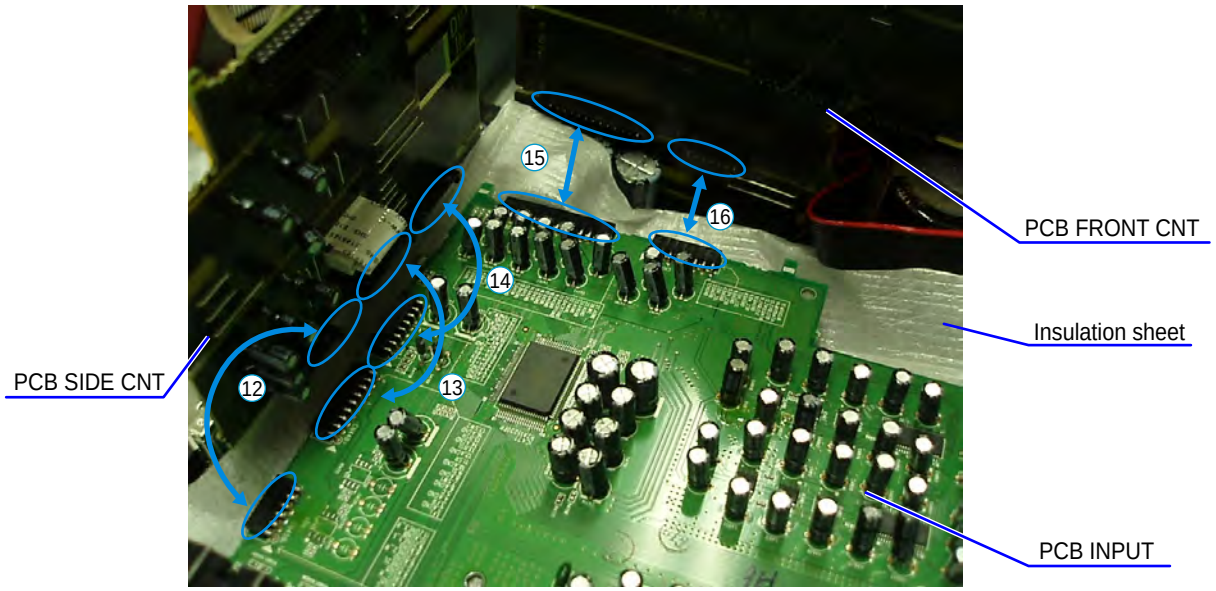


(4) Connect the six extension jig cables.









Connection table of Board to Board

No.	Pin	Ref. No.	PCB		Ref. No.	PCB
①	11 pin	CN28A	SIDE CNT	⟷	CN28B	HDMI
②	21 pin	CN27A	SIDE CNT	⟷	CN27B	HDMI
③	27 pin	CN24A	FRONT CNT	⟷	CN24B	HDMI
④	15 pin	CN26A	FRONT CNT	⟷	CN26B	HDMI
⑤	17 pin	CN25A	FRONT CNT	⟷	CN25B	HDMI
⑥	17 pin	CN22A	FRONT CNT	⟷	CN22B	HDMI
⑦	15 pin	CN21A	FRONT CNT	⟷	CN21B	HDMI
⑧	13 pin	CN23A	FRONT CNT	⟷	CN23B	HDMI
⑨	17 pin	CN52A	FRONT CNT	⟷	CN52B	AVIDEO
⑩	15 pin	CN51A	FRONT CNT	⟷	CN51A	AVIDEO
⑪	13 pin	CN53A	FRONT CNT	⟷	CN53A	AVIDEO
⑫	11 pin	CN45A	SIDE CNT	⟷	CN45B	INPUT
⑬	17 pin	CN44A	SIDE CNT	⟷	CN44B	INPUT
⑭	15 pin	CN41A	SIDE CNT	⟷	CN41B	INPUT
⑮	27 pin	CN42A	FRONT CNT	⟷	CN42B	INPUT
⑯	15 pin	CN43A	FRONT CNT	⟷	CN43B	INPUT

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	IC201	R5F5630ECDFB	**B**	SOFTWARE: Main
HDMI	IC231	R5F3650KNFB	**B**	SOFTWARE: Sub
HDMI	IC410	MX29LV160DBTI-70G	**B**	SOFTWARE: DSP ROM
HDMI	IC406	EPM240T100C5N	**B**	SOFTWARE: Audio PLD
HDMI	IC155	MX25L6406EM2I-12G	**B**	SOFTWARE: Video OSD ROM

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.

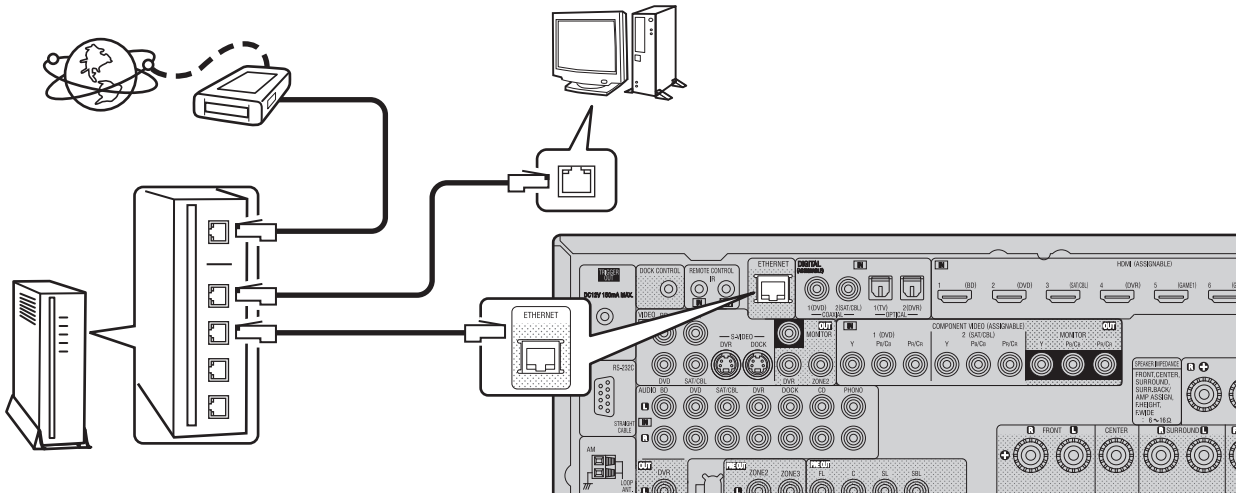
PROCEDURE FOR UPGRADING THE VERSION OF THE FIRMWARE △3

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

1.1. Connecting to the Network

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

(2) Setting



1.2. 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 MENU 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 MENU 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.

(5) Press the MENU button to close the menu.

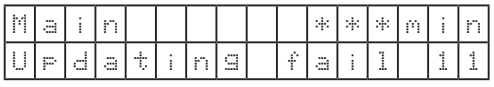
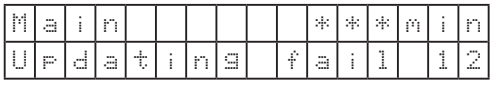
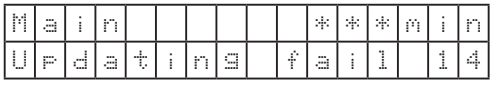
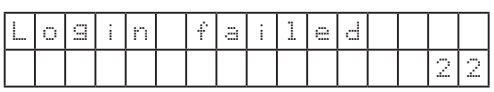
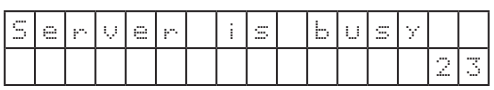
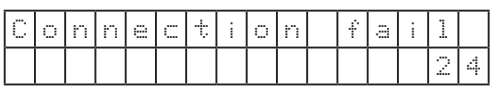
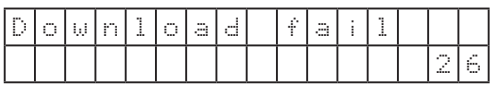
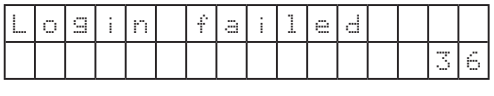
--- Cautions on Firmware Update ---

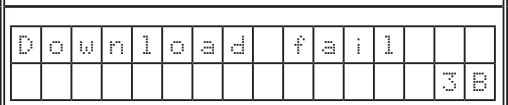
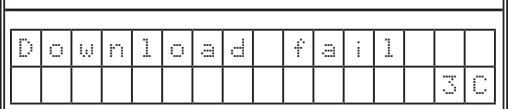
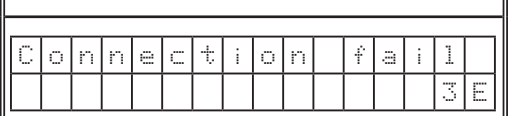
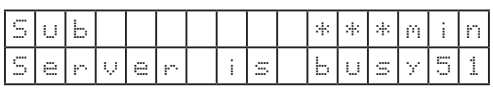
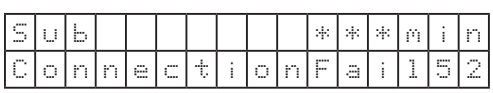
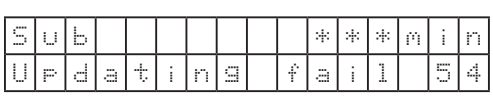
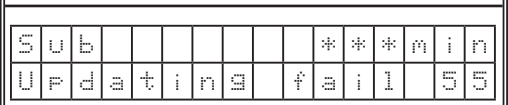
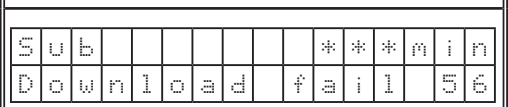
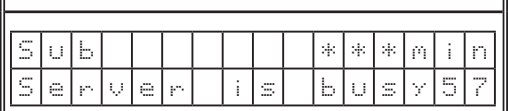
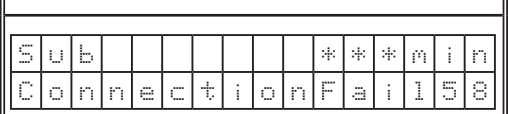
- In order to update the firmware, you must have the correct system requirements and settings for a broadband Internet connection.
- Do not turn off the power until updating is completed.
  Even with a broadband connection to the Internet, approximately 1 hour is required for the updating procedure to be completed.
  Once updating starts, normal operations on the AVR-3312 cannot be performed until updating is completed. Also, setting items of the GUI menu of AVR-3312 or setting items of the image adjustment may be initialized.
  Note down the settings before updating, and set them again after updating.

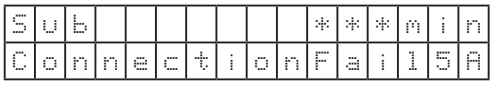
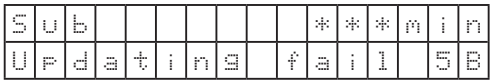
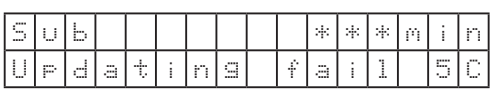
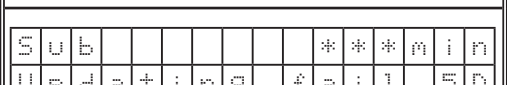
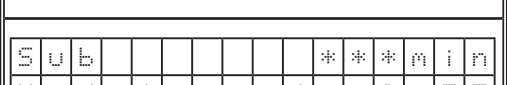
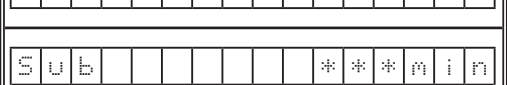
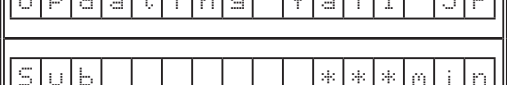
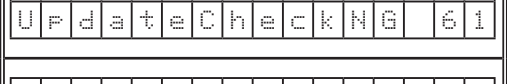
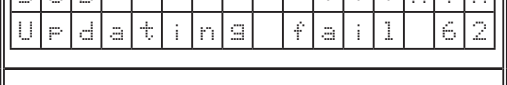
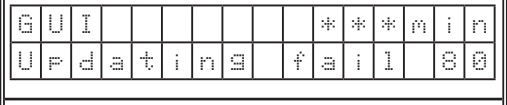
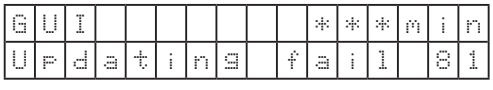
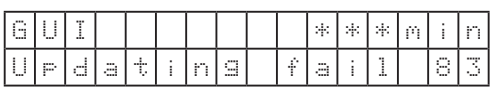
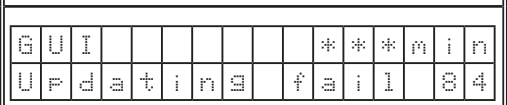
1.3. About the error code

See the table below for error codes, details of faults, and coping strategies when the firmware is updated through DPMS (Denon Product Management Server).

Error Code	Details of Error code	Display	Coping strategies
01	Log-in to DPMS has 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.	Connection fail 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.	Connection fail 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.	Connection fail 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.	Connection fail 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.	Connection fail 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.	Connection fail 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.	Connection fail 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.

Error Code	Details of Error code	Display	Coping strategies
0E	Connection to DPMS failed. (can not get NTP)		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 DM860 (when timed out).		Turn off and on the power. Updating starts automatically.
11	Main CPU failed to receive firmware for rewriting sent from DM860 (when an error occurred)		Turn off and on the power. Updating starts automatically.
12	There was invalid data in the firmware for rewriting sent from DM860 to Main CPU (when a Check Sum error occurred).		Turn off and on the power. Updating starts automatically.
13	The deletion of block data failed before Main CPU was rewritten.		Turn off and on the power. Updating starts automatically.
14	The rewriting of block data failed when Main CPU was rewritten.		Turn off and on the power. Updating starts automatically.
15	The data verification was invalid after Main CPU was rewritten.		Turn off and on the power. Updating starts automatically.
20	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860 (AutoIP).		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 DM860 (when timed out).		Check the network connection. Carry out the update in an environment that has little network load.
22	Log-in to DPMS failed.		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.		Carry out the update in an environment that has little network load.
24	Connection to DPMS failed.		Check the network connection. Carry out the update in an environment that has little network load.
25	Mode change failure of DM860.		Reset and update again.
26	Data acquisition failed (timed out) when firmware of Main CPU was downloaded. Received Package Version is wrong.		Check the network connection. Carry out the update in an environment that has little network load.
27	Mode change failure of DM860.		Reset and update again.
36	Log-in to DPMS ailed when firmware such as Sub CPU, DSP, FPGA, and PLD was rewritten.		Carry out the update in an environment that has little network load.

Error Code	Details of Error code	Display	Coping strategies
37	Line, etc., is busy when logging into DPMS when firmware such as Sub CPU, DSP, FPGA, and PLD was rewritten.		Carry out the update in an environment that has little network load.
38	Connection to DPMS failed when firmware such as Sub CPU, DSP, FPGA, and PLD was rewritten..		Check the network connection. Carry out the update in an environment that has little network load.
39	Connection to DPMS timed out when firmware such as Sub CPU, DSP, FPGA, and PLD was rewritten.		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.		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 firmware was downloaded or Main CPU was rewritten.		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 firmware was downloaded or Main CPU was rewritten.		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 DM860 (AutoIP).		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 DM860 (when timed out).		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 Sub CPU, DSP and PLD was rewritten.		Carry out the update in an environment that has little network load.
51	Line, etc., is busy when log-in into DPMS when firmware such as Sub CPU, DSP and PLD was rewritten.		Carry out the update in an environment that has little network load.
52	Connection to DPMS failed when firmware such as Sub CPU, DSP and PLD was rewritten.		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 Sub CPU, DSP and PLD was rewritten.		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 Sub CPU, DSP and PLD, request was made for firmware data after the log-in to DPMS, but it timed out was rewritten.		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 Sub CPU, DSP and PLD was rewritten.		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 rewriting firmware such as Sub CPU, DSP and PLD was rewritten.		Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
58	Firmware download error was received (connection failure) after the log-in to DPMS when firmware such as Sub CPU, DSP and PLD was rewritten.		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	Coping strategies
5A	NACK was received when "C" command sent to Sub CPU, DSP PLD etc.		Turn off and on the power. Updating starts automatically.
5B	NACK was received when "L" command sent to Sub CPU, DSP, PLD etc.		Turn off and on the power. Updating starts automatically.
5C	Sub CPU, DSP, PLD etc. failed to receive firmware for rewriting sent from DM860 (when timed out).		Turn off and on the power. Updating starts automatically.
5D	Sub CPU, DSP, PLD etc. failed to receive firmware for rewriting sent from DM860 (when an error occurred).		Turn off and on the power. Updating starts automatically.
5E	Data in firmware such as Sub CPU, DSP and PLD for rewriting sent from DM860 was invalid (when a Check Sum error occurred).		Turn off and on the power. Updating starts automatically.
5F	Invalid data in firmware such as Sub CPU, DSP and PLD for rewriting sent from DM860 was invalid (invalid data was received).		Turn off and on the power. Updating starts automatically.
60	NACK was received when "P" command sent to Sub CPU, DSP, PLD etc.		Turn off and on the power. Updating starts automatically.
61	NACK was received when "I" command sent to Sub CPU, DSP, PLD etc.		Turn off and on the power. Updating starts automatically.
62	Start of Sub μ-com fail.		Turn off and on the power. Updating starts automatically.
80	Acquisition of serial flash data failed before serial flash was deleted.		Turn off and on the power. Updating starts automatically.
81	Deleting data failed before serial flash was rewritten.		Turn off and on the power. Updating starts automatically.
82	Receiving firmware for rewriting serial flash sent by DM860 failed (when timed out).		Turn off and on the power. Updating starts automatically.
83	Receiving firmwarefor rewriting serial flash sent by DM860 failed (when an error).		Turn off and on the power. Updating starts automatically.
84	Receiving firmwarefor rewriting serial flash sent by DM860 failed (when a Check Sum error).		Turn off and on the power. Updating starts automatically.
85	Receiving firmwarefor rewriting serial flash sent by DM860 failed (when invalid data was received).		Turn off and on the power. Updating starts automatically.
86	The data verification was invalid after serial flash was rewritten.		Turn off and on the power. Updating starts automatically.

Error Code	Details of Error code	Display	Coping strategies
A0	Acquisition of (Application Mode) IP address failed before rewriting DM860 was rewritten (AutoIP).	Ether IMG ***min ConnectionFail A0	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 rewriting DM860 was rewritten (when timed out).	Ether IMG ***min ConnectionFail A1	Check the network connection. Carry out the update in an environment that has little network load.
A2	Invalid login via DPMS access was notified DM860 related firmware was rewritten (Application Mode).	Ether IMG ***min Login failed A2	Check the network connection. Carry out the update in an environment that has little network load.
A3	Line congestion via DPMS access was notified DM860 related firmware was rewritten (Application Mode).	Ether IMG ***min Server is busy A3	Check the network connection. Carry out the update in an environment that has little network load.
A4	Connection failure via DPMS access was notified DM860 related firmware was rewritten (Application Mode).	Ether IMG ***min ConnectionFail A4	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 DM860 related firmware was rewritten (Application Mode).	Ether IMG ***min Updating fail A6	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
A7	When DM860 related firmware was rewritten (Application Mode), request was made for firmware data after DPMS login but it timed out.	Ether IMG ***min Updating fail A7	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
A8	Acquisition of (Boot Loader Mode) IP address failed before rewriting DM860 was rewritten (AutoIP).	Ether IMG ***min ConnectionFail A8	Check the network connection. Carry out the update in an environment that has little network load.
A9	Acquisition of (Boot Loader Mode) IP address failed before rewriting DM860 was rewritten (when timed out).	Ether IMG ***min ConnectionFail A9	Check the network connection. Carry out the update in an environment that has little network load.
AA	Invalid login via DPMS access failed when DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min Login failed AA	Check the network connection. Carry out the update in an environment that has little network load.
AB	Line congestion via DPMS access when DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min Server is busy AB	Check the network connection. Carry out the update in an environment that has little network load.
AC	Connection failure via DPMS access failed when DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min ConnectionFail AC	Check the network connection. Carry out the update in an environment that has little network load.
AE	Firmware download error message received (when download fails) when DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min Download fail AE	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 DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min Server is busy AF	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 DM860 related firmware was rewritten (Boot Loader Mode).	Ether IMG ***min ConnectionFail B0	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 DM860 related firmware was rewritten	Ether IMG ***min Updating fail B2	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.

Device display during firmware update

Target of device when firmware updated.

Target of device	Display	Error cpde
Main	Main ***min Updating **%	08~0C 10~15 22~24 36~3E
Sub	Sub ***min Updating **%	50~52 54~58 5A~62
Audio PLD	APLD ***min Updating **%	50~52 54~58 5A~62
DSP	DSP ***min Updating **%	50~52 54~58 5A~62
GUI Serial Flash	GUI ***min Updating **%	50~52 54~58 5A~62 80~86
DM860 Boot Loader	Ether SBL ***min Updating ***	A0~A4 A6~A7 AE~B5
DM860 Image	Ether IMG ***min Updating ***	A0~A4 A6~A7 AE~B5

ADJUSTMENT

Audio Section

Adjusting Idling Current

Required measurement equipment: DC Voltmeter

1. Preparation

(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room temperature 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 top cover and set VR714,VR724,VR734,VR744,VR754,VR764,VR774 on 7CH AMP UNIT at fully counterclockwise (c) position.

(2) Connect DC Voltmeter to test points (FRONT-Lch: CN715, FRONT-Rch: CN725, CENTER ch: CN735, SURROUND-Lch: CN745, SURROUND-Rch: CN755, SURROUND-BACK Lch: CN765, SURROUND-BACK Rch: CN775.

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

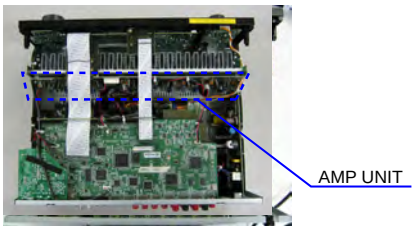
(4) Presetting.

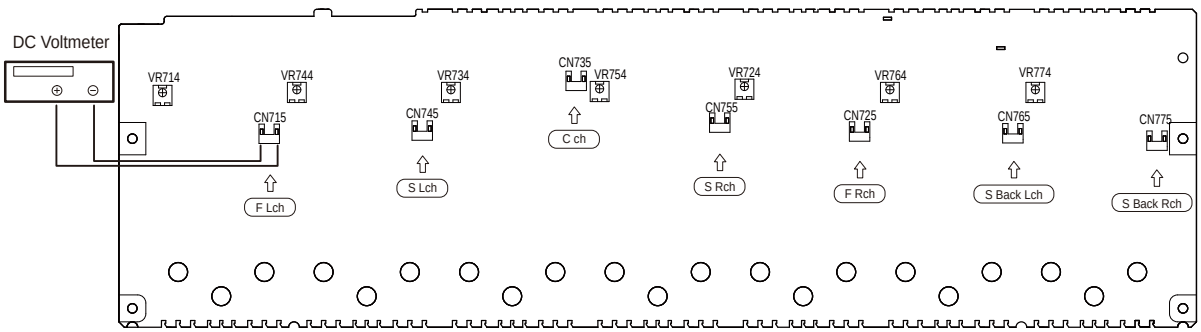
MASTER VOLUME : "---" counterclockwise (↺ min.)
SPEAKER (Speaker terminal) : No load
(Do not connect speaker, dummy resistor, etc.)
MODE : MCH STEREO
FUNCTION : DVD

(5) Within 2 minutes after the power on, turn VR714 clockwise (x) to adjust the TEST POINT voltage to 6.5mV ± 0.5mV DC.

(6) After 10 minutes from the preset above, turn VR714 to set the voltage to 8mV ± 0.5mV DC.

(7) Adjust the Variable Resistors of other channels in the same way.





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

Surround modes and surround parameters

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

Surround mode	Channel output							Surround Parameters		
	Front L/R	Center	Surround L/R	Surround back L/R	Front height L/R	Front wide L/R	Subwoofer	Mode	Cinema EQ.	DRC *2
DIRECT/PURE DIRECT (2channel)*1	○						◎*3			○
DIRECT/PURE DIRECT (Multi-channel)*1	○	◎	◎	◎*4	◎*4	◎*4	◎			○
STEREO	○						◎			○
MULTI CH IN	○	◎	◎	◎	◎*5		◎		○*11	
DOLBY PRO LOGIC IIz	○	◎	◎		◎		◎	○*6	○	○
DOLBY PRO LOGIC IIx	○	◎	◎	◎			◎	○	○*7	○
DOLBY PRO LOGIC II	○	◎	◎				◎	○	○*8	○
DOLBY PRO LOGIC	○	◎	◎				◎	○	○*8	○
DOLBY PRO LOGIC II A-DSX	○	◎	◎		◎*9	◎*10	◎	○	○*8	○
DOLBY PRO LOGIC A-DSX	○	◎	◎		◎*9	◎*10	◎	○	○*8	○
DTS NEO:6	○	◎	◎	◎			◎	○	○*7	○
DTS NEO:6 A-DSX	○	◎	◎		◎*9	◎*10	◎	○	○*7	○
Audyssey DSX™	○	◎	◎		◎*9	◎*10	◎		○	○
DOLBY DIGITAL	○	◎	◎	◎	◎*5		◎		○*11	
DOLBY DIGITAL Plus	○	◎	◎	◎	◎*5		◎		○*11	
DOLBY TrueHD	○	◎	◎	◎	◎*5		◎		○*11	○
DTS SURROUND	○	◎	◎	◎	◎*5		◎		○*11	
DTS 96/24	○	◎	◎	◎	◎*5		◎		○*11	
DTS-HD	○	◎	◎	◎	◎*5		◎		○*11	
DTS Express	○	◎	◎	◎	◎*5		◎		○*11	
MULTI CH STEREO	○	◎	◎	◎*12	◎*13	◎*14	◎			○
ROCK ARENA	○	◎	◎	◎*12	◎*13	◎*14	◎			○
JAZZ CLUB	○	◎	◎	◎*12	◎*13	◎*14	◎			○
MONO MOVIE	○	◎	◎	◎*12	◎*13	◎*14	◎			○
VIDEO GAME	○	◎	◎	◎*12	◎*13	◎*14	◎			○
MATRIX	○	◎	◎	◎*12	◎*13	◎*14	◎			○
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 Only when "Subwoofer Mode" is set to "LFE+Main" , sound is output from the subwoofer.
*4 A signal for each channel contained in an input signal is output as audio.
*5 If "Surround Parameters" – "PLIIz Height" is set to "ON", sound is output from the front height speakers.
*6 If this surround mode is selected, only the "Height" mode setting is available for "Surround Parameters" – "Mode" .
*7 This item can be selected when "Surround Parameters" – "Mode" (is set to "Cinema".
*8 This item can be selected when "Surround Parameters" – "Mode" is set to "Cinema" or "Pro Logic".
*9 If "Audyssey DSX™" is set to "ON–Height–", sound is output from the front height speakers.
*10 If "Audyssey DSX™" is set to "ON–Wide–", sound is output from the front wide speakers.
*11 This item cannot be set when "Surround Parameters" – "Surround Back" is set to "PLIIx Music".
*12 If "Surround Parameters" – "Speaker" is set to "Surround Back", sound is output from the surround back speakers.
*13 If "Surround Parameters" – "Speaker" is set to "Height", sound is output from the front height speakers.
*14 If "Surround Parameters" – "Speaker" is set to "Wide", sound is output from the front wide speakers.

Surround mode	Surround Parameters										
	D. COMP ∗15	LFE ∗16	Delay Time	Effect Level	Room Size	Height Gain ∗17	PLIIz Height ∗18	AFDM ∗16	Surround Back	Speaker	Subwoofer
DIRECT/PURE DIRECT (2channel)∗1	○										○∗3
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	○						○		○		
DOLBY PRO LOGIC II A-DSX	○										
DOLBY PRO LOGIC A-DSX	○										
DTS NEO:6	○								○		
DTS NEO:6 A-DSX	○										
Audyssey DSX™	○	○					○				
DOLBY DIGITAL	○	○				○	○	○	○		
DOLBY DIGITAL Plus	○	○				○	○	○	○		
DOLBY TrueHD		○				○	○	○	○		
DTS SURROUND	○	○				○	○	○	○		
DTS 96/24	○	○				○	○	○	○		
DTS-HD	○	○				○	○	○	○		
DTS Express	○	○				○	○	○	○		
MULTI CH STEREO	○	○								○	
ROCK ARENA	○	○		○	○					○	
JAZZ CLUB	○	○		○	○					○	
MONO MOVIE	○	○		○	○					○	
VIDEO GAME	○	○		○	○					○	
MATRIX	○	○	○						○	○	
VIRTUAL	○	○									

∗1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
∗3 Only when “Subwoofer Mode” is set to “LFE+Main” , sound is output from the subwoofer.
∗15 This item can be selected when a Dolby Digital or DTS signal is played.
∗16 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.
∗17 This item can be selected when “Surround Parameters” – “PLIIz Height” is set to “ON”.
∗18 If “Speaker Config.” – “Front Height” is set to “None”, this item cannot be selected.

Surround mode	Surround Parameters				Tone ∗19	Audyssey Settings ∗20			Audyssey DSX™ ∗20	RESTORER ∗23
	PRO LOGIC IIz/IIx Music mode only			NEO:6 Music mode only						
	Panorama	Dimension	Center Width	Center Image		MultEQ® XT	Dynamic EQ® ∗21	Dynamic Volume® ∗22		
DIRECT/PURE DIRECT (2channel)∗1										
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	○	○	○		○	○	○	○	○	○
DOLBY PRO LOGIC II A-DSX	○	○	○		○	○	○	○	○	○
DOLBY PRO LOGIC A-DSX	○	○	○		○	○	○	○	○	○
DTS NEO:6				○	○	○	○	○	○	○
DTS NEO:6 A-DSX				○	○	○	○	○	○	○
Audyssey DSX™					○	○	○	○	○	
DOLBY DIGITAL					○	○	○	○	○	
DOLBY DIGITAL Plus					○	○	○	○	○	
DOLBY TrueHD					○	○	○	○	○	
DTS SURROUND					○	○	○	○	○	
DTS 96/24					○	○	○	○	○	
DTS-HD					○	○	○	○	○	
DTS Express					○	○	○	○	○	
MULTI CH STEREO					○	○	○	○		○
ROCK ARENA					○∗24	○	○	○		○
JAZZ CLUB					○	○	○	○		○
MONO MOVIE					○	○	○	○		○
VIDEO GAME					○	○	○	○		○
MATRIX					○	○	○	○		○
VIRTUAL					○	○	○	○		○

∗1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
∗19 This item cannot be set when "Dynamic EQ®" is set to "ON".
∗20 For HD Audio whose sampling frequency of an input signal is more than 96 kHz, this sound parameter cannot be set.
∗21 This item cannot be set when "MultEQ® XT" is set to "OFF" or "Manual".
∗22 This item cannot be set when "Dynamic EQ®" is set to "OFF".
∗23 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.
∗24 In this surround mode, bass is +6 dB, and treble is +4 dB (Default).

❑ Types of input signals, and corresponding surround modes

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

Symbols in the table

● This indicates the default surround mode.
◎ This indicates the surround mode that is fixed when "AFDM" is set to "ON".
○ This indicates the selectable surround mode.

Surround 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 (5.1/5/4/3ch)	DOLBY DIGITAL (2ch)
DTS SURROUND																	
DTS-HD MSTR	∗1				●												
DTS-HD HI RES	∗1					●											
DTS ES DSCRT6.1	∗2∗3							●									
DTS ES MTRX6.1	∗2∗3								●◎								
DTS SURROUND	∗1							○	○	●							
DTS 96/24	∗1										●						
DTS (–HD) + PLIIx CINEMA	∗2∗4				○	○	○		○	○	○						
DTS (–HD) + PLIIx MUSIC	∗2∗3				○	○	○		○	○	○						
DTS (–HD) + PLIIz	∗2∗5				○	○	○	○	○	○	○						
DTS EXPRESS	∗1						●										
DTS (–HD) + NEO:6	∗2∗3				○	○	○		○	○	○						
DTS NEO:6 CINEMA	∗1	○		○													○
DTS NEO:6 MUSIC	∗1	○		○													○
DTS NEO:6 CINEMA A-DSX		○		○													○
DTS NEO:6 MUSIC A-DSX		○		○													○
Audyssey DSX™					○	○	○	○	○	○	○						

∗1 The same was when "Audyssey DSX™" setting is set to "ON".
∗2 This surround mode can be selected when "Amp Assign" is set to "NORMAL".
∗3 If "Speaker Config." – "Surr.Back" is set to "None", this surround mode cannot be selected.
∗4 If "Speaker Config." – "Surr.Back" is set to "1spkr" or "None", this surround mode cannot be selected.
∗5 If "Speaker Config." – "Front Height" is set to "None", this surround mode cannot be selected.

Surround 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 (5.1/5/4/3ch)	DOLBY DIGITAL (2ch)
DOLBY SURROUND																		
DOLBY TrueHD	∗1											●						
DOLBY DIGITAL+	∗1												●					
DOLBY DIGITAL EX	∗2∗3													○	○	○		
DOLBY (D+) (HD) +EX	∗2∗3											○	○					
DOLBY DIGITAL	∗1													○	●	●		
DOLBY (D) (D+) (HD) +PLIIx CINEMA	∗2∗4											○	○	●◎	○	○		
DOLBY (D) (D+) (HD) +PLIIx MUSIC	∗2∗3											○	○	○	○	○		
DOLBY (D) (D+) (HD) +PLIIz	∗5											○	○	○	○	○		
DOLBY PRO LOGIC IIx CINEMA	∗2∗3	○		○														○
DOLBY PRO LOGIC IIx MUSIC	∗2∗3	○		○														○
DOLBY PRO LOGIC IIx GAME	∗2∗3	○		○														○
DOLBY PRO LOGIC IIz	∗2∗5	○		○														○
DOLBY PRO LOGIC II CINEMA	∗1	○		○														○
DOLBY PRO LOGIC II MUSIC	∗1	○		○														○
DOLBY PRO LOGIC II GAME	∗1	○		○														○
DOLBY PRO LOGIC	∗1	○		○														○
DOLBY PRO LOGIC II CINEMA A-DSX		○		○														○
DOLBY PRO LOGIC II MUSIC A-DSX		○		○														○
DOLBY PRO LOGIC II GAME A-DSX		○		○														○
DOLBY PRO LOGIC A-DSX		○		○														○
Audyssey DSX™												○	○	○	○	○		

∗1 The same was when “Audyssey DSX™” setting is set to “ON”.
∗2 This surround mode can be selected when “Amp Assign” is set to “NORMAL”.
∗3 If “Speaker Config.” – “Surr.Back” is set to “None”, this surround mode cannot be selected.
∗4 If “Speaker Config.” – “Surr.Back” is set to “1spkr” or “None”, this surround mode cannot be selected.
∗5 If “Speaker Config.” – “Front Height” is set to “None”, this surround mode cannot be selected.

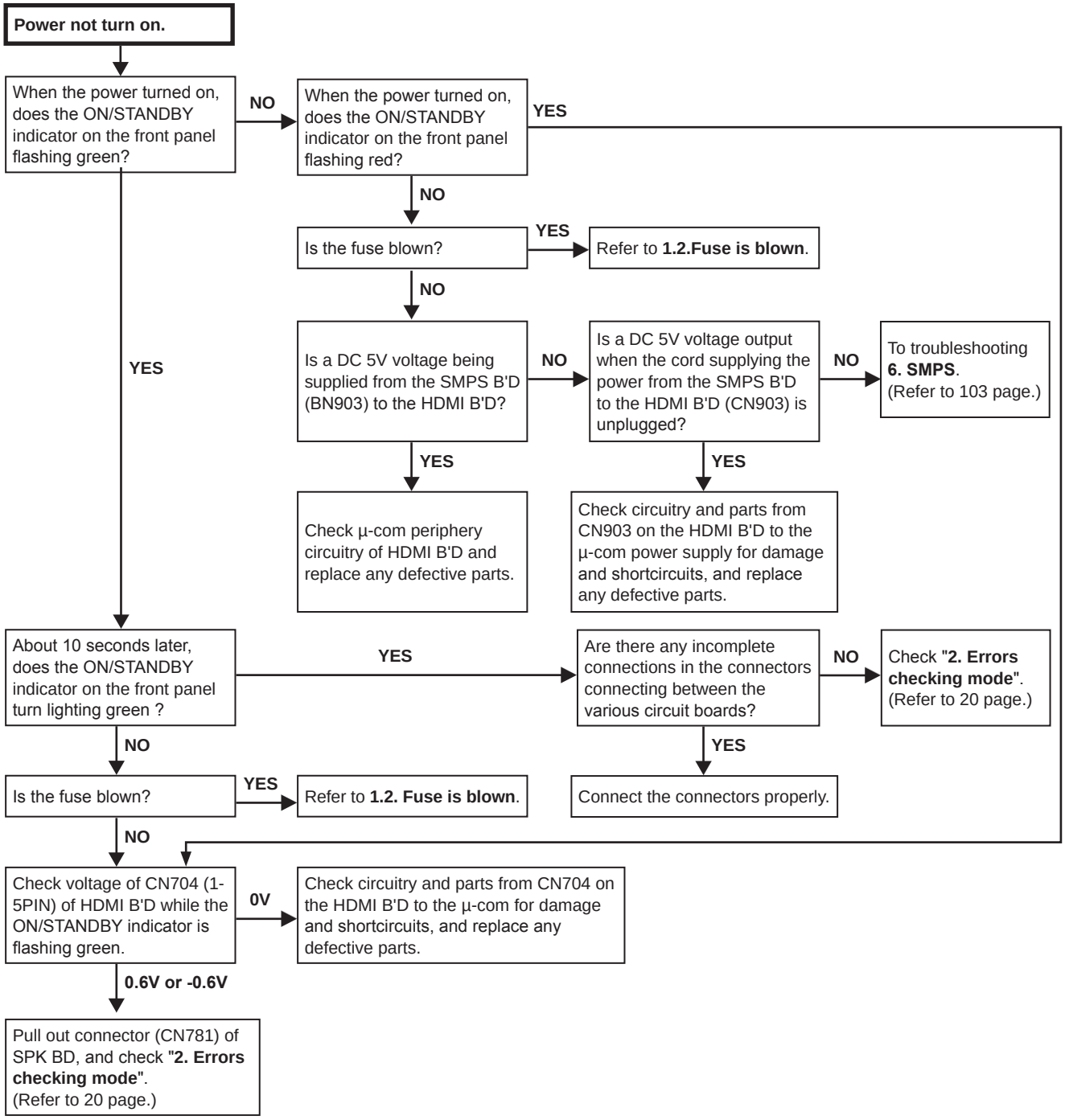
Surround mode		NOTE	Input signal types and formats																
			ANALOG	PCM		DTS-HD		DTS					DOLBY		DOLBY DIGITAL				
				PCM (multi ch)	PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4/3ch)	DOLBY DIGITAL (2ch)
MULTI CH IN																			
	MULTI CH IN	∗1		●															
	MULTI CH IN + PLⅡx CINEMA	∗2∗4		○															
	MULTI CH IN + PLⅡx MUSIC	∗2∗3		○															
	MULTI CH IN + PLⅡz	∗2∗5		○															
	MULTI CH IN + Dolby EX	∗2∗3		○															
	MULTI CH IN 7.1	∗2∗3		●(7.1)															
	Audyssey DSX™			○															
DIRECT																			
	DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PURE DIRECT																			
	PURE DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DSP SIMULATION																			
	MULTI CH STEREO		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	ROCK ARENA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	JAZZ CLUB		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	MONO MOVIE		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	VIDEO GAME		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	MATRIX		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	VIRTUAL		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO																			
	STEREO		●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○

∗1 The same was when “Audyssey DSX™” setting is set to “ON”.
∗2 This surround mode can be selected when “Amp Assign” is set to “NORMAL”.
∗3 If “Speaker Config.” – “Surr.Back” is set to “None”, this surround mode cannot be selected.
∗4 If “Speaker Config.” – “Surr.Back” is set to “1spkr” or “None”, this surround mode cannot be selected.
∗5 If “Speaker Config.” – “Front Height” is set to “None”, this surround mode cannot be selected.

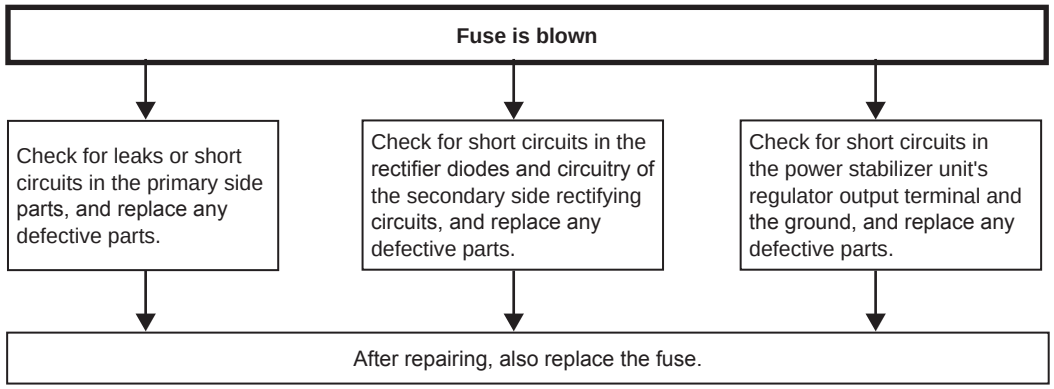
TROUBLE SHOOTING

1. POWER

1.1. Power not turn on



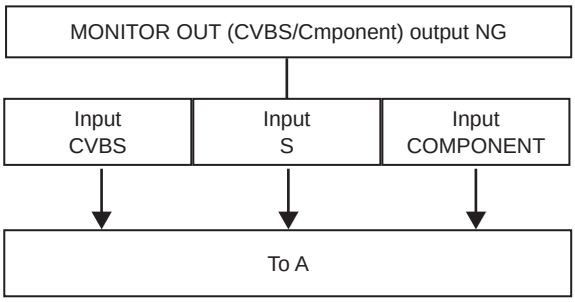
1.2. Fuse is blown

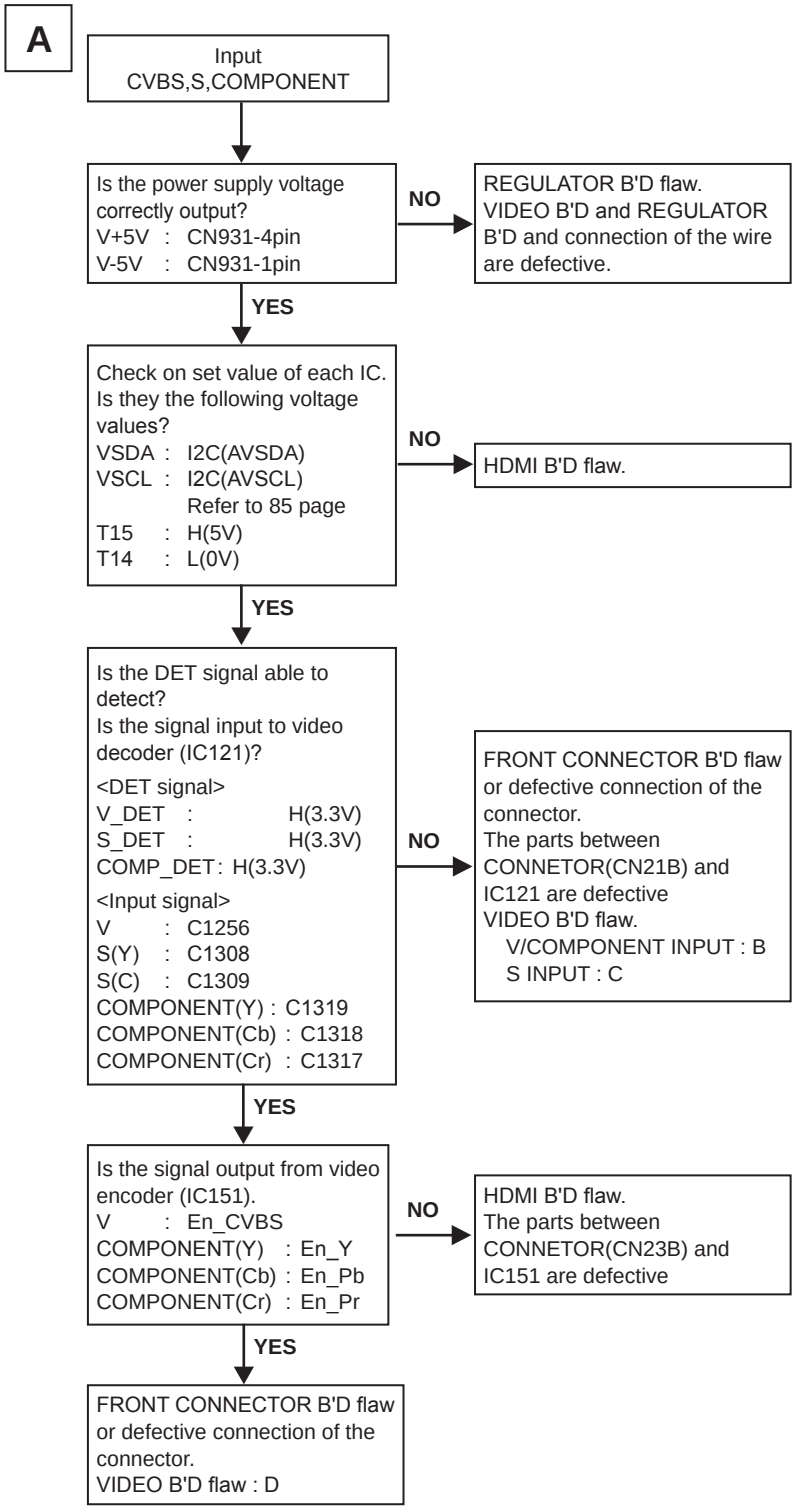


2. Analog video

Perform the operation below beforehand.

※ Check that the connection cable and the Monitor are normal.
※ Set VIDEO CONVERT ON.
※ Set COMPONENT signal to 480i.
※ Set Function to the following.
V : SAT
S : DVR
COMPONENT : SAT




A
Input
CVBS,S,COMPONENT
Is the power supply voltage correctly output?
V+5V : CN931-4pin
V-5V : CN931-1pin
NO
REGULATOR B'D flaw.
VIDEO B'D and REGULATOR B'D and connection of the wire are defective.
YES
Check on set value of each IC.
Is they the following voltage values?
VSDA : I2C(AVSDA)
VSCL : I2C(AVSCL)
Refer to 85 page
T15 : H(5V)
T14 : L(0V)
NO
HDMI B'D flaw.
YES
Is the DET signal able to detect?
Is the signal input to video decoder (IC121)?
<DET signal>
V_DET : H(3.3V)
S_DET : H(3.3V)
COMP_DET : H(3.3V)
<Input signal>
V : C1256
S(Y) : C1308
S(C) : C1309
COMPONENT(Y) : C1319
COMPONENT(Cb) : C1318
COMPONENT(Cr) : C1317
NO
FRONT CONNECTOR B'D flaw or defective connection of the connector.
The parts between CONNETOR(CN21B) and IC121 are defective
VIDEO B'D flaw.
V/COMPONENT INPUT : B
S INPUT : C
YES
Is the signal output from video encoder (IC151).
V : En_CVBS
COMPONENT(Y) : En_Y
COMPONENT(Cb) : En_Pb
COMPONENT(Cr) : En_Pr
NO
HDMI B'D flaw.
The parts between CONNETOR(CN23B) and IC151 are defective
YES
FRONT CONNECTOR B'D flaw or defective connection of the connector.
VIDEO B'D flaw : D

B

VIDEO B'D flaw.

↓

Extend HDMI B'D using a jig.

↓

Is the signal output from IC551(AVDM-2000)?
V : J5227/J5137
COMPONENT(Y) : J5134/J5133
COMPONENT(Cb) : J5135
COMPONENT(Cr) : J5136

NO →

Is the signal input to IC551(AVDM-2000)?
V : J5195
COMPONENT(Y) : J5241
COMPONENT(Cb) : J5233
COMPONENT(Cr) : J5235

NO →

The parts between IC551 and JK551 or JK557 are defective.

YES ↓

The soldering (IC551) is defective.

YES ↓

FRONT CONNECTOR B'D flaw or defective connection of the connector.

C

VIDEO B'D flaw.

↓

Extend HDMI B'D using a jig.

↓

Is the signal output from IC554(BD7628)?
S(Y) : J5114/J5204
S(C) : J5115

NO →

Is the signal input to IC552(BU4052)?
S(Y) : J5280
S(C) : J5287

NO →

The pattern between IC552 and JK553 are defective.

YES ↓

IC552 and IC554, and surrounding circuitry soldering are defective.

YES ↓

FRONT CONNECTOR B'D flaw or defective connection of the connector.

D

VIDEO B'D flaw.

↓

Extend HDMI B'D using a jig.

↓

Is the signal output from IC551(AVDM-2000)?
V : JK554 Lead
COMPONENT(Y) : J5157
COMPONENT(Cb) : J5149
COMPONENT(Cr) : J5143

NO →

Is the signal input to IC551(AVDM-2000)?
V : J5163
COMPONENT(Y) : J5184
COMPONENT(Cb) : J5178
COMPONENT(Cr) : J5128

NO →

FRONT CONNECTOR B'D flaw or defective connection of the connector.

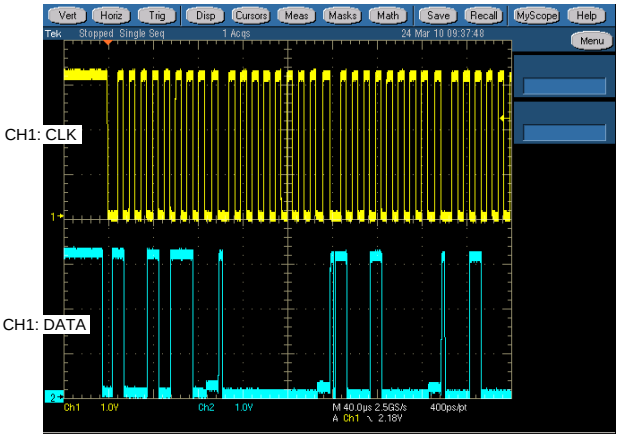
YES ↓

The pattern between IC551 and JK551 or JK557 are defective.

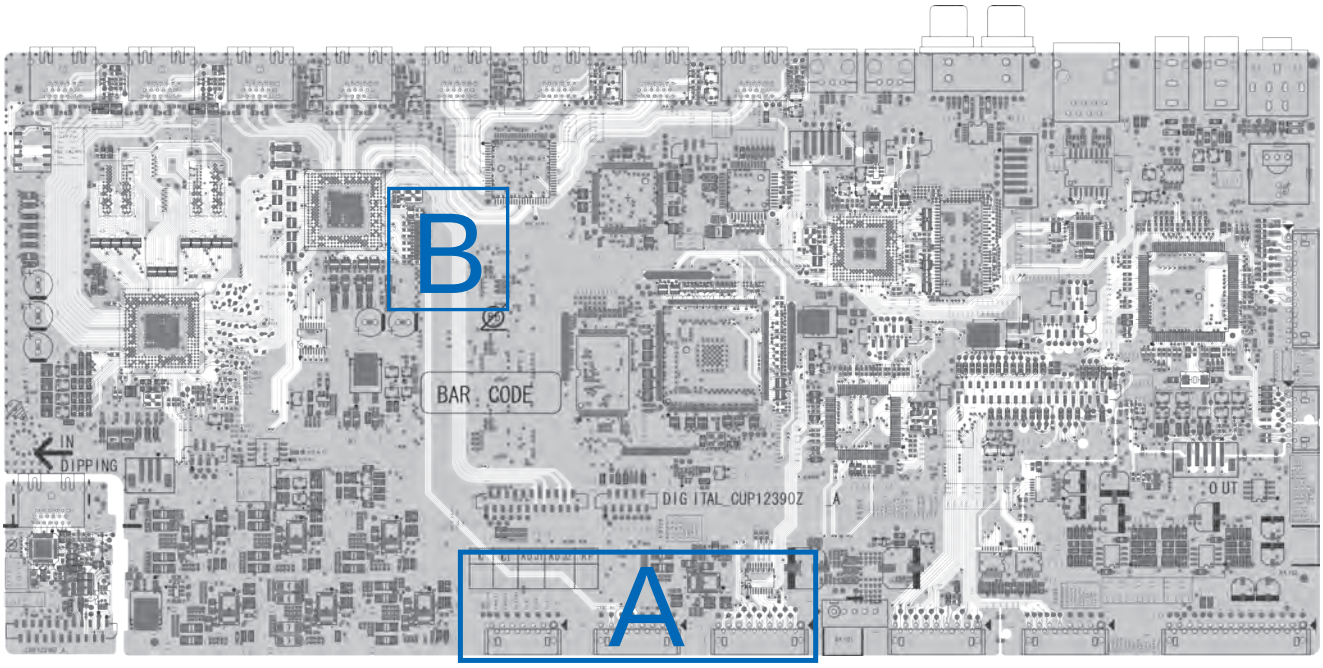
YES ↓

The soldering (IC551) is defective.

I2C communication wave form

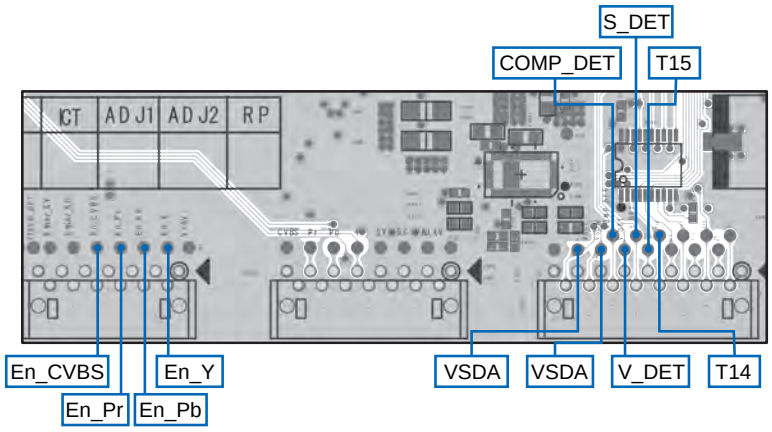


HDMI test point

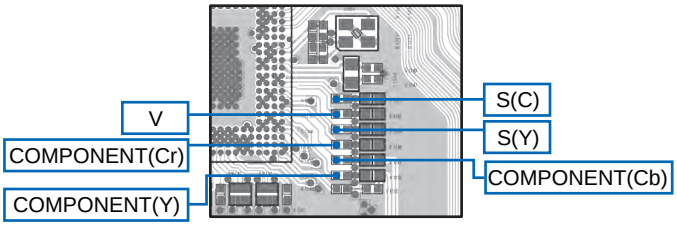


(COMPONENT SIDE)

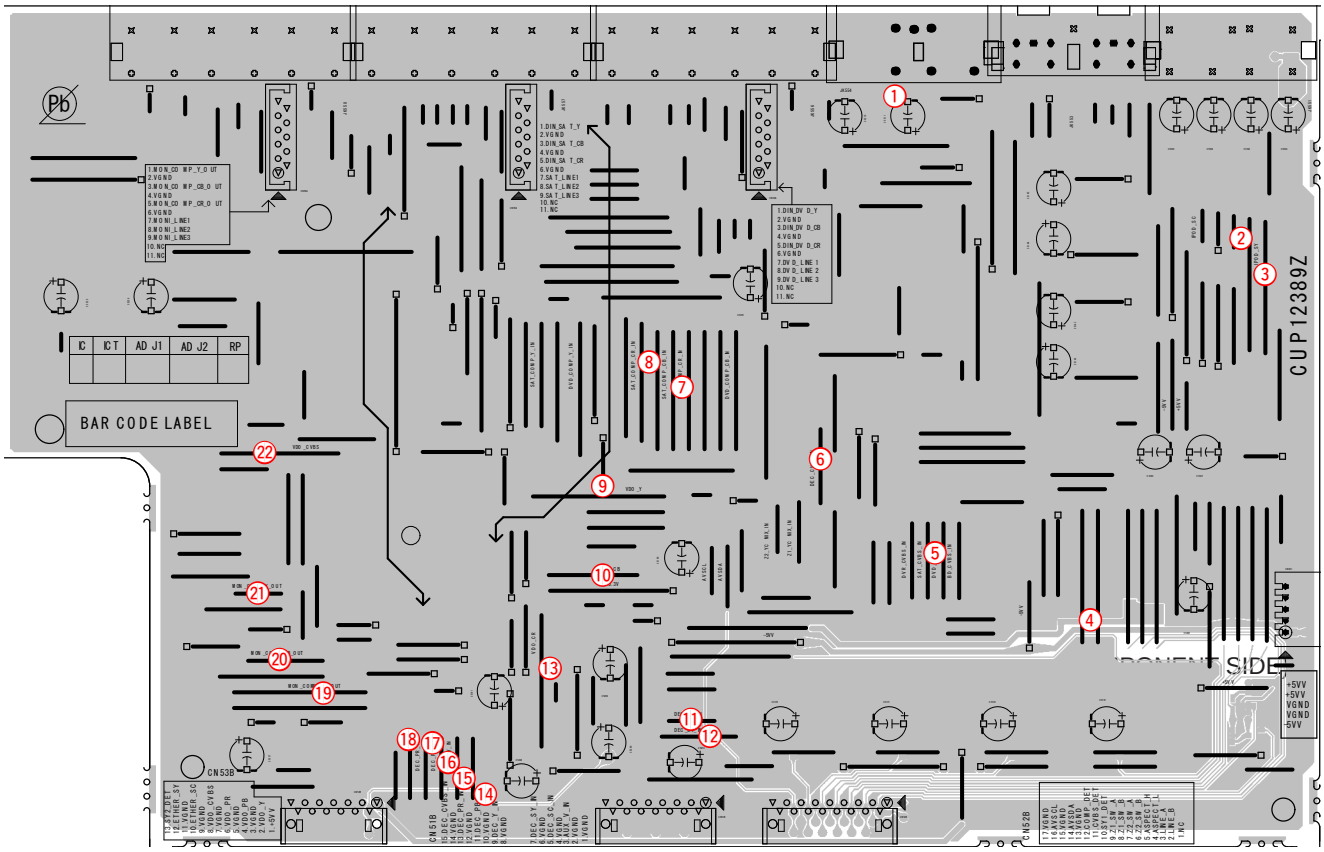
Detail A



Detail B



VIDEO test point

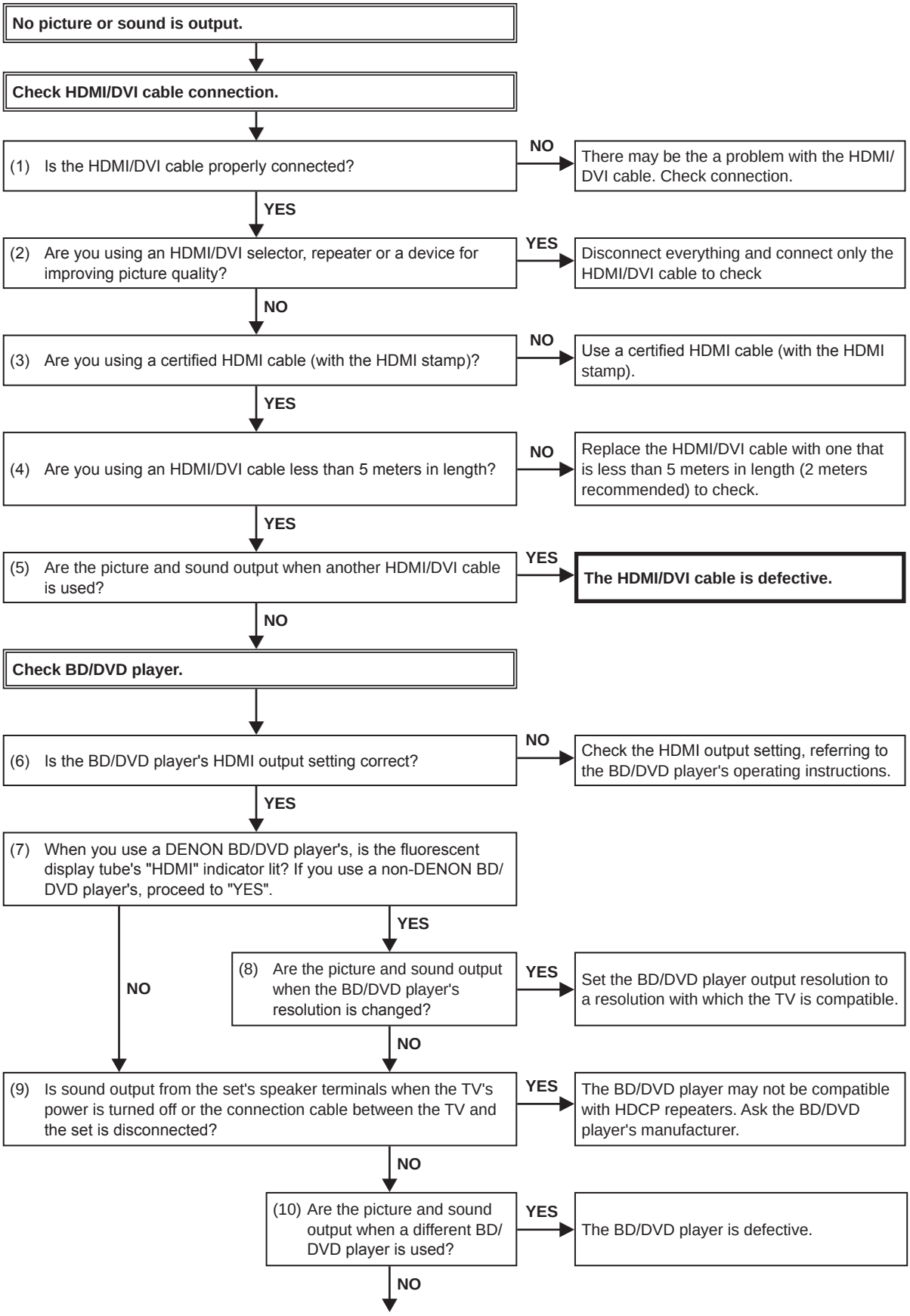


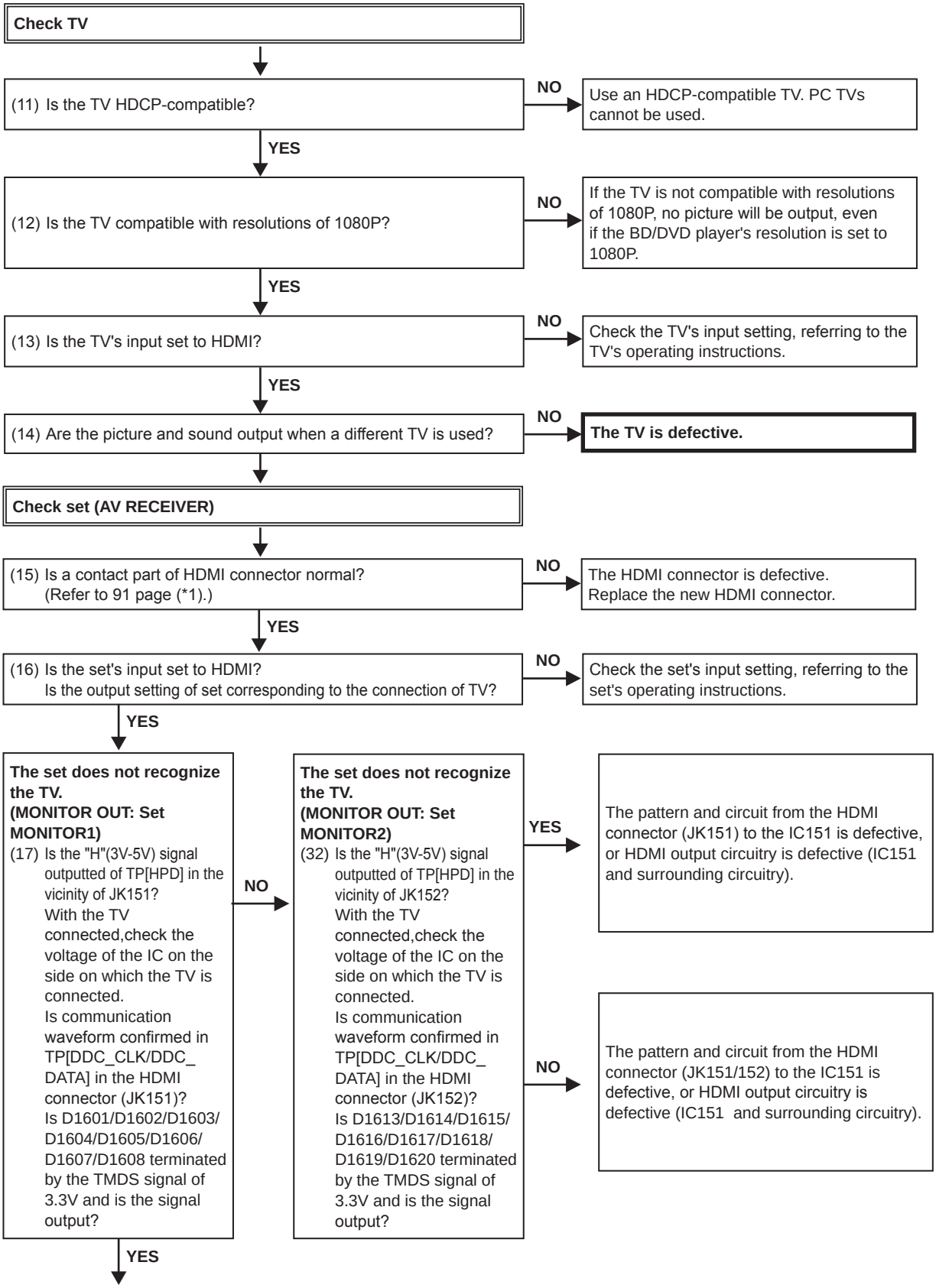
(COMPONENT SIDE)

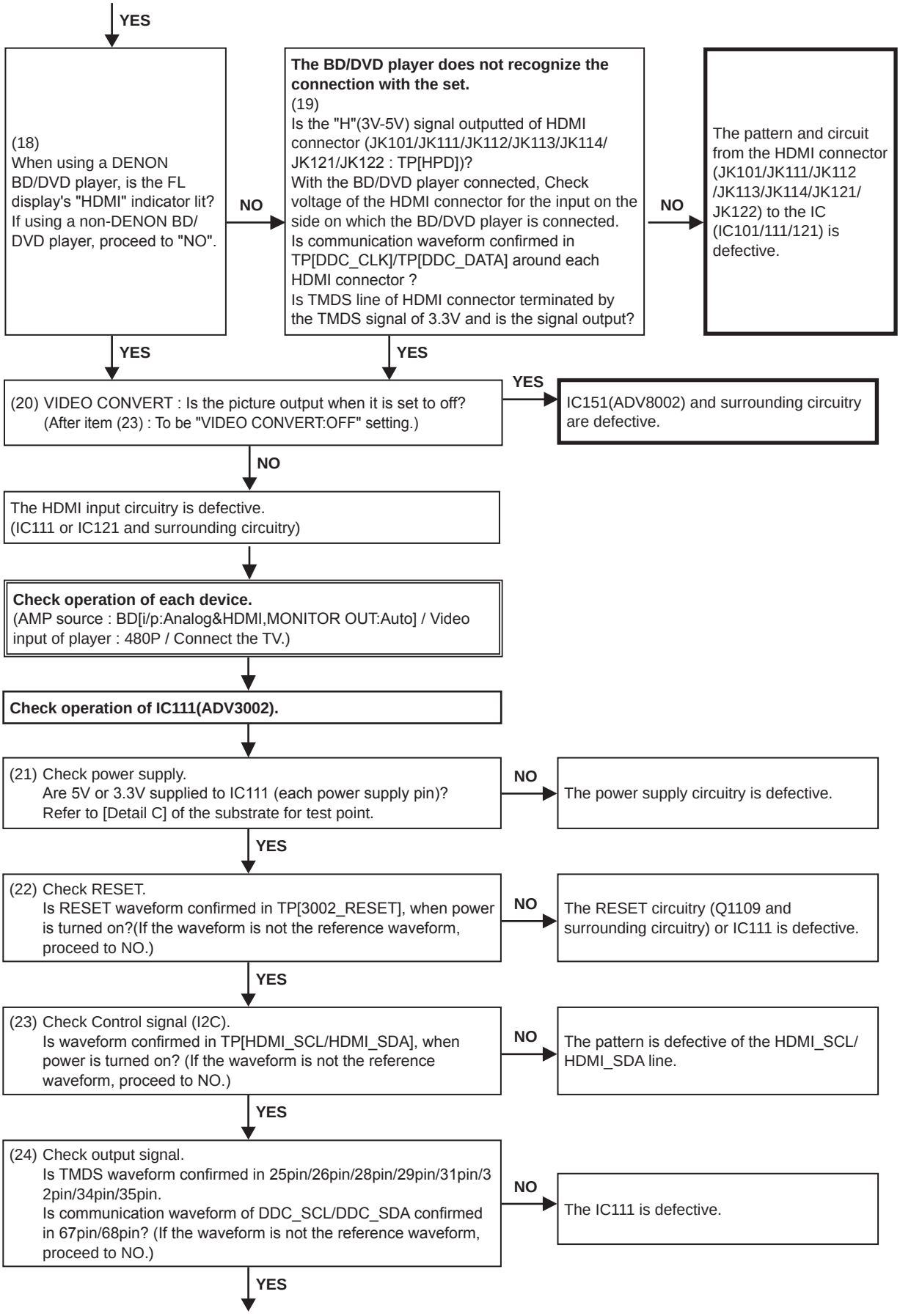
No.	Ref. No.	No.	Ref. No.
1	JK554	12	J5114
2	J5287	13	J5128
3	J5280	14	J5133
4	J5204	15	J5134
5	J5195	16	J5135
6	J5227	17	J5136
7	J5233	18	J5137
8	J5235	19	J5143
9	J5184	20	J5149
10	J5178	21	J5157
11	J5115	22	J5163

3. HDMI/DVI

3.1. No picture or sound is output (HDMI to HDMI) △6




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's 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.
Check set (AV RECEIVER)
(15) Is a contact part of HDMI connector normal? (Refer to 91 page (*1).)
NO
The HDMI connector is defective. Replace the new HDMI connector.
YES
(16) Is the set's input set to HDMI? Is the output setting of set corresponding to the connection of TV?
NO
Check the set's input setting, referring to the set's operating instructions.
YES
The set does not recognize the TV. (MONITOR OUT: Set MONITOR1)
(17) Is the "H"(3V-5V) signal outputted of TP[HPD] in the vicinity of JK151? 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[DDC_CLK/DDC_DATA] in the HDMI connector (JK151)? Is D1601/D1602/D1603/D1604/D1605/D1606/D1607/D1608 terminated by the TMDS signal of 3.3V and is the signal output?
NO
The set does not recognize the TV. (MONITOR OUT: Set MONITOR2)
(32) Is the "H"(3V-5V) signal outputted of TP[HPD] in the vicinity of JK152? 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[DDC_CLK/DDC_DATA] in the HDMI connector (JK152)? Is D1613/D1614/D1615/D1616/D1617/D1618/D1619/D1620 terminated by the TMDS signal of 3.3V and is the signal output?
YES
The pattern and circuit from the HDMI connector (JK151) to the IC151 is defective, or HDMI output circuitry is defective (IC151 and surrounding circuitry).
NO
The pattern and circuit from the HDMI connector (JK151/152) to the IC151 is defective, or HDMI output circuitry is defective (IC151 and surrounding circuitry).
YES


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 the "H"(3V-5V) signal outputted of HDMI connector (JK101/JK111/JK112/JK113/JK114/JK121/JK122 : TP[HPD])?
With the BD/DVD player connected, Check voltage of the HDMI connector for the input on the side on which the BD/DVD player is connected.
Is communication waveform confirmed in TP[DDC_CLK]/TP[DDC_DATA] around each HDMI connector ?
Is TMDS line of HDMI connector terminated by the TMDS signal of 3.3V and is the signal output?
NO
The pattern and circuit from the HDMI connector (JK101/JK111/JK112/JK113/JK114/JK121/JK122) to the IC (IC101/111/121) is 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
IC151(ADV8002) and surrounding circuitry are defective.
NO
The HDMI input circuitry is defective.
(IC111 or IC121 and surrounding circuitry)
Check operation of each device.
(AMP source : BD[i/p:Analog&HDMI,MONITOR OUT:Auto] / Video input of player : 480P / Connect the TV.)
Check operation of IC111(ADV3002).
(21) Check power supply.
Are 5V or 3.3V supplied to IC111 (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[3002_RESET], when power is turned on?(If the waveform is not the reference waveform, proceed to NO.)
NO
The RESET circuitry (Q1109 and surrounding circuitry) or IC111 is defective.
YES
(23) Check Control signal (I2C).
Is waveform confirmed in TP[HDMI_SCL/HDMI_SDA], when power is turned on? (If the waveform is not the reference waveform, proceed to NO.)
NO
The pattern is defective of the HDMI_SCL/HDMI_SDA 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 IC111 is defective.
YES

YES

Check operation of IC121(ADV7844).

(25) Check power supply.
Are 1.8V supplied to L1202/L1203/L1204/L1205?
Are 3.3V supplied to L1201/L1206/L1207?

NO → The power supply circuitry is defective.

YES

(26) Check xtal oscillator.
Is oscillation of X1201(28.6363MHz) transmitted?

NO → The X1201 or IC121 is defective.

YES

(27) Check RESET.
Is RESET waveform confirmed in TP[7844_RESET], when power is turned on? (If the waveform is not the reference waveform, proceed to NO.)

NO → The RESET circuitry or IC121 is defective.

YES

(28) Check output signal.
Is waveform confi rmed in TP[DE/VSYNC/HSYNC/PCLK].
(If the waveform is not the reference waveform, proceed to NO.)

NO → The IC121 is defective.

YES

Check operation of IC151(ADV8002)

(29) Check power supply.
Are 1.8V supplied to L1501/L1502/L1503/L1504/L1505/C1529/C1561/L1509/L1513/L1518/L1521/L1522?
Are 3.3V supplied to L1508/L1510/L1511/L1514?

NO → The power supply circuitry is defective.

YES

(30) Check xtal oscillator.
Is oscillation of X1501(27MHz) transmitted?

NO → The X1501 or IC151 is defective.

YES

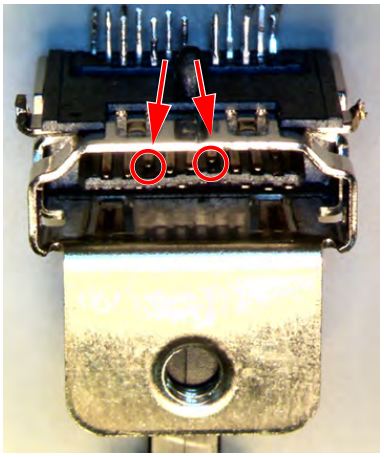
(31) Check RESET.
Is RESET waveform confirmed in TP[8002_RESET], when power is turned on? (If not reference waveform, proceed to "NO".)

NO → The RESET circuitry (Q1507 and surrounding circuitry) or IC151 is defective.

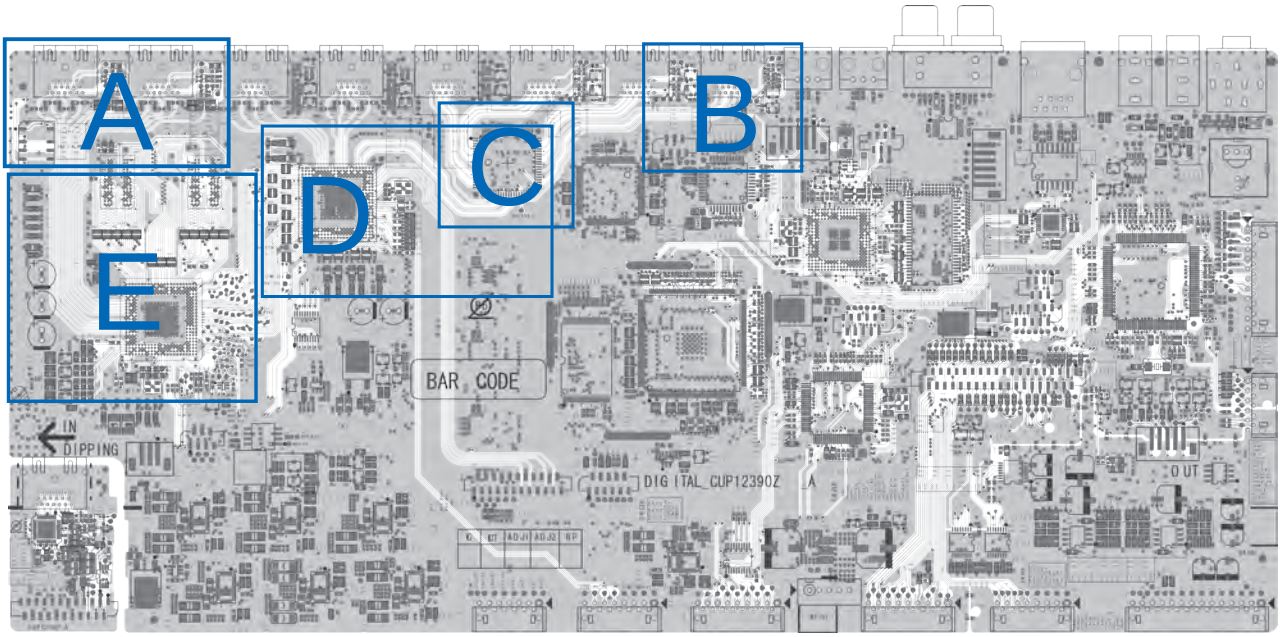
YES

The pattern and circuit from the HDMI connector (JK151/JK152) to the IC(IC151) is defective, or HDMI output circuitry is defective.

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

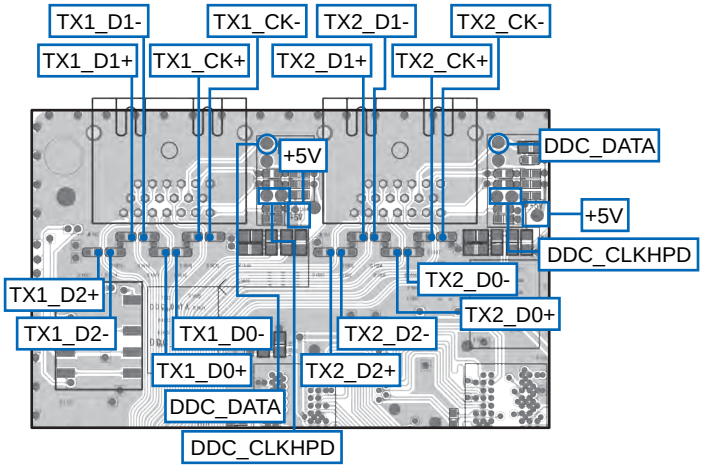


3.2. HDMI test point and waveforms

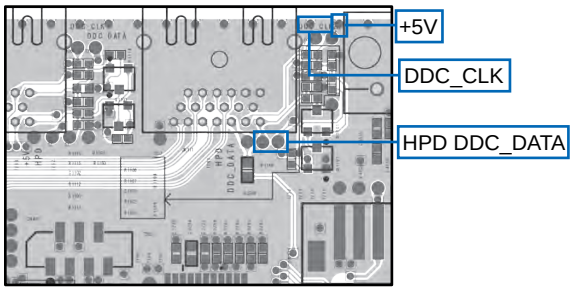


(COMPONENT SIDE)

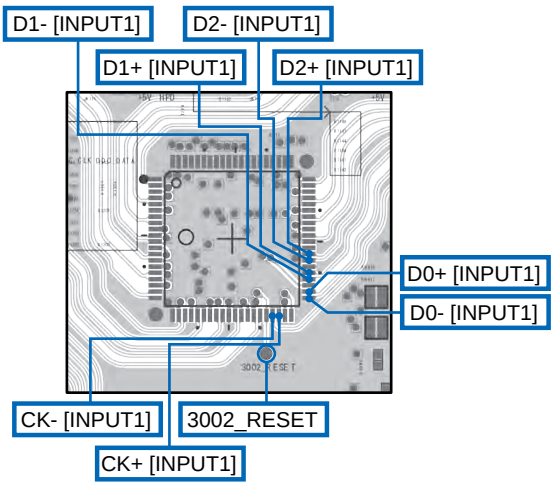
Detail A



Detail B

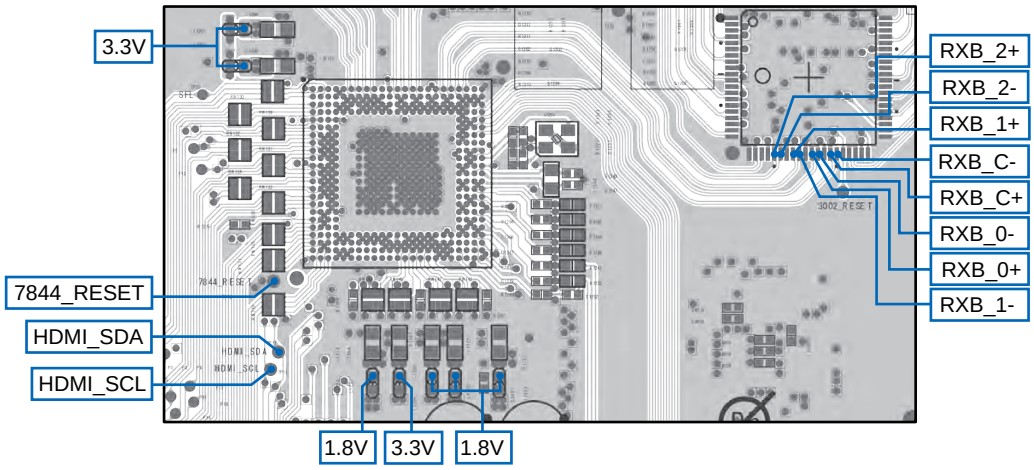


Detail C

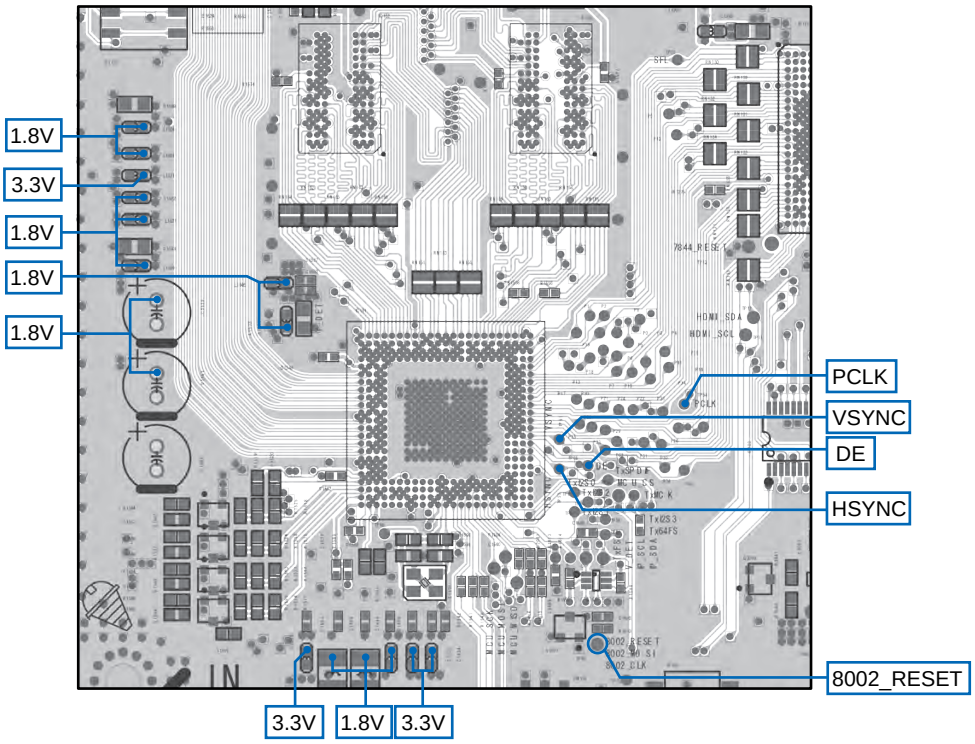


IC111 [ADV3002] Power pin
5V : 64pin
3.3V : 9pin / 18pin / 33pin / 43pin /52pin

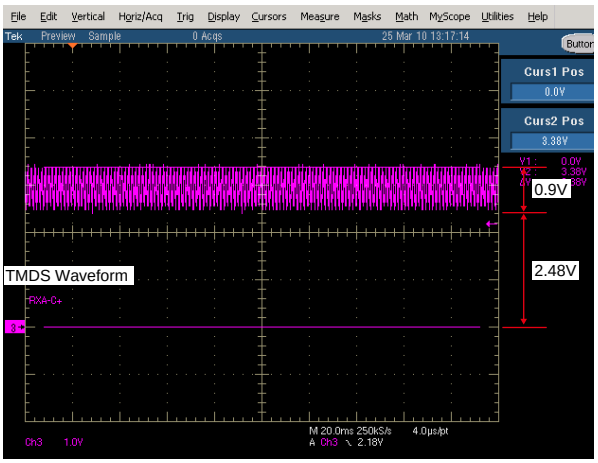
Detail D

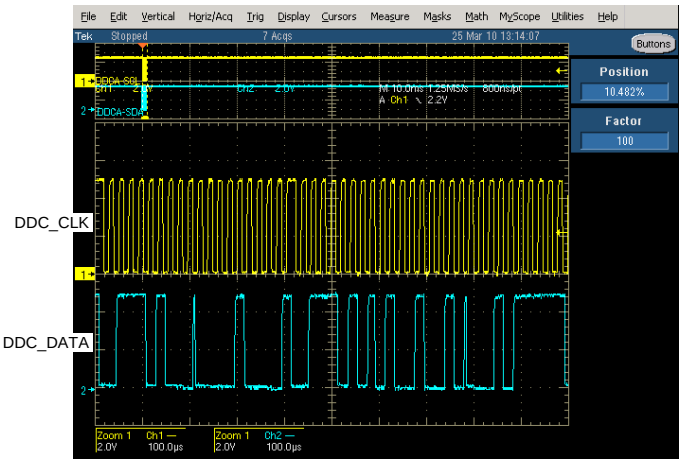


Detail E

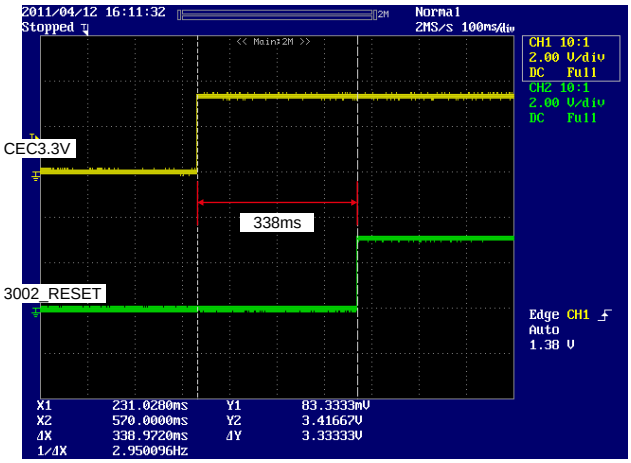


DDC_CLK/DDC_DATA/TMDS : Check items (17)/(19)/(24)/(32)

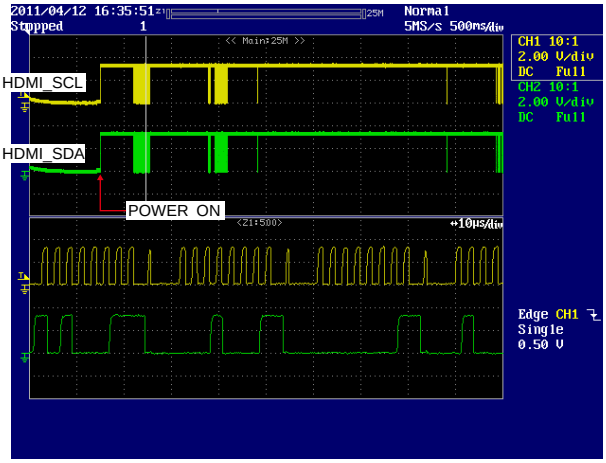




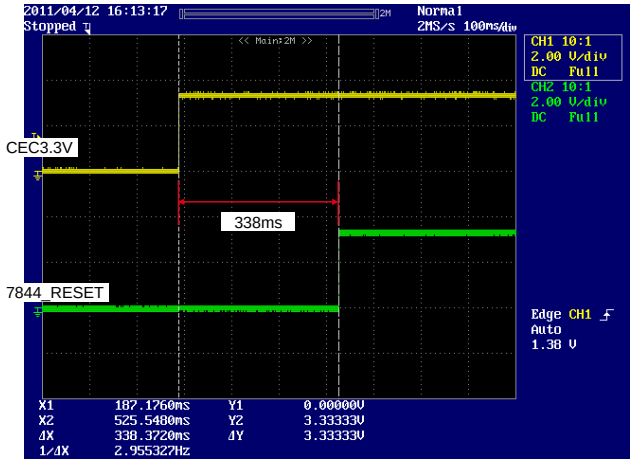
Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (22)



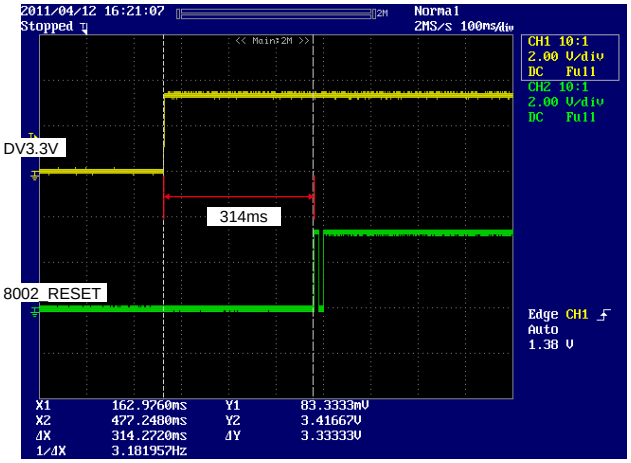
Controlled waveform(I2C), when power is turned on : Check items (23)

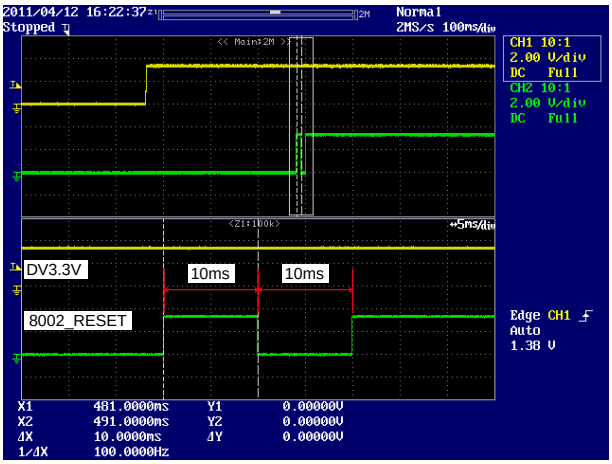


Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (27)

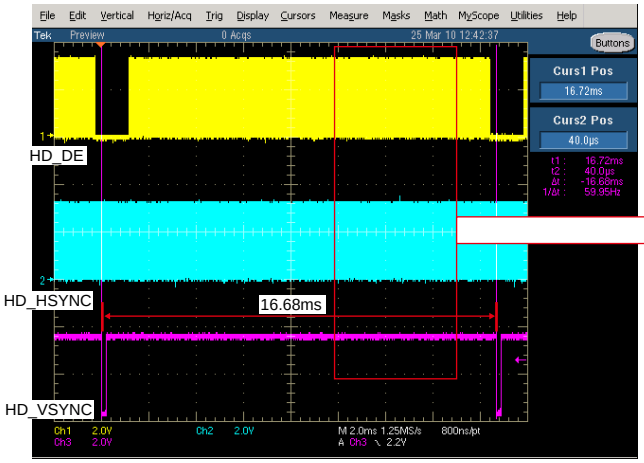


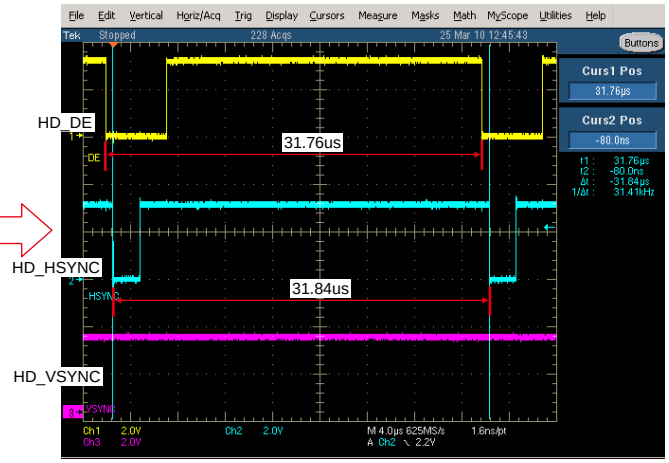
Timing waveform illustration from the start of CEC3.3V to when reset is released : Check items (31)

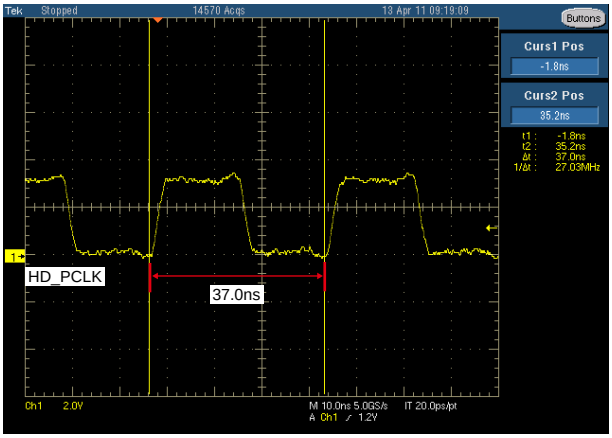




HD_DE/HD_VSYNC/HD_HSYNC/HD_PCLK : Check items (28)







4. AUDIO

4.1. AUDIO CHECK

Audio output NG. Refer to "**Audio Check PATH**" (105 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.

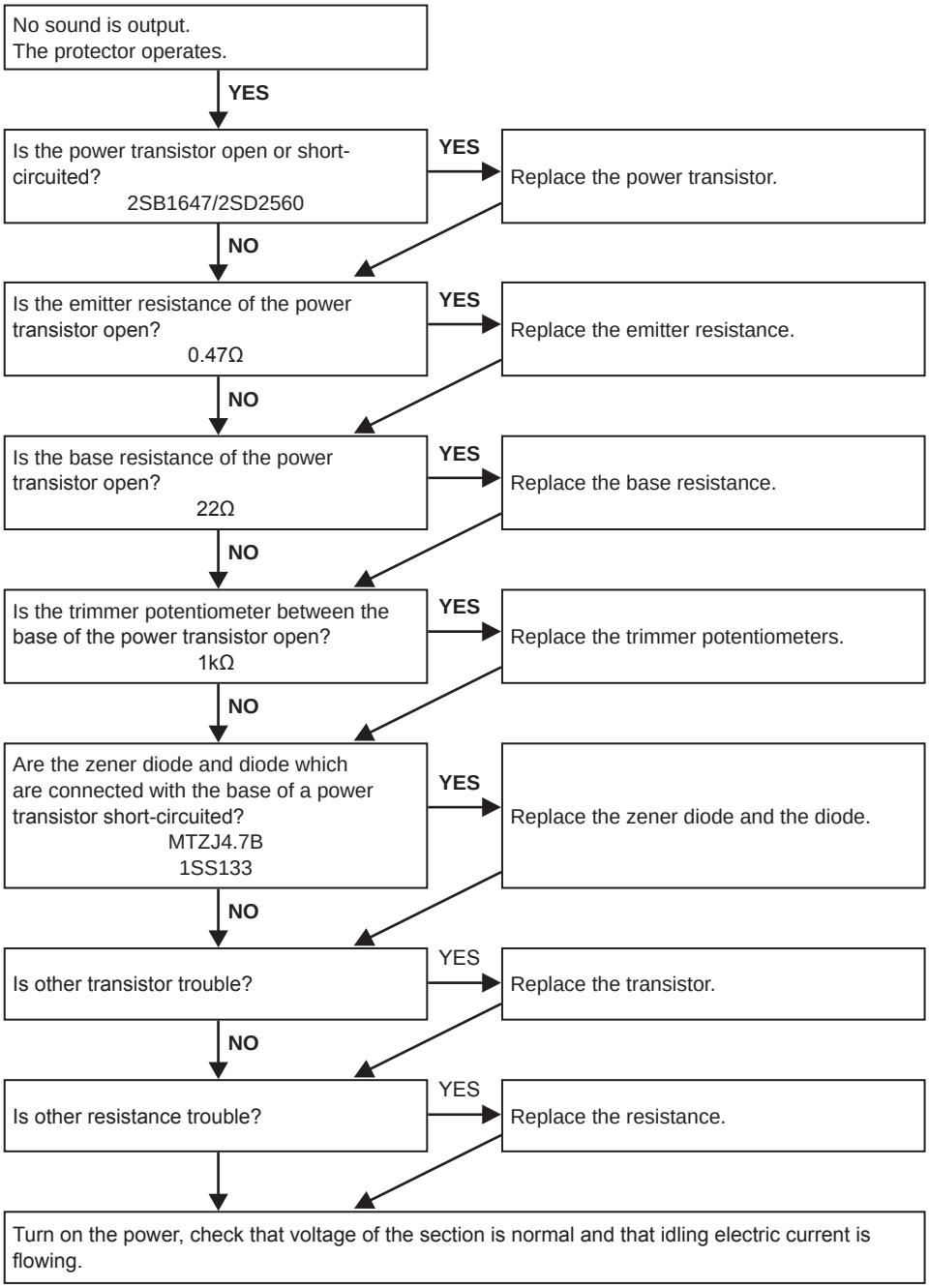
NO

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)

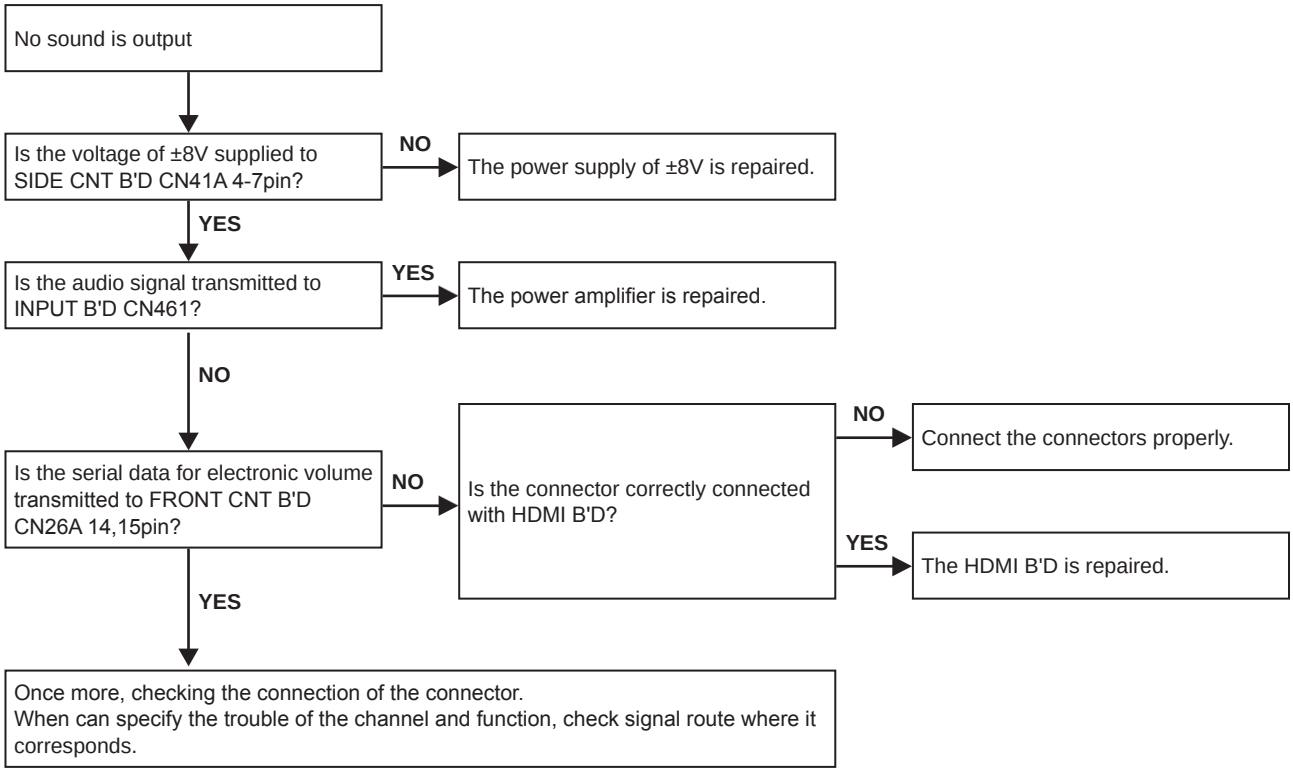
YES → Check Digital audio BLOCK

NO → Check HDMI BLOCK.

4.2. Power AMP (MAIN UNIT)

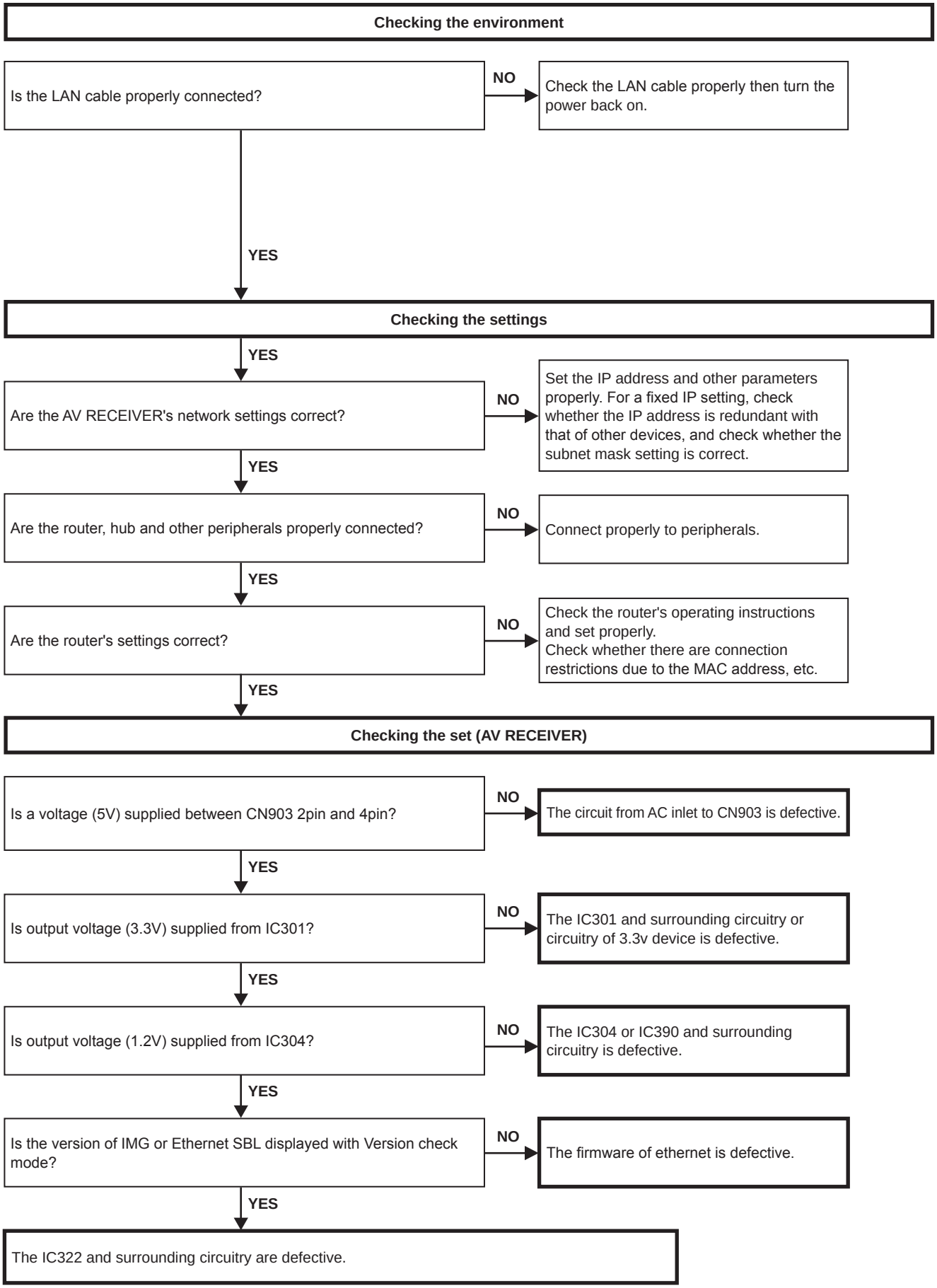


4.3. Analog audio

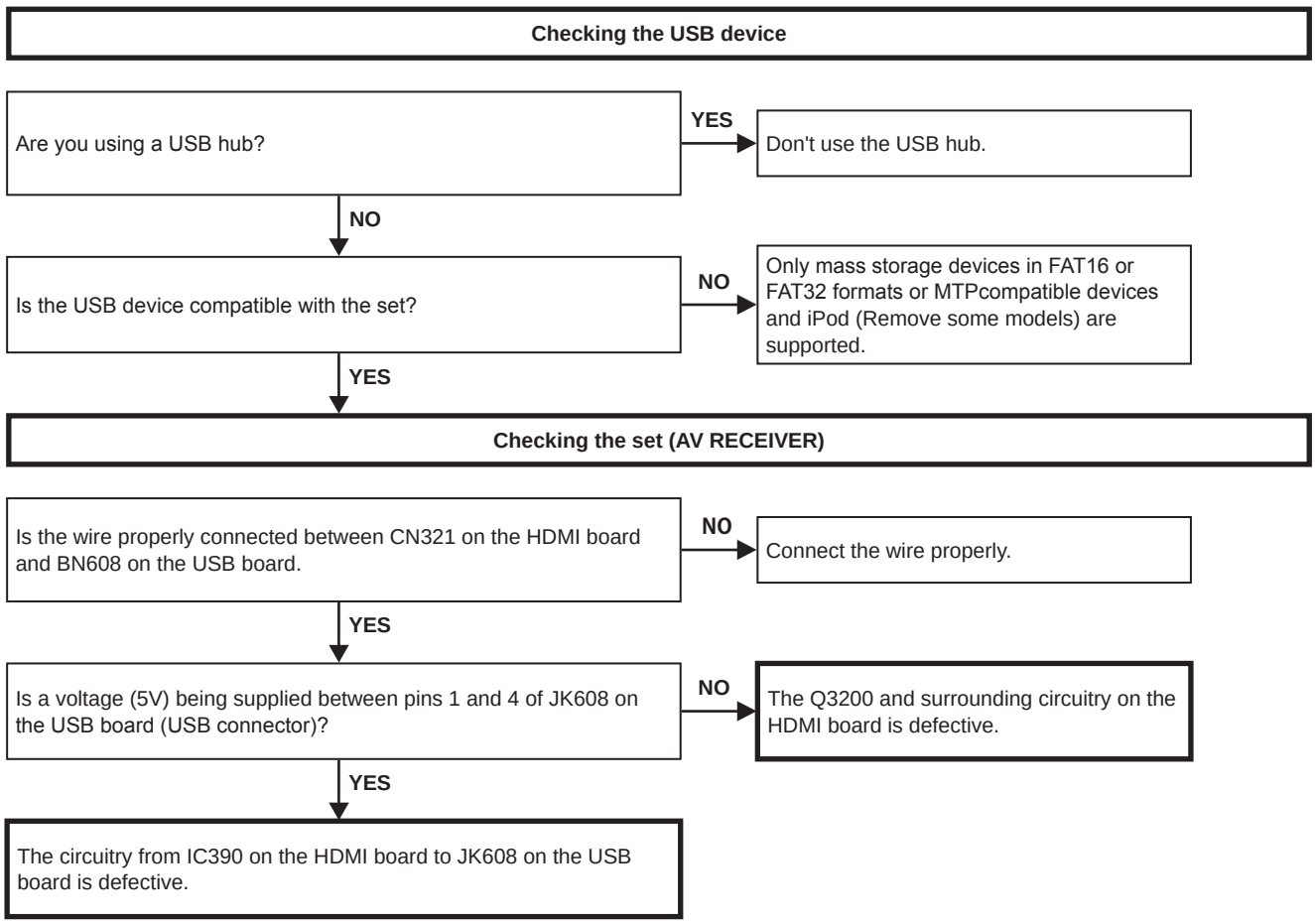


5. Network/USB △3

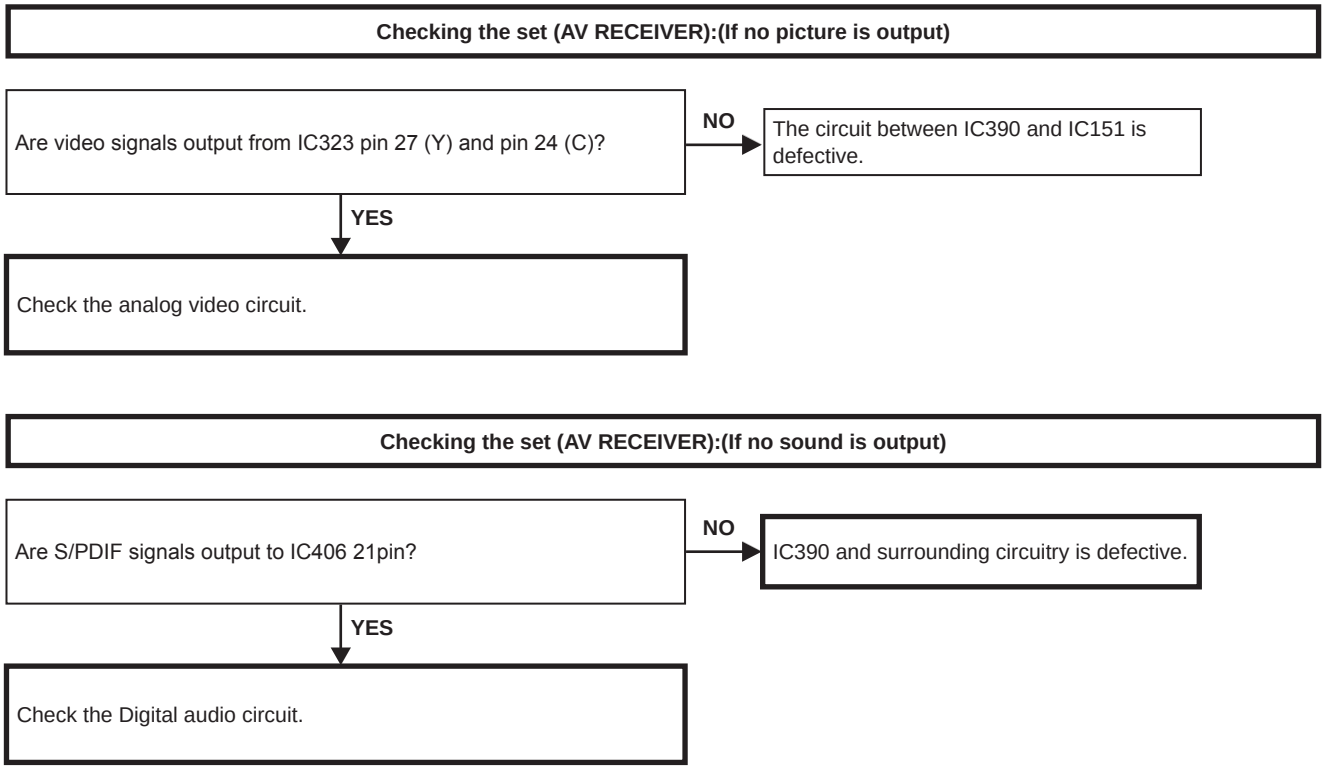
5.1. Cannot connect to network



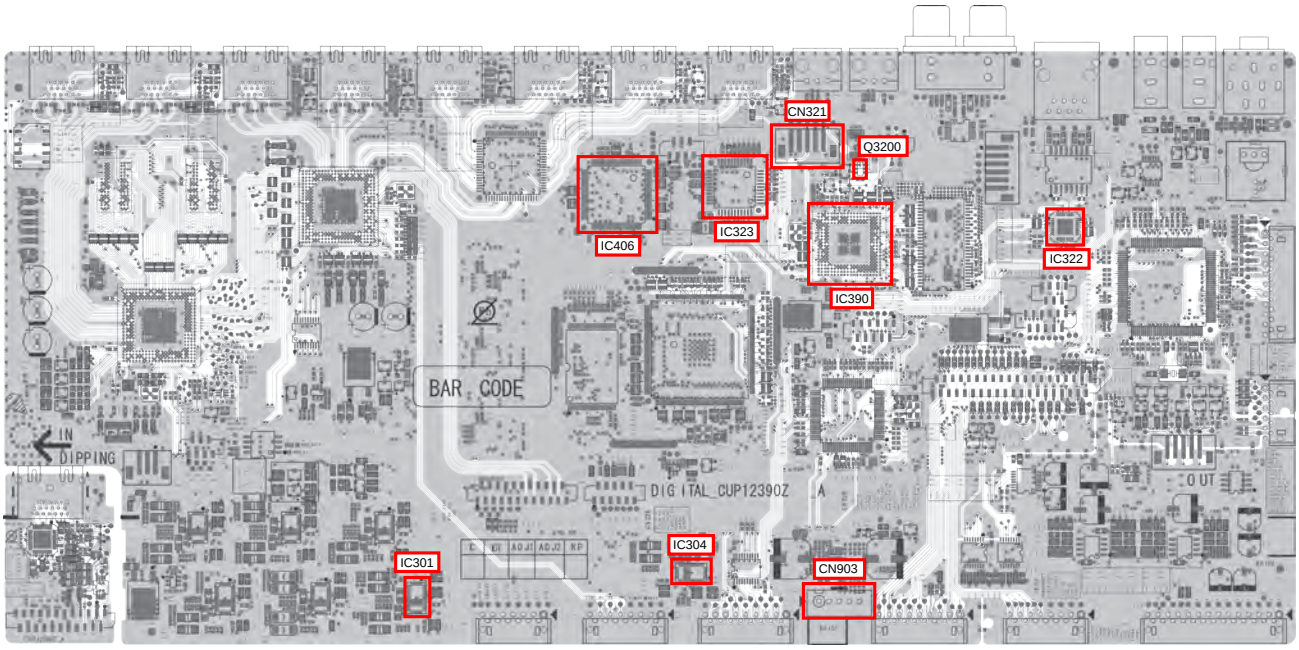
5.2. USB device is not recognized



5.3. No picture or sound is output ⚠3

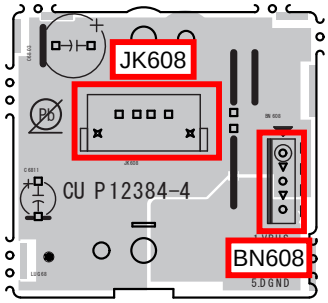


HDMI test point



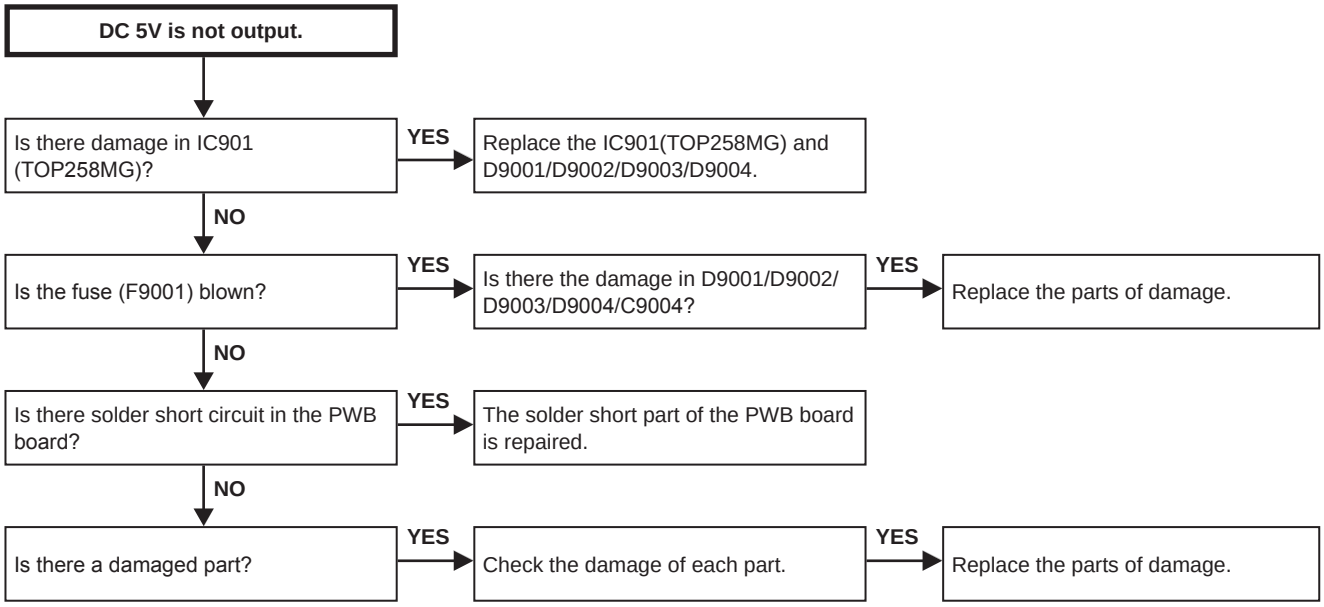
(COMPONENT SIDE)

USB test point

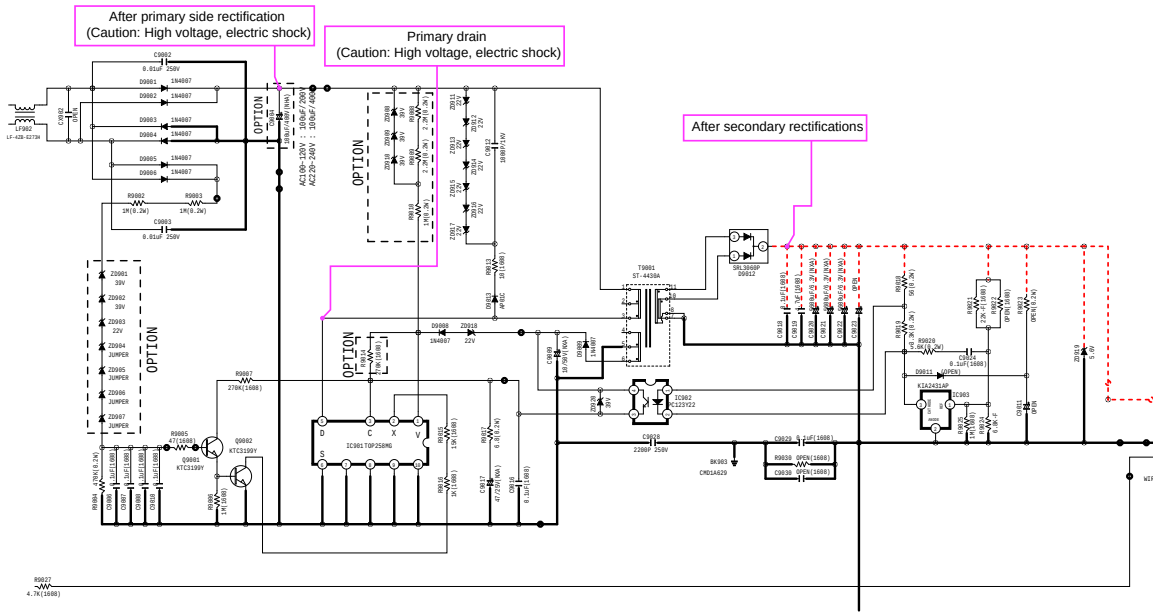


(COMPONENT SIDE)

6. SMPS

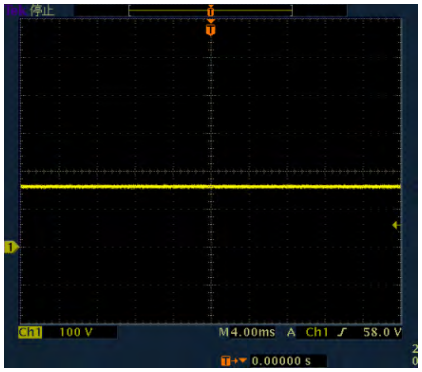

DC 5V is not output.
Is there damage in IC901 (TOP258MG)?
YES
Replace the IC901(TOP258MG) and D9001/D9002/D9003/D9004.
NO
Is the fuse (F9001) blown?
YES
Is there the damage in D9001/D9002/ D9003/D9004/C9004?
YES
Replace the parts of damage.
NO
Is there solder short circuit in the PWB board?
YES
The solder short part of the PWB board is repaired.
NO
Is there a damaged part?
YES
Check the damage of each part.
YES
Replace the parts of damage.

Operation waveform for each part

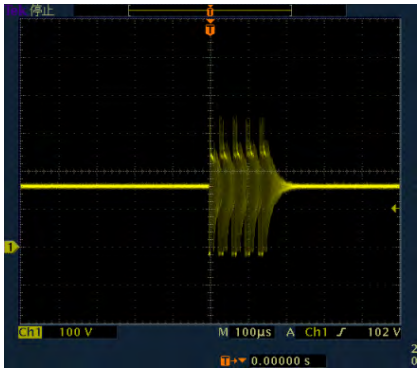


SMPS unit
(Unloaded)

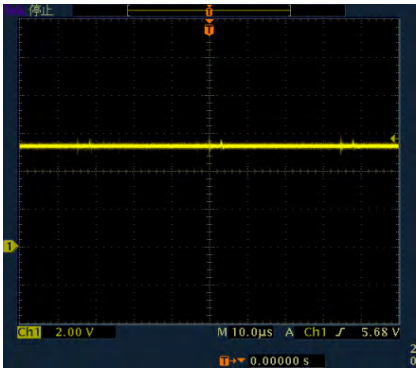
A



B

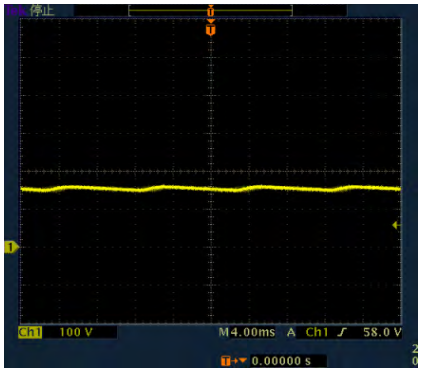


C

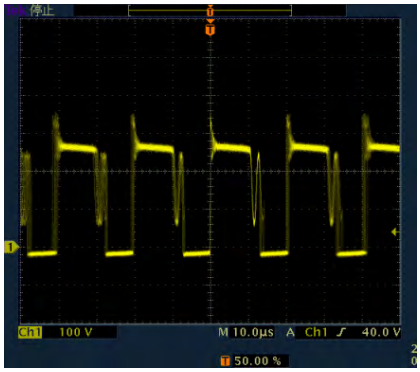


Set

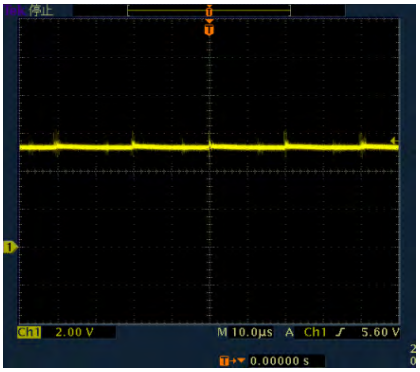
A



B

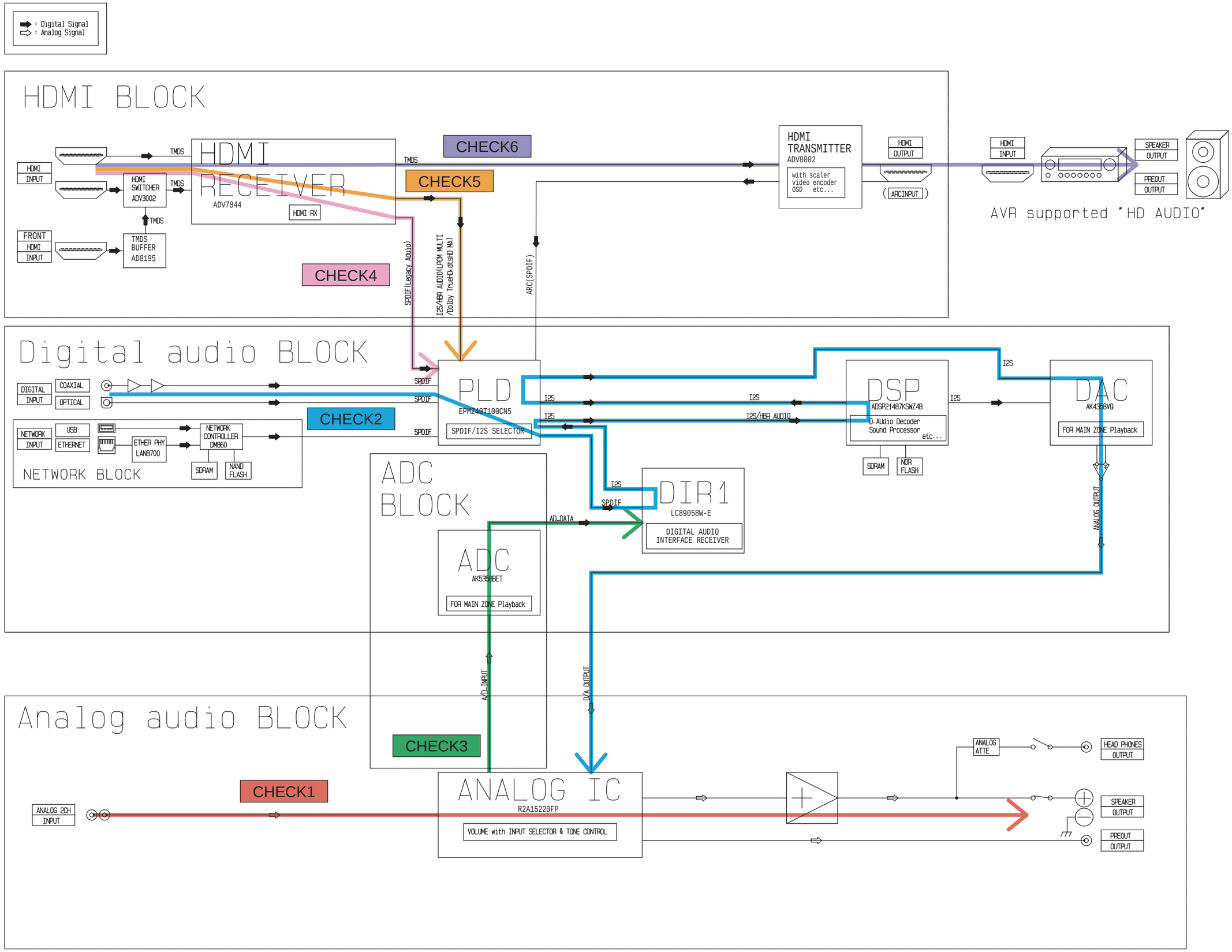


C



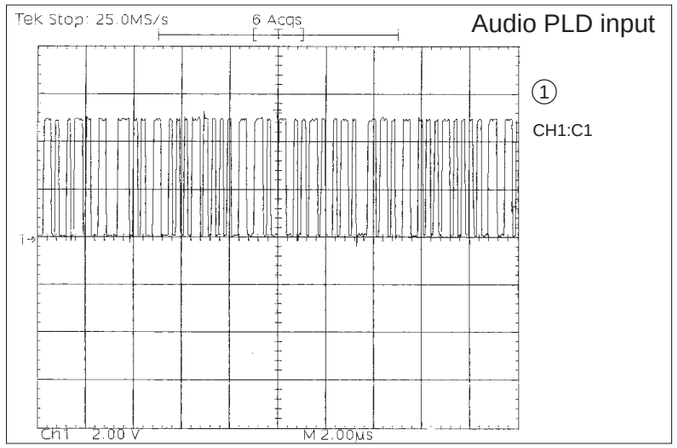
Audio Check PATH

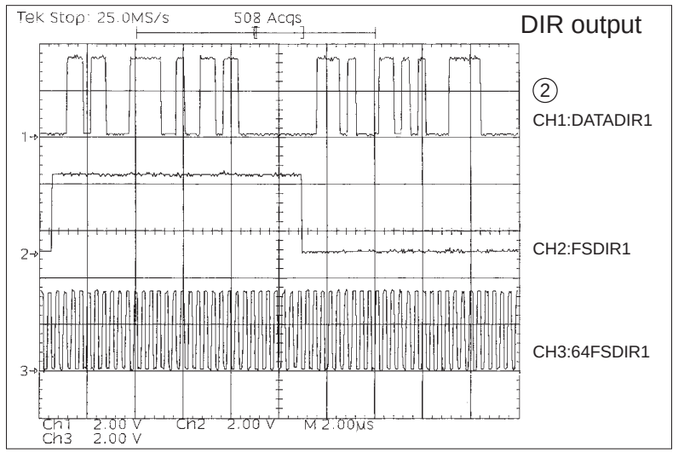
Refer to troubleshooting "**4.1. AUDIO CHECK**"(97 page).

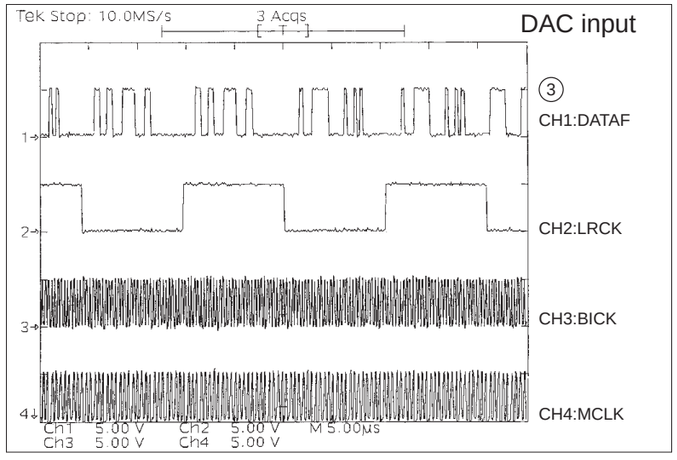


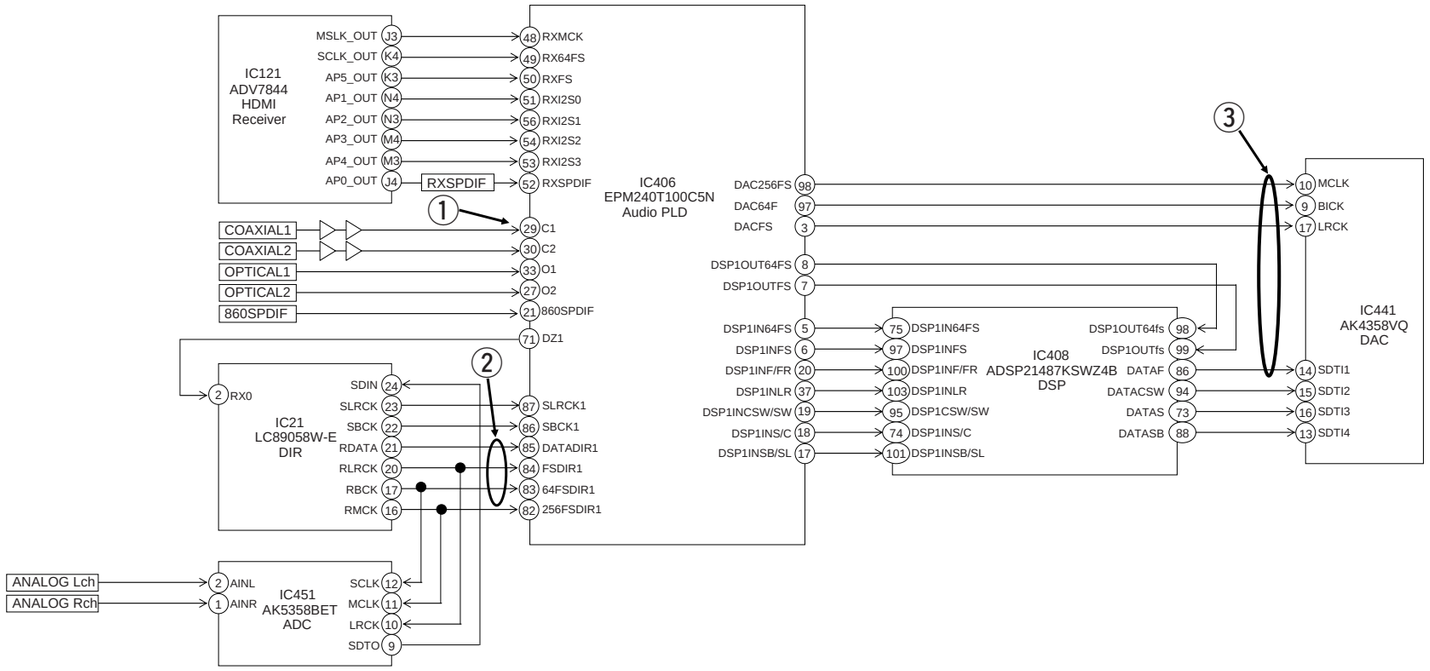
CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

WAVE FORM

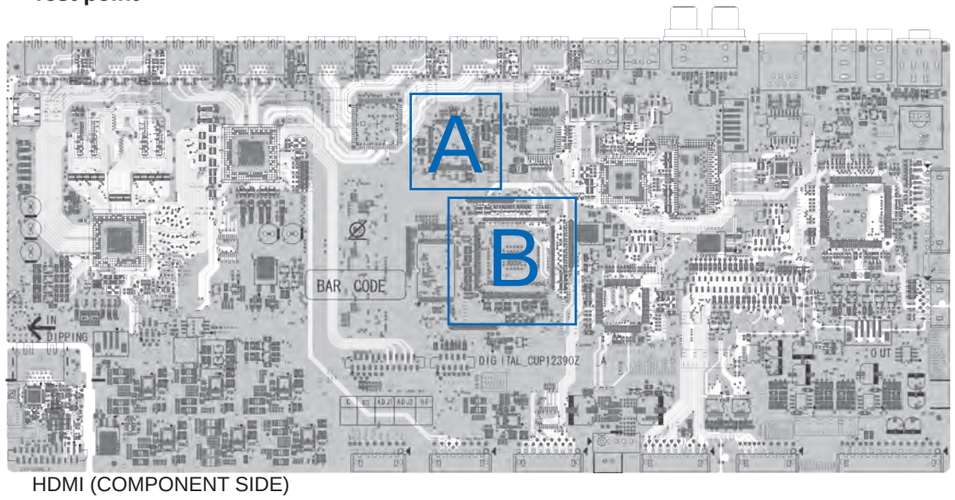






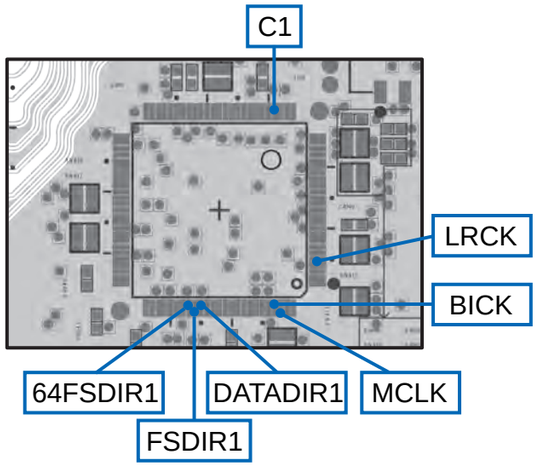


Test point

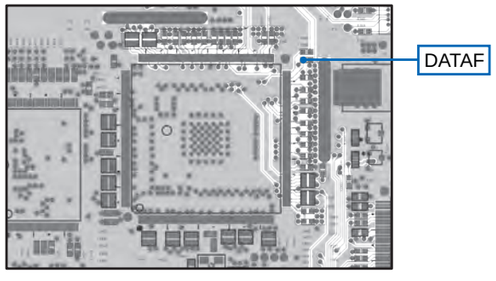


HDMI (COMPONENT SIDE)

Detail A

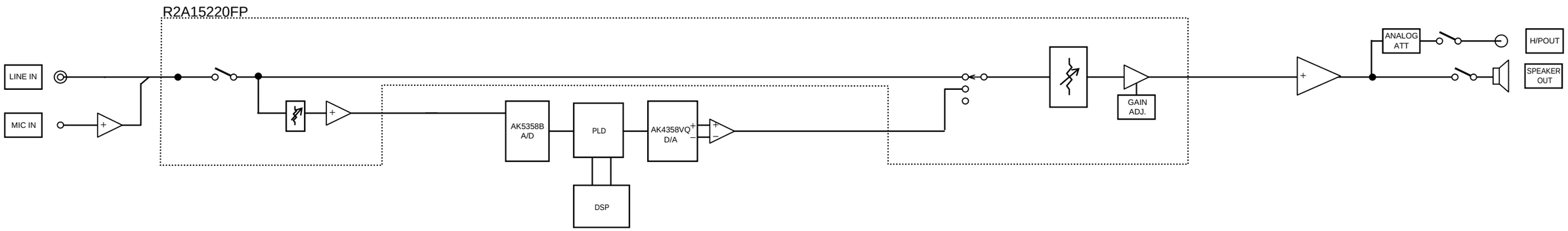


Detail B

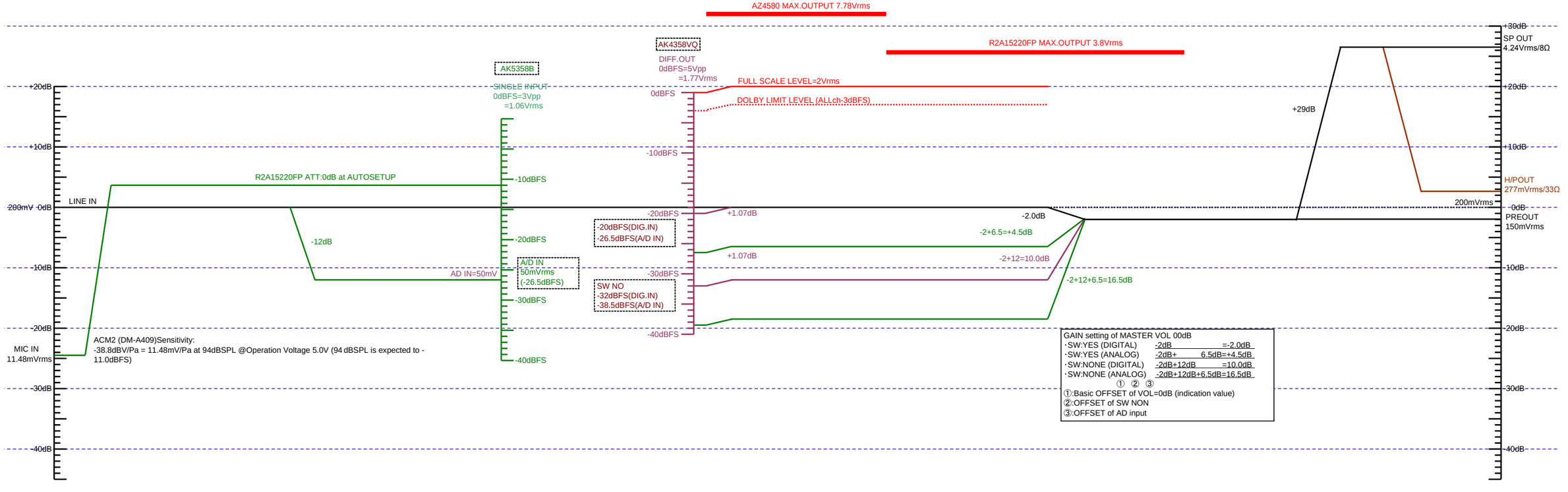


LAEVEL DIAGRAM

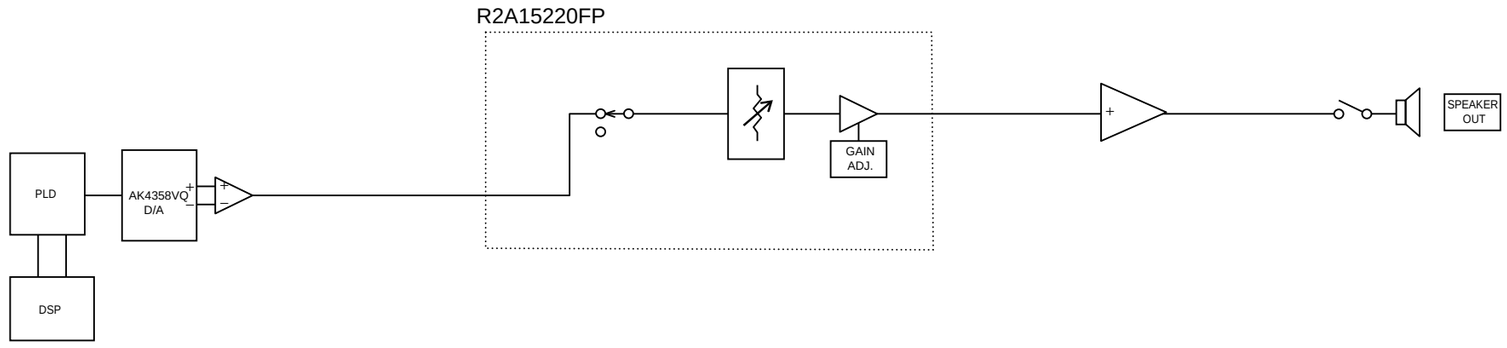
LEVEL DIAGRAM
FRONT ch

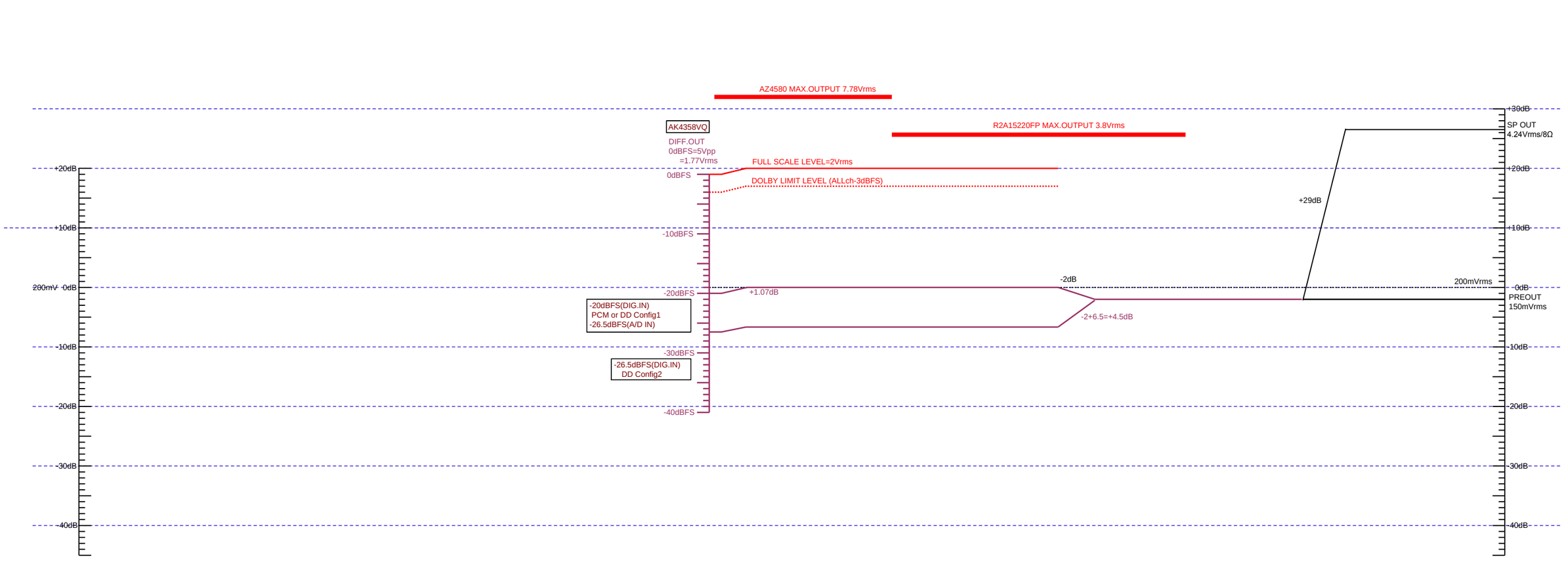


AZ4580 MAX.OUTPUT 7.78Vrms

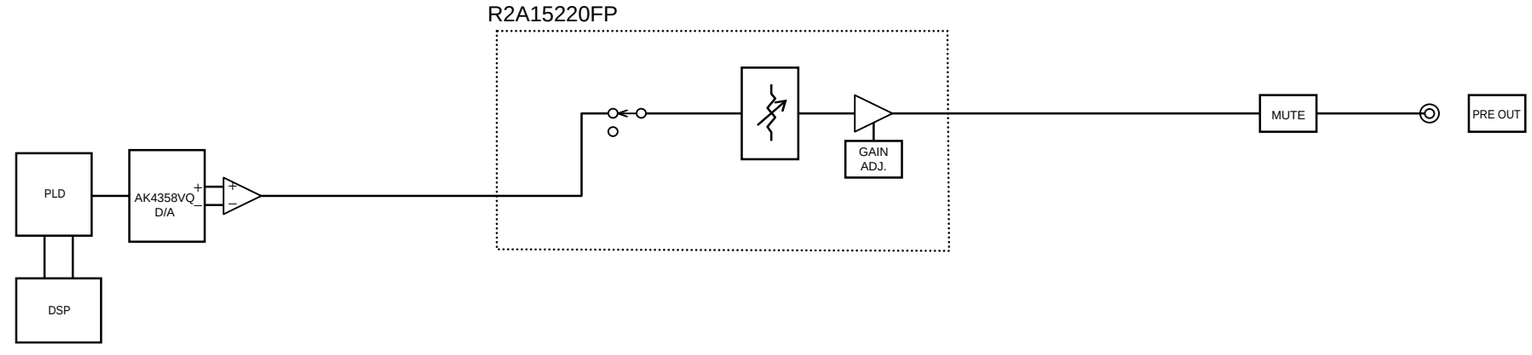


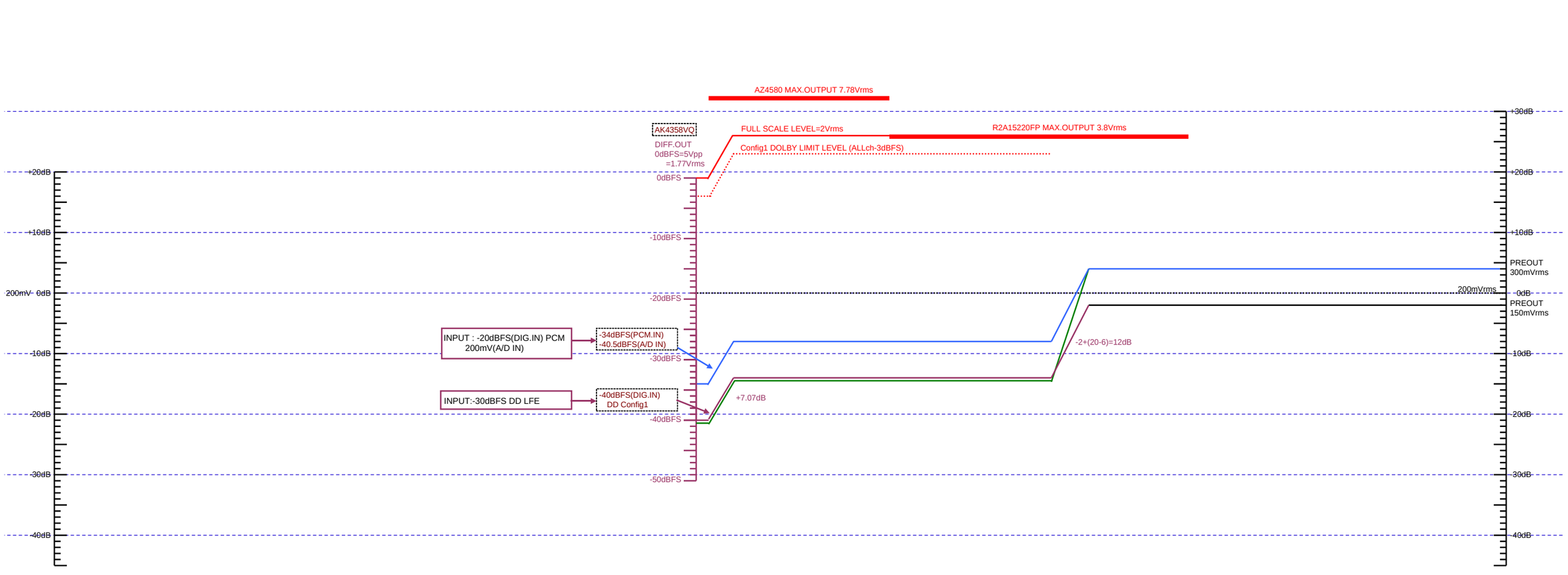
LEVEL DIAGRAM
CENTER ch



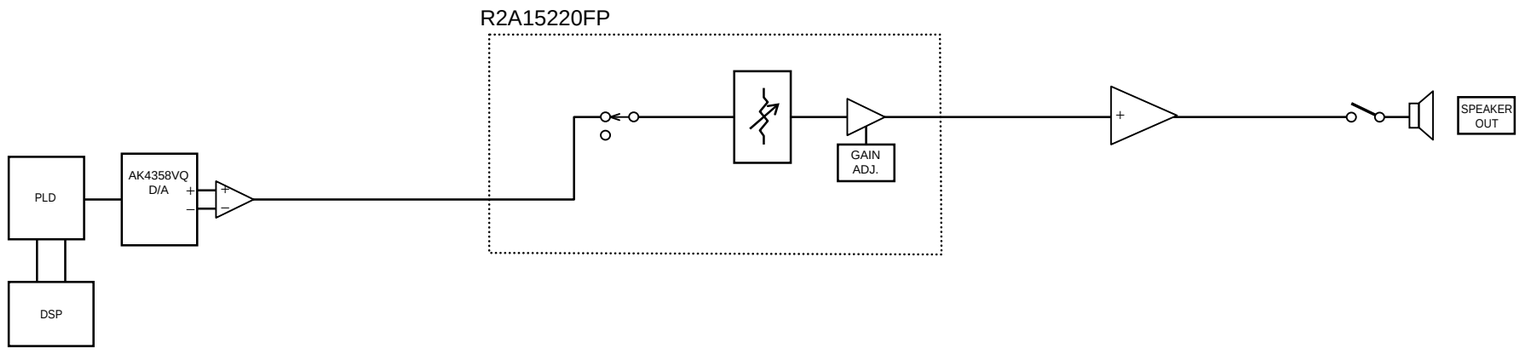


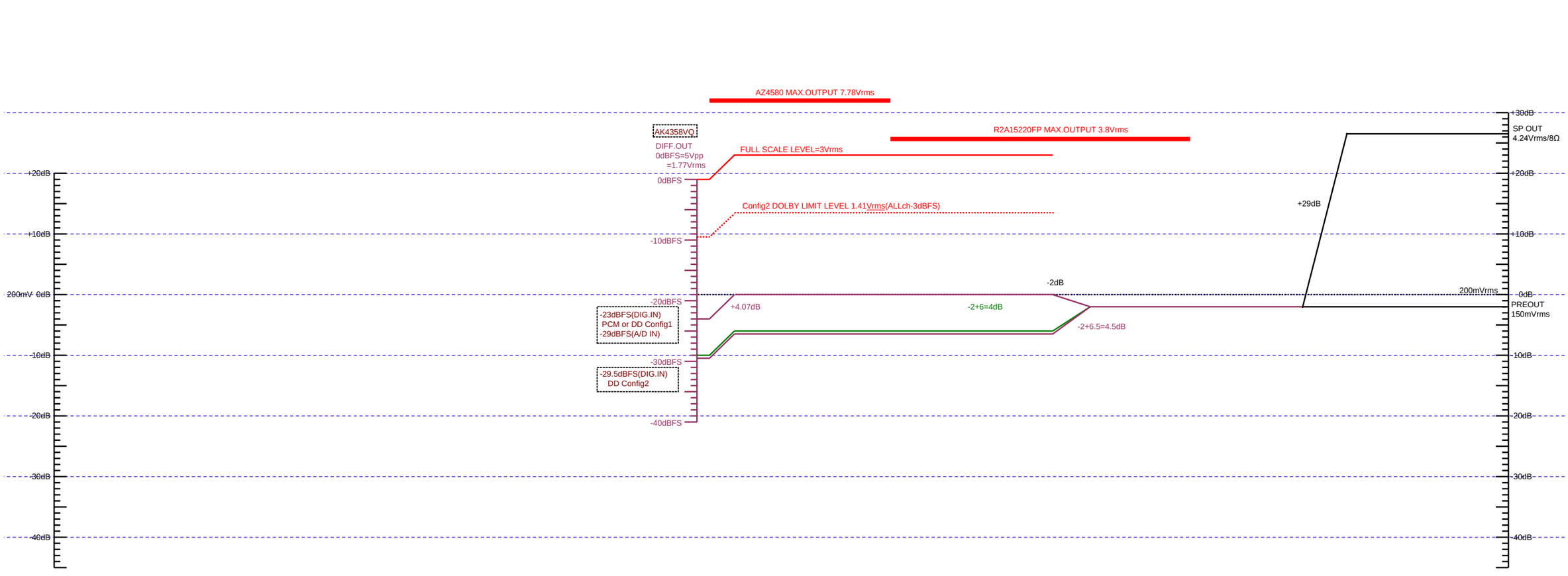
LEVEL DIAGRAM
SUBWOOFER ch



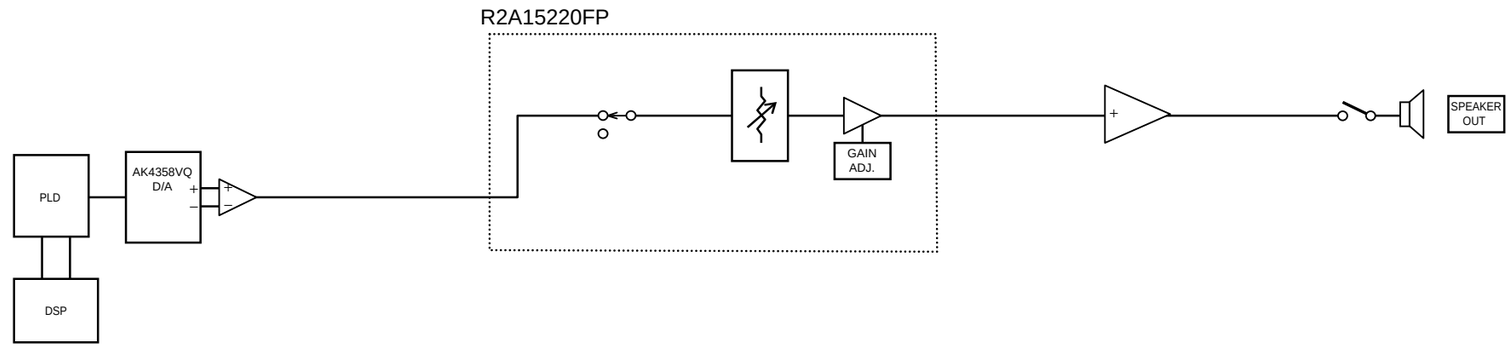


LEVEL DIAGRAM
SURROUND ch

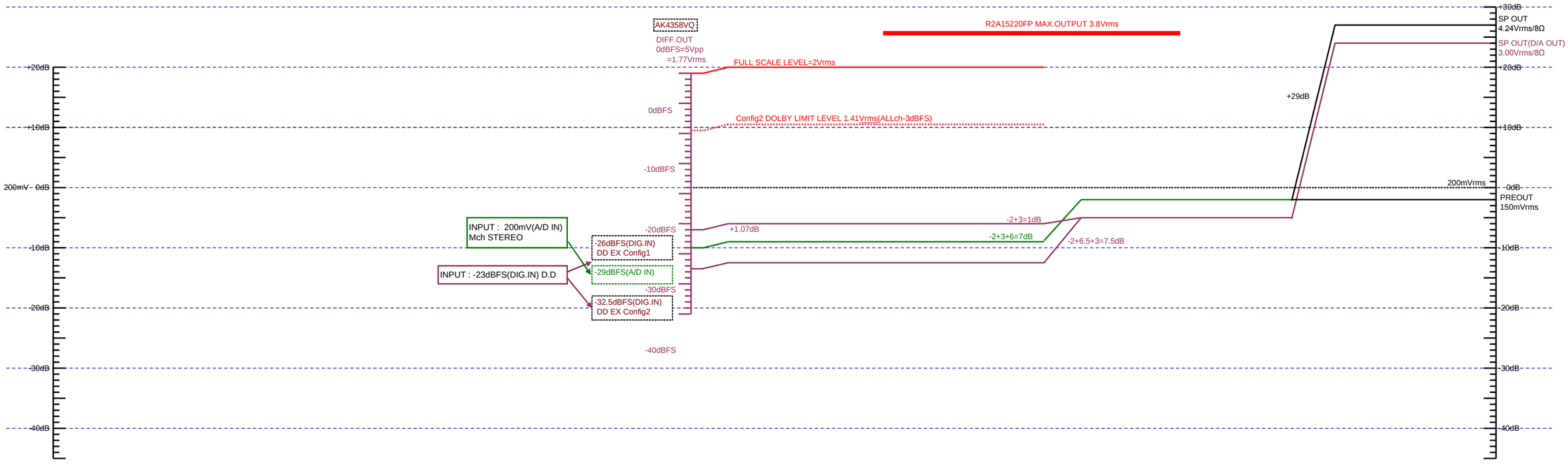




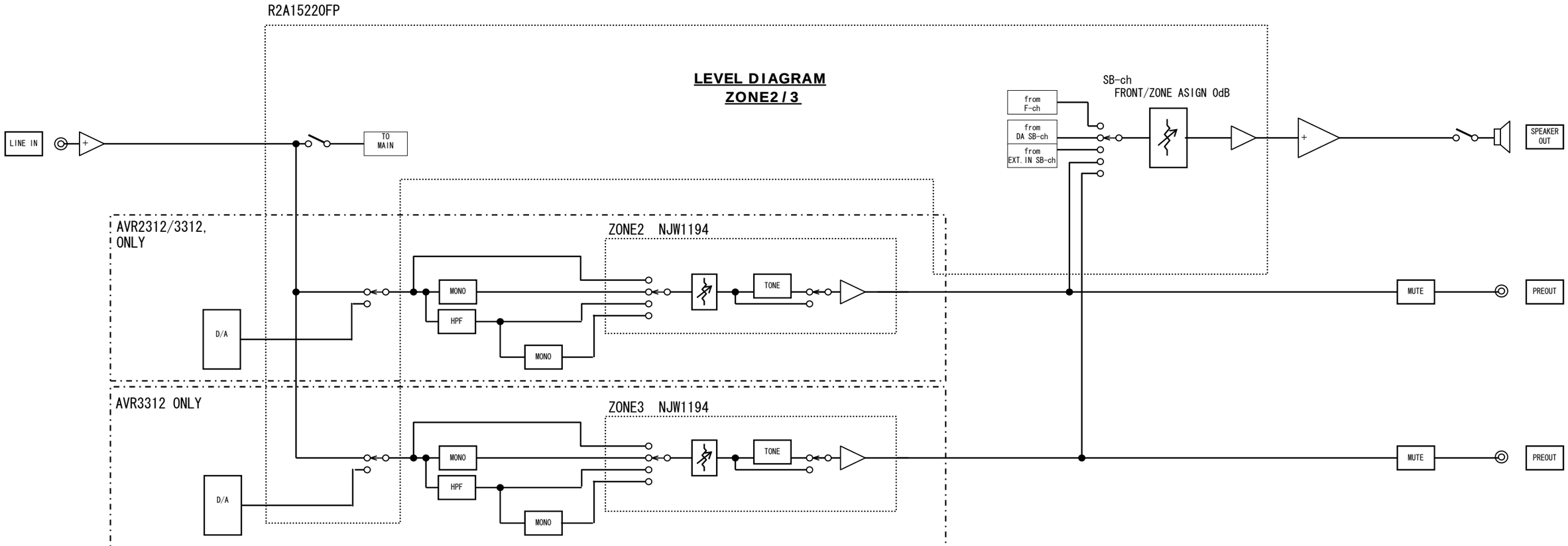
LEVEL DIAGRAM
SURR.BACK ch



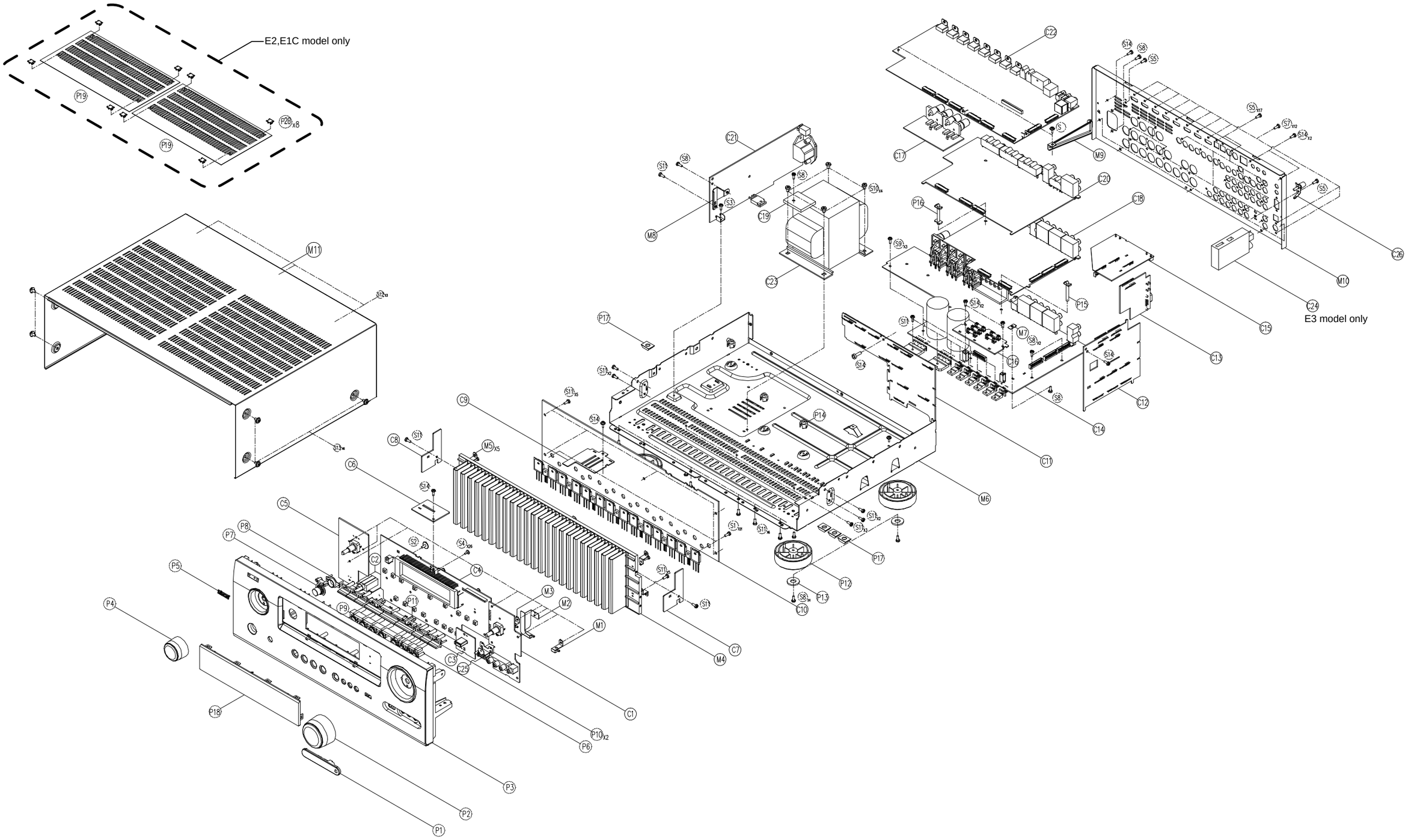
AZ4580 MAX.OUTPUT 7.78Vrms



LEVEL DIAGRAM
ZONE2/3



EXPLODED VIEW ⚠2



WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

Personal notes:

Personal notes:

PARTS LIST OF EXPLODED VIEW △2

∗Parts indicated by "nsp" on this table cannot be supplied.
∗P.W.B. ASS'Y indicated by "nsp" on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts list and order replacement parts.
∗Parts indicated by the " ★ " mark are not illustrated in the exploded view.
∗The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.

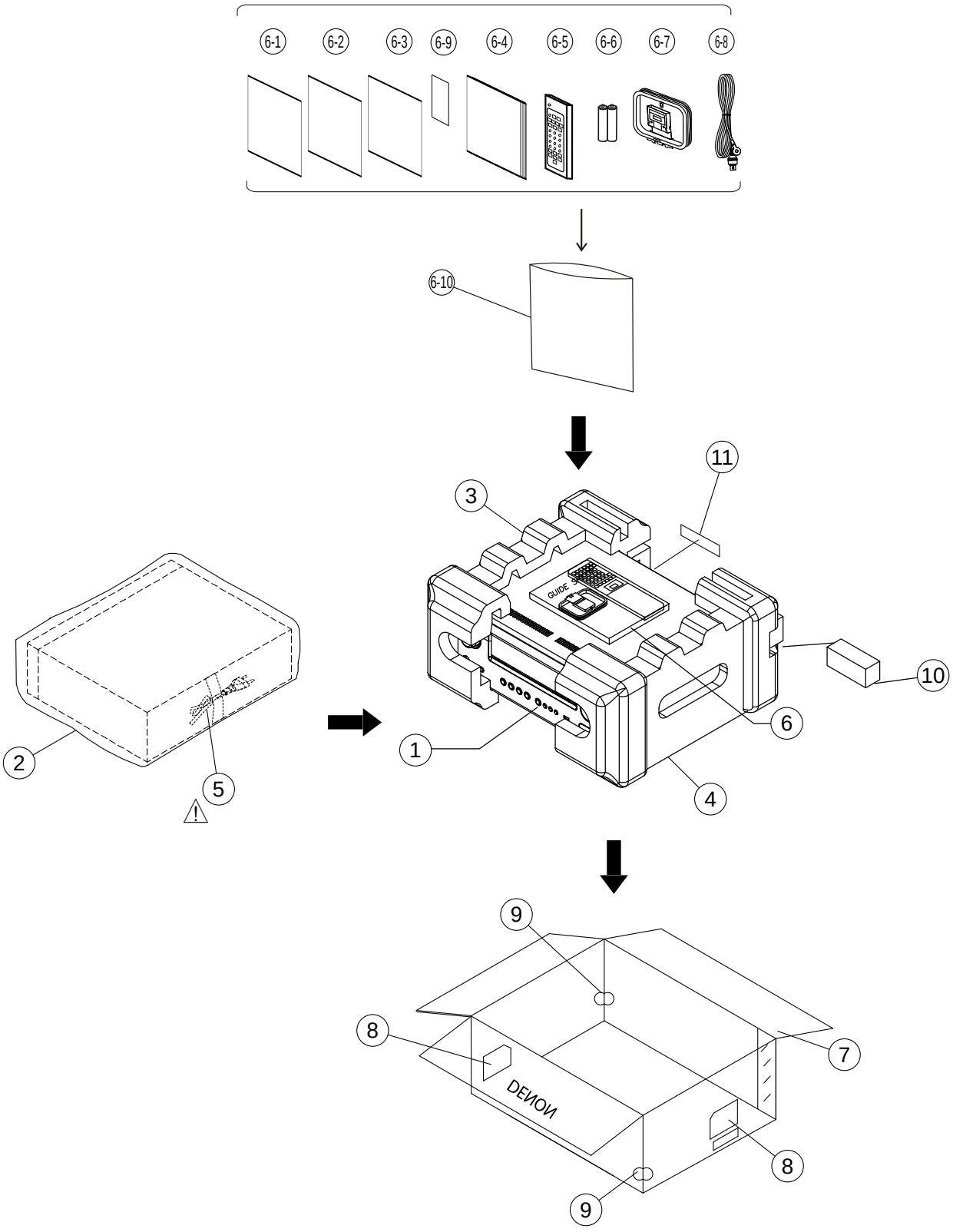
E3 : U.S.A. & Canada model
E2 : Europe model
E1C : China model
EA : Australia model
BK : Black model
SP : Premium Silver model

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	1	nsp	PCB FRONT ASSY	E3,E2	COP12384B	1	*
	1	nsp	PCB FRONT ASSY	E1C	COP12384D	1	*
	C1	-	PCB V.AUX_VOL		-		
	C2	-	PCB HP		-		
	C3	-	PCB USB		-		
	C4	-	PCB FRONT		-		
	C5	-	PCB SELECTOR		-		
	C6	-	PCB HDMI FFC GUIDE		-		
	C7	-	PCB GUIDE R		-		
	C8	-	PCB GUIDE L		-		
	C9	-	PCB GUIDE TOP		-		
	C10	nsp	PCB 7CH_AMP ASSY	E3,E2	COP12385B	1	*
	C10	nsp	PCB 7CH_AMP ASSY	E1C	COP12385D	1	*
	2	nsp	PCB CNT ASSY	E3	COP12387B	1	*
	2	nsp	PCB CNT ASSY	E2	COP12387C	1	*
	2	nsp	PCB CNT ASSY	E1C	COP12387D	1	*
	C11	-	PCB FRONT CNT		-		
	C12	-	PCB SIDE CNT		-		
	C13	-	PCB RS232C		-		
	3	nsp	PCB MAIN ASSY	E3	COP12386B	1	*
	3	nsp	PCB MAIN ASSY	E2	COP12386C	1	*
	3	nsp	PCB MAIN ASSY	E1C	COP12386D	1	*
	C14	-	PCB SPK_PREOUT		-		
	C15	-	PCB RS232C CNT		-		
	C16	-	PCB FUSE		-		
	C17	-	PCB F_WIDE		-		
	4	nsp	PCB INPUT ASSY	E3	COP12388B	1	*
	4	nsp	PCB INPUT ASSY	E2	COP12388C	1	*
	4	nsp	PCB INPUT ASSY	E1C	COP12388D	1	*
	C18	-	PCB INPUT		-		
	C19	-	PCB POSISTOR		-		
	C20	nsp	PCB VIDEO ASSY	E3,E2	COP12389B	1	*
	C20	nsp	PCB VIDEO ASSY	E1C	COP12389D	1	*

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New	
	C21	nsp	PCB SMPS ASSY	E3	COP12391B	1	*	
	C21	nsp	PCB SMPS ASSY	E2	COP12391C	1	*	
	C21	nsp	PCB SMPS ASSY	E1C	COP12391D	1	*	
	5	8U6331007800D	PCB HDMI ASSY	E3	COP12390B	1	*	
	5	8U6331007900D	PCB HDMI ASSY	E2	COP12390C	1	*	
	5	8U6331010800D	PCB HDMI ASSY	E1C	COP12390D	1	*	
	C22	-	PCB HDMI		-			
	C25	-	PCB FRONT HDMI		-			
⚠	C23	943101012430S	TRANS , POWER(EI96 X 75)	E3	CLT5V060ZU	1	*	
⚠	C23	943101012440S	TRANS , POWER(EI96 X 75)	E2	CLT5V060ZE	1	*	
⚠	C23	943101100200S	TRANS , POWER(EI96 X 75)	E1C	CLT5V060ZH	1	*	
	C24	963183011000S	MODULE , HD-RADIO	E3	CNVKSM-H7101NNH-001	1		
	C26	nsp	TERMINAL,GROUND		CMA1A006	1		
	P1	943419100300D	COVER, RCA	BK	CGR1A517B28	1	*	
	P1	943419100310D	COVER, RCA	SP	CGR1A517G45	1	*	
	P2	943412009840D	VOLUME KNOB	BK	CBN1A249	1		
	P2	943412009850D	VOLUME KNOB	SP	CBN1A249C73	1		
	P3	943402101780D	PANEL, FRONT	CIBKE3	CGW1A511RHWB28	1	*	
	P3	943402101800D	PANEL, FRONT	BKE2	CGW1A511RHVB28	1	*	
	P3	943402101820D	PANEL, FRONT	SPE1C	CGW1A511RGUG45	1	*	
	P4	943412100650D	KNOB , SELECT	BK	CBN1A254	1	*	
	P4	943412100640D	KNOB , SELECT	SP	CBN1A254C73	1	*	
	P5	00D9630362109	DENON BADGE(BLACK049)		CGB1A140U	1		
	P6	943411101430D	BUTTON, 3KEY ASSY	BK	CBT1A1157ZA	1	*	
	P6	943411101480D	BUTTON, 3KEY ASSY	SP	CBT1A1157G45Z	1	*	
	P7	943411009860D	BUTTON STANDBY ASS'Y		CBT1A1141ZA	1		
	P8	00D9630137807	STANDBY LENS		CGL1A289	1		
	P9	943411101440D	BUTTON, 5KEY ASS'Y	BK	CBT1A1156ZA	1	*	
	P9	943411101490D	BUTTON, 5KEY ASS'Y	SP	CBT1A1156G45Z	1	*	
	P10	00D9630365002	WIN 3KEY BUTTON	BK	CBT1A1140B28	2		
	P10	00D9630365301	WIN 3KEY BUTTON	SP	CBT1A1140G45	2		
	P11	943411101450D	BUTTON , WIN 3KEY B	BK	CBT1A1160B28	1	*	
	P11	943411101720D	BUTTON , WIN 3KEY B	SP	CBT1A1160G45	1	*	⚠5
	P12	943416009700D	FOOT		CKL2A093	4	*	⚠4
	P13	00D9430202902	FOOT CUSHION		CHG2A289	4		
	P14	nsp	HOLDER , PCB		CHE170	5	*	
	P15	nsp	SUPPORT, PCB		CRE1A102	1	*	
	P16	nsp	SUPPORT , PCB 31		CRE1A073	1	*	
	P17	nsp	RUBBER		CHG1A113	4	*	
	P18	943416100580D	WINDOW, FL		CGU1A459X	1	*	
	P19	943419100250D	CGX1A492Z SHEET TOP AVR1612BK	BKE2	CGX1A492Z	2		
	P19	943419100260D	CGX1A492Y SHEET TOP AVR1612SP	E1C	CGX1A492Y	2		
	P20	45451000500AM	STOPPER TOP BL	BKE2	CMH1A306Z	8		
	P20	45451000501AM	STOPPER TOP SG	E1C	CMH1A306Y	8		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	M1	nsp	EARTH , AUX		CMC1A421	1	*
	M2	nsp	EARTH , USB		CMC1A423	1	*
	M3	nsp	EARTH , USB		CMC1A420	1	*
	M4	nsp	HEAT SINK		CMY1A376	1	*
	M5	nsp	BRACKET , AMP PCB		CMD1A796	5	*
	M6	nsp	BOTTOM, CHASSIS		CUA1A330	1	*
	M7	nsp	PLATE , MAIN PCB		CMC1A424	1	*
	M8	nsp	SMPS BRACKET		CMD1A790	1	*
	M9	nsp	BRACKET PCB HDMI		CMD1A791	1	*
	M10	nsp	PANEL , REAR	E3	CKF6A448Z	1	*
	M10	nsp	PANEL , REAR	E2	CKF7A448Z	1	*
	M10	nsp	PANEL , REAR	E1C	CKF7A448Y	1	*
	M11	00M07BW257010	TOP CABINET	BK	CKC2A155K117	1	
	M11	943403002040M	TOP CABINET	SP	CKC2A155D11	1	
	★ M12	nsp	CLAMPER		CHR301	10	
	★ M13	nsp	CLAMPER ARM		CHE154	0.12	
	★ M14	nsp	CUSHION, EVA		CHG1A518	1	*
	★ M15	nsp	INSULATOR , SILICON		CMX1A298	14	*
	★ M16	nsp	LABEL , HOT		CQB1A906Z	1	
	★ M17	nsp	TAPE , BOTH SIDE	0.05mm	C4FM073	1	*
	★ M18	nsp	TAPE , HEMELON	10mm	CHS1A032	1	
	★ M19	nsp	TAPE , HEMELON	10mm	CHS1A032	1	
SCREWS							
	S1	nsp	SCREW , SPECIAL		CHD3A012R	21	
	S2	nsp	SCREW		CTWS3+10GR	1	
	S4	nsp	SCREW		CTB3+10JR	25	
	S5	nsp	SCREW		CTBD3+8JFZR	3	
	S5	nsp	SCREW		CTBD3+8JFZR	42	
	S7	nsp	SCREW		CTBD3+6FFZR	12	
	S8	nsp	SCREW		CTW3+8JR	17	
	S9	nsp	SCREW		CTW3+12JR	5	
	S10	nsp	SCREW , SPECIAL		CHD1A023R	4	
	S11	nsp	SCREW		CTB3+8JR	10	
	S11	nsp	SCREW		CTB3+8JR	18	
	S13	nsp	SCREW		CTBD4+8JFZR	6	
	S14	nsp	SCREW		CTB3+8JFZR	7	
WIRES							
	★ W1	943606501240S	CARD CABLE (1mm, 40P, 250mm, B)		CWC4F2A40A250B08	1	
	★ W2	943606501250S	CARD CABLE (1mm, 23P, 450mm, B)		CWC4F2A23A450B10	1	
	★ W3	943606501260S	CARD CABLE (1.25mm, 13P, 80mm, B)	E3	CWC4F2A13B080B10	1	

PACKING VIEW ⚠2



PARTS LIST OF PACKING & ACCESSORIES ⚠2

∗Parts indicated by "nsp" on this table cannot be supplied.
∗Parts indicated by the " ★ " mark are not illustrated in the exploded view.
∗The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.

E3 : U.S.A. & Canada model
E2 : Europe model
E1C : China model
EA : Australia model
BK : Black model
SP : Premium Silver model

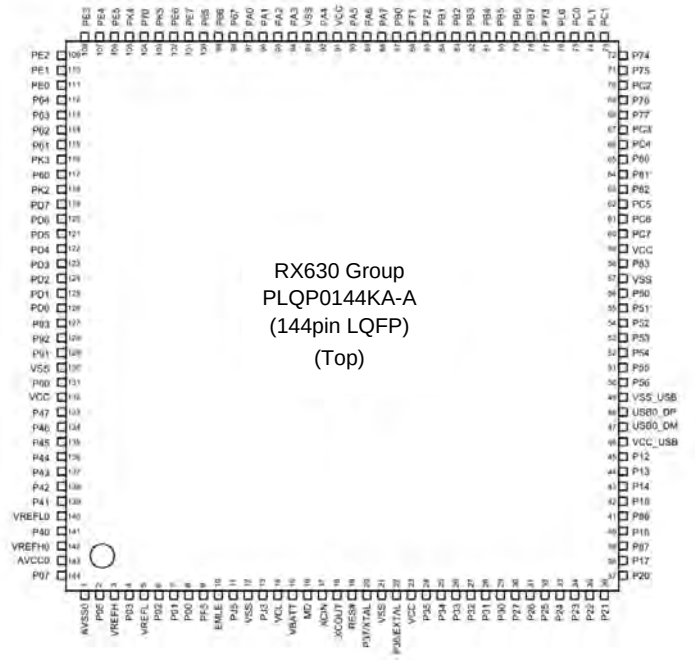
	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New	
	1	-	set			1		
	2	nsp	POLY BAG		CPP1A081X	1		
	3	943533100960D	SNOW, PAD L		CPS1A905	1	*	
	4	943533100950D	SNOW, CUSHION R		CPS1A906	1	*	
⚠	5	90M-ZC000310R	CORD , POWER(PLUG+SOCKET)UL	E3	CJA2A070Z	1		
⚠	5	90M-ZC000320R	CORD , POWER, EUR,10A,250V	E2	CJA2B054Z	1		
⚠	5	90M-ZC000650R	CORD , POWER, 10A,125V	E1C	CJA2N075Z	1		
	6	-	INSTRUCTION MANUAL ASS'Y		-	1		
	6-1	352010044005D	MANUAL, CD ASS'Y	E3	CFT1A044ZA	1	*	
	6-1	352010045008D	MANUAL, CD ASS'Y	E2	CFT1A045ZA	1	*	
	6-1	352010053009D	MANUAL, CD ASS'Y	E1C	CFT1A046ZA	1	*	
	6-2	nsp	CARD, WARRANTY	E3	CQE1A224Q	1		
	6-2	nsp	CARD, WARRANTY	E1C	CQE1A473Y	1		
	6-3	nsp	S.S LIST		CQE1A226P	1		
	6-4	542110064009D	MANUAL, GUIDE	E3	CQX1A1624Z	1	*	
	6-4	542110065002D	MANUAL, GUIDE	E2	CQX1A1625Z	1	*	
	6-4	542110067008D	MANUAL, GUIDE	E1C	CQX1A1626Z	1	*	
	6-5	307010087002D	REMOCON ASS'Y(RC-1156)		CARTAVR2312	1		
	6-6	nsp	BATTERY(AA)		CABR6PPB	2		
	6-7	00D2310089007	ANT, AM LOOP(HD RADIO),105uH, 18T	E3	CSA1A038Z	1		
	6-7	00D2310089007	ANT , AM LOOP(9.5uH, 5T)	E2	CSA1A032Z	1		
	6-8	90M-ZA000230R	FM 1 POLANT(UL)		CSA1A019Z	1		
	6-9	nsp	CARD FOR CHINA INDENTIFICATION	E1C	CQE1A450Z	1		
	6-10	nsp	POLY BAG(MANUAL)		CPB1A197Z	1		
	7	943531101830D	BOX, OUT CARTON	CIBKE3	CPG1A948W	1	*	
	7	943531101850D	BOX, OUT CARTON	BKE2	CPG1A948V	1	*	
	7	943531101870D	BOX, OUT CARTON	SPE1C	CPG1A948U	1	*	⚠5
	8	nsp	CONTROL LABEL		CQB1A993Z	1		
	9	nsp	COLOR LABEL	SPE1C	CQB1A676	2		
	10	324010001003D	DM-A409EM		CJXAVR1612A	1		
	11	nsp	LABEL, LICENSE		CQB1A1061Z	1		
	★ 12	nsp	PESHEET		CPE1D001	1		
	★ 13	nsp	LABEL BARCODE(SET)		CQB1A978	1		
	★ 14	nsp	RIBON BARCODE		CQS1A001	1		
	★ 15	nsp	BARCODE LABEL(MANUAL)		CQB1A971	1		

SEMICONDUCTORS

Only major semiconductors are shown. General semiconductors etc. are omitted from list.
The semiconductors which have a detailed drawing in a schematic diagram are omitted from list.

1. IC's

R5F5630ECDFB (DIGITAL : IC201)



R5F5630ECDFB Terminal Functions

Pin	Pin Name	Synbol	Tolerant	I/O	Pu/Pd	LvCnv	STBY	stop	Function
1	AVSS0	AVSS0		-			-	-	GND
2	P05/IRQ13-B	VSEL A		I	SW3VPu		I	I	Master Volume rotation detection input(ENCODOR) ※operate as VSEL B
3	VREFH	VREFH		-			-	-	Connect the power supply pin
4	P03/IRQ11-C	VSEL B		I	SW3VPu		I	I	Master Volume rotation detection input(ENCODOR) ※operate as VSEL A
5	VREFL	VREFL		-			-	-	GND
6	P02/IRQ10-B/ AN020/SCK6-B	ADV8002 INT0(OSD CORE)		I			O/L	O/L	ADV8002 INT output
7	P01/RXD6-B/ IRQ9-C/AN019	RDS DATA(E2)		I		5->3	I	I	RDS control(E2 model)
8	P00/TXD6-B/ IRQ8-C/AN018	$\overline{\text{RDS CLK(E2)}}$		I		5->3	I	I	RDS control(E2 model)(Interrupt detection))
9	PF5/IRQ4-E	BDOWN		I			I	I	Power failure detection
10	EMLE	EMLE		I	Pd		-	-	E20 Emulator control signal (H:OK,L:NG(CPU unit only : the pull-down is necessary))
11	PJ5	ISEL A		I	SW3VPu		I	I	Input Selector rotation detection input(ENCODOR)
12	VSS	VSS		-			-	-	GND
13	PJ3	ISEL B		I	SW3VPu		I	I	Input Selector rotation detection input(ENCODOR)
14	VCL	VCL		-			-	-	Connect to VSS through C of 0.1µF
15	VBATT	VBATT		-			-	-	Connect the power supply pin
16	MD/FINED	MD		I	M3VPu		-	-	Usual(SingleChip mode):MD="H"/ MITSUBISHI writer rewrite:"L"(from external jig)
17	XCIN	XCIN		-			-	-	GND
18	XCOUT/PH6(input only)	XCOUT		-			-	-	Open
19	RES#	RESET		I	M3VPu		-	-	
20	XTAL/P37	XTAL		-			-	-	Crystal departure pendulum connection pin
21	VSS	VSS		-			-	-	GND
22	EXTAL/P36	EXTAL		-			-	-	Crystal departure pendulum connection pin

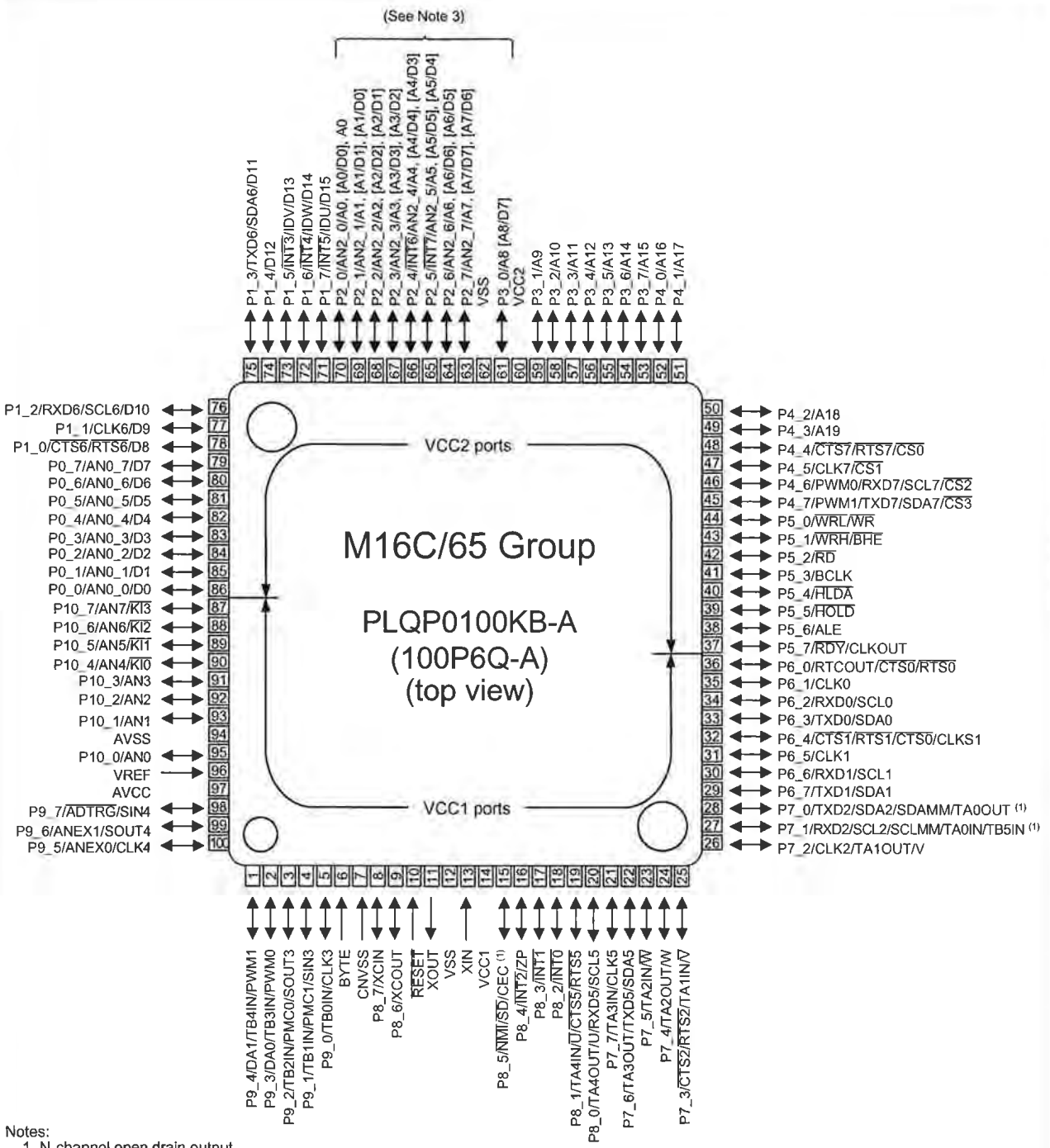
Pin	Pin Name	Synbol	Tolerant	I/O	Pu/Pd	LvCnv	STBY	stop	Function
23	VCC	VCC		-			-	-	Power supply pin
24	P35(input only)/NMI	NC		I	Pd		I	I	NC
25	TRST#-A/P34/ IRQ4-C/SCK6-A/ SCK0-B	TRST#	○	I	Pd		I	I	E20 Emulator control signal/Usual:"Hi-z"
26	P33/TIOCD0-B/ RXD6-A/RXD0-B/ IRQ3-DS	$\overline{\text{PLDAERR}}$	○	I			O/L	O/L	PLD ERROR detection(Output of A PLD)
27	P32/TIOCC0/ TXD6-A/TXD0-B/ IRQ2-DS	NC	○	O/I			O/L/I	O/L/I	NC
28	TMS-A/P31/ IRQ1-DS	TMS	○	I	M3VPu		I	I	E20 Emulator control signal/Usual:"Hi-z"
29	TDI-A/P30/RXD1-B/ IRQ0-DS	TDI/RXD MITSUBISHI/ NC(NORMRAL)	○	I/I/I	M3VPu		I	I	E20 Emulator control signal/MITSUBISHI writer rewrite/ Usual:"Hi-z"
30	TCK-A/FINEC-A/ P27/SCK1-B	TCK	○	I	M3VPu		I	I	E20 Emulator control signal/Usual:"Hi-z"
31	TDO-A/P26/TXD1-B	TDO/TXD MITSUBISHI/ NC(NORMRAL)	○	O/O/I	M3VPu		I	I	E20 Emulator control signal/MITSUBISHI writer rewrite/ Usual:"Hi-z"
32	P25/TIOCA4-B/ RXD3-B/SSCL3-B	HDRADIO MIHO(AVR-3312CIE3)/TU SCL(ANA TU)	○	I/0	-/ SW3VPu		O/L	O/L	HDRADIO/TUNER KST-MT control
33	P24/TIOCB4-B/ SCK3-B/	HDRADIO RST(AVR-3312CIE3)	○	O			O/L	O/L	HDRADIO control pin
34	P23/TIOCD3-B/ TXD3-B/SSDA3-B	HDRADIO MOHI(AVR-3312CIE3)/ TU SDA(ANA TU)	○	O	-/ SW3VPu		O/L	O/L	HDRADIO/TUNER KST-MT control
35	P22/TIOCC3-B/ SCK0-A	NC	○	O			O/L	O/L	NC
36	P21/TIOCA3-B/ RXD0-A/IRQ9-B	E_RXDMIEO	○	I			I	O/L	ETHER communication control pin(UART)
37	P20/TIOCB3-B/ TXD0-A/IRQ8-B	E_TXDMOEI	○	O			O/L	O/L	ETHER communication control pin(UART)
38	P17/TIOCB0-A/ TXD3-A/IRQ7-A/ SCK1-A	RC IN	○	I			I	I	RemoteControl signal input_CPU Wakeup(STANDBY:WAKEUP (Interrupt))
39	P87/TIOCA2-B	NC		O			O/L	O/L	NC
40	P16/TIOCB1-A/ TXD1-A/RXD3-A/ IRQ6-A	TXD MO232I	○	O			O/L	O/L	Date forwarding pin to external(AMX)/MITSUBISHI writer rewrite
41	P86/TIOCA0-B	232C CONTROL(SUB LOG MODE)		O			O/L	O/L	SUB LOG MODE:for 232C route switch control
42	P15/TIOCB2-A/ RXD1-A/IRQ5-A/ SCK3-A	RXD MI232O	○	I			I	O/L	Date reception pin from external(AMX)/MITSUBISHI writer rewrite
43	P14/TIOCB5-A/ IRQ4-A	NC	○	O			O/L	O/L	NC
44	P13/TIOCA5-B/ TXD2-A/IRQ3-B	NC	○	O			O/L	O/L	NC
45	P12/RXD2-A/ IRQ2-B	THERMAL B	○	I			I	I	PROTECTION detection pin(THERMAL A)
46	VCC_USB	VCC		-			-	-	Connect the power supply pin
47	USB0_DM	NC		-			-	-	NC(Open)
48	USB0_DP	NC		-			-	-	NC(Open)
49	VSS_USB	VSS		-			-	-	GND
50	P56/TIOCA1-B	THERMAL A		I			I	I	PROTECTION detection pin(THERMAL B)
51	TRDATA3-A/P55/ IRQ10-A	E RESET	○	O			O/L	O/L	ETHERNET RESET communication control pin
52	TRDATA2-A/P54	$\overline{\text{E SPI REQ}}$	○	I	Pd		O/L	O/L	ETHERNET communication control pin
53	P53	$\overline{\text{E SPI CS}}$	○	O	N3VPu		O/L	O/L	ETHERNET communication control pin
54	P52/RXD2-B	$\overline{\text{E SPI MIEO}}$	○	I	N3VPu		O/L	O/L	ETHERNET communication control pin

Pin	Pin Name	Synbol	Tolerant	I/O	Pu/Pd	LvCnv	STBY	stop	Function
55	P51/SCK2-B	E SPI CLK	○	O	N3VPu		O/L	O/L	ETHERNET communication control pin
56	P50/TXD2-B	E SPI MOEI	○	O	N3VPu		O/L	O/L	ETHERNET communication control pin
57	VSS	VSS		-			-	-	GND
58	TRCLK-A/P83	ADV8002 SPI CS		O			O/L	O/L	GUI control pin(ADV8002)
59	VCC	VCC		-			-	-	Power supply pin
60	PC7/TIOCB6/TXD8/ IRQ14-B	ADV8002 SPI MO/PC7	○	O/I			O/L	O/L	GUI control pin(ADV8002)/ MITSUBISHI writer rewrite:"L"(from external)
61	PC6/TIOCA6/RXD8/ IRQ13-A	ADV8002 SPI MI	○	I			O/L	O/L	GUI control pin(ADV8002)
62	PC5/TIOCD6/SCK8	ADV8002 SPI CLK	○	O			O/L	O/L	GUI control pin(ADV8002)
63	TRSYNC#-A/P82/ TXD10/SSDA10	EEPROM SDA (400k)		I/O			O/L	I	Pin for EEPROM control pin
64	TRDATA1-A/P81/ RXD10/SSCL10	EEPROM SCL (400k)		O			O/L	I	Pin for EEPROM control pin
65	TRDATA0-A/P80/ SCK10	NC		O			O/L	O/L	NC
66	PC4/TIOCC6/ SCK5-B	TU TUNED(ANA TU)	○	I	SW3VPu		O/L	O/L	TUNER KST-MT control
67	PC3/TXD5-B	TU STEREO(ANA TU)	○	I	SW3VPu		O/L	O/L	TUNER KST-MT control
68	P77/TXD11	MOSI		O			O/L	O/L	MAIN-SUB CPU communication control output pin
69	P76/RXD11	SOMI		I			I	O/L	MAIN-SUB CPU communication control output pin
70	PC2/RXD5-B	RST SUB	○	O			O/L	O/L	MAIN-SUB CPU communication control output pin
71	P75/SCK11	CLK MO		O			O/L	O/L	MAIN-SUB CPU communication control output pin
72	P74	ACK SIMO		O			O/L	O/L	MAIN-SUB CPU communication control output pin
73	PC1/IRQ12-C/ SCK5-C	SUB UPDATE	○	O			O/L	O/L	SUB UPDATE mode control (DPMS/DENON WRITTER) Usual:L SUB rewrite mode:H(SUB reset)
74	PL1	SUB CPU POWER		O			O/L	O/L	SUB CPU POWER ON/OFF switch(H:ON)
75	PC0/IRQ14-C	REQ SOMI	○	I			I	O/L	MAIN-SUB CPU communication control output pin
76	PL0	NC		O			O/L	O/L	NC
77	P73	GRN LED		O			O/L	O/L	POWER LED control pin(ON:H)
78	PB7/TIOCB5-B/ TXD9-A	RED LED	○	O			O/L	O/L	POWER/STANDBY LED control pin(ON:H)
79	PB6/TIOCA5-A/ RXD9-A	H/P RL	○	O			I	I	HEADPHONE RELAY control
80	PB5/TIOCB4-A/ SCK9-A	FRONT RL	○	O			O/L	O/L	RELAY control
81	PB4/TIOCA4-A	C/S RL	○	O			O/L	O/L	RELAY control
82	PB3/TIOCD3-A/ SCK4-A/SCK6-C	SB RL	○	O			O/L	O/L	RELAY control
83	PB2/TIOCC3-A	T.MUTE	○	O			O/L	O/L	ANALOG TUNER MUTE/HDRADIO MUTE control (MUTE:L)
84	PB1/TIOCB3-A/ TXD4-A/TXD6-C/ IRQ4-DS	NC	○	O/I			O/L	O/L	NC
85	P72	NC		O			O/L	O/L	NC
86	P71	NC		O			O/L	O/L	NC
87	PB0/TIOCA3-A/ RXD4-A/RXD6-C/ IRQ12-A	NC	○	O			O/L	O/L	NC
88	PA7/TIOCB2-B	NC	○	O			O/L	O/L	NC
89	PA6/TIOCA2-A	NC(AVR-2312)/ TRIGGER 2(AVR-3312)	○	O			O/L	O/L	TRIGGER OUT control pin
90	PA5/TIOCB1-B	TRIGGER 1	○	O			O/L	O/L	TRIGGER OUT control pin
91	VCC	VCC		-			-	-	Power supply pin
92	PA4/TIOCA1-A/ TXD5-A/IRQ5-DS	iPod TXD	○	O		3->5	O/L	O/L	iPod Dock communication control pin
93	VSS	VSS		-			-	-	GND
94	PA3/TIOCD0-A/ RXD5-A/IRQ6-DS	iPod RXD	○	I/O		5->3	O/L	O/L	iPod Dock communication control pin
95	PA2/RXD5-C	NC(AVR-2312)/ FW RL(AVR-3312)	○	O			O/L	O/L	RELAY control
96	PA1/TIOCB0-B/ IRQ11-A/SCK5-A	iPod DET	○	I/O	SW3VPu		O/L	O/L	MINI JACK for connect iPod DOCK detection pin(connection:H)

Pin	Pin Name	Synbol	Tolerant	I/O	Pu/Pd	LvCnv	STBY	stop	Function
97	PA0/TIOCA0-A	NC	○	O			O/L	O/L	NC
98	P67/IRQ15-C	NC(AVR-2312)/ FH RL(AVR-3312)		0			O/L	O/L	RELAY control
99	P66	PRE Z2 MUTE		O			O/L	O/L	PRE OUT MUTE control
100	P65	PRE SB MUTE		O			O/L	O/L	PRE OUT MUTE control
101	PE7/TIOCB11/ IRQ7-C/AN5	PRE F/C/S/SW		O			O/L	O/L	PRE OUT MUTE control
102	PE6/TIOCA11/ IRQ6-C/AN4	NC(AVR-2312)/ PRE Z3 MUTE(AVR-3312)		O			O/L	O/L	PRE OUT MUTE control
103	PK5/TXD4-B	NC		O			O/L	O/L	NC
104	P70/SCK4-B	NC		O			O/L	O/L	NC
105	PK4/RXD4-B	NC		O			O/L	O/L	NC
106	PE5/TIOCB10/ IRQ5-C/AN3	NC		O			O/L	O/L	NC
107	PE4/TIOCA10/AN2	VOL CLK		O			O/L	O/L	FUNCTION/VOLUME control(R2A15220)
108	PE3/TIOCB9/AN1	VOL DATA		O			O/L	O/L	FUNCTION/VOLUME control(R2A15220)
109	PE2/TIOCA9/ RXD12/IRQ7-DS/ AN0	NC		O			O/L	O/L	NC
110	PE1/TIOCD9/ TXD12/ANEX1	NC		O			O/L	O/L	NC
111	PE0/TIOCC9/ ANEX0/SCK12	NC		O			O/L	O/L	NC
112	P64	ZVOL STB		O			O/L	O/L	ZONE VOL (NJW1194) control
113	P63	ZVOL DATA		O			O/L	O/L	ZONE VOL (NJW1194) control
114	P62	ZVOL CLK		O			O/L	O/L	ZONE VOL (NJW1194) control
115	P61	THERMAL C		I			I	I	PROTECTION detection pin(THERMAL C)
116	PK3/RXD9-B	NC		O			O/L	O/L	NC
117	P60/SCK9-B	NC		O			O/L	O/L	NC
118	PK2/TXD9-B	NC		O			O/L	O/L	NC
119	PD7/IRQ7-D/AN7	FL RST		O			O/L	O/L	FL display control pin
120	PD6/IRQ6-D/AN6	FL CE		O			O/L	O/L	Pin for FL display control
121	PD5/IRQ5-D/AN013	FL CLK		O			O/L	O/L	Pin for FL display control
122	PD4/IRQ4-D/AN012	FL DATA		O			O/L	O/L	Pin for FL display control
123	PD3/TIOCB8/ IRQ3-C/AN011	ASO DET		I			I	I	PROTECTION detection pin(ASO)
124	PD2/TIOCA8/ IRQ2-C/AN010	DC DET		I			I	I	PROTECTION detection pin(DC DET)
125	PD1/TIOCB7/ IRQ1-C/AN009	ETHER POWER		O			O/L	O/L	ETHER POWER control pin
126	PD0/TIOCA7/ IRQ0-C/AN008	D5V POWER		O			O/L	O/L	Digital 5V power supply control pin (D5V→3.3V,1.8V,1.2V)
127	P93/AN017	MAIN POWER		O			O/L	O/L	MAIN POWER control pin
128	P92/RXD7/AN016	CPU POWER		O			O/L	O/L	Cntrol pin for MAIN CPU POWER (POWER ON:H) STANDBY(CEC ON):H)
129	P91/AN015/SCK7	(MUTE POWER)		O			L	L	Reserve(power supply control pin for PRE MUTE TR)
130	VSS	VSS		-			-	-	GND
131	P90/TXD7/AN014	REMOTE POWER(232C)		O			O/L	O/L	Pin for 232C POWER control(ON:H)
132	VCC	VCC		-			-	-	Power supply pin
133	P47/IRQ15-DS/ AN007	MIC DET		I			I	O/L	Pin for MIC detection pin(At detection:H)
134	P46/IRQ14-DS/ AN006	H/P DET		I			I	O/L	Pin for Headphone detection pin(At detection:H)
135	P45/IRQ13-DS/ AN005	KEY3		I	M3VPu		I	I	KEY input 3(STANDBY:Interrupt setting)
136	P44/IRQ12-DS/ AN004	KEY2		I	M3VPu		I	I	KEY input 2(STANDBY:Interrupt setting)
137	P43/IRQ11-DS/ AN003	KEY1		I	M3VPu		I	I	KEY input 1(STANDBY:Interrupt setting)
138	P42/IRQ10-DS/ AN002	(MODEL)		I			I	I	Not use (MODEL Switch input)

Pin	Pin Name	Synbol	Tolerant	I/O	Pu/Pd	LvCnv	STBY	stop	Function
139	P41/IRQ9-DS/ AN001	MODE		I			I	I	Region switch input
140	VREFL0	VREFL0		-			-	-	GND
141	P40/IRQ8-DS/ AN000	THERMAL D		I			I	I	PROTECTION detection pin(THERMAL D)
142	VREFH0	VREFH0		-			-	-	Standard power supply input
143	AVCC0	AVCC0		-			-	-	Analog power supply
144	P07/IRQ15-B	POWER KEY	○	I	M3VPu		I	I	POWER KEY(WAIT MODE release,Interrupt port)

R5F3650KNFB (HDMI : IC231)



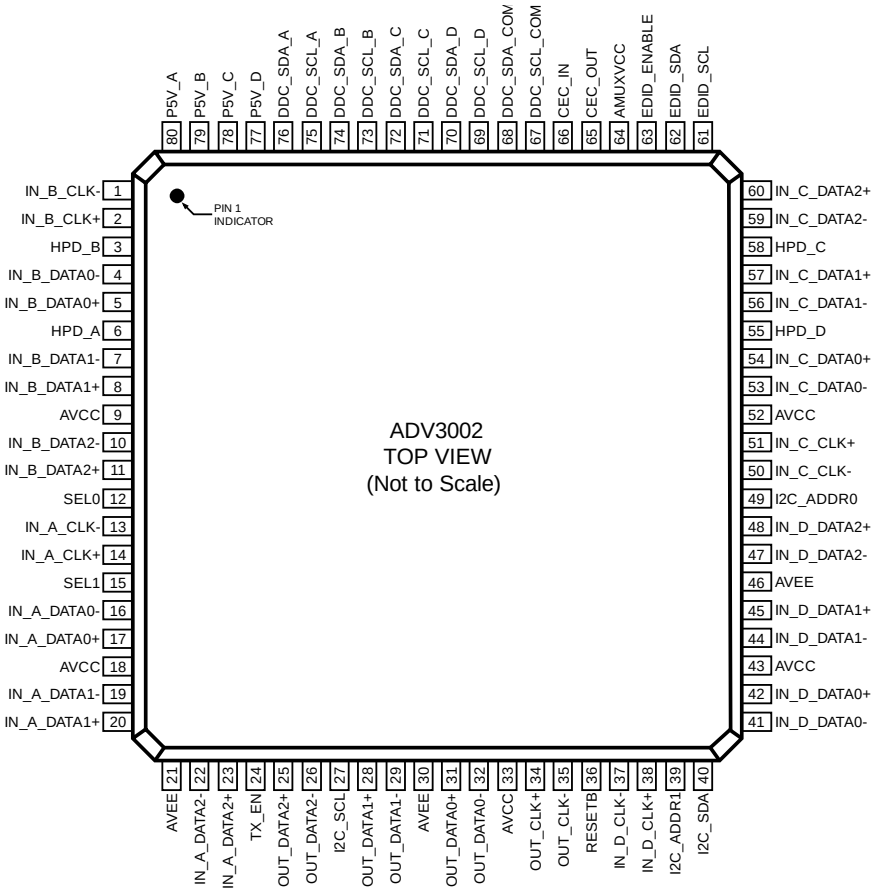
Notes:
1. N-channel open drain output.
2. Check the position of Pin 1 by referring to appendix 1, Package Dimensions.
3. Pin names in brackets [ ] represent a single functional signal. They should not be considered as two separate functional signals.

R5F3650KNFB Terminal Functions

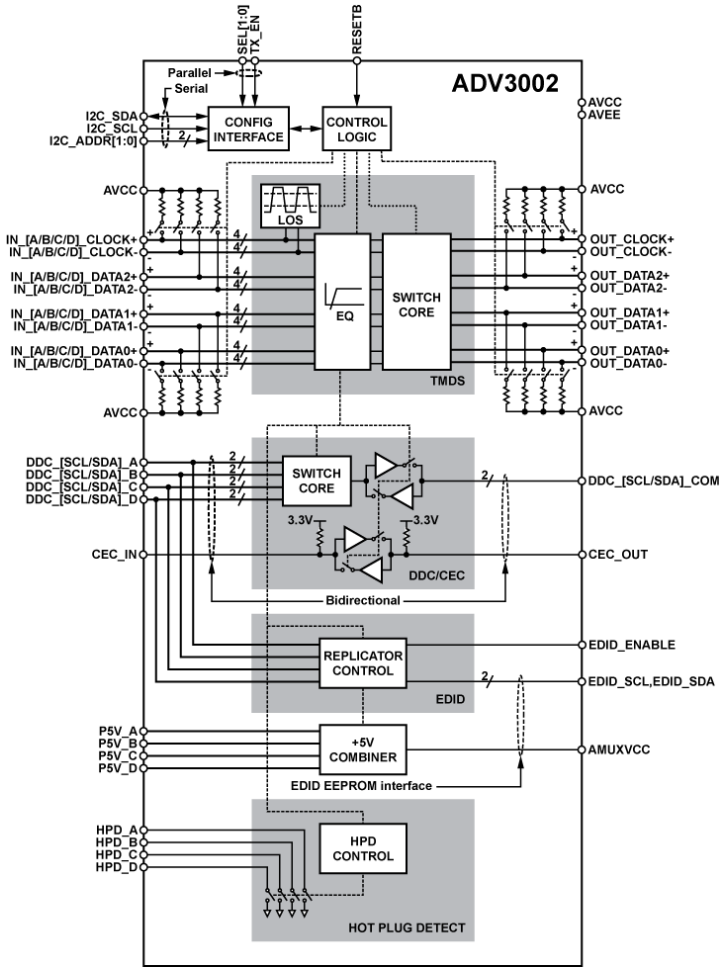
Pin	Pin Name	Synbol	I/O	Type	Pu/Pd (Ext.)	CEC STBY	P.OFF	Function
1	P94	NC	I	-	Pd	-	Z	NC
2	P93	DIR CE	O	C	-	O/L	Z	DIR control pin (LC89058W-VF4A)
3	P92/SOUT3	DIR DIN	O	C	-	O/L	Z	DIR control pin (LC89058W-VF4A)
4	P91/SIN3	DIR DOUT	I	-	DA3.3Pu	-	Z	DIR control pin (LC89058W-VF4A)
5	P90/CLK3	DIR CLK	O	C	-	O/L	Z	DIR control pin (LC89058W-VF4A)
6	BYTE	BYTE	-	-	-	-	-	GND(Ext. data bus bit width switching, 16bit : L)
7	CNVCS	CNVSS	-	-	Pd	-	-	Single-chip/Micro-processor mode switching (Normal single-chip : L, Rewrite boot program start : H input set)
8	P87	ADC RST	O	C	-	O/L	Z	AD control pin(
9	P86	DIR CE4	O	C	-	O/L	Z	DIR control pin (LC89058W-VF4A)
10	RESET	$\overline{\text{SUBRESET}}$	I	-	SCPU3VPu	-	Z	Reset input
11	XOUT	X1	O	-	-	-	-	Oscillator connection
12	VSS	VSS	-	-	-	-	-	GND
13	XIN	X2	I	-	-	-	-	Oscillator connection
14	VCC	VCC	-	-	-	-	-	+3.3V
15	P85(N)/(NMI)/(CEC)	(CEC_IN)	I	-	Pd	-	-	NC
16	P84/INT2	CEC_IN	I	-	SCPU3VPu	-	Z	CEC-D signal input pin
17	P83/INT1	ACK SIMO	I	-	-	-	Z	MAIN-SUB ucom communication control input pin MAIN ucom Hack from the main "L" Return)
18	P82/INT0	$\overline{\text{SUB BDOWN}}$	I	-	-	-	Z	Power failure detect(Power failure:L)
19	P81	ASPECT_H	O	C	-	O/H	Z	ASPECT select (JP only)
20	P80/(RXD5)	ASPECT_L	O	C	-	O/H	Z	ASPECT select (JP only)
21	P77/(CLK5)	SUB TDO	I	-	-	O/L	Z	PLD rewriting control (JTAG)
22	P76/(TXD5)	A PLD CS /"D/M"	O	C	-	-	O/L	A PLD control pin/ DENON WRITTER/ MITSUBISHI rewritten for determining (DW :L)
23	P75	A PLD DATA	O	C	-	O/L	Z	A PLD control pin
24	P74	A PLD CLK	O	C	-	O/L	Z	A PLD control pin
25	P73/CTS2	NC	I	-	Pd	-	Z	NC
26	P72/CLK2	DA POWER	O	C	-	-	Z	DIGITAL power (DA3.3V,DA1.1V) ON/OFF control (H: ON)
27	P71(N)/RXD2/SCLMM	HSCL(400k)	I/O	N	CEC3VPu	O/L	O/L	VIDEO I2C- ADV8002/ADV7844/ADV3002
28	P70(N)/TXD2/SDAMM	HSDA(400k)	I/O	N	CEC3VPu	O/L	O/L	VIDEO I2C- ADV8002/ADV7844/ADV3002
29	P67/TXD1	TXD	O	C	SCPU3VPu	-	Z	Data transmission output to external
30	P66/RXD1	RXD	I	-	SCPU3VPu	-	Z	Data reception input from the external
31	P65/CLK1/SCLK	SCLK	I	-	Pd	-	Z	Emulator communication pin
32	P64/CTS1	HIN SELA	O	C	-	O/L	Z	For HDMI 4/5/6/F selection(TC4052)
33	P63/TXD0	SOMI	O	C	-	-	Z	MAIN-SUB ucom communication control pin
34	P62/RXD0	SIMO	I	-	-	-	Z	MAIN-SUB ucom communication control pin
35	P61/CLK0	CLK SIMO	I	-	-	-	Z	MAIN-SUB ucom communication control pin
36	P60/CTS0	REQ SOMI	O	C	-	-	Z	MAIN-SUB ucom communication control pin
37	P57	ADV3002 RST	O	C	SCPU3VPu	-	Z	HDMI SWITCHER ADV3002 Reset pin
38	P56	DV POWER2	O	C	-	-	Z	DIGITAL.VIDEO power control pin (DV1.8V)
39	P55/EPM	EPM	I	-	Pd	-	Z	Rewite boot program start:L input set
40	P54	CEC_OUT	O	C	-	-	Z	CEC-D signal output pin
41	P53	NC	I	-	Pd	I	Z	NC
42	P52	Z2SSIG.DET(De_33)	I	-	SCPU3VPu	I	Z	ZONE2 S signal presence detection input (Connected: H)
43	P51	HIN SELB	O	C	-	O/L	Z	For HDMI 4/5/6/F selection(TC4052)
44	P50/CE	CE	O/I	C	SCPU3VPu	-	Z	Rewite boot program start:H input set
45	P47/(TXD7)/SDA7	VSDA	I/O	C	DV3VPu	-	O/L	VIDEO SELECT IC(ADVM2000)
46	P46/(RXD7)/SCL7	VSCL	I/O	C	DV3VPu	-	O/L	VIDEO SELECT IC(ADVM2000)
47	P45/(CLK7)	LINE A	O	C		O/L	Z	
48	P44	LINE B	O	C		O/L	Z	LINE B select (JP only)
49	P43	HDMI A.SEL	O	C	-	O/L	Z	HDMI AUDIO switch (H : DSP course, L : HDMI Rx→Tx through) (TC74VHC244)
50	P42	NC	I	-	Pd	I	Z	NC
51	P41	CEC POWER	O	C	-	O/H	Z	Power ON (CEC5V,CEC3.3V,CEC1.8V) for CEC STANDBY
52	P40	CEC SEL(33)	I	-	Pd	-	Z	CEC output LINE switching (AVR-3312 only)
53	P37	ADV7844 RST	O	C	SCPU3VPu	-	Z	Reset for HDMI(ADV7844)
54	P36	ADV8002 RST	O	C	SCPU3VPu	-	Z	Reset for HDMI(ADV8002)
55	P35	NC	I	-	Pd	-	Z	NC
56	P34	Z1 SSIGDET	I	-	SCPU3VPu	-	Z	S signal presence detection input (Connected: H)
57	P33	NC	I	-	Pd	-	Z	NC
58	P32	DAC MDI	O	C	-	O/L	Z	DAC control pin(ASK4358)
59	P31	DAC MC	O	C	-	O/L	Z	DAC control pin(ASK4358)
60	VCC	VCC	-	-	-	-	-	+3.3V

Pin	Pin Name	Synbol	I/O	Type	Pu/Pd (Ext.)	CEC STBY	P.OFF	Function
61	P30	DAC MS	O	C	-	O/L	Z	DAC control pin(ASK4358)
62	VSS	VSS	-	-	-	-	-	GND
63	P27	DAC RST	O	C	-	O/L	Z	DAC control pin(ASK4358)
64	P26	DV POWER	O	C	-	MODE1=O/H MODE2=O/L	Z	DIGITAL VIDEO power control pin (DV5V,DV3.3V)
65	P25/INT7	ADV7844 INT1	I	-	-	-	Z	HDMI RECEIVER(ADV7844)INT output
66	P24/INT6	ADV7844 INT2	I	-	-	-	Z	HDMI RECEIVER(ADV7844)INT output
67	P23	SUB TMS	O	C	DA3.3Pu	-	Z	PLD rewriting control (JTAG)
68	P22	NC	I	-	Pd	-	Z	NC
69	P21	VINA	O	C	-	O/L	Z	Image input switch (INPUT select)
70	P20	VINB	O	C	-	O/L	Z	Image input switch (INPUT select)
71	P17/INT5	NC	I	-	Pd	-	Z	NC
72	P16/INT4	ADV8002 INT1(Tx)	I	-	-	-	Z	HDMI RECEIVER(ADV8002)INT output
73	P15/INT3	ADV8002 INT2(Rx)	I	-	-	-	Z	HDMI RECEIVER(ADV8002)INT output
74	P14	NC	I	-	Pd	-	Z	NC
75	P13/TXD6	DSP MOSI	O	C	DA3VPu	O/L	Z	DSP control pin
76	P12/RXD6	DSP MISO	I	-	DA3VPu	-	Z	DSP control pin
77	P11/CLK6	DSPICLK	O	C	DA3VPu	O/L	Z	DSP control pin
78	P10	Z1VSIG.DET	I	-	SCPU3VPu	-	Z	VIDEO IN signal presence detection input(Signal input:H)
79	P07	SUB TDI	O	C	DA3.3Pu	O/L	Z	PLD rewriting control (JTAG)
80	P06	NC	I	-	Pd	-	Z	NC
81	P05	Z2 INB(De_33)	O	C	-	O/L	Z	ZONE2 image input switch (INPUT select)
82	P04	Z2 INA(De_33)	O	C	-	O/L	Z	ZONE2 image input switch (INPUT select)
83	P03	SUB TCK	O	C	Pd	-	Z	PLD rewriting control (JTAG)
84	P02	DIR RST3(De_33)	O	C	-	O/L	O/L	DIR control pin (LC89058W-VF4A)
85	P01	DIR RST2(De_33)	O	C	-	O/L	O/L	DIR control pin (LC89058W-VF4A)
86	P00	DIR RST1	O	C	-	O/L	O/L	DIR control pin (LC89058W-VF4A)
87	P107/(AN7)	DSP RST	O	C	-	O/L	Z	DSP reset output pin (Reset:L)
88	P106/(AN6)	NC	I	-	Pd	-	Z	NC
89	P105/(AN5)	DSP ROMRST	O	C	-	O/L	Z	Memory reset for DSP(Reset:L)
90	P104/(AN4)	COMPS DET	I	-	SCPU3VPu	-	Z	COMPONENT IN signal presence detection input
91	P103/(AN3)	DSP FLAG0	I	-	Pd	-	Z	DSP control pin
92	P102/(AN2)	DSPICS	O	C	DA3VPu	O/L	Z	DSP control pin
93	P101/(AN1)	NC	I	-	Pd	-	Z	NC
94	AVSS	AVSS	-	-	-	-	-	AD GND
95	P100/(AN0)	NC	I	-	Pd	-	Z	NC
96	VREF	VREF	-	-	-	-	-	AD standard +3.3V
97	AVCC	AVCC	-	-	-	-	-	AD +3.3V
98	P97/(SIN4)	Tx EN	O	C	-	-	Z	AD8195 ENABLE pin for Front HDMI control
99	P96/(SOUT4)	NC	I	-	Pd	-	Z	NC
100	P95/(CLK4)	NC	I	-	Pd	-	Z	NC

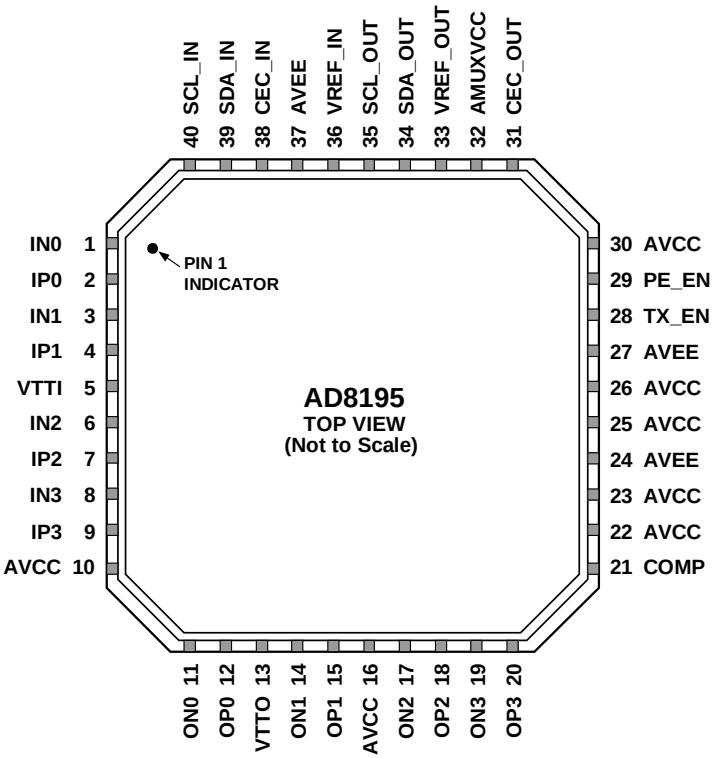
ADV3002BSTZ (HDMI : IC111)



ADV3002BSTZ Block diagram



AD8195ACPZ (HDMI : IC101)



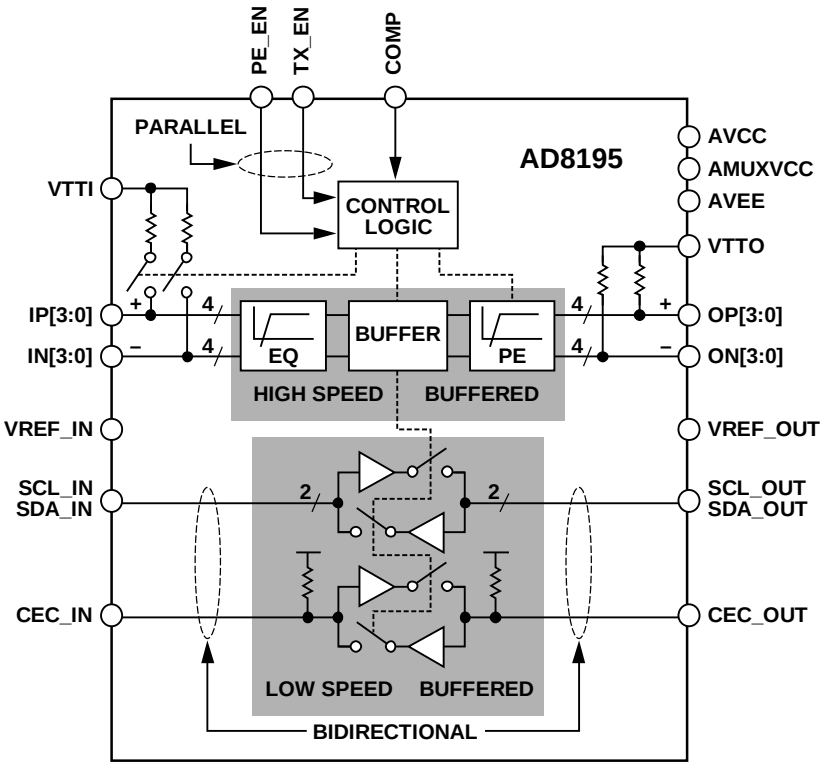
NOTES
1. THE AD8195 LFCSP HAS AN EXPOSED PAD ON THE UNDERSIDE OF THE PACKAGE THAT AIDS IN HEAT DISSIPATION. THE PAD MUST BE ELECTRICALLY CONNECTED TO THE AVEE SUPPLY PLANE IN ORDER TO MEET THERMAL SPECIFICATIONS.

07049-003

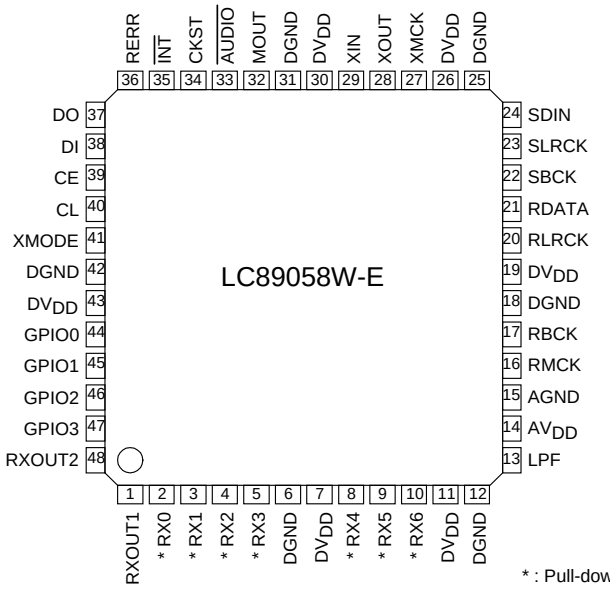
AD8195ACPZ Terminl Function

Pin No.	Mnemonic	Type[1]	Description
1	IN0	HS I	High Speed Input Complement.
2	IP0	HS I	High Speed Input.
3	IN1	HS I	High Speed Input Complement.
4	IP1	HS I	High Speed Input.
5	VTTI	Power	Input Termination Supply. Nominally connected to AVCC.
6	IN2	HS I	High Speed Input Complement.
7	IP2	HS I	High Speed Input.
8	IN3	HS I	High Speed Input Complement.
9	IP3	HS I	High Speed Input.
10, 16, 22, 23, 25, 26, 30	AVCC	Power	Positive Analog Supply. 3.3 V nominal.
11	ON0	HS O	High Speed Output Complement.
12	OP0	HS O	High Speed Output.
13	VTTO	Power	Output Termination Supply. Nominally connected to AVCC.
14	ON1	HS O	High Speed Output Complement.
15	OP1	HS O	High Speed Output.
17	ON2	HS O	High Speed Output Complement.
18	OP2	HS O	High Speed Output.
19	ON3	HS O	High Speed Output Complement.
20	OP3	HS O	High Speed Output.
21	COMP	Control	Power-On Compensation Pin. Bypass to ground through a 10 µF capacitor.
24, 27, 37, Exposed Pad	AVEE	Power	Negative Analog Supply. 0 V nominal.
28	TX_EN	Control	High Speed Output Enable Parallel Interface.
29	PE_EN	Control	High Speed Preemphasis Enable Parallel Interface.
31	CEC_OUT	LS I/O	CEC Output Side.
32	AMUXVCC	Power	Positive Auxiliary Buffer Supply. 5 V nominal.

AD8195ACPZ Block diagram



LC89058W-E (HDMI : IC403,IC404,IC405)



* : Pull-down resistor internal at no selection

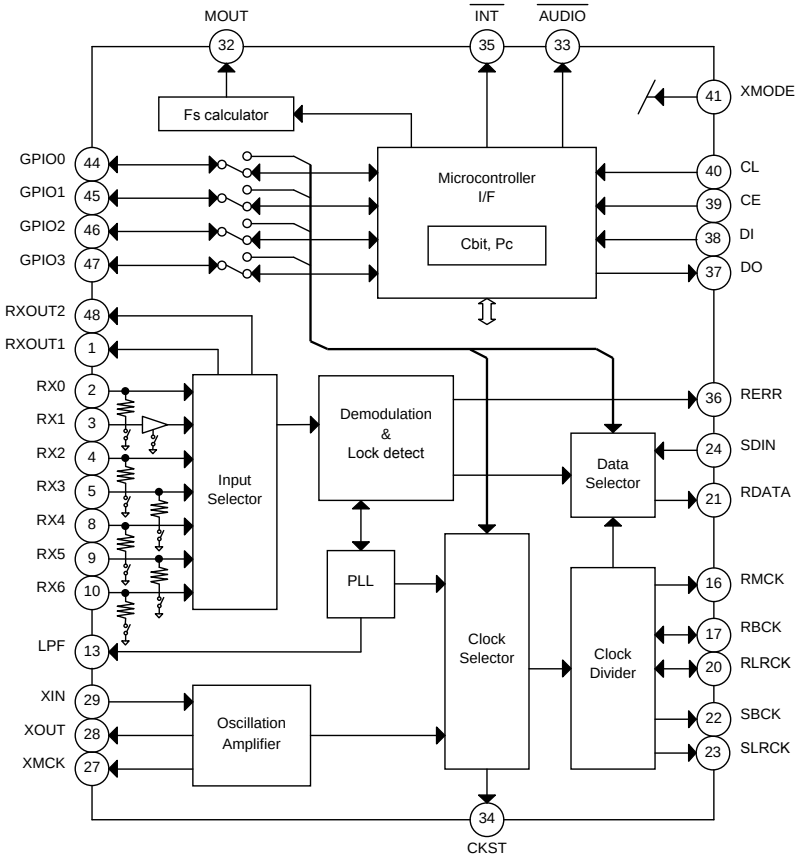
Pin Functions

Pin No.	Name	I/O	Function
1	RXOUT1	O	RX0-6 input S/PDIF through output pin 1
2	RX0	I_5(pd)	5V withstand voltage TTL input level compatible S/PDIF input pin (connected to GND when RX1 is set)
3	RX1	I(pd)	Co-axial compatible S/PDIF input pin (supported demodulation sampling frequency of up to 96kHz)
4	RX2	I_5(pd)	5V withstand voltage TTL input level compatible S/PDIF input pin (connected to GND when RX1 is set)
5	RX3	I_5(pd)	5V withstand voltage TTL input level compatible S/PDIF input pin
6	DGND		Digital GND
7	DV_{DD}		Digital power supply (3.3V)
8	RX4	I_5(pd)	5V tolerable TTL input level compatible S/PDIF input pin
9	RX5	I_5(pd)	5V tolerable TTL input level compatible S/PDIF input pin
10	RX6	I_5(pd)	5V tolerable TTL input level compatible S/PDIF input pin
11	DV_{DD}		Digital power supply (3.3V)
12	DGND		Digital GND
13	LPF	O	PLL loop filter connection pin
14	AV_{DD}		Analog power supply (3.3V)
15	AGND		Analog GND
16	RMCK	O	R system clock output pin (VCO, 512fs, XIN)
17	RBCK	O/I	R system bit clock I/O pin (64fs)
18	DGND		Digital GND
19	DV_{DD}		Digital power supply (3.3V)
20	RLRCK	O/I	R system LR clock I/O pin (fs)
21	RDATA	O	Serial audio data output pin
22	SBCK	O	S system bit clock output pin (16fs, 32fs, 64fs, 128fs)
23	SLRCK	O	S system LR clock output pin (fs/4, fs/2, fs, 2fs)
24	SDIN	I_5	External serial audio data input pin

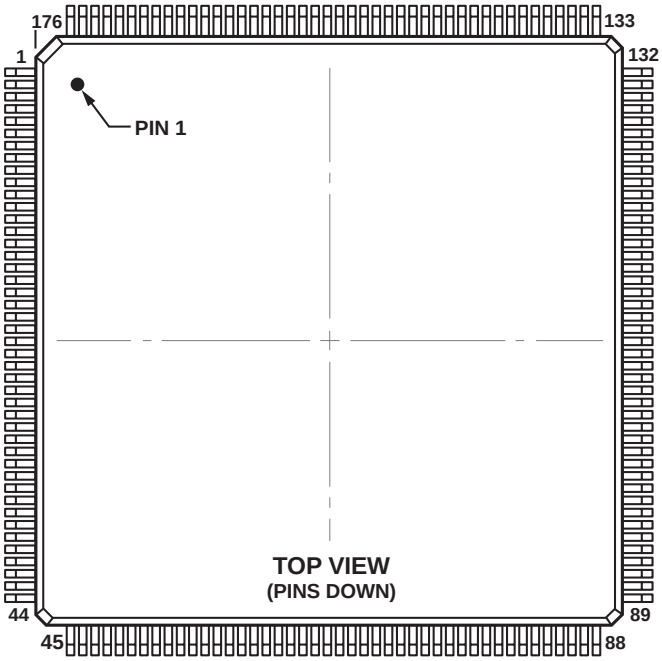
Pin No.	Name	I/O	Function
25	DGND		Digital GND
26	DV_{DD}		Digital power supply (3.3V)
27	XMCK	O	Oscillation amplifier clock output pin
28	XOUT	O	Output pin connected to the resonator
29	XIN	I	External clock input pin, connected to the resonator (12.288MHz/24.576MHz)
30	DV_{DD}		Digital power supply
31	DGND		Digital GND
32	MOUT	I/O	Emphasis information || Input fs monitor output || Chip address setting input pin
33	$\overline{AUDIO}$	I/O	Channel status bit 1 output || Chip address setting input pin
34	CKST	I/O	Clock switching transition period signal output || Master/slave setting input pin
35	$\overline{INT}$	I/O	Microcontroller interrupt signal output || Pins44-48 I/O setting input pin
36	RERR	O	PLL lock error, data error flag output pin
37	DO	O	CCB microcontroller I/F, read data output pin (3-state)
38	DI	I_5	CCB microcontroller I/F, write data input pin
39	CE	I_5	CCB microcontroller I/F, chip enable input pin
40	CL	I_5	CCB microcontroller I/F, clock input pin
41	XMODE	I_5	System reset input pin
42	DGND		Digital GND
43	DV_{DD}		Digital power supply (3.3V)
44	GPIO0	O/I	General-purpose I/O pin || Selector input pin (output referred to RDATA pin)
45	GPIO1	O/I	General-purpose I/O pin || Selector input pin (output referred to RLRCK pin)
46	GPIO2	O/I	General-purpose I/O pin || Selector input pin (output referred to RBCK pin)
47	GPIO3	O/I	General-purpose I/O pin || Selector input pin (output referred to RMCK pin)
48	RXOUT2	O	RX0-6 input S/PDIF through output pin 2

* Input voltage: I= -0.3 to 3.6V, I_5 = -0.3 to 5.5V
* Output voltage: O= -0.3 to 3.6V
* Pins 2, 4, 5, 8, 9, 10, 24, 38, 39, 40, and 41 have an internal pull-down resistor (pd).
  Their level is fixed when they are unselected.
* Pins 32 and 33 are input pins for chip address setting when pin 41 is held at the low level.
* Pin 34 serves as the input pin for designating as the master or slave when pin 41 is held at the low level.
* Pin 35 serves as the input pin for configuring the I/O of pins 44 to 47 when pin 41 is held at the low level.
* The DV_{DD} and AV_{DD} pins must be held at the same level and turned on and off at the same timing to preclude Latch-up conditions.

LC89058W-E Block diagram



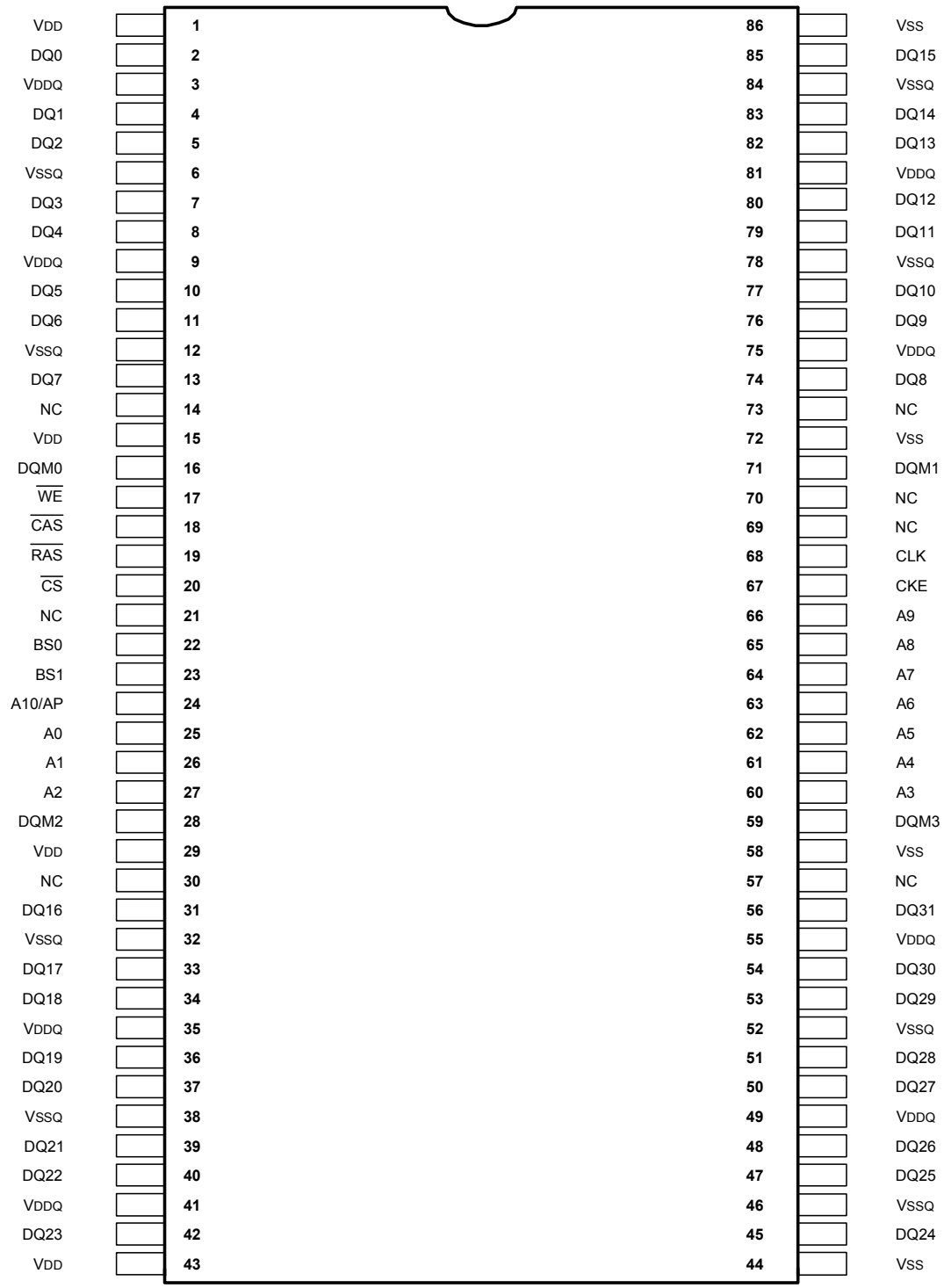
ADSP21487KSWZ-4B (HDMI : IC408)



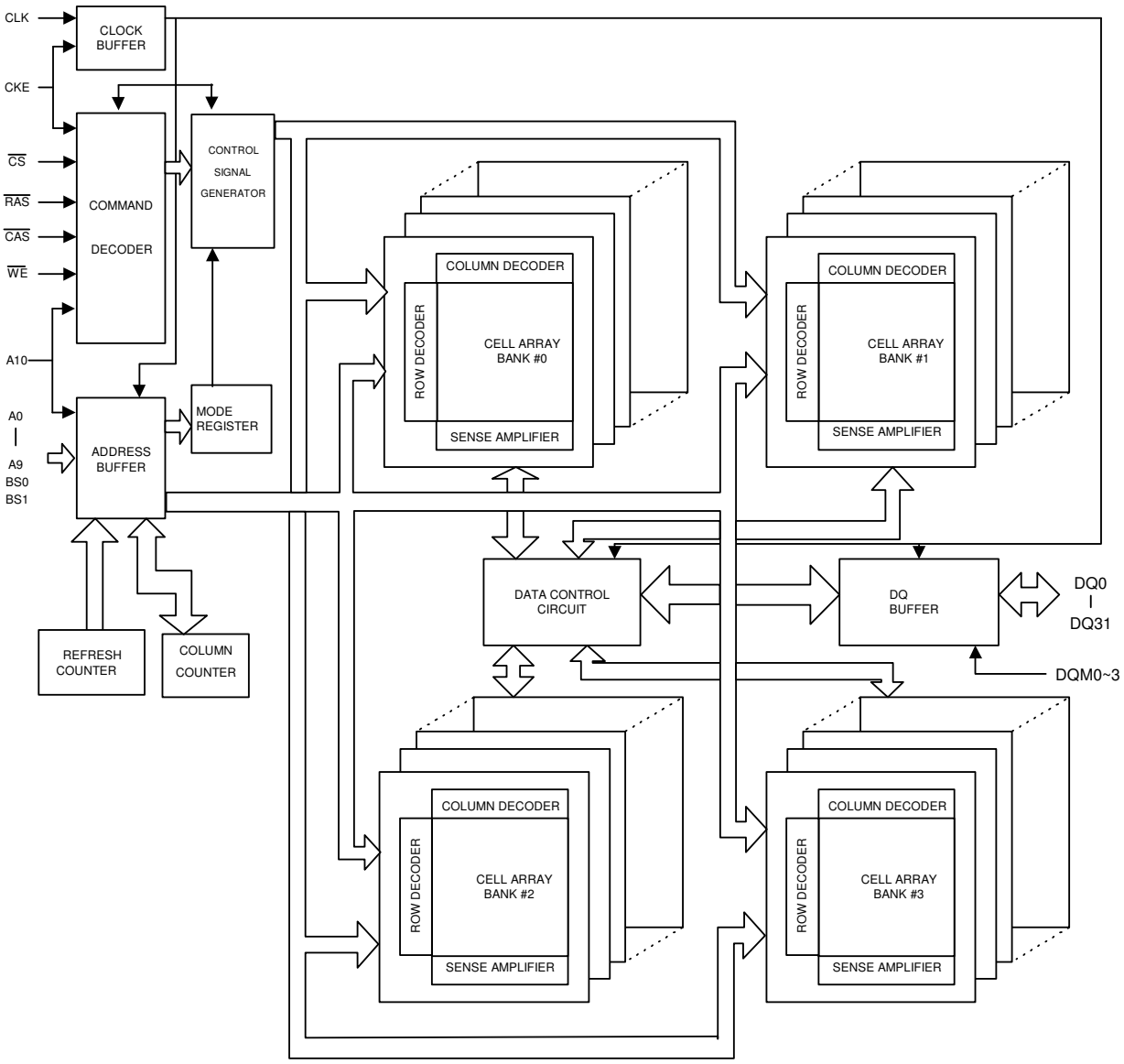
ADSP21487KSWZ Terminal Function

Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.
SDDQM	1	V_{DD_EXT}	45	DAI_P10	89	V_{DD_INT}	133
$\overline{MS0}$	2	DPI_P08	46	V_{DD_INT}	90	FLAG0	134
SDCKE	3	DPI_P07	47	V_{DD_EXT}	91	FLAG1	135
V_{DD_INT}	4	V_{DD_INT}	48	DAI_P20	92	FLAG2	136
CLK_CFG1	5	DPI_P09	49	V_{DD_INT}	93	NC	137
ADDR0	6	DPI_P10	50	DAI_P08	94	FLAG3	138
BOOT_CFG0	7	DPI_P11	51	DAI_P14	95	NC	139
V_{DD_EXT}	8	DPI_P12	52	DAI_P04	96	NC	140
ADDR1	9	DPI_P13	53	DAI_P18	97	V_{DD_EXT}	141
ADDR2	10	DPI_P14	54	DAI_P17	98	NC	142
ADDR3	11	DAI_P03	55	DAI_P16	99	V_{DD_INT}	143
ADDR4	12	NC	56	DAI_P12	100	$\overline{TRST}$	144
ADDR5	13	V_{DD_EXT}	57	DAI_P15	101	NC	145
BOOT_CFG1	14	NC	58	V_{DD_INT}	102	$\overline{EMU}$	146
GND	15	NC	59	DAI_P11	103	DATA0	147
ADDR6	16	NC	60	V_{DD_EXT}	104	DATA1	148
ADDR7	17	NC	61	V_{DD_INT}	105	DATA2	149
NC	18	V_{DD_INT}	62	BOOT_CFG2	106	DATA3	150
NC	19	NC	63	V_{DD_INT}	107	TDO	151
ADDR8	20	NC	64	AMI_ACK	108	DATA4	152
ADDR9	21	V_{DD_INT}	65	GND	109	V_{DD_EXT}	153
CLK_CFG0	22	NC	66	THD_M	110	DATA5	154
V_{DD_INT}	23	NC	67	THD_P	111	DATA6	155
CLKIN	24	V_{DD_INT}	68	V_{DD_THD}	112	V_{DD_INT}	156
XTAL	25	NC	69	V_{DD_INT}	113	DATA7	157
ADDR10	26	$\overline{WDTRSTO}$	70	V_{DD_INT}	114	TDI	158
SDA10	27	NC	71	$\overline{MS1}$	115	SDCLK	159
V_{DD_EXT}	28	V_{DD_EXT}	72	V_{DD_INT}	116	V_{DD_EXT}	160
V_{DD_INT}	29	DAI_P07	73	WDT_CLKO	117	DATA8	161
ADDR11	30	DAI_P13	74	WDT_CLKIN	118	DATA9	162
ADDR12	31	DAI_P19	75	V_{DD_EXT}	119	DATA10	163
ADDR17	32	DAI_P01	76	ADDR23	120	TCK	164
ADDR13	33	DAI_P02	77	ADDR22	121	DATA11	165
V_{DD_INT}	34	V_{DD_INT}	78	ADDR21	122	DATA12	166
ADDR18	35	NC	79	V_{DD_INT}	123	DATA14	167
$\overline{RESETOUT}$/$\overline{RUNRSTIN}$	36	NC	80	ADDR20	124	DATA13	168
V_{DD_INT}	37	NC	81	ADDR19	125	V_{DD_INT}	169
DPI_P01	38	NC	82	V_{DD_EXT}	126	DATA15	170
DPI_P02	39	NC	83	ADDR16	127	$\overline{SDWE}$	171
DPI_P03	40	V_{DD_EXT}	84	ADDR15	128	$\overline{SDRAS}$	172
V_{DD_INT}	41	V_{DD_INT}	85	V_{DD_INT}	129	$\overline{RESET}$	173
DPI_P05	42	DAI_P06	86	ADDR14	130	TMS	174
DPI_P04	43	DAI_P05	87	$\overline{AMI_WR}$	131	$\overline{SDCAS}$	175
DPI_P06	44	DAI_P09	88	$\overline{AMI_RD}$	132	V_{DD_INT}	176
						GND	177*

W9864G6JH-6 (HDMI : IC409)



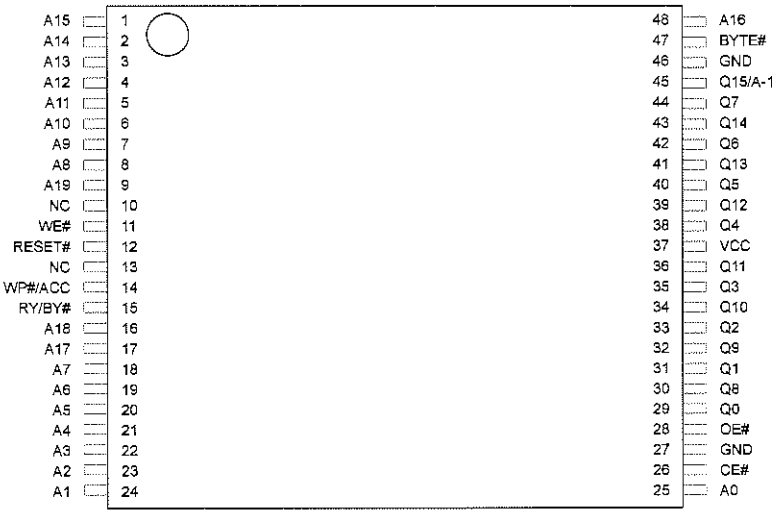
W9864G6JH-6 Block diagram



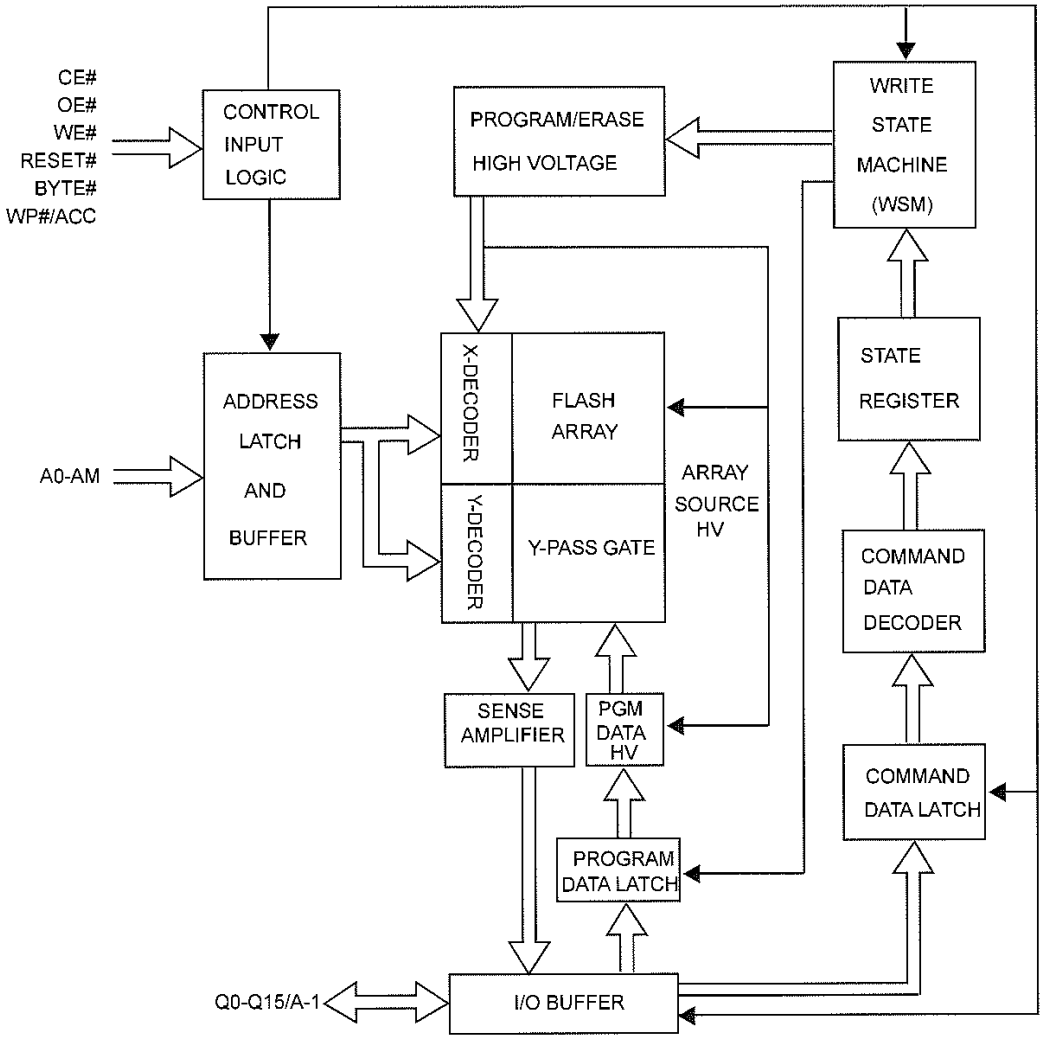
W9864G6JH-6 Pin description

PIN NUMBER	PIN NAME	FUNCTION	DESCRIPTION
24, 25, 26, 27, 60, 61, 62, 63, 64, 65, 66	A0−A10	Address	Multiplexed pins for row and column address. Row address: A0−A10. Column address: A0−A7. A10 is sampled during a precharge command to determine if all banks are to be precharged or bank selected by BS0, BS1.
22, 23	BS0, BS1	Bank Select	Select bank to activate during row address latch time, or bank to read/write during address latch time.
2, 4, 5, 7, 8, 10, 11, 13, 31, 33, 34, 36, 37, 39, 40, 42, 45, 47, 48, 50, 51, 53, 54, 56, 74, 76, 77, 79, 80, 82, 83, 85	DQ0−DQ31	Data Input/ Output	Multiplexed pins for data output and input.
20	$\overline{CS}$	Chip Select	Disable or enable the command decoder. When command decoder is disabled, new command is ignored and previous operation continues.
19	$\overline{RAS}$	Row Address Strobe	Command input. When sampled at the rising edge of the clock $\overline{RAS}$, $\overline{CAS}$ and $\overline{WE}$ define the operation to be executed.
18	$\overline{CAS}$	Column Address Strobe	Referred to $\overline{RAS}$
17	$\overline{WE}$	Write Enable	Referred to $\overline{RAS}$
16, 28, 59, 71	DQM0−DQM3	Input/Output Mask	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle, sampling DQM high will block the write operation with zero latency.
68	CLK	Clock Inputs	System clock used to sample inputs on the rising edge of clock.
67	CKE	Clock Enable	CKE controls the clock activation and deactivation. When CKE is low, Power Down mode, Suspend mode, or Self Refresh mode is entered.
1, 15, 29, 43	V_{DD}	Power	Power for input buffers and logic circuit inside DRAM.
44, 58, 72, 86	V_{SS}	Ground	Ground for input buffers and logic circuit inside DRAM.
3, 9, 35, 41, 49, 55, 75, 81	V_{DDQ}	Power for I/O Buffer	Separated power from VDD, to improve DQ noise immunity.
6, 12, 32, 38, 46, 52, 78, 84	V_{SSQ}	Ground for I/O Buffer	Separated ground from VSS, to improve DQ noise immunity.
14, 21, 30, 57, 69, 70, 73	NC	No Connection	No connection.

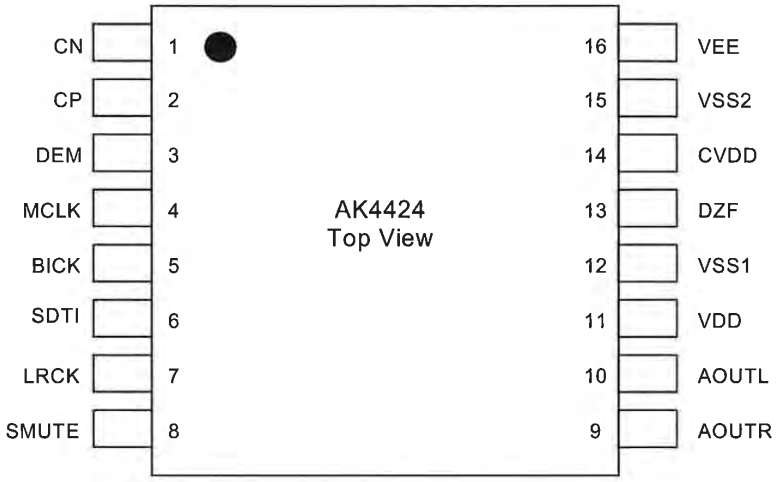
MX29LV160DBTI-70G (HDMI : IC410)



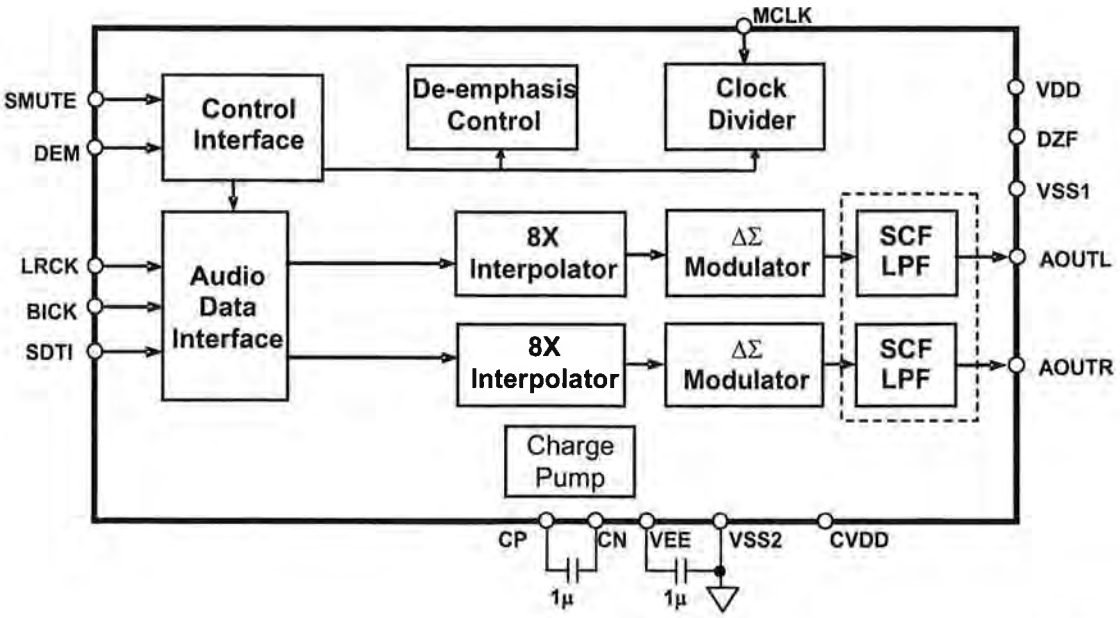
MX29LV160DBTI-70G Block Diagram



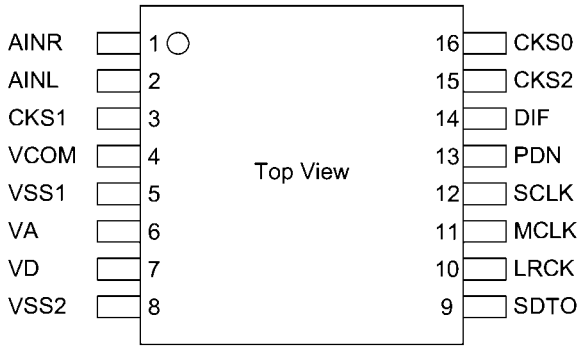
AK4424ET (HDMI : IC455,IC457)



AK4424ET Block Diagram



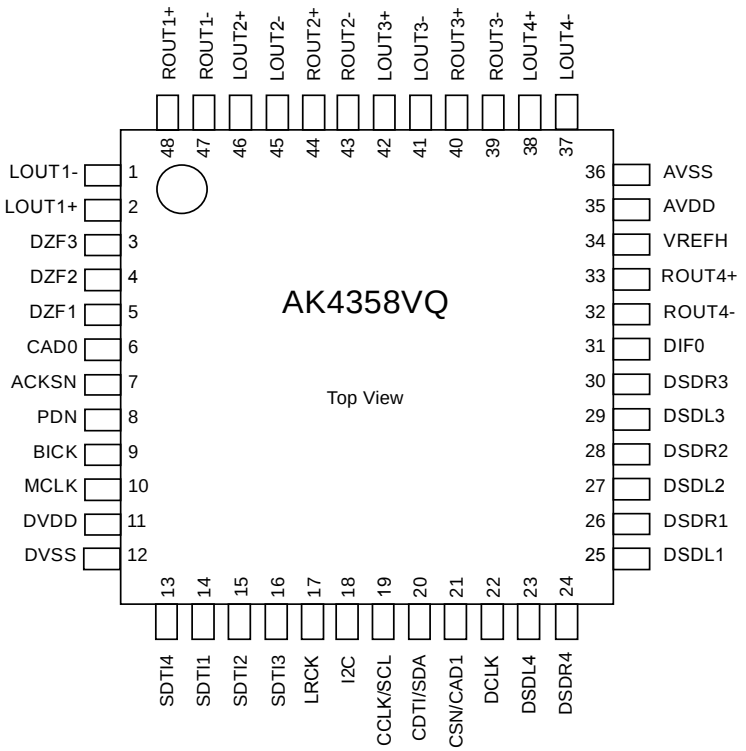
AK5358BET (HDMI : IC451)



AK5358BET Pin Function

No.	Pin Name	I/O	Function
1	AINR	I	Rch Analog Input Pin
2	AINL	I	Lch Analog Input Pin
3	CKS1	I	Mode Select 1 Pin
4	VCOM	O	Common Voltage Output Pin, VA/2 Bias voltage of ADC input.
5	VSS1	-	Ground Pin
6	VA	-	Analog Power Supply Pin, 4.5 ~ 5.5V
7	VD	-	Digital Power Supply Pin, 2.7 ~ 5.5V
8	VSS2	-	Ground Pin
9	SDTO	O	Audio Serial Data Output Pin "L" Output at Power-down mode.
10	LRCK	I/O	Output Channel Clock Pin "L" Output in Master Mode at Power-down mode.
11	MCLK	I	Master Clock Input Pin
12	SCLK	I/O	Audio Serial Data Clock Pin "L" Output in Master Mode at Power-down mode.
13	PDN	I	Power Down Mode & Reset Pin "H": Power up, "L": Power down & Reset
14	DIF	I	Audio Interface Format Pin "H": 24bit I^2S Compatible, "L": 24bit MSB justified
15	CKS2	I	Mode Select 2 Pin
16	CKS0	I	Mode Select 0 Pin

AK4358VQ (HDMI : IC441)



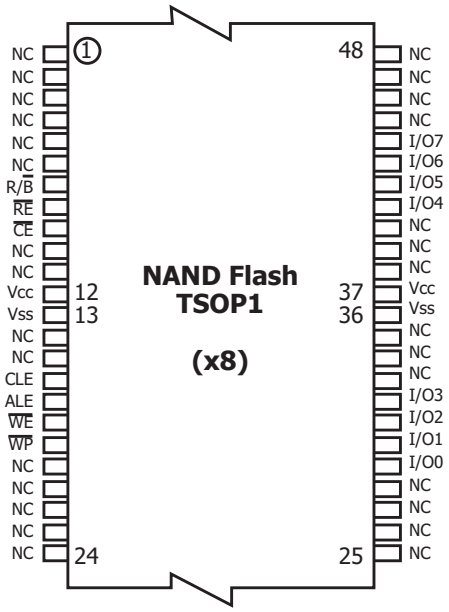
AK4358VQ Pin Function

No.	Pin Name	I/O	Function
1	LOUT1-	O	DAC1 Lch Negative Analog Output Pin
2	LOUT1+	O	DAC1 Lch Positive Analog Output Pin
3	DZF3	O	Zero Input Detect 3 Pin
4	DZF2	O	Zero Input Detect 2 Pin
5	DZF1	O	Zero Input Detect 1 Pin
6	CAD0	I	Chip Address 0 Pin
7	ACKSN	I	Auto Setting Mode Disable Pin (Pull-down Pin) "L": Auto Setting Mode, "H": Manual Setting Mode
8	PDN	I	Power-Down Mode Pin When at "L", the AK4358 is in the power-down mode and is held in reset. The AK4358 should always be reset upon power-up.
9	BICK	I	Audio Serial Data Clock Pin
10	MCLK	I	Master Clock Input Pin An external TTL clock should be input on this pin.
11	DVDD	-	Digital Power Supply Pin, +4.75~+5.25V
12	DVSS	-	Digital Ground Pin
13	SDTI4	I	DAC4 Audio Serial Data Input Pin
14	SDTI1	I	DAC1 Audio Serial Data Input Pin
15	SDTI2	I	DAC2 Audio Serial Data Input Pin
16	SDTI3	I	DAC3 Audio Serial Data Input Pin
17	LRCK	I	L/R Clock Pin
18	I2C	I	Control Mode Select Pin "L": 3-wire Serial, "H": I^2C Bus
19	CCLK/SCL	I	Control Data Clock Pin I2C = "L": CCLK (3-wire Serial), I2C = "H": SCL (I^2C Bus)
20	CDTI/SDA	I/O	Control Data Input Pin I2C = "L": CDTI (3-wire Serial), I2C = "H": SDA (I^2C Bus)
21	CSN/CAD1	I	Chip Select Pin I2C = "L": CSN (3-wire Serial), I2C = "H": CAD1 (I^2C Bus)
22	DCLK	I	DSD Clock Pin
23	DSDL4	I	DAC4 DSD Lch Data Input Pin
24	DSDR4	I	DAC4 DSD Rch Data Input Pin
25	DSDL1	I	DAC1 DSD Lch Data Input Pin
26	DSDR1	I	DAC1 DSD Rch Data Input Pin
27	DSDL2	I	DAC2DSD Lch Data Input Pin
28	DSDR2	I	DAC2 DSD Rch Data Input Pin

29	DSDL3	I	DAC3 DSD Lch Data Input Pin
30	DSDR3	I	DAC3 DSD Rch Data Input Pin
31	DIF0	I	Audio Data Interface Format 0 Pin
32	ROUT4-	O	DAC4 Rch Negative Analog Output Pin
33	ROUT4+	O	DAC4 Rch Positive Analog Output Pin
34	VREFH	I	Positive Voltage Reference Input Pin
35	AVDD	-	Analog Power Supply Pin, +4.75~+5.25V
36	AVSS	-	Analog Ground Pin
37	LOUT4-	O	DAC4 Lch Negative Analog Output Pin
38	LOUT4+	O	DAC4 Lch Positive Analog Output Pin
39	ROUT3-	O	DAC3 Rch Negative Analog Output Pin
40	ROUT3+	O	DAC3 Rch Positive Analog Output Pin
41	LOUT3-	O	DAC3 Lch Negative Analog Output Pin
42	LOUT3+	O	DAC3 Lch Positive Analog Output Pin
43	ROUT2-	O	DAC2 Rch Negative Analog Output Pin
44	ROUT2+	O	DAC2 Rch Positive Analog Output Pin
45	LOUT2-	O	DAC2 Lch Negative Analog Output Pin
46	LOUT2+	O	DAC2 Lch Positive Analog Output Pin
47	ROUT1-	O	DAC1 Rch Negative Analog Output Pin
48	ROUT1+	O	DAC1 Rch Positive Analog Output Pin

Note: All input pins except pull-down pin should not be left floating.

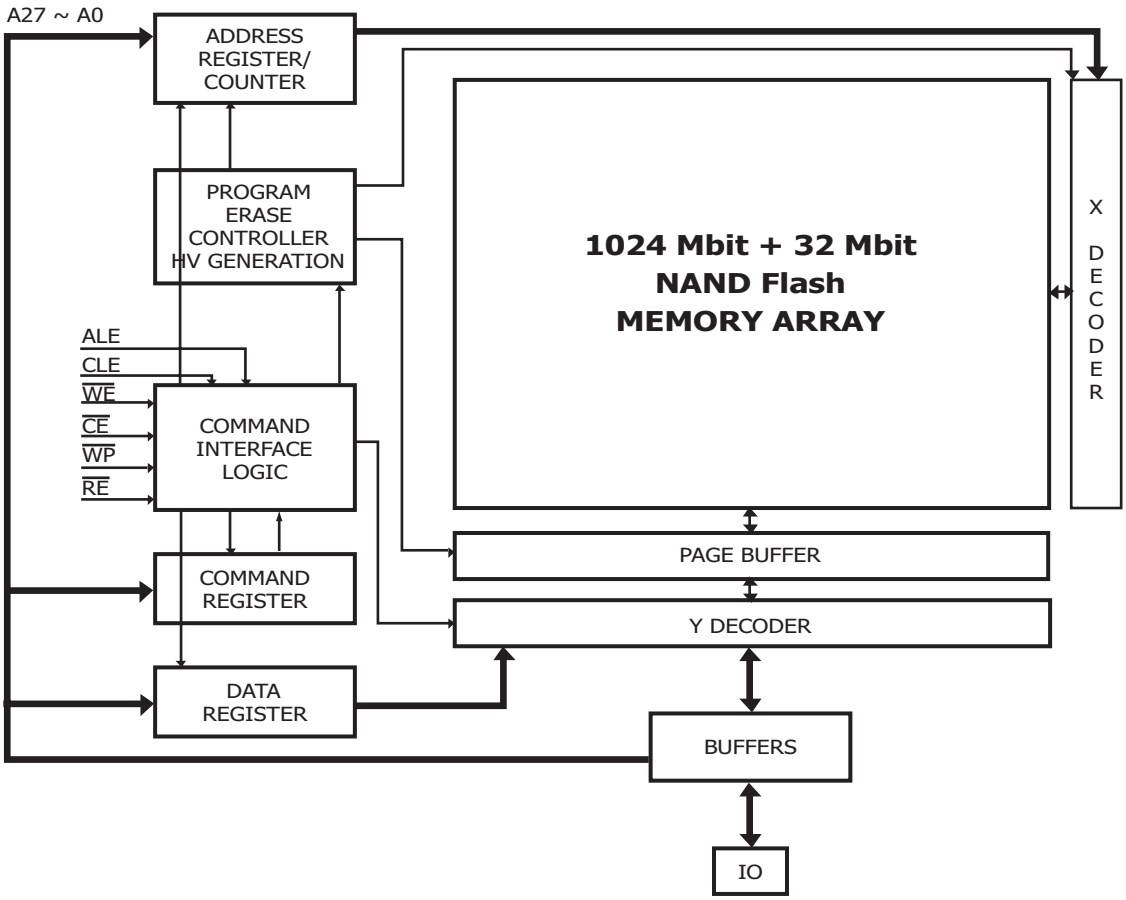
H27U1G8F2BTR-BC (HDMI : IC 391)



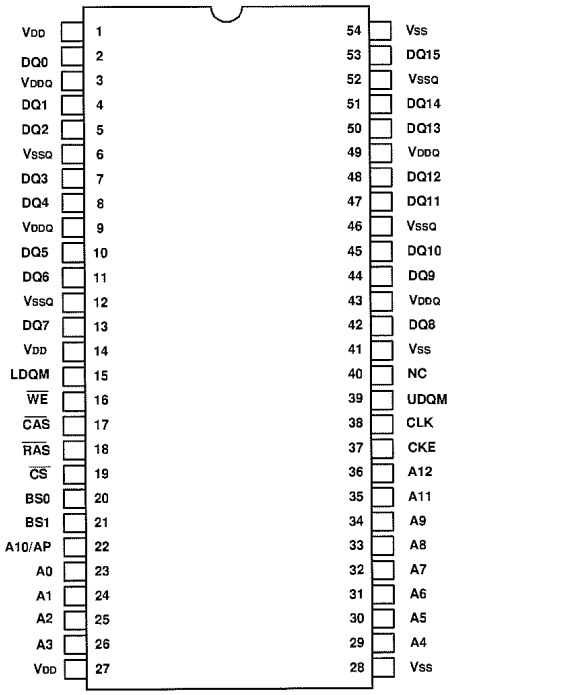
H27U1G8F2BTR-BC Pin Function

Pin Name	Description
IO0 ~ IO7	**DATA INPUTS/OUTPUTS** The IO pins allow to input command, address and data and to output data during read / program operations. The inputs are latched on the rising edge of Write Enable ($\overline{WE}$). The I/O buffer float to High-Z when the device is deselected or the outputs are disabled.
CLE	**COMMAND LATCH ENABLE** This input activates the latching of the IO inputs inside the Command Register on the Rising edge of Write Enable ($\overline{WE}$).
ALE	**ADDRESS LATCH ENABLE** This input activates the latching of the IO inputs inside the Address Register on the Rising edge of Write Enable ($\overline{WE}$).
$\overline{CE}$	**CHIP ENABLE** This input controls the selection of the device.
$\overline{WE}$	**WRITE ENABLE** This input acts as clock to latch Command, Address and Data. The IO inputs are latched on the rise edge of $\overline{WE}$.
$\overline{RE}$	**READ ENABLE** The $\overline{RE}$ input is the serial data-out control, and when active drives the data onto the I/O bus. Data is valid tREA after the falling edge of $\overline{RE}$ which also increments the internal column address counter by one.
$\overline{WP}$	**WRITE PROTECT** The $\overline{WP}$ pin, when Low, provides an Hardware protection against undesired modify (program / erase) operations.
R/$\overline{B}$	**READY BUSY** The Ready/Busy output is an Open Drain pin that signals the state of the memory.
Vcc	**SUPPLY VOLTAGE** The Vcc supplies the power for all the operations (Read, Write, Erase).
Vss	GROUND
NC	NO CONNECTION

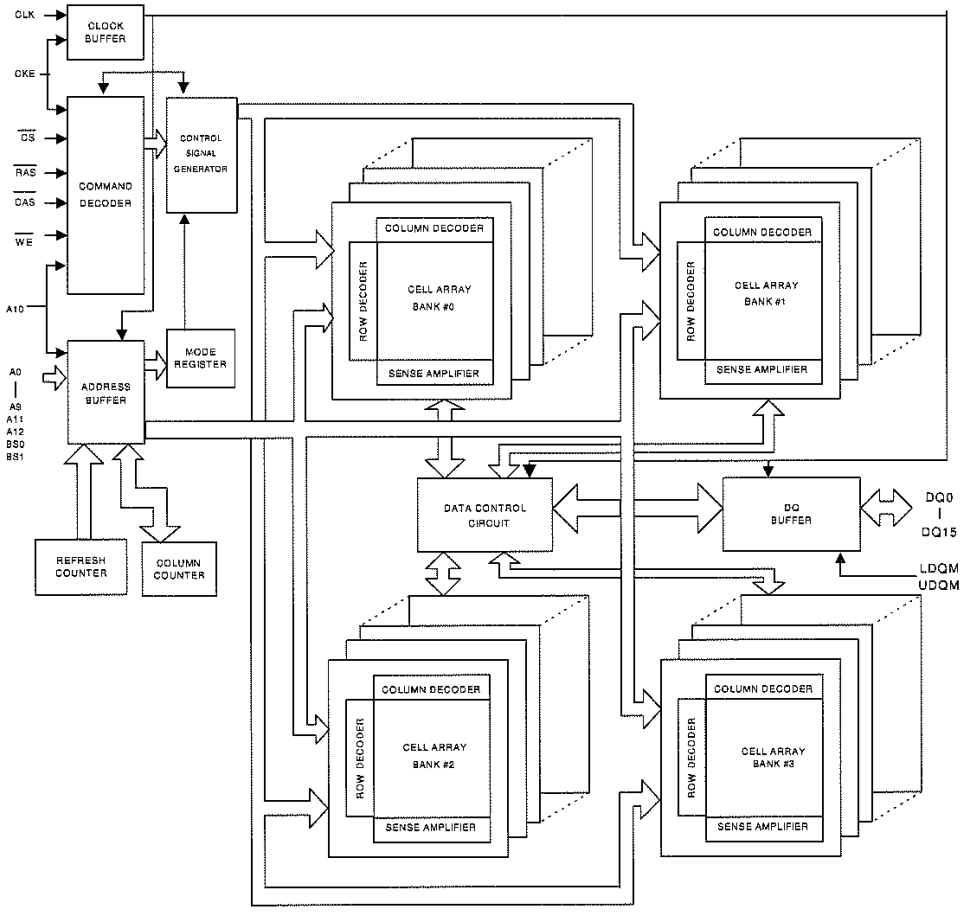
H27U1G8F2BTR-BC Block Diagram



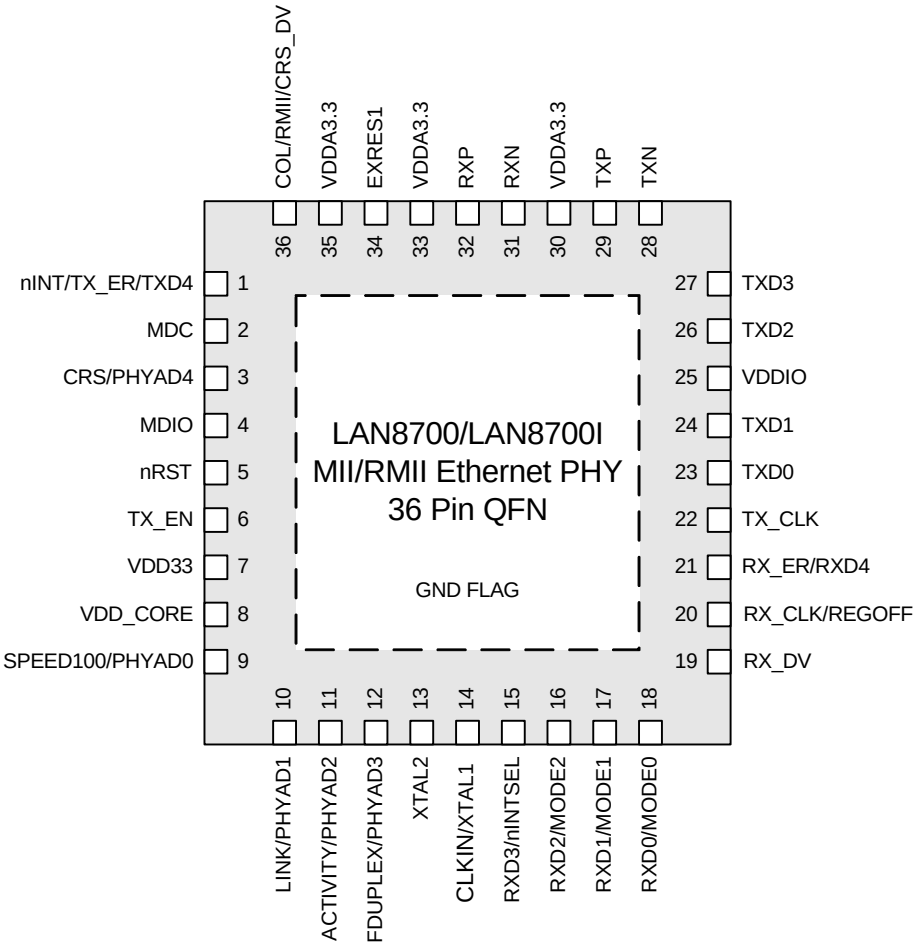
W9825G6JH-6 (HDMI : IC392)



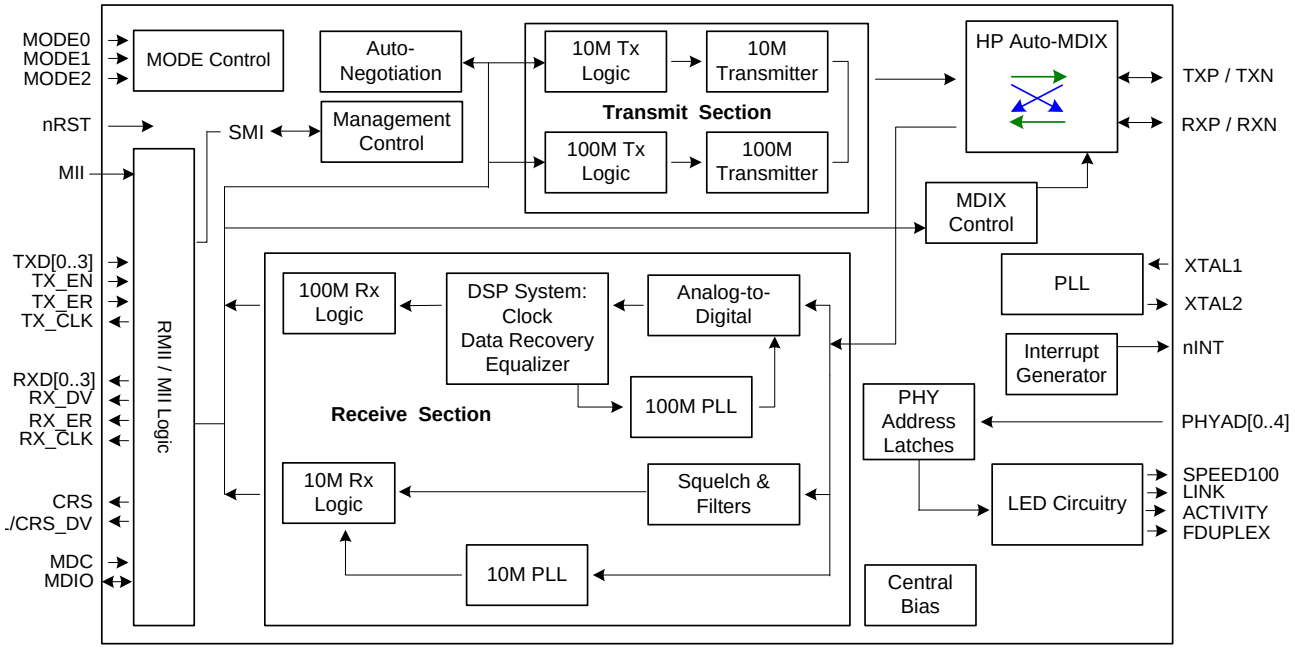
W9825G6JH-6 Pin Function



LAN8700 (HDMI : IC322)



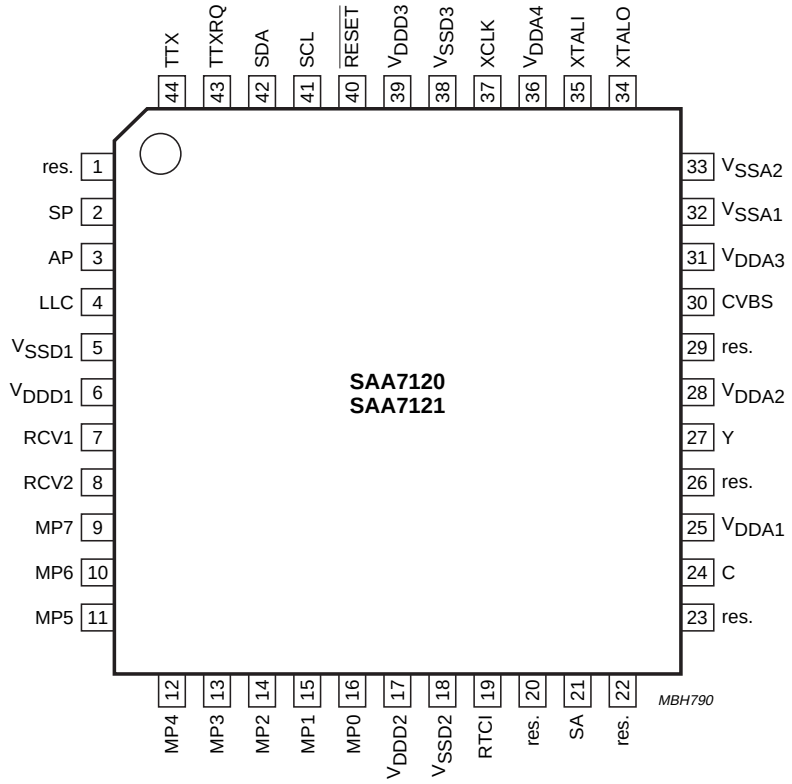
LAN8700 Block Diagram



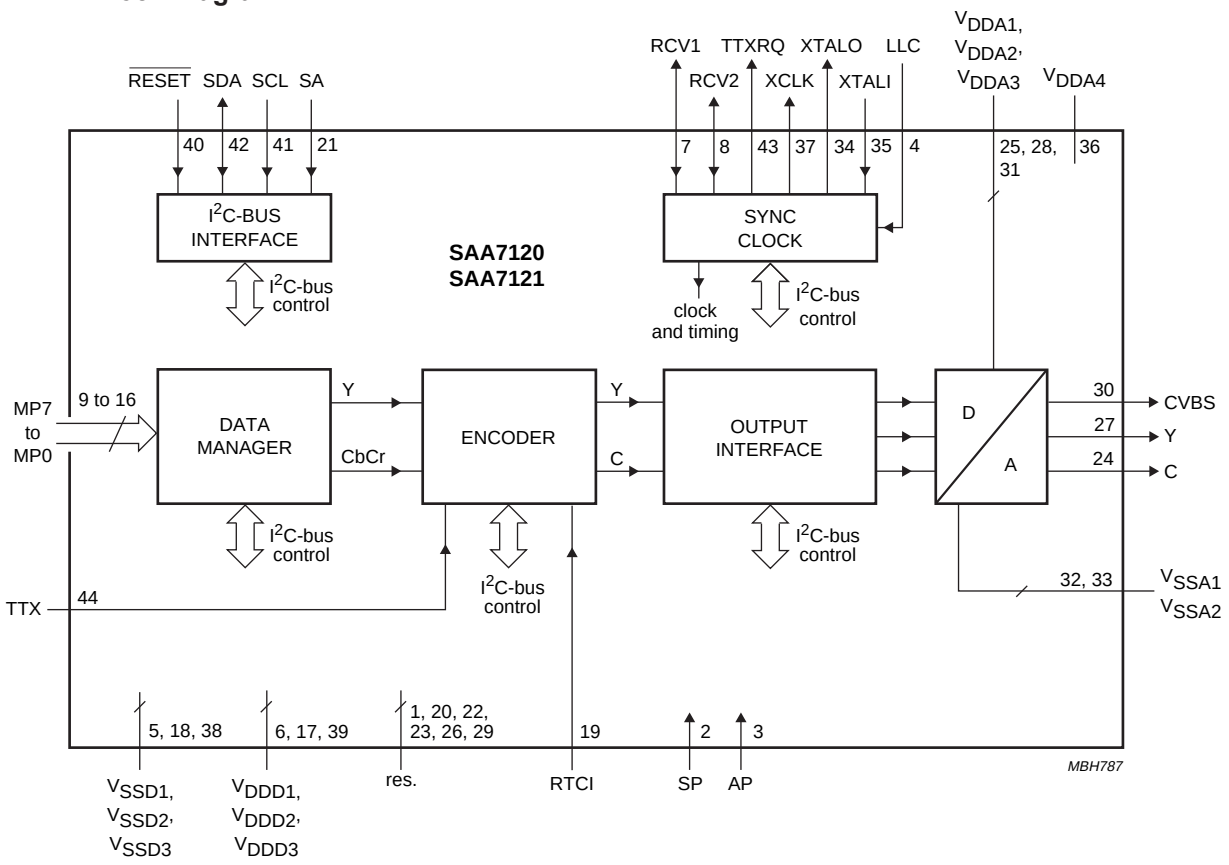
LAN8700 Pin Description

PIN NO.	PIN NAME	PIN NO.	PIN NAME
1	nINT/TX_ER/TXD4	19	RX_DV
2	MDC	20	RX_CLK/REGOFF
3	CRS/PHYAD4	21	RX_ER/RXD4
4	MDIO	22	TXCLK
5	nRST	23	TXD0
6	TX_EN	24	TXD1
7	VDD33	25	VDDIO
8	VDD_CORE	26	TXD2
9	SPEED100/PHYAD0	27	TXD3
10	LINK/PHYAD1	28	TXN
11	ACTIVITY/PHYAD2	29	TXP
12	FDUPLEX/PHYAD3	30	VDDA3.3
13	XTAL2	31	RXN
14	CLKIN/XTAL1	32	RXP
15	RXD3/nINTSEL	33	VDDA3.3
16	RXD2/MODE2	34	EXRES1
17	RXD1/MODE1	35	VDDA3.3
18	RXD0/MODE0	36	COL/RMII/CRS_DV

SAA7121 (HDMI : IC323)



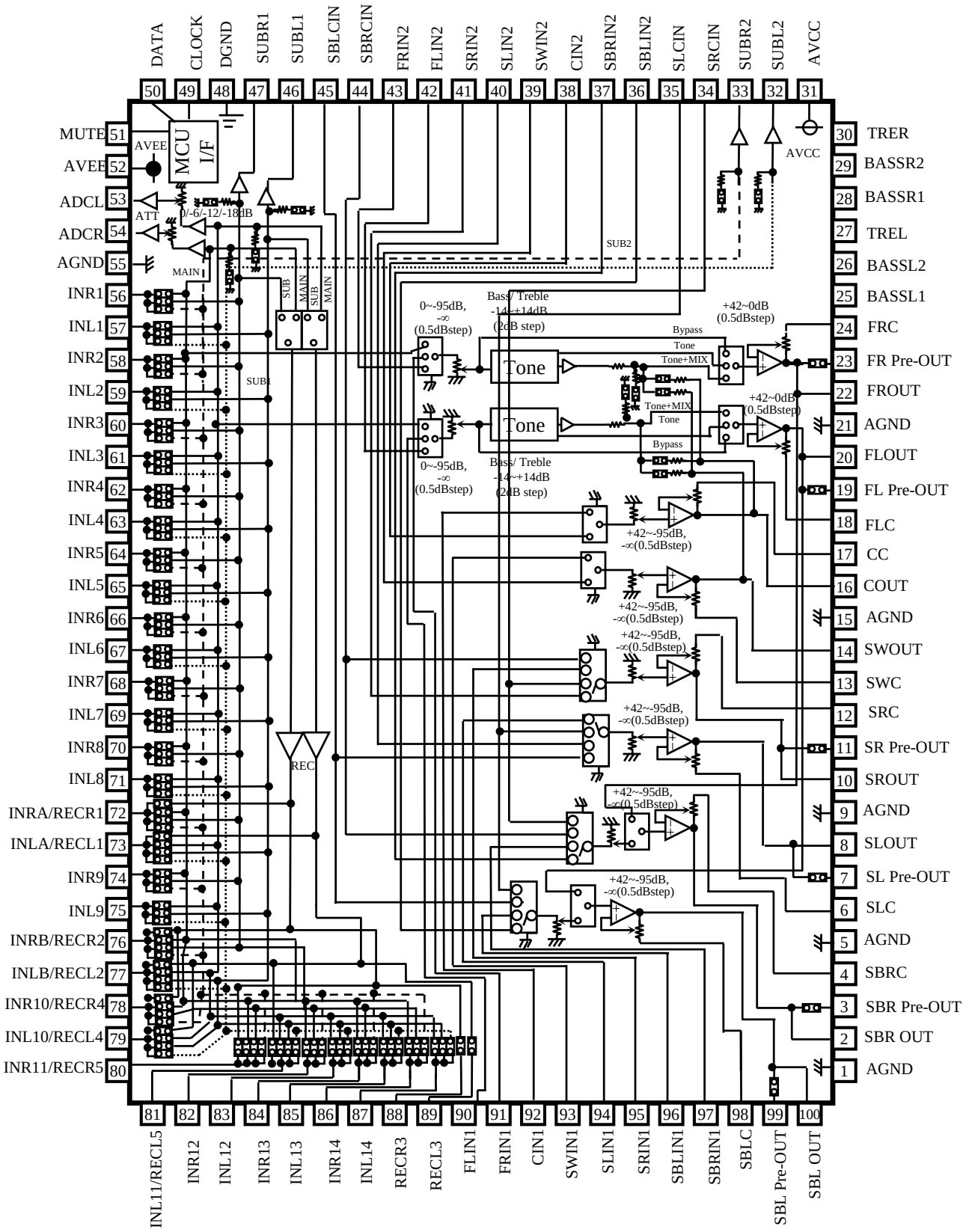
SAA7121 Block Diagram



SAA7121 Pin Description

SYMBOL	PIN	I/O	DESCRIPTION
res.	1	–	reserved
SP	2	I	test pin; connected to digital ground for normal operation
AP	3	I	test pin; connected to digital ground for normal operation
LLC	4	I	line-locked clock; this is the 27 MHz master clock for the encoder
V_{SSD1}	5	I	digital ground 1
V_{DDD1}	6	I	digital supply voltage 1
RCV1	7	I/O	raster control 1 for video port; this pin receives/provides a VS/FS/FSEQ signal
RCV2	8	I/O	raster control 2 for video port; this pin provides an HS pulse of programmable length or receives an HS pulse
MP7	9	I	MPEG port; it is an input for *"CCIR 656"* style multiplexed Cb Y, Cr data
MP6	10	I	
MP5	11	I	
MP4	12	I	
MP3	13	I	
MP2	14	I	
MP1	15	I	
MP0	16	I	
V_{DDD2}	17	I	digital supply voltage 2
V_{SSD2}	18	I	digital ground 2
RTCI	19	I	Real Time Control input; if the LLC clock is provided by an SAA7111 or SAA7151B, RTCI should be connected to pin RTCO of the decoder to improve the signal quality
res.	20	–	reserved
SA	21	I	the I^2C-bus slave address select input pin; LOW: slave address = 88H, HIGH = 8CH
res.	22	–	reserved
res.	23	–	reserved
C	24	O	analog output of the chrominance signal
V_{DDA1}	25	I	analog supply voltage 1 for the C DAC
res.	26	–	reserved
Y	27	O	analog output of VBS signal
V_{DDA2}	28	I	analog supply voltage 2 for the Y DAC
res.	29	–	reserved
CVBS	30	O	analog output of the CVBS signal
V_{DDA3}	31	I	analog supply voltage 3 for the CVBS DAC
V_{SSA1}	32	I	analog ground 1 for the DACs
V_{SSA2}	33	I	analog ground 2 for the oscillator and reference voltage
XTALO	34	O	crystal oscillator output (to crystal)
XTALI	35	I	crystal oscillator input (from crystal); if the oscillator is not used, this pin should be connected to ground
V_{DDA4}	36	I	analog supply voltage 4 for the oscillator and reference voltage
XCLK	37	O	clock output of the crystal oscillator

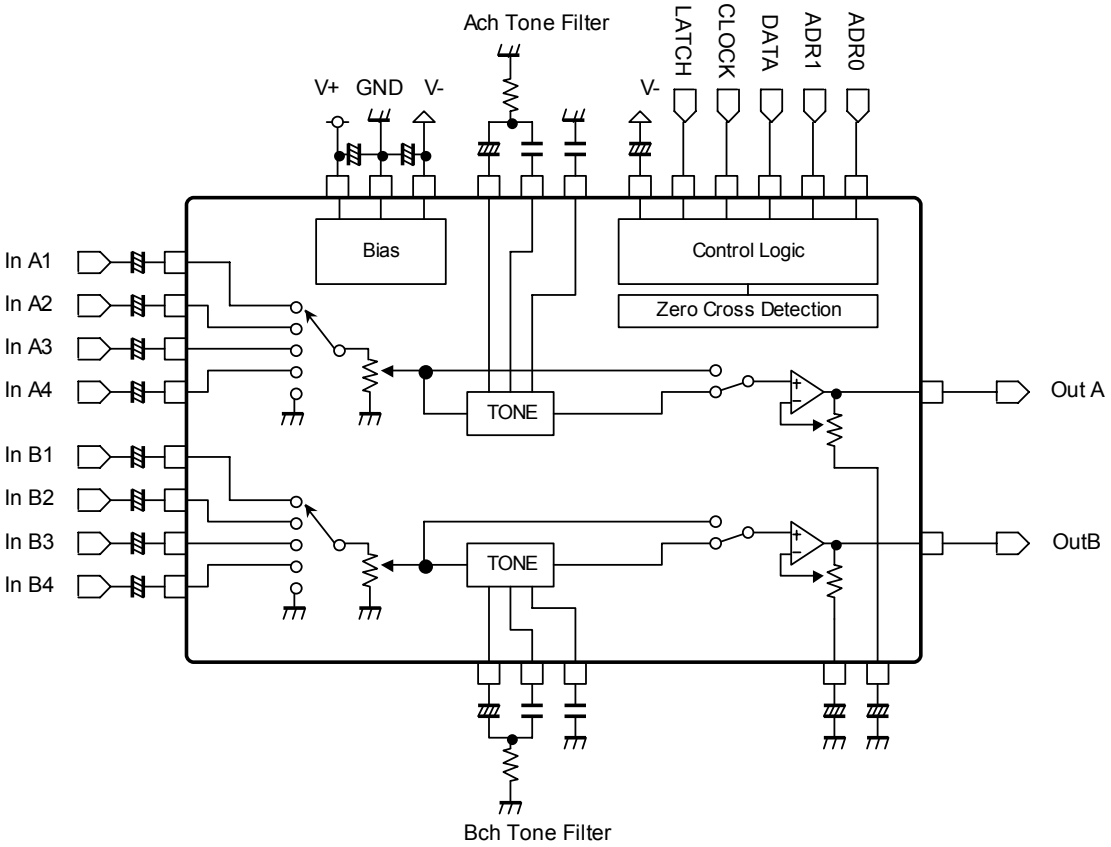
R2A15220FP (AUDIO : IC471)



R2A15220FP Pin Function

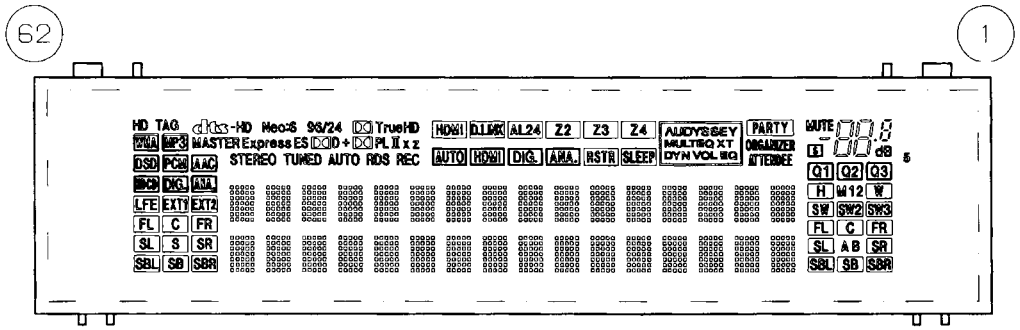
PIN No.	Name	Function
22,20, 16,14, 10, 8, 2, 100	FROUT,FLOUT, COUT,SWOUT, SROUT, SLOUT, SBROUT,SBLOUT	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
23,19, 11, 7, 3, 99	FR Pre-out,FL Pre-out, SR Pre-out, SL Pre-out, SBR Pre-out,SBL Pre-out	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
24,18, 17,13, 12, 6, 4, 98	FRC,FLC, CC,SWC, SRC,SLC, SBRC,SBLC	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
1,5,9,15, 21,55,98	AGND	Analog ground of internal circuit
27,30	TREL, TRER	Frequency characteristic setting pin of L/R channel tone control (Treble)
25,26, 28,29	BASSL1,BASSL2 BASSR1,BASSR2	Frequency characteristic setting pin of L/R channel tone control (Bass)
31	AVCC	Positive power supply to internal circuit
43,42, 41,40, 39,38, 37,36	FRIN2, FLIN2, SRN2,SLIN2, SWIN2,CIN2, SBRIN2,SBLIN2	Multi Input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
90,91, 92,93, 94,95, 96,97	FLIN1, FRIN1, CIN1,SWIN1, SLIN1,SRIN1, SBLIN1,SBRIN1	
48	DGND	Digital ground of internal circuit
49	DATA	Input pin of control data
50	CLOCK	Input pin of control clock
52	AVEE	Negative power supply to internal circuit
57,59,61,63, 65,67,69,71, 75,83,85,87	INL1,INL2, INL3,INL4, INL5,INL6,INL7,INL8, INL9,INL12,INL13,INL14	Input pin of L/R channel (Input Selector)
56,58,60,62, 64,6668,70, 74,82,84,86	INR1,INR2, INR3,INR4, INR5,INR6,INR7,INR8, INR9,INR12,INR13,INR14	
51	MUTE	Outside Mute Control PIN
44,45 34,35	SBRCIN,SBLCIN SRCIN,SLCIN	3rd Multi Input pin for SBL/SBR/SL/SR channel Volume that is able to swap SBR/SBL with SR/SL
46,47 33,32	SUBL1,SUBR1 SUBL2,SUBR2	Output pin for L/R channel SUB1/SUB2 Output
53,54	ADCL, ADCR	Output pin for L/R channel ADC
88,89	RECR3,RECL3	Output pin for L/R channel REC Output
72,73, 76,77, 78,79 80,81	INRA/RECR1,INLA/RECL1, INRB/RECR2,INLB/RECL2, INR10/RECR4,INL10/RECL4, INR11/RECR5,INL11/RECL5	Input pin of L/R channel (Input Selector)/ Output pin for L/R channel REC Output

NJW1194A (AUDIO : IC484,IC489)



2. FL DISPLAY ⚠3

FLD (18-ST-13GINK) (FRONT : FL601)



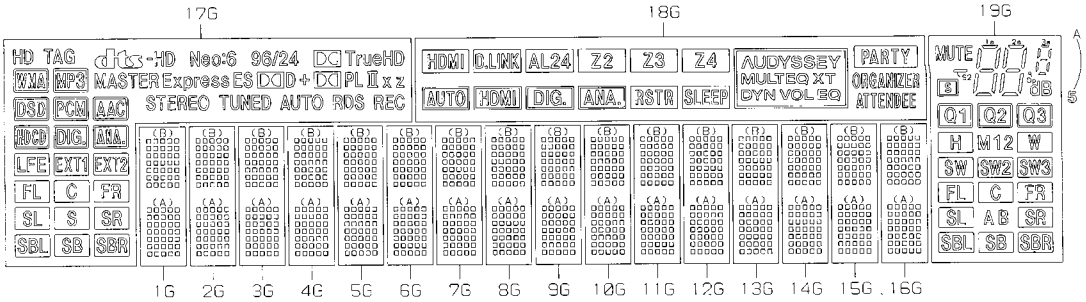
PIN CONNECTION

PIN NO.	62	61	60	59	58	57	56	55	54	53	52	51
CONNECTION	F2	NX	NP	NP	LGND	PGND	VDD	VH	OSC	RESET	CS	CP

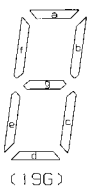
PIN NO.	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	DA	CP	CS	TSB	TSA	Q19G	Q18G	Q17G	19G	18G	17G	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NP	NP	F1

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) DL ------ Datum Line
4) NX ------ No extend pin
5) 17G~19G --- Grid
6) Q17G~Q19G --- Driver Output Port
7) LGND ---- Logic GND pin
8) PGND ---- Power GND pin
9) VH ------ High Voltage Supply pin
10) VDD ----- Logic Voltage Supply pin
11) OSC ----- Pin for self-oscillation
12) RESET --- Reset Input
13) CS ------ Chip Select Input pin
14) CP ------ Shift Register Clock
15) DA ------ Serial Data Input
16) TSA,B --- Test pin
17) Solder composition is Sn-3Ag-0.5Cu.

GRID ASSIGNMENT



NOTE) The mark "A" is used to distinguish between very similar displays. This mark is electrically isolated from the wiring pattern.



ANODE CONNECTION

	1G~16G	17G	18G	19G
D0A	1-1A	–	–	–
D1A	2-1A	–	–	–
D2A	3-1A	–	–	–
D3A	4-1A	–	–	–
D4A	5-1A	–	–	–
D5A	1-2A	–	–	–
D6A	2-2A	–	–	–
D7A	3-2A	–	–	–
D8A	4-2A	–	–	–
D9A	5-2A	–	–	–
D10A	1-3A	–	–	–
D11A	2-3A	–	–	dB
D12A	3-3A	–	–	Dp
D13A	4-3A	–	–	3d
D14A	5-3A	–	–	3e
D15A	1-4A	–	–	3c
D16A	2-4A	–	–	3g
D17A	3-4A	–	–	3f
D18A	4-4A	–	–	3b
D19A	5-4A	–	–	3a
D20A	1-5A	–	–	2d
D21A	2-5A	–	–	2e
D22A	3-5A	–	–	2c
D23A	4-5A	–	–	2g
D24A	5-5A	–	–	2f
D25A	1-6A	–	–	2b
D26A	2-6A	–	–	2a
D27A	3-6A	–	–	1d
D28A	4-6A	Z	–	1e
D29A	5-6A	X	–	1c
D30A	1-7A	II	–	1g
D31A	2-7A	PL	–	1f
D32A	3-7A	+	–	1b
D33A	4-7A	ES	–	1a
D34A	5-7A	HD	–	S2

	1G~16G	17G	18G	19G
D0B	1-1B	REC	–	–
D1B	2-1B	RDS	–	–
D2B	3-1B	AUTO	–	–
D3B	4-1B	TUNED	–	–
D4B	5-1B	DD	–	–
D5B	1-2B	DDD	–	–
D6B	2-2B	DD TrueHD	–	–
D7B	3-2B	96/24	–	–
D8B	4-2B	Express	–	–
D9B	5-2B	Neo:6	–	–
D10B	1-3B	STEREO	–	–
D11B	2-3B	MASTER	–	–
D12B	3-3B	-HD	–	MUTE
D13B	4-3B	dts	ATTENDEE	S
D14B	5-3B	TAG	ORGANIZER	Q3
D15B	1-4B	MP3	PARTY	Q2
D16B	2-4B	WMA	EQ	Q1
D17B	3-4B	AAC	VOL	W
D18B	4-4B	PCM	DYN	2
D19B	5-4B	DSD	XT	1
D20B	1-5B	ANA.	MULTEQ	M
D21B	2-5B	DIG.	AUDYSSEY	H
D22B	3-5B	HDCD	S1	SW3
D23B	4-5B	EXT2	SLEEP	SW2
D24B	5-5B	EXT1	RSTR	SW
D25B	1-6B	LFE	ANA.	FR
D26B	2-6B	FR	DIG.	C
D27B	3-6B	C	HDMI	FL
D28B	4-6B	FL	AUTO	SR
D29B	5-6B	SR	Z4	B
D30B	1-7B	S	Z3	A
D31B	2-7B	SL	Z2	SL
D32B	3-7B	SBR	AL24	SBR
D33B	4-7B	SB	D.LINK	SB
D34B	5-7B	SBL	HDMI	SBL

PARTS LIST OF P.C.B. UNIT ⚠2

∗Parts indicated by "nsp" on this table cannot be supplied.
∗The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.

E3 : U.S.A. & Canada model
E2 : Europe model
E1C : China model
EA : Australia model
BK : Black model
SP : Premium Silver model

PCB FRONT ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC601	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC607	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	Q6026	943219006820S	TR KTC1027Y		CVTKTC1027YT		
	Q6042	943214500020S	TR 2SC3052		CVT2SC3052		
	Q6052	943214500020S	TR 2SC3052		CVT2SC3052		
	Q6062	943214500020S	TR 2SC3052		CVT2SC3052		
	Q6081	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q6112	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q6311,6312	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q6313,6314	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q6703	943216500020S	TR RT1N141C		CVTRT1N141C		
	D6021	90M-HD302360R	DIODE ZJ6.8BT		CVDZJ6.8BT		
	D6023,6024	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D6026	943202007690S	DIODE , ZENER 18V		CVDZJ18BT		
	D6027	00D9430087209	ZENER DIODE ZJ24B 1/2W		CVDZJ24BT		
	D6041	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D6051	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D6061	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D6712	00D2760694903	DIODE , ZENER (CHIP,5.1V)		HVDUDZS5.1BSR		
	D6729,6730	00D2760694903	DIODE , ZENER (CHIP,5.1V)		HVDUDZS5.1BSR		
	D6803	963209003510S	DIODE , RELIABLE ESD PROTECTION		CVDCDS3C05HDMI1		
	D6835,6836	963209003510S	DIODE , RELIABLE ESD PROTECTION		CVDCDS3C05HDMI1		
RESISTORS GROUP							
⚠	R6024	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)		CRG1SANJ4R7RT		
CAPACITORS GROUP							
	C6021	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C6022,6023	00MOF15104040	CAP,METAL-FILM(100V/0.1uF)		CCME2A104JXT		
	C6024	943134501530S	CAP , ELECT(63V/470uF)		CCEA1JH471		*
	C6025	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T		
	C6027	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T		
	C6031	nsp	CAP, CHIP(1608, 50V/30pF)		CCUS1H300JA		
	C6034	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6044	nsp	COPPER WIRE		C3A206		
	C6071-6073	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C6081	nsp	CHIP CAP 0.1UF/50V/2012		CCUC1H104KC		
	C6082	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C6083	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C6084	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6113	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6114	nsp	ELECT CAP 47UF 16V		CCEA1CH470T		
	C6321	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6351,6352	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6356	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6417	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C6423,6424	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C6425	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6501,6502	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C6503	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6512,6513	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6514	943134501540S	CAP , ELECT(50V/1uF)-S		CCEA1HKS1R0T		*

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C6523	9431345015505	CAP , ELECT(50V/10uF)-S		CCEA1HKS100T		*
	C6601	9431345015505	CAP , ELECT(50V/10uF)-S		CCEA1HKS100T		*
	C6603,6604	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6623,6624	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6691	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6693	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6694	9431345015405	CAP , ELECT(50V/1uF)-S		CCEA1HKS1R0T		*
	C6702	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6712	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C6719	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T		
	C6720	nsp	CAP, CHIP(1608, 50V/82pF)		CCUS1H820JA		
	C6726	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C6731,6732	9431340105305	ELECT CAP 1UF 50V C		CCEA1HH1R0T		
	C6733	9431345015405	CAP , ELECT(50V/1uF)-S		CCEA1HKS1R0T		*
	C6735	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C6753	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6755	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6802	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C6803	00D9430173003	CAP , ELECT(10V/220uF)-S		CCEA1AKS221T		
	C6812	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
OTHERS PARTS GROUP							
	BK601,602	nsp	FIP BRACKET		CMD1A572		
	BK603	nsp	PCB BRACKET		CMD1A569		
	BK611	nsp	EARTH AUX		CMC1A421		
	BK612	nsp	EARTH , USB		CMC1A420		
	BN601	nsp	WIRE ASS'Y LOCKING (7P,2.0MM,050MM,UL1007#24)		CWB1C007050HC		
	BN604	nsp	WIRE ASS'Y LOCKING (9P,2.0MM,050MM,UL1007#24)		CWB1C009050HC		
	BN605A	nsp	WIRE ASS'Y B'D to B'D (5P,2.0MM,050MM,UL1007#24)		CWB1C005050CC		
	BN608	nsp	WIRE ASS'Y (5P,2.0MM,550MM,UL2725#24/#28,1P+2C)USB		CWB8A005550LC		
	CN404	nsp	LOCK-WAFER/ANGLE/2MM PITCH/9PIN		CJP09GJ288ZY		
	CN601	nsp	LOCK-WAFER/ANGLE/2MM PITCH/7PIN		CJP07GJ288ZY		
	CN602	nsp	WAFER,YMAW025(2.5mm,ANGLE)		CJP07GB03ZY		
	CN69A	nsp	WAFER, FFC, 40P, 1mm, ANGLE(DIP)		CJP40GB284ZN		
⚠	F6001	9436520006205	FUSE(0.1A 372SERIES/TR5)		CBA2D0100A3EYT		
	FL601	9431721001105	V.F.D (19-ST-02GINAK)		CFL19ST02GINAK		*
	JK605	9436430101305	JACK PHONES(6.35mm)		CJJ2E020Z		
	JK606	90M-YT004310R	JACK BOARD(3P)		CJJ4S041Z		
	JK607	9436431001605	JACK, MONO, 3.5mm		CJJ1D001Z		
	JK608	9436431001505	JACK , USB STRAIGHT(BLACK)		CJJ9X006Z		
	JW602,603	nsp	WIRE ASS'Y (1P, 80MM,BLK,#22)		CWE5202080A		
	L6001	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZBLM21PG221SN1		
	L6501	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	L6601	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	LD601	9431760100905	LED BLBJEGJ204L		CVDBLBJEGJ204L		
	LD602	9632620104605	LED SIR-341ST3F		CVDSIR341ST3FT0		
	RC601	9432620102905	REMOCON SENSOR		CRVKSM603TH5B		
	SW601-605	90M-SP001400R	TACT SW EVQ22505R		CST1A023ZT		
	SW611-616	90M-SP001400R	TACT SW EVQ22505R		CST1A023ZT		
	SW621-626	90M-SP001400R	TACT SW EVQ22505R		CST1A023ZT		
	SW631	90M-SP001400R	TACT SW EVQ22505R		CST1A023ZT		
	VR601	9436710103305	ENCODER VR		CSR2A055Z		
	VR604	9436710103305	ENCODER VR		CSR2A055Z		

PCB 7CH_AMP ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	Q7001	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7104,7105	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7114	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7118	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7120,7121	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7125	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7131	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7132	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7138	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7139	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7204,7205	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7214	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7218	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7220,7221	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7225	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7231	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7232	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7238	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7239	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7304,7305	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7314	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7318	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7320,7321	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7325	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7331	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7332	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7338	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7339	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7404,7405	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7414	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7418	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7420,7421	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7425	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7431	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7432	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7438	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7439	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7504,7505	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7514	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7518	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7520,7521	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7525	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7531	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7532	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7538	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7539	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7604,7605	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7614	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7618	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7620,7621	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7625	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7631	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7632	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7638	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7639	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		
	Q7704,7705	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA		
	Q7714	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7718	00D2710314903	T.R , KTA1024Y		HVTKTA1024YT		
	Q7720,7721	00D2730471907	T.R , KTC3206Y		HVTKTC3206YAT		
	Q7725	963219003340S	T.R , BIAS KTC3964		CVTKTC3964		
	Q7731	00D9630235301	T.R Power, 2SD2560		HVT2SD2560		
	Q7732	00D9630235204	T.R Power, 2SB1647		HVT2SB1647		
	Q7738	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401		
	Q7739	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	D7011,7012	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D7108,7109	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7115,7116	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7118	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7139	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7208,7209	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7215,7216	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7218	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7239	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7308,7309	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7315,7316	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7318	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7339	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7408,7409	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7415,7416	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7418	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7439	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7508,7509	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7515,7516	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7518	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7539	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7608,7609	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7615,7616	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7618	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7639	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7708,7709	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7715,7716	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7718	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7739	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
RESISTORS GROUP							
⚠	R7012	252310006520S	PTC THEMISTORS, CHIP(95'C)		CRTPRF18BD471QB5RB		
⚠	R7014	252310006520S	PTC THEMISTORS, CHIP(95'C)		CRTPRF18BD471QB5RB		
	R7105	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7108	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7111	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7114	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7118,7119	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7120	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7121	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7129,7130	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7131-7134	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7138	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7205	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7208	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7211	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7214	knsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7218,7219	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7220	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7221	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7230	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7231-7234	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7238	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7279	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7305	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7308	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7311	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7314	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7318,7319	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7320	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7321	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7329,7330	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7331-7334	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7338	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7405	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7408	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	R7411	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7414	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7418,7419	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7420	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7421	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7429,7430	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7431-7434	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7438	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7505	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7508	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7511	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7514	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7518,7519	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7520	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7521	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7529,7530	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7531-7534	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7538	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7605	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7608	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7611	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7614	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7618,7619	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7620	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7621	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7629,7630	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7631-7634	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7638	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	R7705	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7708	nsp	RES, M-OXIDE FILM(1W/1Kohm)		CRG1SANJ102RT		
	R7711	nsp	RES, M-OXIDE FILM(1W/3.3Kohm)		CRG1SANJ332RT		
	R7714	nsp	RES, M-OXIDE FILM(1W/56Kohm)		CRG1SANJ563RT		
	R7718,7719	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7720	nsp	RES, M-OXIDE FILM(2W/15Kohm)		CRG2SANJ153RT		
	R7721	nsp	RES, M-OXIDE FILM(1W/270ohm)		CRG1SANJ271RT		
	R7729,7730	943124500240S	RES, M-OXIDE FILM(1W/22ohm)	FLAMERETARDANT	CRG1SANJ220RT		*
	R7731-7734	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT		
⚠	R7738	252310006506S	PTC THEMISTORS, CHIP(115'C)		CRTPRF18BB471QB5RB		
	VR714	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR724	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR734	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR744	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR754	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR764	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
	VR774	963161012400S	RES ,SEMI FIXED(1K/B-CURVE) ANGLE		CVN1RE102B01T		
CAPACITORS GROUP							
	C7001	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C7011,7012	943134501570S	CAP , ELECT(10V/330uF)		CCEA1AH331T		*
	C7013	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
	C7101	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7102	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7104	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7105	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7106	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7112	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7120	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7121	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7125	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7125	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7131,7132	943134500070S	CAP , ELECT(100V/10uF)		CCEA2AH100TS		
	C7138	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7201	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7202	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7204	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C7205	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7206	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7212	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7220	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7221	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7225	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7225	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7231,7232	943134500070S	ELECT CAP 10UF 100V	E3,E1C	CCEA2AH100TS		
	C7238	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7301	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7302	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7304	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7305	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7306	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7312	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7320	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7321	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7325	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7325	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7331,7332	943134500070S	CAP , ELECT(100V/10uF)	E3,E1C	CCEA2AH100TS		
	C7338	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7401	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7402	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7404	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7405	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7406	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7412	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7420	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7421	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7425	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7425	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7431,7432	943134500070S	CAP , ELECT(100V/10uF)	E3,E1C	CCEA2AH100TS		
	C7438	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7501	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7502	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7504	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7505	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7506	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7512	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7520	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7521	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7525	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7525	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7531,7532	943134500070S	CAP , ELECT(100V/10uF)		CCEA2AH100TS		
	C7538	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7601	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7602	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7604	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7605	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7606	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7612	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7620	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7621	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7625	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7625	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		
	C7631,7632	943134500070S	CAP , ELECT(100V/10uF)	E3,E1C	CCEA2AH100TS		
	C7638	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C7701	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C7702	nsp	CERAMIC CAP 470PF 50V KB		CCKT1H471KB		
	C7704	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C7705	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C7706	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C7712	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7720	nsp	CAP, PE-FILM(100V/220pF/J) SEORYONG		CCME2A221JR11T		
	C7721	nsp	CAP, PE-FILM(100V/470pF/J) SEORYONG		CCME2A471JR11T		
	C7725	00D9430148708	ELECT CAP 47UF 50V	E3,E1C	CCEA1HH470T		
	C7725	943134500080S	ELECT CAP 47UF 63V	E2	CCEA1JH470T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C7731,7732	943134500070S	CAP , ELECT(100V/10uF)		CCEA2AH100TS		
	C7738	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
OTHERS PARTS GROUP							
	BK701	nsp	PCB BRACKET		CMD1A569		
	BN704	nsp	WIRE ASS'Y (5P,2.0MM,250MM,UL1007#26)		CWB1B005250LC		
	CN461	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/13PIN		CJP13GI288ZY		
	CN701	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/9PIN		CJP09GI289ZY		
	CN702	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/7PIN		CJP07GI289ZY		
	CN703	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/3PIN		CJP03GI289ZY		
	CN715	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN725	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN735	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN745	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN755	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN765	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	CN775	nsp	WAFER (3PIN, AN, 2MM, JWT)		CJP03GB48ZW		
	GND71	nsp	EARTH PALTE		HJT1A025		
	ZD714	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD715,716	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD724	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD725,726	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD734	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD735,736	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD744	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD745,746	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD754	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD755,756	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD764	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD765,766	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		
	ZD774	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT		
	ZD775,776	90M-HD302440R	DIODE ZJ4.7B		CVDZJ4.7BT		

PCB CNT ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC961	231310009508S	I.C , REGULATOR (3.3V)		CVIPQ033DNA1ZPH		
	IC962	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC991	963239008800S	I.C, RS232 DRIVER(3.3V)		CVIILX3232DT		
	IC992,993	00D2631286903	I.C , REGULATOR (12V)		CVIPQ120DNA1ZPH		
	D9903,9904	00D2760665903	DIODE , ZENER 16V		CVDZJ16BT		
	D9905,9906	201310001503S	DIODE, ULTRA-HIGH SPEED		CVDKDS160RTKP		
CAPACITORS GROUP							
	C9601	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9602-9605	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C9607-9610	nsp	CAP, CHIP(1608, 50V/33pF)		CCUS1H330JA		
	C9611	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9612	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C9613	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9614	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C9615-9618	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C9622	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9644-9646	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C9901	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9903-9905	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9906	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C9907	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9908,9909	nsp	CAP, CHIP(1608, 50V/33pF)		CCUS1H330JA		
	C9916,9917	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C9918,9919	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9920,9921	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C9923,9924	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
OTHERS PARTS GROUP							
	CN21A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN22A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN23A	nsp	PIN HEADER (13P,1.25mm,STRAIGHT,B-TO-B)		CJP13GI281Z		
	CN24A	nsp	PIN HEADER (27P,1.25mm,STRAIGHT,B-TO-B)		CJP27GI281Z		
	CN25A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN26A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN27A	nsp	PIN HEADER (21P,1.25mm,STRAIGHT,B-TO-B)		CJP21GI281Z		
	CN28A	nsp	PIN HEADER (11P,1.25mm,STRAIGHT,B-TO-B)		CJP11GI281Z		
	CN41A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN42A	nsp	PIN HEADER (27P,1.25mm,STRAIGHT,B-TO-B)		CJP27GI281Z		
	CN43A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN44A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN45A	nsp	PIN HEADER (11P,1.25mm,STRAIGHT,B-TO-B)		CJP11GI281Z		
	CN51A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN52A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN53A	nsp	PIN HEADER (13P,1.25mm,STRAIGHT,B-TO-B)		CJP13GI281Z		
	CN61B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN62B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN63B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN64B	nsp	PIN SOCKET (21P,1.25mm,ANGLE, B-TO-B)		CJP21HJ282Z		
	CN961	nsp	WAFER CARD CABLE, 13PIN 1.25MM		CJP13GA115ZY		
	CN97B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN98B,99	nsp	PIN SOCKET (11P,1.25mm,ANGLE, B-TO-B)		CJP11HJ282Z		
	JK991	943646100420S	JACK, D-SUB 9P (HDR-9PF-RSB)		CJJ9W001Z		
	JK992,993	643010086019S	JACK, STEREO (RED MOLD)		CJJ2D019Z		
	JW901,902	nsp	WIRE ASS'Y (1P, 80MM,BLK,#22)		CWE5202080A		

PCB MAIN ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC931	00D2631100005	I.C,REGULATOR(+5V,T0220IS)		HVIKIA7805API		
	IC932	00MHC3890999F	I.C,REGULATOR(+9V,T0220IS)	E2,E1C	HVIKIA7809API		
	IC934	00D2631100005	I.C,REGULATOR(+5V,T0220IS)		HVIKIA7805API		
	IC935	00D2631099006	REGULATOR IC KIA7905PI		CVIKIA7905PI		
	IC936	00D2631100050	I.C,REGULATOR(+8V,T0220IS)		HVIKIA7808API		
	IC937	00D2631251006	I.C,REGULATOR(-8V,T0220IS)		CVIKIA7908PI		
	Q6713	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6714	9432165000505	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q6717,6718	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6720	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6737,6738	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6767,6768	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6783	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6784	9432165000505	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q6787,6788	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6790	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6812	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6839	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6840	9432165000505	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q6843,6844	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6846	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6869	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q6870	9432165000505	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q6873,6874	9432145000305	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q6876	9432155000305	T.R,RT1P441C(47K-47K)		CVTRT1P441C		
	Q7932	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7933	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7934	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7935	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7936	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7937	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7938	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7939	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7940	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7941	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7944	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7945	9432155000205	TR RT1P141C		CVTRT1P141C		
	Q7946	9432165000205	TR RT1N141C		CVTRT1N141C		
	Q7947	9432155000205	TR RT1P141C		CVTRT1P141C		
	D6845-6847	9432030031505	DIODE 1N4007T		CVD1N4007SRT		
	D6848	00D2760760905	DIODE , ZENER 3.6V		CVDZJ3.6BT		
	D7901,7902	90M-HE200390R	DIODE , BRIDGE(10A/600V)		HVDGBJ1006		
	D7927	00D9430196306	DIODE ZJ7.5B		CVDZJ7.5BT		
	D7928	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D7931	00D2760762932	DIODE , ZENER 33V		CVDZJ33BT		
	D7932	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7933	00D2760762932	DIODE , ZENER 33V		CVDZJ33BT		
	D7934	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7936	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7938	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7940	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7944	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D7946	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D9301	9432090010805	DIODE 1SS355T		CVD1SS355T		
	D9303	90M-HD201850R	SCHOTTKY DIODE 1N5819		HVD1N5819T		
	D9304,9305	9432090010805	DIODE 1SS355T		CVD1SS355T		
	D9306,9307	90M-HD201850R	SCHOTTKY DIODE 1N5819		HVD1N5819T		
	D9308,9309	9432090010805	DIODE 1SS355T		CVD1SS355T		
	D9310	90M-HD201850R	SCHOTTKY DIODE 1N5819		HVD1N5819T		
	D9311-9322	9432030031505	DIODE 1N4007T		CVD1N4007SRT		
	D9325-9332	9432030031505	DIODE 1N4007T		CVD1N4007SRT		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
RESISTORS GROUP							
	R7801	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7802	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7809,7810	nsp	RES,M-OXIDEFILM(2W/470ohm)		CRG2SANJ471RT		
	R7811	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7812	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7821	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7822	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7831	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7832	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7841	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7842	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7851	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7852	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7861	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT		
	R7862	nsp	RES, M-OXIDE FILM(2W/10ohm)		CRG2SANJ100RT		
	R7921-7926	nsp	RES,M-OXIDEFILM(1W/2.2Kohm)		CRG1SANJ222RT		
CAPACITORS GROUP							
	C6096	nsp	CHIP CAP 100PF 50V J	E2,E1C	CCUS1H101JA		
	C6703,6704	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6707,6708	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6709,6710	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6719	00D9609010023	CAP , ELECT(50V/0.47uF)		CCEA1HHR47T		
	C6723,6724	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6727,6728	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6729,6730	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6745	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6753,6754	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6757,6758	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6759,6760	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6773,6774	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6777,6778	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6779,6780	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6782	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6789	00D9609010023	CAP , ELECT(50V/0.47uF)		CCEA1HHR47T		
	C6802	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6805	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6806	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6820	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6829,6830	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6833,6834	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6835,6836	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6845	00D9609010023	CAP , ELECT(50V/0.47uF)		CCEA1HHR47T		
	C6849	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C6859,6860	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6863,6864	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C6865,6866	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C6875	00D9609010023	CAP , ELECT(50V/0.47uF)		CCEA1HHR47T		
	C6877	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6891,6892	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C6893,6894	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C6897	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C6901-6903	nsp	CHIP CAP 100PF 50V J	E2,E1C	CCUS1H101JA		
	C6904	nsp	CAP, CHIP(1608, 50V/33pF)	E2,E1C	CCUS1H330JA		
	C6907	nsp	CHIP CAP 100PF 50V J	E2,E1C	CCUS1H101JA		
	C6911	nsp	CHIP CAP 0.1UF 50V K	E2,E1C	CCUS1H104KC		
	C6921,6922	nsp	CAP , MYLAR	E2	HCQI1H822JZT		
	C6923,6924	nsp	CAP , MYLAR	E2	HCQI1H472JZT		
	C6931,6932	00D9430175108	ELECT CAP 10UF 50V	E2,E1C	CCEA1HH100T		
	C7802	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7806	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7812	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7816	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7822	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C7826	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7832	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7836	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7842	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7846	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7852	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7856	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7862	nsp	MYLAR CAP 0.047UF 50V		HCQI1H473JZT		
	C7866	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7876	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7879	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7886	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7889	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7891-7900	nsp	CAP, CHIP(2012,250V/0.01uF)		CCUC2E103KC		
	C7901,7902	nsp	METALLIZED CAP 0.1UF 250V J		KCME2E104JP04T		
	C7903	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C7905	943134010470S	ELECT CAP 0.1UF 50V		CCEA1HH0R1T		
	C7906	nsp	CAP, CHIP(2012,250V/0.01uF)		CCUC2E103KC		
	C7907,7908	963134010180S	CAP , ELECT(71V/12000uF)		CCET71VLKS123N		
	C7927	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C7931	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C9301	943134501560S	CAP , ELECT(16V/100uF)-S		CCEA1CKS101T		*
	C9302	943134501550S	CAP , ELECT(50V/10uF)-S		CCEA1HKS100T		*
	C9303	00D9430062101	CAP , ELECT(50V/10uF)-S	E2,E1C	CCEA1CH101T		
	C9304	00D9430175108	CAP , ELECT(16V/100uF)	E2,E1C	CCEA1HH100T		
	C9305	943134501550S	CAP , ELECT(50V/10uF)-S		CCEA1HKS100T		*
	C9306	943134010600S	ELECT CAP 3300UF 16V		CCEA1CH332E		
	C9307	943134501550S	CAP , ELECT(50V/10uF)-S		CCEA1HKS100T		*
	C9308	943134010600S	ELECT CAP 3300UF 16V		CCEA1CH332E		
	C9309	00MOA10705020	ELECT CAP 100UF 50V	E3,E1C	CCEA1CH101T		
	C9309	00MOA10705020	ELECT CAP 100UF 50V	E2	CCEA1HH101T		
	C9310	943134010620S	ELECT CAP 4700UF 25V		CCEA1EH472E		
	C9311	943134501560S	CAP , ELECT(16V/100uF)-S		CCEA1CKS101T		*
	C9312	943134010620S	ELECT CAP 4700UF 25V		CCEA1EH472E		
	C9316	943134010620S	ELECT CAP 4700UF 25V		CCEA1EH472E		
	C9317-9319	nsp	MYLAR CAP 0.1UF 50V J		HCQI1H104JZT		
	C9321-9323	nsp	MYLAR CAP 0.1UF 50V J		HCQI1H104JZT		
OTHERS PARTS GROUP							
	BD691	nsp	CHIP FERRITE BEAD(60ohm 4516)	E2,E1C	CLZ9Z014Z		
	BK601	nsp	PLATE , MAIN PCB		CMC2A424		
	BK901,902	nsp	BRACKET, PCB(FUSE)		CMD1A730		
	BK903,904	nsp	PCB BRACKET		CMD1A569		
	BN701	nsp	WIRE ASS'Y LOCKING (9P,2.5MM,220MM,UL1569#20,105)		CWB7E0092203D		
	BN702B	nsp	WIRE ASS'Y LOCKING (7P,2.5MM,350MM,UL1569#20,105)		CWB7E0073503D		
	BN703	nsp	WIRE ASS'Y LOCKING (3P,2.5MM,220MM,UL1569#24,105)		CWB7C0032203D		
	BN782	nsp	WIRE ASS'Y LOCKING (7P,2.5MM,120MM,UL1007#20)		CWB1E0071203D		
	BN931	nsp	WIRE ASS'Y LOCKING (5P,2.0MM,150MM,UL1007#26)		CWB1B005150HC		
	BN932	nsp	WIRE ASS'Y LOCKING (9P,2.0MM,200MM,UL1007#26)		CWB1B009200HC		
	CN61A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN62A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN63A	nsp	PIN HEADER (17P,1.25mm,STRAIGHT,B-TO-B)		CJP17GI281Z		
	CN64A	nsp	PIN HEADER (21P,1.25mm,STRAIGHT,B-TO-B)		CJP21GI281Z		
	CN781	nsp	WAFER, YW396-NNAB(7.92mm)		CJP03GA89ZY		
	CN782	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/7PIN		CJP07GI289ZY		
	CN932	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/9PIN		CJP09GI288ZY		
	CN940	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/5PIN		CJP05GI289ZY		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	CN941	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/3PIN		CJP03GI289ZY		
	CN97A	nsp	PIN HEADER (15P,1.25mm,STRAIGHT,B-TO-B)		CJP15GI281Z		
	CN98A,99	nsp	PIN HEADER (11P,1.25mm,STRAIGHT,B-TO-B)		CJP11GI281Z		
	F9301-9305	nsp	FUSE HOLDER		KJCFC5S		
	GND71	nsp	EARTH PALTE		HJT1A025		
	JK681	643010076005S	JACK, 4P(W/R,W/R),SEPA-GND, SILVER		CJJ4P048Z		
	JK682	643010079004S	JACK, 4P(W/R,W/B),SEPA-GND, SILVER		CJJ4P077Z		
	JK683	643010076005S	JACK, 4P(W/R,W/R),SEPA-GND, SILVER		CJJ4P048Z		
	JK684	943643010160S	JACK NOSPCC1PBLACK		CJJ4M046U		
	JK689	943643010150S	JACK NOSPCC2PW/R		CJJ4N034U		
	JK781	943646010240S	JACK NOSPCC6PRRR/BBB		CJJ5R008U		
	JK782	943643101050S	JACK, SPK 8P (JB-801A-CU-02)		CJJ5Q007U		*
	JK783	943646010250S	JACK NOSPCC4PRR/BB		CJJ5P011U		
	JK784,785	943643101060S	JACK, SP 2P (JB-206-01)		CJJ5N018Z		*
	JW703A	nsp	WIRE ASS'Y (1P,200MM,BLK,UL1015#20,CKM-T)		CWE7102200TT		
	JW704A	nsp	WIRE ASS'Y (1P,220MM,BLK,UL1015#20,CKM-T)		CWE7102220TT		
	JW705A	nsp	WIRE ASS'Y (1P,220MM,RED,UL1015#20,CKM-T)		CWE7112220TT		
	L6752	943115010270S	MPX COIL(FM19KHzFILTER)	E2	CLM4B001Z		
	L6922	943115010270S	MPX COIL(FM19KHzFILTER)	E2	CLM4B001Z		
	L7801	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7811	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7821	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7831	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7841	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7851	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	L7861	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK		
	RY781-784	682010023006S	RELAY 12V 2C1P		CSL3A021ZU		
	RY786,787	682010023006S	RELAY 12V 2C1P		CSL3A021ZU		
	RY788	943682000810S	RELAY 12V 2C2P		CSL4A016ZU		
	TM601	183010013007S	MODULE , TUNER	E2	CNVKSTMT104MV1-2		
	TM601	183010014000S	MODULE , TUNER	E1C	CNVKST-MT004MV1-2		

PCB INPUT ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC466	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC471	235810045600S	IC, R2A15220FP		CVIR2A15220FP		
	IC481-483	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC484	00D2623727904	I.C, NJW1194V		CVINJW1194V		
	IC486-488	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC489	00D2623727904	I.C, NJW1194V		CVINJW1194V		
	D2397	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D2399	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D4779,4780	943203003150S	DIODE 1N4007T		CVD1N4007SRT		
RESISTORS GROUP							
⚠	R2396	252310006537S	PTC THEMISTORS, CHIP(85'C)		CRTPRF18BE471QB5RB		
	R2397	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
⚠	R2399	252310006537S	PTC THEMISTORS, CHIP(85'C)		CRTPRF18BE471QB5RB		
CAPACITORS GROUP							
	C4603,4604	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4607,4608	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4613,4614	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4617,4618	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4623,4624	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4627,4628	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4661,4662	nsp	CHIP CAP 100PF 50V J	E2,E1C	CCUS1H101JA		
	C4663,4664	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4665,4666	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C4675,4676	00D9430173003	ELECT CAP 220UF10V		CCEA1AH221T		
	C4677,4678	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C4679,4680	nsp	CAP , MYLAR		HCQI1H223JZT		
	C4681,4682	nsp	CAP , MYLAR		HCQI1H682JZT		
	C4687-4690	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4701,4702	00MOA10705020	ELECT CAP 100UF 50V		CCEA1HH101T		
	C4705,4706	00D9430148708	ELECT CAP 47UF 50V		CCEA1HH470T		
	C4710,4711	00D9430148708	ELECT CAP 47UF 50V		CCEA1HH470T		
	C4713,4714	00D9430148708	ELECT CAP 47UF 50V		CCEA1HH470T		
	C4727,4728	00D9430062101	ELECT CAP 100UF 16V	E3,E1C	CCEA1CH101T		
	C4727,4728	943134500060S	ELECT CAP 100UF 50V	E2	CCEA1HH101T		
	C4729,4730	00D9430175108	ELECT CAP 10UF 50V	E3,E1C	CCEA1HH100T		
	C4729,4730	943134500070S	ELECT CAP 10UF 50V	E2	CCEA2AH100T		
	C4761,4762	00D9430175108	ELECT CAP 10UF 50V	E3,E1C	CCEA1HH100T		
	C4761,4762	943134500070S	ELECT CAP 10UF 50V	E2	CCEA2AH100T		
	C4763-4768	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4773,4774	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4781-4784	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4801,4802	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4803-4806	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C4811,4812	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4819,4820	nsp	CAP, CHIP(1608, 50V/68pF)		CCUS1H680JA		
	C4823,4824	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C4825-4828	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4831,4832	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4837,4838	nsp	CAP, CHIP(1608, 50V/3300pF)		CCUS1H332KC		
	C4839,4840	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4841,4842	943134010610S	ELECT CAP 4.7UF 50V		CCEA1HH4R7T		
	C4843	943134501580S	CAP , ELECT(25V/33uF)		CCEA1EH330T		*
	C4844	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4845	943134501580S	CAP , ELECT(25V/33uF)		CCEA1EH330T		*
	C4851,4852	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4853-4856	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C4861,4862	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4869,4870	nsp	CAP, CHIP(1608, 50V/68pF)		CCUS1H680JA		
	C4873,4874	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C4875-4878	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4881,4882	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4887,4888	nsp	CAP, CHIP(1608, 50V/3300pF)		CCUS1H332KC		
	C4889,4890	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4891,4892	943134010610S	ELECT CAP 4.7UF 50V		CCEA1HH4R7T		
	C4893	943134501580S	CAP , ELECT(25V/33uF)		CCEA1EH330T		*
	C4894	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4895	943134501580S	CAP , ELECT(25V/33uF)		CCEA1EH330T		*
OTHERS PARTS GROUP							
	BN203	nsp	WIRE ASS'Y (3P,2.0MM,100MM,UL1569#26,105)		CWB7B003100LC		
	BN461	nsp	WIRE ASS'Y LOCKING (13P,2.0MM,220MM,UL1007#26)		CWB1B013220HC		
	CN41B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN42B	nsp	PIN SOCKET (27P,1.25mm,ANGLE, B-TO-B)		CJP27HJ282Z		
	CN43B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN44B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN45B	nsp	PIN SOCKET (11P,1.25mm,ANGLE, B-TO-B)		CJP11HJ282Z		
	JK461-463	643010076005S	JACK, 4P(W/R,W/R),SEPA-GND, SILVER		CJJ4P048Z		
	JK466	943643010150S	JACK NOSPCC2PW/R		CJJ4N034U		
	JW203	nsp	WIRE ASS'Y RING (1P,150MM,BLK,UL1569#22,CKM-T)		CWE6702150ST		
	L4661,4662	nsp	COIL, TOROIDAL	E2,E1C	CLU9S004Z		

PCB VIDEO ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC551	235810046603S	IC, AVDM2000		CVIAVDM2000		
	IC552,553	00D2622012908	IC, BU4052BCF		CVIBU4052BCF		
	IC554-557	232810005504S	IC, BD7628F		CVIBD7628F		
	IC558	943239010400S	REGULATOR IC NJM2845DL133		CVINJM2845DL133		
	Q5101-5104	963212500030S	T.R , ISA1530AC1		CVTISA1530AC1		
	Q5105-5107	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q5108	963216500060S	T.R,RT1N144C(10K-47K)		CVTRT1N144C		
	Q5109-5112	943216500020S	TR RT1N141C		CVTRT1N141C		
	D5101-5108	90M-HZ200190R	DIODE, SWITCHING, SMD TYPE		HVDRLS4148SR		
	D5109	00D2760718902	DIODE, SCHOTTKY, 30V		CVDRB521S-30		
CAPACITORS GROUP							
	C5102	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C5104	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C5106	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C5108	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C5114	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	C5116	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C5118	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	C5120	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C5122	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	C5124	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C5134	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5136	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5138	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5140	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5142-5145	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T		
	C5146	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5147	963134010980S	ELECT CAP 47UF 16V		CCEA1CH470T		
	C5148	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5149	963134010980S	ELECT CAP 47UF 16V		CCEA1CH470T		
	C5150	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5152	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5154	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5155	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C5156	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5158-5161	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C5162-5164	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C5165	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5166-5169	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C5170-5173	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T		
	C5178-5181	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC		
	C5182-5189	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C5190,5191	963134010980S	ELECT CAP 47UF 16V		CCEA1CH470T		
	C5192-5201	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C5202	963134010980S	ELECT CAP 47UF 16V		CCEA1CH470T		
	C5203	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C5204	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C5205,5206	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C5209	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5210,5211	963134010980S	ELECT CAP 47UF 16V		CCEA1CH470T		
	C5212	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C5213	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C5220-5222	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C5223-5225	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	C5237-5240	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
RESISTORS GROUP							
	R5101-5108	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5110	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	R5112	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5115	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5118	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5120	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5122	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5142,5143	nsp	RES, CHIP(1608/1%/510ohm)		CRJ10DF5100T		
	R5149,5150	nsp	RES, CHIP(1608/1%/560ohm)		CRJ10DF5600T		
	R5160,5161	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5232-5234	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5248,5249	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5269-5271	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
	R5301	nsp	CHIP RES1%75OHM		CRJ10DF75R0T		
OTHERS PARTS GROUP							
	BN51A	nsp	WIRE ASS'Y (1P,100MM,BLK,UL1007#24,CKM-T)		CWE4202100AT		
	BN53A	nsp	WIRE ASS'Y (1P,100MM,BLK,UL1007#24,CKM-T)		CWE4202100AT		
	CN51B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN52B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN53B	nsp	PIN SOCKET (13P,1.25mm,ANGLE, B-TO-B)		CJP13HJ282Z		
	CN931	nsp	LOCK-WAFER/ANGLE/2MM PITCH/5PIN		CJP05GJ288ZY		
	JK551	943643101070S	JACK, 4P YL (RCA-405B-31)		CJJ4P075Z		*
	JK553	943643101080S	JACK, S-VIDEO (DIN-409A X 2)		CJJ9N001Z		*
	JK554	943643101090S	JACK, 4P YL (RCA-405B-4-31)		CJJ4P078Z		*
	JK556-558	943643101100S	JACK, 3P (RCA-303D-00-08)		CJJ4S050Z		*

PCB SMPS ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
⚠	IC901	231010091708S	I.C , OFF-LINE POWER SWITCH		CVITOP258MG		
⚠	IC902	963239010480S	I.C , PHOTOCOUPLER		CVIPC123Y22FZ0F		
	IC903	212050010508S	I.C , SHUNT REGULATOR(TO-92)		CVIKIA2431AP		
	Q9001-9003	00MHT30001000	TR KTC3199Y		HVTKTC3199YT		
	D9001-9006	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D9008,9009	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D9010	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D9012	943209500030S	DIODE , LOW FORWARD SCHOTTKY RECTIFIER		CVDSRL3060P		
	D9013	963209010430S	DIODE , RECTIFIER		CVDAP01CT		
CAPACITORS GROUP							
⚠	C9001-9003	963132011940S	CAP, CERAMIC(X1/Y2,0.01uF,AC250V)		CCKDKY103MFM		
	C9004	943134501590S	CAP , ELECT(200V/100uF)105, 16X20	E3	CCET200NHA101ES		*
	C9004	963134010200S	CAP, ELECT(400V/100uF)105,18X31.5	E2,E1C	CCET400NHA101ES		*
	C9006-9008	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9009	00D9430175108	CAP , ELECT(50V/10uF)		CCEA1HNXA100TS		
	C9010	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9012	963132010120S	CAP, CERAMIC(DC1KV/1000pF)		CCKDDEH102KCM		
	C9016	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9017	00MOA47602520	CAP, ELECT(25V/47uF)		CCEA1ENXA470TS		
	C9018	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9019	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C9020-9022	963134010220S	CAP , ELECT(6.3V/5600uF)		CCEA0JNXA562ES		
	C9024	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
⚠	C9028	963132011930S	CAP, CERAMIC(X1/Y1,2200P,AC250V)		CCKDKX222MEM		
	C9029	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
RESISTORS GROUP							
	R9021	nsp	RES, CHIP(1608/1%/22Kohm)		CRJ10DF2202T		
	R9024	nsp	RES, CHIP(1608/1%/6.8Kohm)		CRJ10DF6801T		
⚠	R9031-9034	943121500030S	RES, CHIP(2012/5%/2.2Mohm)		CRJ18AJ225T		
OTHERS PARTS GROUP							
	BK901	nsp	PCB BRACKET		CMD1A188		
	BK903	nsp	BRACKET , PCB		CMD1A629		
	BN903	nsp	WIRE ASS'Y LOCKING (5P,2.5MM,400MM,UL1569#22,105)		CWB7D0054003D001		
	CN902	nsp	WAFER 2PIN		CJP02GA89ZY		
⚠	CX901	943139500020S	CAP , POLYPROPYLENE FILM (0.1uF/275VAC)		CCQF2E104KZE-T		
⚠	CY901,902	963134011730S	CAP, CERAMIC(X1/Y1,470P,AC250V)		CCKDKX471KBM		
	F9001	nsp	FUSE HOLDER		KJCFC5S		
⚠	F9001	963652010510S	FUSE(S506 Series, 250V,2A)		CBA2C2000TLEC		
⚠	F9002	nsp	FUSE HOLDER		KJCFC5S		
⚠	F9002	652010025056S	FUSE(S506 Series, 250V,6.3A)		CBA2C6300TLEC		
⚠	F9301-9305	963652010910S	FUSE(S506 Series, 250V,3.15A)		CBA2C3150TLEC		
⚠	JK901	963641011240S	RECEPTACLE, (10A/AC250V)		CJJ8A015ZM		
⚠	LF902	963111010230S	LINE FILTER, 27uH		CLZ9Z126Z		
⚠	RY901	963682010370S	RELAY, POWER(DC5V, 1C1P)		CSL1C006ZE		
⚠	T9001	963102010240S	TRANS, SWITCHING(ST-4430A)		CLT9Z067ZE		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	ZD901,902	00D2760762958	DIODE , ZENER 39V	E3	CVDZJ39BT		
	ZD901,902	nsp	RES, CARBON(1/5W,1Mohm,J)	E2,E1C	CRD20TJ105T		
	ZD903	963202010440S	DIODE , ZENER 22V	E3	CVDZJ22BT		
	ZD903	00D2760762958	DIODE , ZENER 39V	E2,E1C	CVDZJ39BT		
	ZD904-907	nsp	COPPER WIRE	E3	C3A206		
	ZD904-907	00D2760762958	DIODE , ZENER 39V	E2,E1C	CVDZJ39BT		
	ZD908-910	00D2760762958	DIODE , ZENER 39V	E3	CVDZJ39BT		
	ZD911-918	963202010440S	DIODE , ZENER 22V		CVDZJ22BT		
	ZD919	00D9600095607	DIODE , ZENER 5.6V		CVDZJ5.6BT		
	ZD920	00D2760762958	DIODE , ZENER 39V		CVDZJ39BT		

PCB HDMI ASSY

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC101	nsp	I.C, HDMI BUFFER		CVIAD8195ACPZ		
	IC111	236810057606S	I.C , HDMI MUX		CVIADV3002BSTZ		
	IC112	234810018506S	I.C , ANALOG MUX/DeMUX		CVITC74VHC4052AFT		
	IC121	nsp	I.C, HDMI RX/Decoder(BGA-425P)		CVIADV7844KBCZ		
	IC122	963239002150S	I.C , OCTAL BUFFER/DRIVER		CVISN74LVC244APWR		
	IC151	nsp	I.C , VSP(ADV8002-1)		CVIADV8002KBCZ		
	IC152,153	nsp	I.C , DDR2 SDRAM(1G,800MHZ,FBGA)		CVIK4T1G164QF-BCF7		
	IC155	943248100720D	I.C , OSD SERIAL FLASH (AVR3312/MX25L6406EM2I-12G)	E3,E2	CVIANAM1574AV		*
	IC155	943248100870S	I.C,OSD SERIAL FLASH (AVR3312E1C/MX25L6406EM2I-12G)	E1C	CVIANAM1575AV		*
	IC156	943239010400S	I.C, REGULATOR(1.8V/TO-252)		CVINJM2845DL118		
	IC201	943243100620D	I.C , MAIN MCU(AVR3312/R5F5630ECDFB)		CVIANAM1580AV		*
	IC202	246810026500S	I.C EEPROM(256K, 32-kword x 8 bit)		CVIR1EX24256ASAS0A		
	IC231	943243100630D	I.C , SUB MCU(AVR2312/R5F3650KNFB)		CVIANAM1596AV		*
	IC241	00D2623448908	I.C , 3STATE QUAD BUFFER		CVITC74VHC125FT		
	IC242	00D2623437906	I.C , OCTAL BUS BUFFER		CVITC74VHCT244AFT		
	IC243	00D2623444902	IC TC74VHC08FT		CVITC74VHC08FT		
	IC301-305	nsp	IC EX3AV		CVIEX3AV		
	IC306,307	943239010400S	REGULATOR IC NJM2845DL133		CVINJM2845DL133		
	IC308	234810015507S	I.C, VOLTAGE DETECTOR(4.8V)		CVIBU4248F-TR		
	IC309	nsp	IC EX3AV		CVIEX3AV		
	IC320	943652500030S	POLY SWITCH (1.6A, 8V)		CBA5H1600PSUYT		
	IC321	103810002508S	Pulse-Trans(HIGH SPEED LAN MAGNETICS)		CVIS558-5999U7F		
	IC322	nsp	I.C, ETHERNET PHY		CVILAN8700CAEZGTR		
	IC323	00D2623711004	I.C, VIDEO ENCODER		CVISAA7121H/V2.518		
	IC324	nsp	I.C , IPOD AUTHENTICATION CHIP FROM MARANTZ		CVI236710076509S-DM		
	IC390	nsp	I.C , IPOD AUTHENTICATION CHIP FROM MARANTZ		CVIDM860		
	IC391	nsp	I.C ,NETWORK NAND FLASH (AVR3312E3/H27U1G8F2BTR-BC)	E3	CVIANAM1588AV		
	IC391	nsp	I.C ,NETWORK NAND FLASH (AVR3312E2/H27U1G8F2BTR-BC)	E2	CVIANAM1589AV		
	IC391	nsp	I.C,NETWORK NAND FLASH (AVR3312E1C/H27U1G8F2BTR-BC)	E1C	CVIANAM1591AV		
	IC392	246810063608S	I.C , 256M SDRAM		CVIW9825G6JH-6		
	IC401	00D2623077900	I.C , HEX INVERTER		HVITC74VHCU04FT		
	IC403-405	236810062608S	I.C , DIR		CVILC89058W-E		
	IC406	943236101000S	I.C , PLD(AVR2312/EPM240T100C5N)		CVIANAM1602AV		*
	IC407	236810083506S	I.C , CLOCK JITTER		CVICS210010-CZZR		
	IC408	nsp	I.C , DSP(LQFP-176P/400M)		CVIADSP21487KSWZ-4B		
	IC409	943246012690S	I.C , 64M SDRAM		CVIW9864G6JH-6		
	IC410	943248100730D	I.C , DSP(AVR2312/MX29LV160DBTI-7-G)		CVIANAM1599AV		*
	IC441	236810073509S	I.C , DAC(8CH 192kHz 24-Bit)		CVIAK4358VQ		
	IC442,443	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC445	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC447	00D2631289900	IC AZ4580MTR-E1		CVIAZ4580MTR-E1		
	IC451	236810086505S	I.C , ADC(96kHz 24-Bit)		CVIAK5358BET		
	IC455	236810070500S	I.C , DAC(2CH 192kHz 24-Bit)		CVIAK4424ET		
	IC457	236810070500S	I.C , DAC(2CH 192kHz 24-Bit)		CVIAK4424ET		
	Q1001	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1002	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1101	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1102	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1103	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1104	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1105	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1106	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1107-1109	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q1110	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1111	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1201	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1202	943216500040S	TR RT1N241C		CVTRT1N241C		

NOTE :
When update Firmware, please confirm a last version in SDI.
Use the service board after updating it.

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	Q1203	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q1204	943216500040S	TR RT1N241C		CVTRT1N241C		
	Q1205	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q1502	90M-HY200050R	F.E.T (NEC)		CVTUPA672T		
	Q1503-1506	963212500030S	T.R , ISA1530AC1		CVTISA1530AC1		
	Q1507	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q1508	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2008	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q2009	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2012,2013	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2301	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q2302,2303	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q2304,2305	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2306	943214500030S	T.R , MUTE INC2001AC1		CVTINC2001AC1		
	Q2401	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q2402	963212500030S	T.R , ISA1530AC1		CVTISA1530AC1		
	Q2403,2404	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2405	963212500030S	T.R , ISA1530AC1		CVTISA1530AC1		
	Q2406-2408	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2411	943214500020S	TR 2SC3052		CVT2SC3052		
	Q2414	943214500020S	TR 2SC3052		CVT2SC3052		
	Q3000	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q3003	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)		CVTTPC6111		
	Q3005	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q3008	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)		CVTTPC6111		
	Q3009	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q3013	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)		CVTTPC6111		
	Q3019	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q3021	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3022	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		
	Q3023	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)		CVTTPC6111		
	Q3025	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3026	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3027	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3028	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3031	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3032	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3034	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3035	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3036	00D2710326904	T.R,2SA1954		CVT2SA1954		
	Q3037	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3038	943214500020S	TR 2SC3052		CVT2SC3052		
	Q3200	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)		CVTTPC6111		
	Q3201	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q3900	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q3901	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q4001	943216500020S	TR RT1N141C		CVTRT1N141C		
	Q4002	943215500020S	TR RT1P141C		CVTRT1P141C		
	Q4003	943216500020S	TR RT1N141C		CVTRT1N141C		
	D1141	00D2760718902	DIODE, SCHOTTKY, 30V		CVDRB521S-30		
	D1501	00D2760794900	DIODE, ULTRA-HIGH SPEED		CVDKDS160RTKP		
	D2001,2002	00D2760794900	DIODE, ULTRA-HIGH SPEED		CVDKDS160RTKP		
	D2004	nsp	RES, CHIP(1608/5%/470Kohm)		CRJ10DJ474T		
	D2007	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D2008,2009	00D2760718902	DIODE, SCHOTTKY, 30V		CVDRB521S-30		
	D2301	00D2760794900	DIODE, ULTRA-HIGH SPEED		CVDKDS160RTKP		
	D3001,3002	00D2760794900	DIODE, ULTRA-HIGH SPEED		CVDKDS160RTKP		
CAPACITORS GROUP							
	C1001	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1003-1006	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1007	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1008-1012	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1013	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1014	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1015	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C1016	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1017	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1018-1020	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1021-1029	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1101-1104	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1112-1114	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1115	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1116	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C1117-1120	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1201,1202	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1204	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1205	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1206	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1207,1208	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1209,1210	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1211,1212	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1213	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1214,1215	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1216	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1217	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1218	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1219-1221	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1222	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1223	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1224	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1225	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1226-1228	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1229-1231	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1232	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1233-1235	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1236	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1237-1239	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1240-1247	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1248	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1249	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1250,1251	nsp	CAP, CHIP(1005, 50V/15pF)		CCUI1H150JA		
	C1252	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1253-1256	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1257	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1259-1262	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1263	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1264,1265	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1266-1273	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1274	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1275	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1276	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1277	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1278,1279	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1280,1281	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1282-1284	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1285	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1286	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1287,1288	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1289	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1290	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1291-1293	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1294	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1303-1307	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1308-1310	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1311,1312	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1315,1316	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1317-1319	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1320-1326	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1328-1334	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1501	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1502	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1504	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1505,1506	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C1507	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1508	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1509	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1510	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1511	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1512,1513	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1514	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1515	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1516,1517	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1518	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1519-1528	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1530	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1531	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1532	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1533	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1534,1535	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1536-1538	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1539	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1540	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1541	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1542	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1543	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1544	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1545,1546	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1547	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1548	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1549	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1550	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1551	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1552	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1553	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1554	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1555	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1556	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1557	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1558	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1559,1560	nsp	CAP, CHIP(1608, 50V/7pF)		CCUS1H070DA		
	C1562	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1563-1566	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C1567,1568	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1577	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1578	nsp	CAP, CHIP(1608, 16V/0.15uF)		CCUS1C154KC		
	C1579	nsp	CAP, CHIP(1005, 25V/0.012uF)		CCUI1E123KC		
	C1580	nsp	CAP, CHIP(1608, 16V/0.15uF)		CCUS1C154KC		
	C1581	nsp	CAP, CHIP(1005, 25V/0.012uF)		CCUI1E123KC		
	C1582,1583	nsp	CAP, CHIP(1005, 50V/2200pF)		CCUI1H222KC		
	C1586-1588	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C1590,1591	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1594-1625	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1626	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C1627	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1628	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C1629	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C1630,1631	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1632,1633	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1634	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1635	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1637	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1640	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1641	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1643-1648	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1649	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1650,1651	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1652	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1653	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1654	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1655,1656	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1657	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C1658	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1659	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1660	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1661,1662	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C1665	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1670	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1671	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1672	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C1673	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C1674	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C1675	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2001	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2002	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2003	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C2004	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2005	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C2012-2015	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2018	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2024,2025	nsp	CAP, CHIP(1608, 50V/12pF)		CCUS1H120JA		
	C2026	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2029-2032	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2037	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2039	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C2042,2043	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C2044-2053	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C2301,2302	nsp	CAP, CHIP(1608, 50V/10pF)		CCUS1H100JA		
	C2303	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2304	nsp	CAP, CHIP(1608, 10V/0.47uF)		CCUS1A474KC		
	C2310	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2311	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C2312	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2314-2316	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2325,2326	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C2401,2402	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2403	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C2404-2407	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C2408-2410	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC		
	C2908	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C2910-2917	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2922-2925	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C2932-2943	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3000	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3002	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3003	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3004	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3007	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3008	nsp	CAP, CHIP(1608, 50V/10pF)		CCUS1H100JA		
	C3011	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3013	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3014	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3015	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3018	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3019	nsp	CAP, CHIP(1608, 50V/10pF)		CCUS1H100JA		
	C3022	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3024	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3025	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3028	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3029	nsp	CHIP CAP 15PF 50V		CCUS1H150JA		
	C3031	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3032	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3033	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3035	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3036	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3039	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3040	nsp	CHIP CAP 15PF 50V		CCUS1H150JA		
	C3041	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3044	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3046	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C3049	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3050	nsp	CHIP CAP 15PF 50V		CCUS1H150JA		
	C3051	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3054	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3055	nsp	CAP, CHIP(1005, 25V/0.022uF)		CCUI1E223KC		
	C3056	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3059-3062	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3067,3068	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3071	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3074	943134500030S	CAP, SMD ELECT(16V/470uF)		CCEC1CRV471T		
	C3075	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3077	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3079	943134500030S	CAP, SMD ELECT(16V/470uF/MANLEX RV, 10X10)	E2	CCEC1CRV471T		
	C3080	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3081	nsp	CHIP CAP 0.015UF 25V		CCUI1E153KC		
	C3082	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C3083,3084	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3087	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3102	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3103	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3106	nsp	CAP,CHIP(2012,10V/22uF)		CCUC1A226KC		
	C3107	nsp	CHIP CAP 15PF 50V		CCUS1H150JA		
	C3108	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3109	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3110	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C3144	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3145,3146	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C3147	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C3156	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3200	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3201	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3202	nsp	CAP, CHIP(1005, 25V/0.022uF)		CCUI1E223KC		
	C3203	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3204	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3205	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3206	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3207,3208	nsp	CAP, CHIP(1005, 50V/15pF)		CCUI1H150JA		
	C3209	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3210,3211	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3213	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3215,3216	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3218	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3219-3222	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3223	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3224,3225	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3226	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3228,3229	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3234	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3243-3247	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3248,3249	nsp	CAP, CHIP(1005, 50V/1pF)		CCUI1H1R0CA		
	C3253	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C3255	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C3900	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C3901,3902	nsp	CAP, CHIP(1005, 50V/12pF)		CCUI1H120JA		
	C3904-3907	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3908-3918	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3923	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3926-3929	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3930-3939	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3944	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3947	nsp	CAP, CHIP(1608,6.3V/4.7uF)		CCUS0J475KC		
	C3950-3958	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C3960-3966	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4003,4004	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C4005-4008	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4009,4010	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC		
	C4012-4014	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4015	nsp	CHIP CAP 0.022UF 50VK		CCUS1H223KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C4016,4017	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4018	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4020	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC		
	C4021	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4022,4023	nsp	CAP, CHIP(1005, 50V/12pF)		CCUI1H120JA		
	C4024-4029	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4030	nsp	CHIP CAP 0.022UF 50VK		CCUS1H223KC		
	C4031,4032	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4033	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4034-4040	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4041	nsp	CHIP CAP 0.022UF 50VK		CCUS1H223KC		
	C4042,4043	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4044	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4045-4051	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4052	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4053,4054	nsp	CAP, CHIP(1005, 50V/100pF)		CCUI1H101JA		
	C4055-4060	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4062	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4063	nsp	CAP, CHIP(1005, 50V/100pF)		CCUI1H101JA		
	C4064-4066	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4067,4068	nsp	CAP, CHIP(1608, 50V/10pF)		CCUS1H100JA		
	C4069-4114	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4121-4168	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4171-4175	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4402	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4404-4407	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF		
	C4408	943134500040S	CAP, CHIP ELECT(16V/100uF)		HCEC1CRV2101T		
	C4411,4412	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4423-4426	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA		
	C4429,4430	943134500040S	CAP, CHIP ELECT(16V/100uF)		HCEC1CRV2101T		
	C4431,4432	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4443-4446	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA		
	C4451,4452	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4463-4466	nsp	CAP, CHIP(1608, 50V/470pF)		CCUS1H471JA		
	C4471,4472	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4483-4486	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA		
	C4491,4492	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4493,4494	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4497-4499	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4505,4506	nsp	CHIP CAP 4700PF 50V		CCUS1H472KC		
	C4507,4508	943134500050S	CAP, CHIP ELECT(16V/10uF)		HCEC1CRV2100T		
	C4511,4512	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C4513,4514	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF		
	C4516	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC		
	C4537,4538	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4540-4542	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4544	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4551	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C4552,4553	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF		
	C4554	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C4557,4558	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C4560	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC		
	C4571	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C4572,4573	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF		
	C4574	nsp	CHIP CAP 1UF 10V		CCUS1A105KC		
	C4577,4578	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC		
	C4581	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4583-4591	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
	C4593	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC		
RESISTORS GROUP							
	R1225,1226	nsp	RES, CHIP(1608/1%/1Kohm)		CRJ10DF1001T		
	R1515-1518	nsp	RES, CHIP(1608/1%/300ohm)		CRJ10DF3000T		
	R1523,1524	nsp	RES, CHIP(1608/1%/2.7Kohm)		CRJ10DF2701T		
	R1528	nsp	RES, CHIP(1608/1%/220ohm)		CRJ10DF2200T		
	R1529	nsp	RES, CHIP(1608/1%/3.9Kohm)		CRJ10DF3901T		
	R1530	nsp	RES, CHIP(1608/1%/220ohm)		CRJ10DF2200T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	R1531	nsp	RES, CHIP(1608/1%/3.9Kohm)		CRJ10DF3901T		
	R1532,1533	nsp	RES, CHIP(1608/1%/180ohm)		CRJ10DF1800T		
	R1575,1576	nsp	RES, CHIP(1608/1%/1Kohm)		CRJ10DF1001T		
	R1611	nsp	RES, CHIP(1608/1%/2.2Kohm)		CRJ10DF2201T		
	R1612	nsp	RES, CHIP(1608/1%/1.3Kohm)		CRJ10DF1301T		
	R1635-1638	nsp	RES, CHIP(1608/1%/51ohm)		CRJ10DF51R0T		
	R3003	nsp	RES, CHIP(1608/1%/47Kohm)		CRJ10DF4702T		
	R3009	nsp	RES, CHIP(1608/1%/47Kohm)		CRJ10DF4702T		
	R3015	nsp	RES, CHIP(1608/1%/120Kohm)		CRJ10DF1203T		
	R3020	nsp	RES, CHIP(1608/1%/300Kohm)		CRJ10DF3003T		
	R3026	nsp	RES, CHIP(1608/1%/470Kohm)		CRJ10DF4703T		
	R3105	nsp	RES, CHIP(1608/1%/120Kohm)		CRJ10DF1203T		
	R3223	nsp	RES, CHIP(1005/1%/6.8Kohm)		CRJ06IF6801T		
	R3224	nsp	RES, CHIP(1005/1%/5.6Kohm)		CRJ06IF5601T		
OTHERS PARTS GROUP							
	BD401	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZ9R006Z		
	BK101,102	nsp	PCB BRACKET		CMD1A569		
	BK103	nsp	EARTH , HDMI		CMC1A422		
	CN101	nsp	WAFER CARD CABLE 23P, 1.0MM		CJP23GA193ZY		
	CN121	nsp	WAFER CARD CABLE 23P, 1.0MM		CJP23GA193ZY		
	CN203	nsp	WAFER , SMD (2MM PITCH)-3P		CJP03GA208ZY		
	CN21B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN22B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN23B	nsp	PIN SOCKET (13P,1.25mm,ANGLE, B-TO-B)		CJP13HJ282Z		
	CN24B	nsp	PIN SOCKET (27P,1.25mm,ANGLE, B-TO-B)		CJP27HJ282Z		
	CN25B	nsp	PIN SOCKET (17P,1.25mm,ANGLE, B-TO-B) P		CJP17HJ282Z		
	CN26B	nsp	PIN SOCKET (15P,1.25mm,ANGLE, B-TO-B)		CJP15HJ282Z		
	CN27B	nsp	PIN SOCKET (21P,1.25mm,ANGLE, B-TO-B)		CJP21HJ282Z		
	CN28B	nsp	PIN SOCKET (11P,1.25mm,ANGLE, B-TO-B)		CJP11HJ282Z		
	CN321	nsp	WAFER SMD(2MMPITCH)		CJP05GA208ZY		
	CN69B	nsp	WAFER, FFC, 40P, 1mm(SMD)		CJP40GA193ZY		
	CN704	nsp	WAFER SMD(2MMPITCH)		CJP05GA208ZY		
	CN903	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/5PIN		CJP05GI289ZY		
	J3200	943646100430S	JACK, RJ-45		CJJ9L022Z		*
	JK101	943643100040S	JACK,HDMI(KSI-TWI,W/FLANGE)		CJJ9H014Z		
	JK111-114	943643100040S	JACK,HDMI(KSI-TWI,W/FLANGE)		CJJ9H014Z		
	JK121,122	943643100040S	JACK,HDMI(KSI-TWI,W/FLANGE)		CJJ9H014Z		
	JK151,152	943643100040S	JACK,HDMI(KSI-TWI,W/FLANGE)		CJJ9H014Z		
	JK201	943643010220S	JACK 3.5PIHORIZONTALWITHOUTRING		CJJ2E033Z		
	JK202,203	643010086002S	JACK, STEREO (BLK MOLD)		CJJ2D008Z		
	JK401	943643101110S	JACK, 2P O (RCA-215A-00-01)		CJJ4N068Y		*
	JK402,403	262010004005S	MODULE , OPTICAL (RX,3.3V)		HJSTORX147L		
	L1001,1002	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	L1102	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	L1201-1207	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
	L1501-1512	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
	L1513	nsp	COIL , CHIP(22uH, 3225)		CLQ10E220KRX		
	L1514,1515	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
	L1516	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	L1517	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
	L1518	nsp	COIL , CHIP(22uH, 3225)		CLQ10E220KRX		
	L1521,1522	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
	L2903-2934	nsp	RES,CHIP(0OHM,5%,1608)		CRJ10DJ0R0T		
	L3000-3009	nsp	RES, CHIP(3216/5%/0ohm)		CRJ14CJ0R0T		
	L3011-3013	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZBLM21PG221SN1		
	L3014	nsp	FERRITE CHIP BEAD(2012/120ohm)		CLZBLM21AG121SN1		
	L3015,3016	nsp	RES, CHIP(3216/5%/0ohm)		CRJ14CJ0R0T		
	L3081-3086	nsp	RES, CHIP(3216/5%/0ohm)		CRJ14CJ0R0T		
	L3200,3201	nsp	COIL, CHOKE CHIP(2012/90R)		CLZ9Z128Z		
	L3202-3206	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZ9R006Z		
	L3208	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZ9R006Z		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	L3211	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	L3212	nsp	COIL, CHOKE CHIP(2012/180R)		CLZ9Z127Z		
	L3213,3214	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
	L3900-3902	nsp	FERRITE CHIP BEAD(2012/220ohm)		CLZ9R006Z		
	RY151	943682100250S	RELAY, (DC5V/2C2P/BC1-5S-R)		CSL4C012ZE		*
	X1201	141810044504S	CRYSTAL, SMD, 28.6363MHz		COX286363I120SR		
	X1501	141810045507S	CRYSTAL, SMD, 27MHz		COX27000I330SR		
	X2001	00D3991038900	CRYSTAL, SMD, 12MHz		COX12000I100SR		
	X2301	141810048506S	CRYSTAL, SMD, 16MHz		COX16000I100SR		
	X3900	141810049509S	CRYSTAL, SMD, 24MHz		COX24000I120SR		
	X4001	141810046500S	CRYSTAL, SMD, 24.576MHz		COX24576I100SR		
	X4002	141810050509S	CRYSTAL, SMD, 25MHz		COX25000I070SR		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	1	-	set			1	
	2	nsp	POLY BAG		CPP1A081X	1	
	3	943533100960D	SNOW, PAD L		CPS1A905	1	*
	4	943533100950D	SNOW, CUSHION R		CPS1A906	1	*
!	5	90M-ZC000310R	CORD , POWER(PLUG+SOCKET)UL	E3	CJA2A070Z	1	
!	5	90M-ZC000320R	CORD , POWER, EUR,10A,250V	E2	CJA2B054Z	1	
!	5	90M-ZC000650R	CORD , POWER, 10A,125V	E1C	CJA2N075Z	1	
	6	-	INSTRUCTION MANUAL ASS'Y		-	1	
	6-1	352010044005D	MANUAL, CD ASS'Y	E3	CFT1A044ZA	1	*
	6-1	352010045008D	MANUAL, CD ASS'Y	E2	CFT1A045ZA	1	*
	6-1	352010053009D	MANUAL, CD ASS'Y	E1C	CFT1A046ZA	1	*
	6-2	nsp	CARD, WARRANTY	E3	CQE1A224Q	1	
	6-2	nsp	CARD, WARRANTY	E1C	CQE1A473Y	1	
	6-3	nsp	S.S LIST		CQE1A226P	1	
	6-4	542110064009D	MANUAL, GUIDE	E3	CQX1A1624Z	1	*
	6-4	542110065002D	MANUAL, GUIDE	E2	CQX1A1625Z	1	*
	6-4	542110067008D	MANUAL, GUIDE	E1C	CQX1A1626Z	1	*
	6-5	307010087002D	REMOCON ASS'Y(RC-1156)		CARTAVR2312	1	
	6-6	nsp	BATTERY(AA)		CABR6PPB	2	
	6-7	00D2310089007	ANT, AM LOOP(HD RADIO),105uH, 18T	E3	CSA1A038Z	1	
	6-7	00D2310089007	ANT , AM LOOP(9.5uH, 5T)	E2	CSA1A032Z	1	
	6-8	90M-ZA000230R	FM 1 POLANT(UL)		CSA1A019Z	1	
	6-9	nsp	CARD FOR CHINA INDENTIFICATION	E1C	CQE1A450Z	1	
	6-10	nsp	POLY BAG(MANUAL)		CPB1A197Z	1	
	7	943531101830D	BOX, OUT CARTON	CIBKE3	CPG1A948W	1	*
	7	943531101850D	BOX, OUT CARTON	BKE2	CPG1A948V	1	*
	7	943531101890D	BOX, OUT CARTON	SPE1C	CPG1A948U	1	*
	8	nsp	CONTROL LABEL		CQB1A993Z	1	
	9	nsp	COLOR LABEL	SPE1C	CQB1A676	2	
	10	324010001003D	DM-A409EM		CJXAVR1612A	1	
	11	nsp	LABEL, LICENSE		CQB1A1061Z	1	
	□12	nsp	PESHEET		CPE1D001	1	
	□13	nsp	LABEL BARCODE(SET)		CQB1A978	1	
	□14	nsp	RIBON BARCODE		CQS1A001	1	
	□15	nsp	BARCODE LABEL(MANUAL)		CQB1A971	1	