

SERVICE MANUAL

MODEL	JP	E3	E2	E1	EK	EA	E1C	E1K
AVR-E300		✓						
AVR-X1000		✓	✓	✓			✓	
AVR-X1010							✓	

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.

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ABOUT THIS MANUAL

Read the following information before using the service manual.

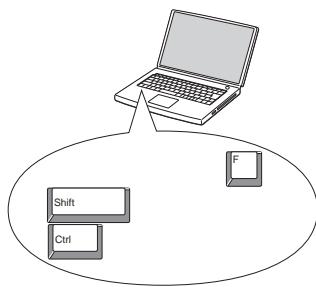
What you can do with this manual

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

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

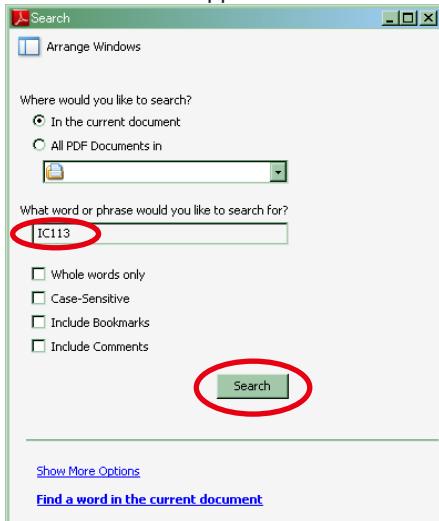
1.Press **Ctrl+Shift+F** on the keyboard.

- The Search window appears.



2.Enter the Ref. No. you want to search for in the Search window, and then click the **Search** button.

- A list of search results appears.



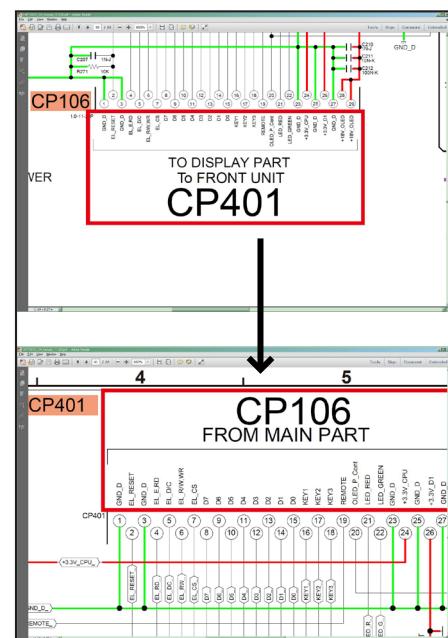
3.Click an item on the list.

- The screen jumps to the page for that item, and the search phrase is displayed.

Jump to the target of a schematic diagram connector

Click the Ref. No. of the target connector in the red box around a schematic diagram connector.

- The screen jumps to the target connector.



- Page magnification stays the same as before the jump.

Using Adobe Reader (Windows version)

Add notes to this data (Sign)

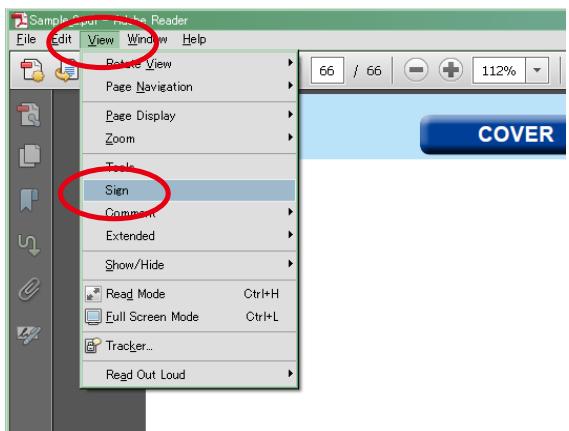
The Sign function lets you add notes to the data in this manual.

Save the file once you have finished adding notes.

[Example using Adobe Reader X]

On the "View" menu, click "Sign".

- The Sign pane appears.



[Example using Adobe Reader 9]

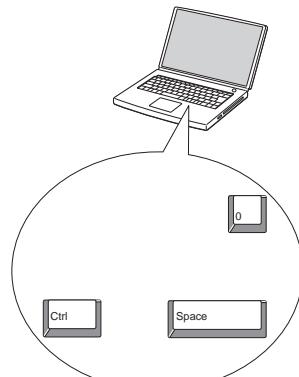
On the "Document" menu, click "Sign".

Magnify schematic / printed wiring board diagrams - 1

(Ctrl+Space, mouse operation)

Press **Ctrl+Space** on the keyboard and drag the mouse to select the area you want to view.

- The selected area is magnified.

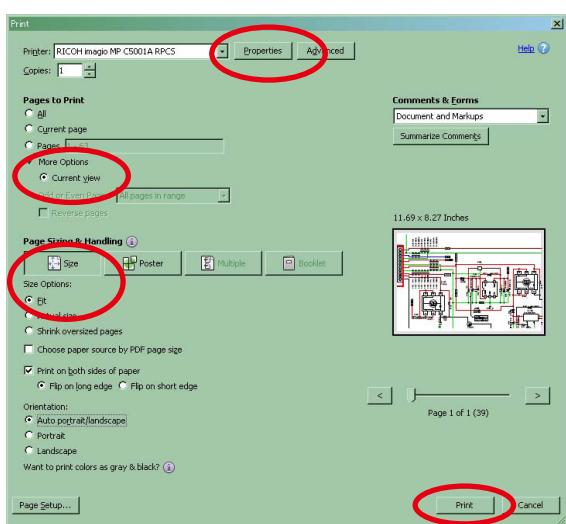


- When you want to move the area shown, hold down **Space** and drag the mouse.
- When you want to show a full page view, press **Ctrl+0** on the keyboard.

Print a magnified part of the manual

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

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



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

Properties

Click this button and check that the printer is set to a suitable paper size.

Page to print

Select the following checkbox.

"More Options" : "Current View"

Page Sizing & Handling

Select the following checkbox.

"Size" / "Size Options" : "Fit"

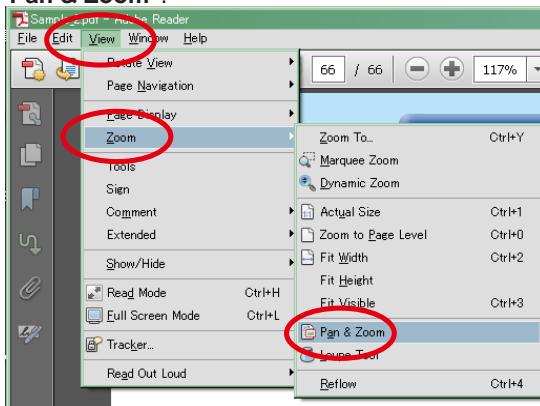
Magnify schematic / printed wiring board diagrams - 2

(Pan & Zoom function)

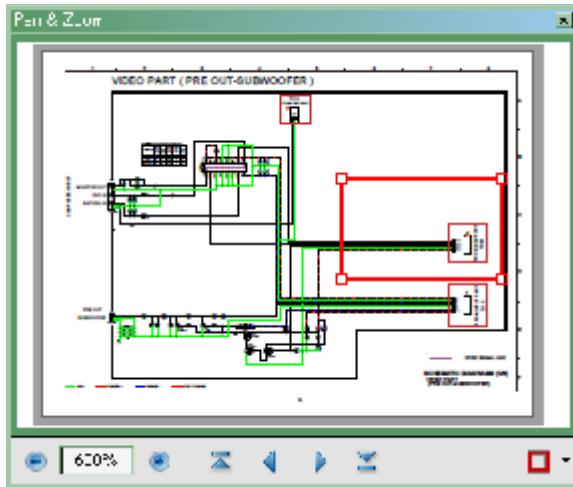
The Pan & Zoom function lets you see which part of a magnified diagram is being shown in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Pan & Zoom".



- The Pan & Zoom window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Pan & Zoom Window".

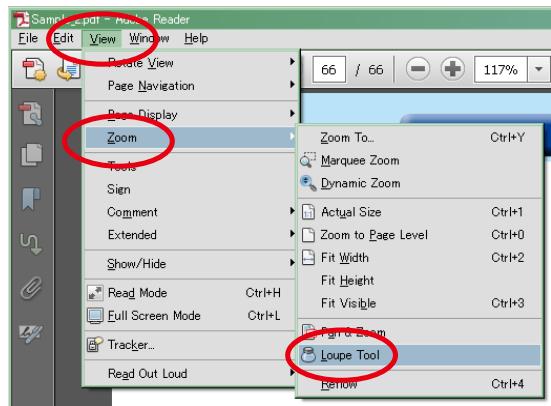
Magnify schematic / printed wiring board diagrams - 3

(Loupe Tool function)

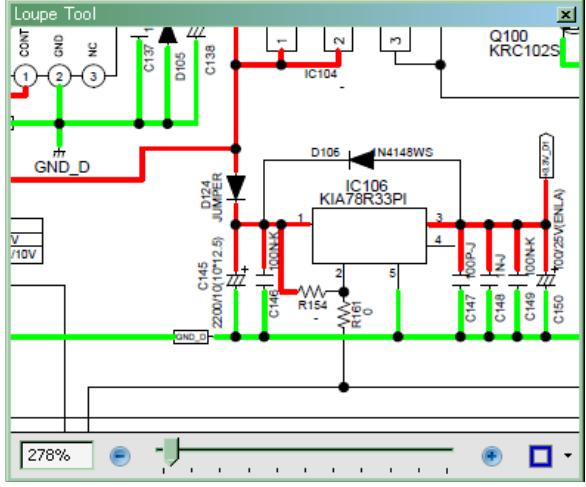
The Loupe Tool function lets you magnify a specific part of a diagram in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Loupe Tool".



- The Loupe Tool window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Loupe Tool Window".

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 millamps, 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 millamps, 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.

INSTRUCTIONS FOR HANDLING SEMI-CONDUCTORS AND OPTICAL UNIT

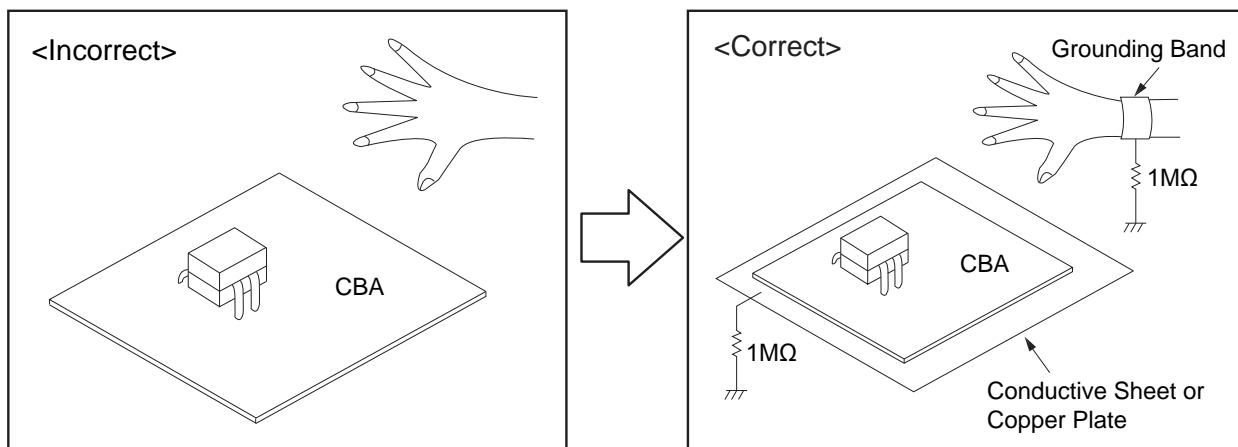
Electrostatic breakdown of the semi-conductors or optical pickup may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band ($1 M\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding ($1 M\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing



TECHNICAL SPECIFICATIONS

Audio Section

• Power amplifier

Rated output :

Front : (for AVR-E300)
 75 W + 75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W + 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

Front : (for AVR-X1000/1010)
 80 W + 80 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W + 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
 135 W + 135 W (6Ω, JEITA)

Center : (for AVR-E300)
 75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

Center : (for AVR-X1000/1010)
 80 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
 135 W (6Ω, JEITA)

Surround : (for AVR-E300)
 75 W + 75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W + 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

Surround : (for AVR-X1000/1010)
 80 W + 80 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
 120 W + 120 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
 135 W + 135 W (6Ω, JEITA)

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 : 98 dB (IHF-A weighted, DIRECT mode)

Video section

• Standard video connectors

Input/output level and impedance : 1 Vp-p, 75 Ω

Frequency response: 5 Hz – 10 MHz — 0, -3 dB

Tuner section

[FM](Note: μ V at 75 Ω, 0 dBf = 1×10^{-15} W)

Receiving Range (for E3) :

[FM] 87.5 MHz – 107.9 MHz

Receiving Range (for E2/E1C) :

[FM] 87.5 MHz – 108.0 MHz

Usable Sensitivity :

[FM] 1.2μ V (12.8 dBf)

50 dB Quieting Sensitivity :

[FM] MONO 2.8μ V (20.2 dBf)

S/N (IHF-A) :

[FM] MONO 70 dB (IHF-A weighted, DIRECT mode)

STEREO 67 dB (IHF-A weighted, DIRECT mode)

Total harmonic Distortion (at 1 kHz) :

[FM] MONO 0.7 %

STEREO 1.0 %

General

Power supply : (for E3) : AC 120 V, 60 Hz
 (for E2/E1) : AC 230 V, 50 Hz / 60Hz
 (for E1C) : AC 220 V, 50 Hz

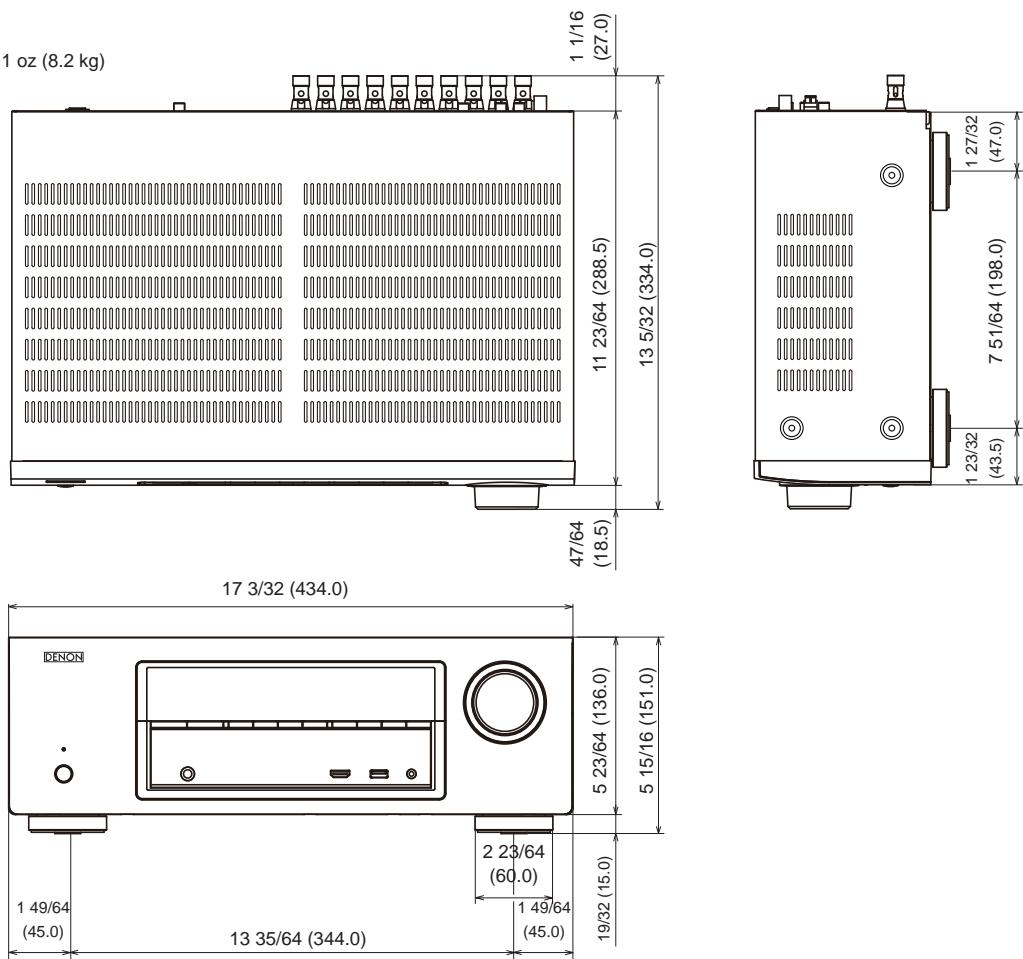
Power consumption : 360 W (for AVR-E300)
 390 W (for AVR-X1000/1010)
 0.1 W (Standby)

DIMENSION

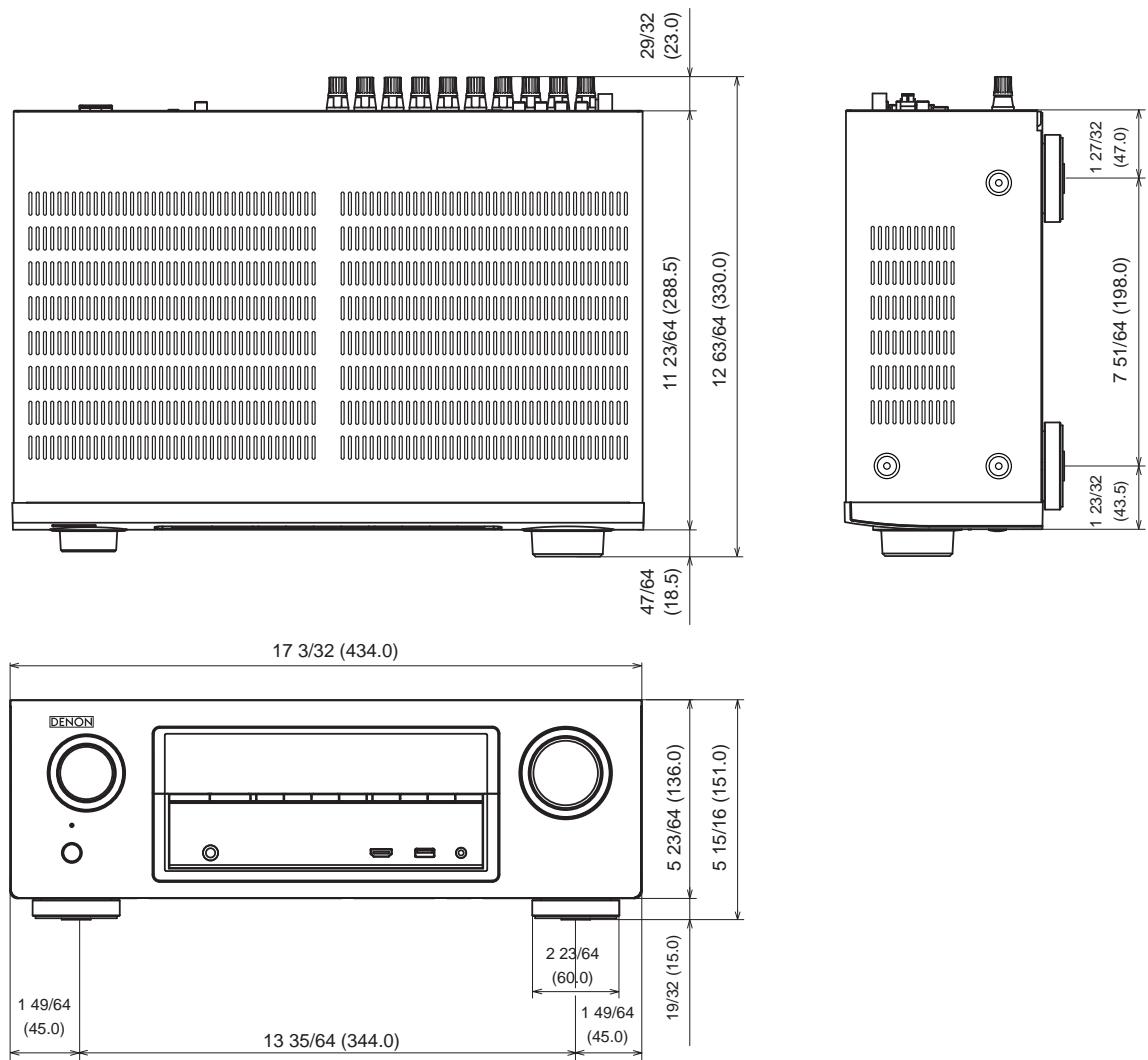
AVR-E300

Unit : in. (mm)

Weight : 18 lbs 1 oz (8.2 kg)



AVR-X1000/1010
Unit : in. (mm)
Weight : 18 lbs 1 oz (8.2 kg)



CAUTION IN SERVICING

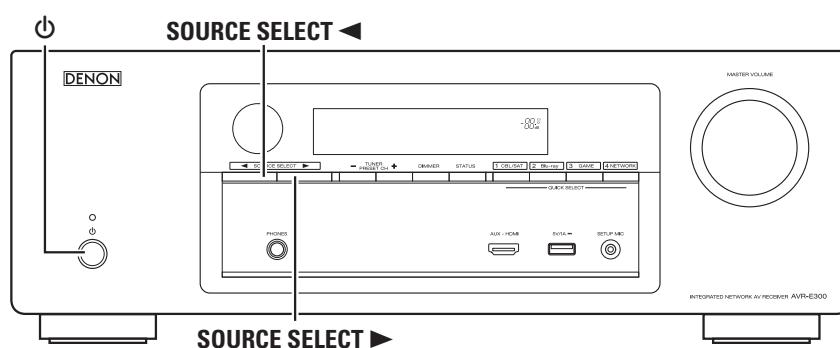
Initializing INTEGRATED NETWORK AV RECEIVER

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

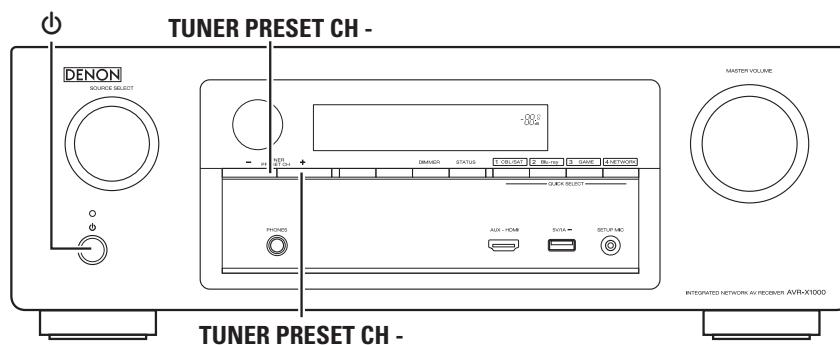
1. Turn off the power pressing \odot button.
2. Press \odot button while simultaneously while pressing "TUNER PRESET CH -" and "TUNER PRESET CH +" buttons for AVR-E300.
("SOURCE SELECT \blacktriangleleft " and "SOURCE SELECT \triangleright " button for AVR-X1000)
3. Check that the entire display is flashing 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.

[AVR-E300E3 model]



[AVR-X1000 model]



Service Jig

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

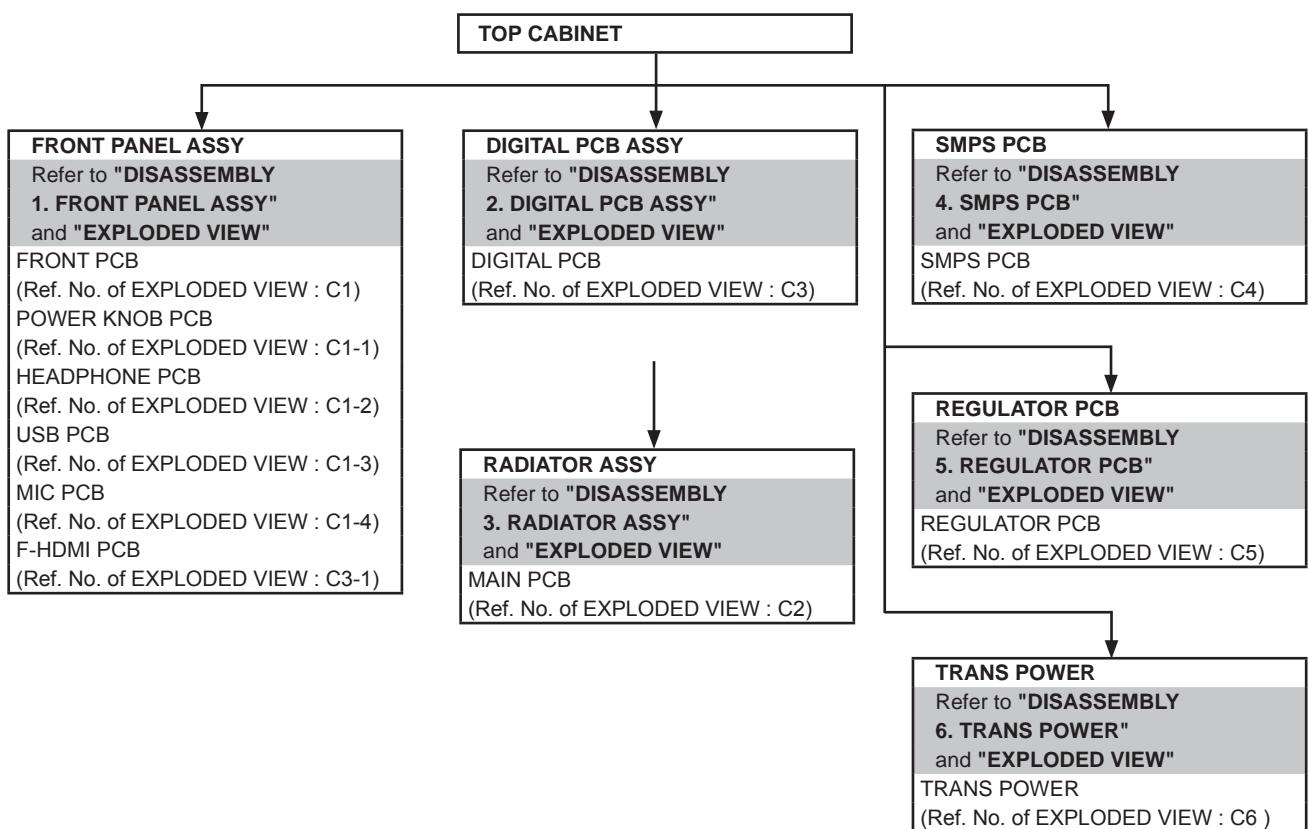
When you update the firmware by DFW, you can use the following JIG (RS232C to internal connector conversion adapter with 4P FFC cable kit).

Please order to Denon Official Service Distributor in your region if necessary.

8U-210100S : WRITING KIT : 1 Set
(Refer to [44 page](#).)

DISASSEMBLY

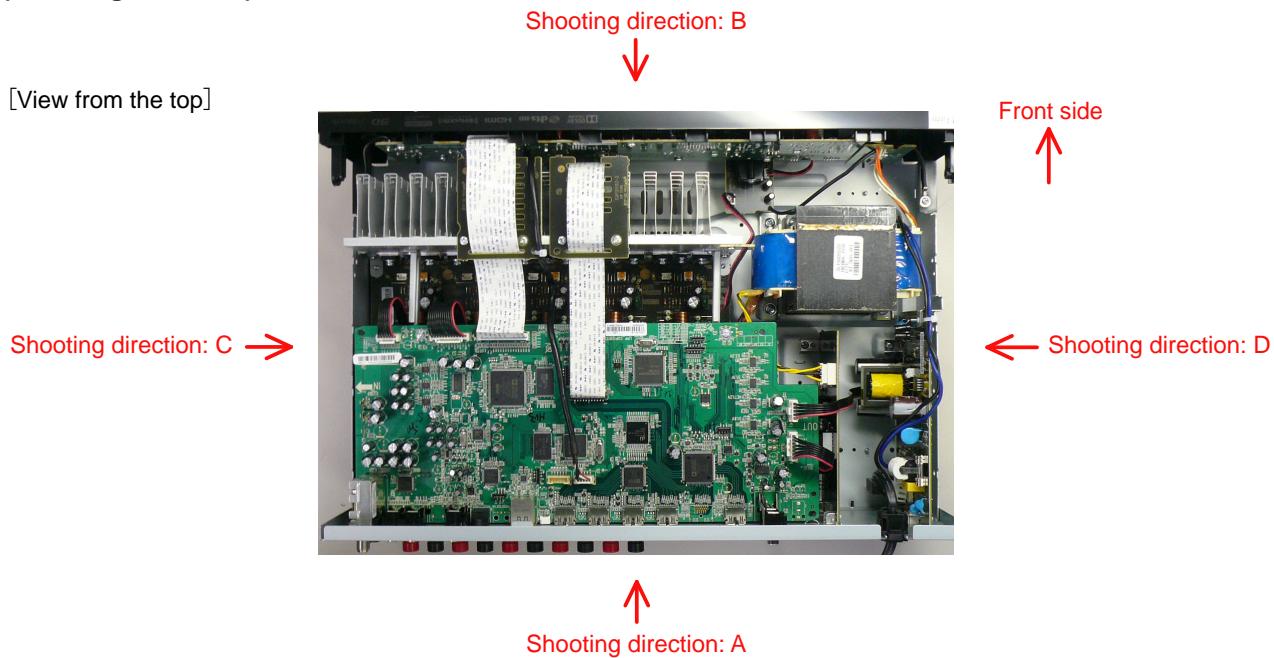
- Disassemble in order of the arrow in the following figure.
 - In the case of the re-assembling, assemble it in order of the reverse of the following flow.
 - In the case of the reassembling, observe "Caution concerning disassembly and assembly!".
 - If wire bundles are untied or moved to perform adjustment 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: ***". (** : A,B,C,D)
- 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-E400 model.

The viewpoint of each photograph (Shooting direction)



Note: • Before disassembling this unit, be sure to discharge the power line (the colored line in the schematic diagram).
• FFC cables with one end disconnected should be insulated by using tapes, etc.

1. FRONT PANEL ASSY

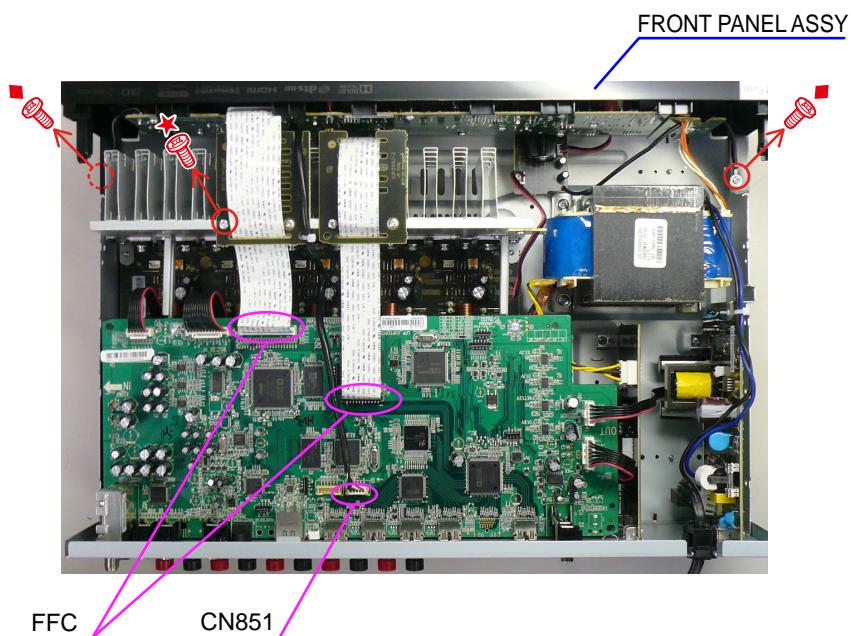
Proceeding : **TOP COVER** → **FRONT PANEL ASSY**

- (1) Remove the screws.

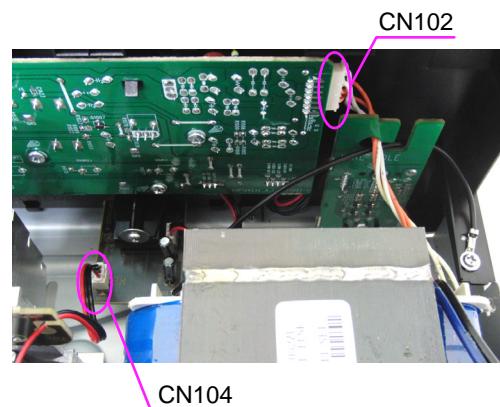
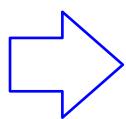
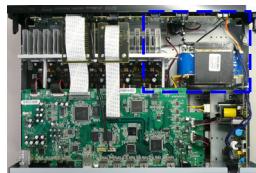
View from the bottom



- (2) Remove the screws and disconnect the FFC.



- (3) Disconnect the connector wires.



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

2. DIGITAL PCB ASSY

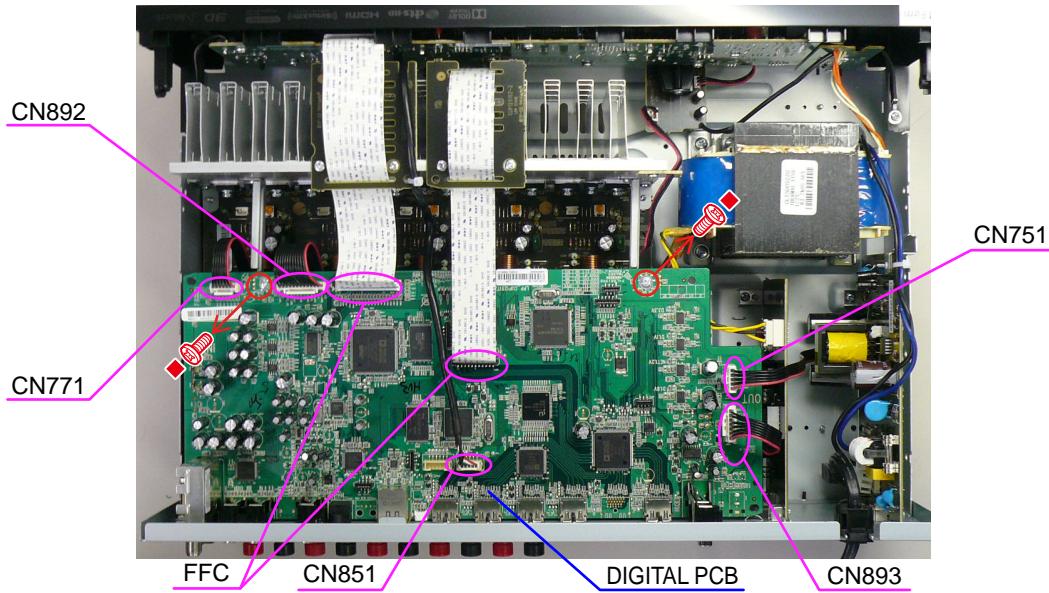
Proceeding : **TOP COVER** → **DIGITAL PCB ASSY**

- (1) Remove the screws.



- (2) Remove the screws.

Disconnect the connector wires and FFC then disconnect the TUNER PCB.



3. RADIATOR ASSY

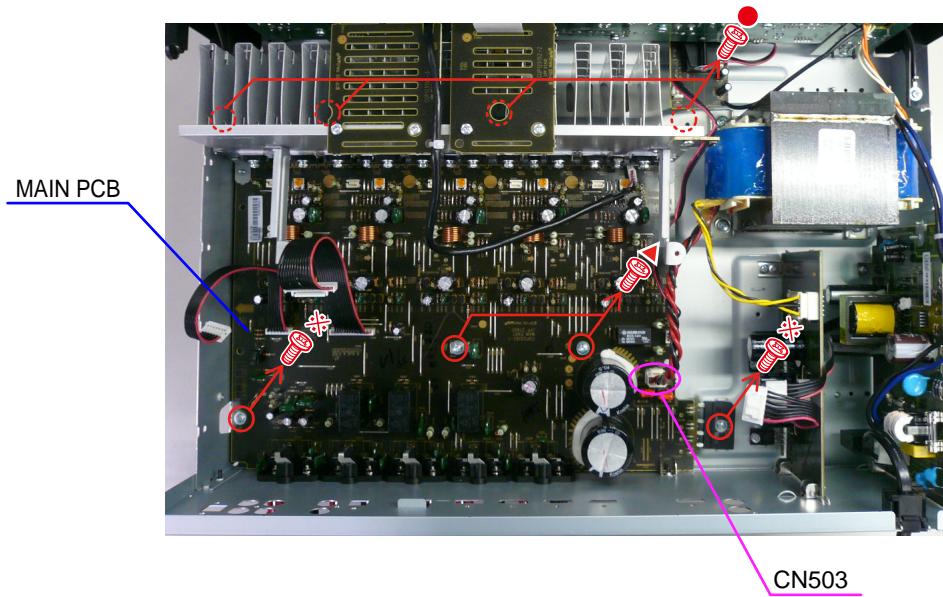
Proceeding : **TOP COVER** → **DIGITAL PCB ASSY** → **RADIATOR ASSY**

- (1) Remove the screws.



- (2) Remove the screws then disconnect the connector wire.

Remove the RADIATOR ASSY from the CHASSIS BOTTOM.



4. SMPS PCB

Proceeding : TOP COVER → SMPS PCB

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

5. REGULATOR PCB

Proceeding : TOP COVER → REGULATOR PCB

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

6. TRANS POWER

Proceeding : TOP COVER → TRANS POWER

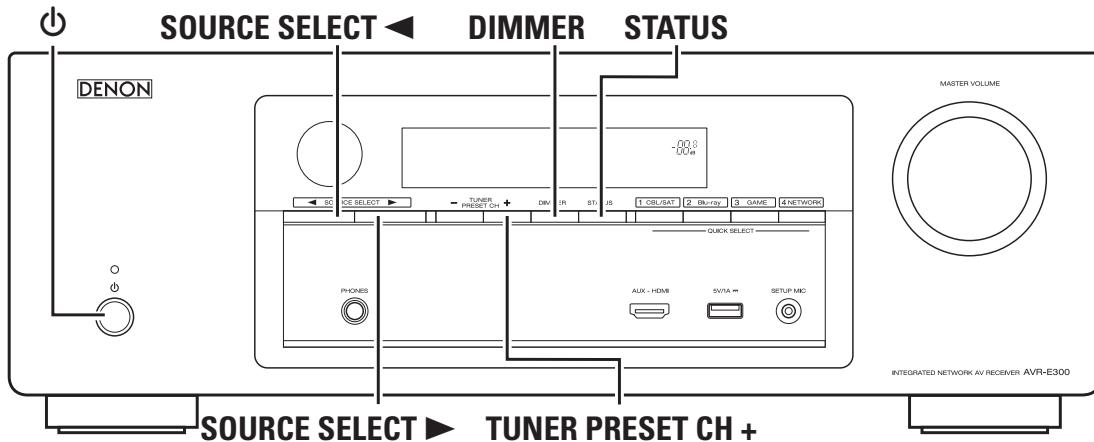
Please refer to "EXPLODED VIEW" for the disassembly method of TRANS POWER.

SPECIAL MODE

Special mode setting button (for E300 model)

- * No.1 - 9 : Press the **①** button to turn on the power while pressing both the button A,B and the button C at the same time.
- * No.10 : Turn on the power, then press and hold down A and B buttons for over 3 second.

No.	Mode	Button A	Button B	Button C	Contents
1	Version display (μcom/DSP Error Display)	DIMMER	STATUS	-	Firmware versions such as Main or DSP are displayed in the FL manager. Errors are displayed when they occur. (Refer to 20 page)
2	Errors checking (Displaying the protection history mode)	TUNER PRESET CH +	DIMMER	STATUS	The protection history is displayed. (Refer to 23 page)
3	User Initialization (Installer Setup settings are not initialized.)	SOURCE SELECT ▲	SOURCE SELECT ▶	-	Backup data initialization is carried out. (Installer Setup settings are not initialized.)
4	Factory initialization (Installer Setup settings are also initialized)	TUNER PRESET CH +	DIMMER	-	Backup data initialization is carried out. (Installer Setup settings are also initialized)
5	Mode for preventing remote control acceptance	SOURCE SELECT ▶	TUNER PRESET CH +	-	Operations using the remote control are rejected. Press the SOURCE SELECT ▲/▶ to select "RC LOCK On", then press the "STATUS" button to set. (Mode cancellation: Execute the same button operations as when performing setup and select "RC LOCK Off".)
6	Panel lock	↑	↑	-	Operations using the main unit panel buttons or the master volume knob are rejected. Press the SOURCE SELECT ▲/▶ to select "FP/VOL LOCK On", then press the "STATUS" button to set.
7	Panel lock (Master volume is not locked.)	↑	↑	-	Operations using the main unit panel buttons are rejected. Press the SOURCE SELECT ▲/▶ to select "FP LOCK On", then press the "STATUS" button to set.
8	Cancellation of panel lock	↑	↑	-	Panel lock mode is cancelled. (Mode cancellation: Execute the same button operations as when performing setup and select "FP LOCK Off", then press the "STATUS" button to set.)
9	Diagnostic	TUNER PRESET CH +	DIMMER	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. (Refer to 29 page)
10	Remote ID Setup	DIMMER	STATUS	-	When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.(Refer to 25 page)

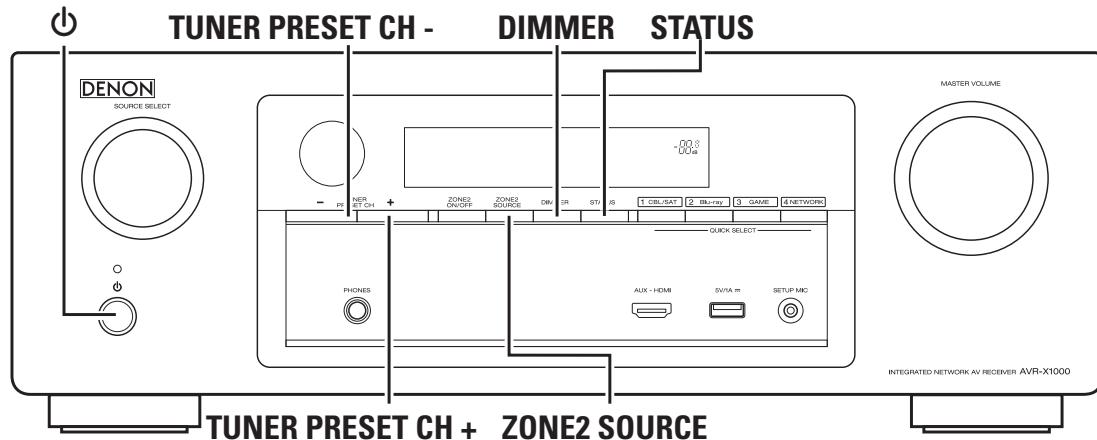


SPECIAL MODE

Special mode setting button (for X1000E3 model)

- * No.1 - 9 : Press the **⊕** button to turn on the power while pressing both the button A,B and the button C at the same time.
- * No.10 : Turn on the power, then press and hold down A and B buttons for over 3 second.

No.	Mode	Button A	Button B	Button C	Contents
1	Version display (μcom/DSP Error Display)	DIMMER	STATUS	-	Firmware versions such as Main or DSP are displayed in the FL manager. Errors are displayed when they occur. (Refer to 20 page)
2	Errors checking (Displaying the protection history mode)	ZONE2 SOURCE	DIMMER	STATUS	The protection history is displayed. (Refer to 23 page)
3	User Initialization (Installer Setup settings are not initialized.)	TUNER PRESET CH-	TUNER PRESET CH+	-	Backup data initialization is carried out. (Installer Setup settings are not initialized.)
4	Factory initialization (Installer Setup settings are also initialized)	ZONE2 SOURCE	DIMMER	-	Backup data initialization is carried out. (Installer Setup settings are also initialized)
5	Mode for preventing remote control acceptance	TUNER PRESET CH+	ZONE2 SOURCE	-	Operations using the remote control are rejected. Press the TUNER PRESET CH - / + to select "RC LOCK On", then press the "STATUS" button to set. (Mode cancellation: Execute the same button operations as when performing setup and select "RC LOCK Off".)
6	Panel lock	↑	↑	-	Operations using the main unit panel buttons or the master volume knob are rejected. Press the TUNER PRESET CH - / + to select "FP/VOL LOCK On", then press the "STATUS" button to set.
7	Panel lock (Master volume is not locked.)	↑	↑	-	Operations using the main unit panel buttons are rejected. Press the TUNER PRESET CH - / + to select "FP LOCK On", then press the "STATUS" button to set.
8	Cancellation of panel lock	↑	↑	-	Panel lock mode is cancelled. (Mode cancellation: Execute the same button operations as when performing setup and select "FP LOCK Off", then press the "STATUS" button to set.)
9	Diagnostic	ZONE2 SOURCE	DIMMER	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. (Refer to 29 page)
10	Remote ID Setup	DIMMER	STATUS	-	When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.(Refer to 25 page)

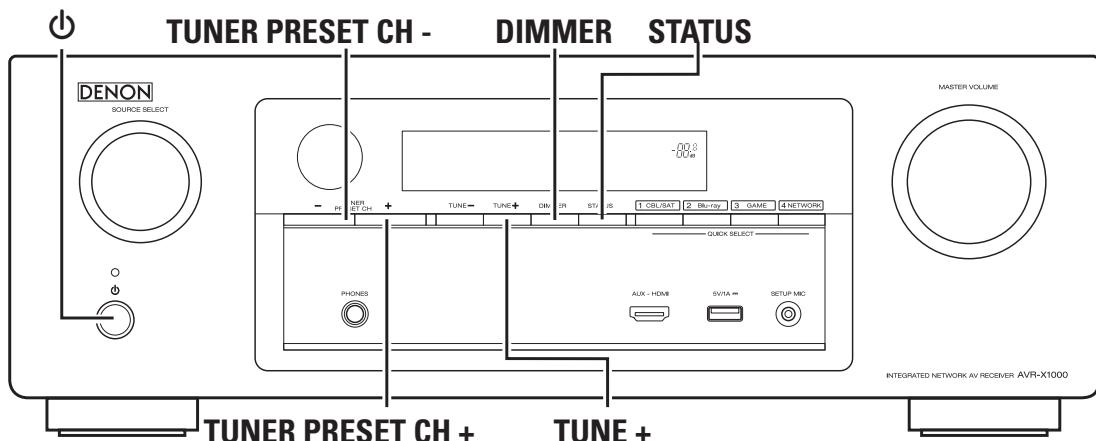


SPECIAL MODE

Special mode setting button (for E2 , E1C model)

- * No.1 - 10 : Press the **⊕** button to turn on the power while pressing both the button A,B and the button C at the same time.
- * No.11 : Turn on the power, then press and hold down A and B buttons for over 3 second.

No.	Mode	Button A	Button B	Button C	Contents
1	Version display (μcom/DSP Error Display)	DIMMER	STATUS	-	Firmware versions such as Main or DSP are displayed in the FL manager. Errors are displayed when they occur. (Refer to 20 page)
2	Errors checking (Displaying the protection history mode)	TUNE +	DIMMER	STATUS	The protection history is displayed. (Refer to 23 page)
3	User Initialization (Installer Setup settings are not initialized.)	TUNER PRESET CH-	TUNER PRESET CH+	-	Backup data initialization is carried out. (Installer Setup settings are not initialized.)
4	Factory initialization (Installer Setup settings are also initialized)	TUNE +	DIMMER	-	Backup data initialization is carried out. (Installer Setup settings are also initialized)
5	Mode for switching tuner frequency step (E2 only)	TUNER PRESET CH+	DIMMER	-	Change tuner frequency step to FM:200kHz/50kHz STEP. Press the TUNER PRESET CH - / + to select "Mode for switching tuner frequency step", then press the "STATUS" button to set. Turn the power off in this state and turn the power on again to make the setting take effect.
6	Mode for preventing remote control acceptance	TUNE +	TUNER PRESET CH+	-	Operations using the remote control are rejected. Press the TUNER PRESET CH - / + to select "RC LOCK On", then press the "STATUS" button to set. (Mode cancellation: Execute the same button operations as when performing setup and select "RC LOCK Off".)
7	Panel lock	↑	↑	-	Operations using the main unit panel buttons or the master volume knob are rejected. Press the TUNER PRESET CH - / + to select "FP/VOL LOCK On", then press the "STATUS" button to set.
8	Panel lock (Master volume is not locked.)	↑	↑	-	Operations using the main unit panel buttons are rejected. Press the TUNER PRESET CH - / + to select "FP LOCK On", then press the "STATUS" button to set.
9	Cancellation of panel lock	↑	↑	-	Panel lock mode is cancelled. (Mode cancellation: Execute the same button operations as when performing setup and select "FP LOCK Off", then press the "STATUS" button to set.)
10	Diagnostic	ZONE2 SOURCE	DIMMER	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. (Refer to 29 page)
11	Remote ID Setup	DIMMER	STATUS	-	When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.(Refer to 25 page)



1. μcom/DSP Version display mode

1.1. Operation specifications

μcom/DSP version display mode:

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

Starting up:

Press the  button to turn on the power while pressing the "DIMMER" and "STATUS" buttons.

Now, press the "STATUS" button to the display the 2nd item information on the FL Display.

* When the version is displayed on the FL Display, the version list is also displayed on the GUI.

1.2. Display Order

Error information(Refer to 1.3. Error display) → ① Model destination information → ② Firmware Package Version

→ ③ Main μ-com → ④ Main 1st Boot Loader → ⑤ DSP ROM → 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

① Model destination information :

Model	FLD
AVR-E300 E3 model	A V R - E 3 0 0 E 3
AVR-X1000 E3 model	A V R - X 1 0 0 0 E 3
AVR-X1000 E2 model	A V R - X 1 0 0 0 E 2
AVR-X1000 E1C model	A V R - X 1 0 0 0 E 1 C
AVR-X1010 E1C model	A V R - X 1 0 1 0 E 1 C

② Firmware Package Version :

FLD	P	a	c	k	a	g	e	*	*	*	*	*	*
-----	---	---	---	---	---	---	---	---	---	---	---	---	---

③ Main μ-com :

FLD	M	a	i	n	*	*	*	*	#	#	#	#	#
-----	---	---	---	---	---	---	---	---	---	---	---	---	---

(*: Main version, #: Sub version)

④ Main 1st Boot Loader :

FLD	M	a	i	n	F	B	L	*	*	*	*	*	*
-----	---	---	---	---	---	---	---	---	---	---	---	---	---

⑤ DSP ROM :

FLD	D	S	P	*	*	*	*	*	*	*	*	*	*
-----	---	---	---	---	---	---	---	---	---	---	---	---	---

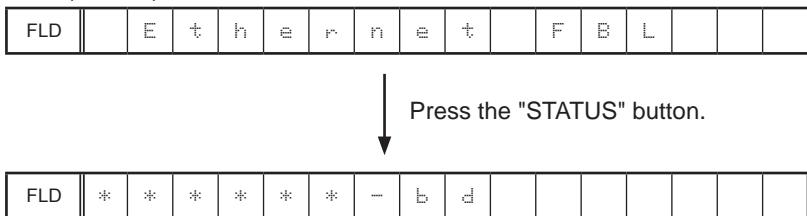
⑥ Audio PLD :

FLD	A	u	d	i	o	P	L	D	*	*	*	*	*
-----	---	---	---	---	---	---	---	---	---	---	---	---	---

⑦ GUI SFLASH :

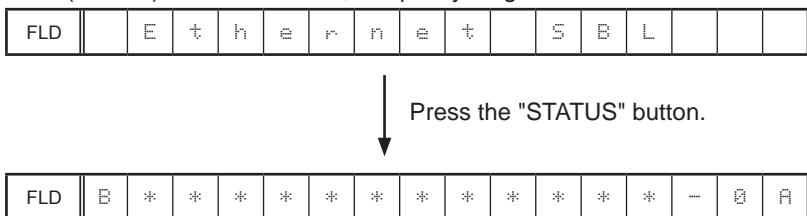
Model	FLD
AVR-E300 E3 model	G U I * * * * * *
AVR-X1000 E3 model	G U I * * * * * *
AVR-X1000 E2 model	G U I * * * * * *
AVR-X1000 E1 model	G U I * * * * * *
AVR-X1000 E1C model	G U I * * * * * *
AVR-X1010 E1C model	G U I * * * * * *

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



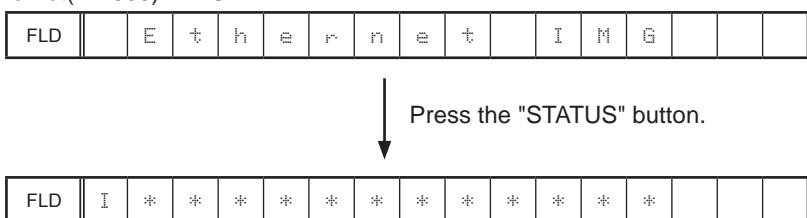
Press the "STATUS" button.

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



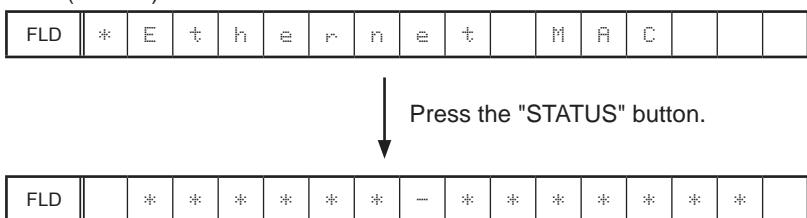
Press the "STATUS" button.

⑩ Ethernet(DM860) IMAGE :



Press the "STATUS" button.

⑪ Ethernet(DM860)MAC ADDRESS information :



Press the "STATUS" button.

1.3. Error display

See the following table for each "Error information" display and its explanation (status).

Display order is ①,②,③,④,⑤.

Condition	Status	FL Display	Trouble shooting
① Firm Check NG	Compared with the destination setting on the board. This is displayed when the model name or destination information written into the firmware does not match. (※)	F I R M E R R O R	<ul style="list-style-type: none"> Please check the destination-resistors (R7663/R7664, DIGITAL PCB). Please write the firmware of correct destination.
② DIR NG	No response from DIR	D I R E R R O R 0 1	<ul style="list-style-type: none"> Please check DIR (IC782, DIGITAL PCB) and around circuits.
③ DSP NG	When DSP code boot is performed, the DSP FLAG0 port does not change to "H" even if DSP reset is executed.	D S P E R R O R 0 1	<ul style="list-style-type: none"> Please check DSP (IC791, DIGITAL PCB) and around circuits.
	Before DSP command is issued, the DSP FLAG0 port does not change to "H".	D S P E R R O R 0 2	
	When DSP data read is performed, executing WRITE="L" does not result in ACK="H".	D S P E R R O R 0 3	
	When DSP data read is performed, executing REQ="L" does not result in ACK="L".	D S P E R R O R 0 4	
	When DSP data writing is performed, executing WRITE="H" does not result in ACK="H".	D S P E R R O R 0 5	
	When DSP data writing is performed, executing REQ="L" does not result in ACK="L".	D S P E R R O R 0 6	
④ EEPROM NG	Error occurs in EEPROM checksum.(*** is a block address number.)	E E P R O M E R R * * *	
⑤ Both DSP / EEPROM OK		(No error display, version display only)	

Status	FL Display
※ When the firmware version is displayed, ▲ is displayed at the start of the firmware.	▲ M a i n : * * * * * * * * * * ▲ D S P : * * * * * * * * ▲ A u d i o P L D : * * * * * * * ▲ G U I : * * * * * * * * * *

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 **①** button to turn on the power while pressing the "TUNER PRESET CH +" (AVR-E300) / "ZONE2 SELECT" (AVR-X1000 E3) / "TUNE +" (E2, E1C) button, "DIMMER" and "STATUS" buttons.

Press the SOURCE SELECT **◀/▶** (AVR-E300) / "TUNER PRESET CH - / +" (except AVR-E300) to select "2.PROTECTION", then press the "STATUS" button to set.

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)

FLD	N	O		P	R	O	T	E	C	T									
-----	---	---	--	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

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

FLD	P	R	T	:	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 6 seconds later and the power supply will be shut off.

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

FLD	P	R	T	:	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 6 seconds later and the power supply will be shut off.

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

FLD	P	R	T	:	T	H	E	R	M	A	L							
-----	---	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--

FLD	P	R	T	:	T	H	E	R	M	A	L		B					
-----	---	---	---	---	---	---	---	---	---	---	---	--	---	--	--	--	--	--

Cause: The temperature of the heat sink is excessive.

If the power is turned on without correcting the abnormality, the protection function will work about 2 minutes 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.

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 "DIMMER" button for 3 seconds.

FLD	P	R	T	:	D	C													
-----	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--

↓
Press the "DIMMER" button for 3 seconds.

FLD	P	R	T	:	C	L	E	A	R										
-----	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--

↓
The above is displayed and the protection history is cleared.

FLD	N	O		P	R	O	T	E	C	T									
-----	---	---	--	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

- (2) Initialize. (Refer to "Initializing INTEGRATED NETWORK AV RECEIVER" [10 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) 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.

3.2. Setting the AV receivers

Starting up:

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

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

FLD				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	R E M O T E I D 1
QUICK SELECT 2	R E M O T E I D 2
QUICK SELECT 3	R E M O T E I D 3
QUICK SELECT 4	R E M O T E I D 4

- (3) Turn off the power using  button.

- (4) Turn on the power using  button.

- ※ When Remote ID Setup mode is running, operations other than the QUICK SELECT 1 - 4 buttons or  buttons on the main unit are not received.
- ※ For the remote control that is supplied with this unit, you cannot change the REMOTE ID.

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.

Personal notes:

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

4.1. Specification

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.

4.2. Starting diagnostic mode

Press the  button to turn on the power while pressing the "TUNER PRESET CH +"(AVR-E300) / "ZONE2 SOURCE"(AVR-X1000E3) / "TUNE +"(E2 , E1C) , "DIMMER" and "STATUS".

Press the SOURCE SELECT   (except AVR-E300) , "TUNER PRESET CH +"(AVR-X1000) to select "1.SERVICE CHECK", then press the "STATUS" button to set.

TUNED, STEREO and RDS are lit in FL display.

4.3. Canceling diagnostic mode

Turn off the power by pressing the  button.

4.4 Selecting items

Press ① button to switch between video items and audio items.

Press ② or ③ button to select previous or next items.

This unit			remote controller		
① audio ⇔ video	② previous	③ next	① audio ⇔ video	② previous	③ next
DIMMER	QUICK SELECT 1	QUICK SELECT 2	SLEEP	CURSOR LEFT	CURSOR RIGHT

4.5 Video system confirmation items

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

Confirmation item		FL display	settings	Contents of confirmationRemarks
1	Analog Video Signal Path (analog or HDMI ⇒ HDMI) 	V 0 1 : U I D E O P A S S	Input Source : CBL/SAT	·CVBS input ⇒ CVBS output (※ Input source can be switched.)
2	HDMI Thru Signal Path 	V 0 3 : H D M I P A S S	Input Source : CBL/SAT	·HDMI input ⇒ HDMI output (※ Input source can be switched.)
3	HDMI CEC 	V 0 4 : H D M I C E C	Input Source : CBL/SAT HDMI Control : ON	·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. (※ Input source can be switched.) ·To check ARC path, switch the input source to "TV AUDIO".
4	HDMI audio (audio: AVR)  	V 0 5 : H . A U D I O - A V R	Input Source : CBL/SAT HDMI Control : OFF HDMI Audio : AVR	·HDMI input(PCM , DolbyDigital , DTS) ⇒ Speaker output ·HDMI input(HD audio) ⇒ Speaker output (※ Input source can be switched.)
5	HDMI audio (audio: TV) 	V 0 6 : H . A U D I O - T V	HDMI Audio : TV	·HDMI input(PCM , DolbyDigital , DTS) ⇒ HDMI output (audio output from connected TV) (※ Input source can be switched.)
6	GUI menu 	V 0 7 : G U I M E N U O N	Input Source : CBL/SAT Setup Menu ON	·GUI display ⇒ HDMI output (※ Input source can be switched.)

4.6 Audio system confirmation items

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

Confirmation item		FL display	settings	Contents of confirmationRemarks
1	analog pass fig.6	A 0 1 : A N A L O G P A S S	Input Source: CBL/SAT Input Mode: ANALOG(fixed) Sound mode: DIRECT	·Analog input ⇒ Speaker output (※ Input source can be switched.)
2	digital fig.7 fig.4b	A 0 2 : D I G I T A L	Input Source : CBL/SAT Input Mode : DIGITAL(fixed) Sound mode: MULTI CH STEREO Speaker Config: all Speakers =Small SW=Yes	·Digital input ⇒ Speaker output (※ Input source can be switched.)
3	HDMI fig.4a fig.4b	A 0 5 : H D M I	Input Source : CBL/SAT Input Mode : HDMI(fixed) Sound mode: STEREO	·HDMI input ⇒ Speaker output (※ Input source can be switched.)
4	analog A/D (MAIN) fig.8a fig.8b	A 0 6 : A D	Input Source : CBL/SAT Input Mode : Analog(fixed) Sound mode: MULTI CH STEREO Speaker Config: all Speaker=Small/ SW=Yes	·Analog input ⇒ Speaker output (※ Input source can be switched.)
5	digital (ZONE2) ※only X1000 E3 fig.9a fig.9b	A 0 3 : D I G I T A L - Z 2	Input Source : NETWORK Input Mode : Auto Sound mode: STEREO ZONE2: ON	·Network input ⇒ ZONE2 Preout output ·USB input ⇒ ZONE2 Preout output

BLOCK DIAGRAM

fig.1

ANALOG AUDIO/VIDEO BLOCK

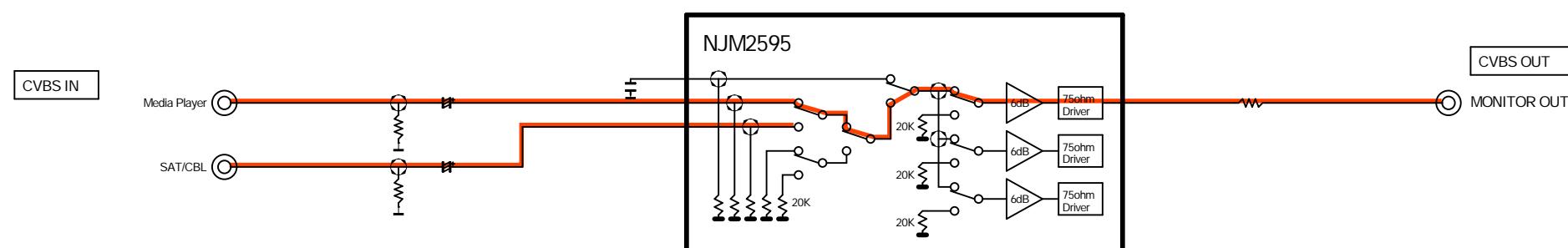
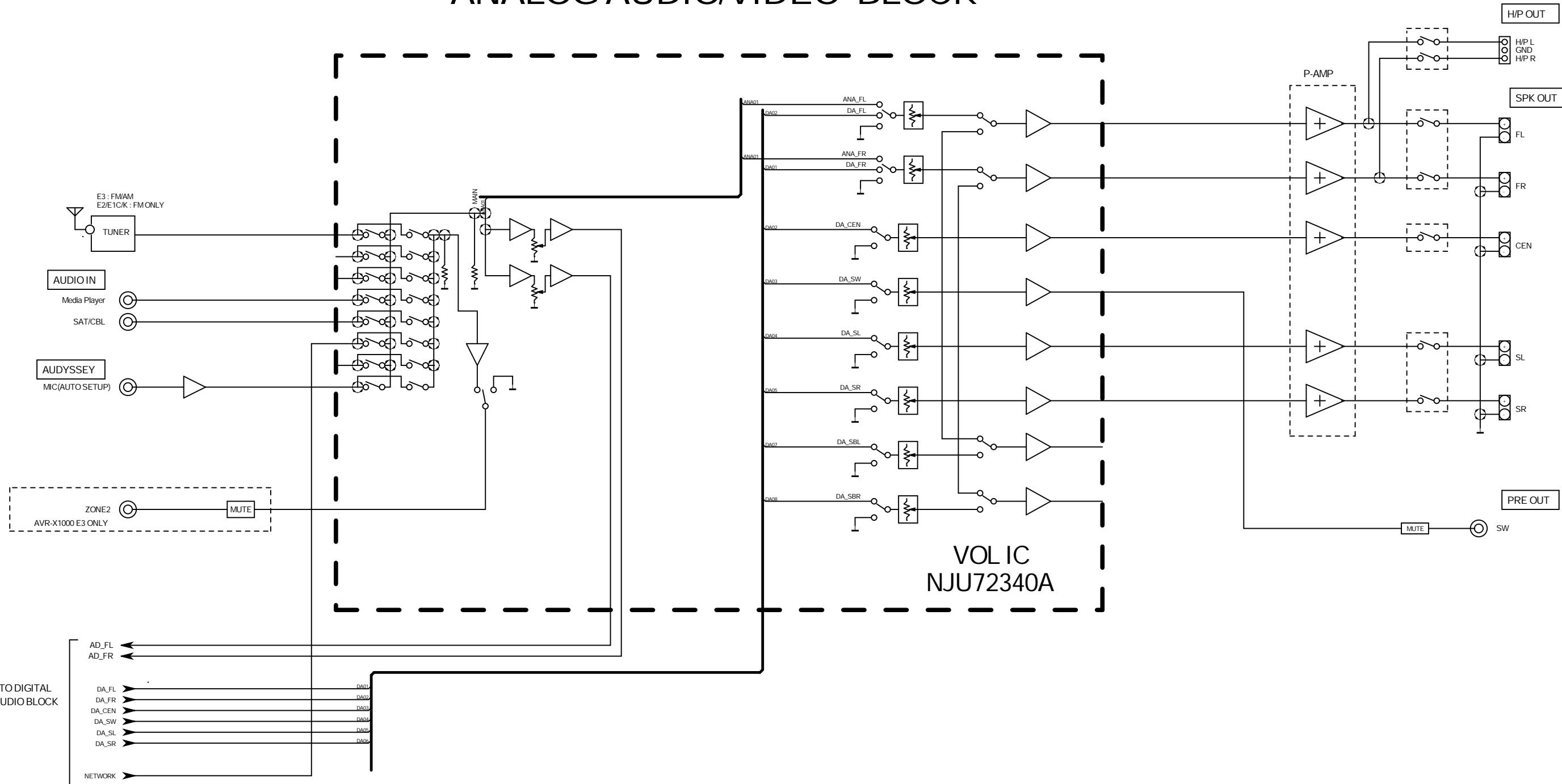


fig.2

DIGITAL AUDIO/HDMI BLOCK

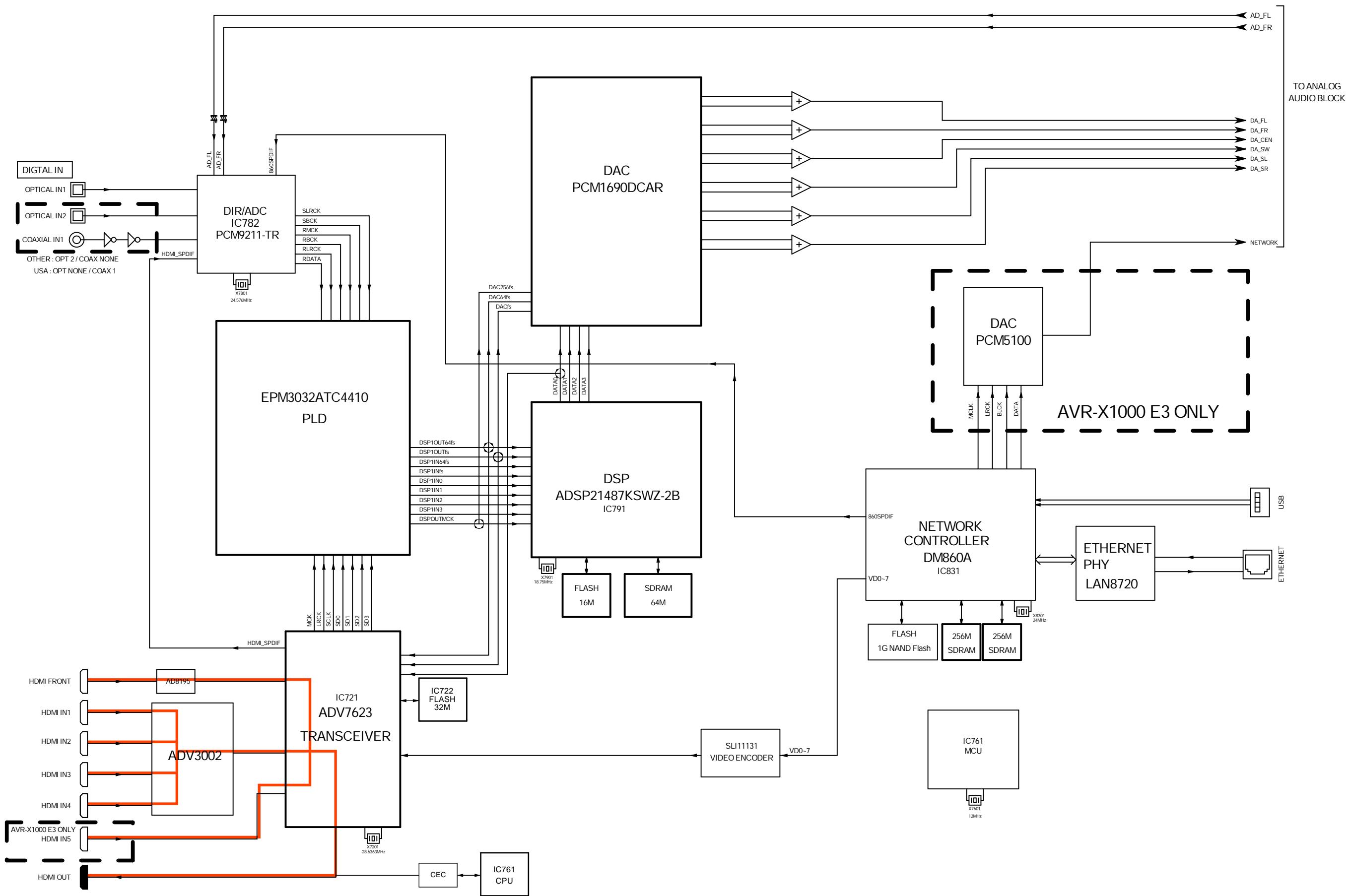


fig.3

DIGITAL AUDIO/HDMI BLOCK

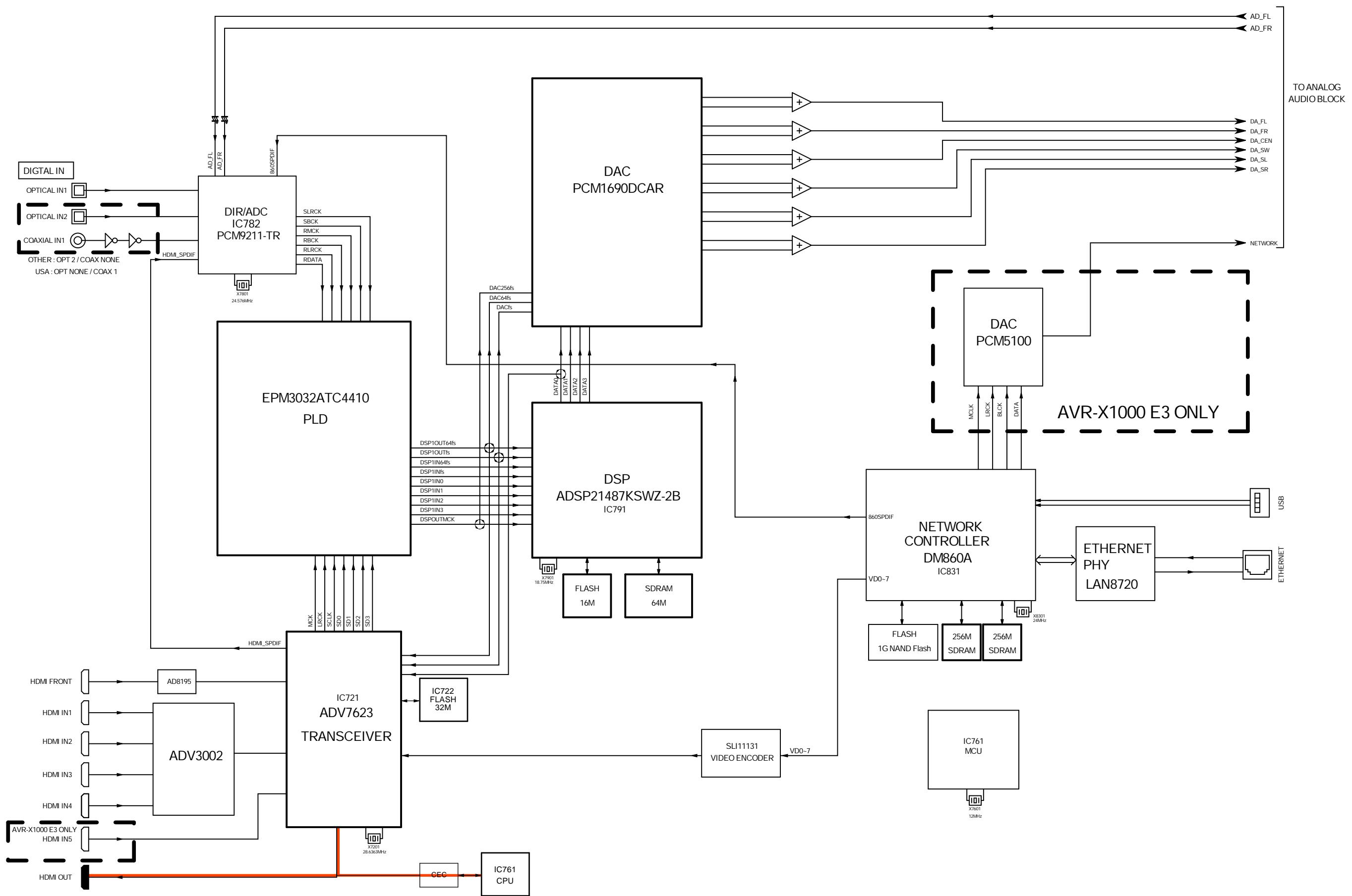


fig.4a

DIGITAL AUDIO/HDMI BLOCK

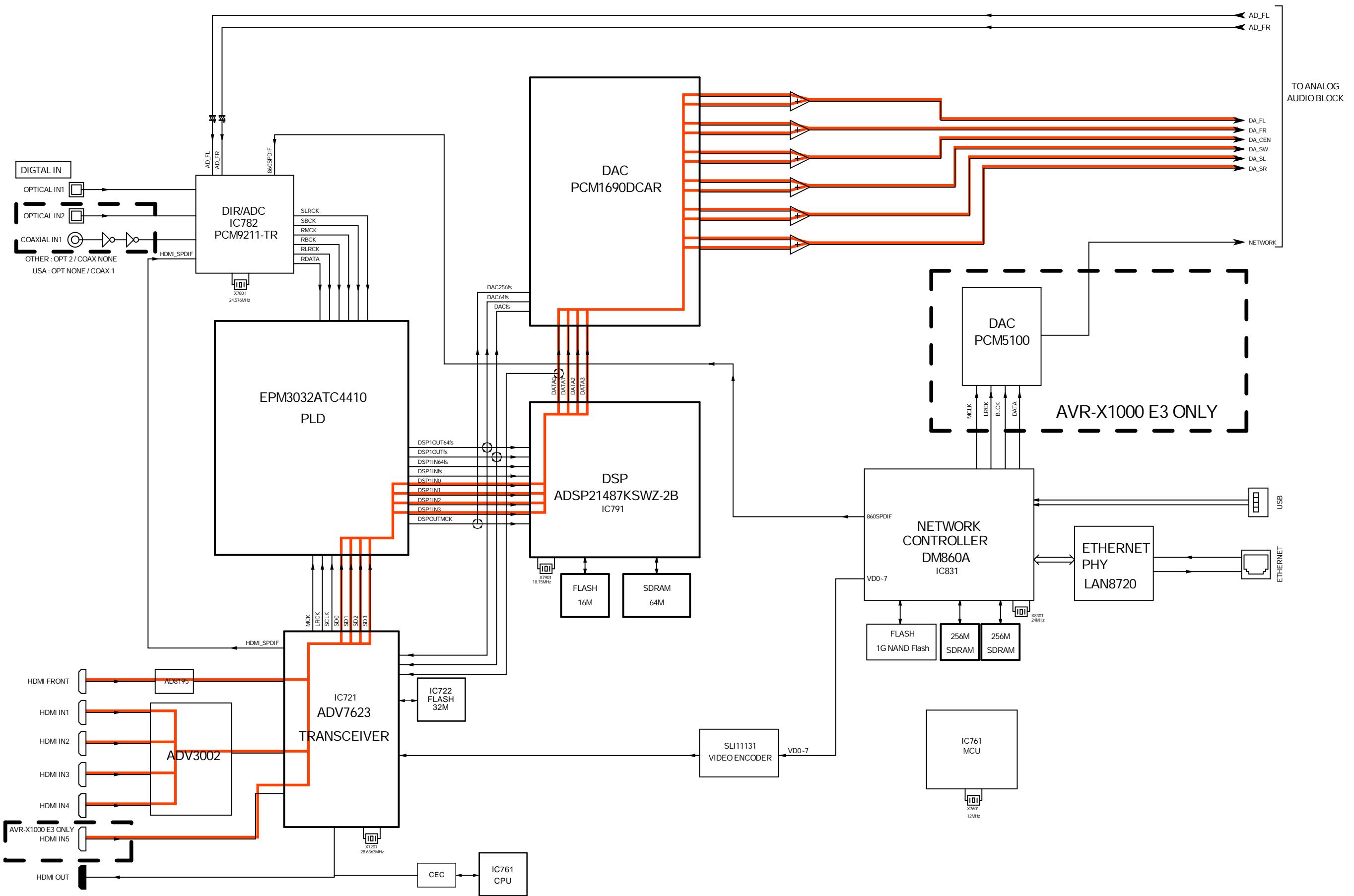


fig.4b

ANALOG AUDIO/VIDEO BLOCK

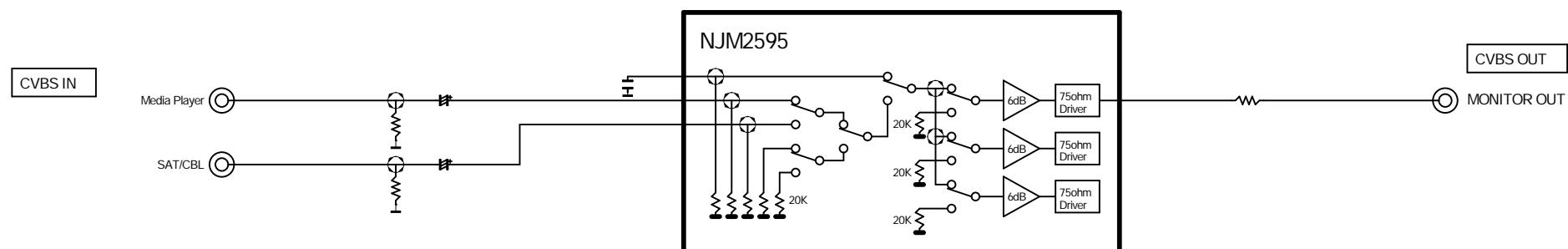
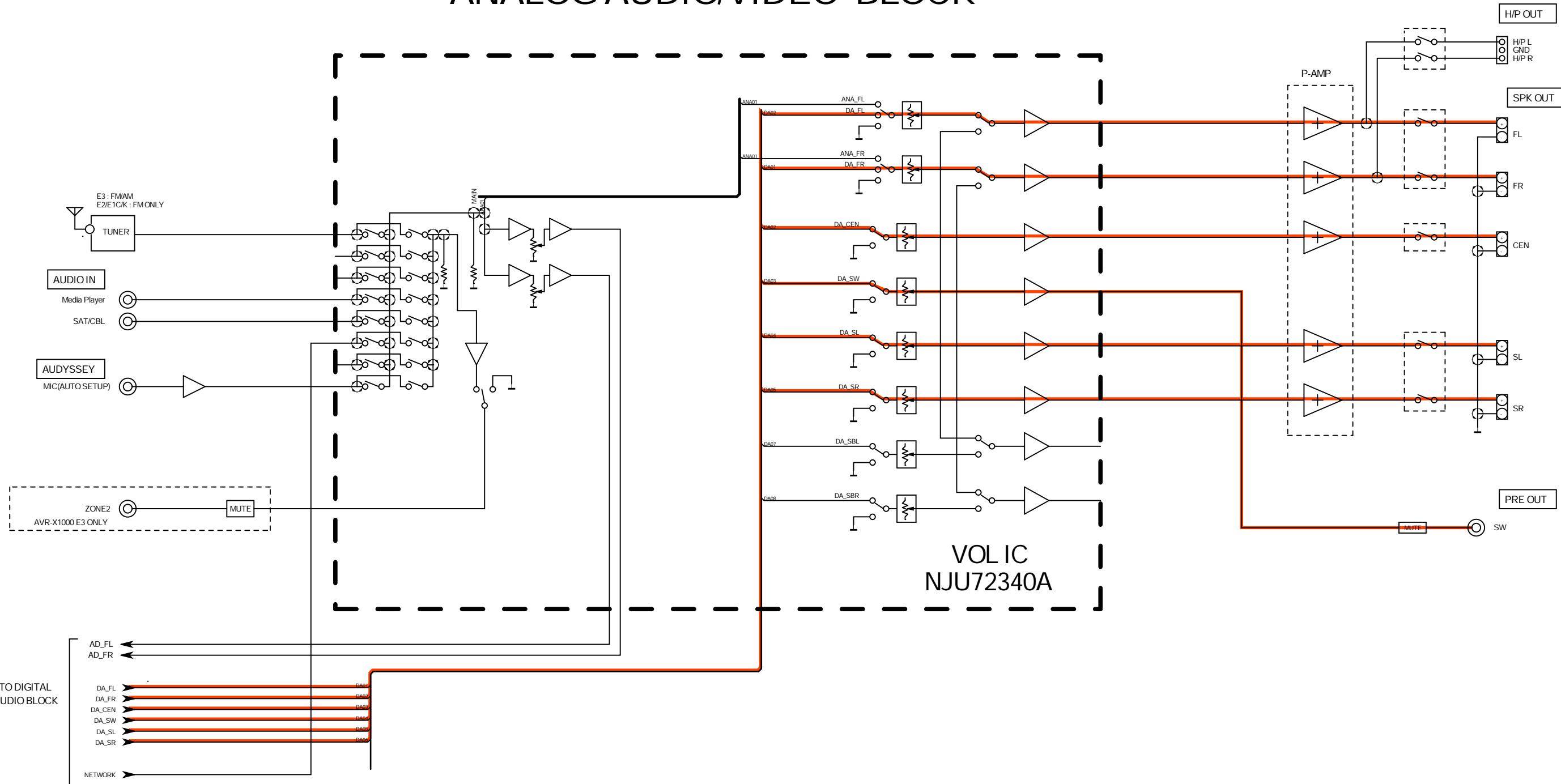


fig.5

DIGITAL AUDIO/HDMI BLOCK

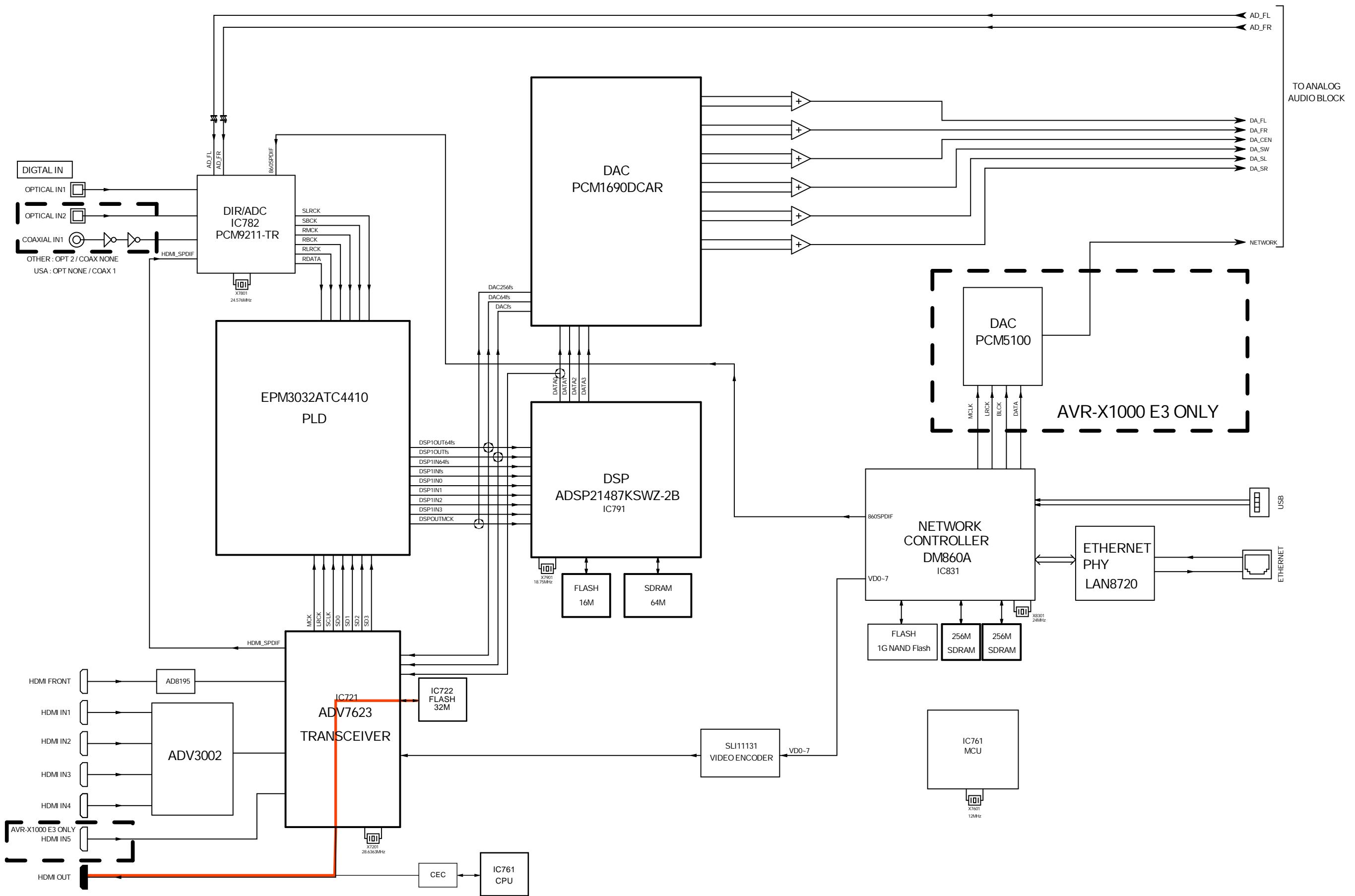


fig.6

ANALOG AUDIO/VIDEO BLOCK

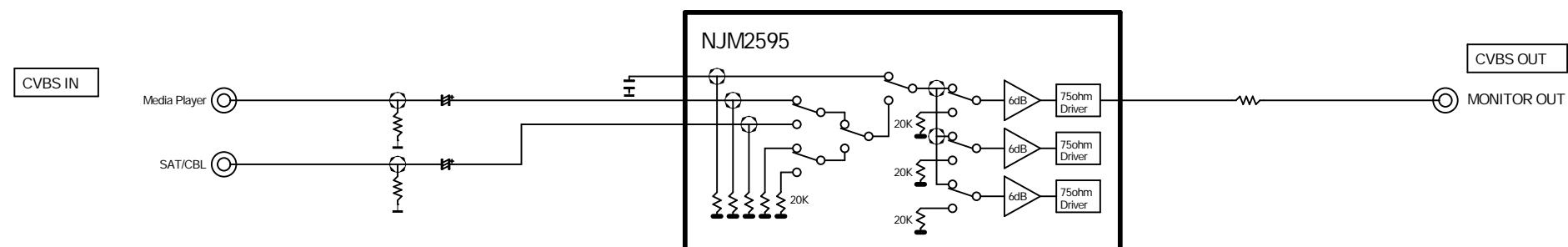
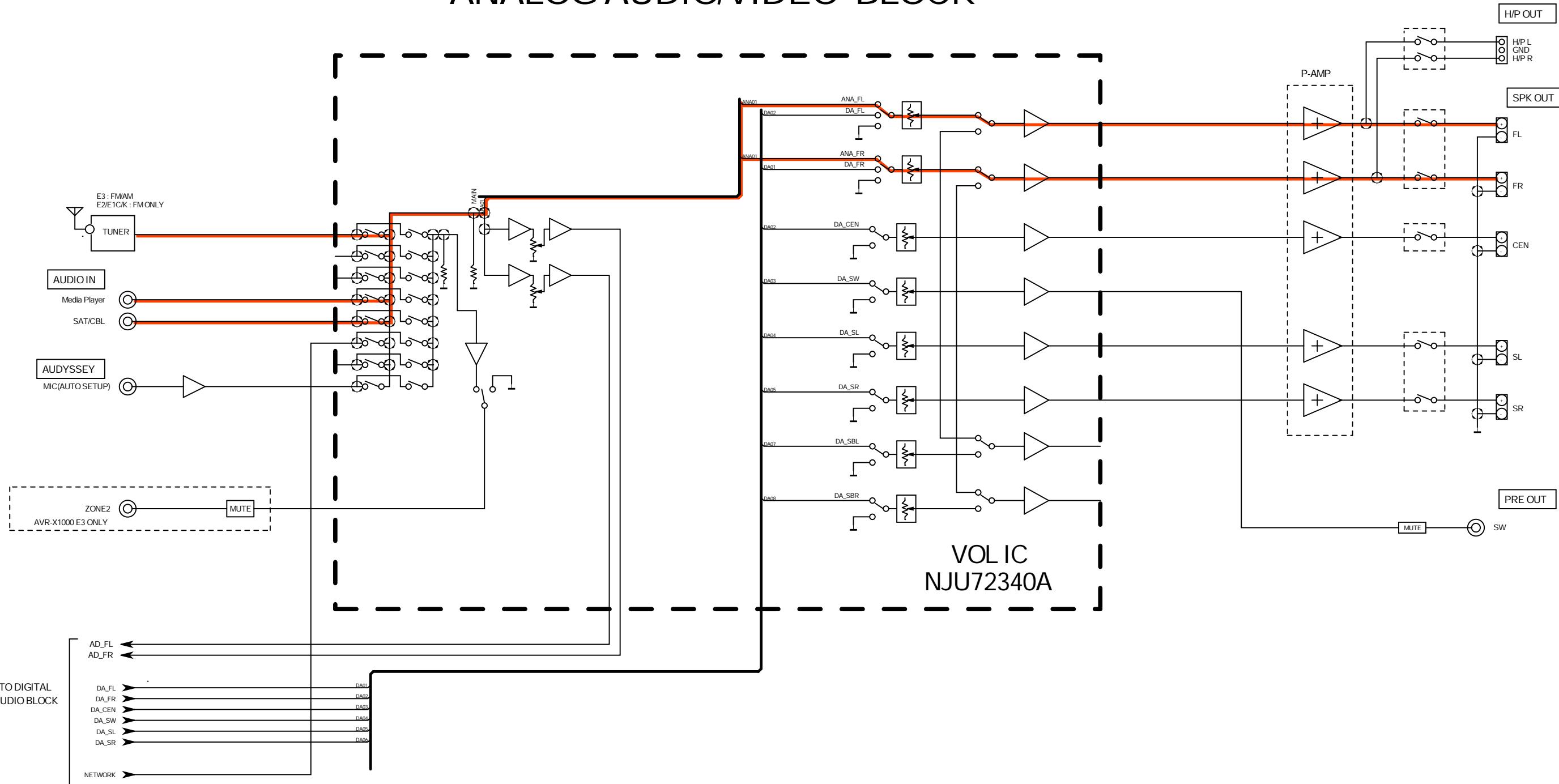


fig.7

DIGITAL AUDIO/HDMI BLOCK

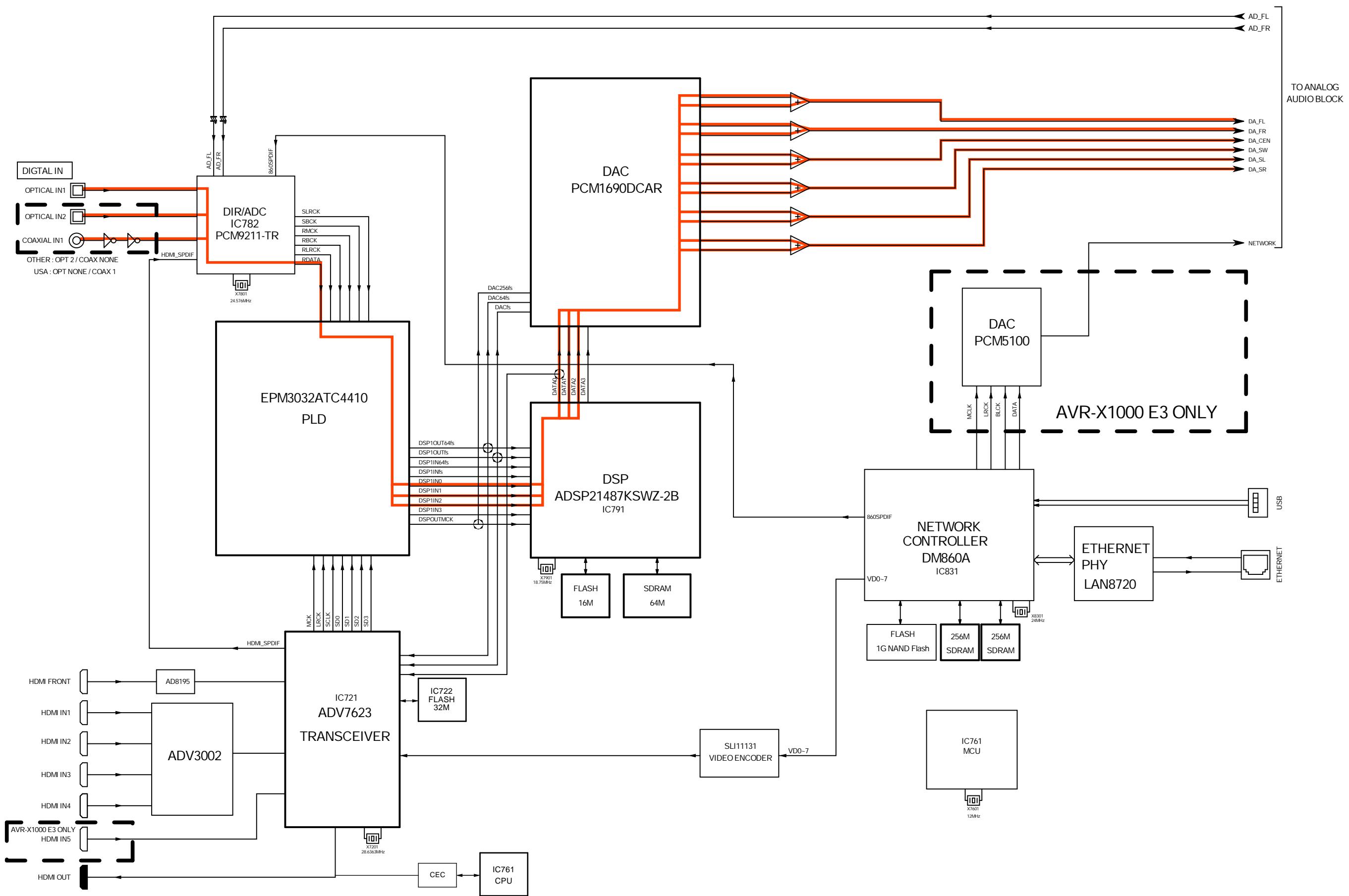


fig.8a

ANALOG AUDIO/VIDEO BLOCK

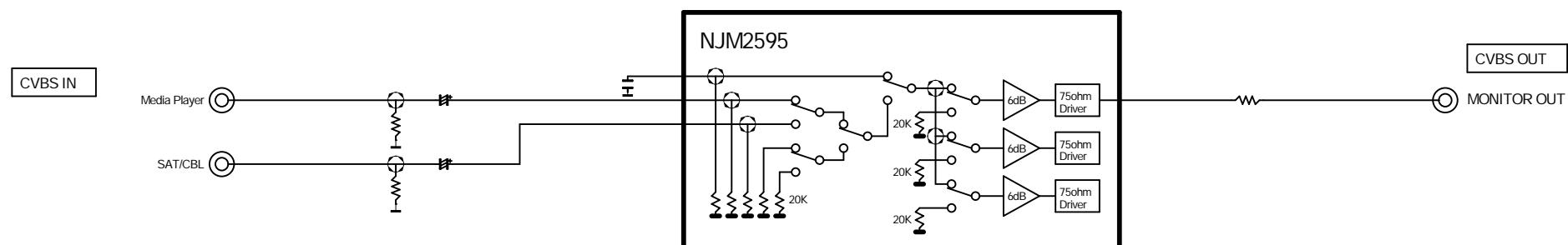
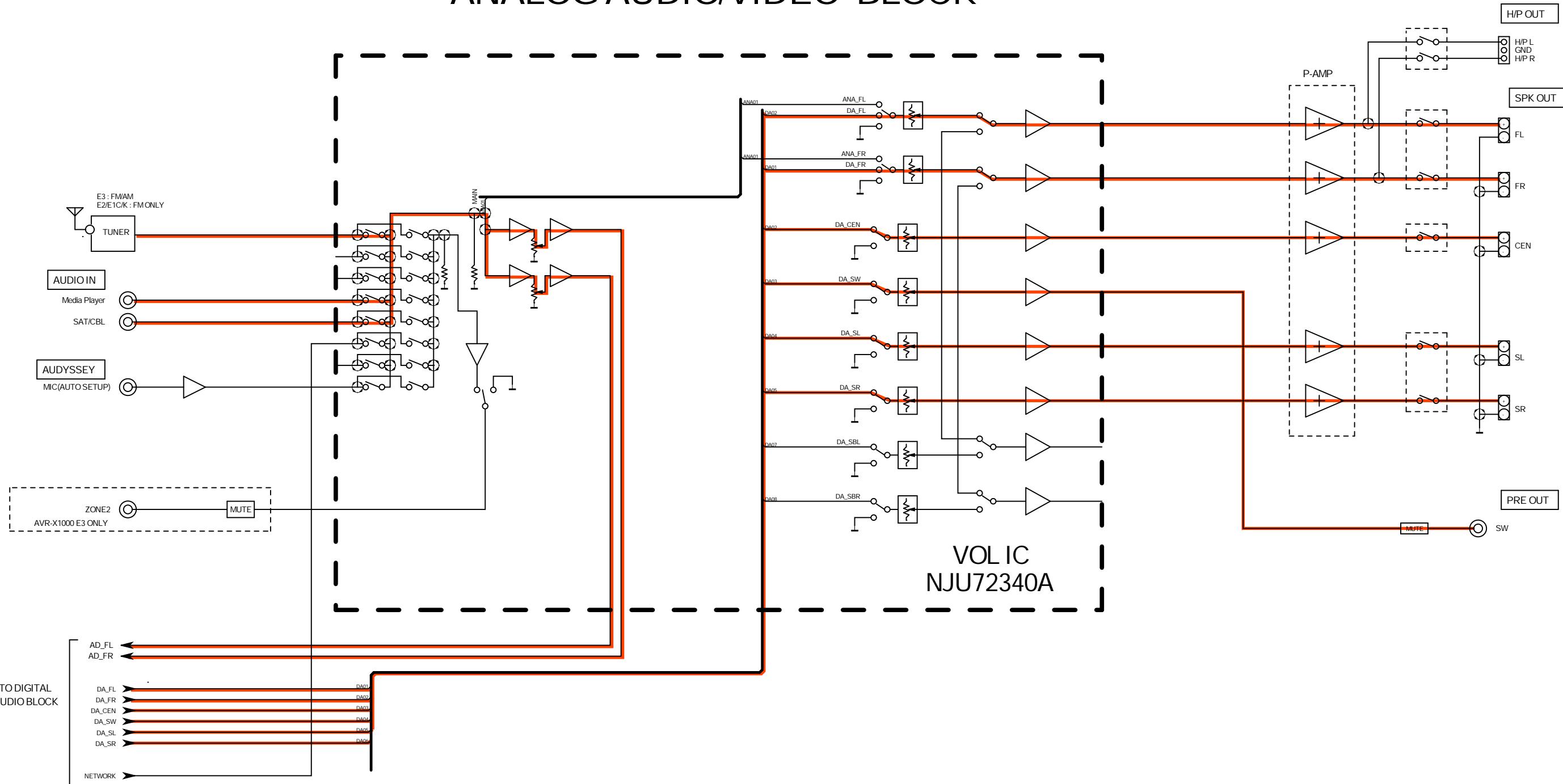


fig.8b

DIGITAL AUDIO/HDMI BLOCK

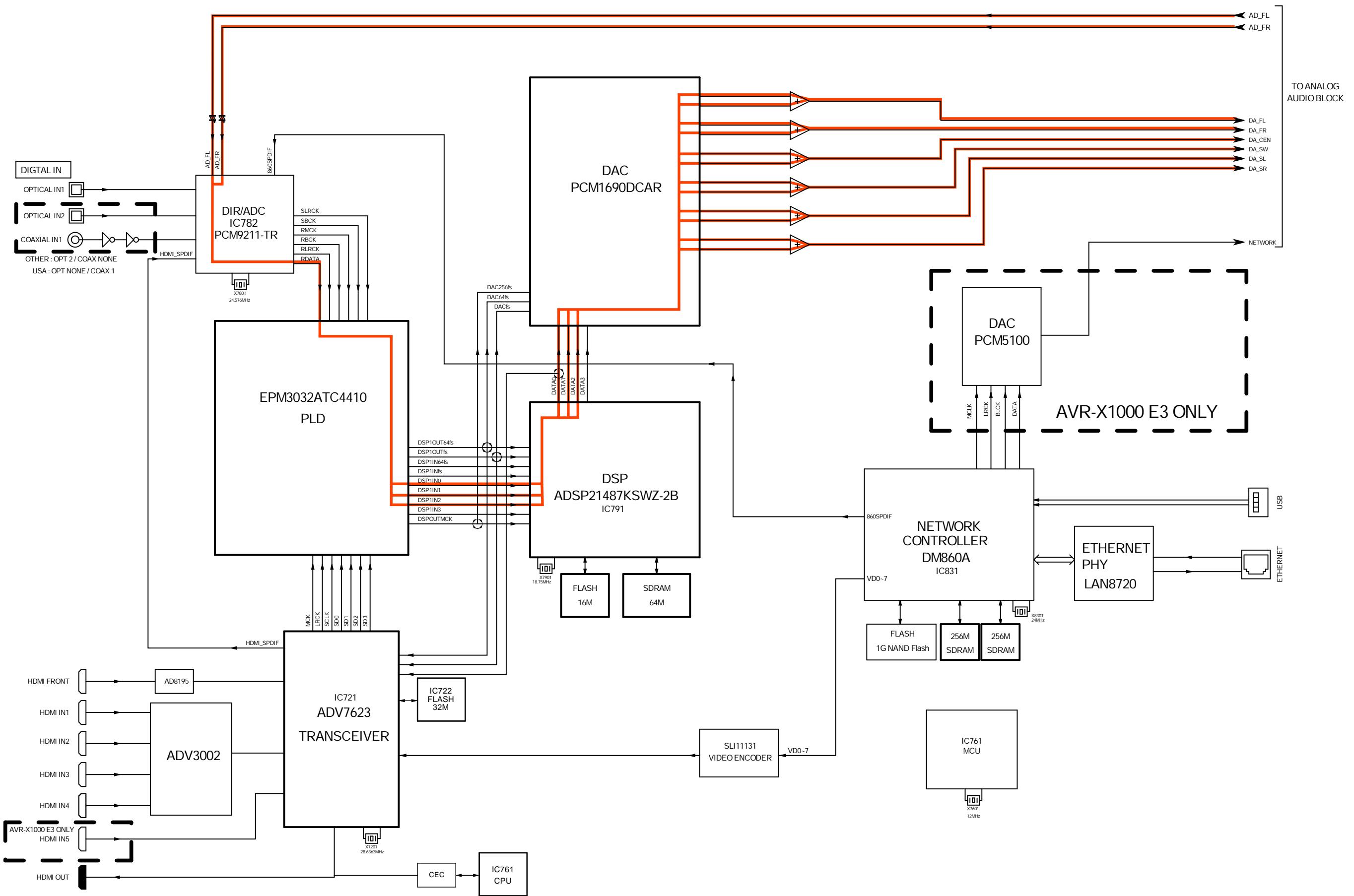


fig.9a

ANALOG AUDIO/VIDEO BLOCK

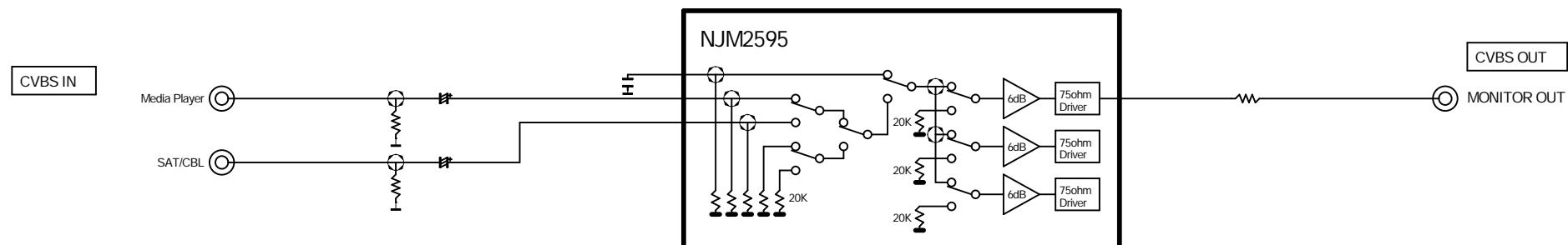
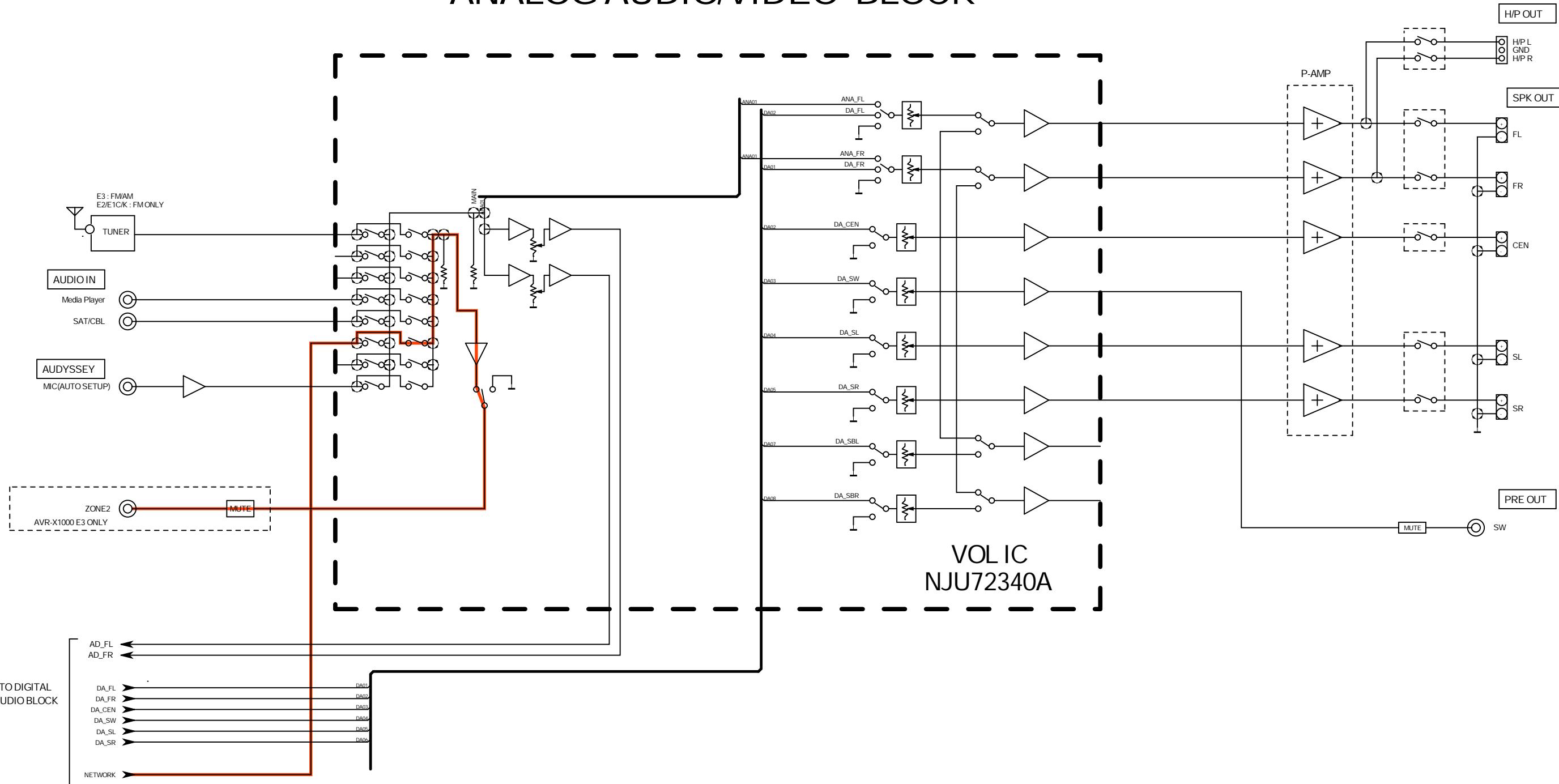
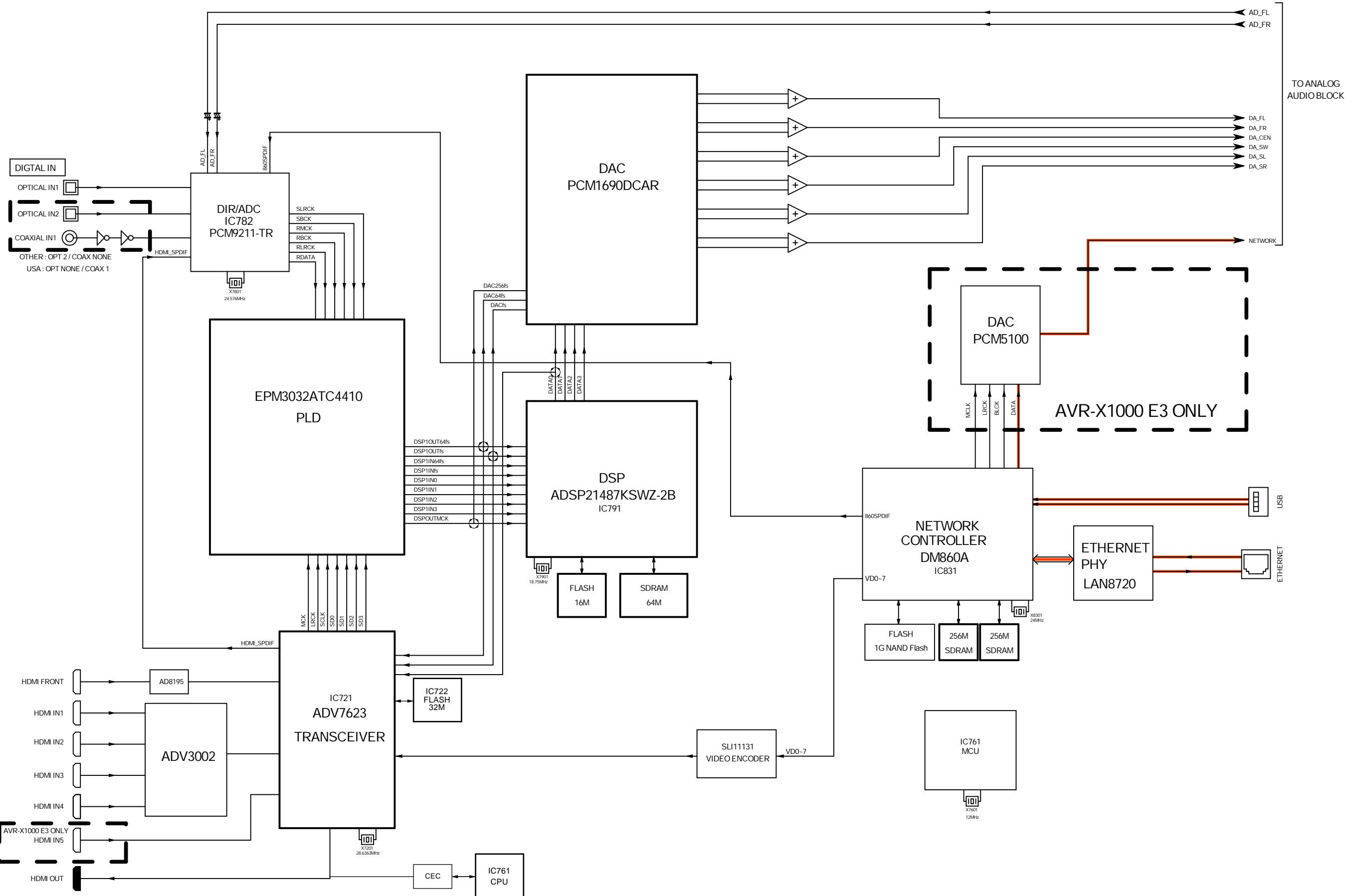
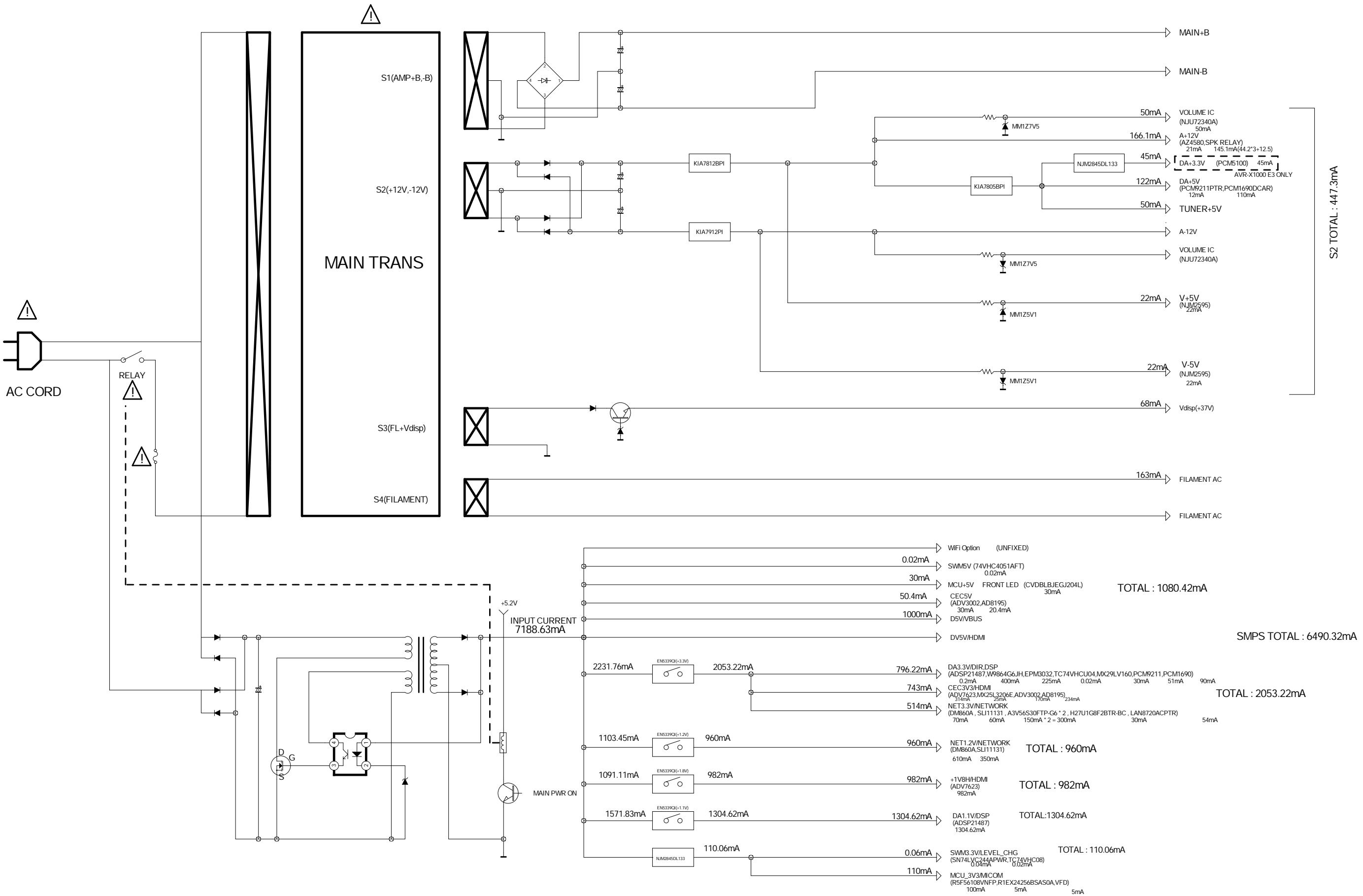


fig.9b

DIGITAL AUDIO/HDMI BLOCK



POWER BLOCK DIAGRAM



Personal notes:

Personal notes:

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
DIGITAL	IC761	R5F56108VNFP	B	SOFTWARE: Main
DIGITAL	IC793	MX29LV160DBTI-70G	B	SOFTWARE: DSP ROM
DIGITAL	IC783	EPM3032A-TC4410	B	SOFTWARE: AUDIO PLD
DIGITAL	IC722	MX25L3206EM2I-12G	B	SOFTWARE: 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

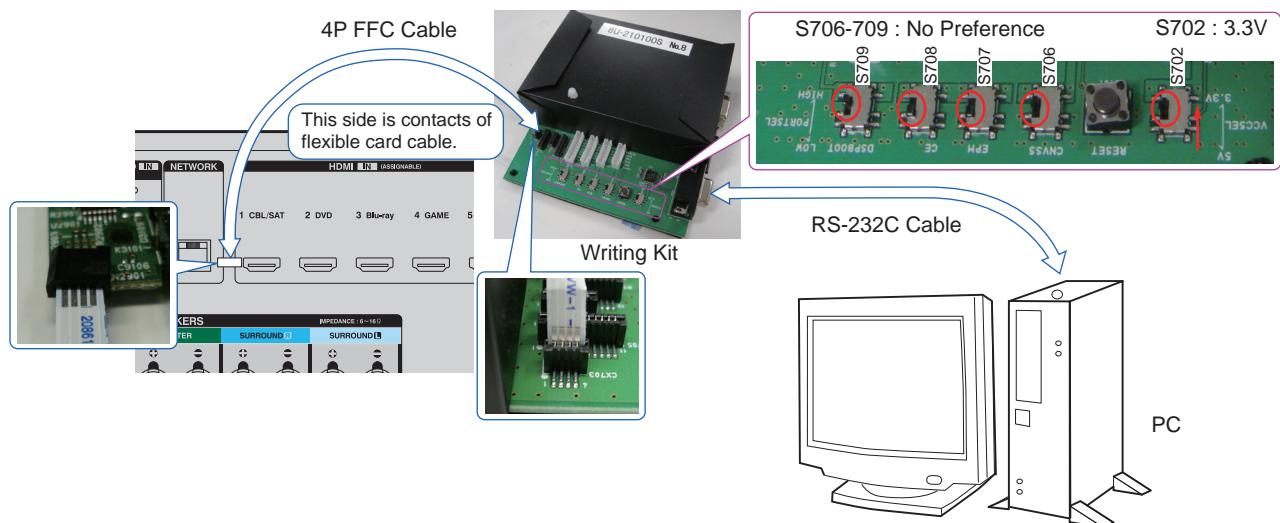
1. How to update by DFW

1.1. Preparations before starting the operation

- (1) Personal Computer (Installed "DFW_0063_AVRX1000_1010_E300(Rev.2.1.8).exe".)
- (2) RS-232 cable (9P (Male), Straight).
- (3) 8U-210100 Writing Kit.

1.2. Connection of AV receiver

- (1) Confirm the power on/off switch of the AV receiver is turning off.
- (2) Connect the update terminal of AV receiver with the "Writing Kit".
- (3) Connect the RS-232C cable from PC with the "Writing Kit".



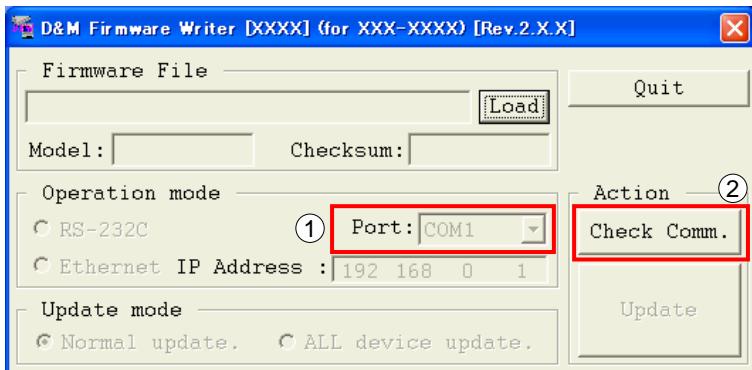
1.3. Run the DFW

Run the "DFW_0063_AVRX1000_1010_E300(Rev.2.1.8).exe" on desktop of PC.



1.4. Communication check

- (1) Select the serial port number of RS-232C in PC.
- (2) Click the "Check Comm." button.



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



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

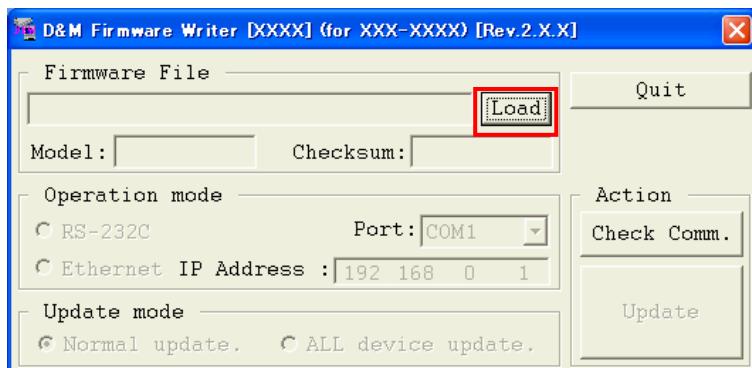


Please confirm the following

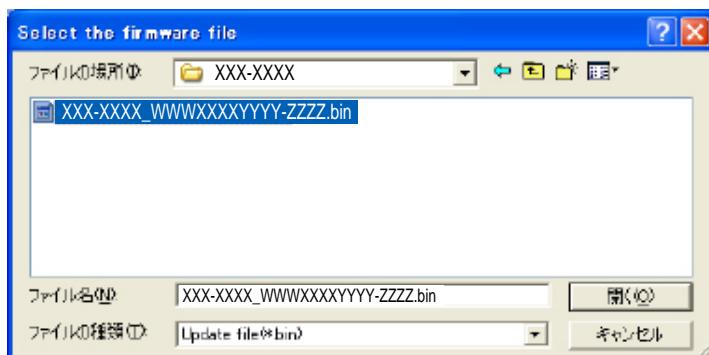
- (a) Check the connection of the AV receiver and PC. (refer to "1.2. Connection of the AV receiver")
- (b) Check the selection of the RS-232C port number of PC.

1.5. Download the firmware

- (1) Click the "Load" button.

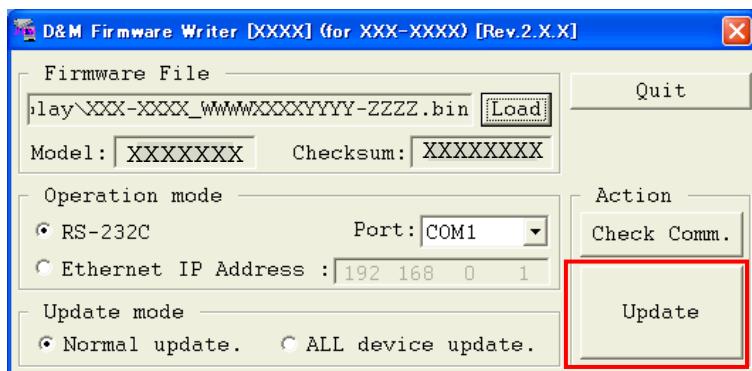


- (2) Download the firmware from the specified download source to PC.

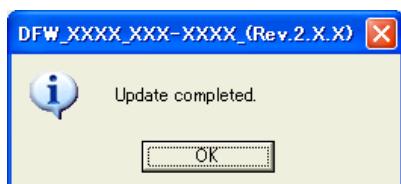


1.6. Complete the firmware updating

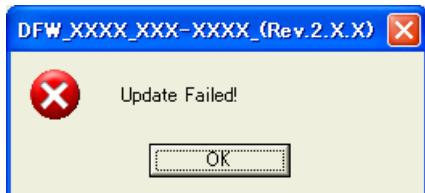
- (1) Click the "Update" button.



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



- (3) If you can't complete the firmware update, please retry the firmware update from "1.3. Run the DFW".



1.7. Notice:

Please keep the following notice for firmware update.

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

Confirming the firmware's number after upgraded

After updating the firmware, check the version. Refer to "1. μcom/DSP Version display mode" ([20 page](#)).

2. How to update by DPMS

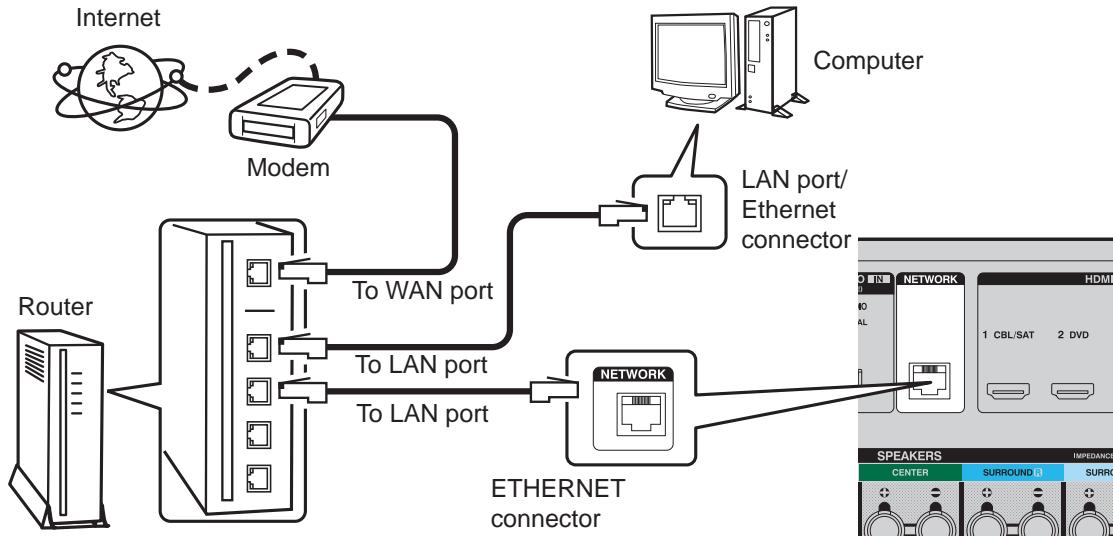
You can update the firmware by downloading the latest version from the Internet.

2.1. Connecting to the Network

(1) System requirements

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

(2) Setting



2.2. Checking and updating the firmware

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

- (1) Press the SETUP button on the remote control to display the GUI menu.
- (2) Use the cursor buttons to select "General" → "Firmware" → "Update" → "Check for Update".
- (3) Press the ENTER button.
 - The latest version of the firmware on the website is displayed.
 - If the firmware on the website is latest, proceed to (4).
 - If the latest firmware has been already installed, press the SETUP button to close the menu.
- (4) Use the cursor buttons to select "Start", then press the ENTER button.
 - During update, the power indicator lights in red and the GUI screen disappears. And an approximately remaining time is indicated on the display.
 - When updating is complete the power indicator lights in green and normal status is resumed.

--- Cautions on Firmware Update ---

- In order to update the firmware, you must have the correct system requirements and settings for a broadband Internet connection.
- Do not turn off the power until updating is completed.
- Even with a broadband connection to the Internet, approximately 1 hour is required for the updating procedure to be completed.

Once updating starts, normal operations on the this unit cannot be performed until updating is completed. Also, setting items of the GUI menu of this unit or setting items of the image adjustment may be initialized.

Note down the settings before updating, and set them again after updating.

2.3. About the error code

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

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

Error Code	Details of Error code	Display	Coping strategies
11	Main CPU failed to receive firmware for rewriting sent from DM860A (when an error occurred).	U P d a t i n g f a i l 1 1 1	Turn off and on the power. Updating starts automatically.
12	There was invalid data in the firmware for rewriting sent from DM860A to Main CPU (when a Check Sum error occurred).	U P d a t i n g f a i l 1 1 2	Turn off and on the power. Updating starts automatically.
13	The deletion of block data failed before Main CPU was rewritten.	E r a s e l e f a i l 1 1 3	Turn off and on the power. Updating starts automatically.
14	The rewriting of block data failed when Main CPU was rewritten.	U P d a t i n g f a i l 1 1 4	Turn off and on the power. Updating starts automatically.
15	The data verification was invalid after Main CPU was rewritten.	U p d a t e C h e c k N G 1 5	Turn off and on the power. Updating starts automatically.
20	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (AutoIP).	C o n n e c t i o n F a i l 1 2 0	Check the network connection. Carry out the update in an environment that has little network load.
21	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).	C o n n e c t i o n F a i l 1 2 1	Check the network connection. Carry out the update in an environment that has little network load.
22	Log-in to DPMS failed.	L o g i n f a i l e d 1 2 2	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.	S e r v e r i s b u s y 1 2 3	Carry out the update in an environment that has little network load.
24	Connection to DPMS failed.	C o n n e c t i o n F a i l 1 2 4	Check the network connection. Carry out the update in an environment that has little network load.
25	Mode change failure of DM860A.	C o n n e c t i o n F a i l 1 2 5	Reset and update again.
26	Data acquisition failed (timed out) when firmware of Main CPU was downloaded. Received Package Version is wrong.	D o w n l o a d f a i l 1 2 6	Check the network connection. Carry out the update in an environment that has little network load.
27	Mode change failure of DM860A.	D o w n l o a d f a i l 1 2 7	Reset and update again.
36	Log-in to DPMS failed when Main CPU was rewritten.	L o g i n f a i l e d 1 3 6	Carry out the update in an environment that has little network load.
37	Line, etc., is busy when logging into DPMS when Main CPU was rewritten.	S e r v e r i s b u s y 1 3 7	Carry out the update in an environment that has little network load.
38	Connection to DPMS failed when Main CPU was rewritten.	C o n n e c t i o n F a i l 1 3 8	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
39	Connection to DPMS timed out when Main CPU was rewritten.	ConnectionFail139	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.	Download fail1 3A	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3B	Error (line congestion) message received when downloading firmware when Main CPU was rewritten.	Download fail1 3B	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3C	Error (connection failure) message received when downloading firmware when Main CPU was rewritten.	Download fail1 3C	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
3D	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (AutoIP).	ConnectionFail13D	Check the network connection. Carry out the update in an environment that has little network load.
3E	Failure to acquire (Boot Loader Mode) IP address before rewriting DM860A (when timed out).	ConnectionFail13E	Check the network connection. Carry out the update in an environment that has little network load.
50	Log-in to DPMS failed when firmware such as DSP and PLD was rewritten.	Login failed 50	Carry out the update in an environment that has little network load.
51	Line, etc., is busy when the log-in to DPMS when firmware such as DSP and PLD was rewritten.	Server is busy 51	Carry out the update in an environment that has little network load.
52	Connection to DPMS failed when firmware such as DSP and PLD was rewritten.	ConnectionFail152	Check the network connection. Carry out the update in an environment that has little network load.
54	Error message received regarding firmware data after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	Updating fail1 54	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
55	When firmware such as DSP and PLD was rewritten, request was made for firmware data after the log-in to DPMS, but it timed out.	Updating fail1 55	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
56	Downloading firmware failed after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	Download fail1 56	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
57	Firmware download error received (line congestion) after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	Download fail1 57	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 received (connection failure) after the log-in to DPMS when firmware such as DSP and PLD was rewritten.	Download fail1 58	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
5A	NACK was received when "C" command sent to DSP, PLD etc.	ConnectionFail15A	Turn off and on the power. Updating starts automatically.
5B	NACK was received when "L" command sent to DSP, PLD etc.	Updating fail1 5B	Turn off and on the power. Updating starts automatically.

Error Code	Details of Error code	Display	Coping strategies
5C	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when timed out).	Up d a t i n g f a i l 1 5 C	Turn off and on the power. Updating starts automatically.
5D	DSP, PLD etc. failed to receive firmware for rewriting sent from DM860A (when an error occurred).	Up d a t i n g f a i l 1 5 D	Turn off and on the power. Updating starts automatically.
5E	Data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (when a Check Sum error occurred).	Up d a t i n g f a i l 1 5 E	Turn off and on the power. Updating starts automatically.
5F	Invalid data in firmware such as DSP and PLD for rewriting sent from DM860A was invalid (invalid data was received).	Up d a t i n g f a i l 1 5 F	Turn off and on the power. Updating starts automatically.
60	NACK was received when "P" command sent to DSP, PLD etc.	Up d a t i n g f a i l 1 6 0	Turn off and on the power. Updating starts automatically.
61	NACK was received when "I" command sent to DSP, PLD etc.	Up d a t e C h e c k N G 6 1	Turn off and on the power. Updating starts automatically.
80	Acquisition of serial flash data failed before serial flash was deleted.	Up d a t i n g f a i l 1 8 0	Turn off and on the power. Updating starts automatically.
81	Deleting data failed before serial flash was rewritten.	Up d a t i n g f a i l 1 8 1	Turn off and on the power. Updating starts automatically.
82	Receiving firmware for rewriting serial flash sent by DM860A failed (when timed out).	Up d a t i n g f a i l 1 8 2	Turn off and on the power. Updating starts automatically.
83	Receiving firmware for rewriting serial flash sent by DM860A failed (when an error).	Up d a t i n g f a i l 1 8 3	Turn off and on the power. Updating starts automatically.
84	Receiving firmware for rewriting serial flash sent by DM860A failed (when a Check Sum error).	Up d a t i n g f a i l 1 8 4	Turn off and on the power. Updating starts automatically.
85	Receiving firmware for rewriting serial flash sent by DM860A failed (when invalid data was received).	Up d a t i n g f a i l 1 8 5	Turn off and on the power. Updating starts automatically.
86	The data verification was invalid after serial flash was rewritten.	Up d a t i n g f a i l 1 8 6	Turn off and on the power. Updating starts automatically.
A0	Acquisition of (Application Mode) IP address failed before DM860A was rewritten (AutoIP).	Con n e c t i o n F a i l 1 A 0	Check the network connection. Carry out the update in an environment that has little network load.
A1	Acquisition of (Application Mode) IP address failed before DM860A was rewritten (when timed out).	Con n e c t i o n F a i l 1 A 1	Check the network connection. Carry out the update in an environment that has little network load.
A2	Invalid login via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	Log i n f a i l e d A 2	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
A3	Line congestion via DPMS access was notified when DM860A related firmware was rewritten (Application Mode).	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 when DM860A related firmware was rewritten (Application Mode).	Connection fail 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 DM860A related firmware was rewritten (Application Mode).	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 DM860A related firmware was rewritten (Application Mode), request was made for firmware data after DPMS login but it timed out.	Updating fail A7	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
AE	Firmware download error message received (when download fails) when DM860A related firmware was rewritten (Boot Loader Mode).	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 DM860A related firmware was rewritten (Boot Loader Mode).	Download fail 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 DM860A related firmware was rewritten (Boot Loader Mode).	Download fail B0	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B1	Firmware download error message. (Timeout failure)	Download fail B1	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B2	Error message received when DM860A related firmware was rewritten.	Download fail B2	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B3	Firmware writing error message. (Timeout failure)	Updating fail B3	Turn off and on the power. Updating starts automatically. Carry out the update in an environment that has little network load.
B4	Mode change failure of DM860A. (Boot Loader Mode)	Updating fail B4	Reset and update again.
B5	Mode change failure of DM860A. (Application Mode)	Updating fail B5	Reset and update again.

Device display during firmware update

Display of target device during firmware update.

Target device	Display	Error code when an error occurs
Main	M a i n : * * % * * * m n	08 - 0C 10 - 15 22 - 24 36 - 3E
Audio PLD	A P L D : * * % * * * m n	50 - 52 54 - 58 5A - 61
DSP	D S P : * * % * * * m n	50 - 52 54 - 58 5A - 61
GUI Serial Flash	G U I : * * % * * * m n	50 - 52 54 - 58 5A - 61 80 - 86
DM860A Boot Loader	E S B L : * * % * * * m n	A0 - A4 A6 - A7 AE - B5
DM860A Image	E I M G : * * % * * * m n	A0 - A4 A6 - A7 AE - B5
DM860A Image (EmergencyMode)	U P d a t e R e t r y	-

Confirming the firmware's number after upgraded

After updating the firmware, check the version. Refer to "1. **μcom/DSP Version display mode**" ([20 page](#)).

3. How to update by USB Memory

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

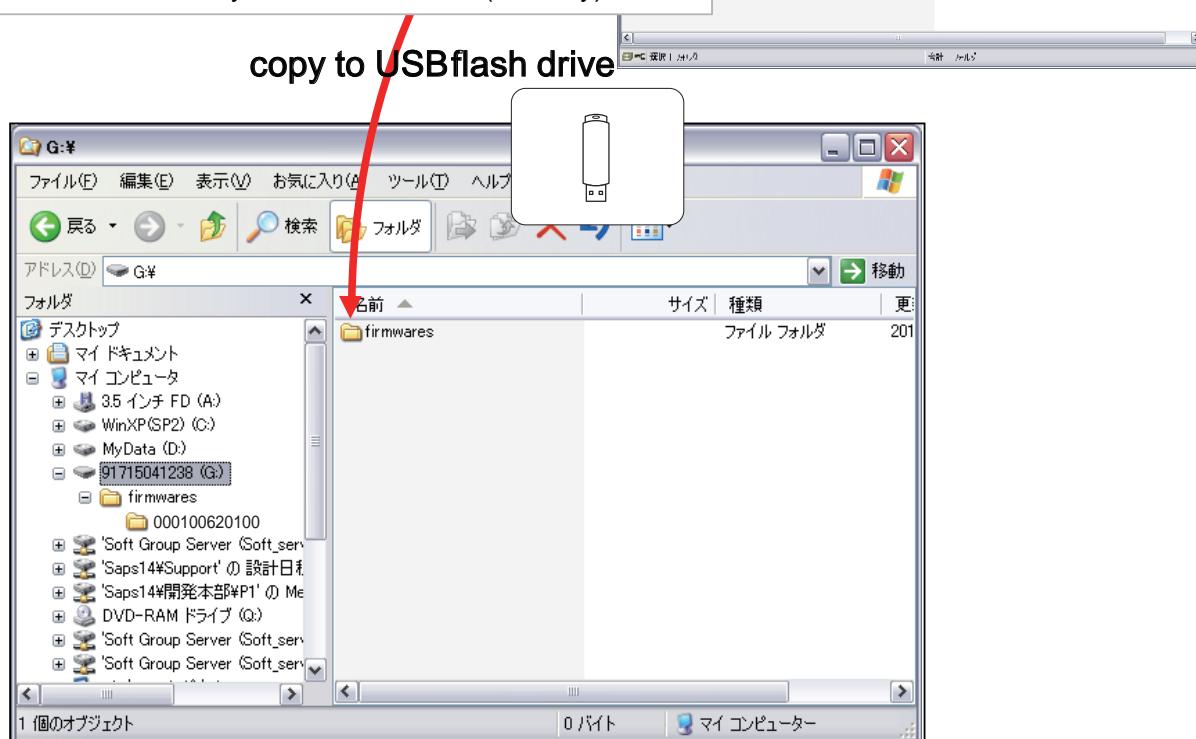
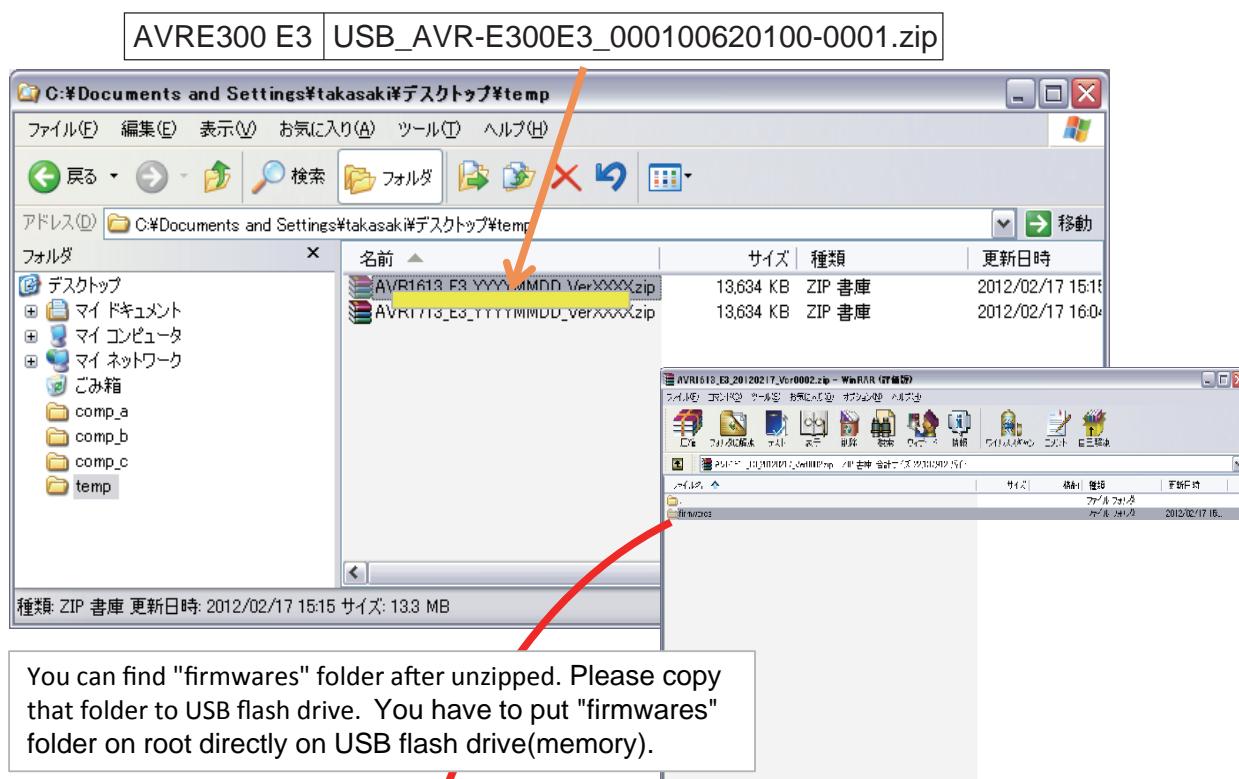
3.1. Connecting to the Network

(1) Requirements

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

3.2. Unzip Download File

Please unzip the downloaded file on PC



3.3. Copy for USB flash drive

USB location is below

USB memory root

Model Name	Model Area	Product ID
AVRE300	North America (E3)	000100630700
AVRX1000	North America (E3)	000100630100
	Europe (E2)	000100630200
	China (E1C)	000100630500
AVRX1010	China (E1C)	000100630800

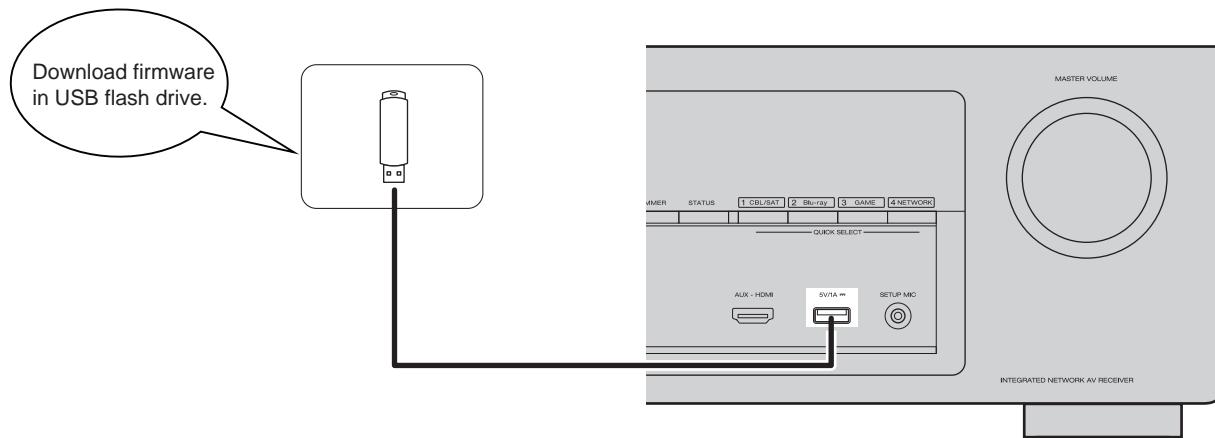
+ firmwares

- + 000100630X00
- + APLD.bin
- + DSP.bin
- + enc_update.xml
- + GUI.bin
- + IMG.bcd
- + MAIN.bin
- + SBL.bcd
- + SUB.bin



3.4. Insert the USB memory into a USB port

NOTE: Please UNPLUG LAN cable from the unit during update.



3.5. Start update

Turn on the power of this unit in the "STATUS" + "OPTION" button.

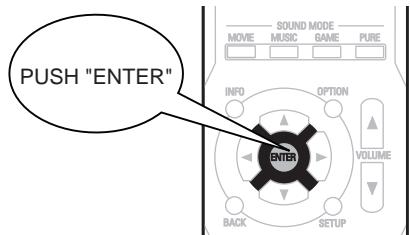
3.6. "USB Update Start" on FL Display

After around half minutes, FL display shows the following message.

FL Display

Upper	*	F	I	R	M	W	A	R	E	U	P	D	A	T	E
Lower	U	S	B		U	p	d	a	t	e	S	t	a	r	t

3.7. Push "ENTER" key on RC or Main unit



Then start Firmware Update.

FL Display

Upper	P	I	e	a	s	e	w	a	i	t	*	*	*	*	*
Lower	U	p	d	a	t	e	F	i	l	e	C	h	e	c	k

3.8. Finish firmware update

FL display shows the following message.

FL Display

Upper	F	i	r	m		U	p	d	a	t	e				
Lower	U	p	d	a	t	i	n	g	C	o	m	F	1	e	t

--- Cautions on Firmware Update ---

- Do not remove a USB memory until updating is completed.
- Do not turn off the power until updating is completed.

Approximately 1 hour is required for the updating procedure to be completed.

Once updating starts, normal operations on the this unit cannot be performed until updating is completed. Also, setting items of the GUI menu of this unit or setting items of the image adjustment may be initialized.

Note down the settings before updating, and set them again after updating.

3.3. About the error code

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

Error Code	Details of Error code	Display	Coping strategies
01	Unable to detect USB.	ConnectionFail 101	Disconnect and connect the USB memory.
02	No FirmwareFile in USB.	FilesNotFound 02	Make sure that the FirmwareFile is in the USB memory.
03	FirmwareFile in USB for unsupported Model name/area	NotMatchFirm 03	Check the supported Model name/area for the FirmwareFile.
04	Failed to obtain individual Firmware information.	ConnectionFail 106	Start the USB Update again.
05	TimeOut while obtaining individual Firmware information	ConnectionFail 107	Start the USB Update again.
06	Failed to obtain entire Firmware information.	ConnectionFail 104	Start the USB Update again.
07	TimeOut while obtaining entire Firmware information	ConnectionFail 105	Start the USB Update again.
08	Error notification received while requesting FirmwareInfo.	ConnectionFail 108	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
09	TimeOut while obtaining Firmware information	ConnectionFail 109	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
0A	Unable to detect USB for FirmwareDownload.	ConnectionFail 10A	Disconnect and connect the USB memory.
0B	No FirmwareFile for FirmwareDownload.	FilesNotFound 0B	Disconnect and connect the USB memory.
0D	Received value with invalid PackageVersion.	ConnectionFail 10D	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
10	No UpdatePacket received from DM860A (TimeOut).	Updating fail 1 10	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
11	Abnormal data in UpdatePacket received from DM860A (FormatError).	Updating fail 1 11	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
12	Abnormal data in UpdatePacket received from DM860A (CheckSumError).	Updating fail 1 12	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
13	BlockErase failed before rewriting Main.	Erase fail 1 13	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
14	BlockWrite failed while rewriting Main.	Updating fail 1 14	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
15	Error in Verify after rewriting Main (CheckSumError).	UpdateChecking 15	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
20	Unable to detect USB after SBLMode.	ConnectionFail 120	Disconnect and connect the USB memory.

Error Code	Details of Error code	Display	Coping strategies
21	No FirmwareFile in USB after SBLMode.	File s Not Found 21	Disconnect and connect the USB memory.
22	FirmwareFile in USB after SBLMode for unsupported Model name/area	Not Match Firm 22	Check the supported Model name/area for the FirmwareFile.
23	Failed to obtain entire Firmware information after SBLMode.	Connection Fail 123	Disconnect and connect the USB memory.
24	TimeOut while obtaining entire Firmware information after SBLMode	Connection Fail 124	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
25	Failed to transit to SBLMode.	Connection Fail 125	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
26	TimeOut in Download (writing to SDRAM) for FirmwareDownload	Download fail 126	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
27	Failed to write to EEPROM after SBLMode.	Connection Fail 127	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
36	Unable to detect USB.	Connection Fail 136	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
37	No FirmwareFile in USB.	File s Not Found 37	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
38	FirmwareFile in USB for unsupported Model name/area	Not Match Firm 38	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
39	TimeOut in USBCheck	Connection Fail 139	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
3A	Unable to detect USB for FirmwareDownload.	Connection Fail 13A	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
3B	No FirmwareFile for FirmwareDownload.	File s Not Found 3B	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
3F	Failed to transit to SBLMode.	Connection Fail 13F	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
50	Unable to detect USB.	Connection Fail 150	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
51	No FirmwareFile in USB.	FILEsNotFOund 51	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
52	FirmwareFile in USB for unsupported Model name/area	NotMatchFirm 52	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
54	Error notification received while requesting FirmwareInfo.	UpdattinG failI 54	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
55	TimeOut while obtaining Firmware	UpdattinG failI 55	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
56	Unable to detect USB for FirmwareDownload.	ConnecTIonFail 56	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
57	No FirmwareFile for FirmwareDownload.	FILEsNotFOund 57	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5A	Invalid DeviceID in response or no response from Sub for C command.	ConnecTIonFail 5A	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5B	NACK received in response or no response from Sub for L command.	UpdattinG failI 5B	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5C	No UpdatePacket received from DM860A (TimeOut).	UpdattinG failI 5C	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5D	Abnormal data in UpdatePacket received from DM860A (FormatError).	UpdattinG failI 5D	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5E	Abnormal data in UpdatePacket received from DM860A (CheckSumError).	UpdattinG failI 5E	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
5F	Abnormal data in UpdatePacket received from DM860A (DataLength/DataNo).	UpdattinG failI 5F	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
60	NACK received in response or no response from Sub for P command.	UpdattinG failI 60	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
61	Mismatched CheckSum in response or no response from Sub for I command.	U P d a t i n g C h e c k N G 6 1	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
62	Failed to start up Sub in PowerOn sequence during Update.	U P d a t i n g f a i l 6 2	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
63	Failed to transit to ApplicationMode.	U P d a t i n g f a i l 6 3	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
64	Failed to transit to BootLoaderMode.	U P d a t i n g f a i l 6 4	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
80	WriteEnableLatchBit not set in Read after issuing WREN command.	U P d a t i n g f a i l 8 0	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
81	BlockErase failed in Read after issuing BE command.	U P d a t i n g f a i l 8 1	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
82	No UpdatePacket received from DM860A (TimeOut).	U P d a t i n g f a i l 8 2	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
83	Abnormal data in UpdatePacket received from DM860A (FormatError).	U P d a t i n g f a i l 8 3	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
84	Abnormal data in UpdatePacket received from DM860A (CheckSumError).	U P d a t i n g f a i l 8 4	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
85	Abnormal data in UpdatePacket received from DM860A (DataLength/DataNo).	U P d a t i n g f a i l 8 5	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
86	Mismatched CheckSum in CheckSum comparison after rewriting.	U P d a t i n g f a i l 8 6	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
A2	Unable to detect USB.	Con n e c t i o n F a i l A 2	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.
A3	No FirmwareFile in USB.	F i l e s N o t F o u n d A 3	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the Ⓞ button for five seconds.

Error Code	Details of Error code	Display	Coping strategies
A4	FirmwareFile in USB for unsupported Model name/area	NotMatchFirm A4	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
A6	Error notification received while requesting FirmwareInfo.	Updating fail! A6	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
A7	TimeOut while obtaining Firmware	Updating fail! A7	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
AE	Unable to detect USB for FirmwareDownload.	Connection fail! AE	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
AF	No FirmwareFile for FirmwareDownload.	FileNotFound AF	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
B1	TimeOut in Download (writing to SDRAM) for FirmwareDownload	Download fail! B1	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
B2	Error notification received after rewriting DM860A Firm.	Updating fail! B2	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
B3	Error in FirmwareUpdate (TimeOut).	Updating fail! B3	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
B4	Failed to transit to BootLoaderMode.	Updating fail! B4	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.
B5	Failed to transit to ApplicationMode.	Updating fail! B5	This unit automatically retries several times. Wait until the FL display stops. If the FL display stops at the Error display, press and hold the ⌄ button for five seconds.

--- Cautions on Firmware Update ---

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

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

3.4. Device display during firmware update

Display of target device during firmware update.

Target device	Display	Error code when an error occurs
Main CPU	M a i n : * * %	08 - 0B 10 - 15 20 - 27 36 - 3B 3F
Audio PLD	A P L D : * * %	50 - 52 54 - 58 5A - 64
DSP	D S P : * * %	50 - 52 54 - 58 5A - 64
GUI Serial Flash	G U I : * * %	50 - 52 54 - 58 5A 62 - 64 80 - 86
DM860A Boot Loader	E S B L : * * %	A0 - A4 A6 - A7 AE - B5
DM860A Image	E I M G : * * %	A0 - A4 A6 - A7 AE - B5
DM860A Image (EmergencyMode)	U p d a t e r e t r y	-

Confirming the firmware's number after upgraded

After updating the firmware, check the version. Refer to "1. μcom/DSP Version display mode" ([20 page](#)).

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 humidity should be moderate, and place the set at normal usage environment.

Temperature should be at 15 °C ~ 30 °C (59 °F ~ 86 °F).

- (2) Presetting

- POWER (Power source switch) OFF
- SPEAKER (Speaker terminal) No load
(Do not connect speaker, dummy resistor, etc.)

2. Adjustment

- (1) Remove the top cover and set VR510(FL), VR550(FR), VR530(C), VR520(SL), VR540(SR), on MAIN PCB at fully counterclockwise (Q) position.

- (2) Connect DC Voltmeter to test points (FRONT-Lch: CN510, FRONT-Rch: CN550, CENTER ch: CN530, SURROUND-Lch: CN520, SURROUND-Rch: CN540).

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

- (4) Presetting.

MASTER VOLUME : Q minimum

SPEAKER (Speaker terminal) : No load

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

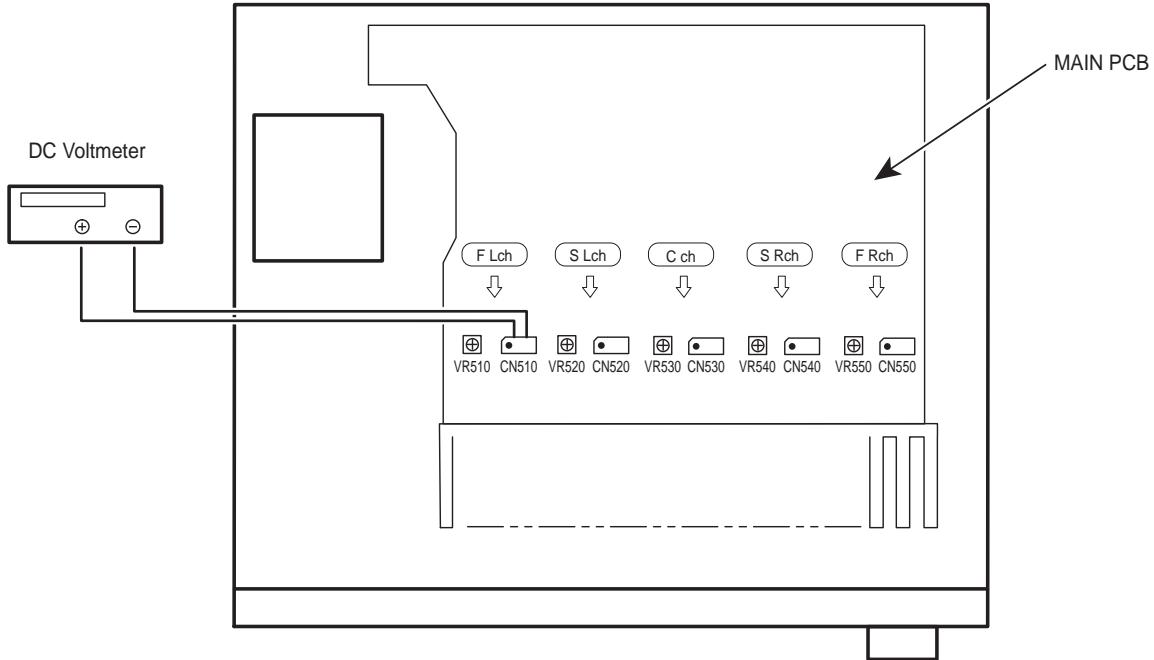
MODE : MCH STEREO

FUNCTION : CBL/SAT

- (5) Within 2 minutes after the power on, turn VR510 clockwise (Q) to adjust the TEST POINT voltage at 1.5mV ± 0.5mV DC.

- (6) After 10 minutes from the preset above, turn VR510 to set the voltage to 2.0mV ± 0.5mV DC.

- (7) Adjust the Variable Resistors of each channel(VR520-VR550) in the same way.



Surround

This unit is equipped with a sophisticated digital signal processing circuit that lets you play your favorite movie and music sources and listen to them with a wide range of surround sound mode choices.

Sound modes and surround parameters

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

Symbols in the table

○ This indicates the audio output channels or surround parameters that can be set.

◎ This indicates the audio output channels. The output channels depend on the settings of "Speaker Config." .

Sound Mode	Front L/R	Center	Surround L/R	Subwoofer	Cinema EQ	Loudness Mngmt *1	Dynamic Comp. *2	Low Frequency *3	Delay Time	Effect Level	Room Size
DIRECT (2-channel)	○	○	○	○	○	○	○	○	○	○	
DIRECT (Multi-channel)	○	○	○	○	○	○	○	○	○	○	
STEREO	○	○	○	○	○	○	○	○	○	○	
MULTI CH IN	○	○	○	○	○	○	○	○	○	○	
DOLBY PRO LOGIC II	○	○	○	○	○	○	○	○	○	○	
DOLBY DIGITAL	○	○	○	○	○	○	○	○	○	○	
DOLBY DIGITAL Plus	○	○	○	○	○	○	○	○	○	○	
DOLBY TrueHD	○	○	○	○	○	○	○	○	○	○	
DTS NEO:6	○	○	○	○	○	○	○	○	○	○	
DTS SURROUND	○	○	○	○	○	○	○	○	○	○	
DTS 96/24	○	○	○	○	○	○	○	○	○	○	
DTS-HD	○	○	○	○	○	○	○	○	○	○	
DTS Express	○	○	○	○	○	○	○	○	○	○	
MULTI CH STEREO	○	○	○	○	○	○	○	○	○	○	
ROCK ARENA	○	○	○	○	○	○	○	○	○	○	
JAZZ CLUB	○	○	○	○	○	○	○	○	○	○	
MONO MOVIE	○	○	○	○	○	○	○	○	○	○	
VIDEO GAME	○	○	○	○	○	○	○	○	○	○	
MATRIX	○	○	○	○	○	○	○	○	○	○	
VIRTUAL	○	○	○	○	○	○	○	○	○	○	

*1 This item can be selected when a Dolby TrueHD signal is played.

*2 This item can be selected when a Dolby Digital or DTS signal is played.

*3 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.

*4 Only when "Subwoofer Mode" is set to "LFE+Main", sound is output from the subwoofer.

*5 This setting is possible when the sound mode is "PLII Cinema".

*6 This setting is possible when the sound mode is "DTS NEO:6 Cinema".

Sound Mode	Surr.Parameter				Tone *7	MultiEQ® *8	Dynamic EQ *9	Dynamic Volume *9	Audyssey	Restorer *10						
	PRO LOGIC II Music mode only		Center Width	Center Image												
	Panorama	Dimension														
DIRECT (2-channel)																
DIRECT (Multi-channel)																
STEREO																
MULTI CH IN																
DOLBY PRO LOGIC II	○		○													
DOLBY DIGITAL																
DOLBY DIGITAL Plus																
DOLBY TrueHD																
DTS NEO:6					○											
DTS SURROUND																
DTS 96/24																
DTS-HD																
DTS Express																
MULTI CH STEREO																
ROCK ARENA							○									
JAZZ CLUB							○									
MONO MOVIE							○									
VIDEO GAME							○									
MATRIX							○									
VIRTUAL							○									

*7 This item cannot be set when "Dynamic EQ" is set to "On".

*8 For HD Audio whose sampling frequency of an input signal is more than 96 kHz, this sound parameter cannot be set.

*9 This item cannot be set when "MultiEQ®" is set to "Off" or "Manual EQ".

*10 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

*11 In this sound mode, bass is +6 dB, and treble is +4 dB (Default).

Types of input signals, and corresponding sound modes

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

Symbols in the table

● This indicates the default sound mode.

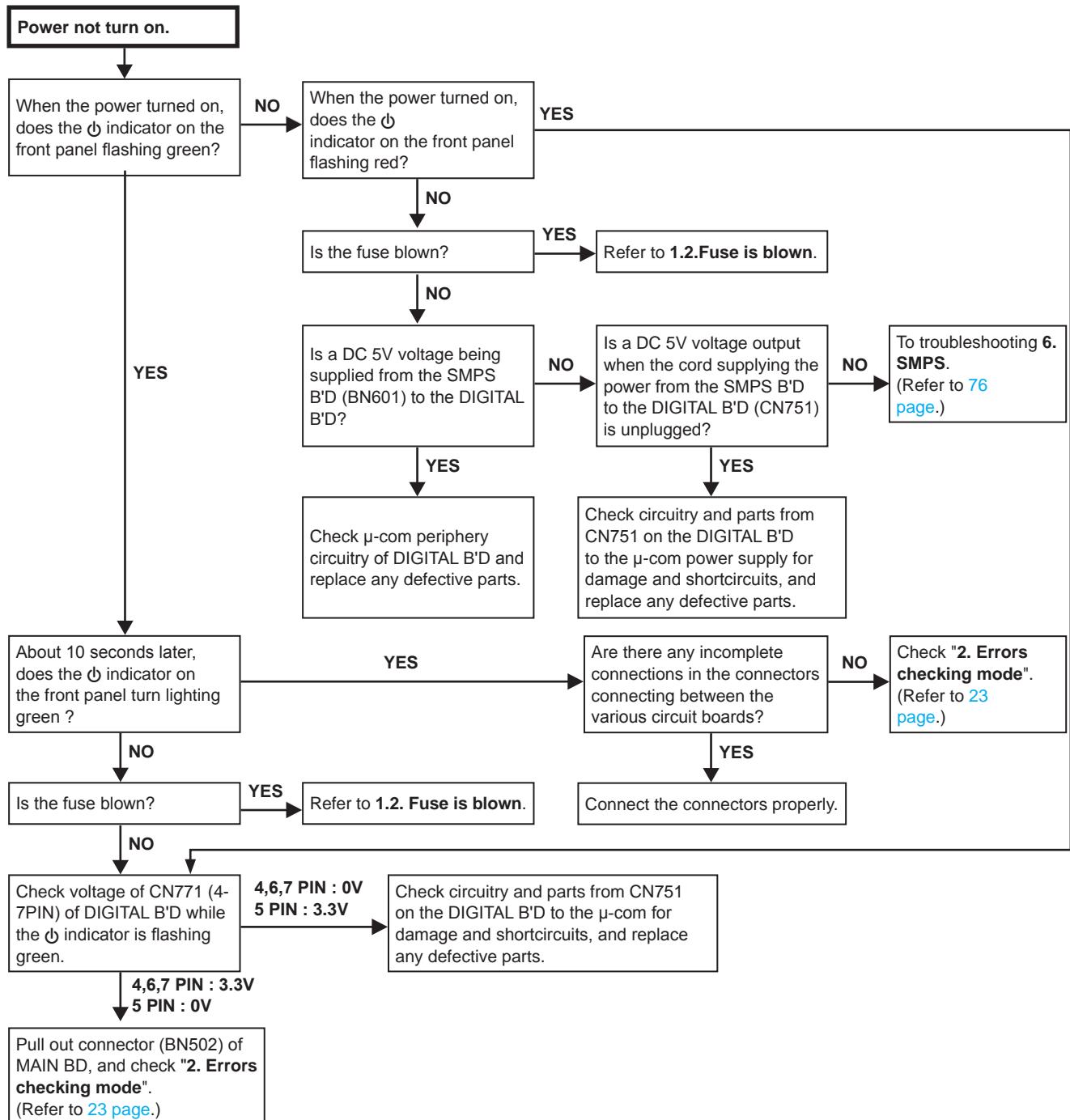
○ This indicates the selectable sound mode.

Sound Mode	ANALOG	PCM	PCM (Multi-channel)	Input signal types and formats											
				DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DS CRT (With Flag)	DTS MTRX (With Flag)	DTS (5.1-channel)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1-channel)
DTS SURROUND															
DTS-HD MSTR															
DTS-HD HI RES															
DTS SURROUND															
DTS 96/24															
DTS EXPRESS															
DTS NEO:6 CINEMA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DTS NEO:6 MUSIC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DOLBY SURROUND															
DOLBY TrueHD															
DOLBY DIGITAL+															
DOLBY DIGITAL															
DOLBY PRO LOGIC II															
CINEMA															
DOLBY PRO LOGIC II															
MUSIC															
DOLBY PRO LOGIC II															
GAME															
MULTI CH IN															
MULTI CH IN															
DIRECT															
DIRECT															
DSP SIMULATION															
MULTI CH STEREO															
ROCK ARENA															
JAZZ CLUB															
MONO MOVIE															
VIDEO GAME															
MATRIX															
VIRTUAL															
STEREO															
STEREO															

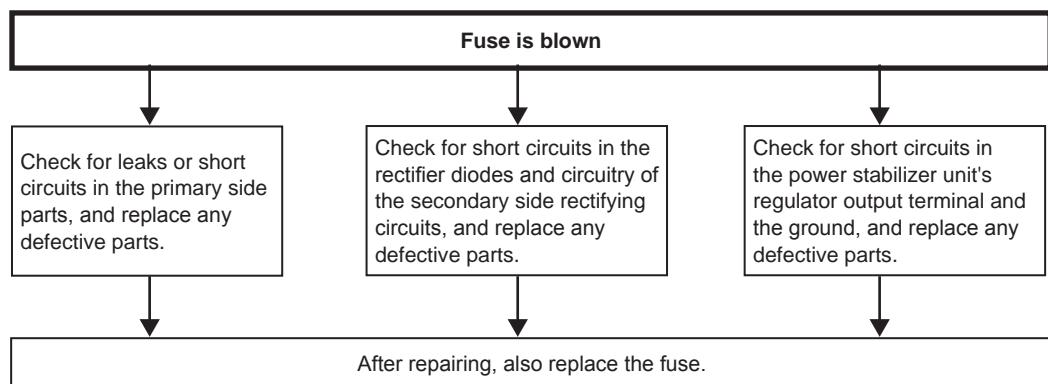
TROUBLE SHOOTING

1. POWER

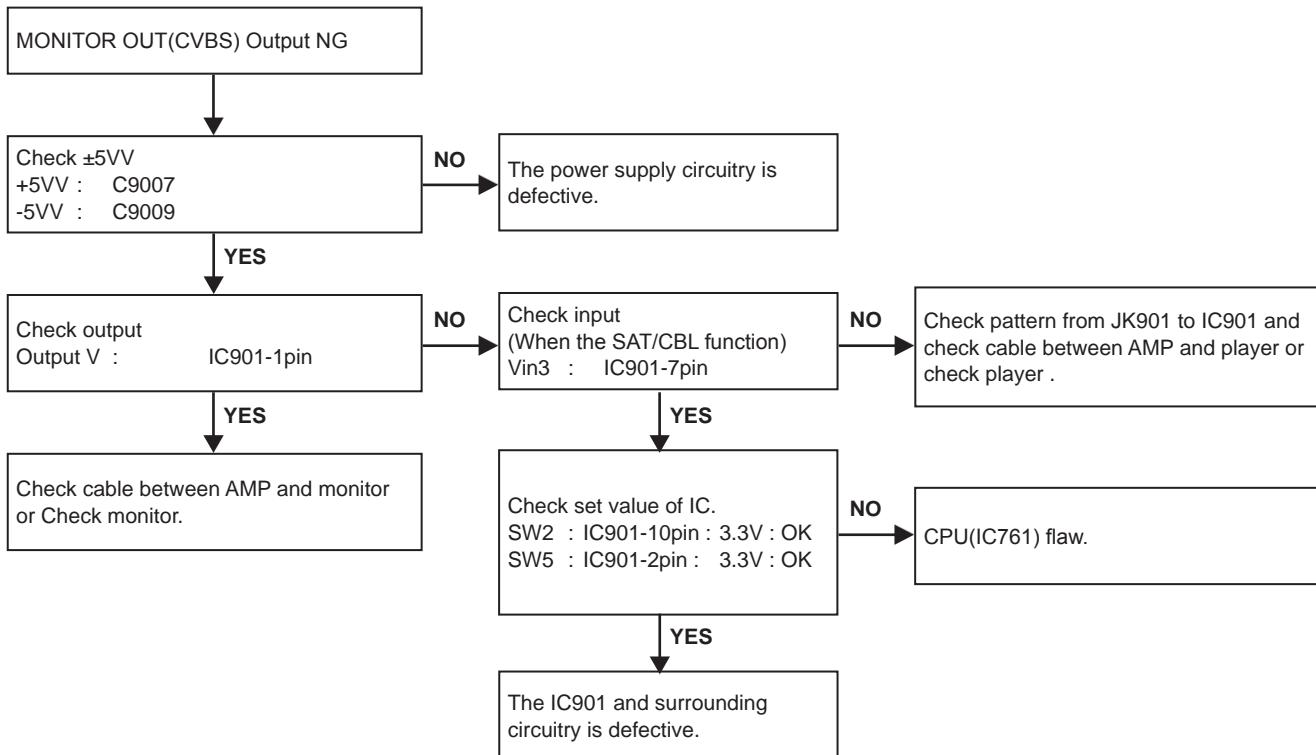
1.1. Power not turn on



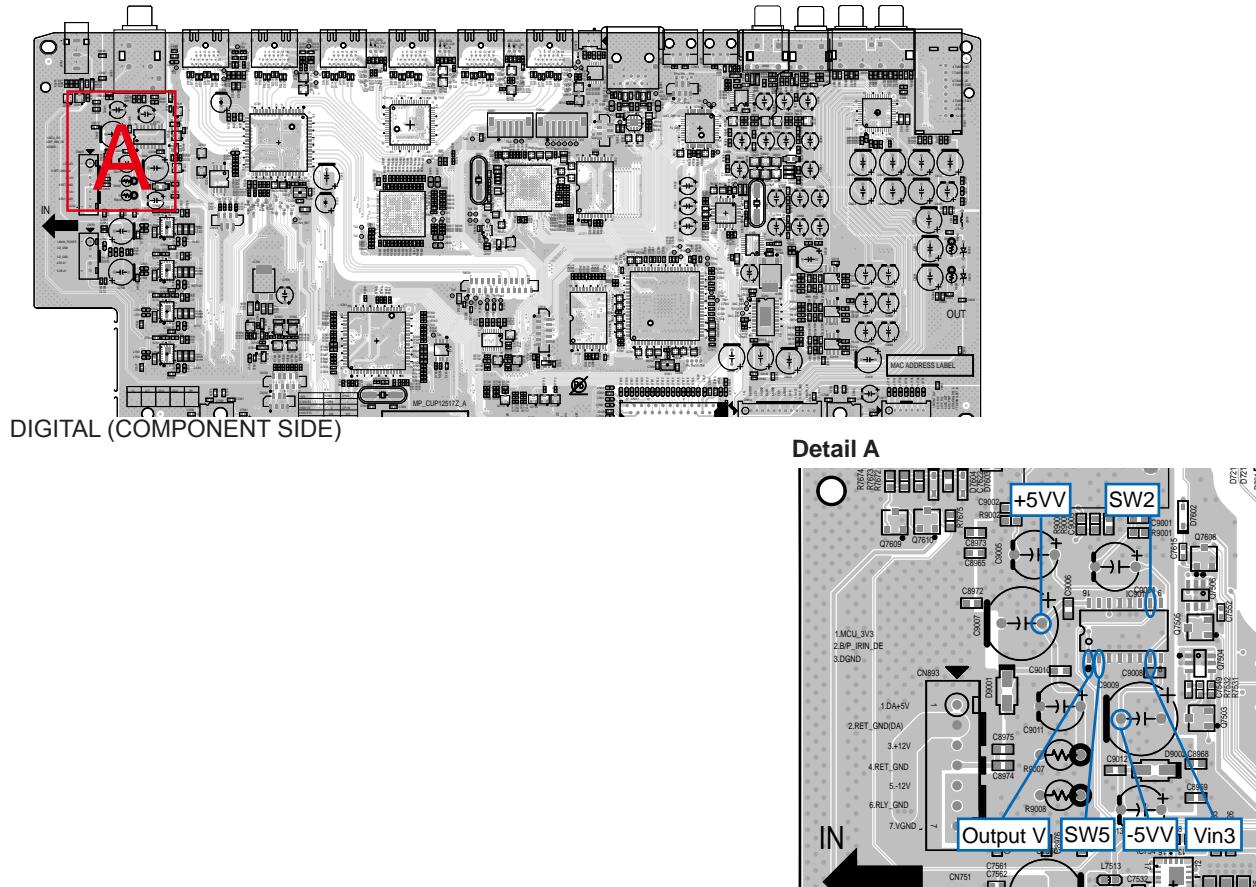
1.2. Fuse is blown



2. Analog video

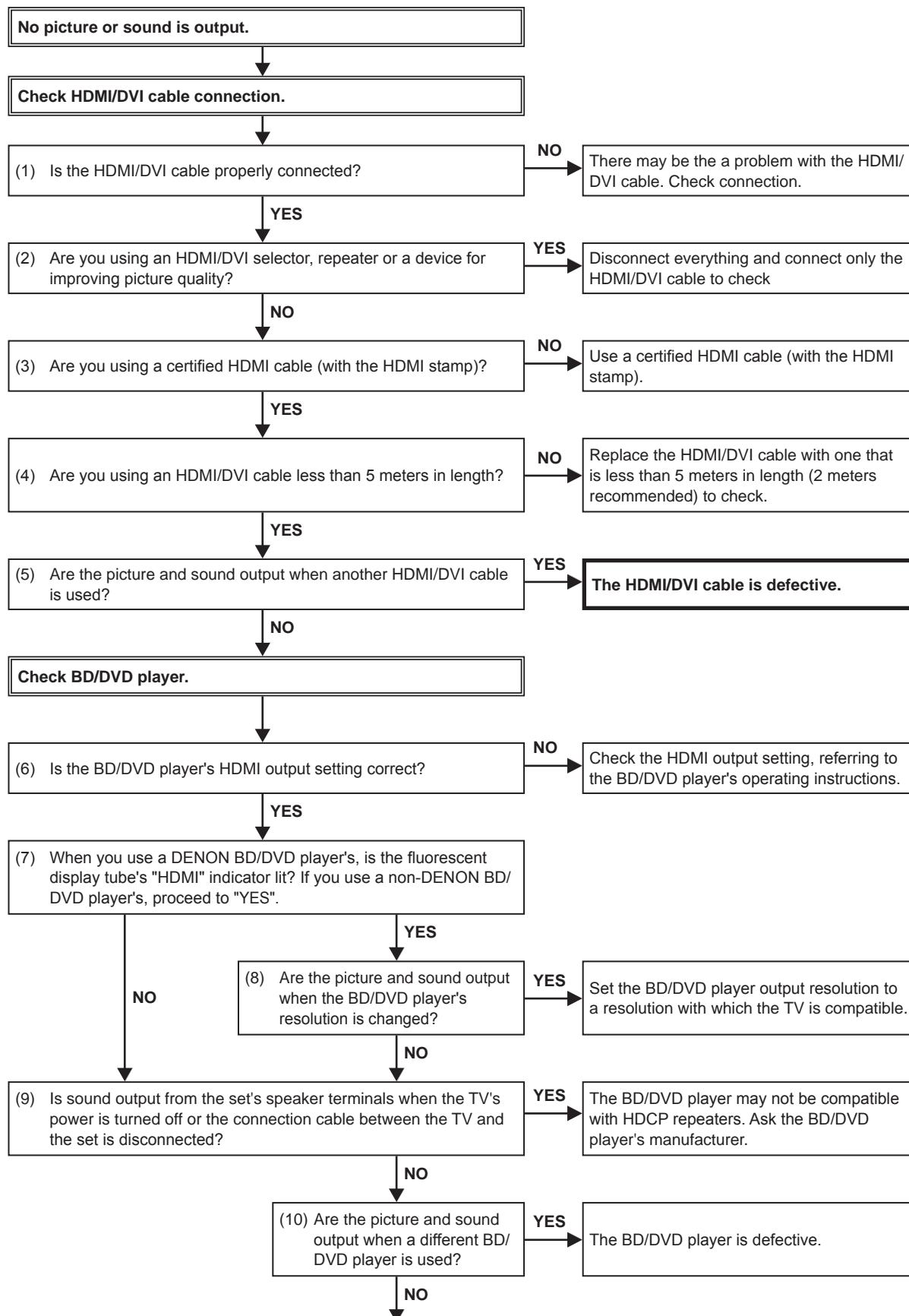


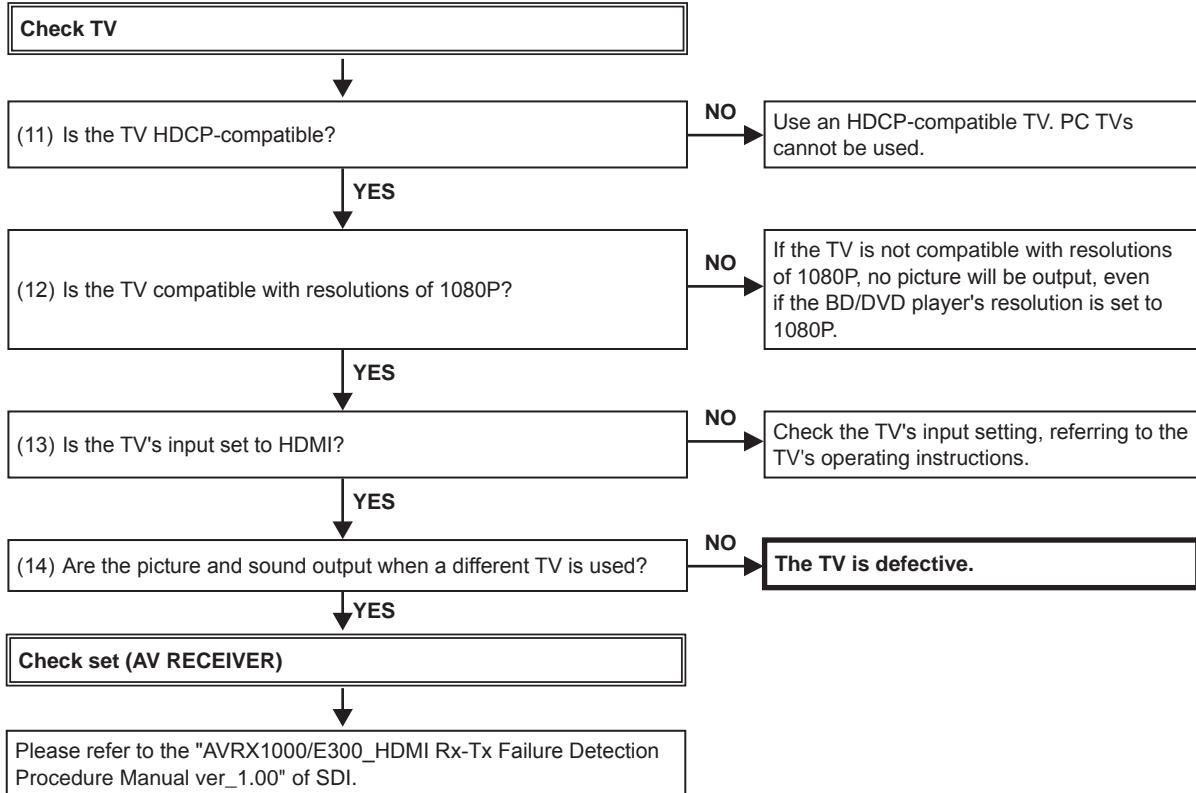
VIDEO test point



3. HDMI/DVI

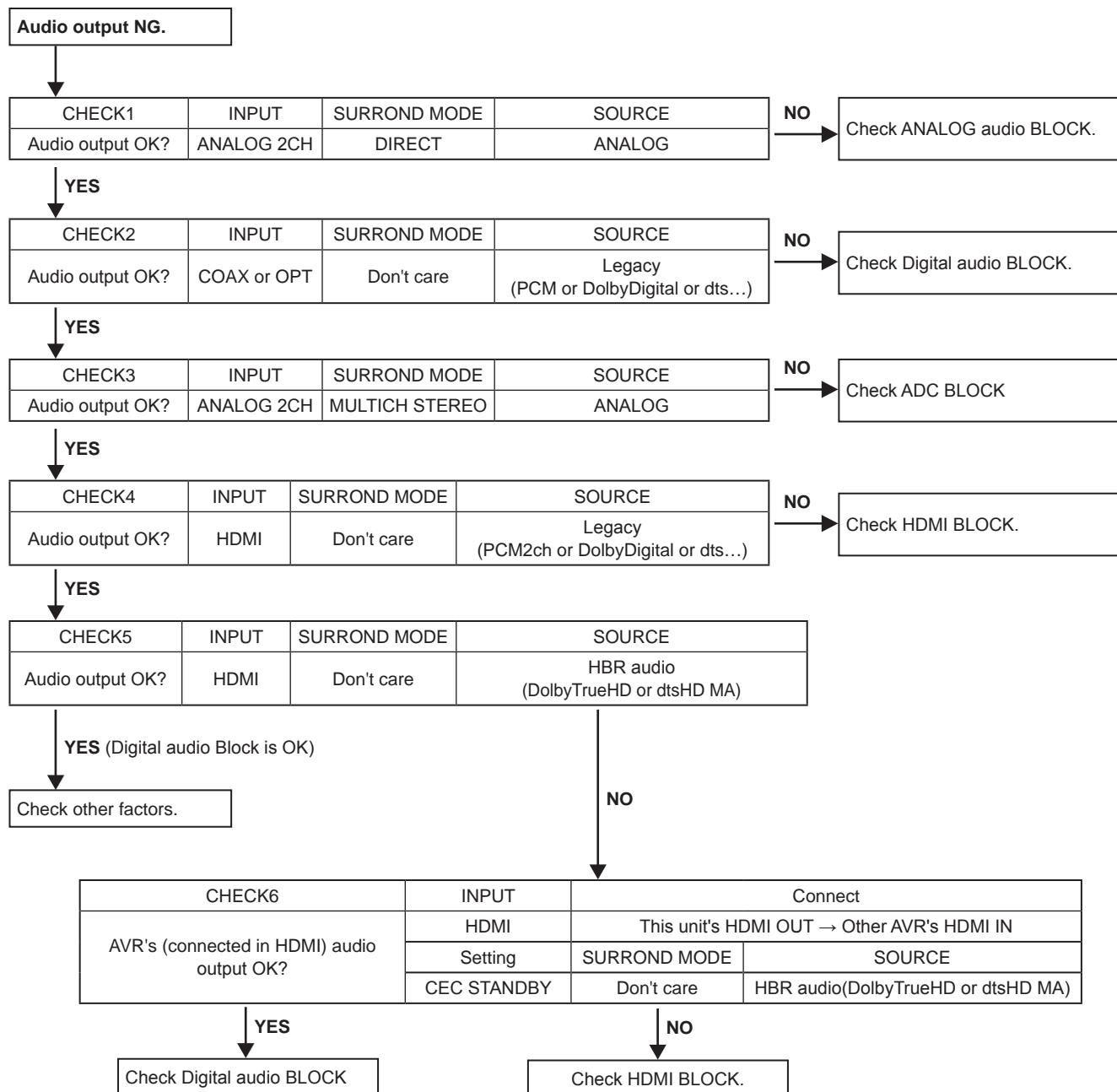
3.1. No picture or sound is output



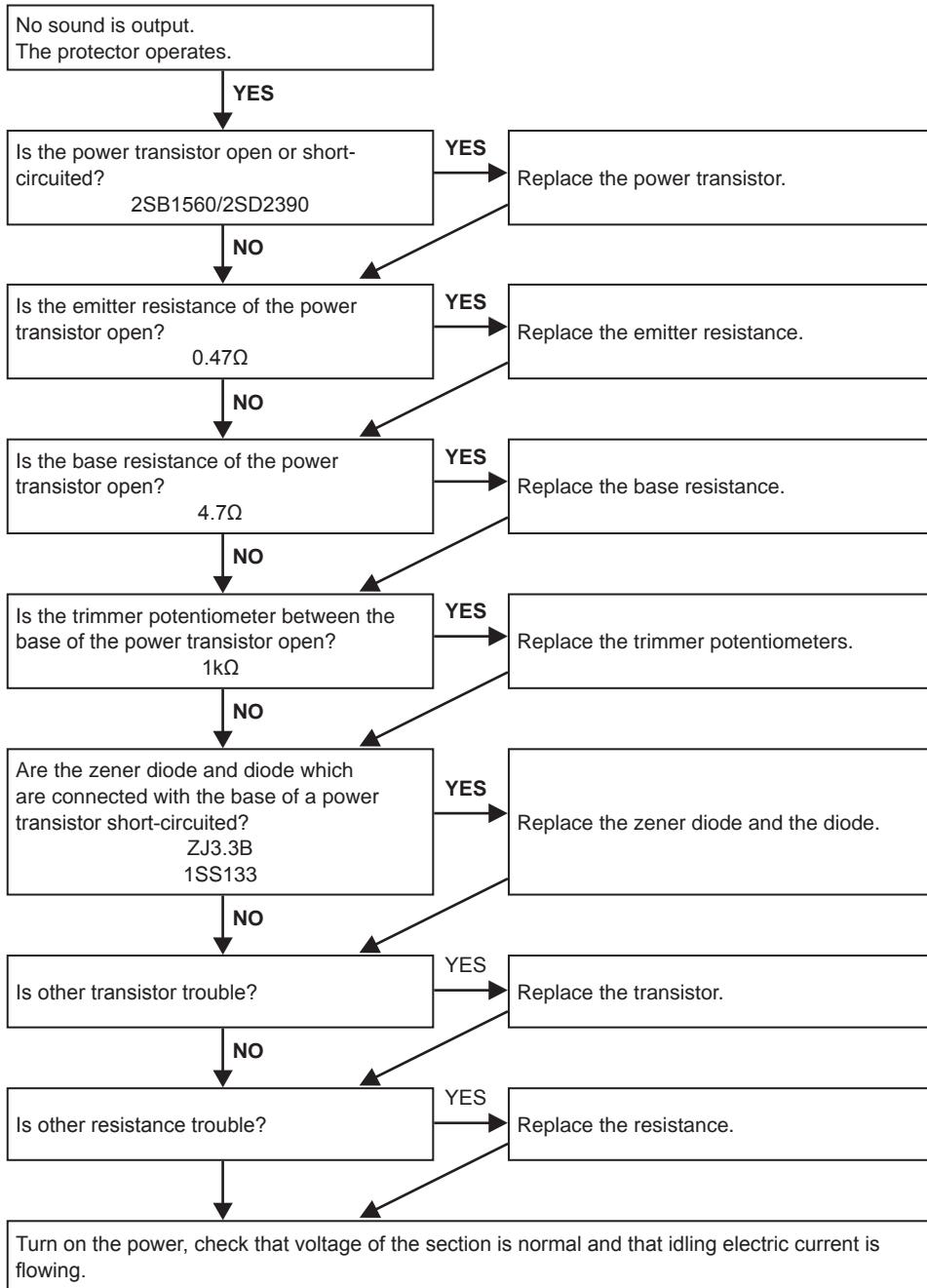


4. AUDIO

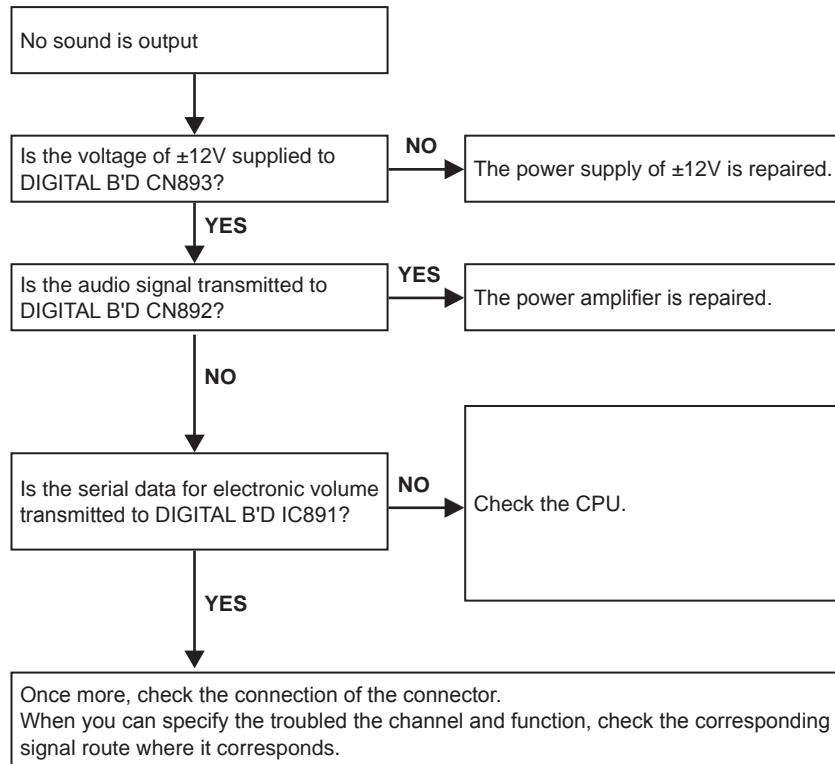
4.1. AUDIO CHECK



4.2. Power AMP (MAIN UNIT)

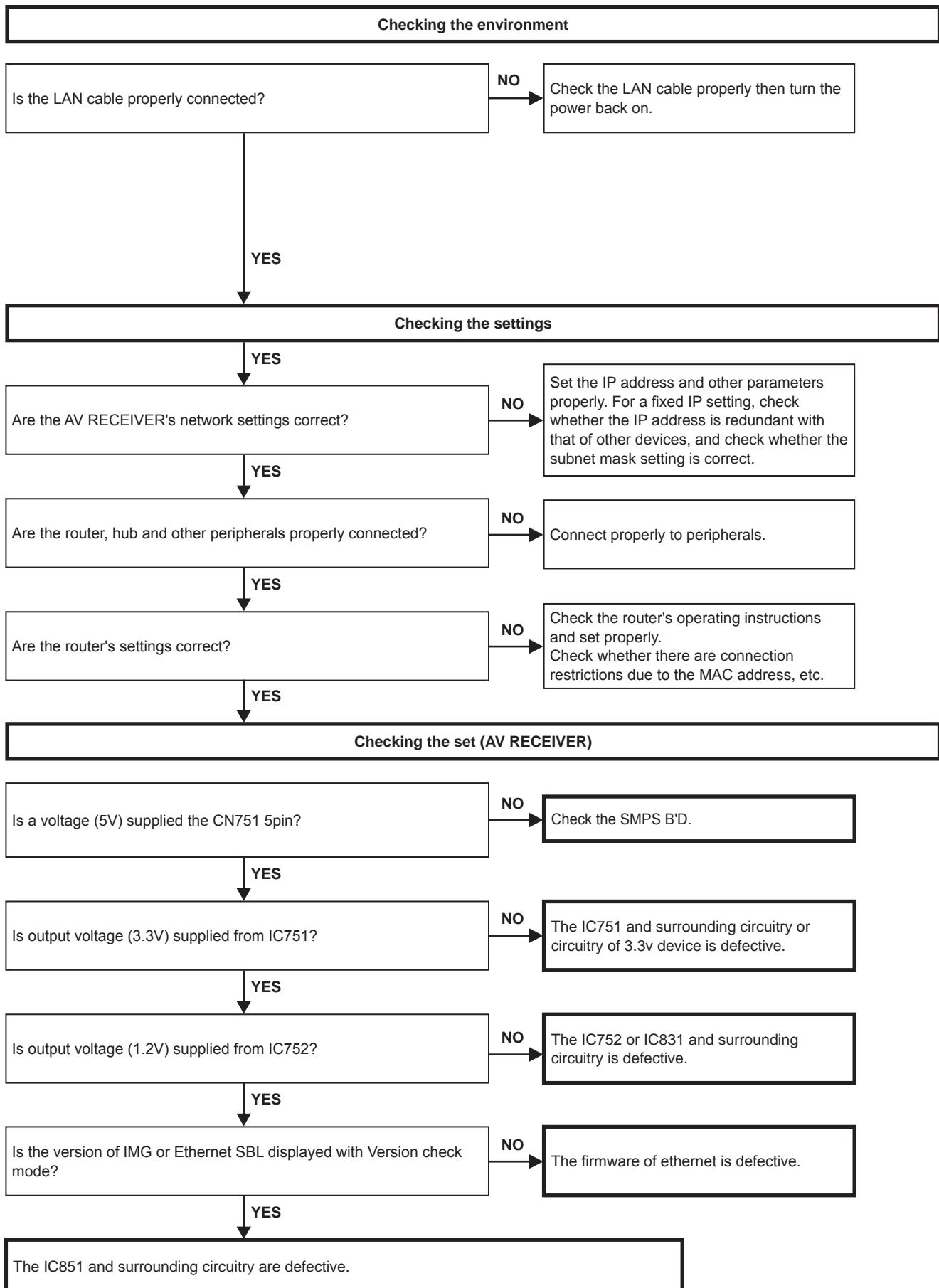


4.3. Analog audio

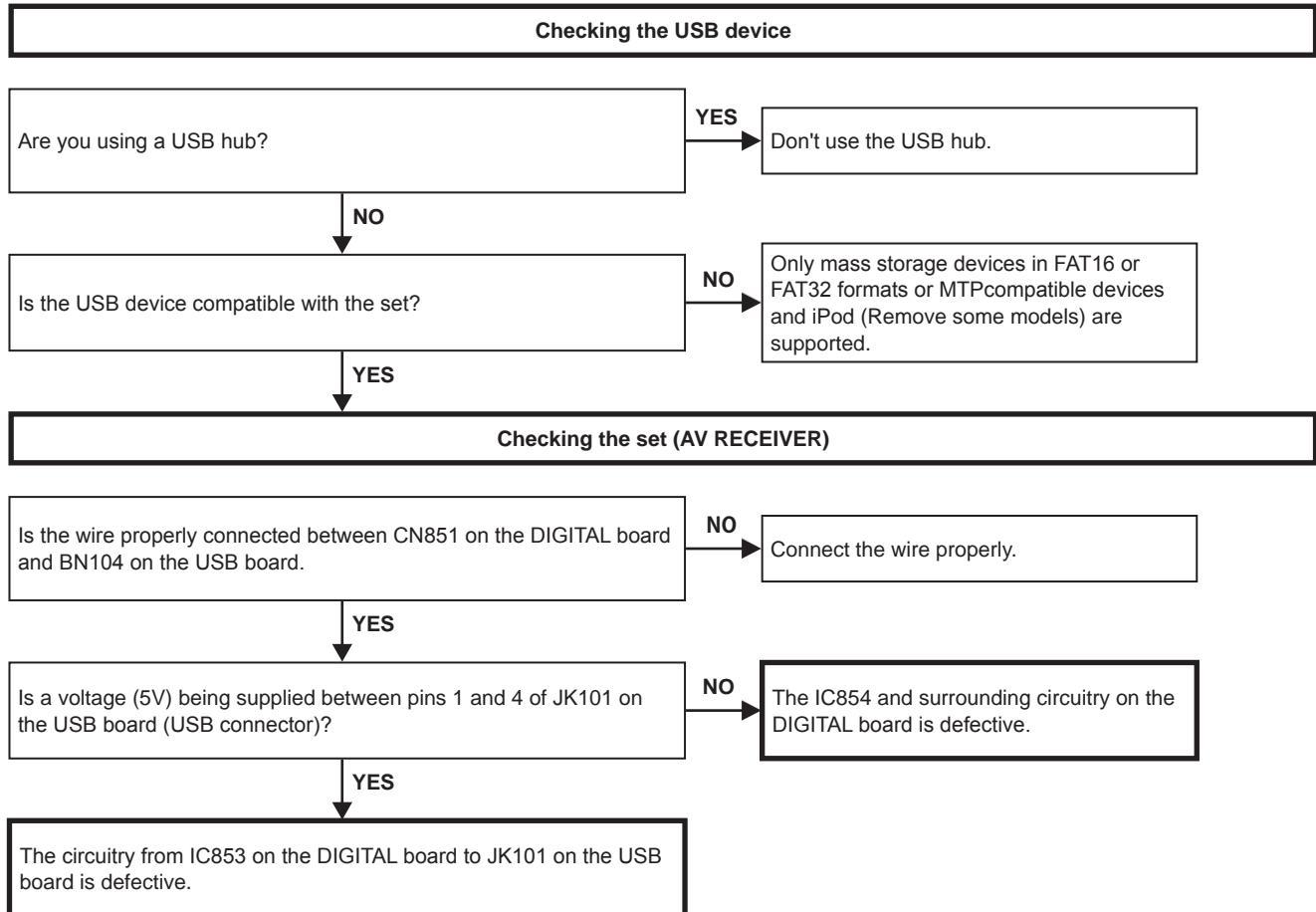


5. Network/USB

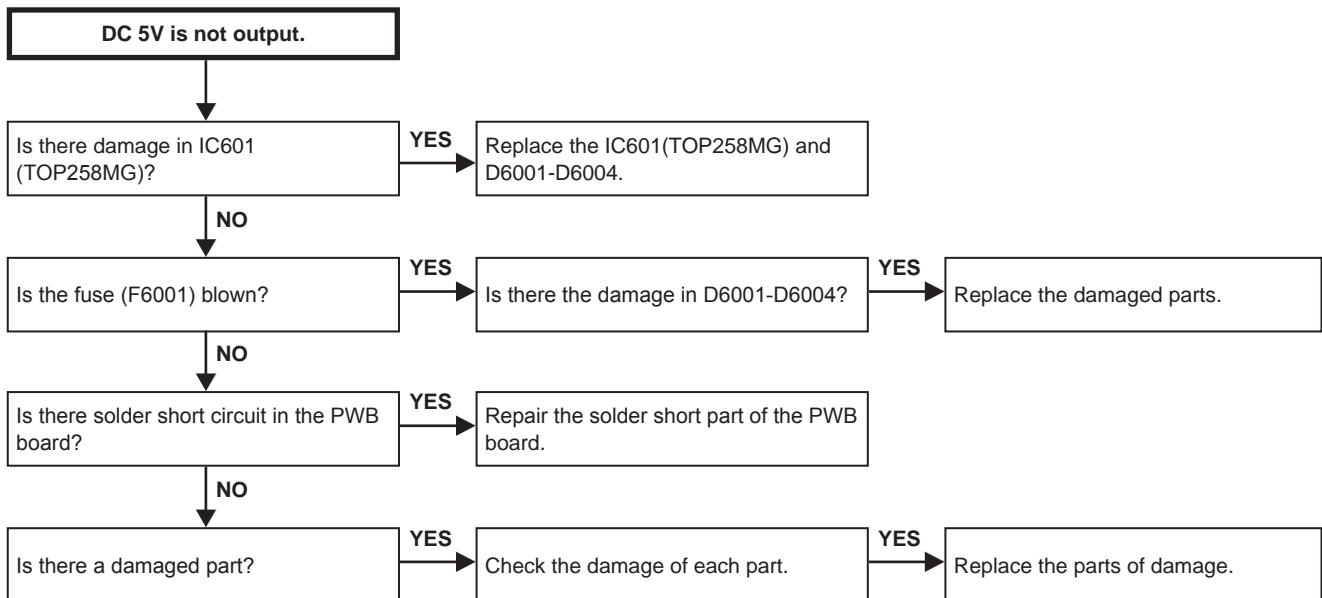
5.1. Cannot connect to network



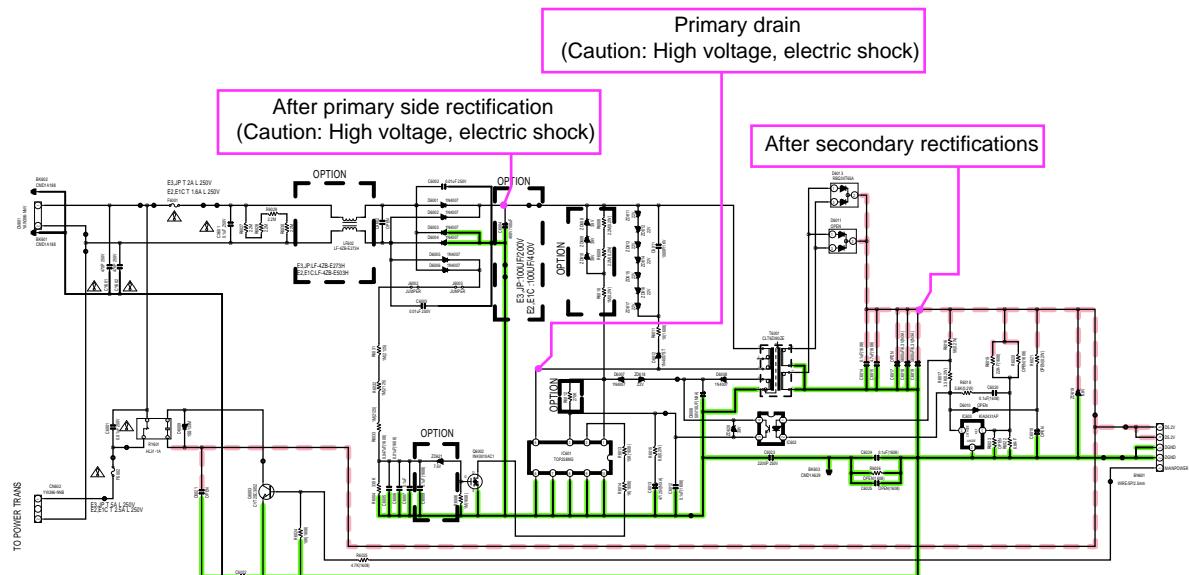
5.2.USB device is not recognized



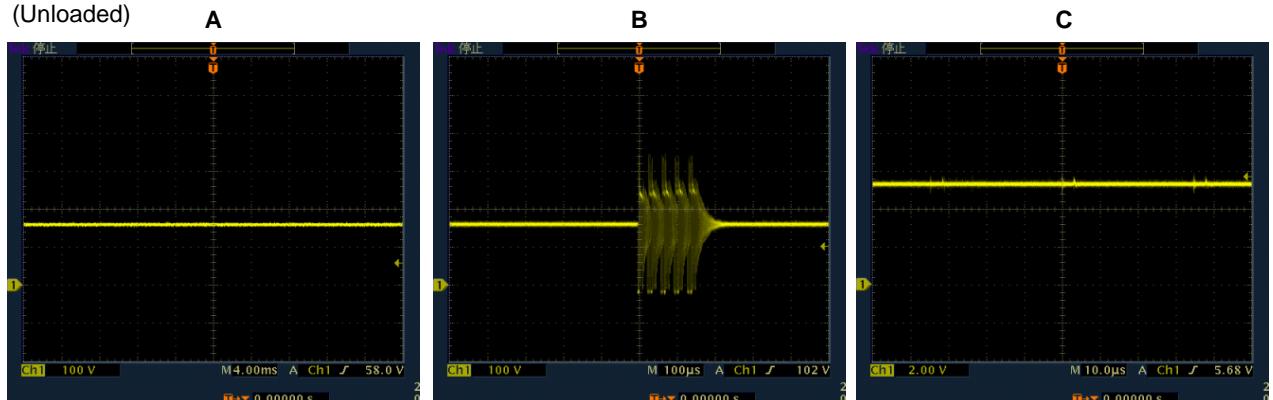
6. SMPS



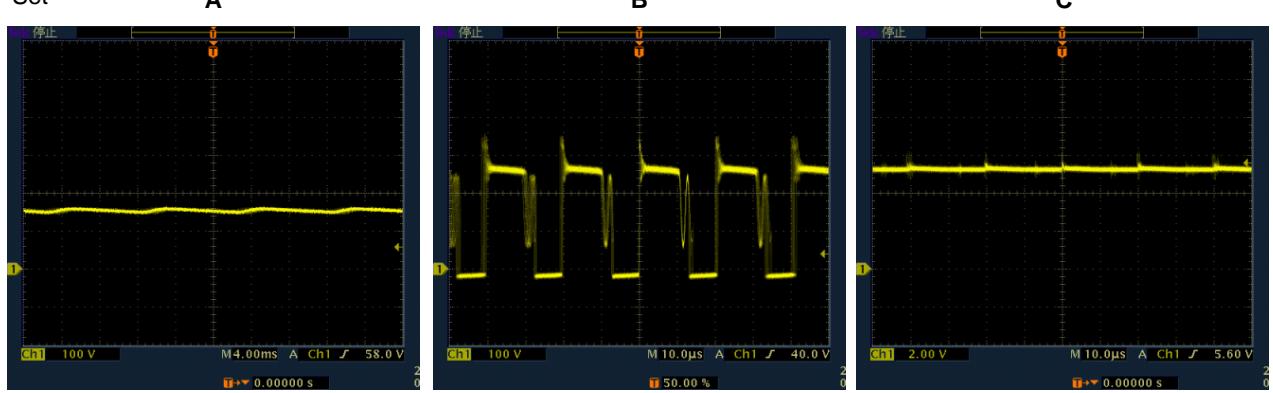
Operation waveform for each part



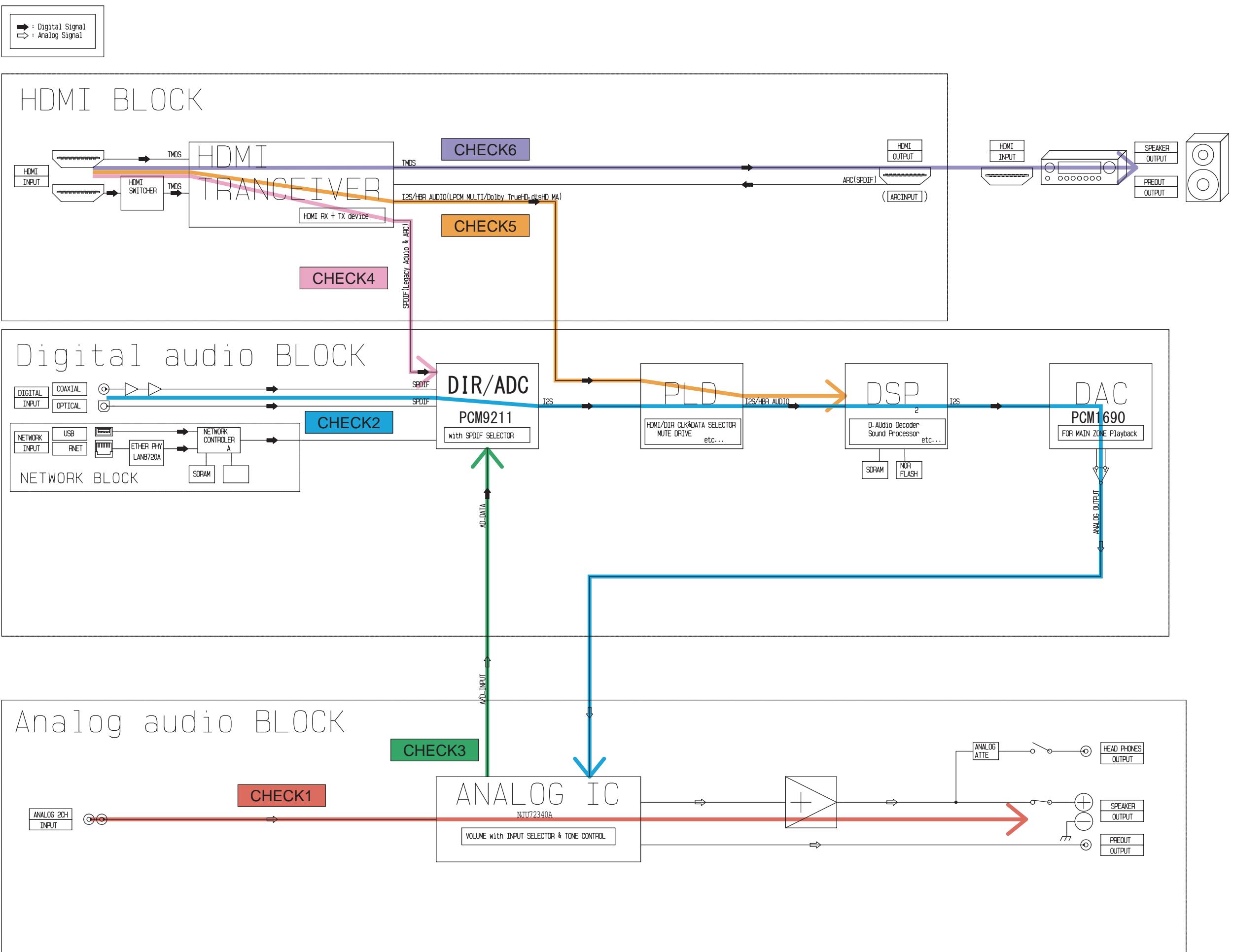
SMPS unit
(Unloaded)



Set

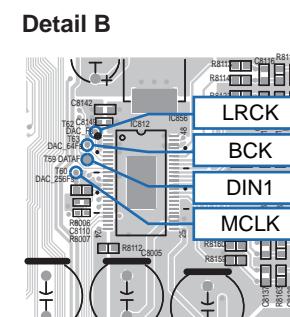
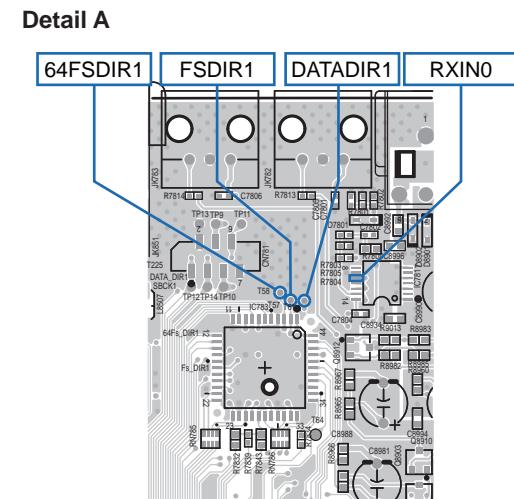
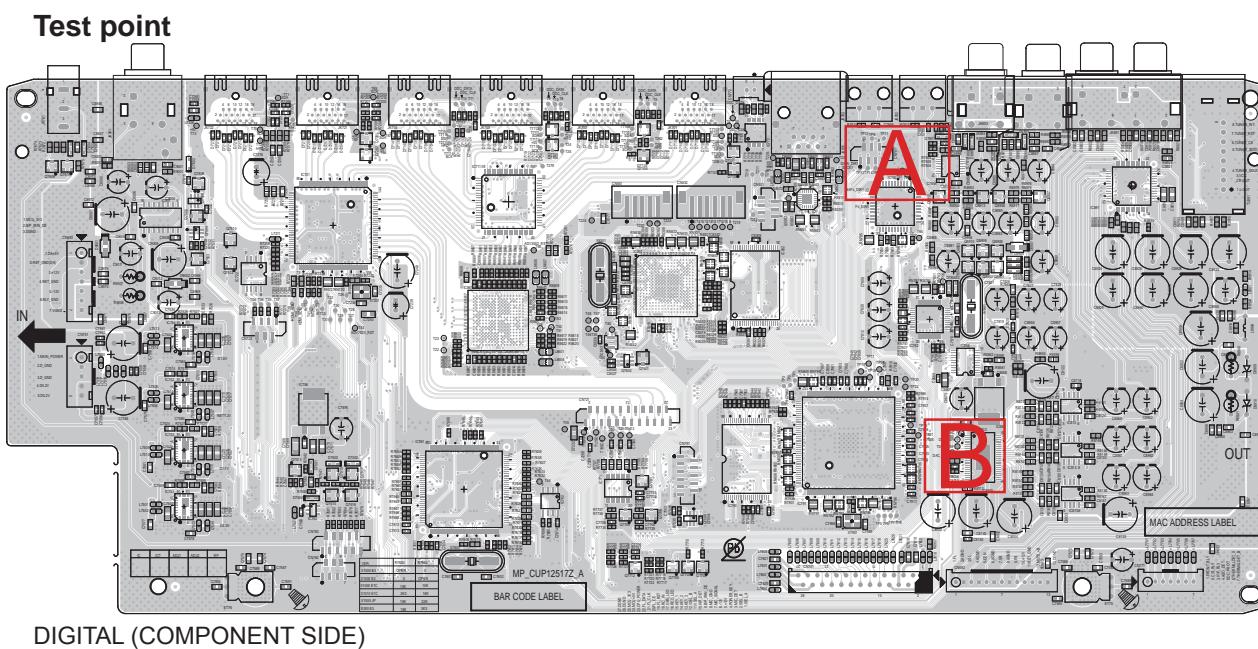
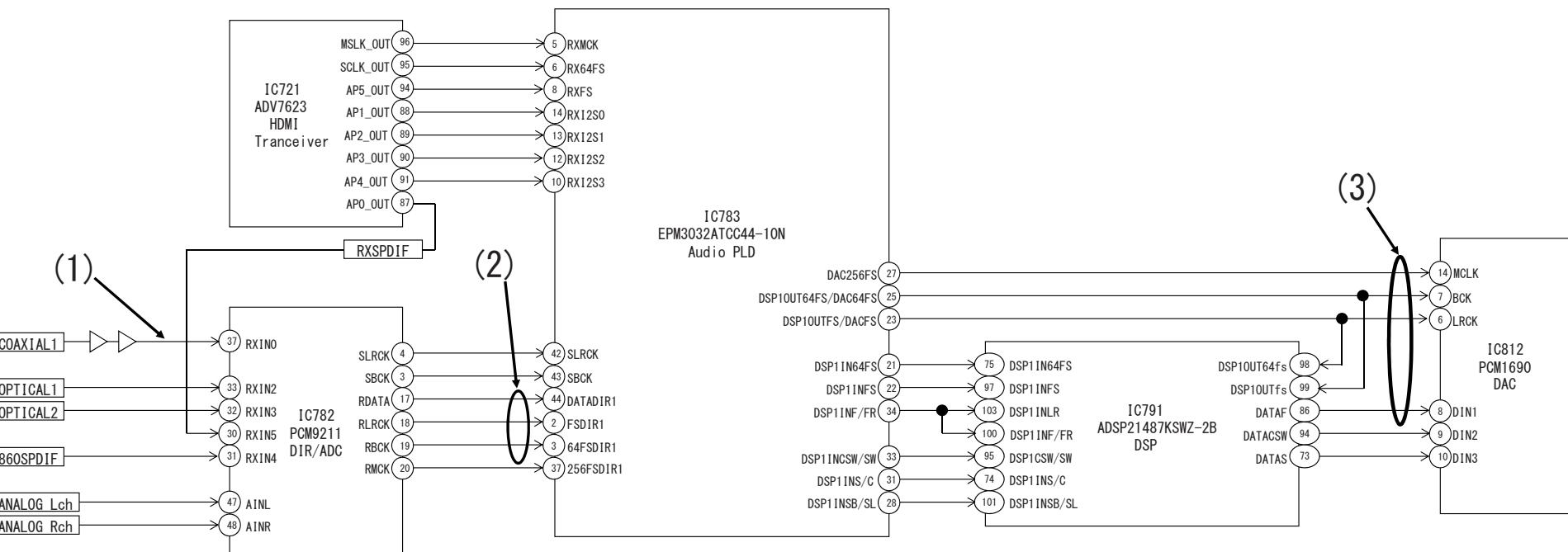
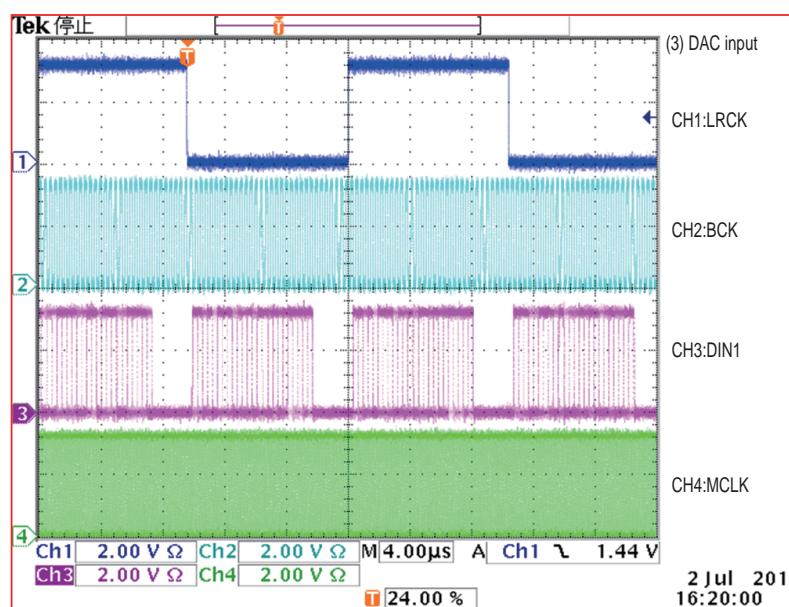
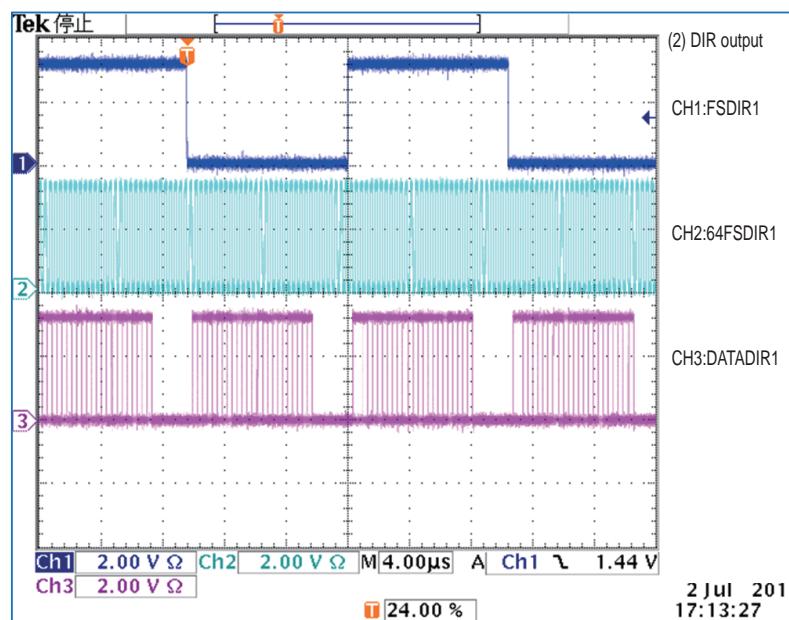
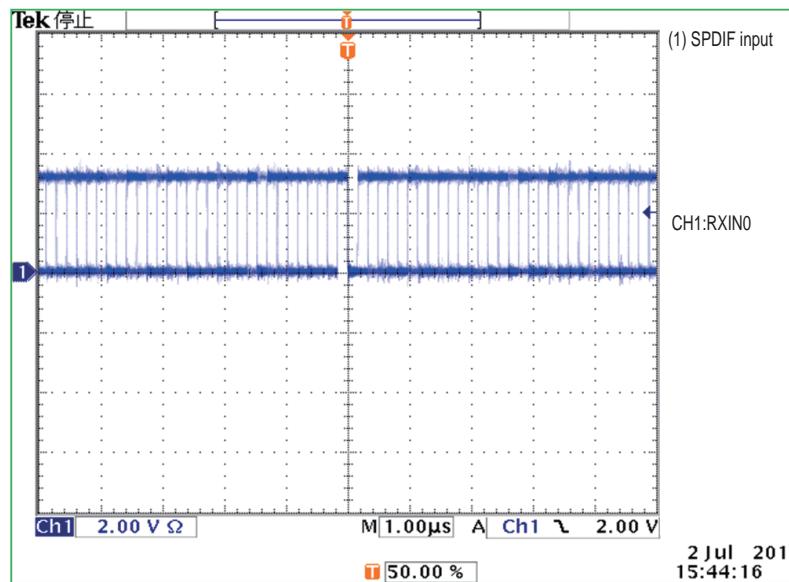


Personal notes:



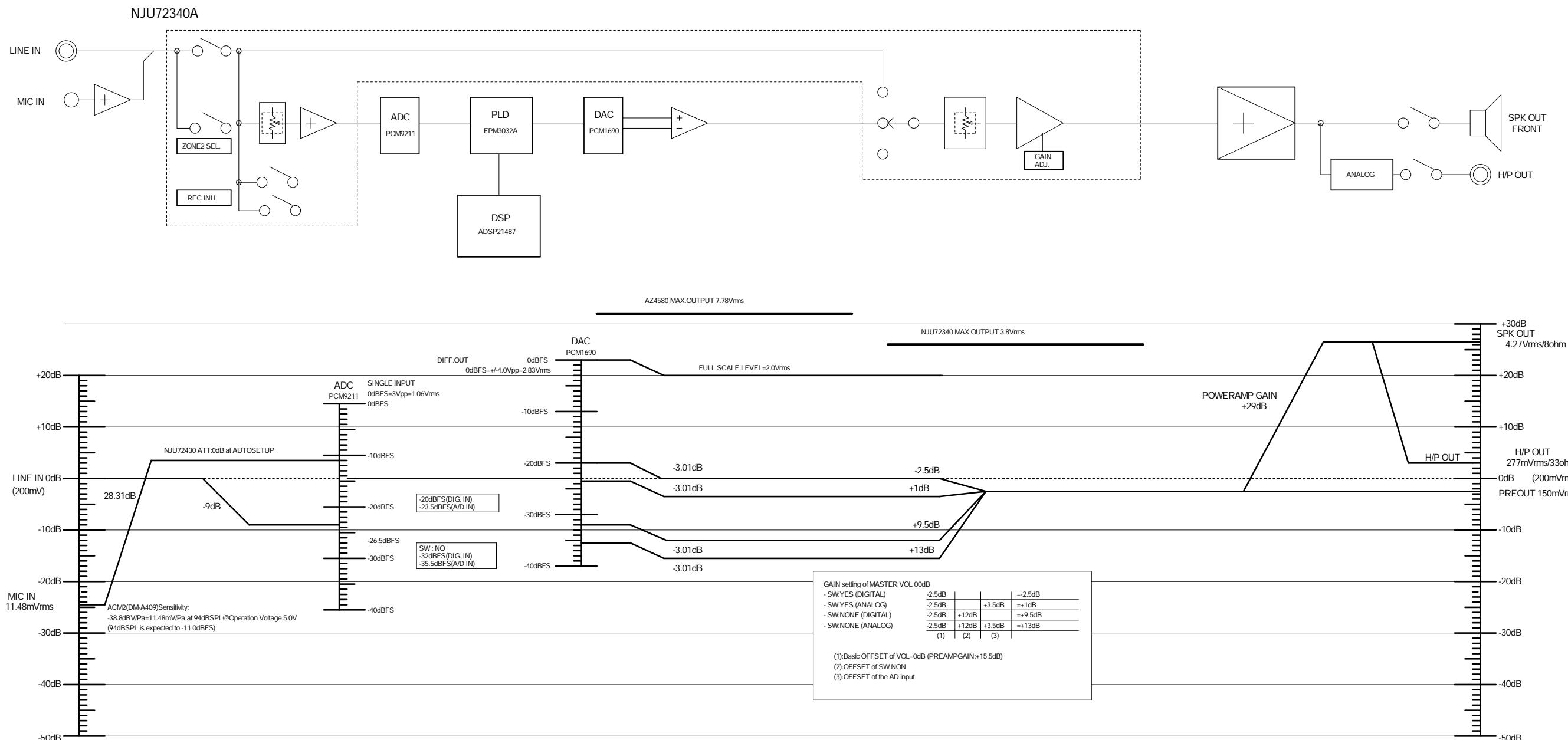
CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

WAVE FORM

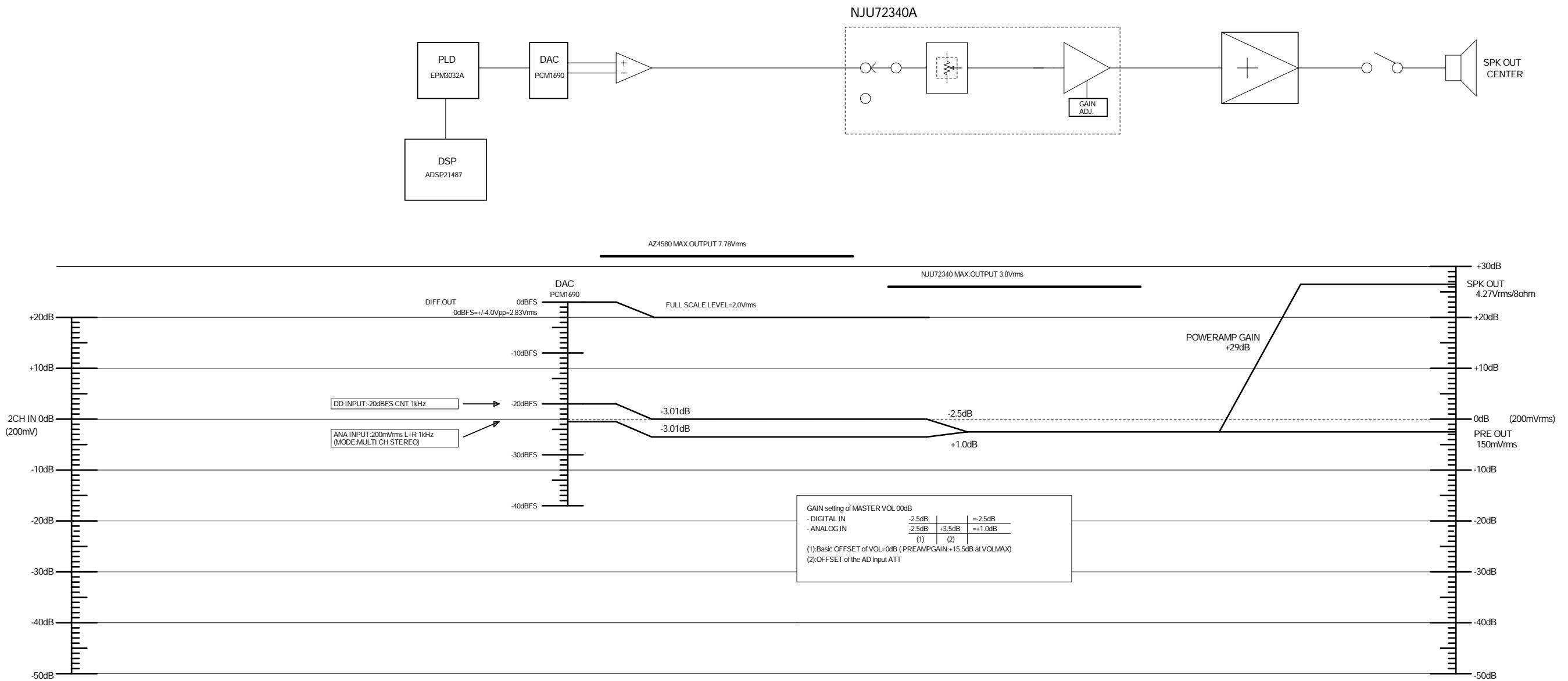


LEVEL DIAGRAM

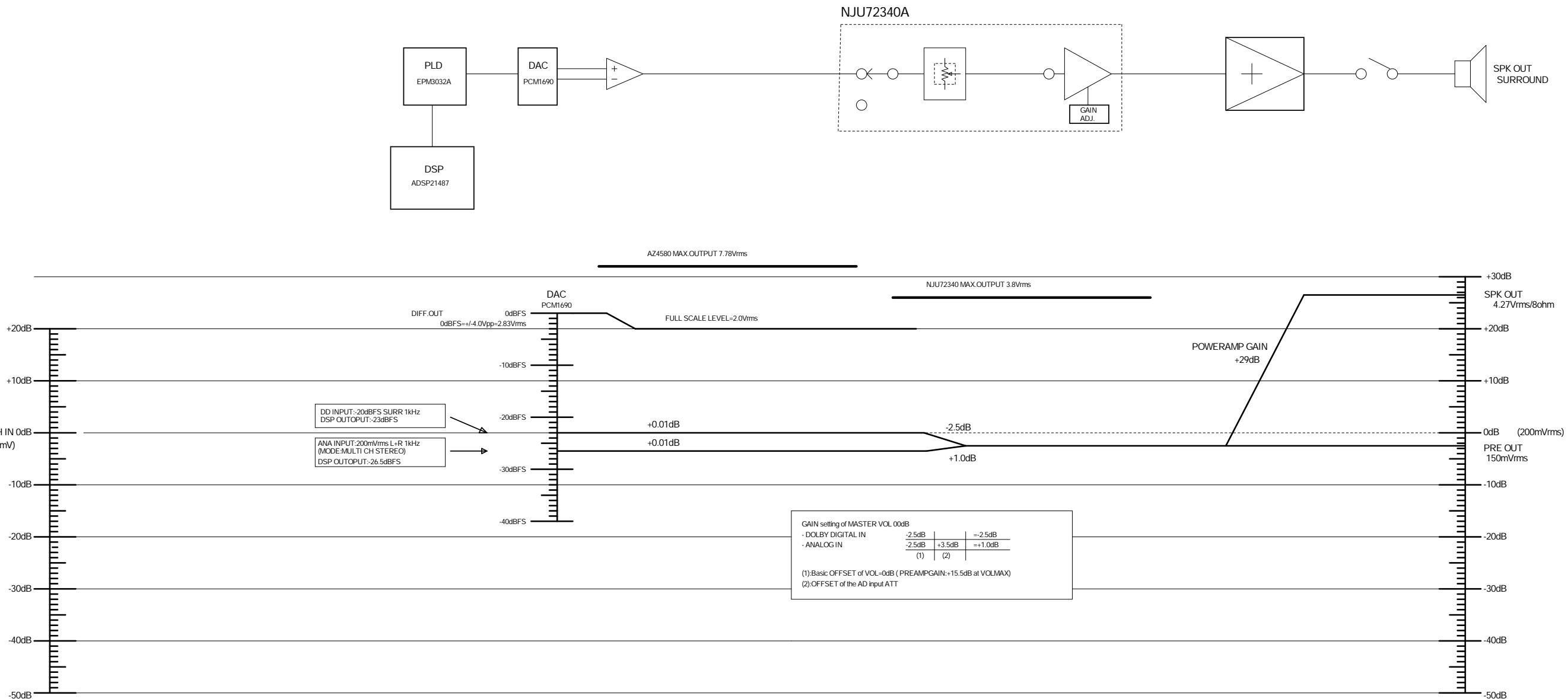
FRONT CHANNEL



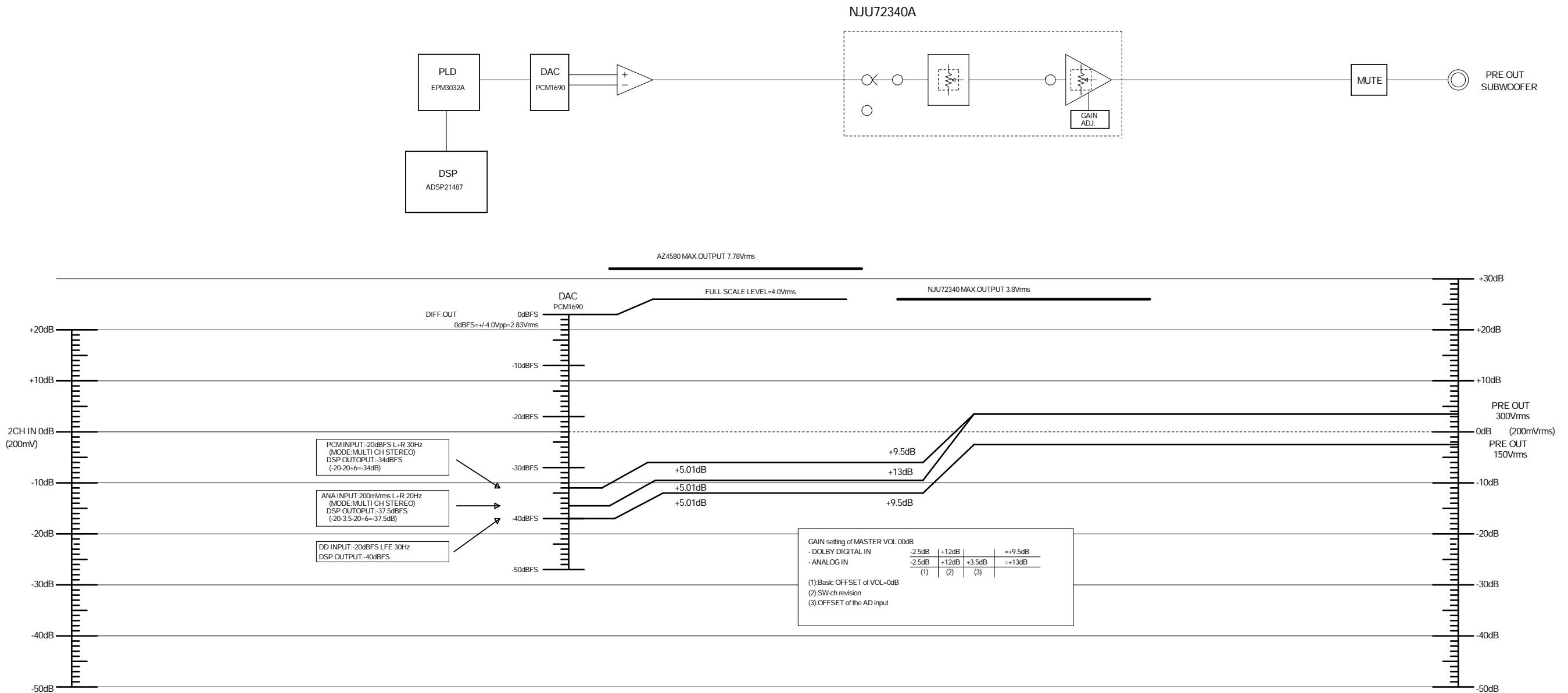
CENTER CHANNEL



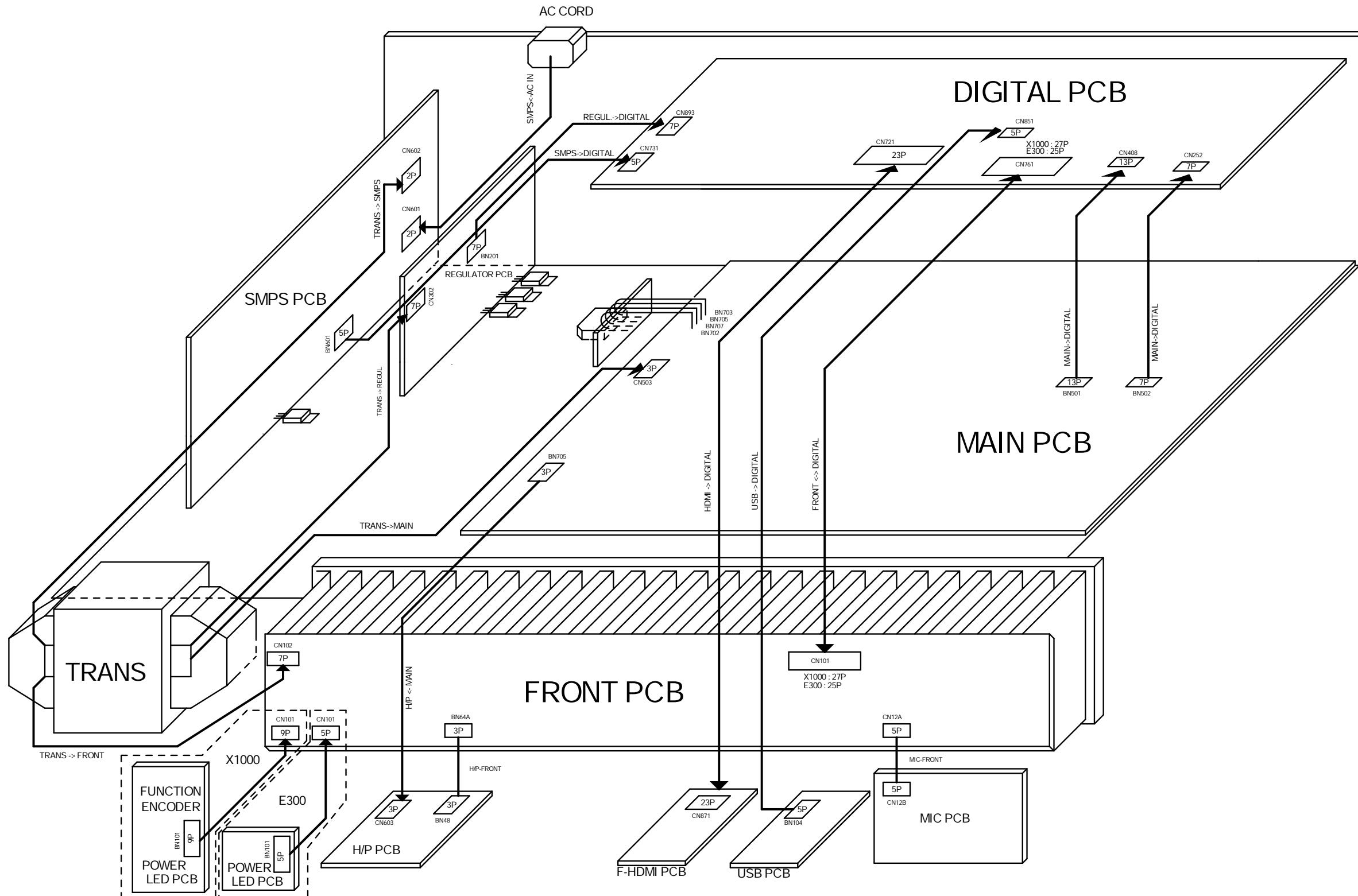
SURROUND CHANNEL



SUBWOOFER CHANNEL



WIRING DIA-GRAM

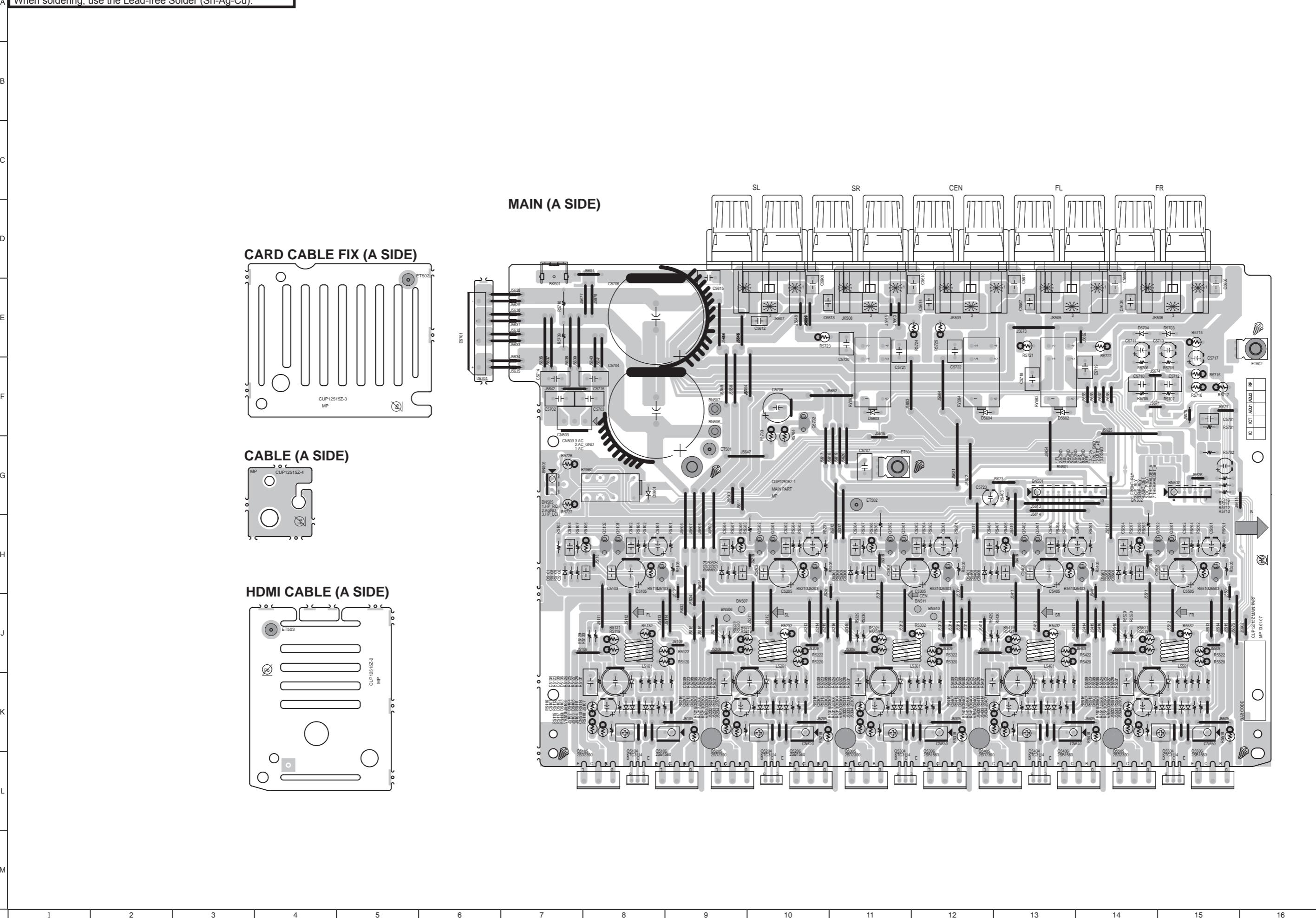


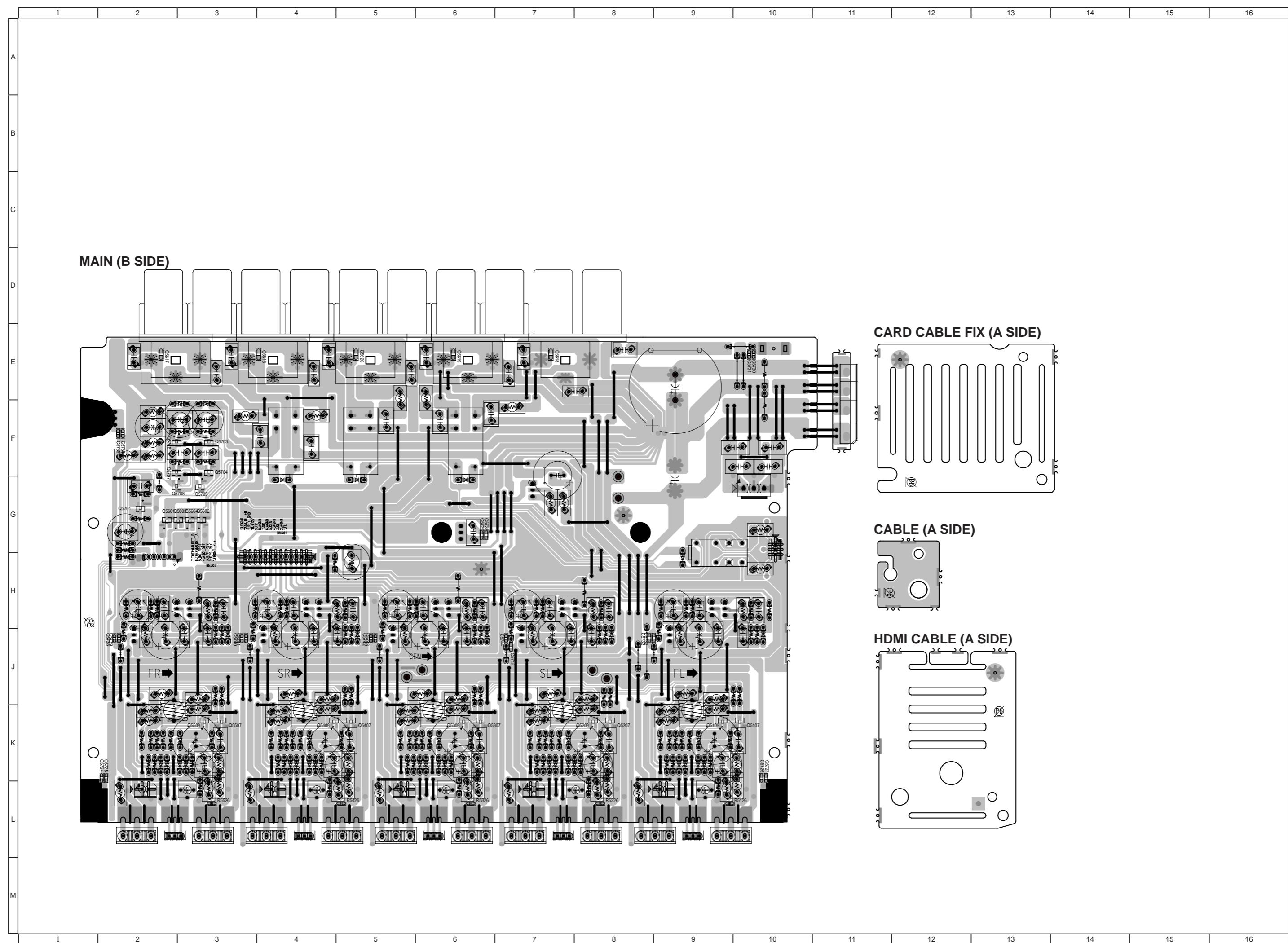
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

PRINTED WIRING BOARDS

Lead-free Solder

When soldering, use the Lead-free Solder (Sn-Ag-Cu).

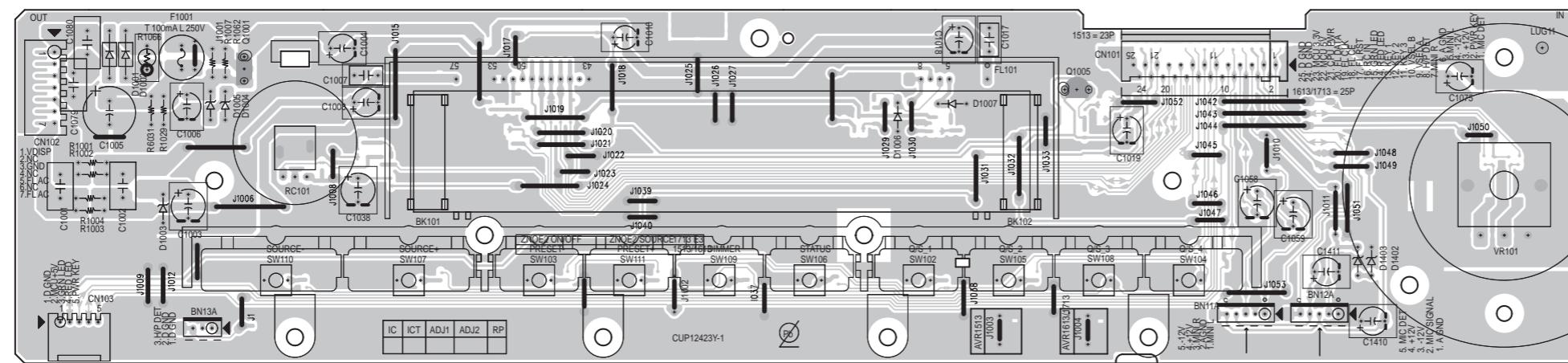




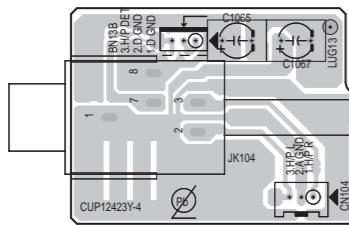
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

AVR-E300 ONLY

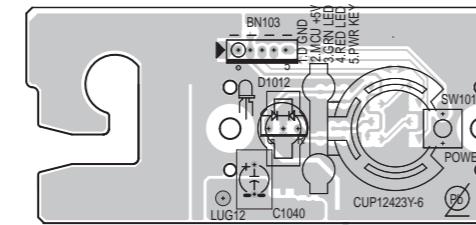
FRONT (A SIDE)



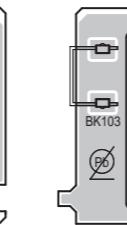
HEADPHONE (A SIDE)



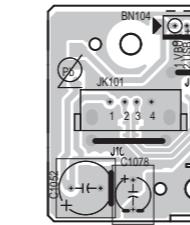
POWER KNOB (A SIDE)



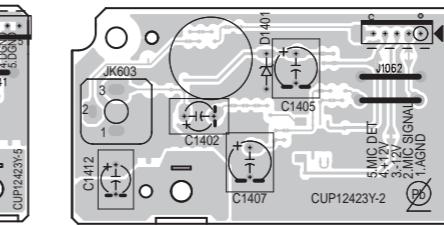
FRONT HDMI CABLE (A SIDE)



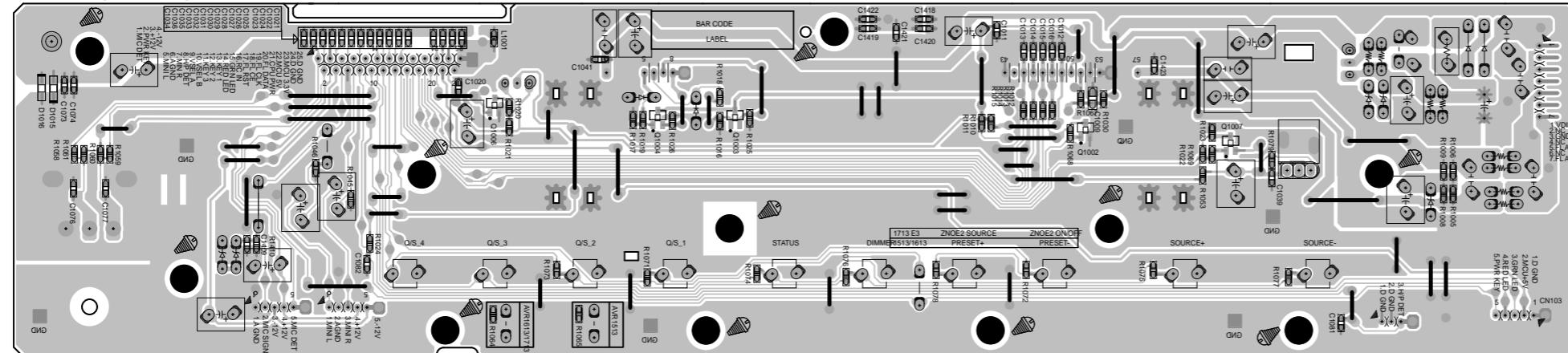
USB (A SIDE)



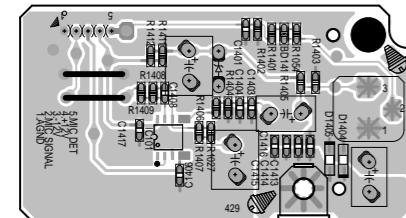
MIC (A SIDE)



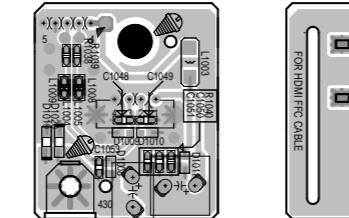
FRONT (B SIDE)



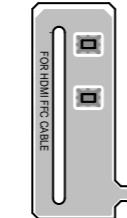
MIC (B SIDE)



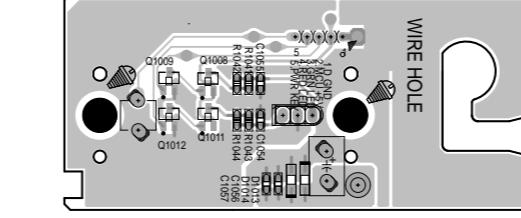
USB (B SIDE)



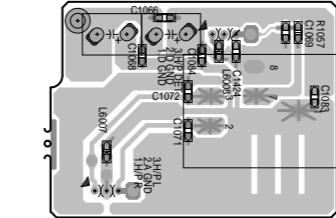
FRONT HDMI CABLE (B SIDE)



POWER KNOB (B SIDE)



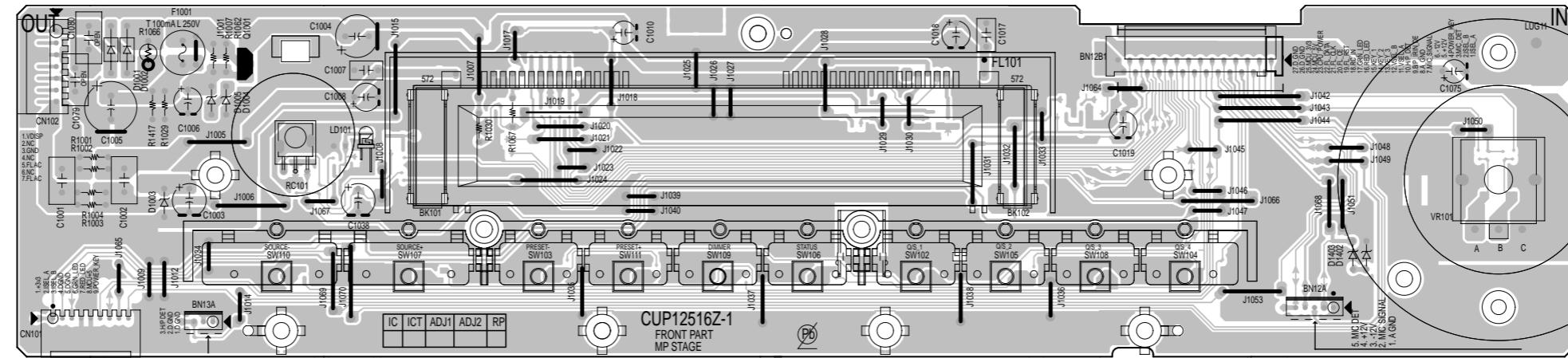
HEADPHONE (B SIDE)



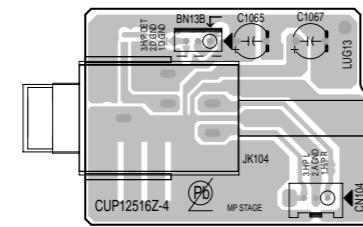
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

AVR-X1000 ONLY

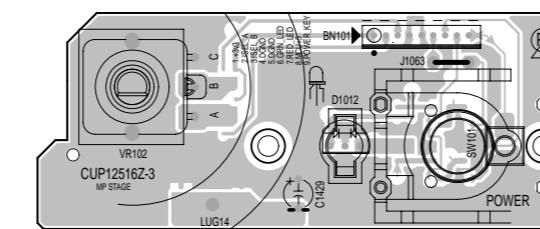
FRONT (A SIDE)



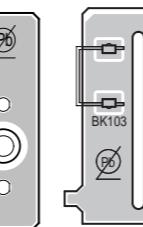
HEADPHONE (A SIDE)



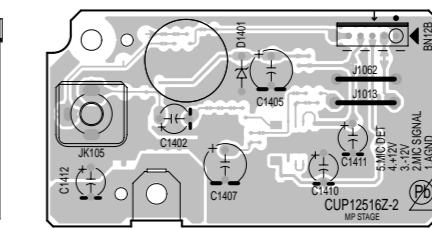
ENCODER&POWER (A SIDE)



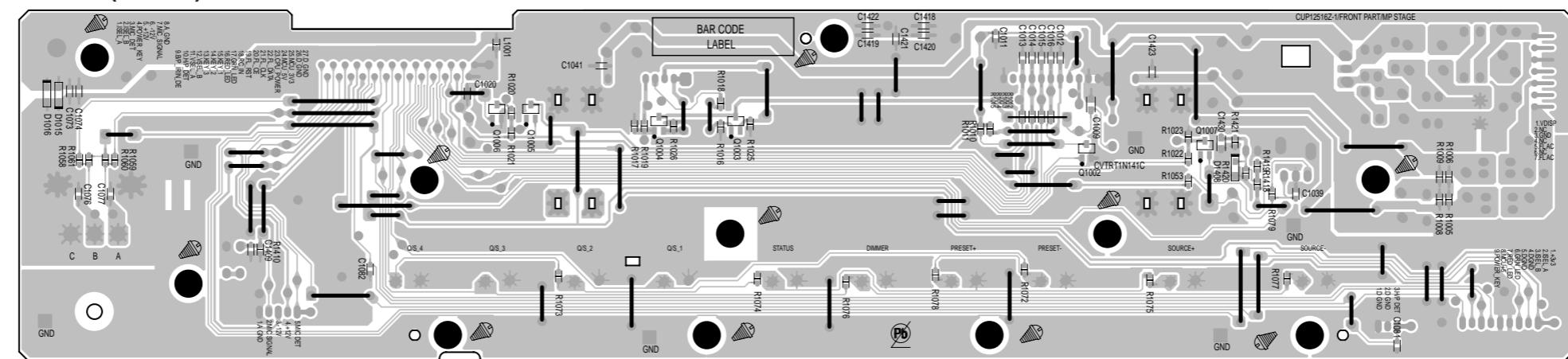
FRONT HDMI CABLE (A SIDE) USB (A)



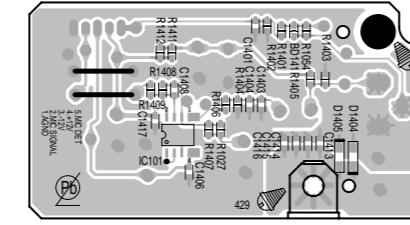
DE) MIC (A SIDE)



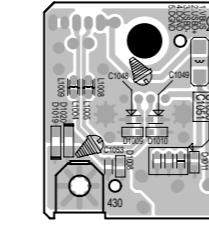
FRONT (B SIDE)



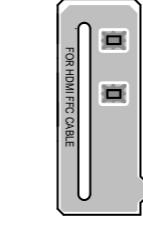
MIC (B SIDE)



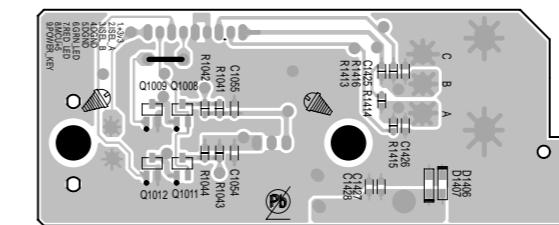
USB (B SIDE)



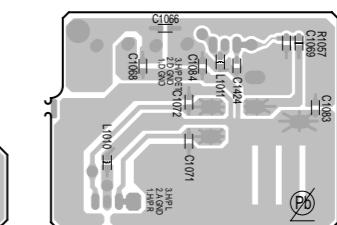
FRONT HDMI CABLE (B SIDE) EM

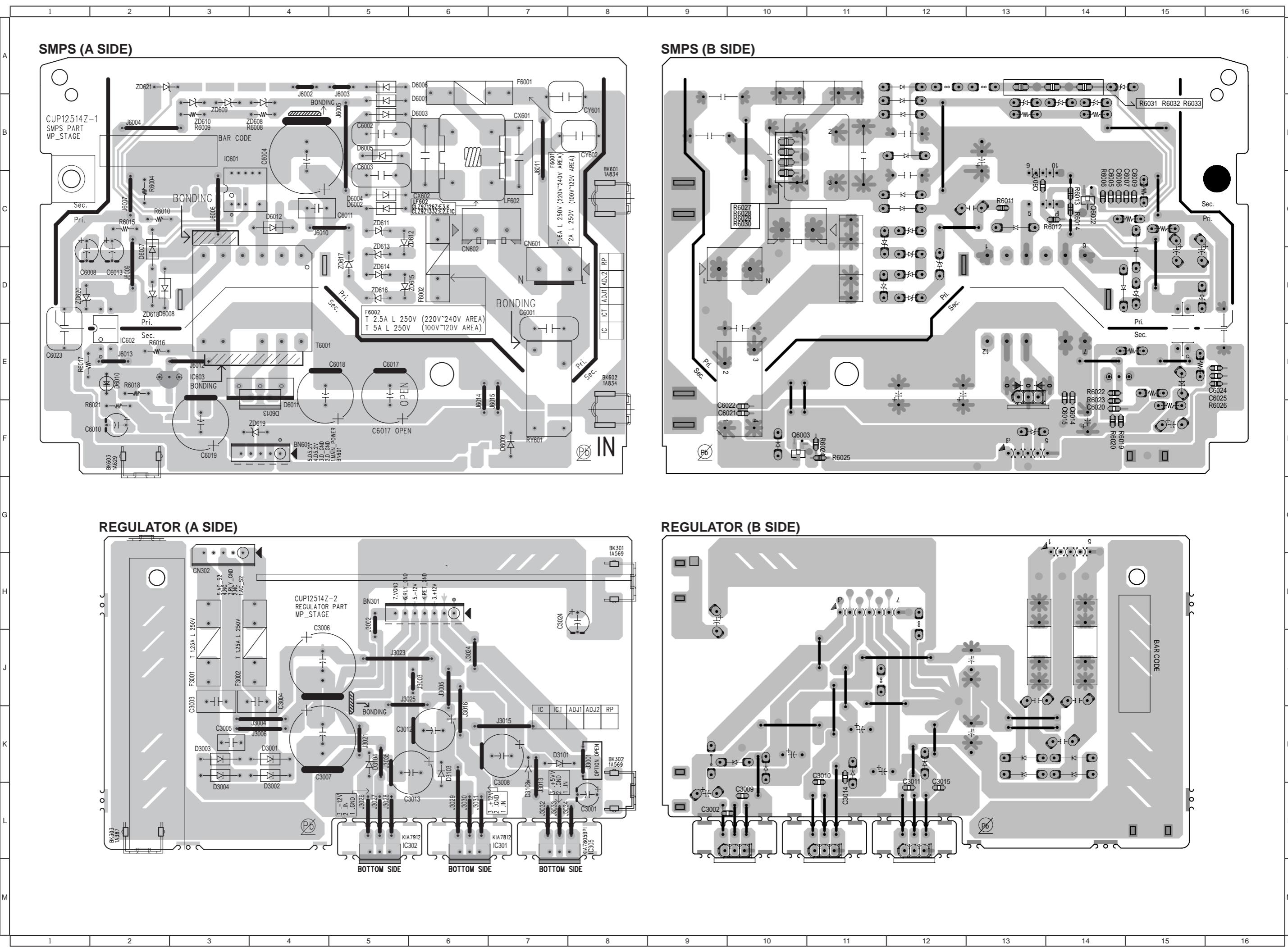


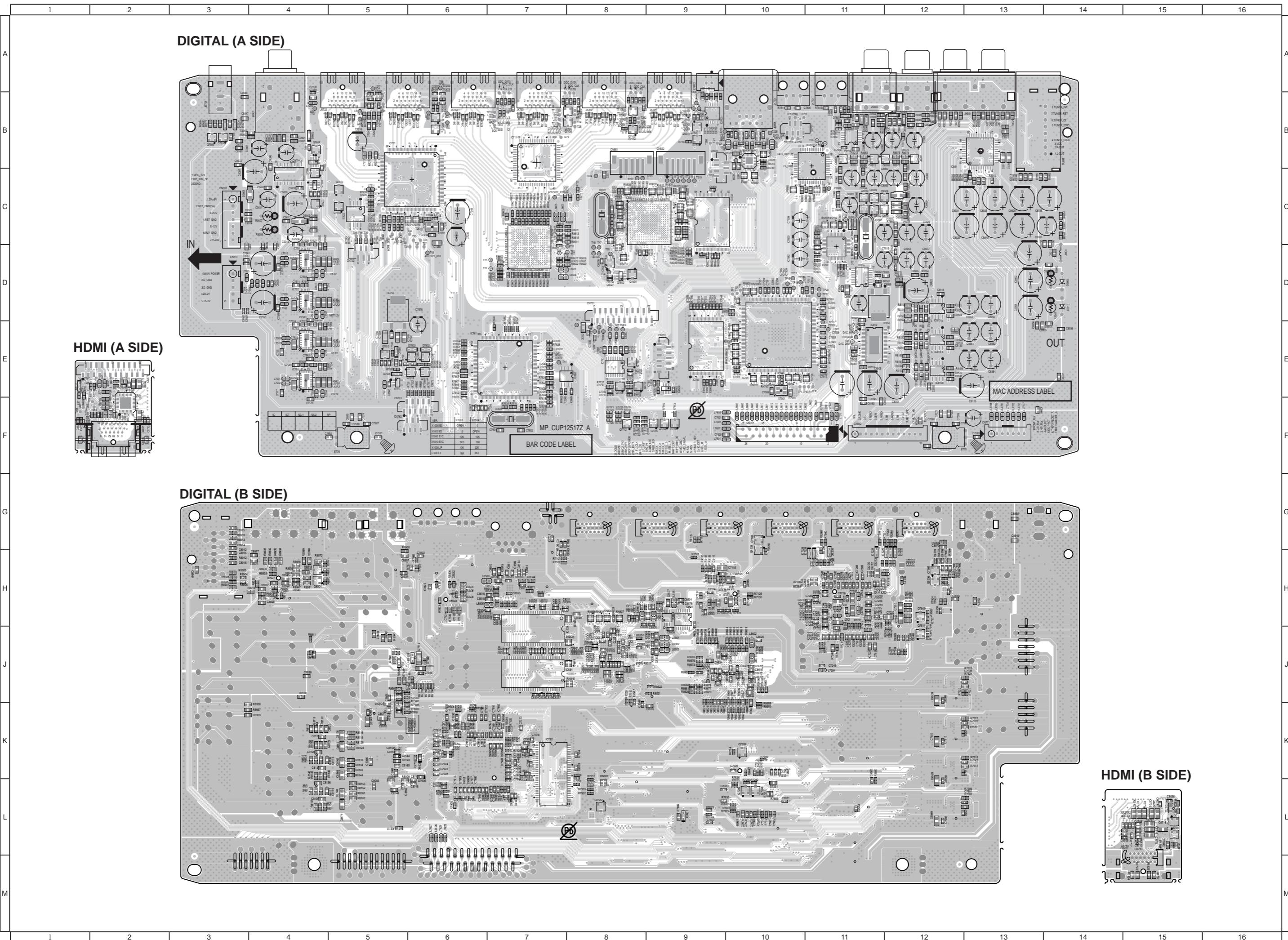
ENCODER&POWER (B SIDE)



HEADPHONE (B SIDE)

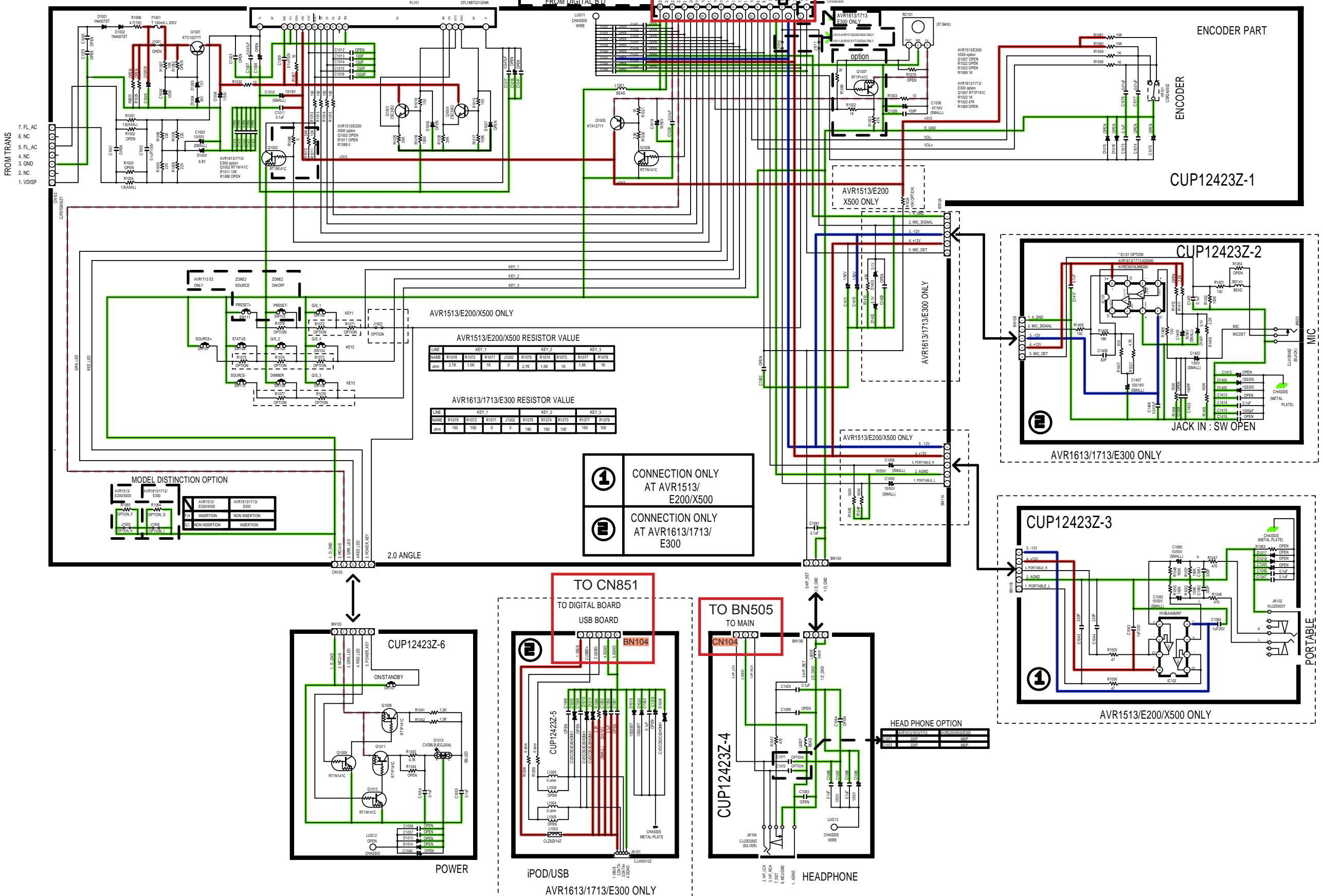






AVR-E300 ONLY

FRONT PART



GND LINE

POWER+ LINE

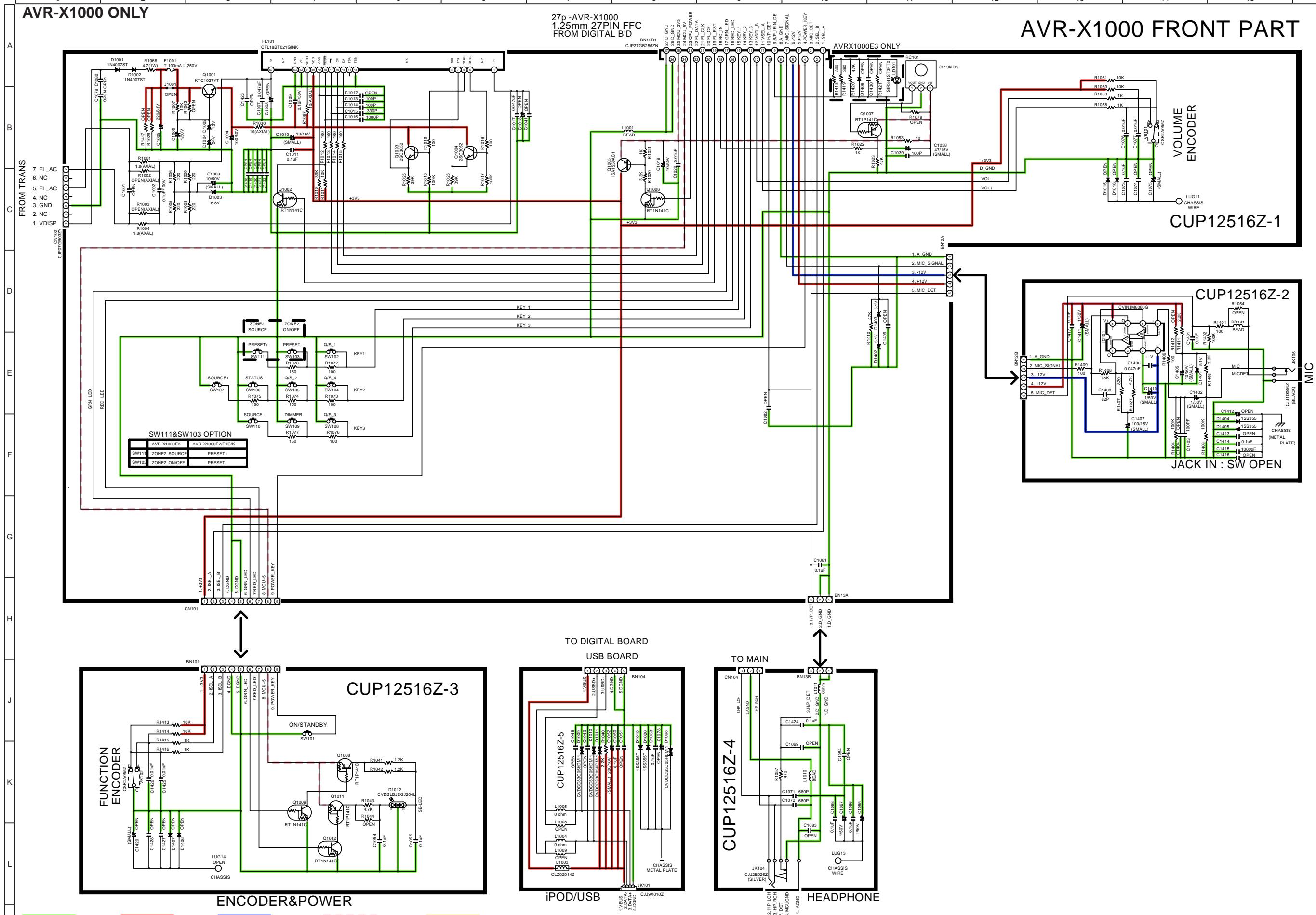
POWER- LINE

STBY POWER

ANALOG AUDIO1

AVR-X1000 ONLY

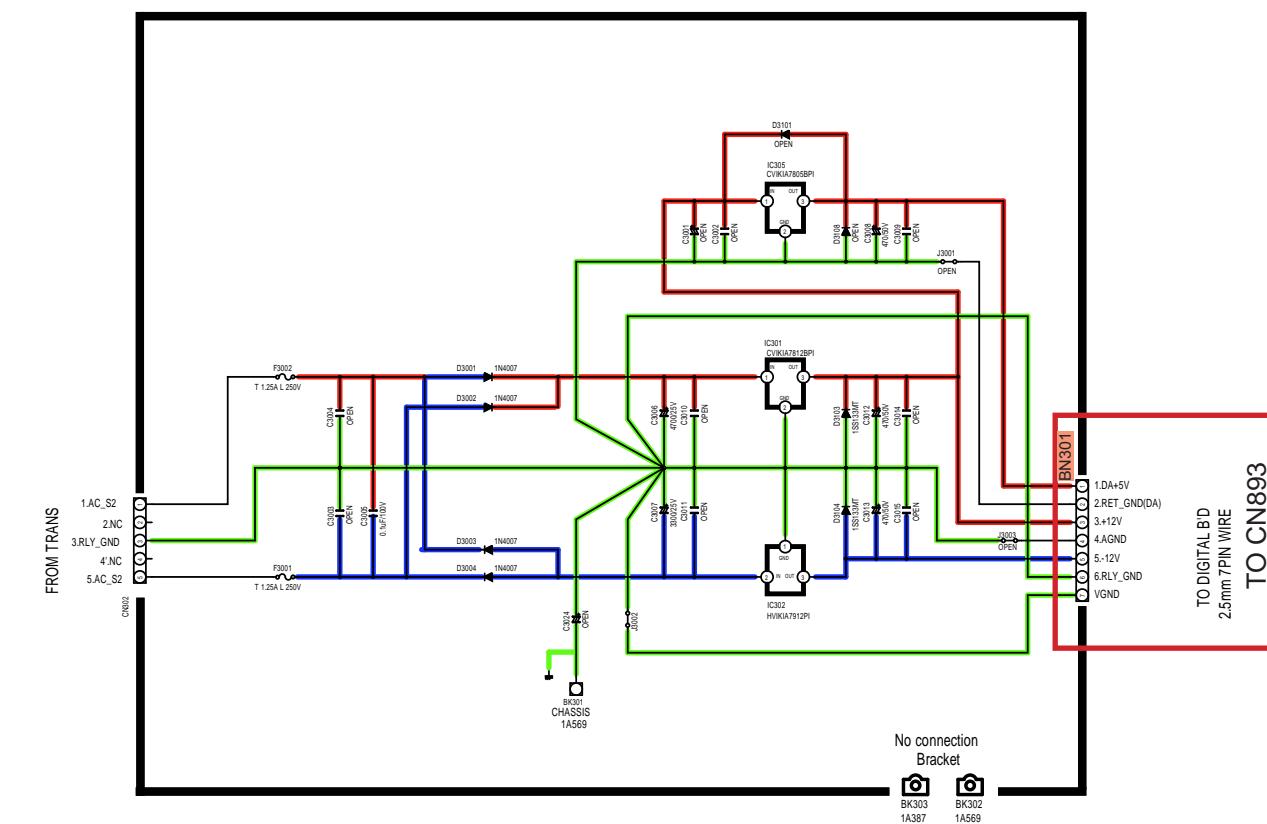
AVR-X1000 FRONT PART



SCHEMATIC DIAGRAMS (2/18)
FRONT PART(for X1000)

A
B
C
D
E
F
G
H
J
K
L
M

REGULATOR PART



SCHEMATIC DIAGRAMS (3/18) REGULATOR PART

GND LINE

POWER+ LINE

POWER- LIN

STBY POW

ANALOG AUDIO

A

B

C

D

E

1

G

H

1

K

1

34

A

B

C

D

E

1

G

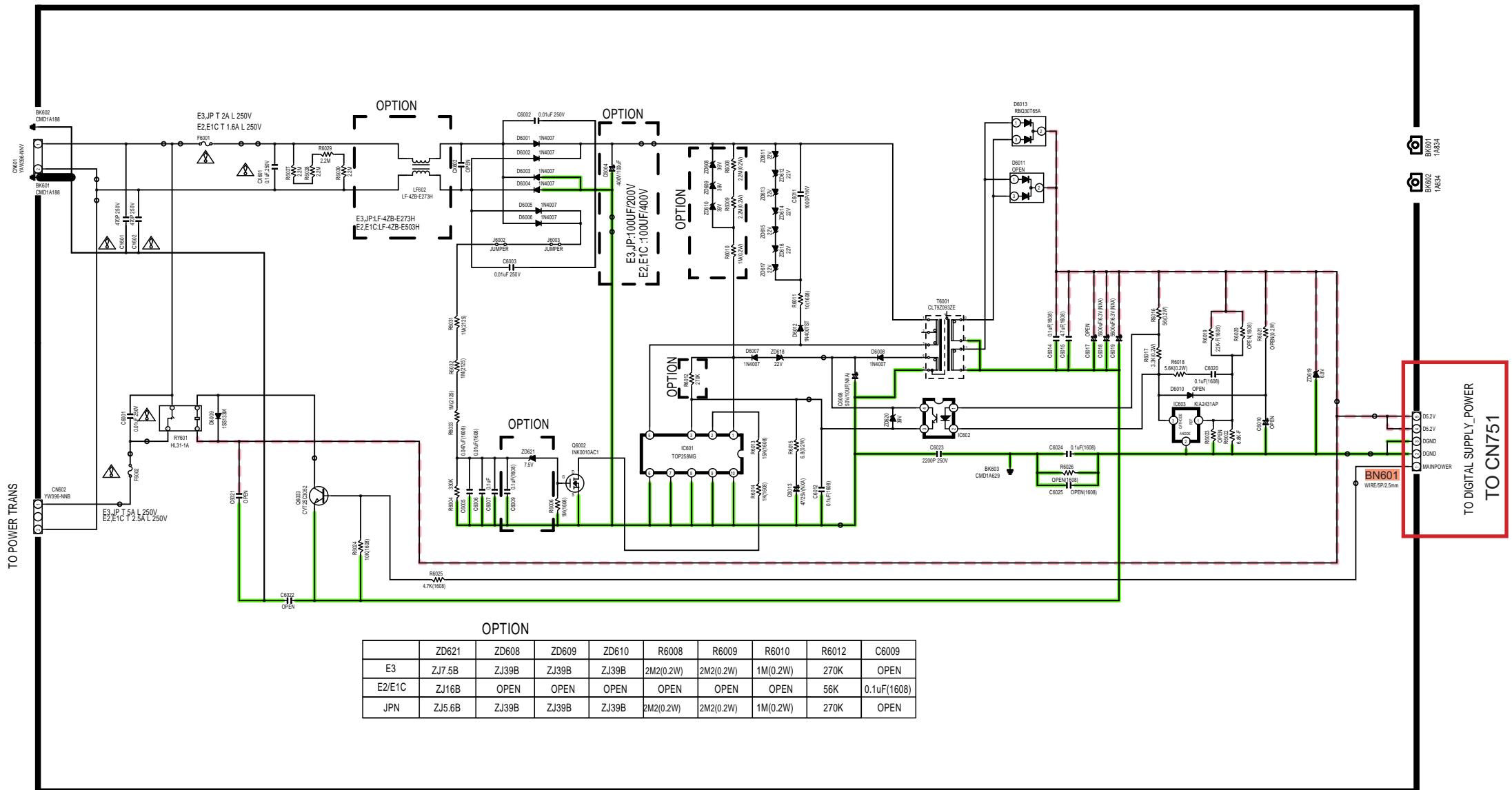
H

1

1

44

SMPS PART



SCHEMATIC DIAGRAMS (4/18)

SMPS UNIT

GND LINE

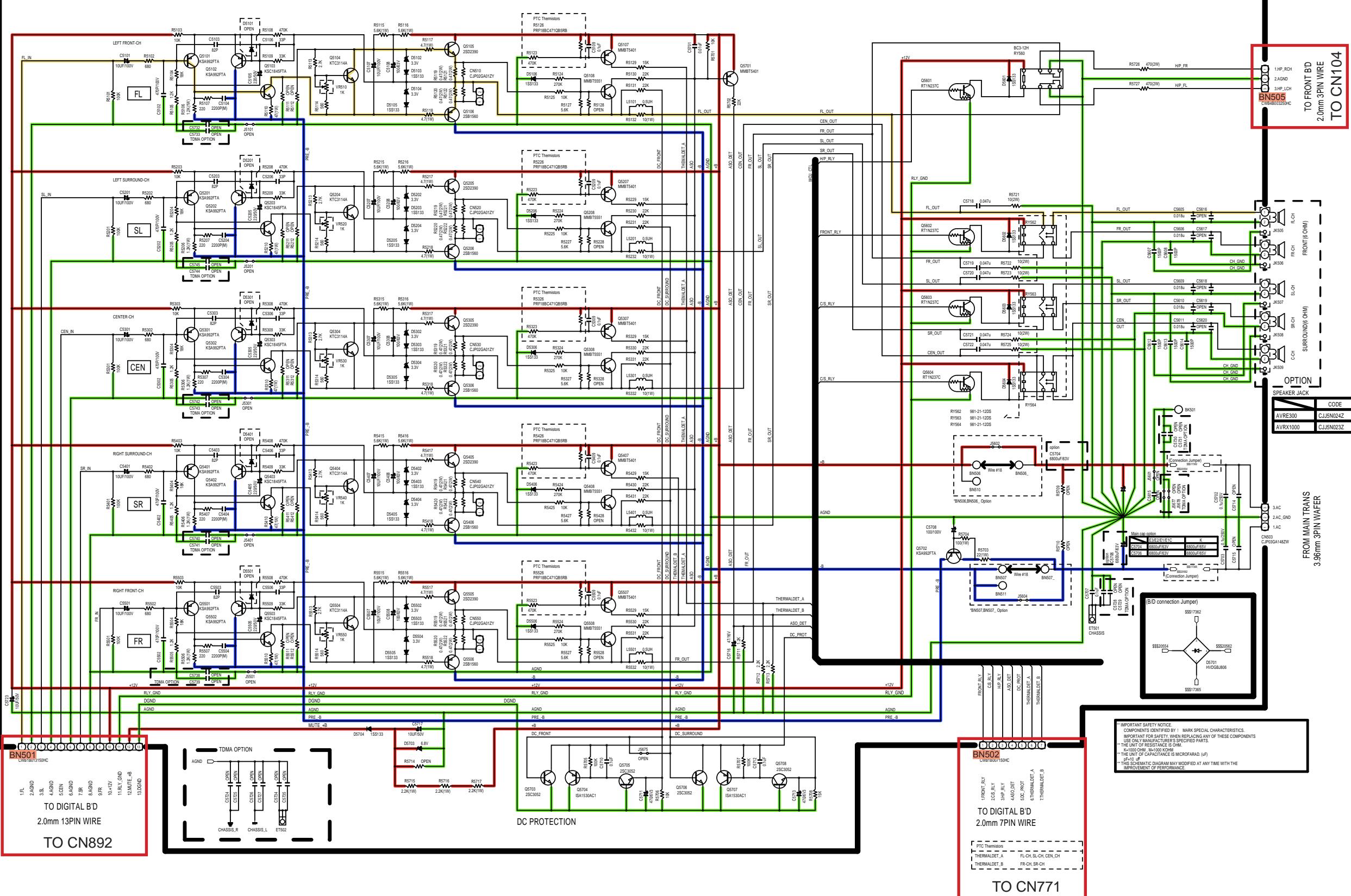
POWER+ LINE

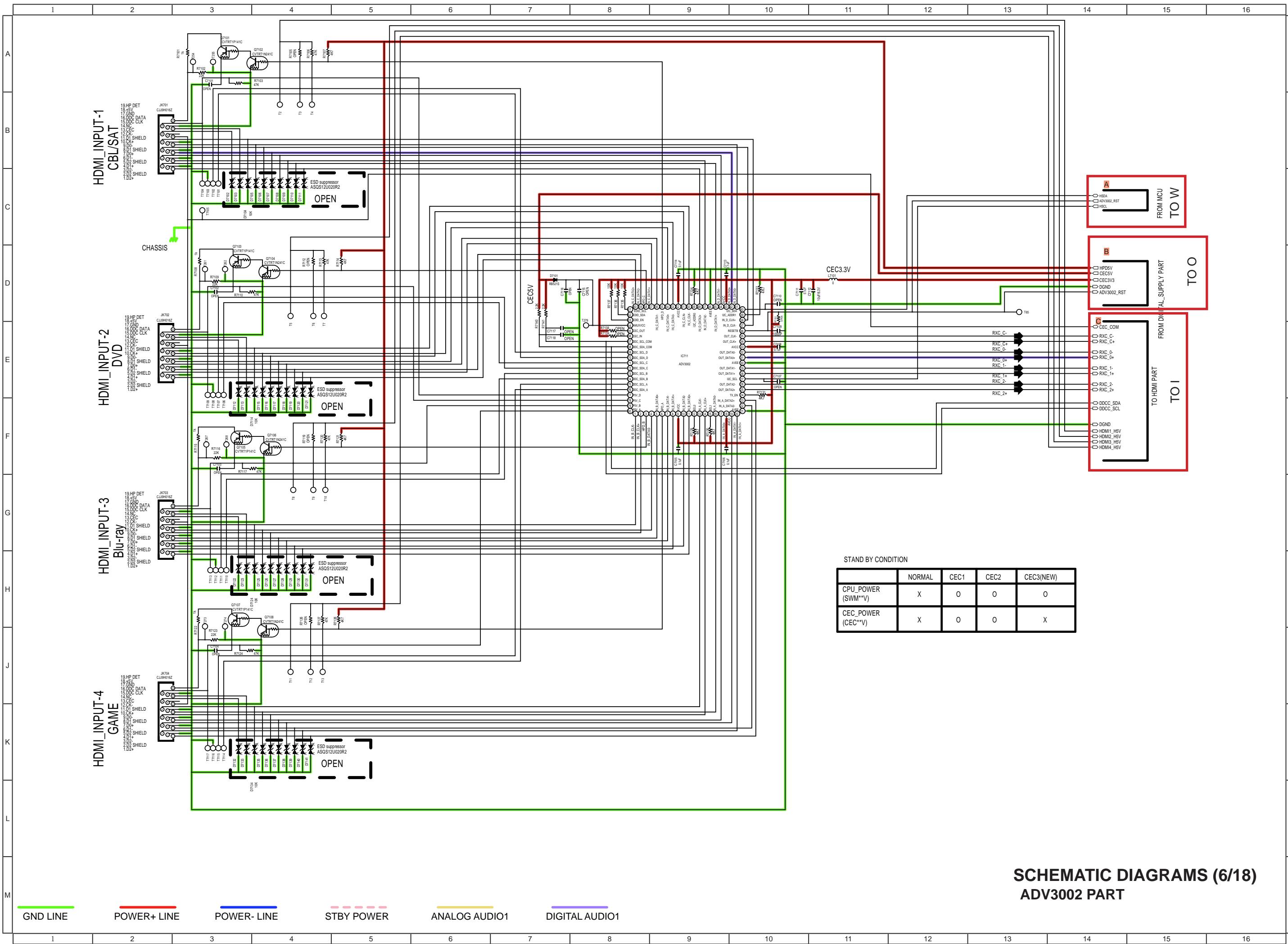
POWER- LINE

STBY POWER

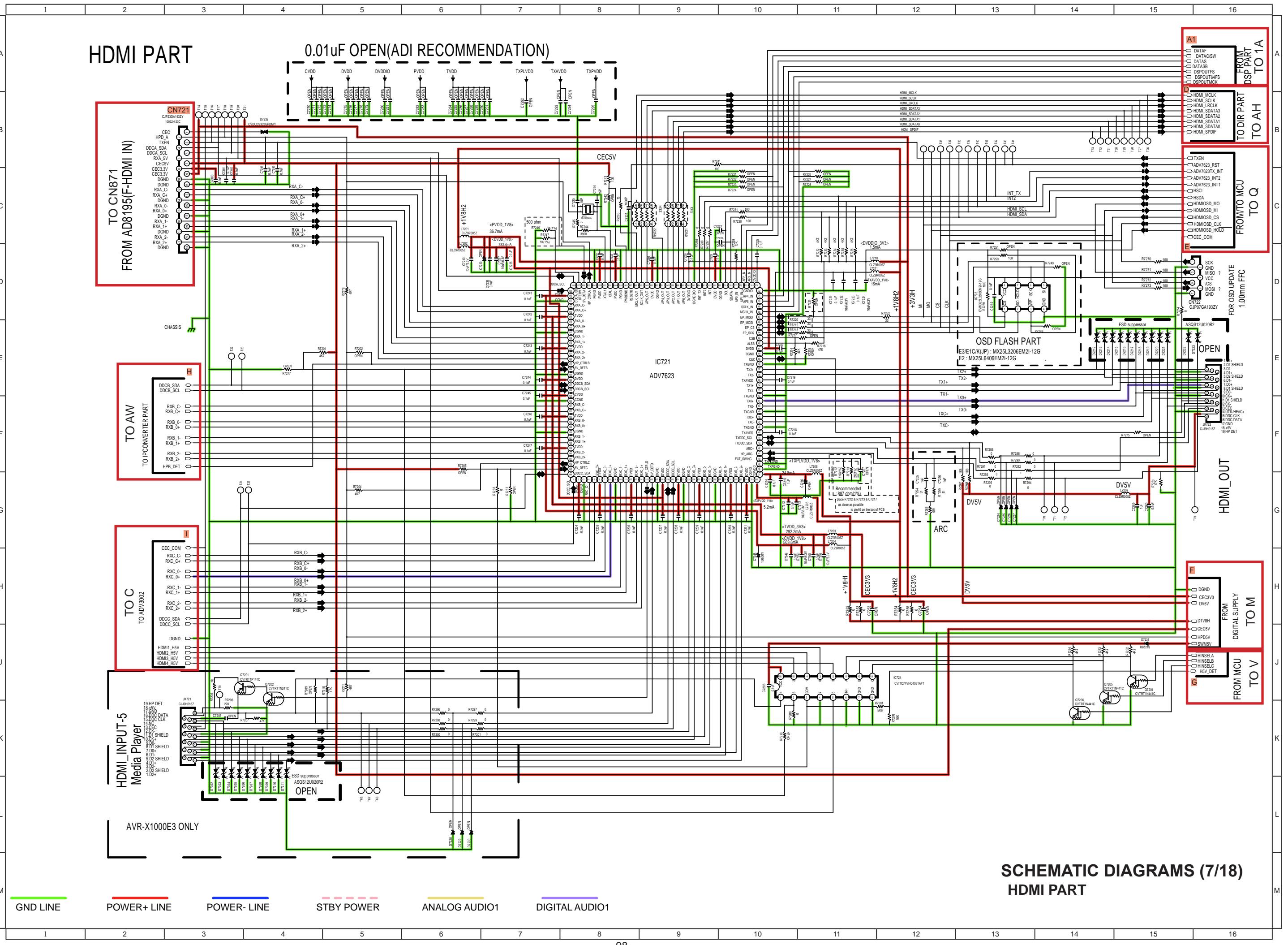
ANALOG AUDIO

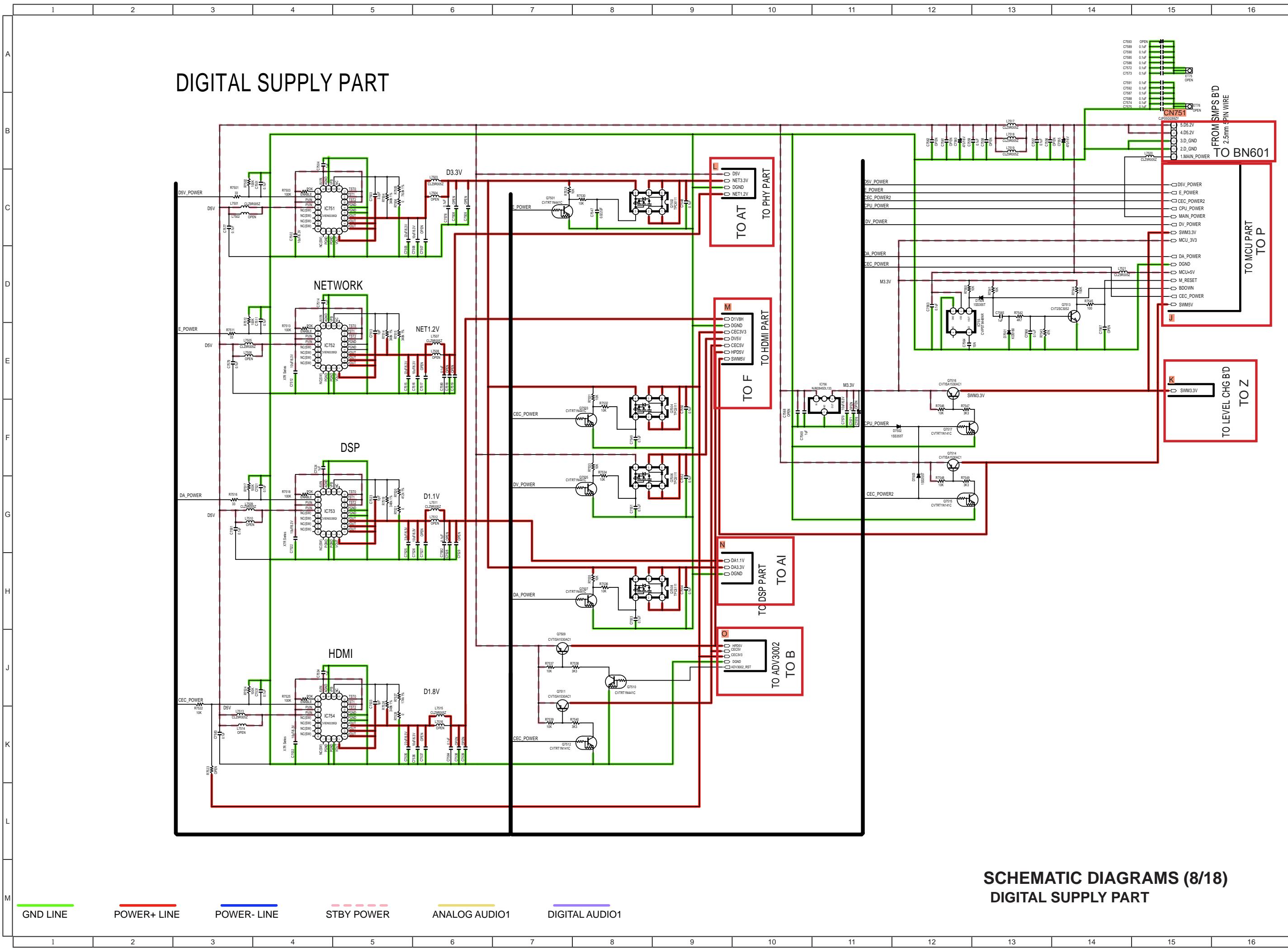
AVRE300/X1000 MAIN PART



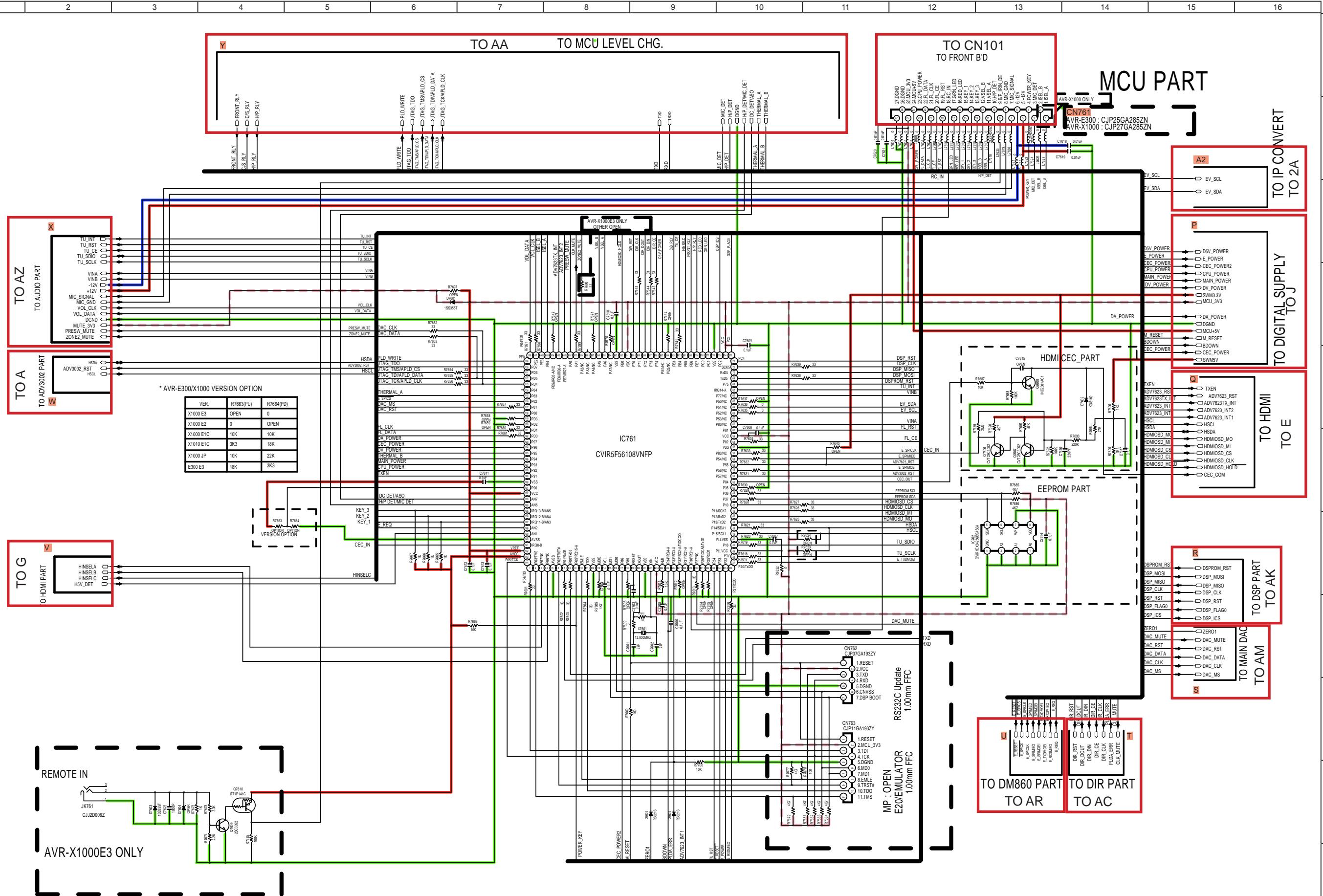


SCHEMATIC DIAGRAMS (6/18)
ADV3002 PART

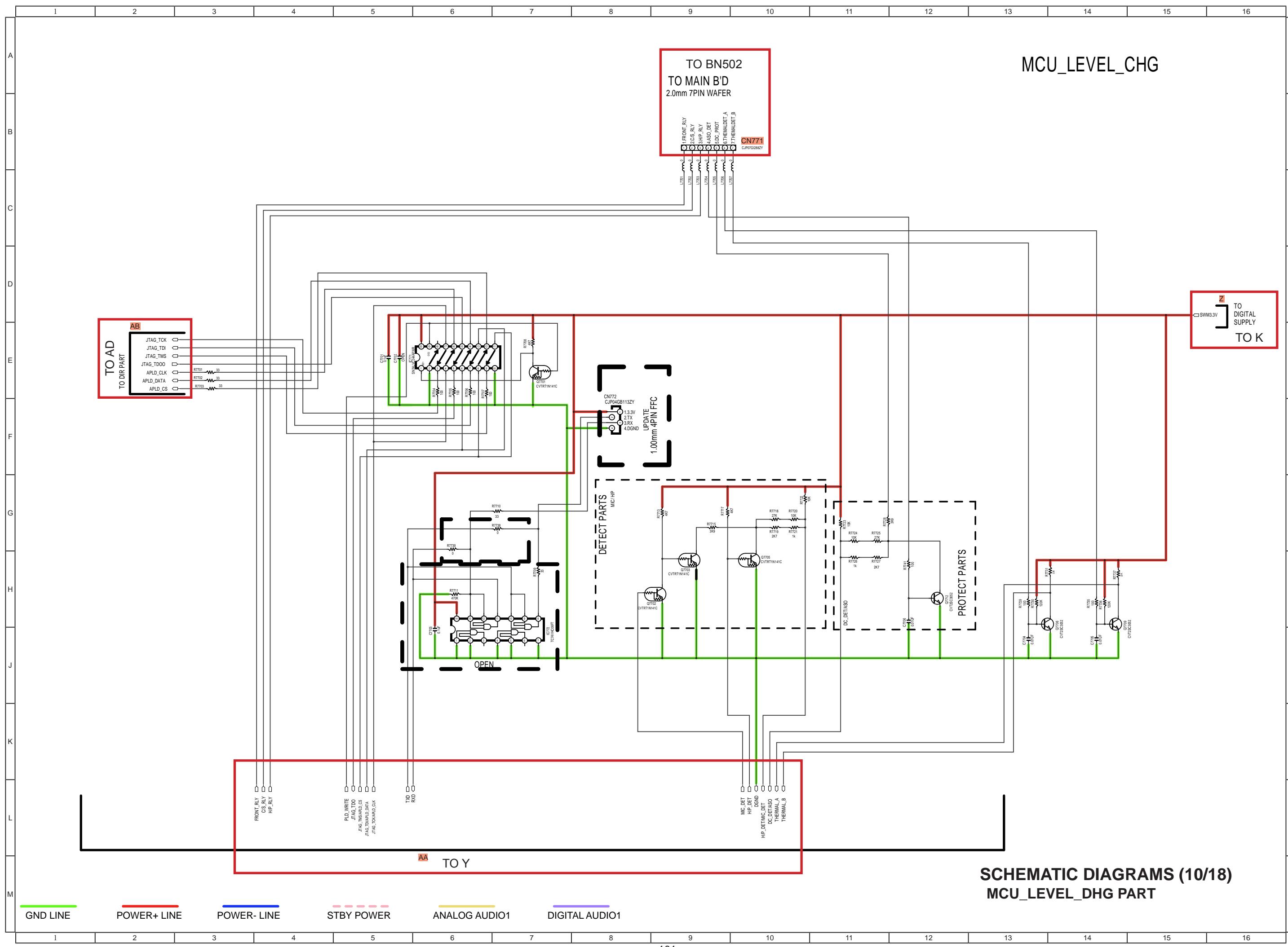




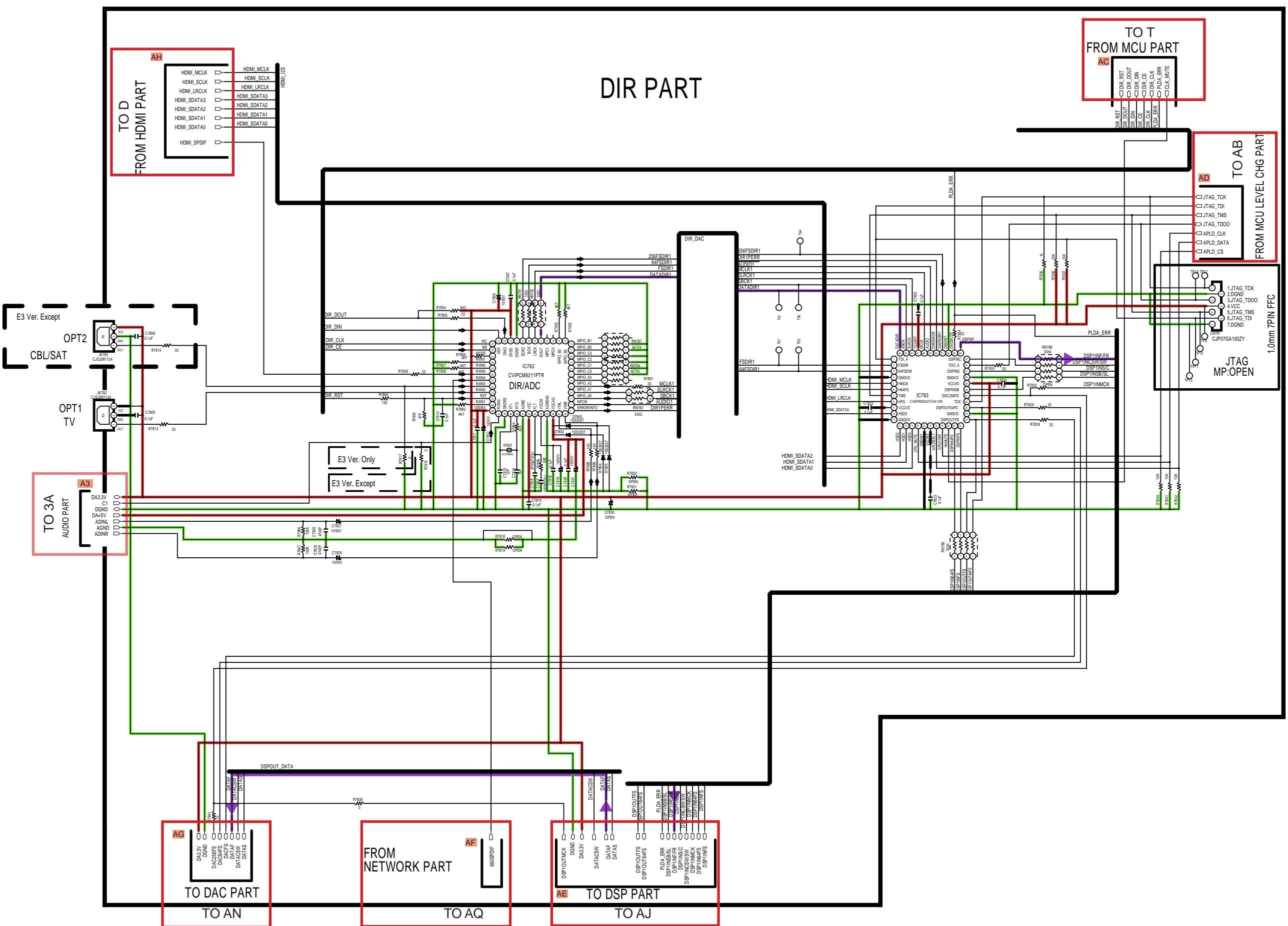
SCHEMATIC DIAGRAMS (8/18)
DIGITAL SUPPLY PART



SCHEMATIC DIAGRAMS (9/18)
MCU PART



SCHEMATIC DIAGRAMS (10/18) MCU_LEVEL_DHG PART



SCHEMATIC DIAGRAMS (11/18)

DIR PART

GND LINE

POWER+ LINE

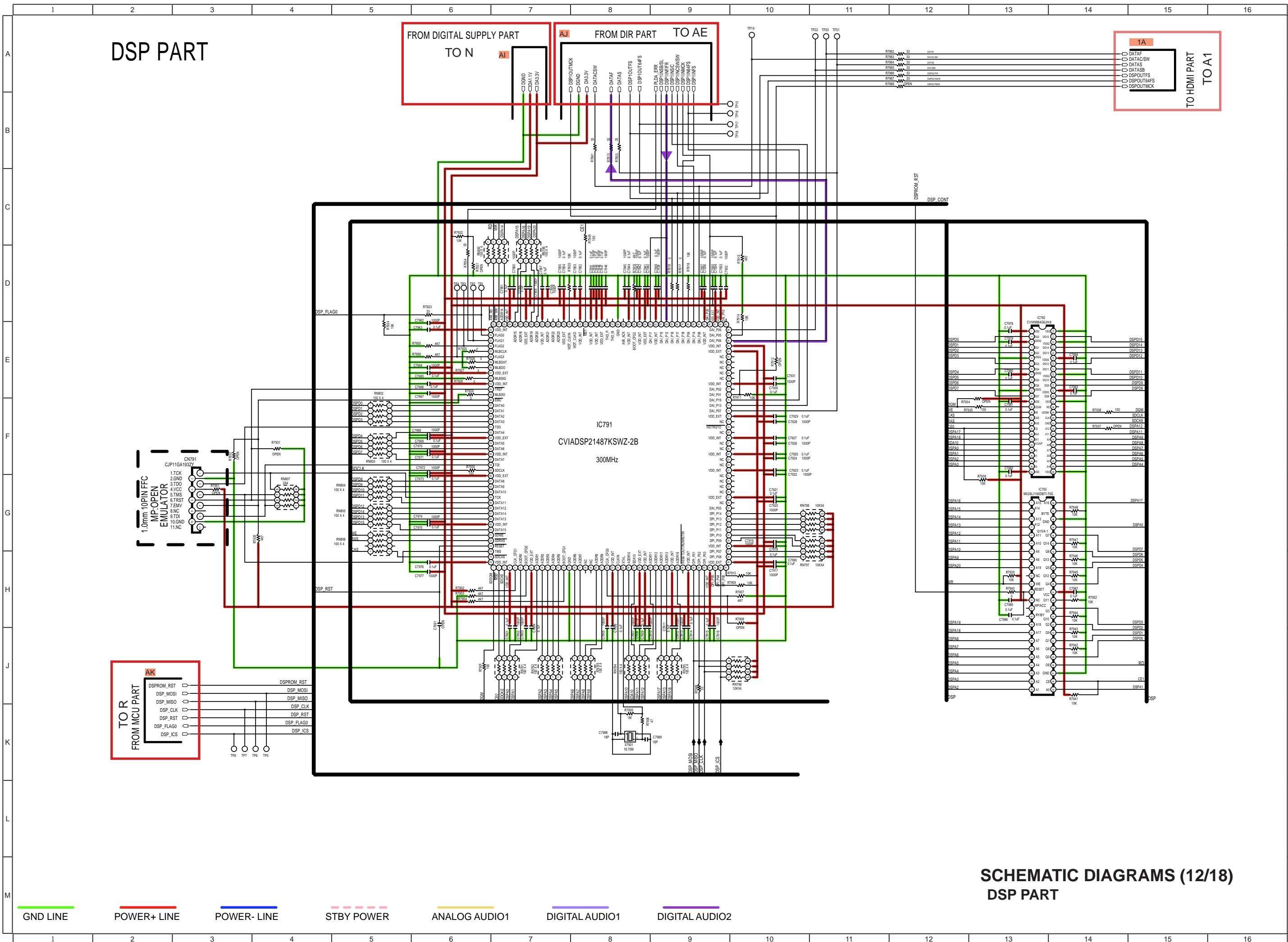
POWER-LINE

STBY POWER

ANALOG AUD

DIGITAL AUD

DIGITAL AUDIO

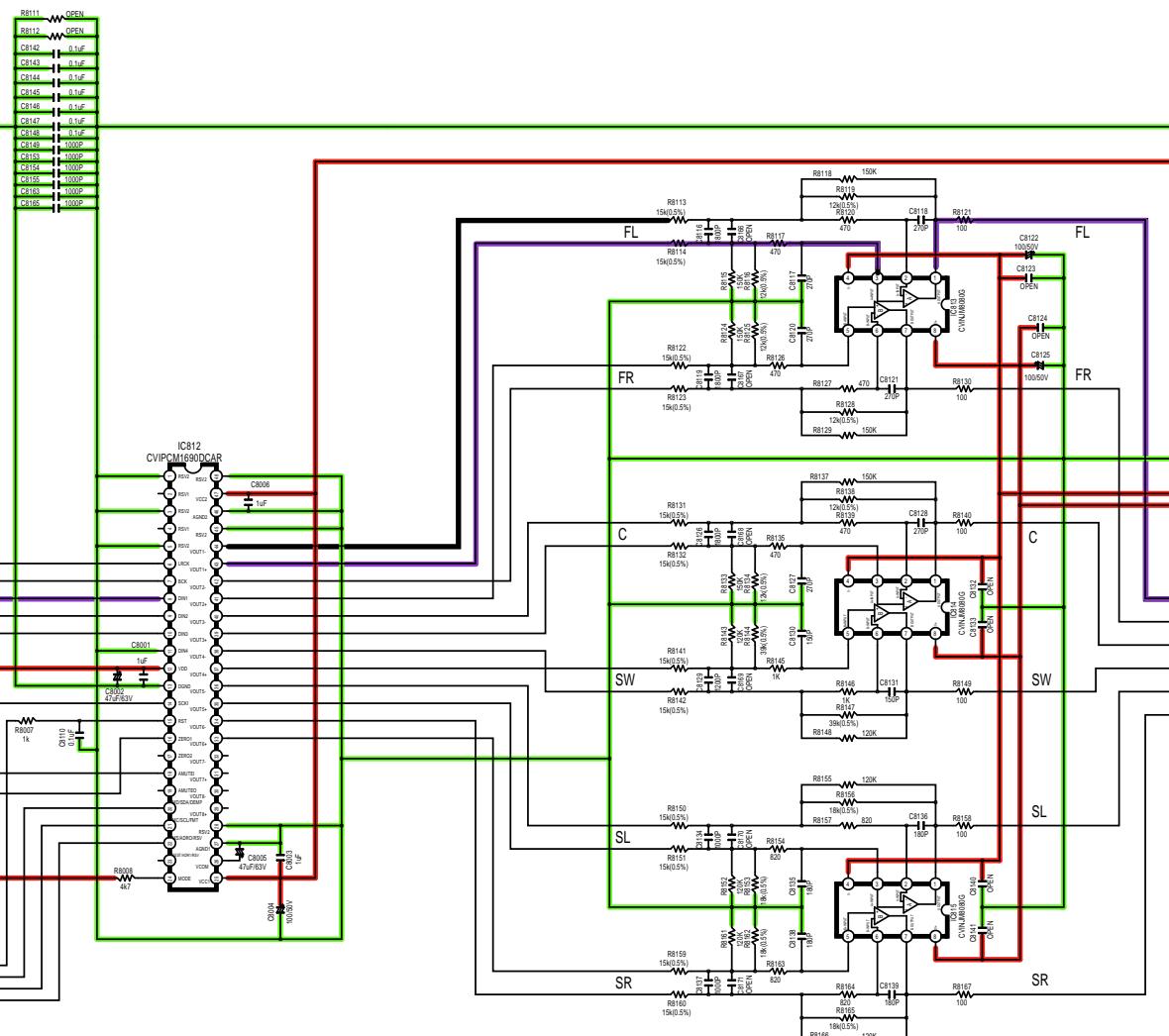
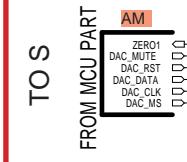


**SCHEMATIC DIAGRAMS (12/18)
DSP PART**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



MAIN DAC PART



FROM AUDIO PART TO BB

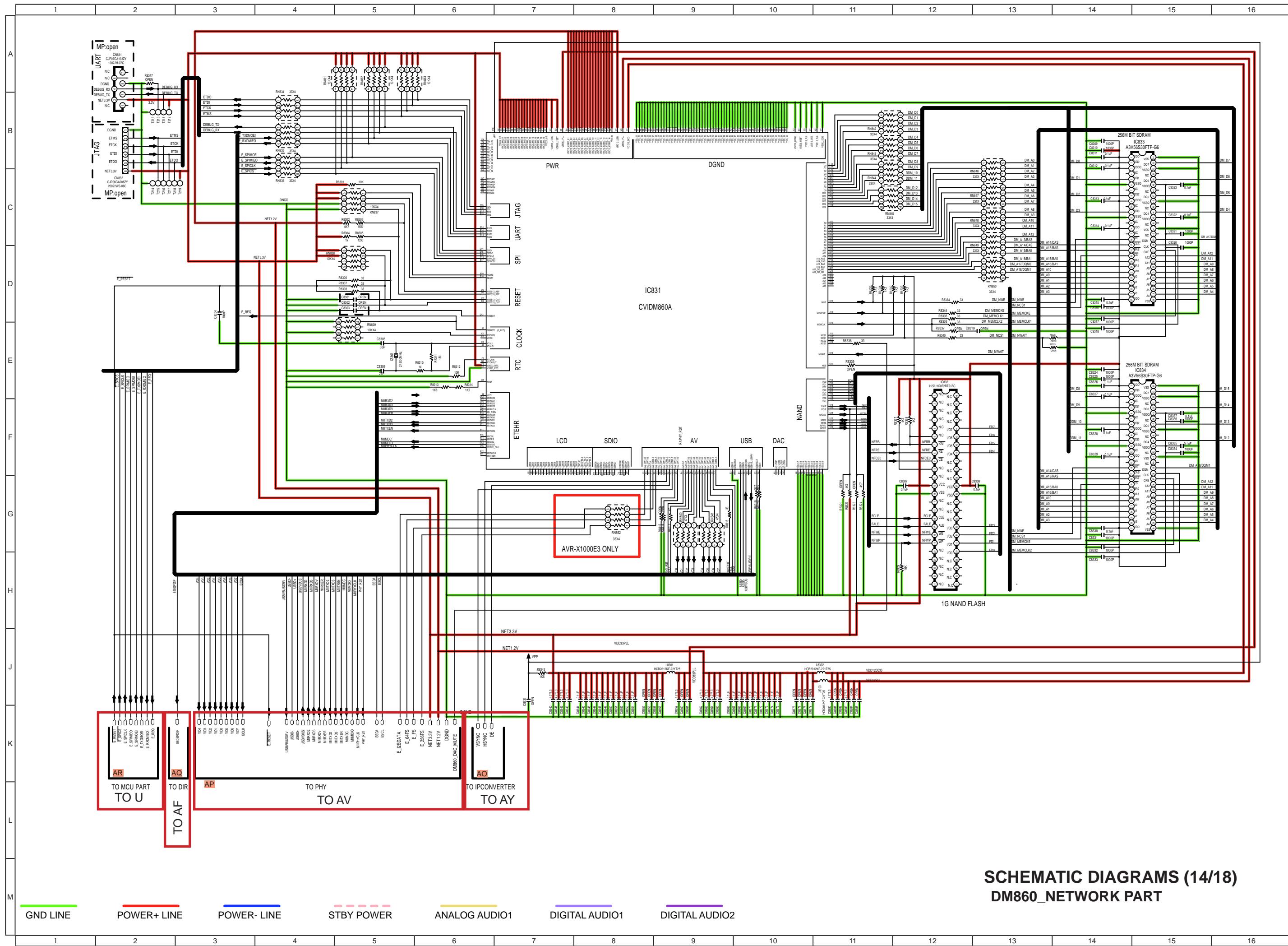
AU

-12V
+12V
DA45V
AGND
AGND
DACL
AGND
DCCR
AGND
DACC
AGND
DASC
AGND
DCCS
AGND
DACS
AGND
DASC
AGND

**SCHEMATIC DIAGRAMS (13/18)
MAIN DAC PART**

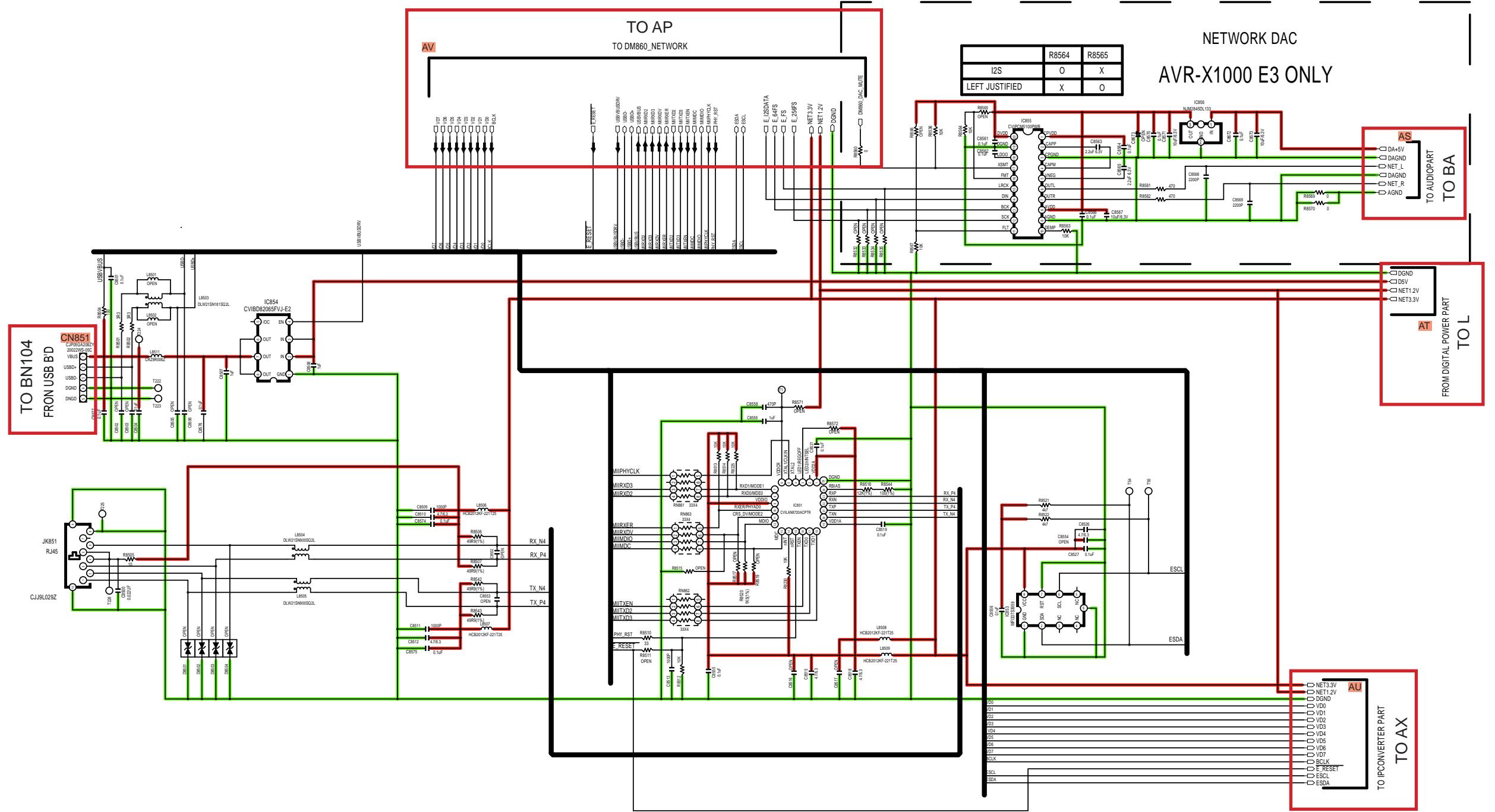
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

GND LINE POWER+ LINE POWER- LINE STBY POWER ANALOG AUDIO1 DIGITAL AUDIO1 DIGITAL AUDIO2



SCHEMATIC DIAGRAMS (14/18)

DM860_NETWORK PART



SCHEMATIC DIAGRAMS (15/18) ETHERNET_PHY PART(1/2)

GND LINE

POWER+ LINE

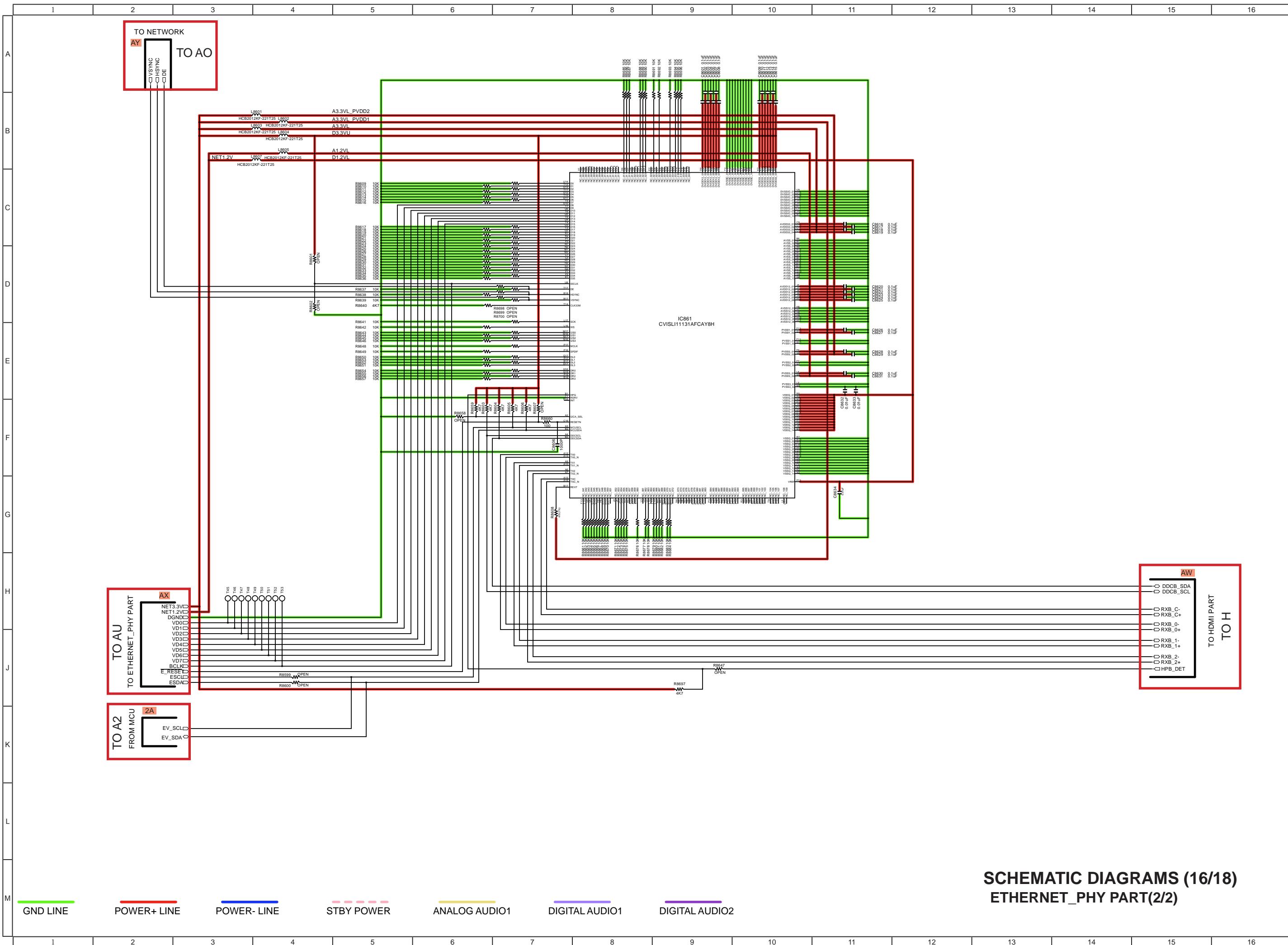
POWER- LINE

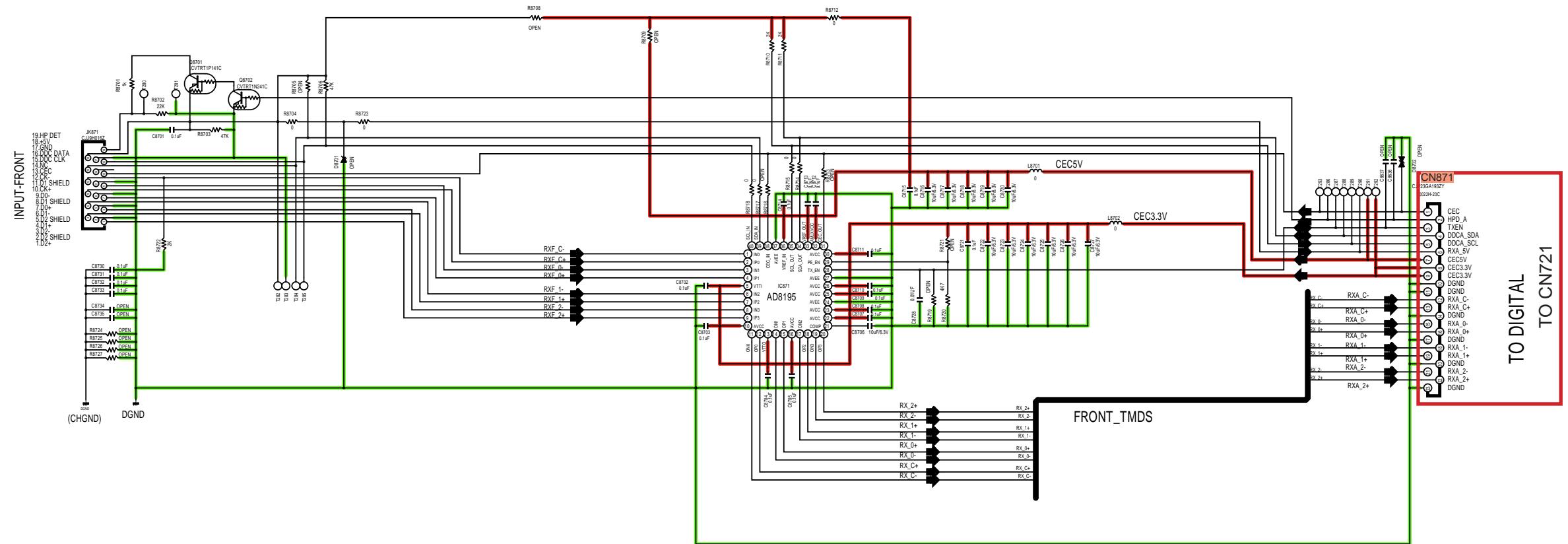
STBY POW

ANALOG AUDI

DIGITAL AUDIO

DIGITAL AUDIO2

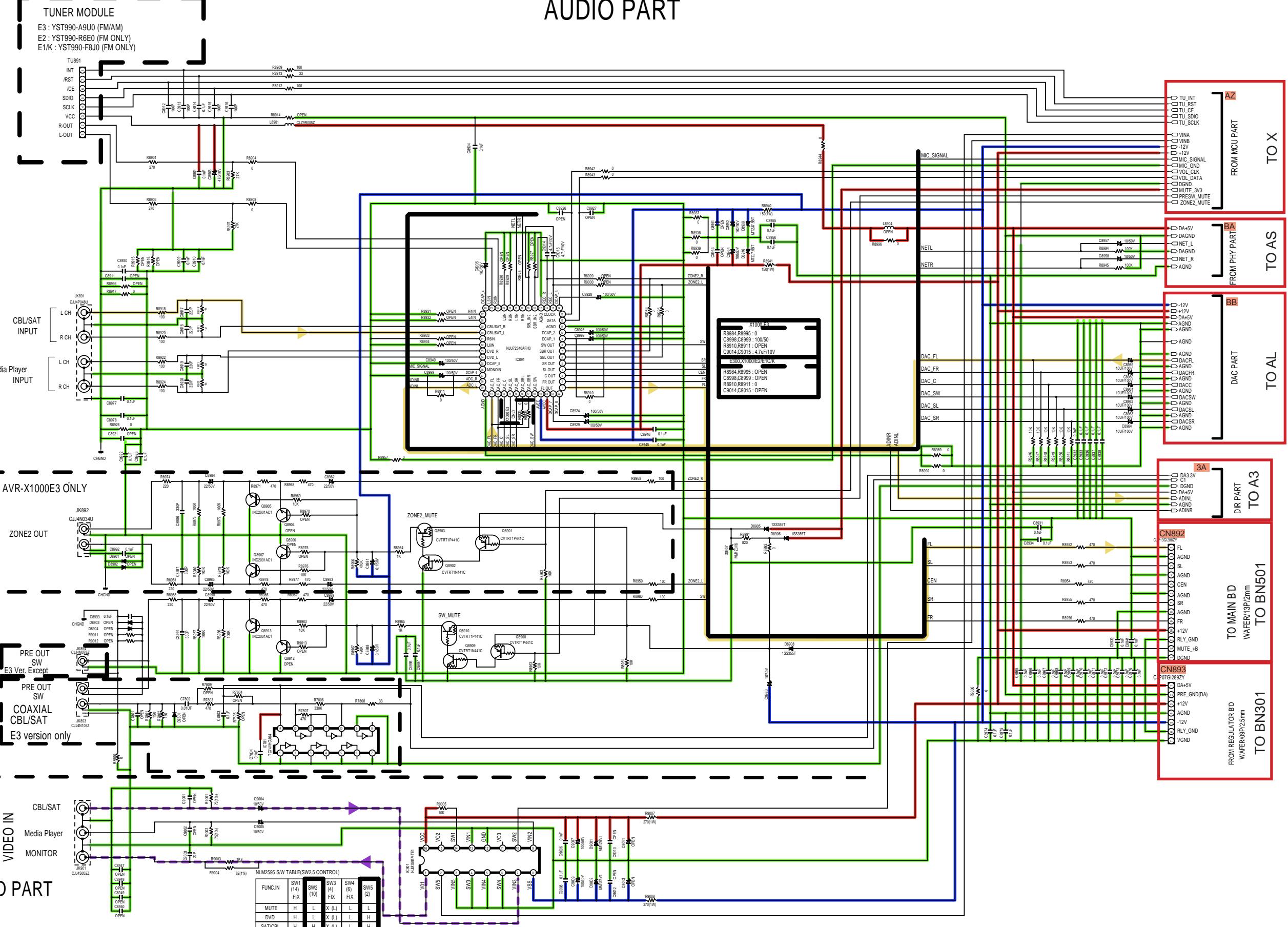




SCHEMATIC DIAGRAMS (17/18) FRONT HDMI PART

GND LINE POWER+ LINE POWER- LINE STBY POWER ANALOG AUDIO1 DIGITAL AUDIO1 DIGITAL AUDIO2

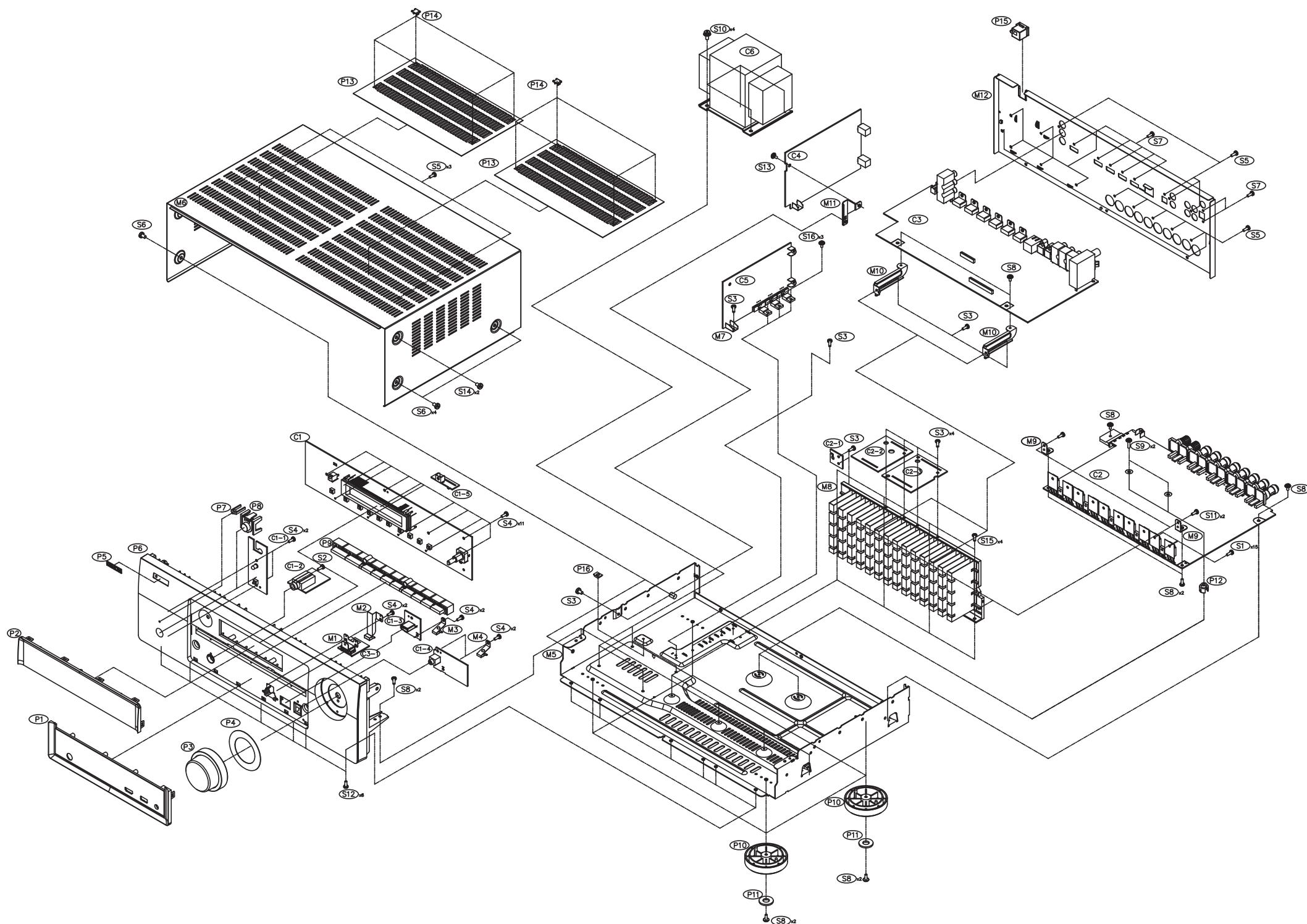
AUDIO PART



SCHEMATIC DIAGRAMS (18/18)
AUDIO PART
VIDEO PART

EXPLODED VIEW (FOR AVRE300)

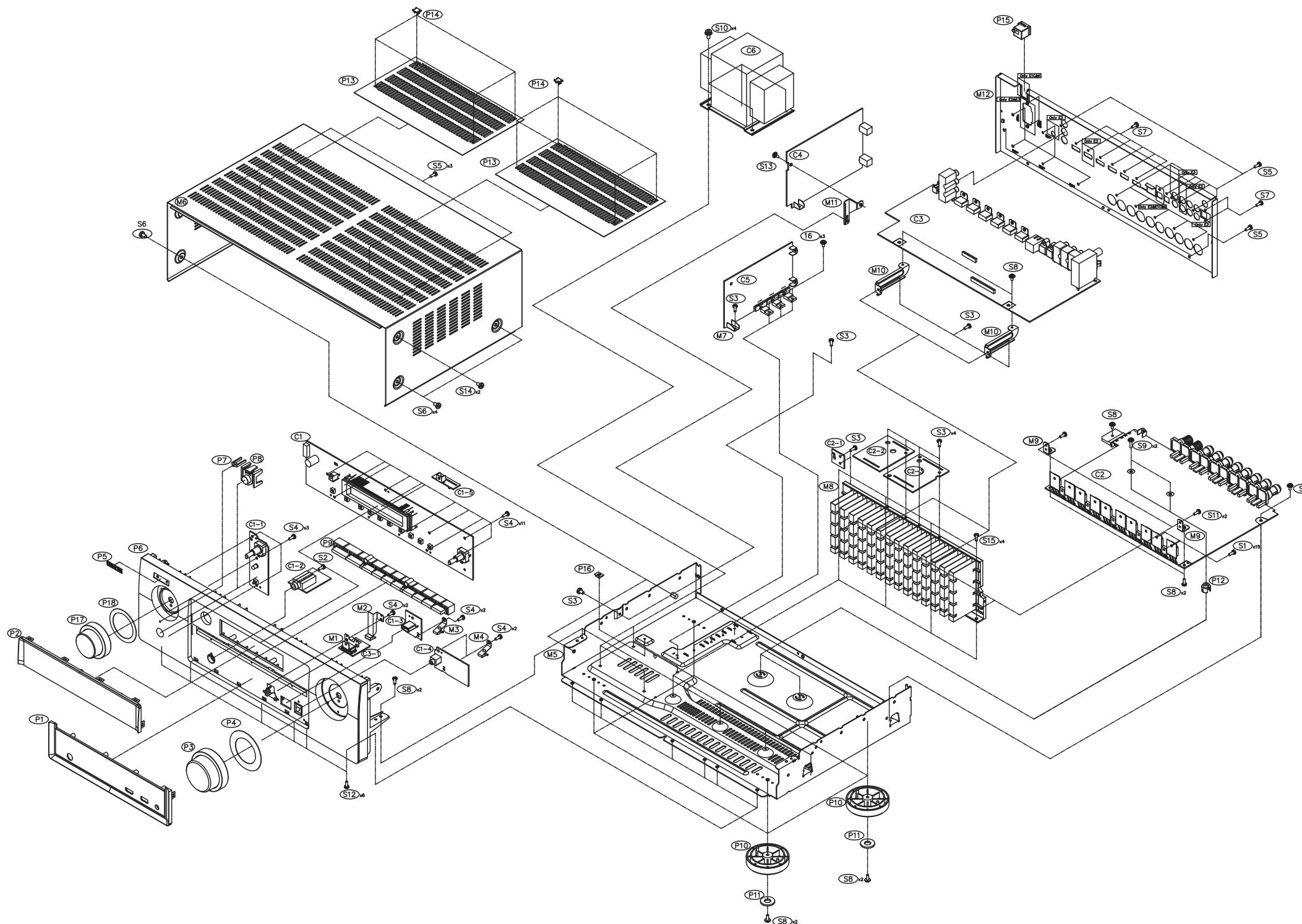
AVRE300BKE3 EXPLODED VIEW



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

EXPLODED VIEW (FOR AVRX1000)

AVRX1000BKE3&BKE2&BKE1C&SPE1C&K&X1010SPE1C EXPLODED VIEW



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

PARTS LIST OF EXPLODED VIEW

Please refer to the last chapter.

*Parts indicated by "nsp" on this table cannot be supplied.

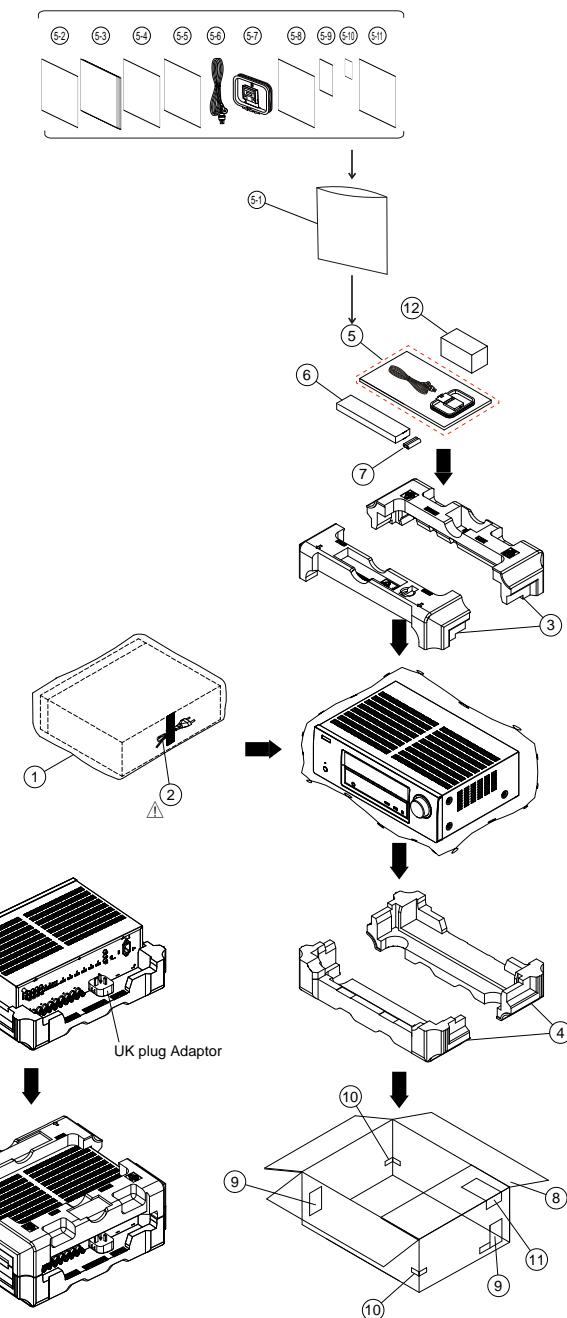
*P.W.B. ASS'Y indicated by "nsp" on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts list and order replacement parts.

*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.

Personal notes:

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

Please refer to the last chapter.

*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.

Personal notes:

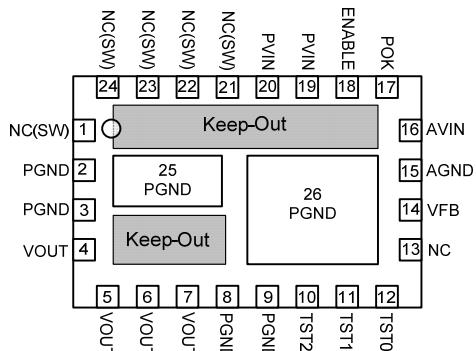
SEMICONDUCTORS

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

EN5339QI (DIGITAL : IC751~154)

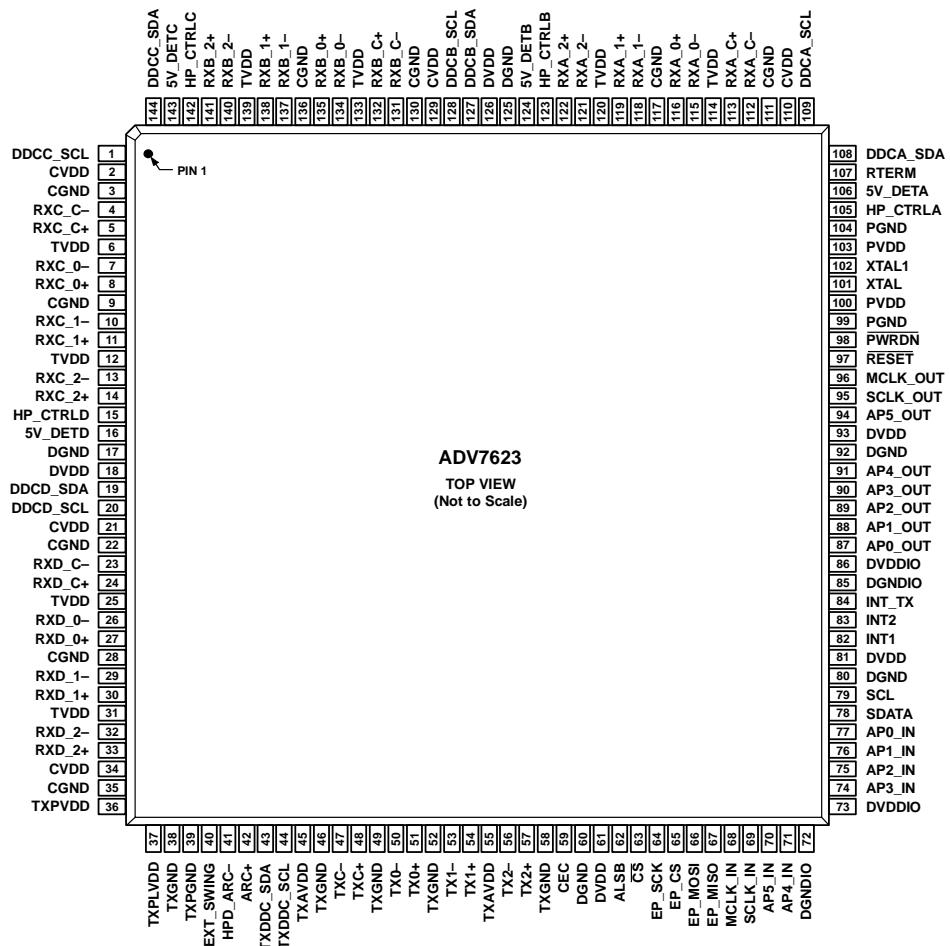


EN5339QI Terminal Functions

Pin Description

PIN	NAME	FUNCTION
1, 21-24	NC(SW)	NO CONNECT: These pins are internally connected to the common switching node of the internal MOSFETs. They must be soldered to PCB but not be electrically connected to any external signal, ground, or voltage. Failure to follow this guideline may result in device damage.
2-3, 8-9	PGND	Input and output power ground. Connect these pins to the ground electrode of the input and output filter capacitors. See VOUT, PVIN descriptions and Layout Recommendation for more details.
4-7	VOUT	Regulated converter output. Connect to the load and place output filter capacitor(s) between these pins and PGND pins 7 and 8. See layout recommendation for details
10	TST2	Test Pin. For Empirion internal use only. Connect to AVIN at all times.
11	TST1	Test Pin. For Empirion internal use only. Connect to AVIN at all times.
12	TST0	Test Pin. For Empirion internal use only. Connect to AVIN at all times.
13	NC	NO CONNECT: This pin must be soldered to PCB but not electrically connected to any other pin or to any external signal, voltage, or ground. This pin may be connected internally. Failure to follow this guideline may result in device damage.
14	VFB	This is the external feedback input pin. A resistor divider connects from the output to AGND. The mid-point of the resistor divider is connected to VFB. A feed-forward capacitor is required parallel to the upper feedback resistor (R_A). The output voltage regulation is based on the VFB node voltage equal to 0.600V.
15	AGND	The quiet ground for the control circuits. Connect to the ground plane with a via right next to the pin.
16	AVIN	Analog input voltage for the control circuits. Connect this pin to the input power supply (PVIN) at a quiet point. Decouple with a 1uF capacitor to AGND.
17	POK	POK is an open drain output. Refer to Power OK section for details. Leave POK open if unused.
18	ENABLE	Output Enable. A logic high level on this pin enables the output and initiates a soft-start. A logic low signal disables the output and discharges the output to GND. This pin must not be left floating.
19-20	PVIN	Input power supply. Connect to input power supply and place input filter capacitor(s) between these pins and PGND pins 2 to 3.
25,26	PGND	Not a perimeter pin. Device thermal pad to be connected to the system GND plane for heat-sinking purposes. See Layout Recommendation section.

ADV7623 (DIGITAL : IC721)



Pin Function Descriptions

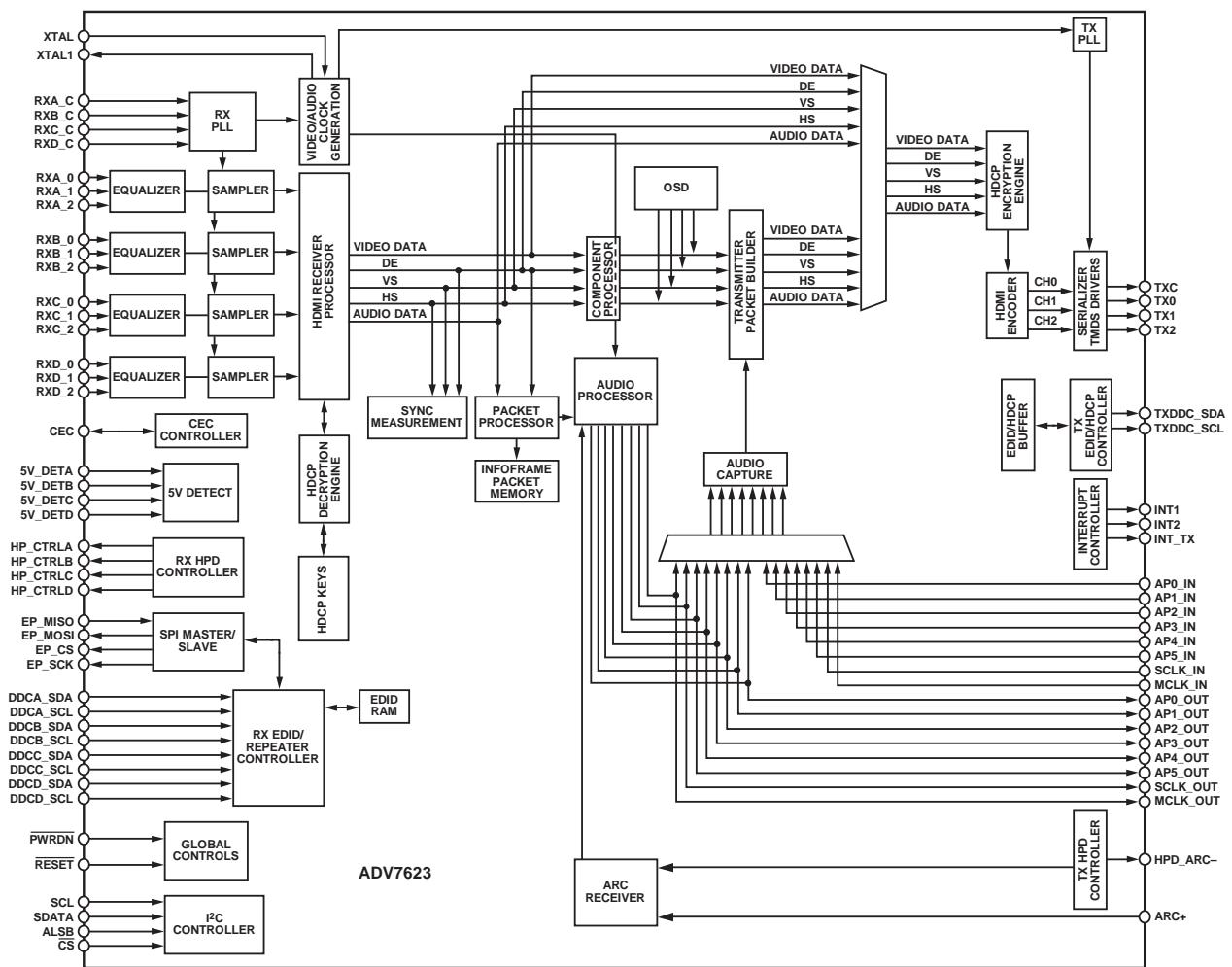
Pin No.	Mnemonic	Type	Description
1	DDCC_SCL	Digital input	HDCP Slave Serial Clock Port C. DDCC_SCL is a 3.3 V input that is 5 V tolerant.
2	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
3	CGND	Ground	TVDD and CVDD Ground.
4	RXC_C-	HDMI input	Digital Input Clock Complement of Port C in the HDMI Interface.
5	RXC_C+	HDMI input	Digital Input Clock True of Port C in the HDMI Interface.
6	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
7	RXC_0-	HDMI input	Digital Input Channel 0 Complement of Port C in the HDMI Interface.
8	RXC_0+	HDMI input	Digital Input Channel 0 True of Port C in the HDMI Interface.
9	CGND	Ground	TVDD and CVDD Ground.
10	RXC_1-	HDMI input	Digital Input Channel 1 Complement of Port C in the HDMI Interface.
11	RXC_1+	HDMI input	Digital Input Channel 1 True of Port C in the HDMI Interface.
12	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).

Pin No.	Mnemonic	Type	Description
13	RXC_2-	HDMI input	Digital Input Channel 2 Complement of Port C in the HDMI Interface.
14	RXC_2+	HDMI input	Digital Input Channel 2 True of Port C in the HDMI Interface.
15	HP_CTRLD	Digital output	Hot Plug Detect for Port D.
16	5V_DETD	Digital input	5 V Detect Pin for Port D in the HDMI Interface.
17	DGND	Ground	DVDD Ground.
18	DVDD	Power	Digital Supply Voltage (1.8 V).
19	DDCD_SDA	Digital I/O	HDCP Slave Serial Data Port D. DDCD_SDA is a 3.3 V input/output that is 5 V tolerant.
20	DDCD_SCL	Digital input	HDCP Slave Serial Clock Port D. DDCD_SCL is a 3.3 V input that is 5 V tolerant.
21	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
22	CGND	Ground	TVDD and CVDD Ground.
23	RXD_C-	HDMI input	Digital Input Clock Complement of Port D in the HDMI Interface.
24	RXD_C+	HDMI input	Digital Input Clock True of Port D in the HDMI Interface.
25	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
26	RXD_0-	HDMI input	Digital Input Channel 0 Complement of Port D in the HDMI Interface.
27	RXD_0+	HDMI input	Digital Input Channel 0 True of Port D in the HDMI Interface.
28	CGND	Ground	TVDD and CVDD Ground.
29	RXD_1-	HDMI input	Digital Input Channel 1 Complement of Port D in the HDMI Interface.
30	RXD_1+	HDMI input	Digital Input Channel 1 True of Port D in the HDMI Interface.
31	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
32	RXD_2-	HDMI input	Digital Input Channel 2 Complement of Port D in the HDMI Interface.
33	RXD_2+	HDMI input	Digital Input Channel 2 True of Port D in the HDMI Interface.
34	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
35	CGND	Ground	TVDD and CVDD Ground.
36	TXPVDD	Power	1.8 V Power Supply for Digital and I/O Power Supply. This pin supplies power to the digital logic and I/Os. It should be filtered and as quiet as possible.
37	TXPLVDD	Power	1.8 V Power Supply.
38	TXGND	Ground	TXPVDD Ground.
39	TXPGND	Ground	TXPLVDD Ground.
40	EXT_SWING	Analog input	This pin sets the internal reference currents. Place an 887 Ω resistor (1% tolerance) between this pin and ground.
41	HPD_ARC-	Analog input	Hot Plug Detect Signal. This pin indicates to the interface whether the receiver is connected. It supports 1.8 V to 5 V CMOS logic levels.
42	ARC+	Analog input	Audio Return Channel Input (5 V Tolerant).
43	TXDDC_SDA	Digital I/O	Serial Port Data I/O to Receiver. This pin serves as the master to the DDC bus. It supports a 5 V CMOS logic level.
44	TXDDC_SCL	Digital output	Serial Port Data Clock to Receiver. This pin serves as the master clock for the DDC bus. It supports a 5 V CMOS logic level.
45	TXAVDD	Power	1.8 V Power Supply for TMDS Outputs.
46	TXGND	Ground	TXAVDD Ground.
47	TXC-	HDMI output	Differential Clock Output. Differential clock output at the TMDS clock rate; supports TMDS logic level.
48	TXC+	HDMI output	Differential Clock Output. Differential clock output at the TMDS clock rate; supports TMDS logic level.
49	TXGND	Ground	TXAVDD Ground.
50	TX0-	HDMI output	Differential Output Channel 0 Complement. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
51	TX0+	HDMI output	Differential Output Channel 0 True. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
52	TXGND	Ground	TXAVDD Ground.
53	TX1-	HDMI output	Differential Output Channel 1 Complement. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
54	TX1+	HDMI output	Differential Output Channel 1 True. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
55	TXAVDD	Power	1.8 V Power Supply for TMDS Outputs.

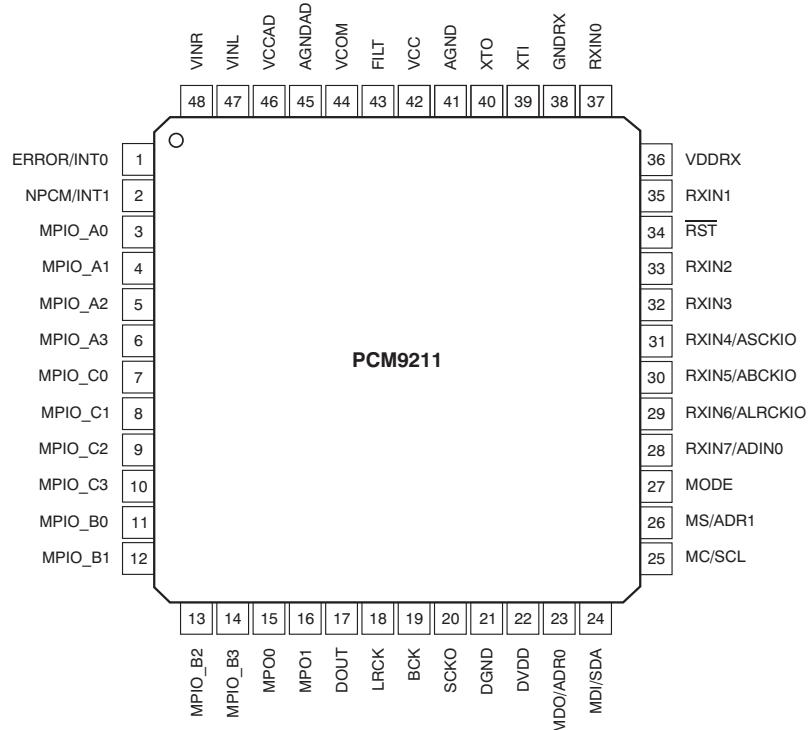
Pin No.	Mnemonic	Type	Description
13	RXC_2-	HDMI input	Digital Input Channel 2 Complement of Port C in the HDMI Interface.
14	RXC_2+	HDMI input	Digital Input Channel 2 True of Port C in the HDMI Interface.
15	HP_CTRLD	Digital output	Hot Plug Detect for Port D.
16	SV_DETD	Digital input	5 V Detect Pin for Port D in the HDMI Interface.
17	DGND	Ground	DVDD Ground.
18	DVDD	Power	Digital Supply Voltage (1.8 V).
19	DDCD_SDA	Digital I/O	HDCP Slave Serial Data Port D. DDCD_SDA is a 3.3 V input/output that is 5 V tolerant.
20	DDCD_SCL	Digital input	HDCP Slave Serial Clock Port D. DDCD_SCL is a 3.3 V input that is 5 V tolerant.
21	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
22	CGND	Ground	TVDD and CVDD Ground.
23	RXD_C-	HDMI input	Digital Input Clock Complement of Port D in the HDMI Interface.
24	RXD_C+	HDMI input	Digital Input Clock True of Port D in the HDMI Interface.
25	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
26	RXD_0-	HDMI input	Digital Input Channel 0 Complement of Port D in the HDMI Interface.
27	RXD_0+	HDMI input	Digital Input Channel 0 True of Port D in the HDMI Interface.
28	CGND	Ground	TVDD and CVDD Ground.
29	RXD_1-	HDMI input	Digital Input Channel 1 Complement of Port D in the HDMI Interface.
30	RXD_1+	HDMI input	Digital Input Channel 1 True of Port D in the HDMI Interface.
31	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
32	RXD_2-	HDMI input	Digital Input Channel 2 Complement of Port D in the HDMI Interface.
33	RXD_2+	HDMI input	Digital Input Channel 2 True of Port D in the HDMI Interface.
34	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
35	CGND	Ground	TVDD and CVDD Ground.
36	TXPVDD	Power	1.8 V Power Supply for Digital and I/O Power Supply. This pin supplies power to the digital logic and I/Os. It should be filtered and as quiet as possible.
37	TXPLVDD	Power	1.8 V Power Supply.
38	TXGND	Ground	TXPVDD Ground.
39	TXPGND	Ground	TXPLVDD Ground.
40	EXT_SWING	Analog input	This pin sets the internal reference currents. Place an 887 Ω resistor (1% tolerance) between this pin and ground.
41	HPD_ARC-	Analog input	Hot Plug Detect Signal. This pin indicates to the interface whether the receiver is connected. It supports 1.8 V to 5 V CMOS logic levels.
42	ARC+	Analog input	Audio Return Channel Input (5 V Tolerant).
43	TXDDC_SDA	Digital I/O	Serial Port Data I/O to Receiver. This pin serves as the master to the DDC bus. It supports a 5 V CMOS logic level.
44	TXDDC_SCL	Digital output	Serial Port Data Clock to Receiver. This pin serves as the master clock for the DDC bus. It supports a 5 V CMOS logic level.
45	TXAVDD	Power	1.8 V Power Supply for TMDS Outputs.
46	TXGND	Ground	TXAVDD Ground.
47	TXC-	HDMI output	Differential Clock Output. Differential clock output at the TMDS clock rate; supports TMDS logic level.
48	TXC+	HDMI output	Differential Clock Output. Differential clock output at the TMDS clock rate; supports TMDS logic level.
49	TXGND	Ground	TXAVDD Ground.
50	TX0-	HDMI output	Differential Output Channel 0 Complement. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
51	TX0+	HDMI output	Differential Output Channel 0 True. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
52	TXGND	Ground	TXAVDD Ground.
53	TX1-	HDMI output	Differential Output Channel 1 Complement. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
54	TX1+	HDMI output	Differential Output Channel 1 True. Differential output of the red data at 10× the pixel clock rate; supports TMDS logic level.
55	TXAVDD	Power	1.8 V Power Supply for TMDS Outputs.

Pin No.	Mnemonic	Type	Description
99	PGND	Ground	PVDD Ground.
100	PVDD	Power	PLL Supply Voltage (1.8 V).
101	XTAL	Miscellaneous analog	Input pin for 28.63636 MHz crystal or an external 1.8 V 28.63636 MHz clock oscillator source to clock the ADV7623.
102	XTAL1	Miscellaneous analog	Crystal Output Pin. This pin should be left floating if a clock oscillator is used.
103	PVDD	Power	PLL Supply Voltage (1.8 V).
104	PGND	Ground	PVDD Ground.
105	HP_CTRLA	Digital output	Hot Plug Detect for Port A.
106	5V_DETA	Digital input	5 V Detect Pin for Port A in the HDMI Interface.
107	RTERM	Miscellaneous analog	This pin sets the internal termination resistance. A 500 Ω resistor between this pin and ground should be used.
108	DDCA_SDA	Digital I/O	HDCP Slave Serial Data Port A. DDCA_SDA is a 3.3 V input/output that is 5 V tolerant.
109	DDCA_SCL	Digital input	HDCP Slave Serial Clock Port A. DDCA_SCL is a 3.3 V input that is 5 V tolerant.
110	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
111	CGND	Ground	TVDD and CVDD Ground.
112	RXA_C-	HDMI input	Digital Input Clock Complement of Port A in the HDMI Interface.
113	RXA_C+	HDMI input	Digital Input Clock True of Port A in the HDMI Interface.
114	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
115	RXA_0-	HDMI input	Digital Input Channel 0 Complement of Port A in the HDMI Interface.
116	RXA_0+	HDMI input	Digital Input Channel 0 True of Port A in the HDMI Interface.
117	CGND	Ground	TVDD and CVDD Ground.
118	RXA_1-	HDMI input	Digital Input Channel 1 Complement of Port A in the HDMI Interface.
119	RXA_1+	HDMI input	Digital Input Channel 1 True of Port A in the HDMI Interface.
120	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
121	RXA_2-	HDMI input	Digital Input Channel 2 Complement of Port A in the HDMI Interface.
122	RXA_2+	HDMI input	Digital Input Channel 2 True of Port A in the HDMI Interface.
123	HP_CTRLB	Digital output	Hot Plug Detect for Port B.
124	5V_DET_B	Digital input	5 V Detect Pin for Port B in the HDMI Interface.
125	DGND	Ground	DVDD Ground.
126	DVDD	Power	Digital Supply Voltage (1.8 V).
127	DDCB_SDA	Digital I/O	HDCP Slave Serial Data Port B. DDCB_SDA is a 3.3 V input/output that is 5 V tolerant.
128	DDCB_SCL	Digital input	HDCP Slave Serial Clock Port B. DDCB_SCL is a 3.3 V input that is 5 V tolerant.
129	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
130	CGND	Ground	TVDD and CVDD Ground.
131	RXB_C-	HDMI input	Digital Input Clock Complement of Port B in the HDMI Interface.
132	RXB_C+	HDMI input	Digital Input Clock True of Port B in the HDMI Interface.
133	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
134	RXB_0-	HDMI input	Digital Input Channel 0 Complement of Port B in the HDMI Interface.
135	RXB_0+	HDMI input	Digital Input Channel 0 True of Port B in the HDMI Interface.
136	CGND	Ground	TVDD and CVDD Ground.
137	RXB_1-	HDMI input	Digital Input Channel 1 Complement of Port B in the HDMI Interface.
138	RXB_1+	HDMI input	Digital Input Channel 1 True of Port B in the HDMI Interface.
139	TVDD	Power	Receiver Terminator Supply Voltage (3.3 V).
140	RXB_2-	HDMI input	Digital Input Channel 2 Complement of Port B in the HDMI Interface.
141	RXB_2+	HDMI input	Digital Input Channel 2 True of Port B in the HDMI Interface.
142	HP_CTRLC	Digital output	Hot Plug Detect for Port C.
143	5V_DET_C	Digital input	5 V Detect Pin for Port C in the HDMI Interface.
144	DDCC_SDA	Digital I/O	HDCP Slave Serial Data Port C. DDCC_SDA is a 3.3 V input/output that is 5 V tolerant.

ADV7623 Block diagram



PCM9211 (DIGITAL : IC782)



PIN Functions

NO.	NAME	PIN		DESCRIPTION
		I/O	5-V TOLERANT	
1	ERROR/INT0	O	No	DIR Error detection output / Interrupt0 output
2	NPCM/INT1	O	No	DIR Non-PCM detection output / Interrupt1 output
3	MPIO_A0	I/O	Yes	Multipurpose I/O, Group A(1)
4	MPIO_A1	I/O	Yes	Multipurpose I/O, Group A(1)
5	MPIO_A2	I/O	Yes	Multipurpose I/O, Group A(1)
6	MPIO_A3	I/O	Yes	Multipurpose I/O, Group A(1)
7	MPIO_C0	I/O	Yes	Multipurpose I/O, Group C(1)
8	MPIO_C1	I/O	Yes	Multipurpose I/O, Group C(1)
9	MPIO_C2	I/O	Yes	Multipurpose I/O, Group C(1)
10	MPIO_C3	I/O	Yes	Multipurpose I/O, Group C(1)
11	MPIO_B0	I/O	Yes	Multipurpose I/O, Group B(1)
12	MPIO_B1	I/O	Yes	Multipurpose I/O, Group B(1)
13	MPIO_B2	I/O	Yes	Multipurpose I/O, Group B(1)
14	MPIO_B3	I/O	Yes	Multipurpose I/O, Group B(1)
15	MPO0	O	No	Multipurpose output 0
16	MPO1	O	No	Multipurpose output 1
17	DOUT	O	No	Main output port, serial digital audio data output
18	LRCK	O	No	Main output port, LR clock output
19	BCK	O	No	Main output port, Bit clock output
20	SCKO	O	No	Main output port, System clock output
21	DGND	-	-	Ground, for digital
22	DVDD	-	-	Power supply, 3.3 V (typ.), for digital
23	MDO/ADR0	I/O	Yes	Software control I/F, SPI data output / I2C slave address setting0(2)
24	MDI/SDA	I/O	Yes	Software control I/F, SPI data input / I2C data input/output(2) (3)
25	MC/SCL	I	Yes	Software control I/F, SPI clock input / I2C clock input(2)
26	MS/ADR1	I	Yes	Software control I/F, SPI chip select / I2C slave address setting1(2)
27	MODE	I	No	Control mode setting, (see the Serial Control Mode section, Control Mode Pin Setting)
28	RXIN7/ADINO0	I	Yes	Biphase signal, input 7 / AUXIN0, serial audio data input(2)
29	RXIN6/ALRCKIO	I	Yes	Biphase signal, input 6 / AUXIN0, LR clock input(2)
30	RXIN5/ABCKIO	I	Yes	Biphase signal, input 5 / AUXIN0, bit clock input(2)
31	RXIN4/ASCKIO	I	Yes	Biphase signal, input 4 / AUXIN0, system clock input(2)
32	RXIN3	I	Yes	Biphase signal, input 3(2)
33	RXIN2	I	Yes	Biphase signal, input 2(2)
34	RST	I	Yes	Reset Input, active low(2) (4)

PIN				DESCRIPTION
NO.	NAME	I/O	5-V TOLERANT	
35	RXIN1	I	Yes	Biphase signal, input 1, built-in coaxial amplifier
36	VDDRX	-	-	Power supply, 3.3 V (typ.), for RXIN0 and RXIN1.
37	RXIN0	I	Yes	Biphase signal, input 0, built-in coaxial amplifier
38	GNDRX	-	-	Ground, for RXIN
39	XTI	I	No	Oscillation circuit input for crystal resonator or external XTI clock source input(5)
40	XTO	O	No	Oscillation circuit output for crystal resonator
41	AGND	-	-	Ground, for PLL analog
42	VCC	-	-	Power supply, 3.3 V (typ.), for PLL analog
43	FILT	O	No	External PLL loop filter connection terminal; must connect recommended filter
44	VCOM	O	No	ADC common voltage output; must connect external decoupling capacitor
45	AGNDAD	-	-	Ground, for ADC analog
46	VCCAD	-	-	Power supply, 5.0 V (typ.), for ADC analog
47	VINL	I	No	ADC analog voltage input, left channel
48	VINR	I	No	ADC analog voltage input, right channel

(1) Schmitt trigger input

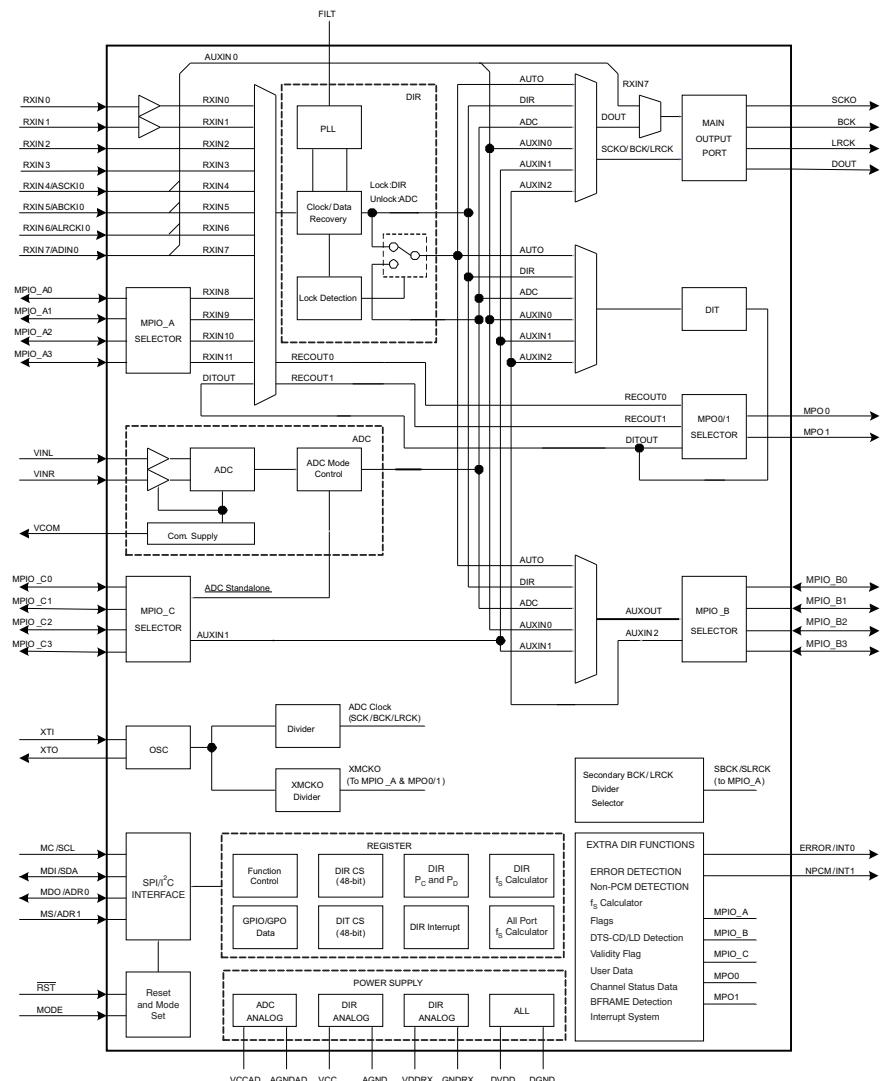
(2) Schmitt trigger input

(3) Open-drain configuration in I²C mode

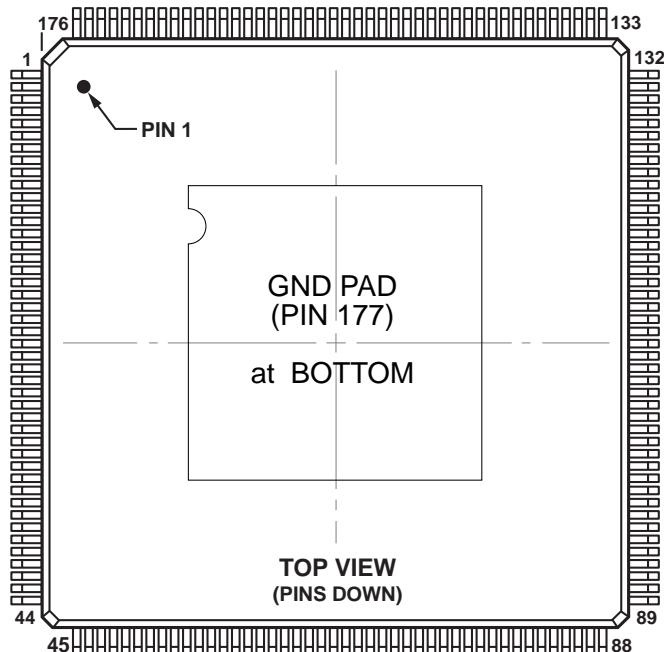
(4) Onboard pull-down resistor (50 kΩ, typical)

(5) CMOS Schmitt trigger input

PCM9211 BLOCK DIAGRAM



ADSP21487KSWZ-2B (DIGITAL : IC791)



ADSP21487KSWZ-2B Terminal Function

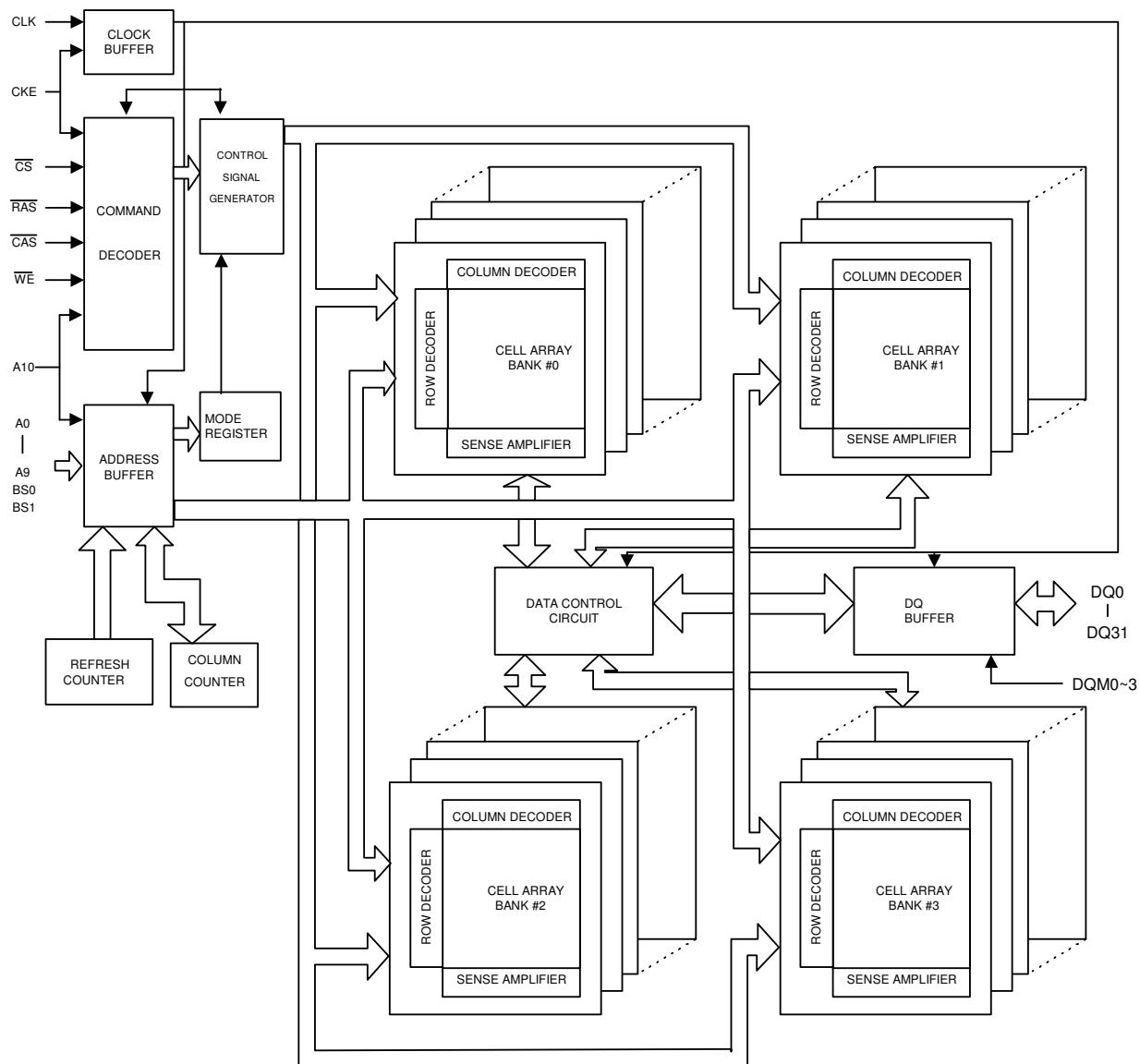
Pin Name	Pin No.						
SDDQM	1	V _{DD_EXT}	45	DAI_P10	89	V _{DD_INT}	133
MS0	2	DPI_P08	46	V _{DD_INT}	90	FLAG0	134
SDCKE	3	DPI_P07	47	V _{DD_EXT}	91	FLAG1	135
V _{DD_INT}	4	V _{DD_INT}	48	DAI_P20	92	FLAG2	136
CLK_CFG1	5	DPI_P09	49	V _{DD_INT}	93	NC	137
ADDR0	6	DPI_P10	50	DAI_P08	94	FLAG3	138
BOOT_CFG0	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	TRST	144
ADDR5	13	V _{DD_EXT}	57	DAI_P15	101	NC	145
BOOT_CFG1	14	NC	58	V _{DD_INT}	102	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	WDTRSTO	70	V _{DD_INT}	114	TDI	158
SDA10	27	NC	71	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
RESETOUT/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	SDWE	171
DPI_P03	40	V _{DD_EXT}	84	ADDR15	128	SDRAS	172
V _{DD_INT}	41	V _{DD_INT}	85	V _{DD_INT}	129	RESET	173
DPI_P05	42	DAI_P06	86	ADDR14	130	TMS	174
DPI_P04	43	DAI_P05	87	AMI_WR	131	SDCAS	175
DPI_P06	44	DAI_P09	88	AMI_RD	132	V _{DD_INT}	176
						GND	177*

* at BOTTOM

W9864G6JH-6 (DIGITAL : IC792)

VDD	1	86	VSS
DQ0	2	85	DQ15
VDDQ	3	84	VSSQ
DQ1	4	83	DQ14
DQ2	5	82	DQ13
VSSQ	6	81	VDDQ
DQ3	7	80	DQ12
DQ4	8	79	DQ11
VDDQ	9	78	VSSQ
DQ5	10	77	DQ10
DQ6	11	76	DQ9
VSSQ	12	75	VDDQ
DQ7	13	74	DQ8
NC	14	73	NC
VDD	15	72	VSS
DQM0	16	71	DQM1
<u>WE</u>	17	70	NC
<u>CAS</u>	18	69	NC
<u>RAS</u>	19	68	CLK
<u>CS</u>	20	67	CKE
NC	21	66	A9
BS0	22	65	A8
BS1	23	64	A7
A10/AP	24	63	A6
A0	25	62	A5
A1	26	61	A4
A2	27	60	A3
DQM2	28	59	DQM3
VDD	29	58	VSS
NC	30	57	NC
DQ16	31	56	DQ31
VSSQ	32	55	VDDQ
DQ17	33	54	DQ30
DQ18	34	53	DQ29
VDDQ	35	52	VSSQ
DQ19	36	51	DQ28
DQ20	37	50	DQ27
VSSQ	38	49	VDDQ
DQ21	39	48	DQ26
DQ22	40	47	DQ25
VDDQ	41	46	VSSQ
DQ23	42	45	DQ24
VDD	43	44	VSS

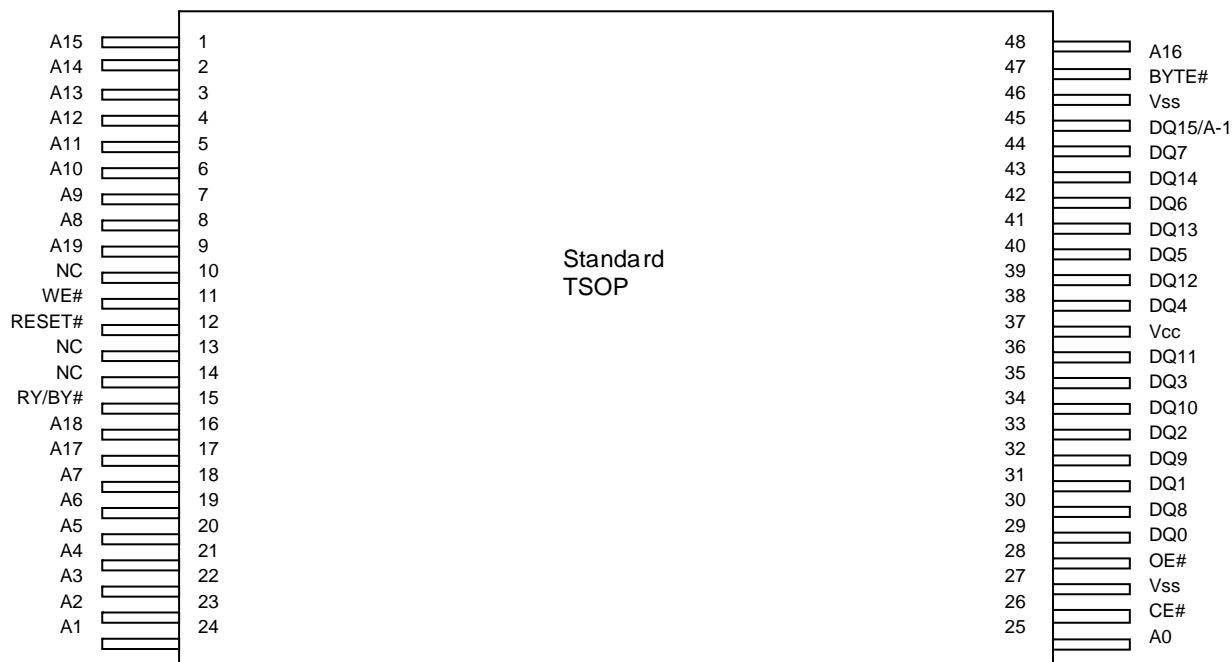
W9864G6JH-6 Block diagram



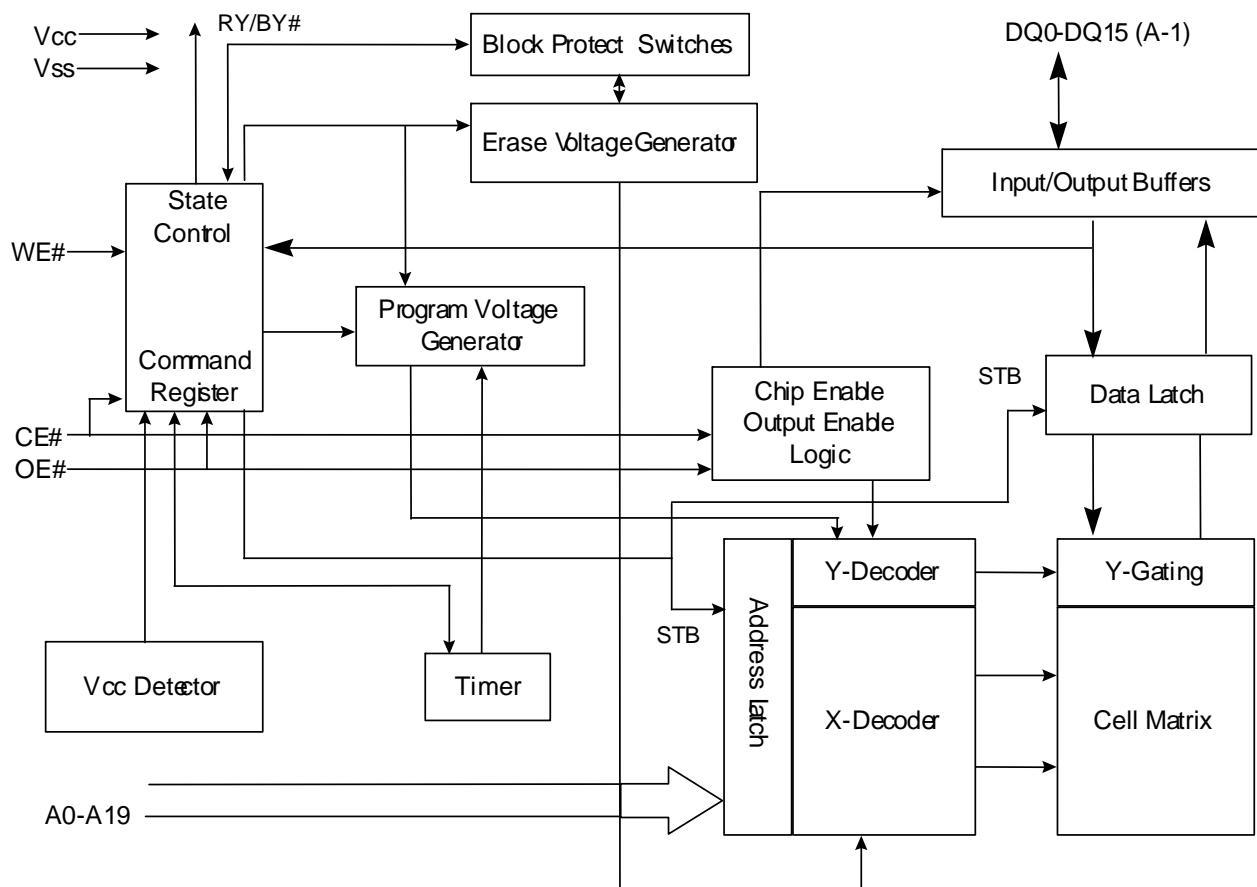
W9864G6JH-6 Pin description

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	VDD	Power	Power for input buffers and logic circuit inside DRAM.
44, 58, 72, 86	Vss	Ground	Ground for input buffers and logic circuit inside DRAM.
3, 9, 35, 41, 49, 55, 75, 81	VDDQ	Power for I/O Buffer	Separated power from VDD, to improve DQ noise immunity.
6, 12, 32, 38, 46, 52, 78, 84	VSSQ	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.

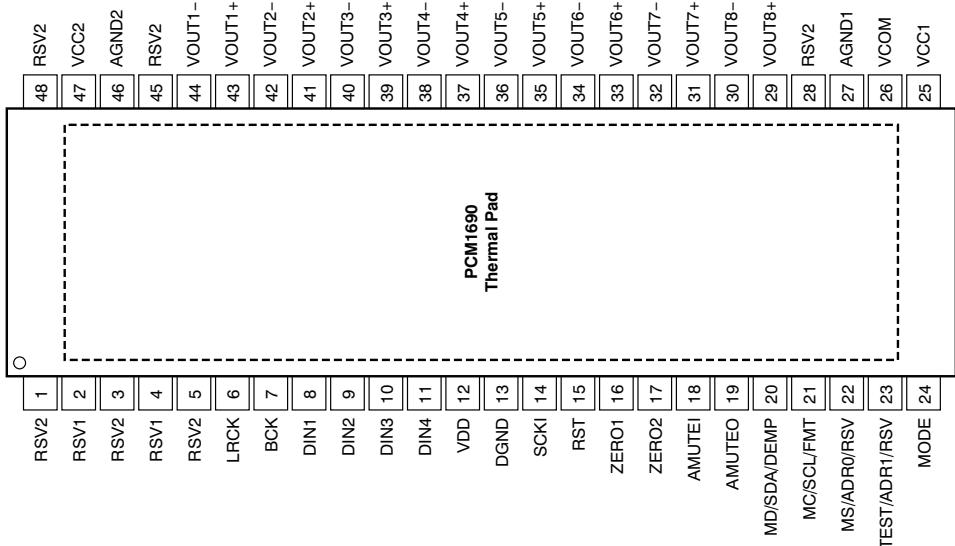
MX29LV160DBTI-70G (DIGITAL : IC793)



MX29LV160DBTI-70G Block Diagram



PCM1690 (DIGITAL : IC812)



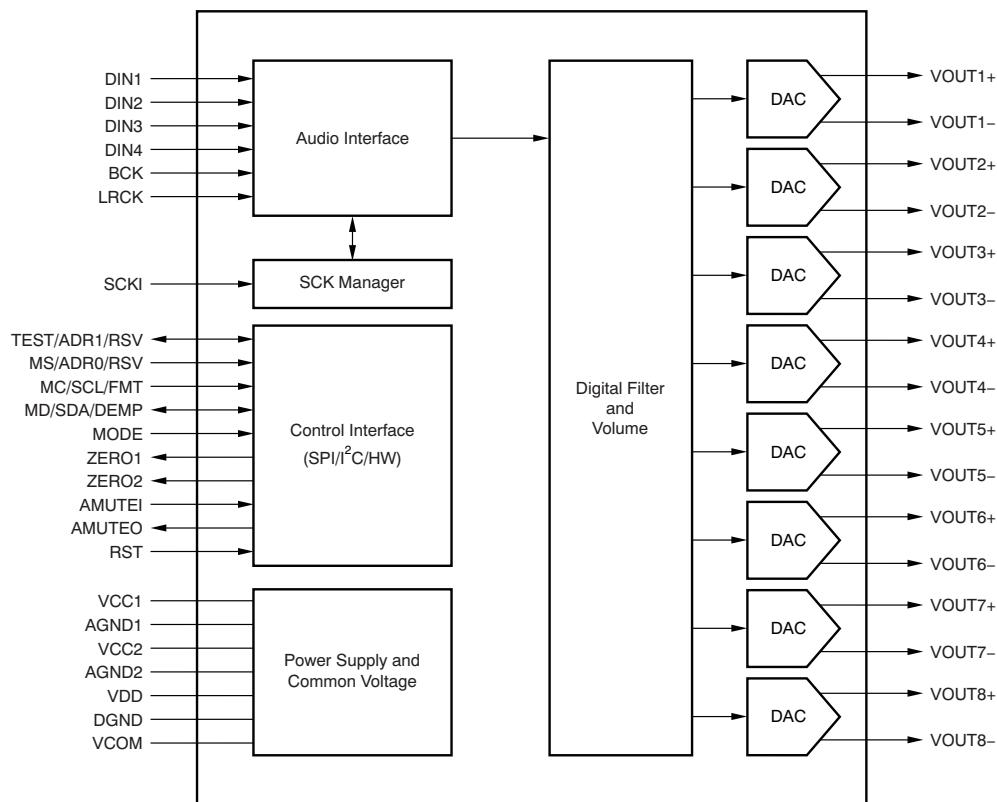
PCM1690 Pin Function

TERMINAL NAME	PIN	I/O	PULL-DOWN	5-V TOLERANT	DESCRIPTION
RSV2	1	—	—	—	Reserved, tied to analog ground
RSV1	2	—	—	—	Reserved, left open
RSV2	3	—	—	—	Reserved, tied to analog ground
RSV1	4	—	—	—	Reserved, left open
RSV2	5	—	—	—	Reserved, tied to analog ground
LRCK	6	I	Yes	No	Audio data word clock input
BCK	7	I	Yes	No	Audio data bit clock input
DIN1	8	I	No	No	Audio data input for DAC1 and DAC2
DIN2	9	I	No	No	Audio data input for DAC3 and DAC4
DIN3	10	I	No	No	Audio data input for DAC5 and DAC6
DIN4	11	I	No	No	Audio data input for DAC7 and DAC8
VDD	12	—	—	—	Digital power supply, +3.3 V
DGND	13	—	—	—	Digital ground
SCKI	14	I	No	Yes	System clock input
RST	15	I	Yes	Yes	Reset and power-down control input with active low
ZERO1	16	O	No	No	Zero detect flag output 1
ZERO2	17	O	No	No	Zero detect flag output 2
AMUTEI	18	I	No	Yes	Analog mute control input with active low
AMUTEO	19	O	No	Yes	Analog mute status output(1) with active low
MD/SDA/DEMP	20	I/O	No	Yes	Input data for SPI, data for I2C(1), de-emphasis control for hardware control mode
MC/SCL/FMT	21	I	No	Yes	Clock for SPI, clock for I2C, format select for hardware control mode
MS/ADR0/RSV	22	I	Yes	Yes	Chip Select for SPI, address select 0 for I2C, reserve (set low) for hardware control mode
TEST/ADR1/RSV	23	I/O	No	Yes	Test (factory use, left open) for SPI, address select 1 for I2C, reserve (set low) for hardware control mode
MODE	24	I	No	No	Control port mode selection. Tied to VDD: SPI, left open: H/W mode, tied to DGND: I2C
VCC1	25	—	—	—	Analog power supply 1, +5 V
VCOM	26	—	—	—	Voltage common decoupling
AGND1	27	—	—	—	Analog ground 1
RSV2	28	—	—	—	Reserved, tied to analog ground
VOUT8+	29	O	No	No	Positive analog output from DAC8
VOUT8-	30	O	No	No	Negative analog output from DAC8
VOUT7+	31	O	No	No	Positive analog output from DAC7
VOUT7-	32	O	No	No	Negative analog output from DAC7
VOUT6+	33	O	No	No	Positive analog output from DAC6
VOUT6-	34	O	No	No	Negative analog output from DAC6
VOUT5+	35	O	No	No	Positive analog output from DAC5
VOUT5-	36	O	No	No	Negative analog output from DAC5
VOUT4+	37	O	No	No	Positive analog output from DAC4
VOUT4-	38	O	No	No	Negative analog output from DAC4
VOUT3+	39	O	No	No	Positive analog output from DAC3
VOUT3-	40	O	No	No	Negative analog output from DAC3
VOUT2+	41	O	No	No	Positive analog output from DAC2
VOUT2-	42	O	No	No	Negative analog output from DAC2

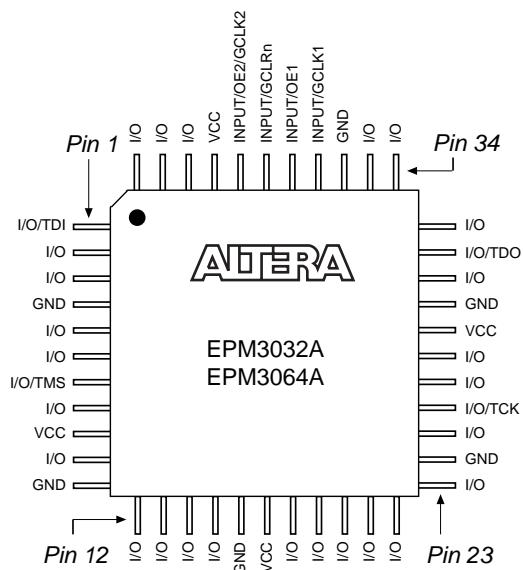
TERMINAL		I/O	PULL-DOWN	5-V TOLERANT	DESCRIPTION
NAME	PIN				
VOUT1+	43	O	No	No	Positive analog output from DAC1
VOUT1-	44	O	No	No	Negative analog output from DAC1
RSV2	45	—	—	—	Reserved, tied to analog ground
AGND2	46	—	—	—	Analog ground 2
VCC2	47	—	—	—	Analog power supply 2, +5 V
RSV2	48	—	—	—	Reserved, tied to analog ground

(1) Open-drain configuration in out mode.

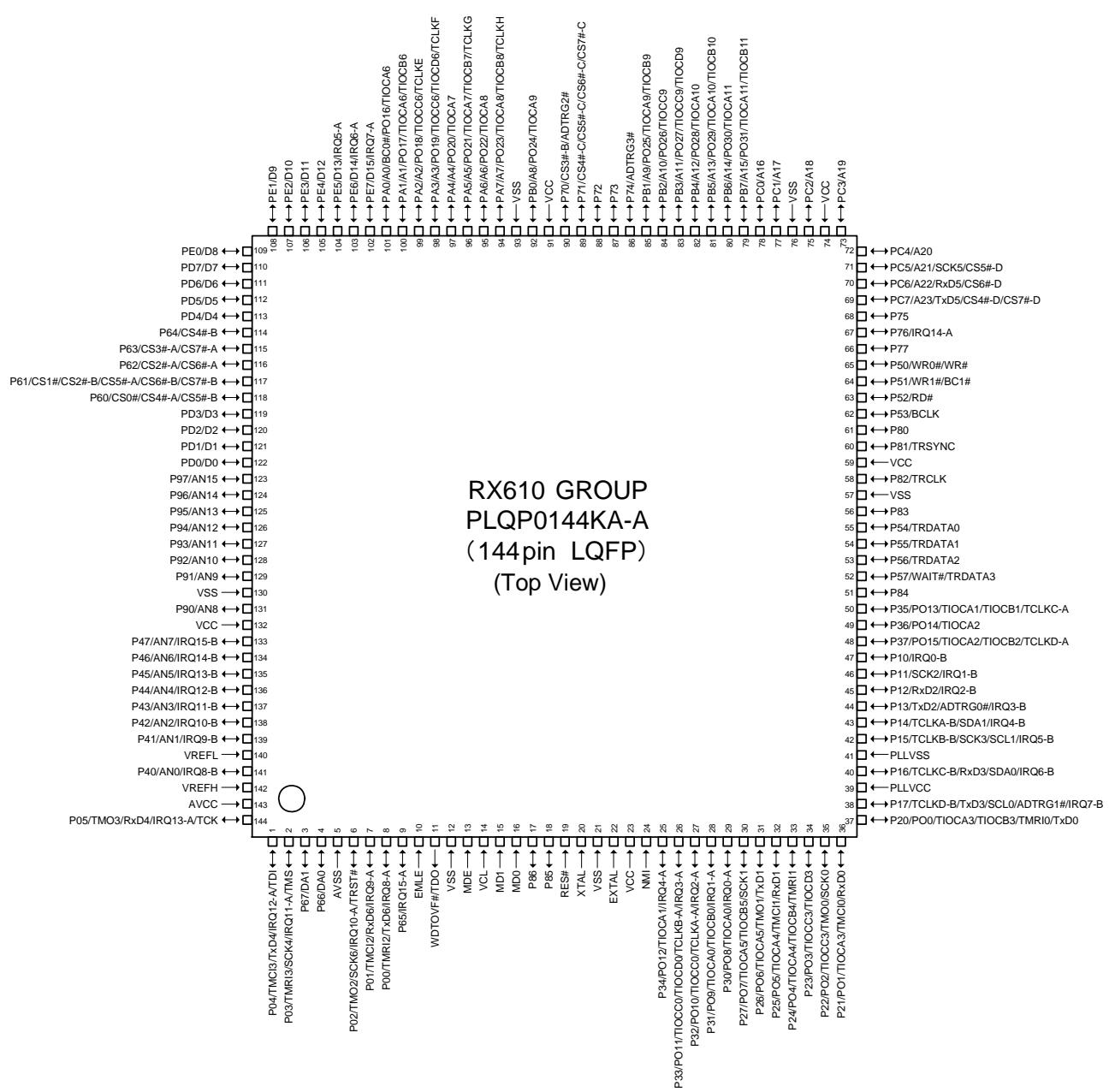
PCM1690 FUNCTIONAL BLOCK DIAGRAM



EPM3032A (DIGITAL : IC783)



R5F56108VNFP (DIGITAL : IC761)



R5F56108VNFP Terminal Functions

Pin	Pin Name	Symbol	I/O	Pu/Pd	LvCnv	STBY	STOP	CEC STBY	Function
1	P04/IRQ12-A/TMC13/TxD4/ATDI	NC	I/O/I	M3VPu	-	-/-I	-/-I	I	NC
2	P03/IRQ11-A/TMRI3/SCK4/TMS	NC	I/I	M3VPu	-	-/I	-/I	I	NC
3	P67/DA1	HIN SELA	O	-	-	L	L	L	TC4051 Control(for CEC Standby HDMI detect)
4	P66/DA0	HIN SELB	O	-	-	L	L	L	TC4051 Control(for CEC Standby HDMI detect)
5	AVSS	AVSS	-	-	-	-	-	-	GND
6	P02/IRQ10-A/TM02/SCK6/TRST#	NC	I/I	Pd	-	I/I	I/I	I	NC
7	P01/IRQ9-A/TMC12/RxD6	RXD MI232O	I	-	-	I	I	I	Data received from the external pin(AMX)/MITSUBISHI writer rewrite
8	P00/IRQ8-A/TMRI2/TxD6	TXD MO232I	O	-	-	L	L	L	Data transfer to external pin(AMX)/MITSUBISHI writer rewrite
9	P65/IRQ15-A	POWER KEY	I	M3VPu	-	I	I	I	POWER KEY (WAIT MODE cancel, interrupt port)
10	EMLE	EMLE	I	Pd	-	-	-	-	Emulator communication pin
11	WDTOVF#/TDO	TDO/WDTOVF#	O/O	-	-	-	-	-	Emulator communication pin

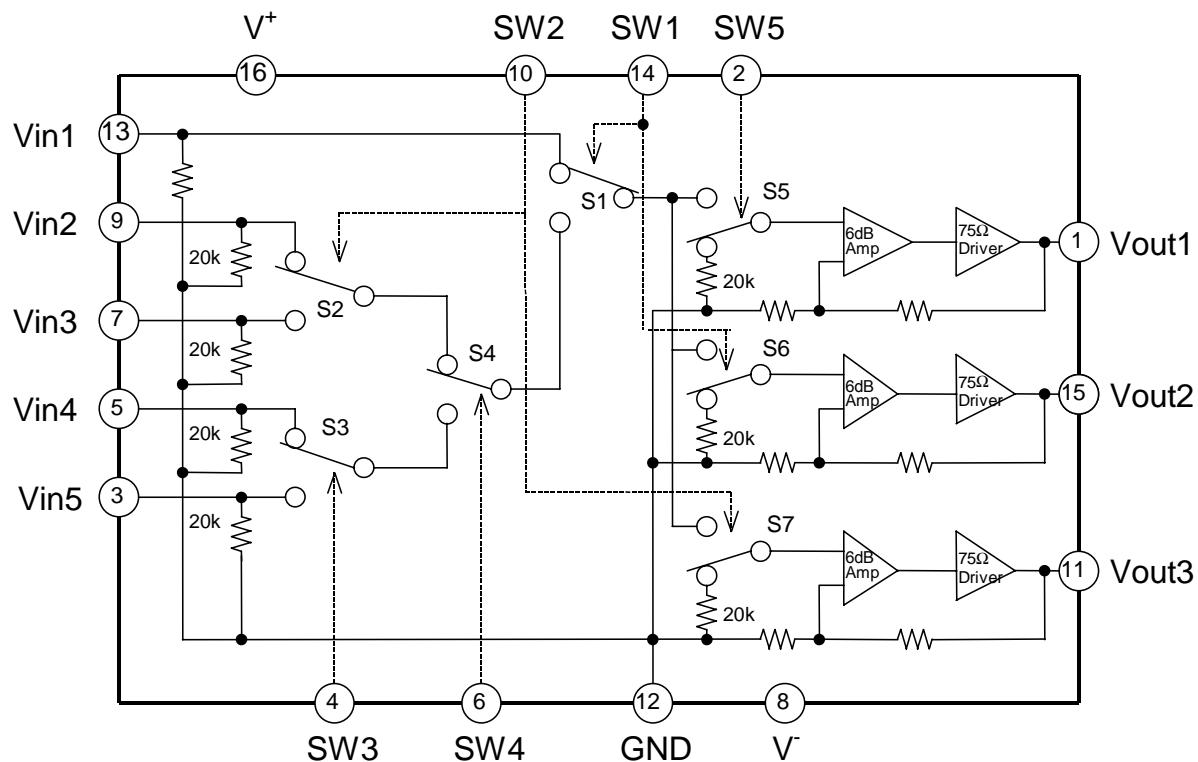
Pin	Pin Name	Symbol	I/O	Pu/Pd	LvCnv	STBY	STOP	CEC STBY	Function
12	VSS	VSS	I	-	-	-	-	-	GND
13	MDE	MDE	I	Pd	-	-	-	-	NC
14	VCL	VCL	I	-	-	-	-	-	Smoothing capacitor connection pin
15	MD1	MD1	I	M3VPu	-	-	-	-	NC
16	MD0	MD0	I	M3VPu	-	-	-	-	NC
17	P86	CEC POWER2	O	-	-	L	L	H	CEC Standby Mode=3 Control)
18	P85	NC	O	-	-	L	L	L	NC
19	RES#	RESET	I	-	-	-	-	-	Reset input pin (reset:L)
20	XTAL	XTAL	I	-	-	-	-	-	Clock input
21	VSS	VSS	-	-	-	-	-	-	GND
22	EXTAL	EXTAL	-	-	-	-	-	-	Clock output
23	VCC	VCC	-	-	-	-	-	-	+3.3V
24	NMI	NMI	I	M3VPu	-	-	-	-	NC
25	P34/IRQ4-A/PO12/ TIOCA1	BDOWN	I	-	-	I	I	I	Power failure detection pin(Power failure:L)
26	P33/IRQ3-A/PO11/ TIOCC0/TIOCD0/ TCLKB-A	PLDAERR	I	-	-	L	L	L	PLD ERROR detection pin
27	P32/IRQ2-A/PO10/ TIOCC0/TCLKA-A	NC	O	-	-	L	L	L	NC
28	P31/IRQ1-A/PO9/ TIOCA0/TIOCB0	ADV7623 INT1	I	-	-	I	I	I	HDMI transmitter /receiver / OSD (ADV7623) INT1 output pin
29	P30/IRQ0-A/PO8/ TIOCA0	RC IN	I	-	-	I	I	I	Remote Control Input
30	P27/PO7/TIOCA5/ TIOCB5/SCK1	DAC MUTE	O	-	-	L	L	L	DAC MUTE CONTROL (PCM1690)
31	P26/PO6/TIOCA5/ TMO1/TxD1	NC	O	-	-	L	L	L	NC
32	P25/PO5/TIOCA4/ TMC1/RxD1	NC	O	-	-	L	L	L	NC
33	P24/PO4/TIOCA4/ TIOCB4/TMRI1	TU RST	O	SW3VPu	-	L	L	L	TUNER Reset
34	P23/PO3/TIOCC3/ TIOCD3	E RESET	O (ODR)	N3VPu	-	L	L	L	ETHERNET RESET control pin (DM860A)
35	P22/PO2/TIOCC3/ TMO0/SCK0	E POWER	O	-	-	L	L	L	ETHERNET POWER SUPPLY (NET3.3V) control pin.(ON:H)
36	P21/PO1/TIOCA3/ TMC10/RxD0	E_RXDMIEO	I	N3VPu	-	I	I	I	ETHERNET communication control pin (DM860A)
37	P20/PO0/TIOCA3/ TIOCB3/TMRI0/TxD0	E_TXDMOEI	O	N3VPu	-	L	L	L	ETHERNET communication control pin (DM860A)
38	P17/IRQ7-B/ TCLKD-B/TxD3/ SCL0/ADTRG1#	TU SCLK	O	-	-	L	L	L	TUNER control pin
39	PLLVCC	PLLVCC	-	-	-	-	-	-	+3.3V
40	P16/IRQ6-B/ TCLKC-B/RxD3/ SDA0	TU SDIO	I_O	-	-	L	L	L	TUNER control pin
41	PLLVSS	PLLVSS	-	-	-	-	-	-	GND
42	P15/IRQ5-B/ TCLKB-B/SCK3/ SCL1	HSCL (400k)	O	CEC3VPu	-	L	L	L	I2C-SCL(ADV7623/ADV3002)
43	P14/IRQ4-B/ TCLKA-B/SDA1	HSDA (400k)	I_O	CEC3VPu	-	L	L	L	I2C-SDA(ADV7623/ADV3002)
44	P13/IRQ3-B/TxD2/ ADTRG0#	ADV7623 SPI MO	O	-	-	L	L	L	OSD control pin (ADV7623)
45	P12/IRQ2-B/RxD2	ADV7623 SPI MI	I	-	-	L	L	L	OSD control pin (ADV7623)
46	P11/IRQ1-B/SCK2	ADV7623 SPI CLK	O	-	-	L	L	L	OSD control pin (ADV7623)
47	P10/IRQ0-B	ADV7623 SPI CS	O	-	-	L	L	L	OSD control pin (ADV7623)
48	P37/PO15/TIOCA2/ TIOCB2/TCLKD-A	EEPROM SDA	I_O	M3VPu	-	I	I	I	EEPROM control pin
49	P36/PO14/TIOCA2	EEPROM SCL	O	M3VPu	-	I	I	I	EEPROM control pin
50	P35/PO13/TIOCA1/ TIOCB1/TCLKC-A	NC	O	-	-	L	L	L	NC
51	P84	CEC_OUT	O	-	-	L	L	-	CEC-D signal input pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	LvCnv	STBY	STOP	CEC STBY	Function
52	P57/WAIT#/TRDATA3	ADV3002 RST	O	SW3VPu	-	L	L	L	RESET control pin (ADV3002)
53	P56/TRDATA2	E SPI MOEI	O	N3VPu	-	L	L	L	ETHERNET communication control pin (DM860A)
54	P55/TRDATA1	ADV7623 RST	O	SW3VPu	-	L	L	L	HDMI Tx/Rx/OSD RESET control pin (ADV7623)
55	P54/TRDATA0	E SPI MIEO	I	N3VPu	-	I	L	I	ETHERNET communication control pin (DM860A)
56	P83	E SPI CLK	O	N3VPu	-	L	L	L	ETHERNET communication control pin (DM860A)
57	VSS	VSS	-	-	-	-	-	-	GND
58	P82/TRCLK	FL CE	O	-	-	L	L	L	FL Chip Enable Control
59	VCC	VCC	-	-	-	-	-	-	+3.3V
60	P81/TRSYNC	FL RST	O	-	-	L	L	L	FL Reset Control
61	P80	VIN A	O	-	3->5	L	L	L	CVBS Select(NJM2595)
62	BCLK/P53(Input only)	NC	I	-	-	-	-	-	NC
63	P52/RD#	EV SCL	O	-	-	L	L	L	SLI 11131 CONTROL
64	P51/WR1#/BC1#	EV SDA	O	-	-	L	L	L	SLI 11131 CONTROL
65	P50/WR0#/WR#	NC	O	-	-	L	L	L	NC
66	P77	VIN B	O	-	3->5	L	L	L	CVBS Select(NJM2595)
67	P76/IRQ14-A	TU GPO2_INT	I	-	-	L	L	L	TUNER GPIO2 input pin
68	P75	DSP ROMRST	O	-	-	I	I	I	Memory reset for DSP (Reset : L)
69	PC7/A23/CS4#/D- CS7#/D/TxD5	DSP MOSI	O	DA3VPu	-	L	L	L	DSP control pin (ADSP21487KSWZ-2B)
70	PC6/A22/CS6#/D- RxD5	DSP MISO	I	DA3VPu	-	L	L	L	DSP control pin (ADSP21487KSWZ-2B)
71	PC5/A21/CS5#/D- SCK5	DSPI CLK	O	DA3VPu	-	L	L	L	DSP control pin (ADSP21487KSWZ-2B)
72	PC4/A20	DSP RST	O	-	-	L	L	L	DSP(ADSP21487KSWZ-2B) reset output pin (Reset : L)
73	PC3/A19	DSP FLAG0	I	Pd	-	L	L	L	DSP control pin (ADSP21487KSWZ-2B)
74	VCC	VCC	-	-	-	-	-	-	+3.3V
75	PC2/A18	DSP ICS	O	DA3VPu	-	L	L	L	DSP control pin (ADSP21487KSWZ-2B)
76	VSS	VSS	-	-	-	-	-	-	GND
77	PC1/A17	GRN LED	O	-	-	L	L	L	POWER LED control pin(ON:H)
78	PC0/A16	RED LED	O	-	-	L/H	L	H	POWER/STANDBY LED control pin (ON:H)
79	PB7/A15/PO31/ TIOCA11/TIOCB11	H/P RL	O	-	-	L	L	L	HEADPHONE RELAY Control
80	PB6/A14/PO30/ TIOCA11	FRONT RL	O	-	-	L	L	L	SPEAKER FRONT RELAY Control
81	PB5/A13/PO29/ TIOCA10/TIOCB10	HIN SELC	O	-	-	L	L	L	TC4051 Control(for CEC Standby HDMI detect)
82	PB4/A12/PO28/ TIOCA10	TU_SEN	O	-	-	L	L	L	TUNER control pin
83	PB3/A11/PO27/ TIOCC9/TIOCD9	C/S RL	O	-	-	L	L	L	SPEAKER CEN/SURR RELAY Control
84	PB2/A10/PO26/ TIOCC9	NC	O	-	-	L	L	L	NC
85	PB1/A9/PO25/ TIOCA9/TIOCB9	D5V POWER	O	-	-	L	L	H	Digital 5V power supply control pin(5→3.3V,1.8V)
86	P74/ADTRG3#	DIR CE	O	-	-	L	L	L	DIR control pin (PCM9211)
87	P73	DIR DIN	O	-	-	L	L	L	DIR control pin (PCM9211)
88	P72	DIR DOUT	I	DA3VPu	-	I	I	I	DIR control pin (PCM9211)
89	P71/CS4#/C- CS5#/C/CS6#/C- CS7#/C-	DIR CLK	O	-	-	L	L	L	DIR control pin (PCM9211)
90	P70/CS3#/B- ADTRG2#	DIR RST	O	-	-	L	L	L	DIR control pin (PCM9211)
91	VCC	VCC	-	-	-	-	-	-	+3.3V
92	PB0/A8/PO24/ TIOCA9	7623 ROM HOLD	O	-	-	L	L	L	SPI FLASH ROM HOLD control pin (ADV7623)
93	VSS	VSS	-	-	-	-	-	-	GND
94	PA7/A7/PO23/ TIOCA8/TIOCB8/ TCLKH	NC	O	-	-	L	L	L	NC
95	PA6/A6/PO22/ TIOCA8	VSEL A	I	-	-	I	I	I	Master Volume rotation detection pin(Rotary encoder)

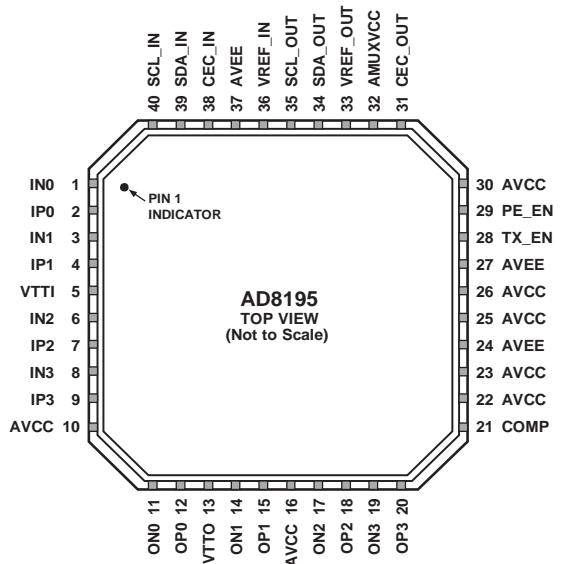
Pin	Pin Name	Symbol	I/O	Pu/Pd	LvCnv	STBY	STOP	CEC STBY	Function
96	PA5/A5/PO21/ TIOCA7/TIOCB7/ TCLKG	VSEL B	I	-	-	I	I	I	Master Volume rotation detection pin(Rotary encoder)
97	PA4/A4/PO20/ TIOCA7	NC	O	-	-	L	L	L	NC
98	PA3/A3/PO19/ TIOCC6/TIOCD6/ TCLKF	NC	O	-	-	L	L	L	NC
99	PA2/A2/PO18/ TIOCC6/TCLKE	PRE Z2 MUTE(X1000 E3)/NC(Except X1000 E3)	O/O	-	-	L	L	L	ZONE2 PRE OUT MUTE control pin
100	PA1/A1/PO17/ TIOCA6/TIOCB6	NC	O	-	-	L	L	L	NC
101	PA0/A0/BC0#/PO16/ TIOCA6	PRE MUTE	O	-	-	L	L	L	PRE SW OUT MUTE control pin
102	PE7/IRQ7-A/D15	ADV7623 INT2	I	-	-	I	I	I	HDMI RECEIVER INT2 output pin (ADV7623)
103	PE6/IRQ6-A/D14	ADV7623 Tx INT	I	-	-	I	I	I	HDMI signal detection pin (ADV7623)
104	PE5/IRQ5-A/D13	NC	O	-	-	L	L	L	NC
105	PE4/D12	NC (E300) ISEL_A(X1000)	I/O	-	-	I/L	I/L	I/L	INPUT SELECTOR (ROTARY ENCODER)
106	PE3/D11	NC (E300) ISEL_B(X1000)	I/O	-	-	I/L	I/L	I/L	INPUT SELECTOR (ROTARY ENCODER)
107	PE2/D10	VOL CLK	O	-	-	L	L	L	FUNCTION/VOLUME control pin(NJU72340A)
108	PE1/D9	VOL DATA	O	-	-	L	L	L	FUNCTION/VOLUME control pin(NJU72340A)
109	PE0/D8	PLD WRITE	O	-	-	L	L	L	A.PLD /JTAG switching control pin
110	PD7/D7	JTAG TDO	I	-	-	L	L	L	A.PLD rewriting control pin(JTAG)
111	PD6/D6	JTAG TMS/ APLD CS	O/O	-	-	L	L	L	A.PLD rewriting & control pin
112	PD5/D5	JTAG TDI/ APLD DATA/ DAC DATA	O/O	-	-	L	L	L	A.PLD rewriting & control /DAC control pin
113	PD4/D4	JTAG TCK/ APLD CLK/ DAC CLK	O/O	-	-	L	L	L	A.PLD rewriting & control /DAC control pin
114	P64/CS4#-B	NC	O	-	-	L	L	L	NC
115	P63/CS3#-A/CS7#-A	THERMAL A	I	-	-	L	L	L	PROTECTION Detect(THERMAL A)
116	P62/CS2#-A/CS6#-A	E SPI CS	O	N3VPu	-	L	L	L	ETHERNET communication control pin(DM860A)
117	P61/CS1#/CS2#-B/ CS5#-A/CS6#-B/ CS7#-B	DAC MS	O	-	-	L	L	L	D/A converter control pin(PCM1690)
118	P60/CS0#/CS4#-A/ CS5#-B	DAC RST	O	-	-	L	L	L	D/A converter control pin(PCM1690)
119	PD3/D3	NC	O	-	-	L	L	L	NC
120	PD2/D2	NC	O	-	-	L	L	L	NC
121	PD1/D1	FL CLK	O	-	-	L	L	L	FL Control Pin
122	PD0/D0	FL DATA	O	-	-	L	L	L	FL Control Pin
123	P97/AN15	DA POWER	O	-	-	L	L	L	Digital power supply (DA3.3V & DA1.2V) control pin (ON:H)
124	P96/AN14	CEC POWER	O	-	-	L	L	H	CEC power supply (CEC5V & CEC3.3V & CEC1.8V) control pin for CEC STANDBY.
125	P95/AN13	DV POWER1	O	-	-	L	L	*	Digital (VIDEO) power supply (DV5V & DV3.3V) control pin. *CEC STANDBY:MODE1=H, MODE2=L
126	P94/AN12	THERMAL B	I	-	-	L	L	L	PROTECTION Detect(THERMAL B)
127	P93/AN11	MAIN POWER	O	-	-	L	L	L	MAIN POWER control pin
128	P92/AN10	CPU POWER	O	-	-	L	L	L	MAIN CPU POWER pin (POWER ON: H CEC ON = STANDBY: H)
129	P91/AN9	Tx EN	O	-	-	L	L	L	Front HDMI(AD8195) Chip Enable
130	VSS	VSS	-	-	-	-	-	-	GND
131	P90/AN8	MODE	I	-	-	I	I	I	MODEL switch input pin (No assign)
132	VCC	VCC	-	-	-	-	-	-	+3.3V
133	P47/IRQ15-B/AN7	DC DET/ASO	I	-	-	I	I	I	PROTECTION Detect(DC DET)/(ASO)
134	P46/IRQ14-B/AN6	H/P DET / MIC DET	I	-	-	I	I	I	Headphone Detect/MIC Detect
135	P45/IRQ13-B/AN5	KEY3	I	SW3VPu	-	I	I	I	Button input 3

Pin	Pin Name	Symbol	I/O	Pu/Pd	LvCnv	STBY	STOP	CEC STBY	Function
136	P44/IRQ12-B/AN4	KEY2	I	SW3VPu	-	I	I	I	Button input 2
137	P43/IRQ11-B/AN3	KEY1	I	SW3VPu	-	I	I	I	Button input 1
138	P42/IRQ10-B/AN2	E SPI REQ	I	Pd	-	I	L	I	ETHERNET communication control pin(DM860A)
139	P41/IRQ9-B/AN1	H5V DET	I	-	-	I	I	I	HDMI INPUT 5V (for EDID / HOT PLUG) detection pin
140	AVSS	AVSS	-	-	-	-	-	-	GND
141	P40/IRQ8-B/AN0	CEC_IN	I	SW3VPu	-	I	I	I	CEC-D signal input pin
142	VREF	VREF	-	-	-	-	-	-	Reference voltage (+3.3V) input pin for A/D port
143	AVCC	AVCC	-	-	-	-	-	-	+3.3V
144	P05/IRQ13-A/TMO3/RxD4/TCK	TCK/RXD MITSUBISHI/ NC(NORMRAL)	I/I/I	M3VPu	-	-/-I	-/-I	I	NC

NJM2595M (DIGITAL : IC901)



AD8195 (F-HDMI : IC871)

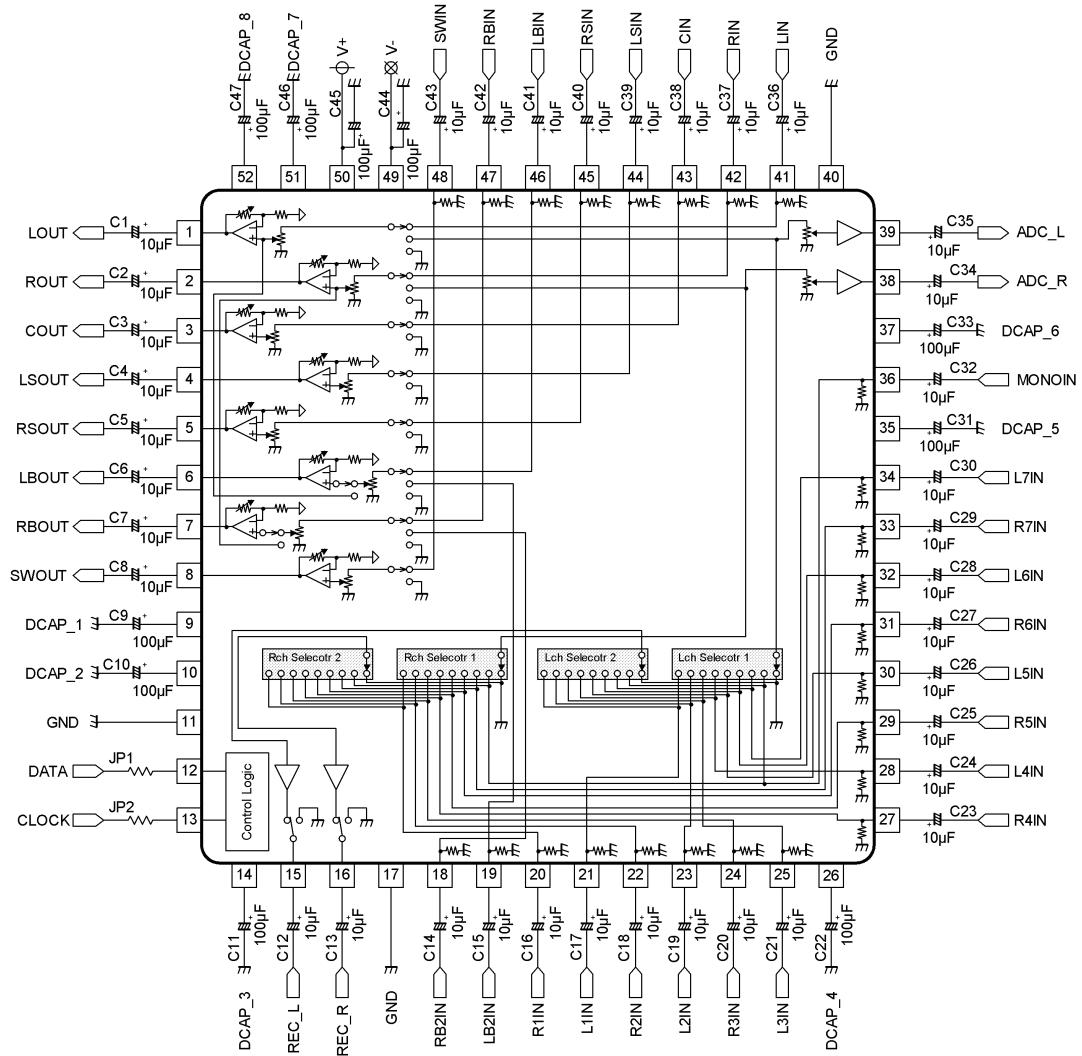


AD8195 Terminal Functions

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 μ F 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.
33	VREF_OUT	Reference	DDC Output Side Pull-Up Reference Voltage.
34	SDA_OUT	LS I/O	DDC Output Side Data Line Input/Output.
35	SCL_OUT	LS I/O	DDC Output Side Clock Line Input/Output.
36	VREF_IN	Reference	DDC Input Side Pull-Up Reference Voltage.
38	CEC_IN	LS I/O	CEC Input Side.
39	SDA_IN	LS I/O	DDC Input Side Data Line.
40	SCL_IN	LS I/O	DDC Input Side Clock Line

¹ HS = high speed, LS = low speed, I = input, and O = output.

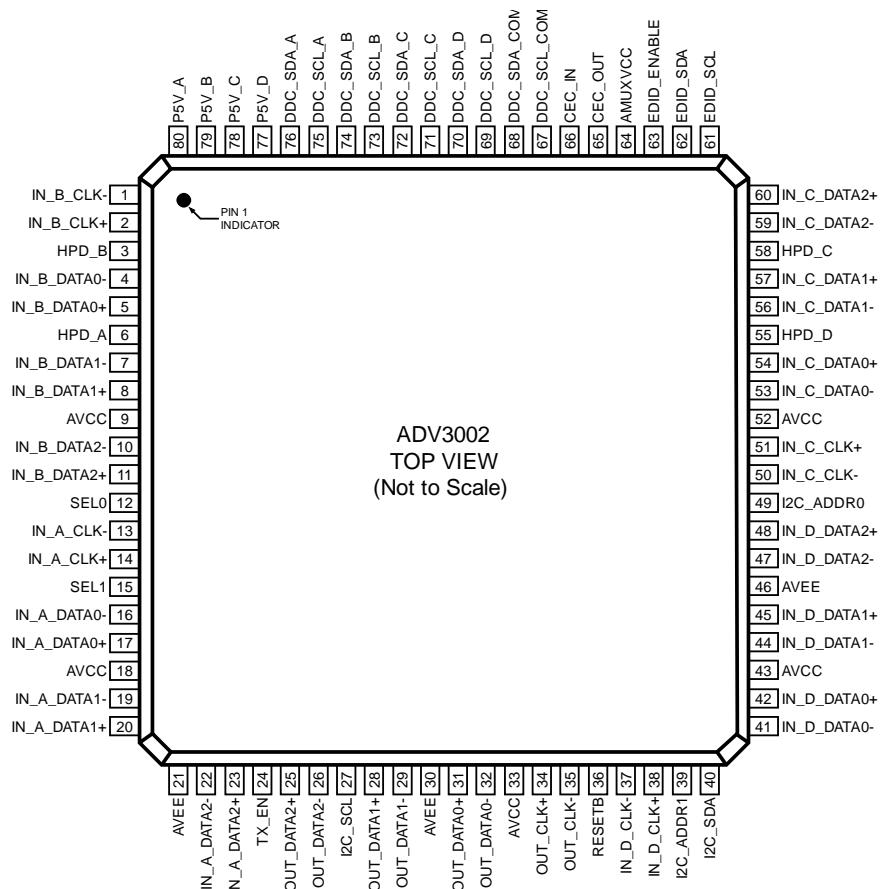
NJU72340A (DIGITAL :IC891)



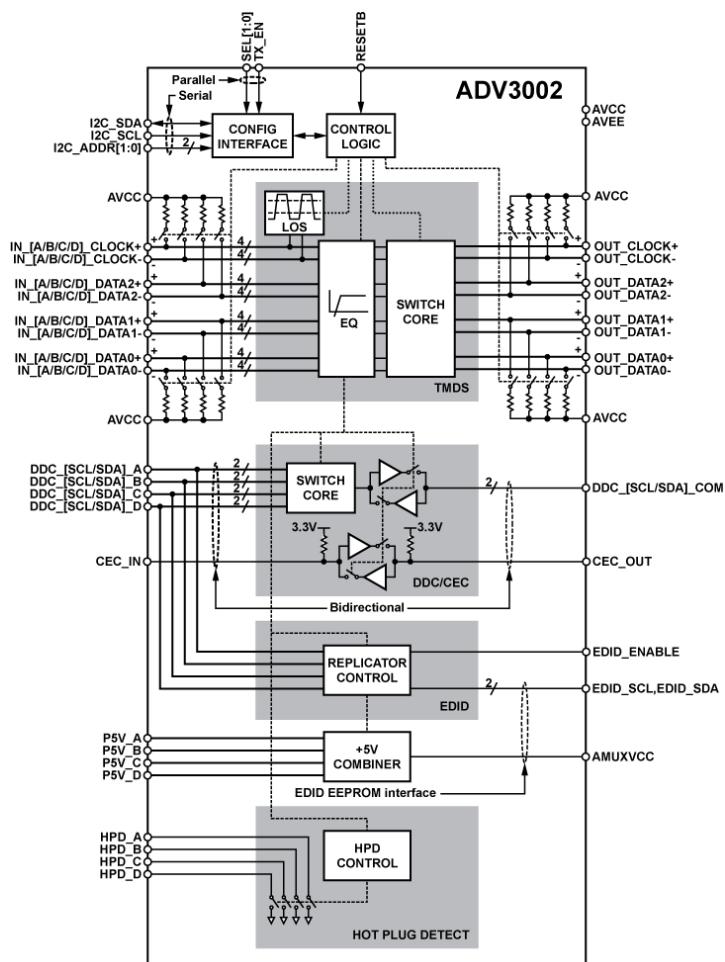
NJU72340A Terminal Functions

Pin No.	SYMBOL						
1	LOUT	14	DCAP_3	27	R4IN	40	GND
2	ROUT	15	REC_R	28	L4IN	41	LIN
3	COUT	16	REG_L	29	R5IN	42	RIN
4	LSOUT	17	GND	30	L5IN	43	CIN
5	RSOUT	18	RB2IN	31	R6IN	44	LSIN
6	LBOUT	19	LB2IN	32	L6IN	45	RSIN
7	RBOUT	20	R1IN	33	R7IN	46	LBIN
8	SWOUT	21	L1IN	34	L7IN	47	RBIN
9	DCAP_1	22	R2IN	35	DCAP_5	48	SWIN
10	DCAP_2	23	L2IN	36	MONOIN	49	V ⁻
11	GND	24	R3IN	37	DCAP_6	50	V ⁺
12	DATA	25	L3IN	38	ADC_R	51	DCAP_7
13	CLOCK	26	DCAP_4	39	ADC_L	52	DCAP_8

ADV3002BSTZ (DIGITAL : IC711)



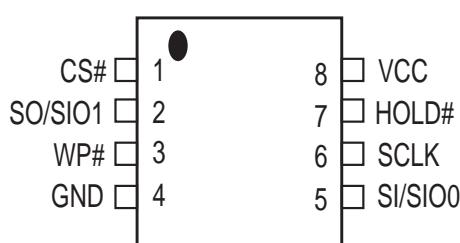
ADV3002BSTZ Block diagram



DIGITAL : IC722

MX25L3206EM2I-12G (except : E2)

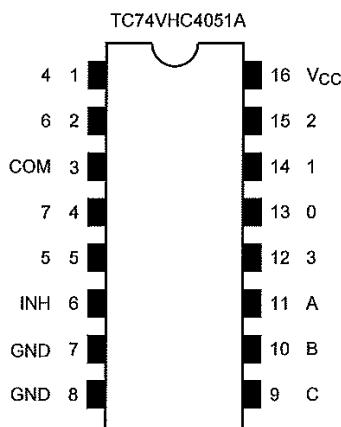
MX25L6406EM2I-12G (ONLY E2)



PIN DESCRIPTION

SYMBOL	DESCRIPTION
CS#	Chip Select
SI/SIO0	Serial Data Input (for 1 x I/O)/ Serial Data Input & Output (for Dual Output mode)
SO/SIO1	Serial Data Output (for 1 x I/O)/ Serial Data Output (for Dual Output mode)
SCLK	Clock Input
WP#	Write protection
HOLD#	Hold, to pause the device without deselecting the device
VCC	+ 3.3V Power Supply
GND	Ground

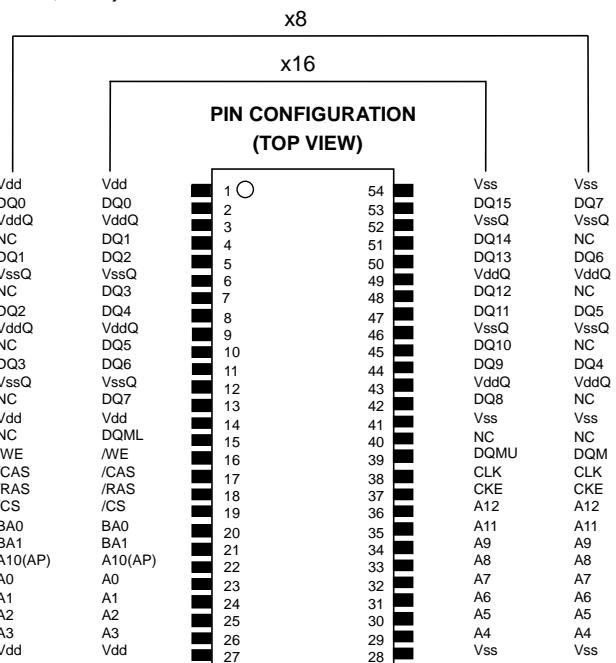
74VHC4051A (DIGITAL : IC724)



Control Inputs				“ON” Channel
Inhibit	C	B	A	TC74VHC4051A
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	None

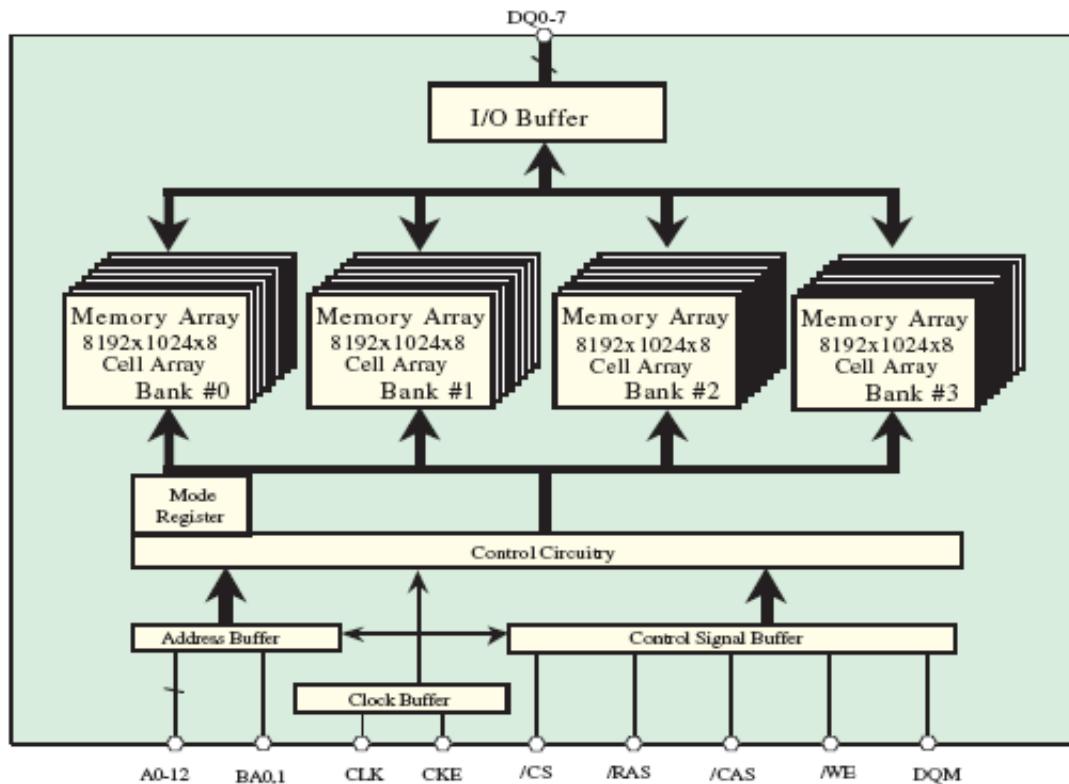
X: Don't care,

A3V56S30FTP (DIGITAL : IC833,834)



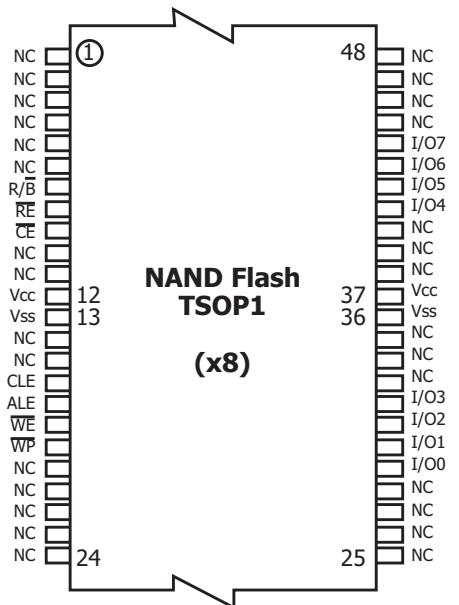
CLK	: Master Clock	DQM	: Output Disable / Write Mask (A3V56S30FTP)
CKE	: Clock Enable	DQMUL	: Output Disable / Write Mask (A3V56S40FTP)
/CS	: Chip Select	A0-12	: Address Input
/RAS	: Row Address Strobe	BA0,1	: Bank Address
/CAS	: Column Address Strobe	Vdd	: Power Supply
/WE	: Write Enable	VddQ	: Power Supply for Output
DQ0-7	: Data I/O (A3V56S30FTP)	Vss	: Ground
DQ0-15	: Data I/O (A3V56S40FTP)	VssQ	: Ground for Output

A3V56S30FTP Pin Function



Note: This figure shows the A3V56S30FTP
The A3V56S40FTP configuration is 8192x512x16 of cell array and DQ0-15

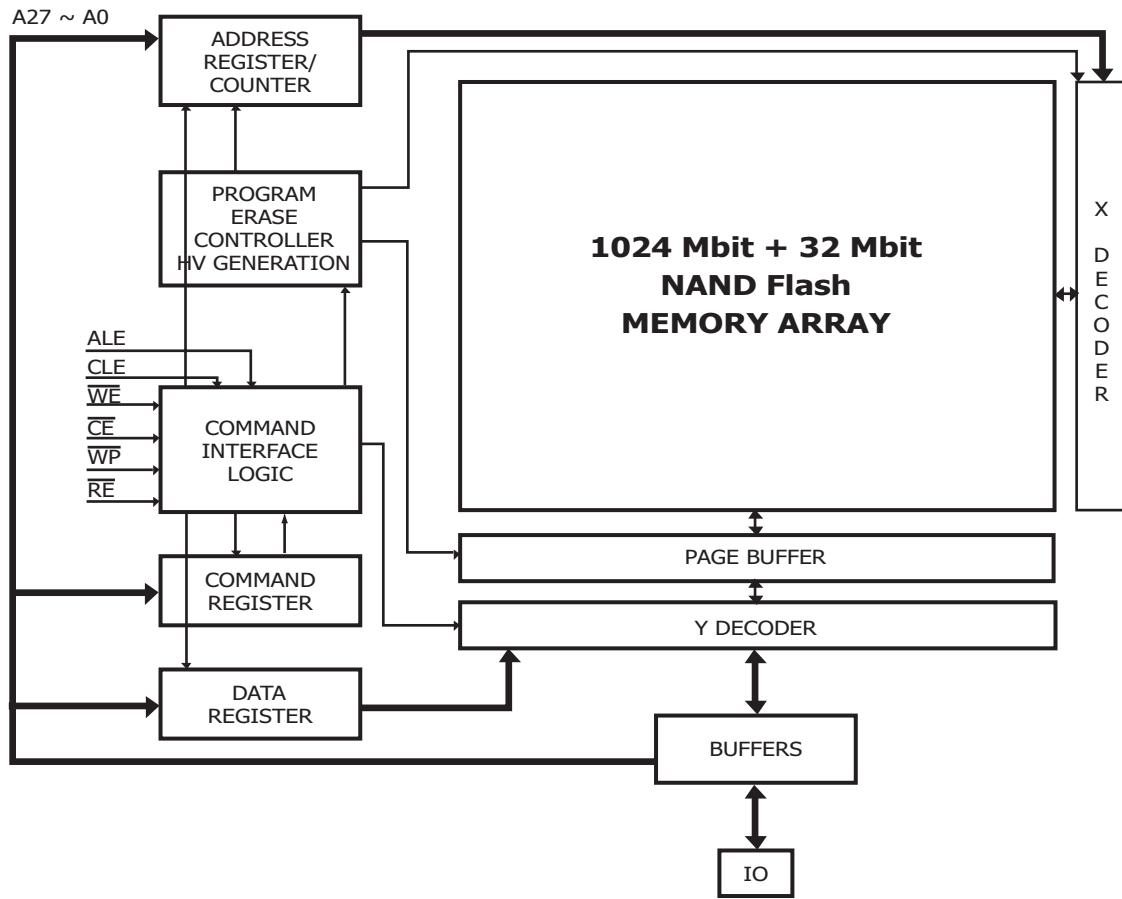
H27U1G8F2BTR-BC (DIGITAL : IC 832)



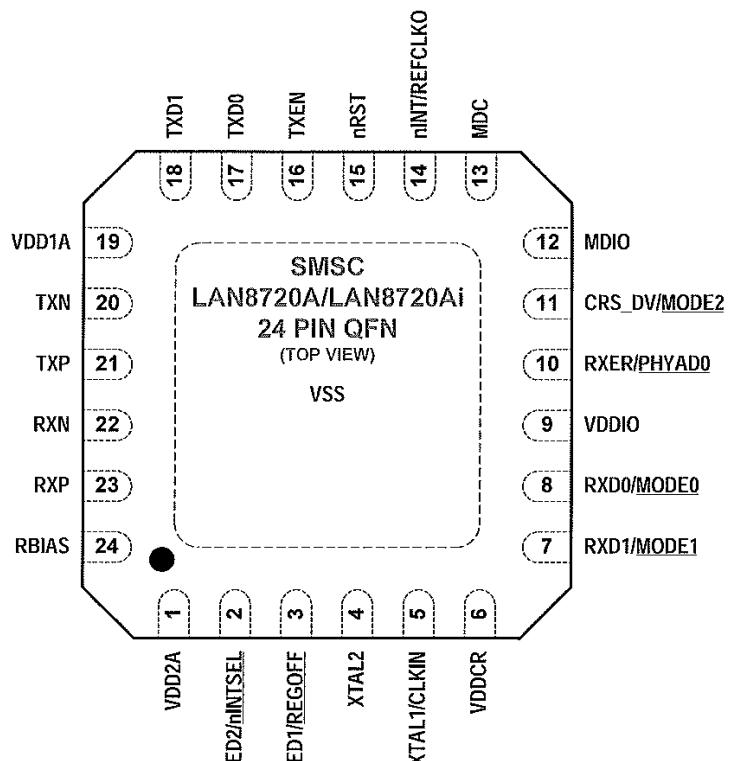
H27U1G8F2BTR-BC Pin Function

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 (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 (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 (WE).
CE	CHIP ENABLE This input controls the selection of the device.
WE	WRITE ENABLE This input acts as clock to latch Command, Address and Data. The IO inputs are latched on the rise edge of WE.
RE	READ ENABLE The 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 RE which also increments the internal column address counter by one.
WP	WRITE PROTECT The WP pin, when Low, provides an Hardware protection against undesired modify (program / erase) operations.
R/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

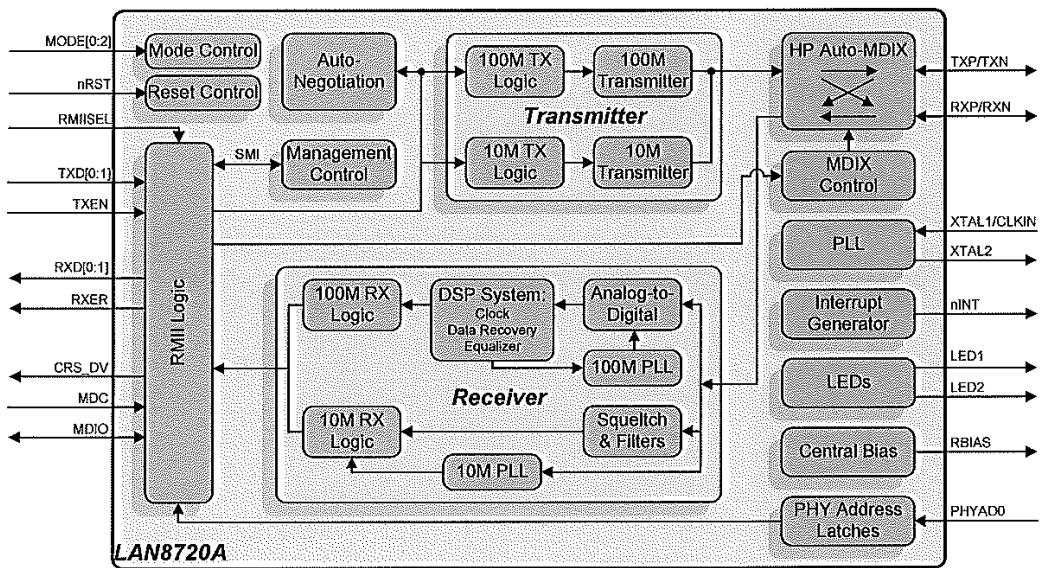


LAN8720A (DIGITAL : IC851)



LAN8720A Terminal Functions

PIN NUM	PIN NAME	PIN NUM	PIN NAME
1	VDD2A	13	MDC
2	LED2/nINTSEL	14	nINT/REFCLKO
3	LED1/REGOFF	15	nRST
4	XTAL2	16	TXEN
5	XTAL1/CLKIN	17	TXD0
6	VDDCR	18	TxD1
7	RXD1/MODE1	19	VDD1A
8	RXD0/MODE0	20	TXN
9	VDDIO	21	TXP
10	RXER/PHYAD0	22	RXN
11	CRS_DV/MODE2	23	RXP
12	MDIO	24	RBIAS



PCM5100 (DIGITAL : IC855(AVR-X1000 E3 only))

PCM510X (top view)

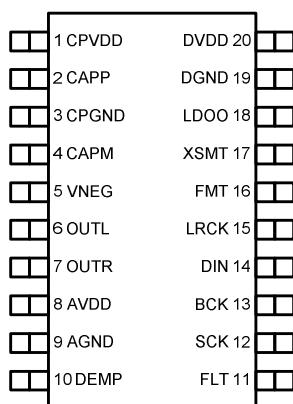
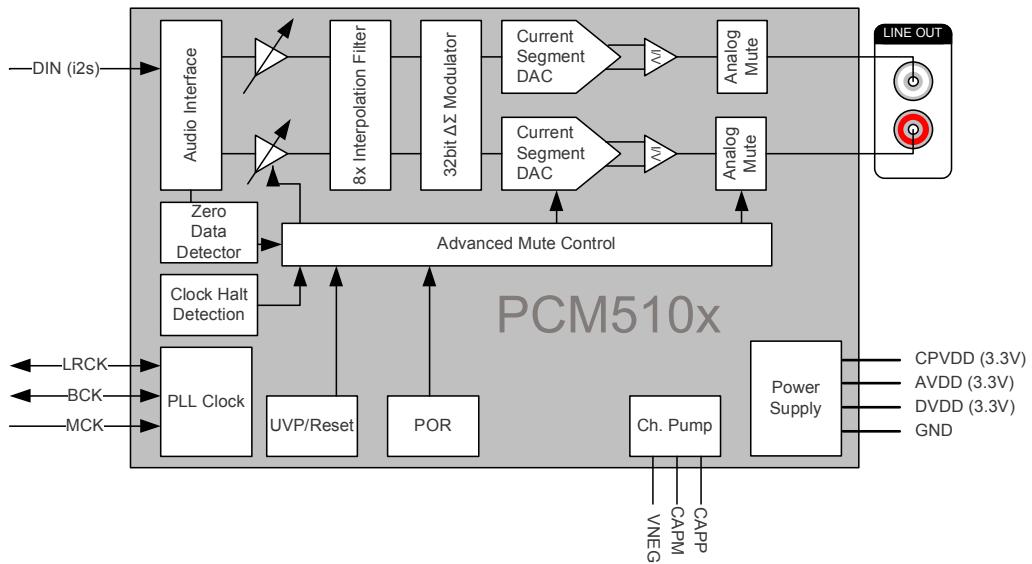


Table 2. TERMINAL FUNCTIONS, PCM510x

TERMINAL NAME	I/O NO.	DESCRIPTION
CPVDD	1	- Charge pump power supply, 3.3V
CAPP	2	O Charge pump flying capacitor terminal for positive rail
CPGND	3	- Charge pump ground
CAPM	4	O Charge pump flying capacitor terminal for negative rail
VNEG	5	O Negative charge pump rail terminal for decoupling, -3.3V
OUTL	6	O Analog output from DAC left channel
OUTR	7	O Analog output from DAC right channel
AVDD	8	- Analog power supply, 3.3V
AGND	9	- Analog ground
DEMP	10	I De-emphasis control for 44.1kHz sampling rate ⁽¹⁾ : Off (Low) / On (High)
FLT	11	I Filter select : Normal latency (Low) / Low latency (High)
SCK	12	I System clock input
BCK	13	I Audio data bit clock input
DIN	14	I Audio data input
LRCK	15	I Audio data word clock input
FMT	16	I Audio format selection : I ² S (Low) / Left justified (High)
XSMT	17	I Soft mute control : Soft mute (Low) / soft un-mute (High)
LDOO	18	- Internal logic supply rail terminal for decoupling
DGND	19	- Digital ground
DVDD	20	- Digital power supply, 3.3V

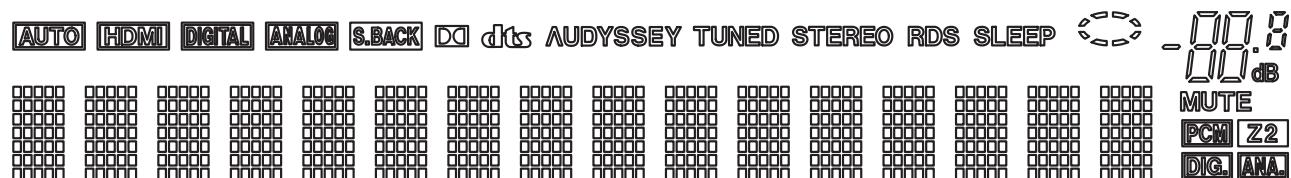
(1) Failsafe LVC MOS Schmitt trigger input

PCM5100 Block diagram



2. FL DISPLAY

FLD (018BT021GINK) (FRONT : FL101)



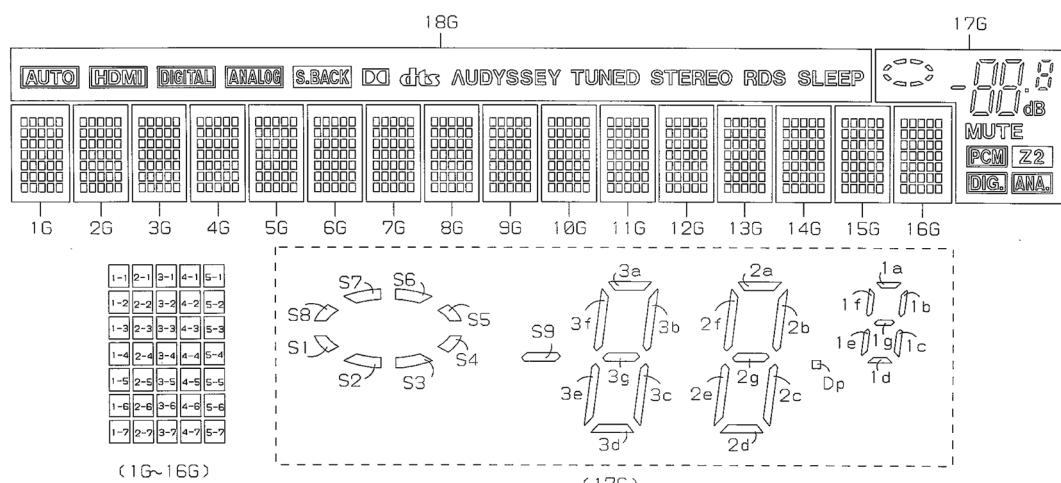
PIN CONNECTION

PIN NO.	55 76	55 54	55 43	55 21
CONNECTION		LPI	GG	
F	NNN	NNN	NNV	
2PP	PPP	PDDH		

PIN NO.	54 09	44 87	44 76	44 55	44 43	44 21	44 10	33 98	33 87	33 76	33 54	33 43	33 21	32 09	22 98	22 76	22 54	22 43	21 21	21 09	11 87	11 76	11 54	11 43	11 21	11 09	87 87	65 76	54 54	32 32 1			
CONNECTION	V	O	S	-	R	E	T	S	C	D	I	T	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Q	Q	
D	S	I	P	A	B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	GG	GG		
C	T	S	P	A	B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	P	P		

- NOTE
- 1) F1,F2 --- Filament
 - 2) NP ----- No pin
 - 3) DL ----- Datum Line
 - 4) NX ----- No extend pin
 - 5) LGND ----- Logic GND pin
 - 6) PGND ----- Power GND pin
 - 7) VH ----- High Voltage Supply pin
 - 8) VDD ----- Logic Voltage Supply pin
 - 9) CP ----- Shift Register Clock
 - 10) DA ----- Serial Data Input
 - 11) TSA,B --- Test pin
 - 12) CS ----- Chip Select Input pin
 - 13) RESET --- Reset Input
 - 14) OSC ----- Pin for self-oscillation
 - 15) Solder composition is Sn-3Ag-0.5Cu.
 - 16) 17G,18G ----- Grid
 - 17) Q17G,Q18G ----- Driver Output Port.
 - 18) Field of vision is a minimum of 21.8° from the lower side.

GRID ASSIGNMENT



ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G (AD3)	18G (AD4)
D0	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	S9	-
D1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	3d	-
D2	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	2d	-
D3	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	3e	-
D4	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	2e	-
D5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	3c	-
D6	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2c	-
D7	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3g	-
D8	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	2g	-
D9	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	3f	-
D10	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	2f	-
D11	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	3b	-
D12	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	2b	-
D13	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	3a	-
D14	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	2a	-
D15	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	Dp	-
D16	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	dB	-
D17	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	1d	-
D18	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	1e	-
D19	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	1c	-
D20	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1g	-
D21	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	1f	-
D22	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	1b	-
D23	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	1a	AUTO
D24	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	S1	HDMI
D25	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	S2	DVI
D26	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	S3	AMBI
D27	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	S4	SACD
D28	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	S5	D
D29	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	S6	dts
D30	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	S7	AUDIO
D31	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	S8	TUNED
D32	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	MUTE	STEREO
D33	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	PCM	RDS
D34	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	Z2	SLEEP
AD1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DIG.	-	
AD2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ANA	-	

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C1011	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1013	nsp	CAP,CHIP(1608,50V/100pF)	CCUS1H101JA	1		
C1014	nsp	CAP,CHIP(1608,50V/100pF)	CCUS1H101JA	1		
C1015	nsp	CAP,CHIP(1608,50V/330pF)	CCUS1H331JA	1		
C1016	nsp	CAP,CHIP(1608,50V/1000pF)	CCUS1H102KC	1		
C1017	nsp	CAP,METAL-FILM(100V/0.047uF)	CCME2A473JXT	1		
C1019	00D9430175108	CAP,ELECT(50V/10uF)	CCEA1HH100T	1		
C1020	nsp	CAP,CHIP(1608,50V/0.01uF)	CCUS1H103KC	1		
C1038	943134010670S	CAP,ELECT(16V/47uF)-S	CCEA1CKS470T	1		
C1039	nsp	CAP,CHIP(1608,50V/100pF)	CCUS1H101JA	1		
C1050	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1052	00D9430173003	CAP,ELECT(10V/220uF)-S	CCEA1AKS221T	1		
C1053	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1054	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1055	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1065	943134010530S	CAP,ELECT(50V/1uF)	CCEA1HH1R0T	1		
C1066	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1067	943134010530S	CAP,ELECT(50V/1uF)	CCEA1HH1R0T	1		
C1068	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1071	nsp	CAP,CHIP(1608,50V/220pF)	CCUS1H221JA	1		
C1072	nsp	CAP,CHIP(1608,50V/220pF)	CCUS1H221JA	1		
C1073	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1076	nsp	CAP,CHIP(1608,50V/0.01uF)	CCUS1H103KC	1		
C1077	nsp	CAP,CHIP(1608,50V/0.01uF)	CCUS1H103KC	1		
C1081	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1401	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1402	nsp	CAP,ELECT(50V/1uF)-S	CCEA1HKS1R0T	1		
C1403	nsp	CAP,CHIP(1608,50V/100pF)	CCUS1H101JA	1		
C1405	nsp	CAP,ELECT(50V/10uF)-S	CCEA1HKS100T	1		
C1406	nsp	CAP,CHIP(1608,50V/0.047uF)	CCUS1H473KC	1		
C1407	nsp	CAP,ELECT(16V/100uF)-S	CCEA1CKS101T	1		
C1408	nsp	CAP,CHIP(1608,50V/82pF)	CCUS1H1820JA	1		
C1410	943134010530S	CAP,ELECT(50V/1uF)	CCEA1HH1R0T	1		
C1411	943134010530S	CAP,ELECT(50V/1uF)	CCEA1HH1R0T	1		
C1414	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1415	nsp	CAP,CHIP(1608,50V/1000pF)	CCUS1H102KC	1		
C1417	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		
C1424	nsp	CAP,CHIP(1608,50V/0.1uF)	CCUS1H104KC	1		

OTHERS PARTS GROUP

BD141	nsp	FERRITECHIPBEAD(1608/60R)	CLZ9R005Z	1		
BK101	nsp	BRACKET,FIP	CMD1A572	1		
BK102	nsp	BRACKET,FIP	CMD1A572	1		
BK103	nsp	BRACKET,PCB	CMD1A629	1		
BN103	nsp	WIRE,ASS'Y	CWB1B005050HC	1		
BN104	nsp	WIRE,ASS'Y	CWB1C205350LC00	1		
BN12A	nsp	WIRE,ASS'Y	CWB1B005080CC	1		
BN13A	nsp	WIRE,ASS'Y	CWB1B003080CC	1		
CN101	nsp	WAFER,FFC1.25mm,ANGLE	CJP25GB286ZN	1		
CN102	nsp	WAFER/ANGLE/2.5mm/07P	CJP07GB03ZY	1		
CN103	nsp	LOCK-WAFER/ANGLE/2MM PITCH/5PIN	CJP05GJ288ZY	1		
CN104	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/3PIN	CJP03GJ288ZY	1		
! F1001	943652000620S	FUSE(372Series/100mA/TR5)	CBA2D0100A3EYT	1		
FL101	943172100150S	V.F.D(FUTABA,18-BT-02GINK)	CFL18BT021GINK	1		
JK101	943643101590S	JACK,USBSTRAIGHT(BLACK1.5A)	CJJ9X010Z	1		
JK104	90M-YT004500R	JACK,PHONES(6.35mm,SILVER)	CJJ2E026Z	1		
JK603	943643100160S	JACK,MONO,3.5mm	CJJ1D001Z	1		
L1001	nsp	FERRITECHIPBEAD(1608/60R)	CLZ9R005Z	1		
L1003	nsp	FERRITE,CHIPBEAD(4516/60R)	CLZ9Z014Z	1		
L1004	nsp	RES,CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	1		
L1005	nsp	RES,CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	1		
L6007	nsp	FERRITECHIPBEAD(1608/60R)	CLZ9R005Z	1		
L6008	nsp	RES,CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	1		
LUG11	nsp	WIRE,ASS'Y	CWE8102100RV	1		
LUG13	nsp	WIRE,ASS'Y	CWE8102180RV	1		
RC101	943262100140S	SENSOR,REMOCON(37.9kHz)	CRVHM238RT12	1		
SW101	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW102	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW103	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW104	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW105	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW106	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW107	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW108	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW109	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW110	90M-SP001400R	SW,TACT	CST1A023ZT	1		
SW111	90M-SP001400R	SW,TACT	CST1A023ZT	1		
VR101	943671010330S	ENCODER(16MM,24PULSES),W/CLICK	CSR2A055Z	1		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C1415	nsp	CAP, CHIP(1608, 50V/1000pF)	CCUS1H102KC	1		
C1417	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC	1		
C1424	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC	1		
C1425,1426	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC	2		
OTHER PARTS GROUP						
BD141	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
BK101,102	nsp	BRACKET , FIP	CMD1A572-V1	2	*	
BK103	nsp	BRACKET , PCB	CMD1A629	1		
BN101	nsp	WIREASSY Locking(9P,2.0MM,80MM,#28)	CWB1A009080HC	1	*	
BN104	nsp	WIRE ASSY (5P,2.0MM,350MM,Shield)_USB	CWB1C205350LC00	1		
BN12A	nsp	WIRE ASSY B'D to B'D(CKM) (5P,2MM,80MM,#26)	CWB1B005080CC	1		
BN12B1	nsp	WAFER,FFC 1.25mm,ANGLE	CJP27GB286ZN	1		
BN13A	nsp	WIRE ASSY B'D to B'D(CKM) (3P,2MM,80MM,26#)	CWB1B003080CC	1		
CN101	nsp	LOCK-WAFER/ANGLE/2MM PITCH/9PIN	CJP09GJ288ZY	1		
CN102	nsp	WAFER/ANGLE/2.5mm/07P	CJP07GB03ZY	1		
CN104	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/3PIN	CJP03GJ288ZY	1		
! F1001	943652000620S	FUSE(372 Series/100mA/TR5)	CBA2D0100A3EYT	1		
FL101	943172100150S	V.F.D (FUTABA, 18-BT-02GINK)	CFL18BT021GINK	1		
IC101	943232100380S	I.C , DUAL OPAMP(SOP-8)	CVINJM8080G	1	*	
JK101	943643101590S	JACK, USB STRAIGHT(BLACK 1.5A)	CJJ9X010Z	1		
JK104	90M-YT004500R	JACK, PHONES(6.35mm,SILVER)	CJJ2E026Z	1		
JK105	943643102400S	JACK, PHONE(MONO)	CJJ1D006Z	1	*	
L1001	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L1003	nsp	FERRITE CHIP BEAD(4516/60R)	CLZ9Z014Z	1		
L1004,1005	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	2		
L1010	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L1011	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	1		
LD101	963262010460S	L.E.D (Infrared light emitting diode)	X1000BKE3	CVDSIR341ST3FT0	1	
LUG11	nsp	WIRE ASS'Y	CWE8102100RV	1		
LUG13	nsp	WIRE ASS'Y	CWE8102180RV	1		
RC101	943262100140S	SENSOR, REMOTE(37.9KHz)	CRVHM238RT12	1		
SW101-111	00D9430004402	SW , TACT	CST1A012ZT	11		
VR101,102	943671010330S	ENCODER(16MM, 24PULSES),W/CLICK	CSR2A055Z	2		

POWER PCB ASSY

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

E300E3 : U.S.A. & Canada model

X1000E3 : U.S.A. & Canada model X1000E2 : Europe model X1000E1C : China model X1000E1 : Singapore model X1000K : Japan model X1010E1C : Chin

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
SEMICONDUCTORS GROUP						
D3001-3004	00D9630328409	DIODE , RECTIFIER, AXIAL	CVD1N4007ST	4		
D3103,3104	00D9430182609	DIODE , SWITCHING	CVD1S133MT	2		
D6001-6008	00D9630328409	DIODE , RECTIFIER, AXIAL	CVD1N4007ST	8		
D6009	00D9430182609	DIODE , SWITCHING	CVD1S133MT	1		
D6012	00D9630328409	DIODE , RECTIFIER, AXIAL	CVD1N4007ST	1		
D6013	943204500310S	DIODE , Schottky Battier (TO220FN)	CVDRBQ30T65A	1	*	
IC301	943232100370S	I.C,REGULATOR(+12V,TO220)	CVIKIA7812BPI	1	*	
IC302	00D9430183909	I.C , REGULATOR	HVIKIA7912PI	1		
IC305	943231010390S	I.C,REGULATOR(+5V,TO220IS)	CVIKIA7805BPI	1		
! IC601	231010091708S	I.C , OFF-LINE POWER SWITCH	CVITOP258MG	1		
! IC602	963239010480S	I.C , PHOTOCOUPLER	CVIPC123Y22FZ0F	1		
IC603	212050010508S	I.C,SHUNT REGULATOR(TO-92)	CVIKIA2431AP	1		
Q6002	943229500110S	F.E.T , INK0010AC1 (N-CH, SC-59, MOSFET, ISAHAYA)	CVTINK0010AC1	1		
Q6003	94321450020S	T.R,2SC3052	CVT2SC3052	1		
ZD608-610	00D2760762958	DIODE , ZENER ,1/2W, 39V	CVDZJ39BT	3		
ZD611-618	963202010440S	DIODE , ZENER ,1/2W, 22V	CVDZJ22BT	8		
ZD619	90M-HD302360R	DIODE , ZENER ,1/2W, 6.8V	CVDZJ6.8BT	1		
ZD620	00D2760762958	DIODE , ZENER ,1/2W, 39V	CVDZJ39BT	1		
ZD621	00D9430196306	DIODE , ZENER ,1/2W, 7.5V	CVDZJ7.5BT	1		
ZD621	943202000940S	DIODE , ZENER ,1/2W, 16V	CVDZJ16BT	1		
RESISTOR GROUP						
R6004	nsp	RES, CARBON(1/5W,330Kohm,J)	CRD20TJ334T	1		
R6006	nsp	RES, CHIP(1608/5%/1Mohm)	CRJ10DJ105T	1		
R6008,6009	00MGD05225160	RES, CARBON(1/5W,2.2Mohm,J)	CRD20TJ225T	2		
R6010	nsp	RES, CARBON(1/5W,1Mohm,J)	CRD20TJ105T	1		
R6011	nsp	RES, CHIP(1608/5%/10ohm)	CRJ10DJ100T	1		
R6012	00MNN05274610	RES, CHIP(1608/5%/270Kohm)	E300,X1000E3			
R6012	00MNN05563610	RES, CHIP(1608/5%/56Kohm)	CRJ10DJ274T	1		
R6013	nsp	RES, CHIP(1608/5%/15Kohm)	X1000E2,E1,E1C			
R6014	nsp	RES, CHIP(1608/5%/1Kohm)	CRJ10DJ563T	1		
R6015	nsp	RES, CARBON(1/5W,6.8ohm,J)	CRJ10DJ153T	1		
R6016	00MGD05560160	RES, CARBON(1/5W,5.6ohm,J)	CRJ10DJ102T	1		
R6017	nsp	RES, CARBON(1/5W,3.3Kohm,J)	CRD20TJ6R8T	1		
R6018	00MGD05562160	RES, CARBON(1/5W,5.6Kohm,J)	CRD20TJ560T	1		
R6019	nsp	RES, CHIP(1608/1%/22Kohm)	CRD20TJ32T	1		
R6022	nsp	RES, CHIP(1608/1%/6.8Kohm)	CRD20TJ562T	1		
R6024	nsp	RES, CHIP(1608/5%/10Kohm)	CRJ10DF2202T	1		
R6025	nsp	RES, CHIP(1608/5%/4.7Kohm)	CRJ10DF6801T	1		
! R6027-6030	943121500030S	RES, CHIP(2012/5%/2.2Mohm)	CRJ10DJ103T	1		
R6031-6033	nsp	RES, CHIP(2012/5%/1Mohm)	CRJ10DJ472T	1		
CAPACITORS GROUP						
C3005	00MOF15104040	CAP,METAL-FILM(100V/0.1uF)	CCME2A104JXT	1		
C3006	943134010620S	CAP, ELECT(25V/4700uF)	CCEA1EH472E	1		
C3007	00MOA33802520	CAP, ELECT(25V/3300uF)	CCEA1EH32E	1		
C3008	943134502350S	CAP, ELECT(50V/470uF)	CCEA1HH471E	1	*	
C3012,3013	943134502350S	CAP, ELECT(50V//470uF)	CCEA1HH471E	2	*	
! C6001-6003	963132011940S	CAP, CERAMIC(X1/Y2,0.01uF,AC250V)	CCKDKY103MF	3		
C6004	943134501590S	CAP, ELECT(200V/100uF),105'C	E300,X1000E3			
C6004	963134010200S	CAP , ELECT (400V/100uF, 18X40, NHA)	X1000E2,E1,E1C			
C6005	nsp	CAP, CHIP(1608, 50V/0.047uF)	X1010E1C			
C6006	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCET400NHA101E	1		
C6007	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H473KC	1		
C6008	00D9430175108	CAP, ELECT(50V/10uF),105'C	CCUS1H103KC	1		
C6009	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC	1		
C6011	963132010120S	CAP, CERAMIC(DC1KV/1000pF)	CCUS1H104KC	1		
C6012	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCEA1ENXA470TS	1		
C6013	00MOA47602520	CAP, ELECT(25V//47uF),105'C	CCUS1H104KC	1		
C6014	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS0J475KC	1		
C6015	nsp	CAP, CHIP(1608, 6.3V/4.7uF, MURATA GRM18)	CCEAOJNXA562ES	2		
C6018,6019	963134010220S	CAP, ELECT(6.3V/5600uF)	CCUS1H104KC	1		
C6020	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCKDKX222MEM	1		
! C6023	963132011930S	CAP, CERAMIC(X1/Y1,2200P,AC250V)	CCUS1H104KC	1		
C6024	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC	1		
OTHER PARTS GROUP						
BK301,302	nsp	BRACKET , PCB	CMD1A569-V1	2		
BK303	nsp	BRACKET , PCB	CMD1A387-V1	1		
BK601,602	nsp	BRACKET , PCB M3	CMD1A834	2	*	
BK603	nsp	BRACKET , PCB	CMD1A629	1		
BN301	CWB1C0070803D	WIREASS'Y Locking(7P,2.5MM,80MM,#24)	COP1251AB	1		
BN601	nsp	WIRE ASS'Y Locking (YH) (5P,2.5MM,150MM,#22)	CWB1D0051503D	1		
CN302	nsp	WAFER/STRAIGHT/2.5mm/5P	CJP05GA01ZY	1		
CN601	nsp	WAFER, 2P, 3.96mm	CJP02KA060ZY	1		
CN602	nsp	WAFER, 2P, 7.92mm	CJP02GA89ZY	1		
! CX601	943139500020S	CAP , POLYPROPYLENE FILM	HCQF2E104KZE	1		
! CY601,602	963134011730S	CAP, CERAMIC(X1/Y1,470P,AC250V)	CCKDKX471KBM	2		
! F3001,3002	00D2061096006	FUSE(218Series,250V/1.25A)	KBA2C1250TLEY	2		
! F6001	963652010510S	FUSE(S506Series,250V,2A)	E300,X1000E3			
! F6001	963652010500S	FUSE(S506Series,250V,1.6A)	X1000E2,E1,E1C			
! F6002	90M-FS001090R	FUSE(218Series,250V/5A)	X1010E1C			
! F6002	00D9430199109	FUSE(218Series,250V/2.5A)	E300,X1000E3			
! LF602	963111010230S	LINE FILTER, 27uH	X1000E2,E1,E1C			
! LF602	943111100410S	LINE FILTER, 50uH	X1010E1C			
! RY601	9636682010370S	RELAY,HL31-1AT-5H,DC5V,1C1P	E300,X1000E3			
! T6001	943102100350S	TRANS , SWITCHING	X1000E2,E1,E1C			
			X1010E1C			
			CLZ9Z133Z	1		
			CSL1C006ZE	1		
			CLT9Z093ZE	1	*	

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C5108	13405014940AS	CAP , ELECT(63V/100uF)	CCEA1JH101T	1		
C5109	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5201	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5202	nsp	CAP, MYLAR(100V/470pF/J)	HCQ1A471JZT	1		
C5203	nsp	CAP, CERAMIC(50V/82pF/J)	CCCT1H820JC	1		
C5204	nsp	CAP, MYLAR(50V/2200pF/J)	HCQ1H222JZT	1		
C5205	943134501770S	CAP, ELECT(50V/220uF)	CCEA1HH221T	1		
C5206	nsp	CAP, CERAMIC(50V/33pF/J)	CCCT1H330JC	1		
C5207	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5208	13405014940AS	CAP , ELECT(63V/100uF)	CCEA1JH101T	1		
C5209	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5301	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5302	nsp	CAP, MYLAR(100V/470pF/J)	HCQ1A471JZT	1		
C5303	nsp	CAP, CERAMIC(50V/82pF/J)	CCCT1H820JC	1		
C5304	nsp	CAP, MYLAR(50V/2200pF/J)	HCQ1H222JZT	1		
C5305	943134501770S	CAP, ELECT(50V/220uF)	CCEA1HH221T	1		
C5306	nsp	CAP, CERAMIC(50V/33pF/J)	CCCT1H330JC	1		
C5307	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5308	13405014940AS	CAP , ELECT(63V/100uF)	CCEA1JH101T	1		
C5309	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5401	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5402	nsp	CAP, MYLAR(100V/470pF/J)	HCQ1A471JZT	1		
C5403	nsp	CAP, CERAMIC(50V/82pF/J)	CCCT1H820JC	1		
C5404	nsp	CAP, MYLAR(50V/2200pF/J)	HCQ1H222JZT	1		
C5405	943134501770S	CAP, ELECT(50V/220uF)	CCEA1HH221T	1		
C5406	nsp	CAP, CERAMIC(50V/33pF/J)	CCCT1H330JC	1		
C5407	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5408	13405014940AS	CAP , ELECT(63V/100uF)	CCEA1JH101T	1		
C5409	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5501	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5502	nsp	CAP, MYLAR(100V/470pF/J)	HCQ1A471JZT	1		
C5503	nsp	CAP, CERAMIC(50V/82pF/J)	CCCT1H820JC	1		
C5504	nsp	CAP, MYLAR(50V/2200pF/J)	HCQ1H222JZT	1		
C5505	943134501770S	CAP, ELECT(50V/220uF)	CCEA1HH221T	1		
C5506	nsp	CAP, CERAMIC(50V/33pF/J)	CCCT1H330JC	1		
C5507	943134500070S	CAP, ELECT(100V/10uF)	CCEA2AH100T	1		
C5508	13405014940AS	CAP , ELECT(63V/100uF)	CCEA1JH101T	1		
C5509	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5605,5606	nsp	CAP, MYLAR(50V/0.018pF/J)	HCQ1H183JZT	2		
C5607,5608	nsp	CAP, MYLAR(50V/1500pF/J)	HCQ1H152JZT	2		
C5609-5611	nsp	CAP, MYLAR(50V/0.018pF/J)	HCQ1H183JZT	3		
C5612-5614	nsp	CAP, MYLAR(50V/1500pF/J)	HCQ1H152JZT	3		
C5701	nsp	CAP, MYLAR(50V/0.01uF/J)	HCQ1H103JZT	1		
C5702,5703	90M-OF100490R	CAP, METAL PE FILM(250V/0.1uF)	KCME2E104JP04T	2		
C5704, 5706	943134010460S	CAP , ELECT (30X35) WITHOUT PLATE ON THE TOP	CCET63VKL5682NK	2		
C5707	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5708	943134010480S	CAP, ELECT(100V/100uF)	CCEA2AH101E	1		
C5710	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5711	943134010660S	CAP, ELECT(6.3V/470uF)	CCEAOJH471T	1		
C5712	nsp	CAP, MYLAR(50V/0.1uF/J)	HCQ1H104JZT	1		
C5713	943134010660S	CAP, ELECT(6.3V/470uF)	CCEAOJH471T	1		
C5716	nsp	CAP, ELECT(16V/47uF)	CCEA1CH470T	1		
C5717	nsp	CAP, ELECT(50V/10uF)	CCEA1HH100T	1		
C5718-5722	nsp	CAP, MYLAR(50V/0.047uF/J)	HCQ1H1473JZT	5		
C5723	nsp	CAP, ELECT(50V/10uF)	CCEA1HH100T	1		
OTHER PARTS GROUP						
BK501	nsp	BRACKET , PCB	CMD1A569-V1	1		
BN501	nsp	WIRE ASS'Y Locking (YH) (13P,2MM,150MM,#26)	CWB1B013150HC	1		
BN502	nsp	WIRE ASS'Y Locking (YH) (7P,2MM,150MM,#26)	CWB1B007150HC	1		
BN505	nsp	WIRE ASS'Y Locking (YH) (3P,2MM,250MM,#26,105)	CWB4B003250HC	1		
CN503	nsp	WAFER (3.96MM)	CJP03GA148ZW	1		
CN510	nsp	WAFER/STRAIGHT/2.5mm/2P	CJP02GA01ZY	1		
CN520	nsp	WAFER/STRAIGHT/2.5mm/2P	CJP02GA01ZY	1		
CN530	nsp	WAFER/STRAIGHT/2.5mm/2P	CJP02GA01ZY	1		
CN540	nsp	WAFER/STRAIGHT/2.5mm/2P	CJP02GA01ZY	1		
CN550	nsp	WAFER/STRAIGHT/2.5mm/2P	CJP02GA01ZY	1		
ET501	nsp	PLATE , EARTH(TRONIC ELECTRONICS)	CJT1A026	1	*	
JK505-509	943643102410S	2P, SCREW SPK(R/B)	E300	5	*	
JK505-509	943643102420S	2P, SCREW SPK(R/B)	X1000	5	*	
L5101	943115100310S	COIL , SPEAKER (0.5UH)	CLEY0R5KAD	1		
L5201	943115100310S	COIL , SPEAKER (0.5UH)	CLEY0R5KAD	1		
L5301	943115100310S	COIL , SPEAKER (0.5UH)	CLEY0R5KAD	1		
L5401	943115100310S	COIL , SPEAKER (0.5UH)	CLEY0R5KAD	1		
L5501	943115100310S	COIL , SPEAKER (0.5UH)	CLEY0R5KAD	1		
RY560	943682000810S	RELAY,BC3-12H,DC12V,2C2P	CSL4A016ZU	1		
RY562-564	943682100270S	RELAY,981-2A-12DS,DC12V,2C1P	CSL3A022ZU	3		
VR510	963161012400S	RES , SEMI FIXED (1K, B CURVE)	CVN1RA102B03T	1		
VR520	963161012400S	RES , SEMI FIXED (1K, B CURVE)	CVN1RA102B03T	1		
VR530	963161012400S	RES , SEMI FIXED (1K, B CURVE)	CVN1RA102B03T	1		
VR540	963161012400S	RES , SEMI FIXED (1K, B CURVE)	CVN1RA102B03T	1		
VR550	963161012400S	RES , SEMI FIXED (1K, B CURVE)	CVN1RA102B03T	1		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
R7550	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7601-7604	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	4		
R7605	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7609	nsp	RES, CHIP(1005/5%/0ohm)	CRJ06IJ0R0T	1		
R7610	nsp	RES, CHIP(1608/5%/1Mohm)	CRJ10DJ105T	1		
R7611	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7613	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	1		
R7616-7619	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	4		
R7620,7621	nsp	RES, CHIP(1608/5%/330hm)	CRJ10DJ330T	2		
R7622	nsp	RES, CHIP(1005/5%/0ohm)	CRJ06IJ0R0T	1		
R7625-7627	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	3		
R7628,7629	nsp	RES, CHIP(1608/5%/330hm)	CRJ10DJ330T	2		
R7631-7634	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	4		
R7635,7636	nsp	RES, CHIP(1005/5%/0ohm)	CRJ06IJ0R0T	2		
R7638,7639	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	2		
R7641	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	1		
R7643-7645	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	3		
R7650-7657	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	8		
R7660,7661	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	2		
R7663	nsp	RES, CHIP(1608/5%/18Kohm)	E300	1		
R7663	nsp	RES, CHIP(1608/5%/0ohm)	X1000E2,E1	1		
R7663	nsp	RES, CHIP(1608/5%/10Kohm)	X1000K,E1C	1		
R7663	nsp	RES, CHIP(1608/5%/3.3Kohm)	X1010E1C	1		
R7664	nsp	RES, CHIP(1608/5%/3.3Kohm)	E300	1		
R7664	nsp	RES, CHIP(1608/5%/0ohm)	X1000E3	1		
R7664	nsp	RES, CHIP(1608/5%/10Kohm)	X1000E1C	1		
R7665-7667	nsp	RES, CHIP(1608/5%/18Kohm)	X1010E1C	1		
R7668	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ10DJ183T	1		
R7669	nsp	RES, CHIP(1005/5%/100ohm)	CRJ06IJ102T	1		
R7672	nsp	RES, CHIP(1608/5%/1Kohm)	X1000E3	1		
R7673	nsp	RES, CHIP(1608/5%/3.3Kohm)	X1000E3	1		
R7674	nsp	RES, CHIP(1608/5%/2.2Kohm)	X1000E3	1		
R7675	nsp	RES, CHIP(1608/5%/100Kohm)	X1000E3	1		
R7677	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7678	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7679	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7681-7686	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	6		
R7687	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7688	nsp	RES, CHIP(1005/5%/100Kohm)	CRJ06IJ104T	1		
R7689	nsp	RES, CHIP(1005/5%/2.2Mohm)	CRJ06IJ225T	1		
R7690	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7691	nsp	RES, CHIP(1005/5%/47Kohm)	CRJ06IJ473T	1		
R7692	nsp	RES, CHIP(1005/5%/100Kohm)	CRJ06IJ104T	1		
R7693	nsp	RES, CHIP(1005/5%/220Kohm)	CRJ06IJ224T	1		
R7694	nsp	RES, CHIP(1005/5%/27Kohm)	CRJ06IJ273T	1		
R7695	nsp	RES, CHIP(1005/5%/3.3Kohm)	CRJ06IJ332T	1		
R7696	nsp	RES, CHIP(1005/5%/1.2Kohm)	CRJ06IJ122T	1		
R7698	nsp	RES, CHIP(1005/5%/330hm)	X1000E3	1		
R7699	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	1		
R7700	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7701-7703	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	3		
R7704-7707	nsp	RES, CHIP(1608/5%/100hm)	CRJ10DJ101T	4		
R7708	nsp	RES, CHIP(1608/5%/4.7Kohm)	CRJ10DJ472T	1		
R7710	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	1		
R7713	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7715	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ392T	1		
R7717	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ472T	1		
R7718	nsp	RES, CHIP(1005/5%/27Kohm)	CRJ06IJ273T	1		
R7719	nsp	RES, CHIP(1005/5%/2.7Kohm)	CRJ06IJ272T	1		
R7720	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	1		
R7721	nsp	RES, CHIP(1005/5%/1Kohm)	CRJ06IJ102T	1		
R7722-7724	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ103T	3		
R7725	nsp	RES, CHIP(1005/5%/27Kohm)	CRJ06IJ273T	1		
R7726	nsp	RES, CHIP(1005/5%/1Kohm)	CRJ06IJ102T	1		
R7727	nsp	RES, CHIP(1005/5%/2.7Kohm)	CRJ06IJ272T	1		
R7728	nsp	RES, CHIP(1005/5%/3.9Kohm)	CRJ06IJ392T	1		
R7729	nsp	RES, CHIP(1005/5%/100hm)	CRJ06IJ101T	1		
R7730	nsp	RES, CHIP(1608/5%/120Kohm)	CRJ10DJ124T	1		
R7731	nsp	RES, CHIP(1005/5%/22Kohm)	CRJ06IJ223T	1		
R7735	nsp	RES, CHIP(1005/5%/100hm)	CRJ06IJ101T	1		
R7736	nsp	RES, CHIP(1608/5%/120Kohm)	CRJ10DJ124T	1		
R7737	nsp	RES, CHIP(1005/5%/22Kohm)	CRJ06IJ223T	1		
R7738,7739	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	2		
R7741	nsp	RES, CHIP(1005/5%/100hm)	CRJ06IJ101T	1		
R7801	nsp	RES, CHIP(1005/5%/150ohm)	E300,X1000E3	1		
R7802	nsp	RES, CHIP(1005/5%/150ohm)	E300,X1000E3	1		
R7803	nsp	RES, CHIP(1005/5%/470ohm)	E300,X1000E3	1		
R7806	nsp	RES, CHIP(1608/5%/330Kohm)	E300,X1000E3	1		
R7807	nsp	RES, CHIP(1005/5%/47Kohm)	E300,X1000E3	1		
R7808	nsp	RES, CHIP(1005/5%/330hm)	E300,X1000E3	1		
R7813	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ330T	1		
R7814	nsp	RES, CHIP(1005/5%/330hm)	X1000E2,E1,E1C	1		
R7815	nsp	RES, CHIP(1005/5%/0ohm)	X1010E1C	1		
R7817	nsp	RES, CHIP(1005/5%/0ohm)	E300,X1000E3	1		
R7828,7829	nsp	RES, CHIP(1608/5%/330hm)	CRJ06IJ151T	1		
R7833,7834	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ151T	1		
R7835	nsp	RES, CHIP(1005/5%/1Kohm)	CRJ06IJ471T	1		
R7836,7837	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ334T	1		
R7839	nsp	RES, CHIP(1005/5%/0ohm)	CRJ06IJ473T	1		
R7840-7842	nsp	RES, CHIP(1005/5%/10Kohm)	CRJ06IJ330T	3		
R7843	nsp	RES, CHIP(1608/5%/330hm)	CRJ10DJ330T	1		
R7851	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ472T	2		
R7852,7853	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ332T	1		
R7854	nsp	RES, CHIP(1005/5%/3.3Kohm)	CRJ06IJ330T	1		
R7855	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ472T	3		
R7856-7858	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ330T	1		
R7859	nsp	RES, CHIP(1005/5%/330hm)	CRJ06IJ101T	1		
R7860	nsp	RES, CHIP(1005/5%/100hm)	CRJ06IJ473T	1		
R7861	nsp	RES, CHIP(1005/5%/47Kohm)	CRJ06IJ472T	2		
R7862	nsp	RES, CHIP(1005/5%/4.7Kohm)	CRJ06IJ330T	1		
R7864	nsp	RES, CHIP(1005/5%/820ohm)	CRJ06IJ821T	1		
R7865	nsp	RES, CHIP(1608/5%/680ohm)	CRJ10DJ681T	1		
R7866,7867	nsp	RES, CHIP(1608/5%/100Kohm)	CRJ10DJ104T	2		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C9007	13405014440AS	CAP, ELECT(50V/100uF)	CCEA1HH101T	1		
C9008	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC	1		
C9009	13405014440AS	CAP, ELECT(50V/100uF)	CCEA1HH101T	1		
C9014,9015	nsp	CAP, CHIP(2012, 10V/4.7uF)	CCUC1A475ZF	2		
OTHER PARTS GROUP						
BK871	nsp	EARTH , HDMI	CMC1A422	1		
CN721	nsp	WAFER, FFC, SMD(23P-1mm, STRAIGHT)	CJP23GA193ZY	1		
CN722	nsp	WAFER, FFC, SMD(07P-1mm, STRAIGHT)	CJP07GA193ZY	1		
CN751	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/5PIN	CJP05G1289ZY	1		
CN761	nsp	WAFER, FFC 1.25mm, STRAIGHT	CJP25GA285ZN	1		
CN761	nsp	WAFER, FFC 1.25mm, STRAIGHT	CJP27GA285ZN	1		
CN762	nsp	WAFER, FFC, SMD(07P-1mm, STRAIGHT)	CJP07GA193ZY	1		
CN771	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/7PIN	CJP07GI288ZY	1		
CN772	nsp	WAFER, FFC(4P-1mm, ANGLE)	CJP04GB113ZY	1		
CN851	nsp	WAFER , SMD (2MM PITCH)	CJP05GA208ZY	1		
CN871	nsp	WAFER, FFC, SMD(23P-1mm, STRAIGHT)	CJP23GA193ZY	1		
CN892	nsp	LOCK-WAFER/STRAIGHT/2MM PITCH/13PIN	CJP13GI288ZY	1		
CN893	nsp	LOCK-WAFER/STRAIGHT/2.5MM PITCH/7PIN	CJP07GI289ZY	1		
JK701-704	943643100040S	JACK, HDMI(KSI-TWI, W/ FLANGE)	CJJ9H016Z	4		
JK721	943643100040S	JACK, HDMI(KSI-TWI, W/ FLANGE)	CJJ9H016Z	1		
JK722	943643100040S	JACK, HDMI(KSI-TWI, W/ FLANGE)	CJJ9H016Z	1		
JK761	90M-YT004860R	JACK, STEREO (BLK MOLD)	CJJ2D008Z	1		
JK782	943262100150S	MODULE , OPTICAL(RX 16MHz)	CJSJSR1124	1		
JK783	943262100150S	MODULE , OPTICAL(RX 16MHz)	X1000E3			
JK851	943643102430S	JACK , RJ-45 W/TRANSFORMER	CJJL029Z	1	*	
JK871	943643100040S	JACK, HDMI(KSI-TWI, W/ FLANGE)	CJJ9H016Z	1		
JK891	943643101570S	JACK, 4P(W/R,W/R),SEPA-GND	CJJ4P048U	1		
JK892	943643010150S	JACK, 2P(W/R),SEPA-GND, SILVER	CJJ4N034U	1		
JK893	943643102380S	JACK , RCA 2P (BK/OR) , SILVER	CJJ4N105Z	1	*	
JK894	943643102390S	JACK , RCA 1P (BLACK) , SILVER	X1000E2,E1,E1C			
JK901	943643102370S	JACK , RCA 3P (Y/Y/Y) , SILVER	X1010E1C			
L7101	nsp	RES, CHIP(1608/5%/0ohm)	CJJ4S052Z	1	*	
L7201-7206	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	6		
L7209-7211	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	3		
L7501	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7503	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7505	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7507	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7509	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7511	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7513	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7515	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7517-7521	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	5		
L7601-7617	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	17		
L7618	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7619-7623	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	5		
L7624	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
L7625-7627	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	3		
L7701-7707	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	7		
L8301-8303	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z	3		
L8503	nsp	COIL, CHOKE CHIP(2012/180R)	CLZ9Z127Z	1		
L8504,8505	nsp	COIL, CHOKE CHIP(2012/90R)	CLZ9Z128Z	2		
L8506-8509	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z	4		
L8511	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z	1		
L8601-8605	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z	5		
L8607	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z	1		
L8701,8702	nsp	RES, CHIP(1608/5%/0ohm)	CRJ10DJ0R0T	2		
L8901	nsp	FERRITE CHIP BEAD(1608/60R)	CLZ9R005Z	1		
TU891	943183100230S	TUNER , FM(SCREW : F TYPE), AM , SI4730-D60	E300,X1000E3			
TU891	943183100330S	TUNER , RDS , FM(PAL TYPE) , SI4705-D60	X1000E2,E1			
TU891	943183100340S	TUNER , NO RDS , FM(PAL TYPE) , SI4704- D60	X1000E1C			
X7201	943141100600S	X-TAL, SMD 3.2X2.5, 28.636MHz, 12PF	X1010E1C			
X7601	943141100930S	X-TAL, HC-49/S SMD , 12.000MHz, 20PF	COX28636120ST	1		
X7801	943141100900S	X-TAL, HC-49/S SMD , 24.576MHz, 12PF	COX12000E200ST	1	*	
X7901	943141100630S	X-TAL, SMD 3.2X2.5, 18.750MHz, 12PF	COX24576E120ST	1	*	
X8301	943141100940S	X-TAL, HC-49/S SMD , 24.000MHz, 20PF	COX18750120ST	1	*	
			COX24000E200ST	1	*	

EXPLODED_E300 PCB ASS'Y

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

E300E3 : U.S.A. & Canada model

X1000E3 : U.S.A. & Canada model

X1000E2 : Europe model

X1000E1C : China model

X1000E1 : Singapore model

X1000K : Japan model

X1010E1C : Chin

BK : Black model

SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C1	nsp	FRONT PCB ASS'Y	COP12423L-1	1		
C1-1	-	POWER KNOB PCB ASS'Y	COP12423L-6	1		
C1-2	-	HEADPHONE PCB ASS'Y	COP12423L-4	1		
C1-3	-	USB PCB ASS'Y	COP12423L-5	1		
C1-4	-	MIC PCB ASS'Y	COP12423L-2	1		
C1-5	-	FRONT HDMI CABLE PCB ASS'Y	COP12423L-7	1		
C2	nsp	MAIN PCB ASS'Y	COP12515B-1	1	*	
C2-1	-	CABLE PCB ASS'Y	COP12515B-2	1		
C2-2	-	HDMI CABLE PCB ASS'Y	COP12515B-3	1		
C2-3	-	CARD CABLE FIX PCB ASS'Y	COP12515B-4	1		
C3	9U6391007700D	DIGITAL PCB ASS'Y	COP12517B-1	1	*	
C3-1	-	F-HDMI PCB ASS'Y	COP12517B-2	1		
C4	-	SMPS PCB ASS'Y	COP12514B-1	1	*	
C5	-	REGULATOR PCB ASS'Y	COP12514B-2	1	*	
C6	943101101320D	TRANS, POWER(58X)	CLTSU052ZU	1		
P1	943419100550D	PANEL, SUB	CGR1A534Y	1	*	
P2	943416100990D	WINDOW, FL	CGU1A462W	1	*	
P3	943412100710D	KNOB, VOLUME	CBN1A263	1		
P4	943446100590D	PLATE, VOLUM KNOB	CGX1A469	1		
P5	42141002400AD	BADGE, DENON	CGB1A254Z-V1	1		
P6	943402103470D	PANEL, FRONT	CGW3A520RHUB63	1	*	
P7	943423100310D	INDICATOR, POWER	CGL1A299			
P8	943411101750D	BUTTON, STANDBY	CBT1A1167	1		
P9	943411101770D	BUTTON, 10KEY	CBT2A1164	1		
P10	943407100020D	FOOT	CKL1A190	4		
P11	nsp	CUSHION, FOOT	CHG2A289	4		
P12	nsp	HOLDER, PCB	CHE170	2		
P13	943419100250D	SHEET, TOP	CGX1A492Z	2		
P14	4545100050AM	STOPPER, SHEET	CMH1A306Z	8		
P15	nsp	BUSHING	CHR1A028	1		
P16	nsp	RUBBER	CHG1A113	1		
M1	nsp	EARTH PLATE, HDMI	CMC1A422	1		
M2	nsp	EARTH PLATE, HDMI	CMC1A431	1		
M3	nsp	EARTH PLATE, USB	CMC1A430	1		
M4	nsp	EARTH PLATE, MIC	CMC1A429	1		
M5	nsp	CHASSIS, BOTTOM	CUA2A335	1		
M6	943403100570D	CABINET, TOP	CKC1A215K117	1		
M7	nsp	BRACKET, PCB	CMD1A387	1		
M8	nsp	HEAT SINK	CMY6A381	1		
M9	nsp	BRACKET, H/S PCB	CMD1A802	2		
M10	nsp	BRACKET, PCB	CMD1A830	2		
M11	nsp	SMPS BRACKET	CMD1A790	1		
M12	nsp	PANEL, REAR	CKF1A466Z	1	*	
S1	nsp	SCREW	CHD1A012ZR	15		
S2	nsp	SCREW	CTWS3+10GR	1		
S3	nsp	SCREW	CTB3+6JR	11		
S4	nsp	SCREW	CTB3+10JR	19		
S5	nsp	SCREW	CTBD3+8JFZR	18		
S6	nsp	SCREW	CTBD4+6FZR	4		
S7	nsp	SCREW	CTBD3+6FZR	12		
S8	nsp	SCREW	CTW3+8JR	11		
S9	nsp	SCREW	CTW3+12JR	2		
S10	nsp	SCREW	CHDR1A023R	4		
S11	nsp	SCREW	CTB3+8JR	2		
S12	nsp	SCREW	CTB3+8JFZR	6		
S13	nsp	SCREW	CTW3+6JR	2		
S14	nsp	SCREW	CTBD4+8JFZR	2		
S15	nsp	SCREW	CTB3+6FR	4		
S16	nsp	SCREW	CHD4A012R	3		
★	nsp	LABEL , POP	CQB1A1127Z	1	*	
★	943606501550S	CARDCABLE(1.25mm,25p,180mm,Btype,105)	CWC5C4A25B180B10	1		
★	943606501560S	CARD CABLE(1.00mm, 23p, 270mm, Btype,105)	CWC5F4A23A270B08	1		
★	nsp	ORNAMENT , REAR PANEL	CGX1A482Z	1	*	
★	nsp	TAPE , HEMELON	CHS1A032	2		
★	nsp	LABEL , HOT	CQB1A906Z	1		
★	nsp	LABEL , SERIAL NO	CQB1A995	1		
★	nsp	2P WIRE ASS'Y(100MM)	CWZPM5003TW91A	1		

PAKING PCB ASS'Y

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

E300E3 : U.S.A. & Canada model

X1000E3 : U.S.A. & Canada model

X1000E2 : Europe model

X1000E1C : China model

X1000E1 : Singapore model

X1000K : Japan model

X1010E1C : Chin

BK : Black model

SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
1	nsp	BAG,POLY	CPP1A081X	1		
2	90M-YC000780R	CORD,POWER	E300E3	1		
2	943611500590S	CORD,POWER	X1000E3	1		
2	90M-ZC000320R	CORD,POWER	E2/E1	1		
2	90M-YC000850R	CORD,POWER	E1C	1		
2	943611006710S	CORD,POWER	JP	1		
3	943533101680D	PAD,SNOW(TOP)	CJA523FBWA	1	*	
4	943533101690D	PAD,SNOW(BOTTOM)	CJA2A119Y	1		
5	nsp	INSTRUCTIONMANUALASS'Y	CJA2B054Y	1		
5-1	nsp	BAG,POLY(MANUAL)	CJA2J049WA	1		
5-2	35201020800AD	CDMANUALASS'Y	CPS1A932	1	*	
	35201020900AD	CDMANUALASS'Y	CPS1A933	1	*	
	35201021000AD	CDMANUALASS'Y	CPB1A197Z	1	*	
	35201021200AD	CDMANUALASS'Y	E300E3	1	*	
	35201025000AD	CDMANUALASS'Y	X1000E3	1	*	
	35201021100AD	CDMANUALASS'Y	E2/E1	1	*	
5-3	54111100900AD	MANUAL,GUIDE	X1000E1C	1	*	
	54111101000AD	MANUAL,GUIDE	X1010E1C	1	*	
	54111101100AD	MANUAL,GUIDE	JP	1	*	
	54111101300AD	MANUAL,GUIDE	E300E3	1	*	
	54111104300AD	MANUAL,GUIDE	X1000E3	1	*	
	54111101200AD	MANUAL,GUIDE	E2/E1	1	*	
5-4	943543102630D	LABEL,SPEAKERLABEL	X1000E1C	1	*	
5-5	54311024900AD	SHEET,SAFTY	X1010E1C	1	*	
5-5	54311026400AD	SHEET,SAFTY	JP	1	*	
5-5	54311026500AD	SHEET,SAFTY	E3	1	*	
5-5	54311026600AD	SHEET,SAFTY	E2/E1	1	*	
5-6	943116100170D	FM1POLEANT(ULTYPE)	E1C	1	*	
5-7	963116100070S	ANT,AMLOOP(9.5uH/5T)	JP	1	*	
5-8	nsp	CARD,WARRANTY	E300	1	*	
5-9	nsp	SHEET , INSERTION	X1000E2/E1/E1C	1	*	
5-10	nsp	CARD FOR CHINA IDENTIFICATION	J/P	1	*	
5-11	nsp	SHEET,SERVICE	X1000E2/E1/E1C	1	*	
6	30701014000AD	REMOCONASS'Y(RC-1181)	J/JP	1	*	
6	30701013900AD	REMOCONASS'Y(RC-1182)	X1000E3	1	*	
7	nsp	BATTERY,AAA2PCSINPACK	CARTAVRX1000	1	*	
8	943531103460D	BOX,OUTCARTON	CABR03PPB	2		
8	943531103470D	BOX,OUTCARTON	E300E3	1	*	
8	943531103480D	BOX,OUTCARTON	X1000E3	1	*	
8	943531103490D	BOX,OUTCARTON	X1000E2	1	*	
8	943531103500D	BOX,OUTCARTON	X1000E1	1	*	
8	943531103510D	BOX,OUTCARTON	X1010E1C	1	*	
8	943531103520D	BOX,OUTCARTON	X1000K	1	*	
9	nsp	CONTROL,LABEL	CPG1A963U	1	*	
10	nsp	LABEL,WHITEM1SG	CPG1A962O	1	*	
11	nsp	WARRANTY CARD CHINA	CPG1A962N	1	*	
12	32401000800AD	MIC AUDYSSEY ACM1HB	CPG1A963S	1	*	
★	nsp	China Tuner Isolator, SGLBF-6B	CPG1A962M	1	*	
			CPG1A962K	1	*	
			CPG1A962L	1	*	
			CQB1A993Z	1		
			SPE1C	1		
			COB1A908Z	1		
			E1C	1		
			COE1A473Y	1		
			CJXACM1HB	1		
			CLR9Z001Z	1	*	