

SERVICE MANUAL

MODEL	JP	E3	E2	EK	EA	E1	E1K	E1C
AVR-1612		✓	✓		✓			✓
AVR-1622								✓

AV SURROUND RECEIVER

• For purposes of improvement, specifications and design are subject to change without notice.

• Please use this service manual with referring to the operating instructions without fail.

• Some illustrations using in this service manual are slightly different from the actual set.

DENON

D&M Holdings Inc.

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SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

Be sure to test for leakage current with the AC plug in both polarities, in addition, when the set's power is in each state (on, off and standby mode), if applicable.

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

⊙ Heed the cautions!

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

⊙ Cautions concerning electric shock!

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

⊙ Caution concerning disassembly and assembly!

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

⊙ Use only designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). Be sure to use parts which have the same properties for replacement. The burrs have the same properties. In particular, for the important safety parts that are indicated by the \triangle 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 reasons, 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 1M Ω 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 \triangle mark.
- (2) Parts lists.....Indicated by the \triangle 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 \triangle mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

WARNING:

DO NOT return the set to the customer unless the problem is identified and remedied.

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM

ALL CAPACITANCE VALUES ARE EXPRESSED IN MICRO FARAD, UNLESS OTHERWISE INDICATED. P INDICATES MICRO-MICRO FARAD. EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION. CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE FOR PARTS LIST

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

TECHNICAL SPECIFICATIONS

Audio Section

Power amplifier

Rated output :

Front :

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.)

Center :

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.)

Surround :

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.)

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: μV at 75 Ω, 0 dBf = 1 x 10⁻¹⁵ W)

Receiving Range :

(E3 model)

[FM] 87.5 MHz – 107.9 MHz

[AM]520 kHz – 1710 kHz

(E2,EA,E1C model)

[FM] 87.5 MHz – 108.0 MHz

[AM]522 kHz – 1611 kHz

Usable Sensitivity :

[FM]1.2 μV (12.8 dBf)

[AM]18 μV

50 dB Quieting Sensitivity :

[FM]MONO 2.8 μV (20.2 dBf)

S/N (IHF-A) :

[FM]MONO 70 dB

STEREO 67 dB

Total harmonic Distortion (at 1 kHz) :

[FM]MONO 0.7 %

STEREO 1.0 %

General

Power supply : AC 120 V, 60 Hz(E3 model)

AC 230 V, 50/60 Hz(E2 model)

AC 220 V, 50 Hz(E1C model)

Power consumption :

360 W

0.1 W (Standby)

3 W (CEC standby)

Maximum external dimensions :

435 (W) x 162 (H) x 382 (D) mm

Weight : 9.3 kg

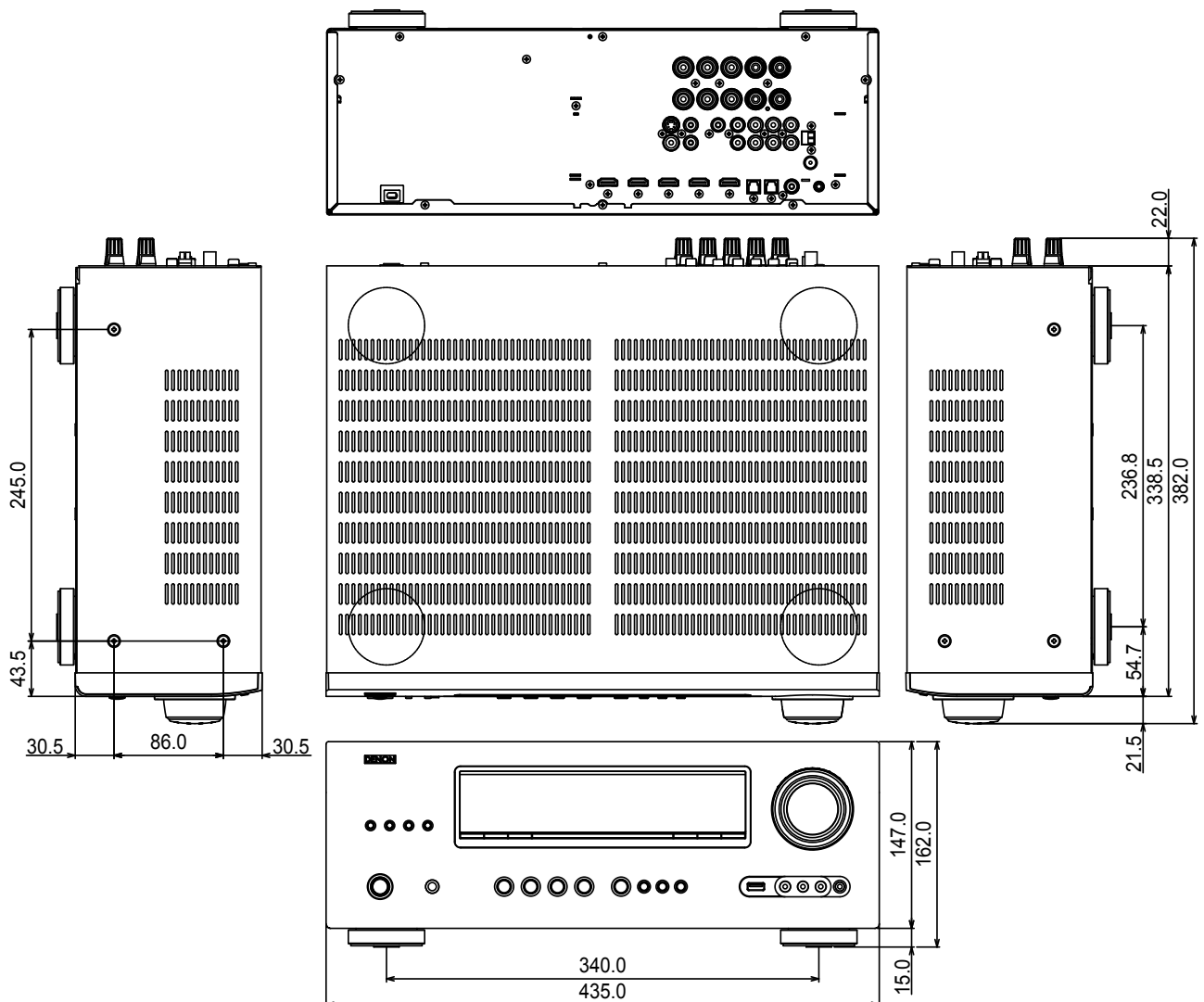
Remote Control Unit (RC-1157)

Batteries : R6/AA Type (two batteries)

Maximum external dimensions : 53 (W) x 224 (H) x 28 (D) mm

Weight : 160 g (including batteries)

DIMENSION



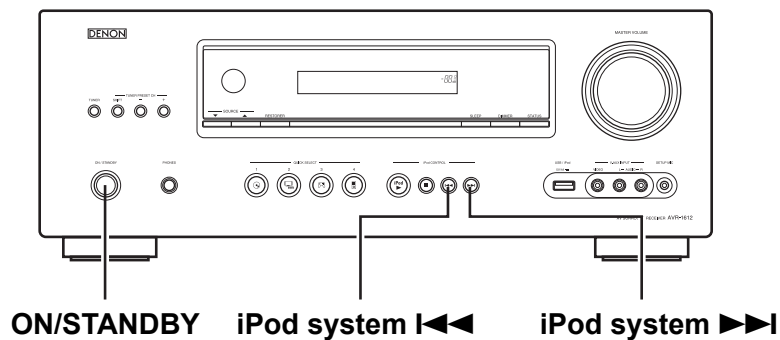
CAUTIONS IN SERVICING

Initializing AV SURROUND RECEIVER

AV SURROUND RECEIVER initialization should be performed when the μ com, peripheral parts of μ com, and Digital P.W.B. were replaced.

1. Turn off the power pressing ON/STANDBY button.
2. Press ON/STANDBY button while simultaneously while pressing iPod system **I◀◀** and iPod system **▶▶I** buttons.
3. Check that the entire display is flashing at intervals of about 1 second, and then release the 2 buttons.
The microprocessor will be initialized.

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



Service Jig

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

8U-110084S : EXTENSION UNIT KIT : 1 Set
(Refer to 35 page.)

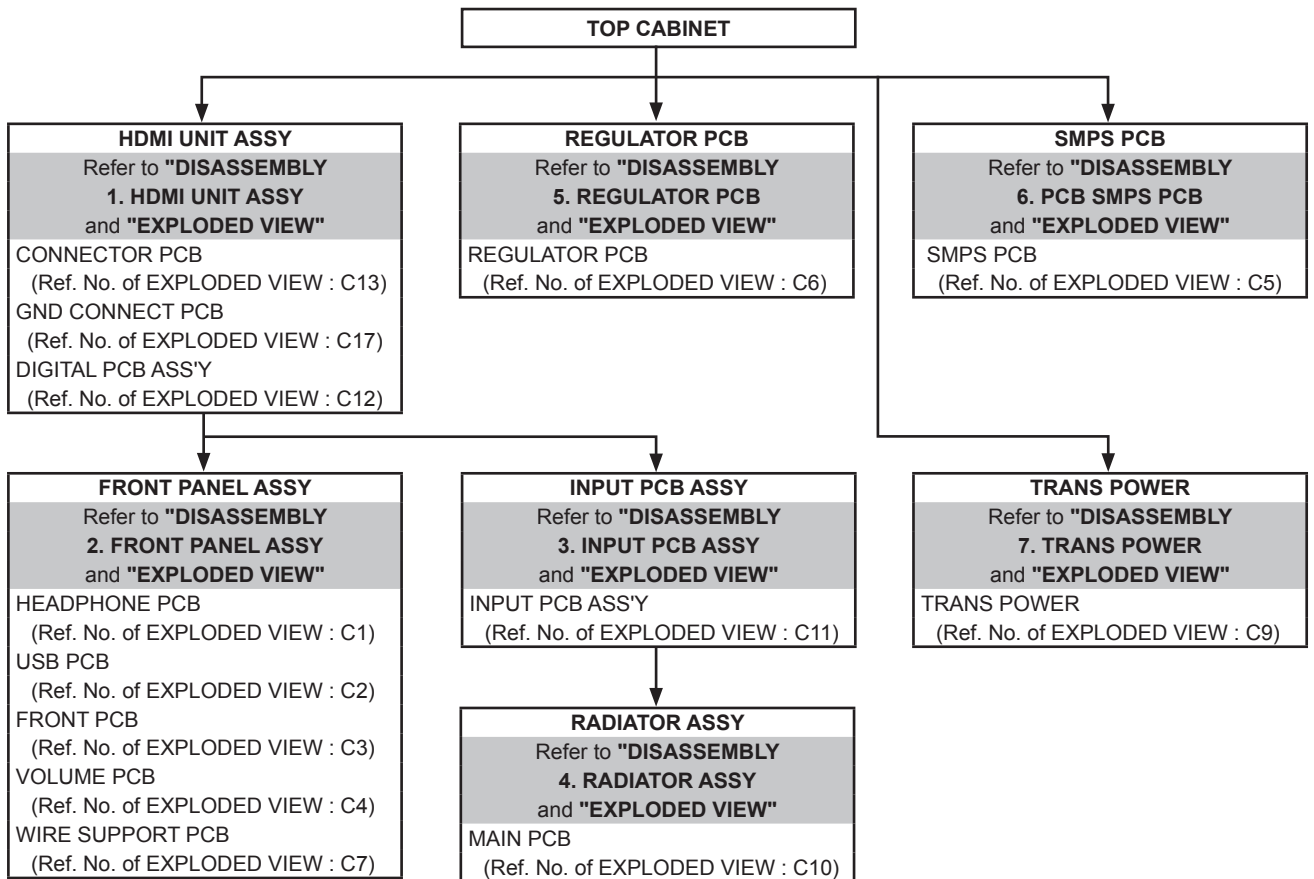
When you update the firmware by DFW, you can use the following JIG (RS232C to internal connector conversion adapter with 4P FFC cable kit).

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

8U-210100S : WRITING KIT : 1 Set
(Refer to 37 page.)

DISASSEMBLY

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

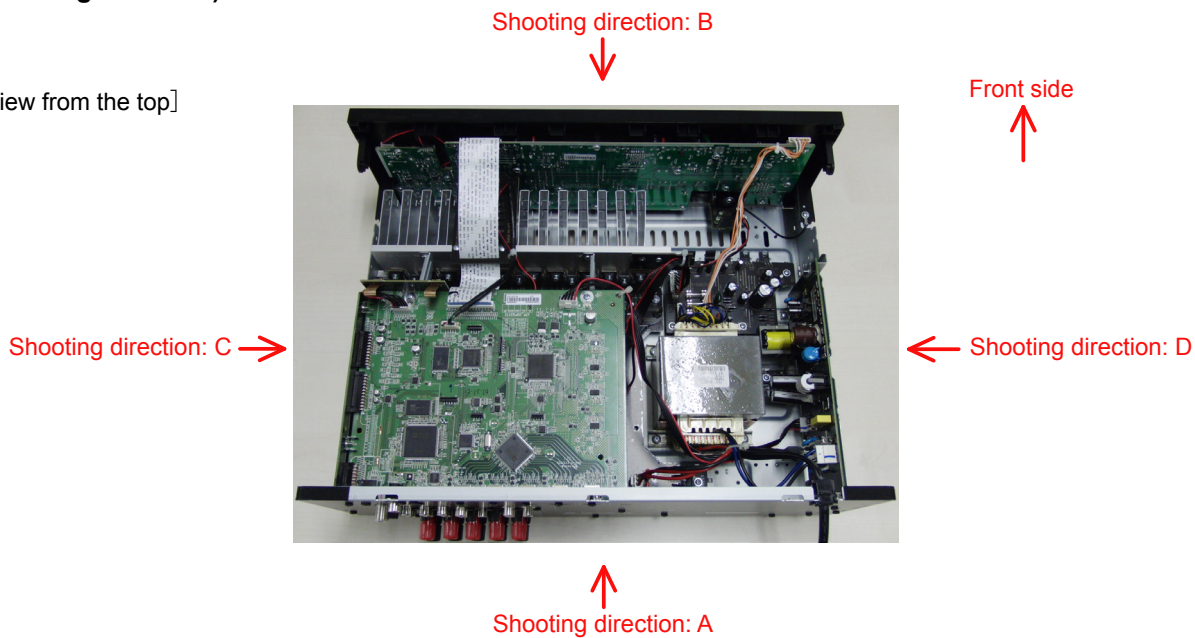


About the photos used for "descriptions of the DISASSEMBLY" section

- The shooting direction of each photograph used herein is indicated on the left side of the respective photograph as "Shooting direction: ****".
- Refer to the diagram below about the shooting direction of each photograph.
- Photographs with no shooting direction indicated were taken from the top of the set.
- The photograph is AVR-1612E3 model.

The viewpoint of each photograph (Shooting direction)

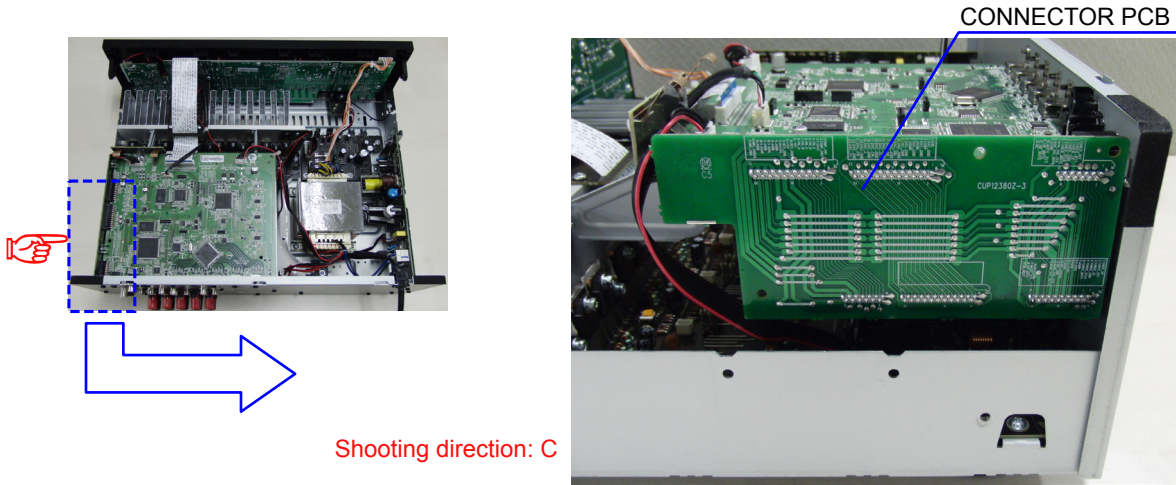
[View from the top]



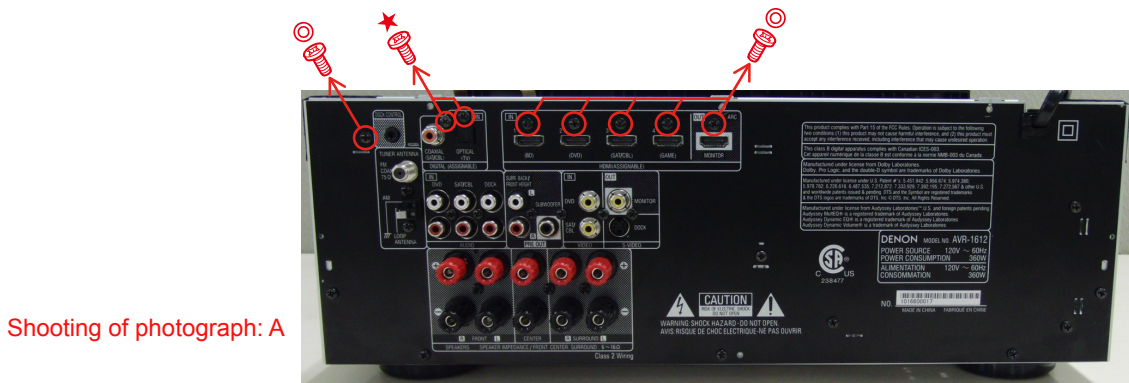
1. HDMI UNIT ASSY

Proceeding : **TOP CABINET** → **HDMI UNIT ASSY**

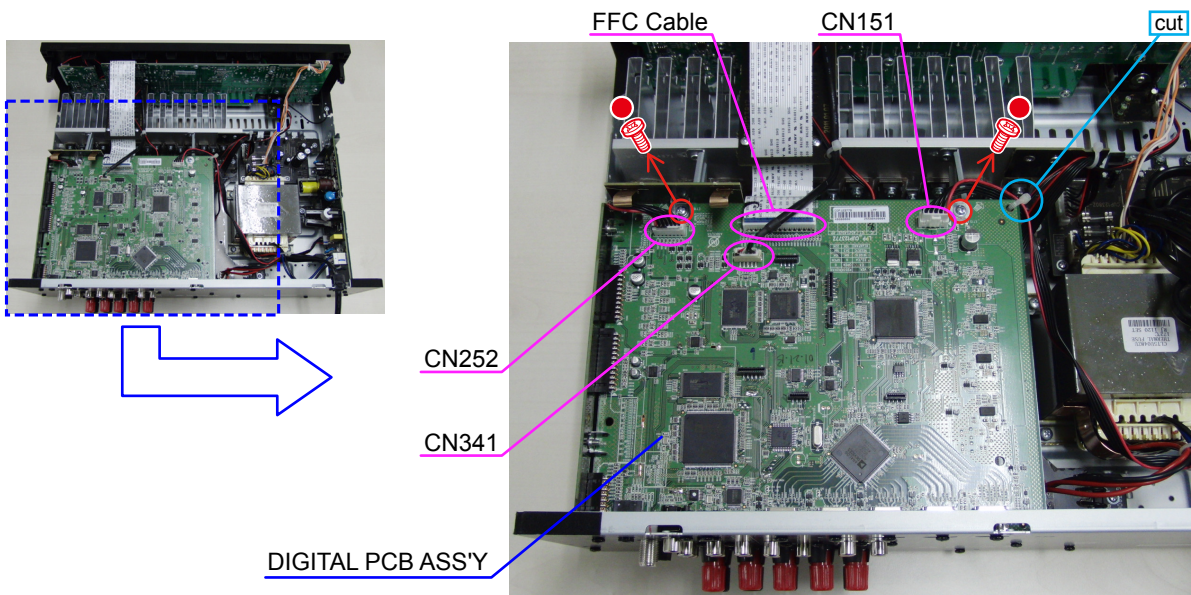
- (1) Disconnect the connector board.



- (2) Remove the screws.



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

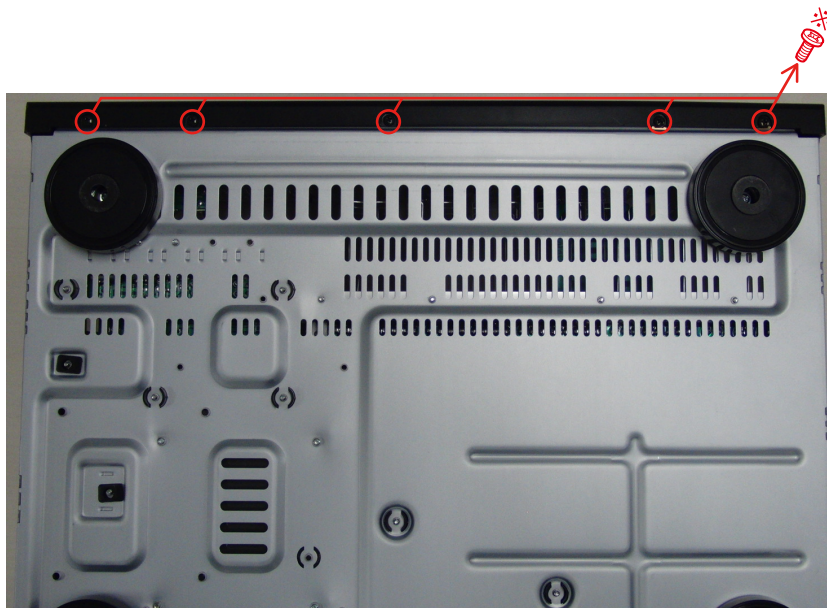


2. FRONT PANEL ASSY

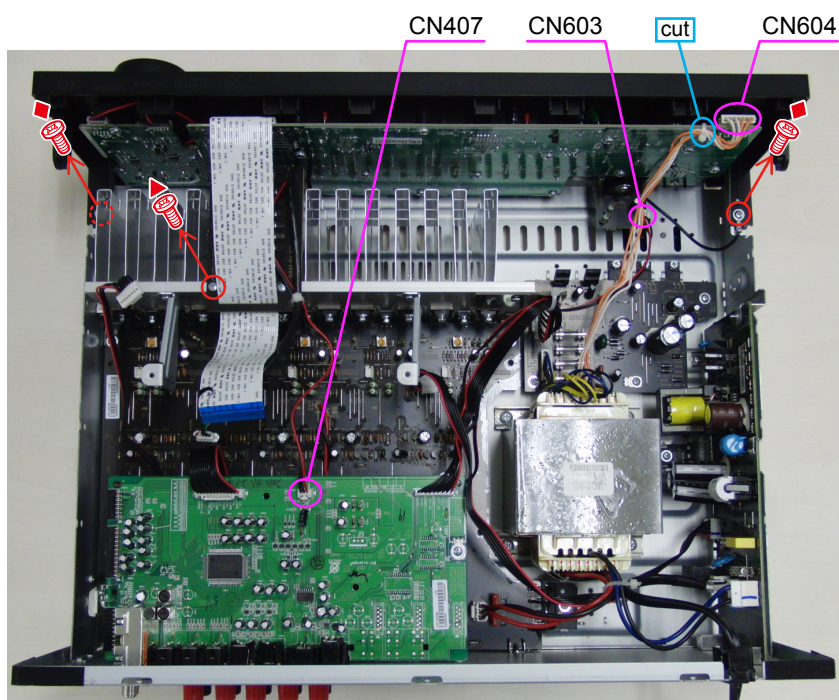
Proceeding : **TOP CABINET** → **HDMI UNIT ASSY** → **FRONT PANEL ASSY**

- (1) Remove the screws.

View from the bottom



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

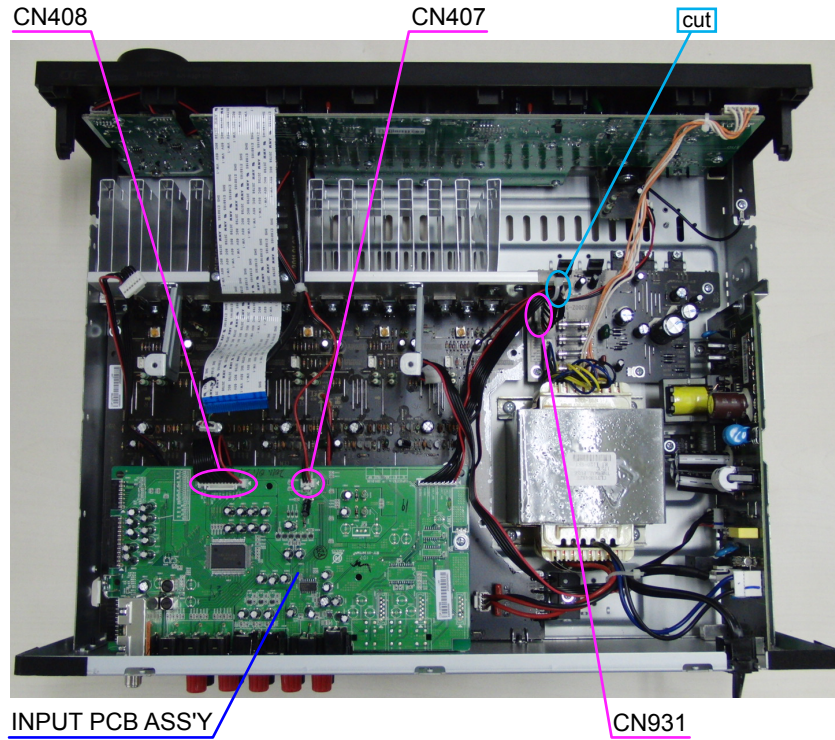


Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in FRONT PANEL ASSY.

3. INPUT PCB ASSY

Proceeding : **TOP CABINET** → **HDMI UNIT ASSY** → **INPUT PCB ASSY**

- (1) Disconnect the connector wires and remove the INPUT PCB ASSY.



- (2) Remove the screws.

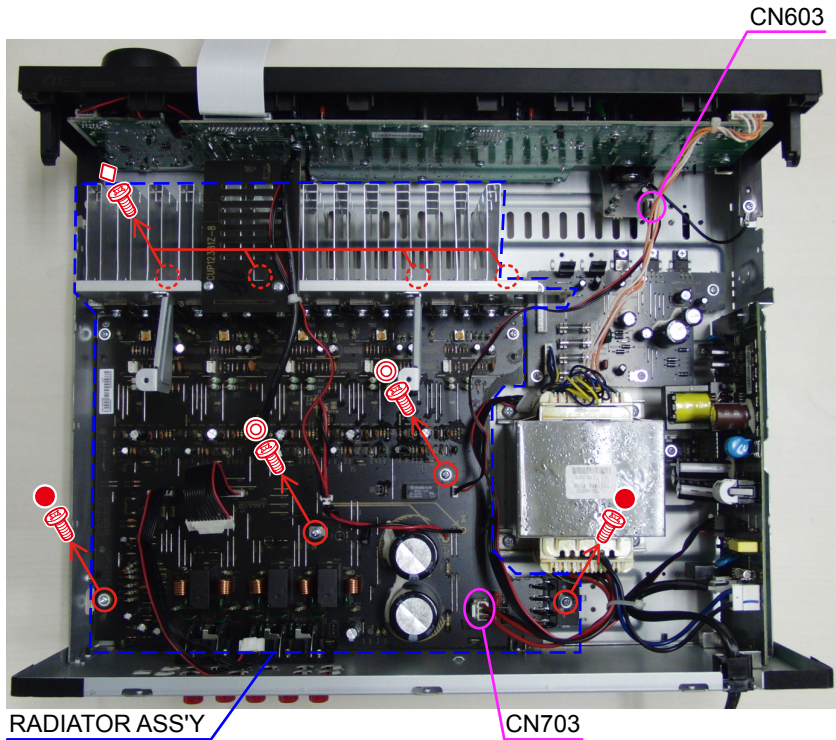
Shooting of photograph: A



4. RADIATOR ASSY

Proceeding : **TOP CABINET** → **HDMI UNIT ASSY** → **INPUT PCB ASSY**
 → **RADIATOR ASSY**

- (1) Remove the screws, then disconnect the connector wires.



- (2) Remove the screws, then remove the REAR PANEL.

Shooting of photograph: A



5. REGULATOR PCB

Proceeding : **TOP CABINET** → **REGULATOR PCB**

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

6. SMPS PCB

Proceeding : **TOP CABINET** → **SMPS PCB**

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

7. TRANS POWER

Proceeding : **TOP CABINET** → **TRANS POWER**

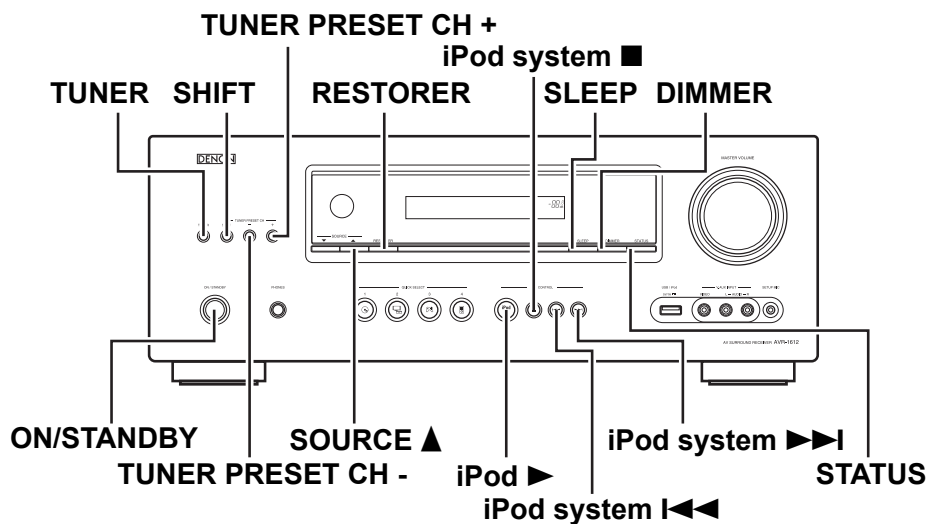
Please refer to "EXPLODED VIEW" for the disassembly method of TRANS POWER.

SPECIAL MODE

Special mode setting button

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

No.	Mode	Button A	Button B	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 15 page)
2	Displaying the protection history mode	SLEEP	STATUS	The protection history is displayed. (Refer to 17 page)
3	User Initialization mode (Installer Setup settings are not initialized.)	iPod system I◀◀	iPod system ▶▶I	Backup data initialization is carried out. (Installer Setup settings are not initialized.)
4	Mode for switching tuner frequency step (E2 model Only)	TUNER PRESET CH +	SOURCE ▲	Change tuner frequency step to FM:200kHz/AM:10kHzSTEP
5	Mode for preventing remote control acceptance	iPod system ■	iPod ▶	Operations using the remote control are rejected. (Mode cancellation: Turn off the power and execute the same button operations as when performing setup.)
6	Panel lock mode	TUNER	RESTORER	Operations using the main unit panel buttons or the master volume knob are rejected.
7	Panel lock mode (Master volume is not locked.)	SHIFT	RESTORER	Operations using the main unit panel buttons are rejected.
8	Cancellation of panel lock mode	TUNER PRESET CH -	RESTORER	Panel lock mode is cancelled.
9	Diagnostic mode	iPod system ■	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.
10	Remote ID Setup mode	iPod system ■	STATUS	When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates. (Refer to 19 page)



1. μ com/DSP Version display mode

1.1. Operation specifications

μ com/DSP version display mode:

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

Starting up:

Press the "ON/STANDBY" button to turn on the power while pressing the "STATUS" and "DIMMER" buttons. Now, press the "STATUS" button to the display the 2nd item information on the FL Display.

※ When the version is displayed on the FL Display, the version list is also displayed on the OSD.

1.2. Display Order

Error information(Refer to 1.3. Error display) → ① Model destination information → ② Main μ -com Version → ③ Main FBL → ④ DSP Version → ⑤ Audio PLD Version → ⑥ OSD Version → ⑦ USB Version → ⑧ iPod Version (Connected only)

① Model destination information :

FLD	A	V	R	1	6	1	2	E	3										
-----	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--

FLD	A	V	R	1	6	1	2	E	2	/	E	A							
-----	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--

FLD	A	V	R	1	6	1	2	E	1	C									
-----	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

FLD	A	V	R	1	6	2	2	E	1	C									
-----	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

② Main μ -com Version :

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

(* : Main version, #: Sub version)

③ Main FBL :

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

④ DSP Version :

FLD		D	S	P	:	*	*	.	*	*									
-----	--	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

⑤ Audio PLD Version :

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

⑥ OSD Version :

FLD		O	S	D	:	@	@	\$	x	*	*	*	*						
-----	--	---	---	---	---	---	---	----	---	---	---	---	---	--	--	--	--	--	--

(@: Model code, \$: Brand code, x: Region code, *: version)

⑦ USB Version :

FLD		U	S	B	:	*	*	.	*	*									
-----	--	---	---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--

⑧ iPod Version :

FLD	*	i	P	o	d	D	o	c	k	:	*	*	.	*	*				
-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	--

(ASD-1R/11R)

FLD	*	D	o	c	k	:	*	*	*	*	*	*	*	*	*	*	*	*	*
-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

(ASD-3/51)

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 (R2031/R2032, DIGITAL B'D). • 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 (IC402, DIGITAL B'D) and around circuits.
③ DSP NG	When DSP code boot is performed, the DSP FLAG0 port does not change to "H" even if DSP reset is executed.	D S P E R R O R 0 1	<ul style="list-style-type: none"> • Please check DSP (IC404, DIGITAL B'D) 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 2 P R O M E R R * * *	
⑤ Both DSP / EEPROM OK		(No error display, version display only)	
⑥ USB NG	No response from USB-μcom.	U S B E R R O R 0 1	

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 : * * . * * *
	▲ O S D : * * * * * * * * *

2. Errors checking mode (Displaying the protection history)

2.1. Operation specifications

Error mode (Displaying the protection history):

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

Starting up:

• Common in all the models

Press the "ON/STANDBY" button to turn on the power while pressing the "STATUS" and "SLEEP" buttons. The error (protection history display) mode is set.

Now, press the "STATUS" button to turn on the FL display.

2.2. About the display on the FL display

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

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

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 5 seconds later and the power supply will be shut off.

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

FLD	P	R	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 5 seconds later and the power supply will be shut off.

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

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

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 5 seconds later and the power supply will be shut off.

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

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

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 "iPod ►" button for 3 seconds.

FLD	F	R	T	:	D	C													
-----	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--

↓ Press the "iPod ►" button for 3 seconds.

FLD	F	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 AV SURROUND RECEIVER" 6 page.)

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

Warning indication by the POWER LED

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

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

3. Remote ID Setup mode

3.1. Specifications

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

2.2. Setting the AV receivers

Starting up:

Press and hold both "STATUS" and "iPod system ■" 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	<table border="1"><tr><td></td><td></td><td></td><td>R</td><td>E</td><td>M</td><td>O</td><td>T</td><td>E</td><td></td><td>I</td><td>D</td><td></td><td>1</td><td></td><td></td></tr></table>				R	E	M	O	T	E		I	D		1		
			R	E	M	O	T	E		I	D		1				
QUICK SELECT 2	<table border="1"><tr><td></td><td></td><td></td><td>R</td><td>E</td><td>M</td><td>O</td><td>T</td><td>E</td><td></td><td>I</td><td>D</td><td></td><td>2</td><td></td><td></td></tr></table>				R	E	M	O	T	E		I	D		2		
			R	E	M	O	T	E		I	D		2				
QUICK SELECT 3	<table border="1"><tr><td></td><td></td><td></td><td>R</td><td>E</td><td>M</td><td>O</td><td>T</td><td>E</td><td></td><td>I</td><td>D</td><td></td><td>3</td><td></td><td></td></tr></table>				R	E	M	O	T	E		I	D		3		
			R	E	M	O	T	E		I	D		3				
QUICK SELECT 4	<table border="1"><tr><td></td><td></td><td></td><td>R</td><td>E</td><td>M</td><td>O</td><td>T</td><td>E</td><td></td><td>I</td><td>D</td><td></td><td>4</td><td></td><td></td></tr></table>				R	E	M	O	T	E		I	D		4		
			R	E	M	O	T	E		I	D		4				

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

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

2.2. Setting the Remote control unit

- (1) Press the "AMP" button.
 The zone mode indicator flashes twice.
 (2) Press the "QUICK SELECT 1, 2, 3 or 4" button.
 The zone mode indicator flashes twice.

NOTE:

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

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

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

Confirming the operation of unit can be easily done after repair.

Backup data will not be lost.

4.1. Starting diagnostic mode

Press the "iPod system ■" and "STATUS" button while simultaneously pressing those two buttons of this unit.

Q1, Q2 and Q3 are lit in FL display.

4.2. Canceling diagnostic mode

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


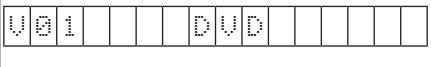

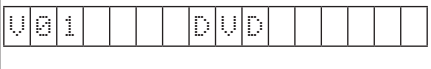

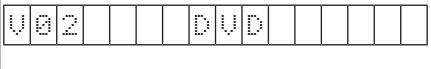






4.3. Operation

When you perform remote operation in accordance with the instructions in "Details of how to operate remote controller" *a) in the table below using the remote control unit (RC-1156 or RC-1157).

You will find using another remote control unit with the macro functions very useful. To use the macro functions, program a macro function to output a remote control code in accordance with the steps in *b) in the table below.

4.4. Video system confirmation items

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

Confirmation item	Setting and display	Details of how to operate remote controller *a)	Output sequence of remote control codes ※ It is useful to form a macro program. *b)	Contents of confirmation	Remarks
1 Analog Video (signal) Path 	Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [1/.] 3.Press [ZONE SELECT], Select "MAIN" 4.Press [DVD]	①KEY 1/CODE1 (Main Zone) Initialization ②DVD (Main Zone)	·Input : CVBS / Output : CVBS ·Input : S / Output : CVBS	
2 HDMI (signal) Path 	Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [1/.] 3.Press [DVD]	①KEY 1/CODE1 (Main Zone) Initialization ②DVD (Main Zone)	·Input HDMI / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	
3 OSD FUNCTION 	Menu : ON Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [2/ABC] 3.Press [ZONE SELECT], Select "MAIN" 4.Press [DVD] 5.Press [AMP] 6.Press [MENU]	①KEY 2/ABC (Main Zone) Initialization ②DVD (Main Zone) ③GUI MENU (Main Zone)	·OSD Display / Output : HDMI (※ As the input source, you can switch from DVD to other ones.)	
4 CEC FUNCTION (Control Monitor : HDMI Monitor) 	HDMI Control : ON Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [3/DEF] 3.Press [DVD]	①KEY 3/DEF (Main Zone) Initialization & CEC Control ON ②DVD (Main Zone)	·When the power supply of a TV is put in the standby mode, make sure that the power supply of this unit is also put in the standby mode. (※ As the input source, you can switch from DVD to other ones.)	
5 HDMI Audio (signal) Path (Audio : AMP) 	Audio : AMP(When checking the audio output from AMP) Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [5/JKL] 3.Press [DVD]	①KEY 5/JKL (Main Zone) Initialization & Select Audio AMP ②DVD (Main Zone)	·Input : HDMI (Signal of PCM, DolbyDigital or DTS) / Output : Speakers ·Input : HDMI (Signal of HD Audio) / Output : Speakers (※ As the input source, you can switch from DVD to other ones.)	
6 HDMI Audio (signal) Path (Audio : TV) 	Audio : TV(When checking the audio output from TV) Display: 	1.Press [ZONE SELECT], Select "MAIN" 2.Press [6/MNO] 3.Press [DVD]	①KEY 6/MNO (Main Zone) Initialization & Audio Select TV ②DVD (Main Zone)	·Input : HDMI (Signal of PCM or DolbyDigital or DTS) / Output : HDMI (Audio output from connected TV) (※ As the input source, you can switch from DVD to other ones.)	

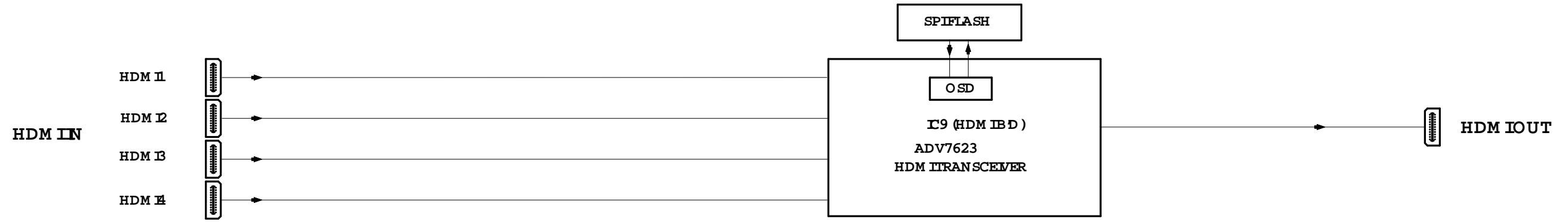
4.5. Audio system confirmation items

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

Confirmation item	Setting and display	Details of how to operate remote controller	Output sequence of remote control codes ※ It is useful to form a macro program.	Contents of confirmation	Remarks
1 Analog (signal) Path fig.7	Input Mode : Fixed ANALOG SURROUND mode : DIRECT Amp assign : NORMAL Display: A01 DVD	1.Press [ZONE SELECT], Select "MAIN" 2.Press [7/PQRS] 3.Press [DVD]	①KEY 7/PQRS (Main Zone) Initialization & Amp assign NORMAL& Input Mode Fixed ANALOG & SURROUND mode DIRECT ②DVD (Main Zone)	·Input : Analog / Output : Speakers (Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
2 DIGITAL (signal) Path (MAIN) fig.8	Input Mode : Fixed DIGITAL Amp assign : NORMAL Display: A02 DVD	1.Press [ZONE SELECT], Select "MAIN" 2.Press [8/TUV] 3.Press [DVD]	①KEY 8/TUV (Main Zone) Initialization & Amp assign NORMAL& Input Mode Fixed DIGITAL ②DVD (Main Zone)	·Input : Digital / Output : Speakers (Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
3 HDMI (signal) Path fig.9	Input Mode : Fixed HDMI Amp assign : NORMAL Display: A05 DVD	1.Press [ZONE SELECT], Select "MAIN" 2.Press [MOVIE] 3.Press [DVD]	①MOVIE Select Initialization & Amp assign NORMAL & Input Mode Fixed HDMI ②DVD (Main Zone)	·Input : HDMI / Output : Speakers (Front L/R) (※ As the input source, you can switch from DVD to other ones.)	
4 A/D (signal) Path (Main Zone) fig.10	Amp assign : NORMAL SURROUND mode : Multi ch STEREO Vol -20dB Speaker Config : SSSSY (Front/Center/Surround/SourroundBack : Small, SW : Yes) Display: A06 DVD	1.Press [ZONE SELECT], Select "MAIN" 2.Press [MUSIC] 3.Press [DVD]	①MUSIC Initialization & Amp assign NORMAL & SURROUND mode : Multi ch STEREO & Volume -20dB ②DVD (Main Zone)	·Input : Analog / Output : Speakers (Front L/R) ·Input : Analog / Output : SW(20Hz) (※ As the input source, you can switch from DVD to other ones.)	

BLOCK DIAGRAM

fig.1



VIDEO BLOCK DIAGRAM

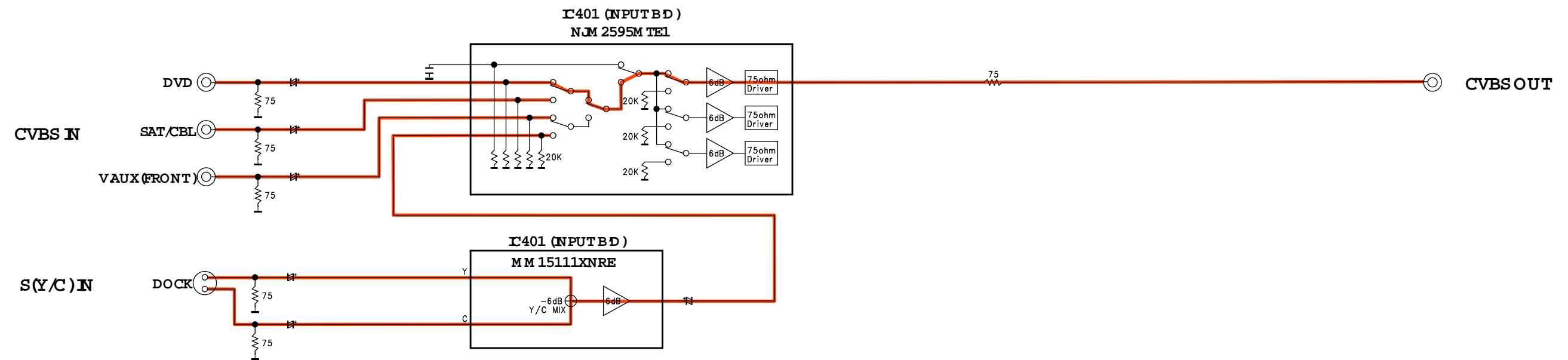
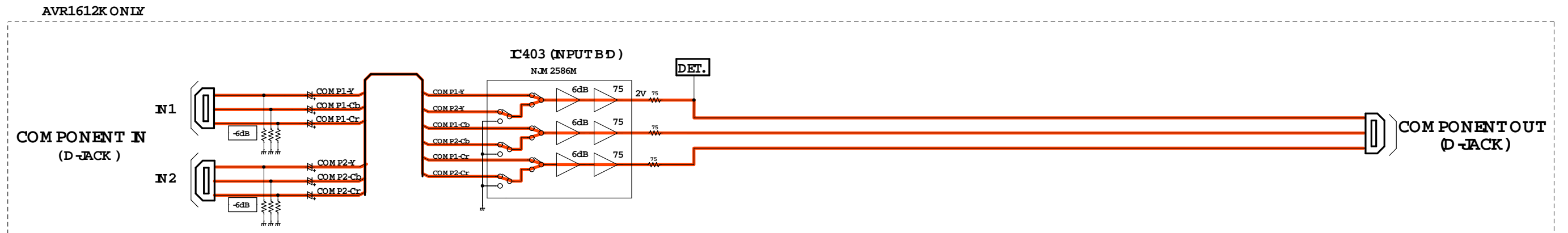


fig.2

VIDEO BLOCK DIAGRAM

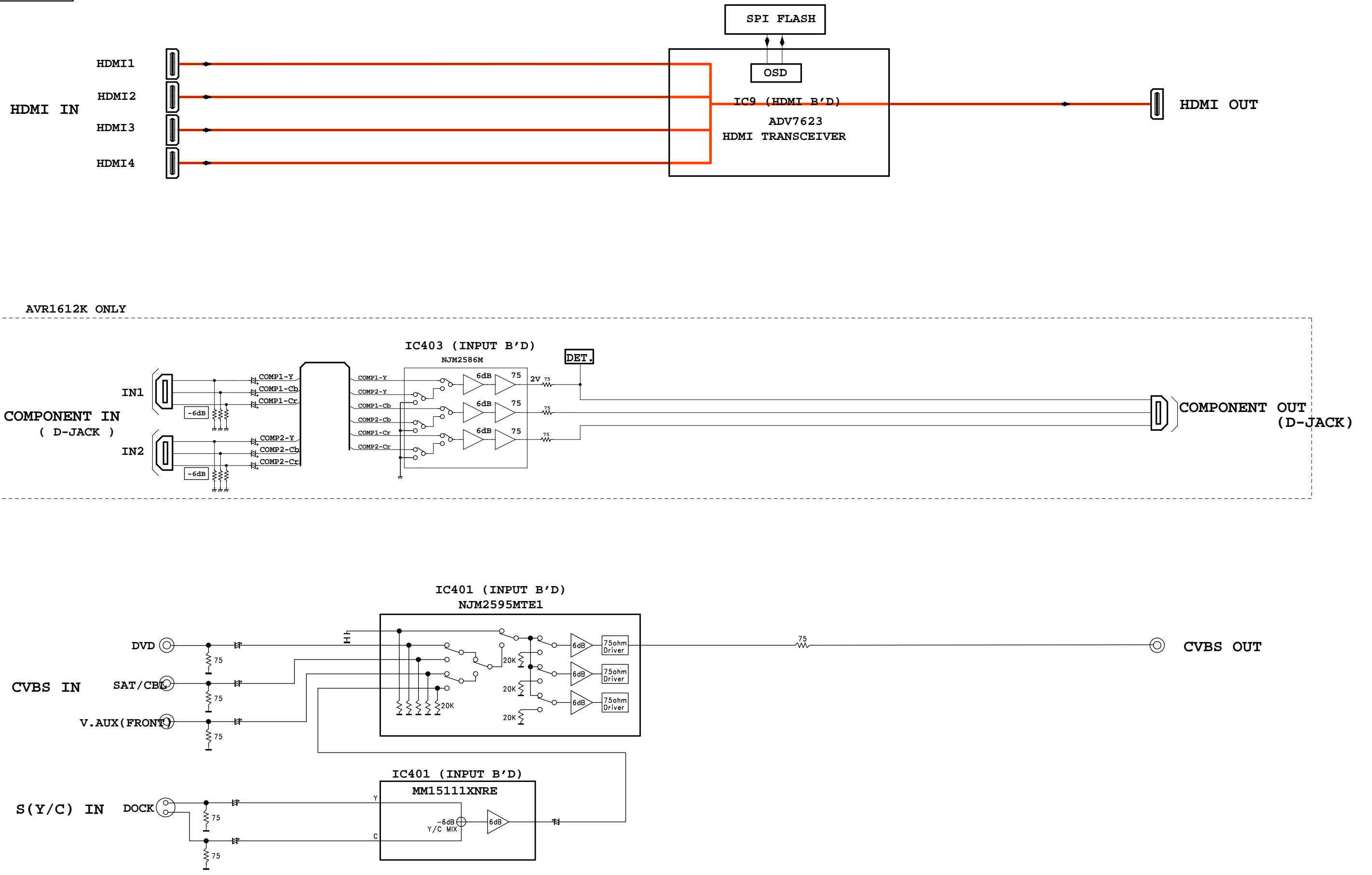


fig.3

VIDEO BLOCK DIAGRAM

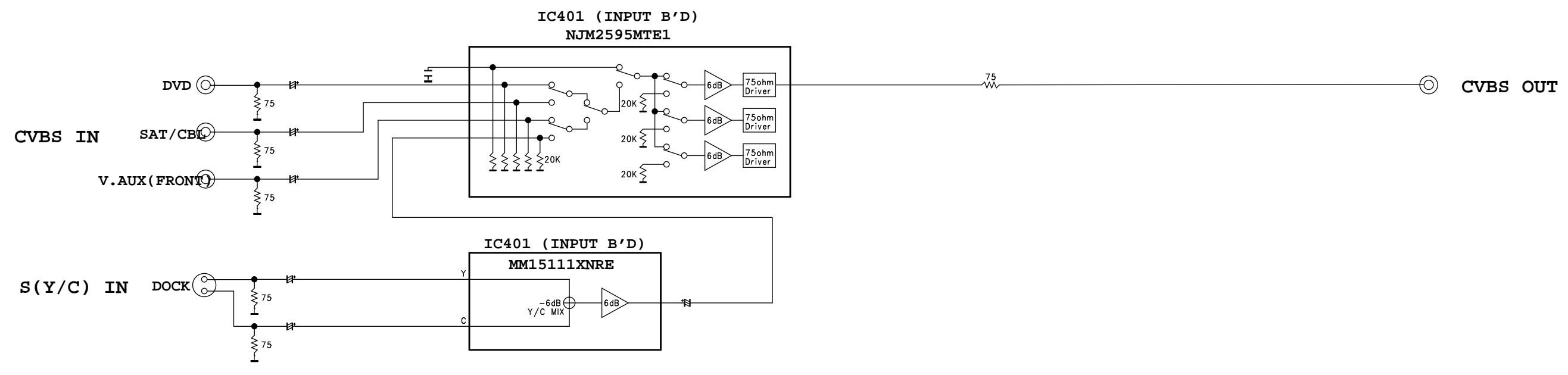
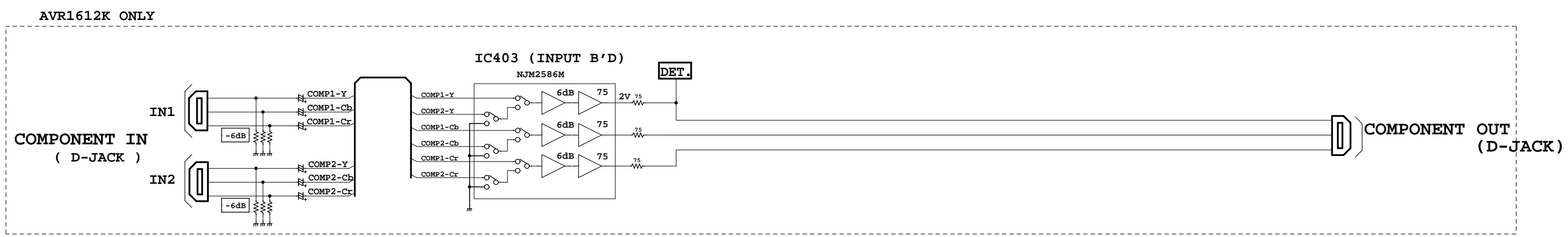
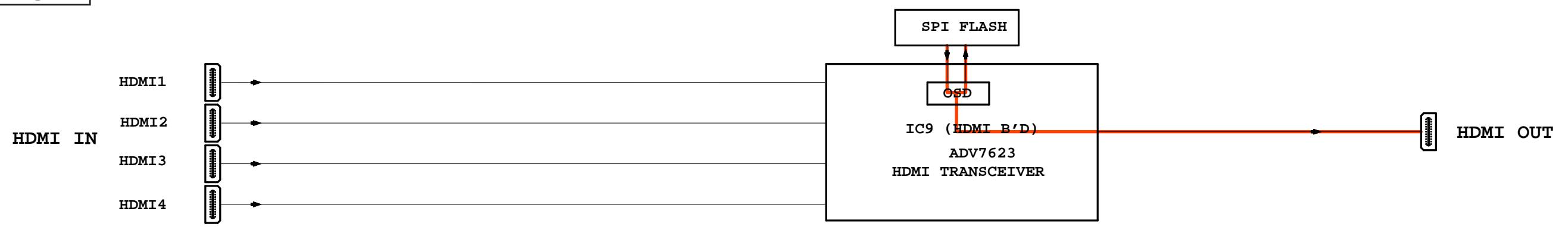


fig.4

VIDEO BLOCK DIAGRAM

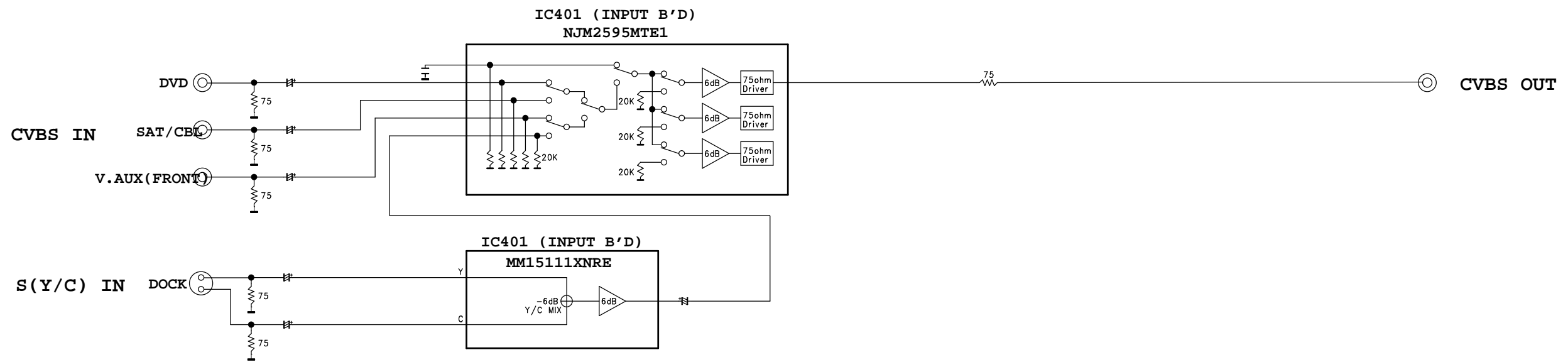
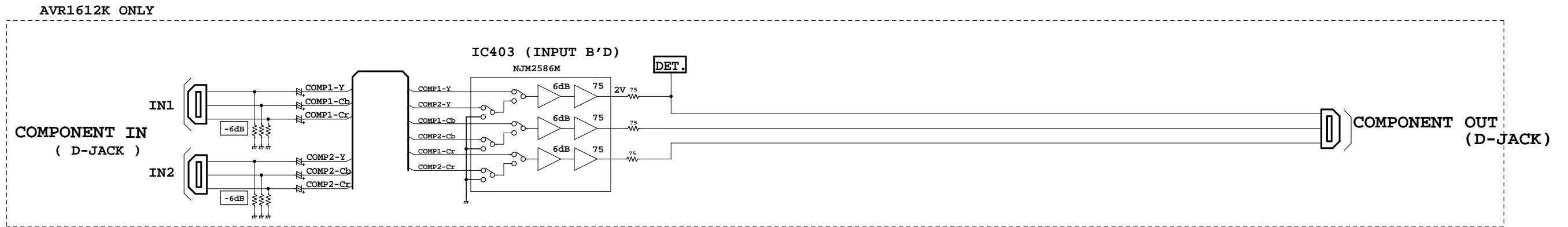
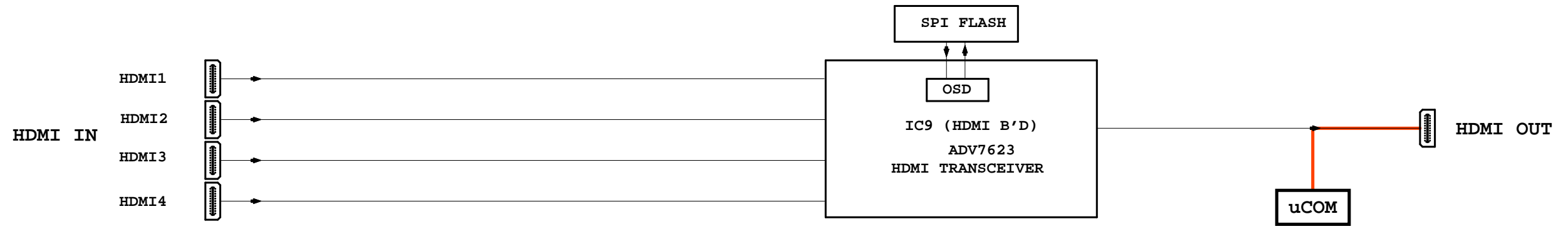


fig.5

AUDIO BLOCK DIAGRAM

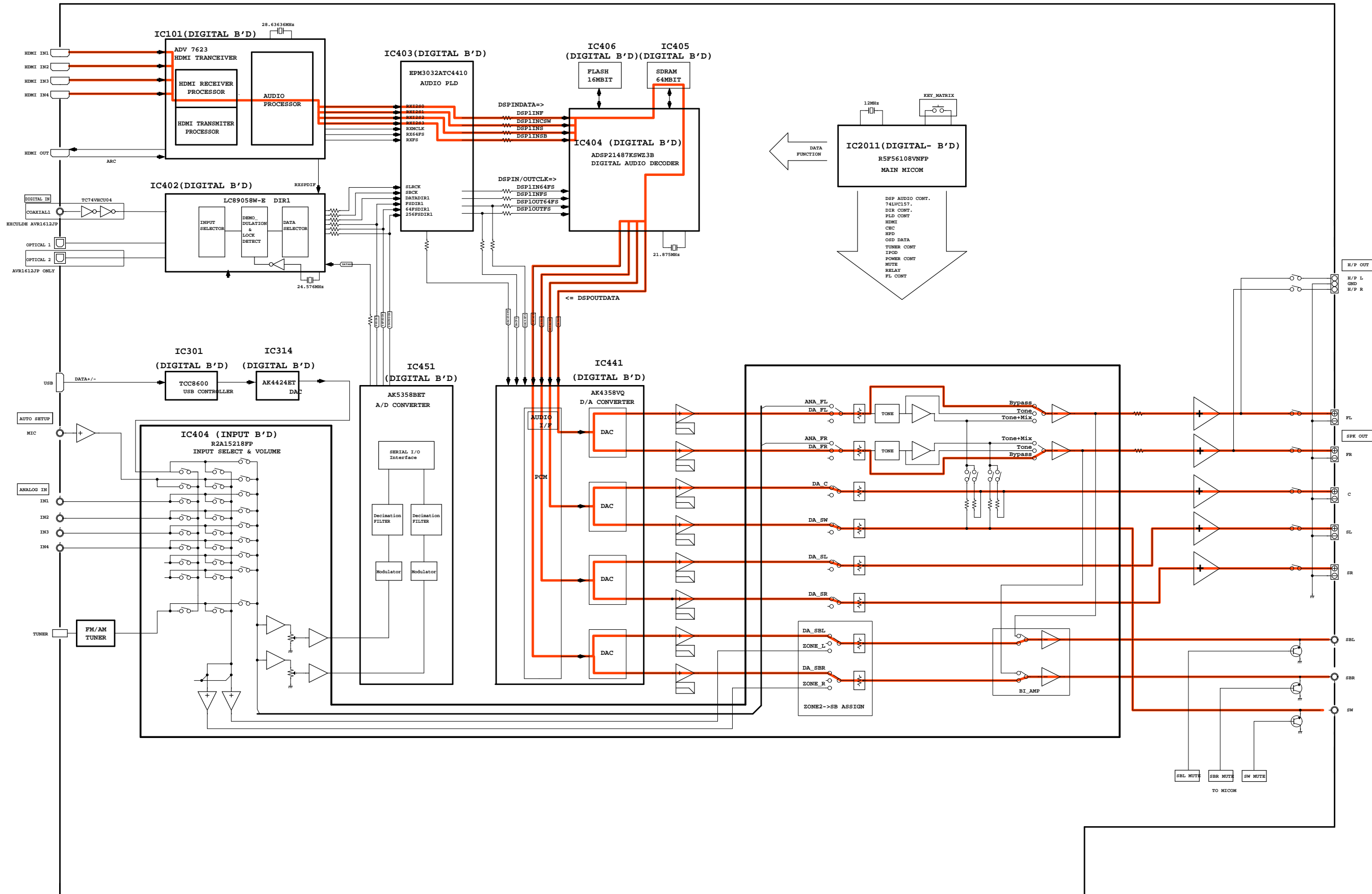


fig.6

AUDIO BLOCK DIAGRAM

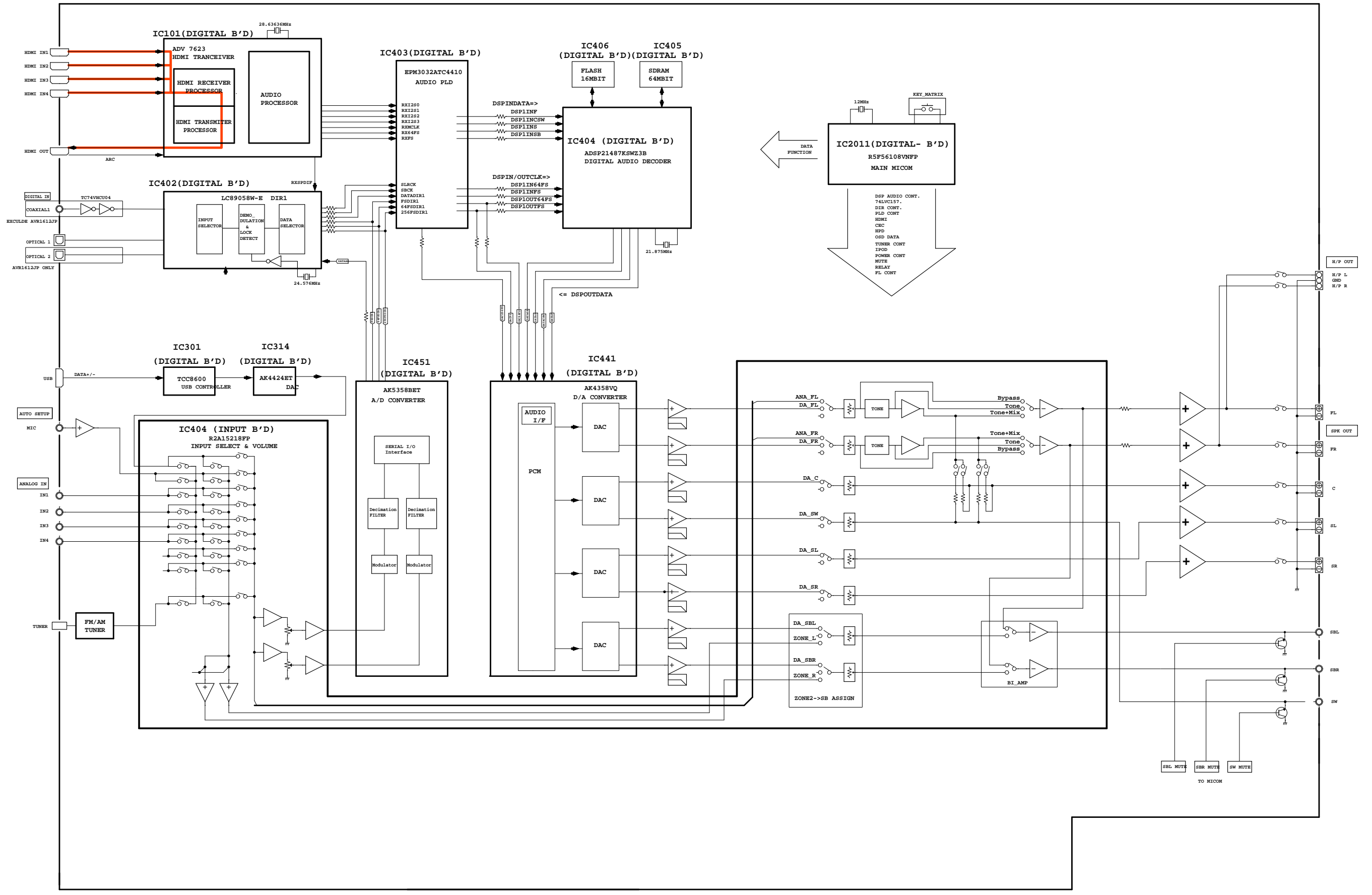


fig.7

AUDIO BLOCK DIAGRAM

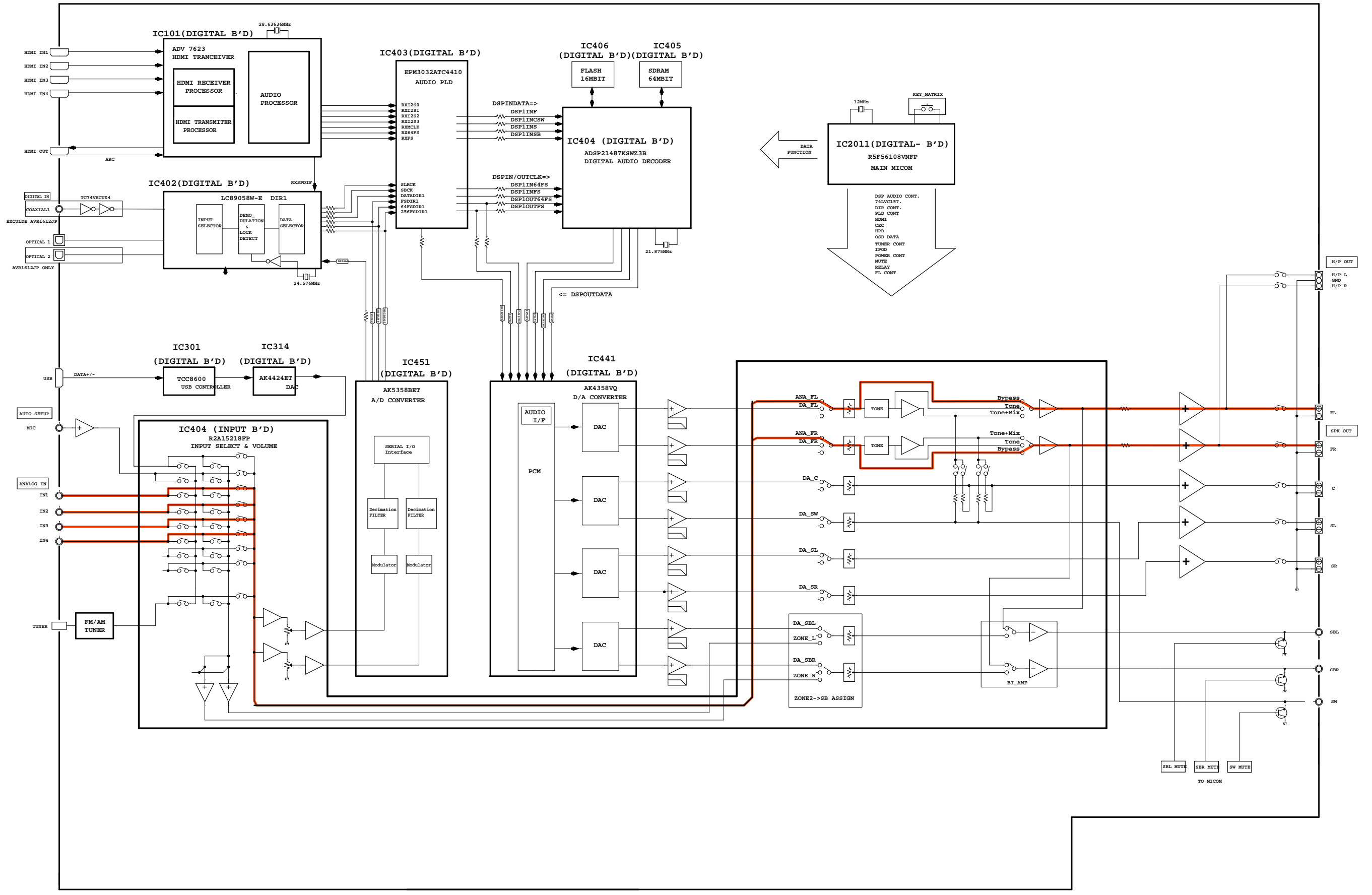


fig.8

AUDIO BLOCK DIAGRAM

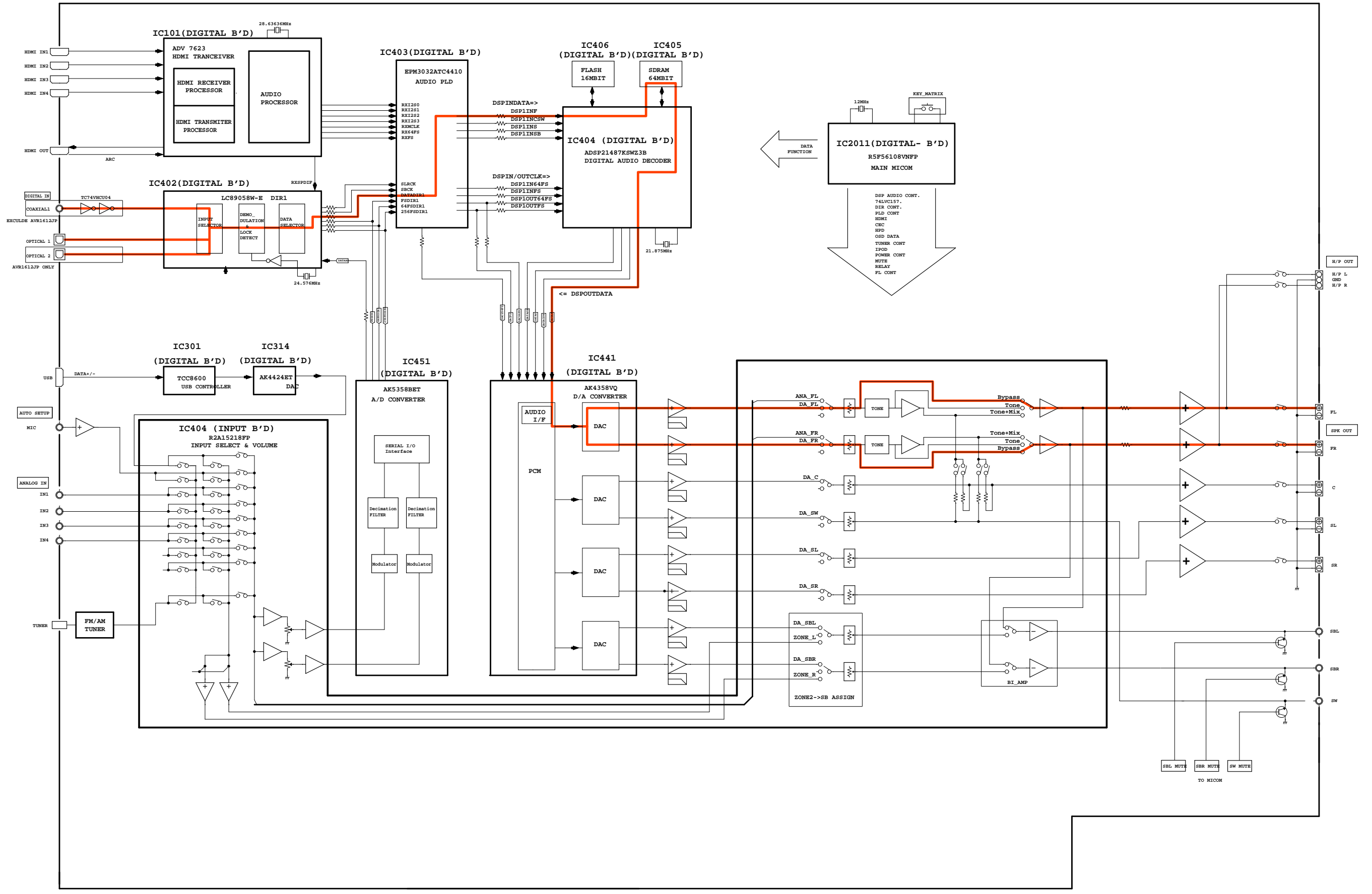


fig.9

AUDIO BLOCK DIAGRAM

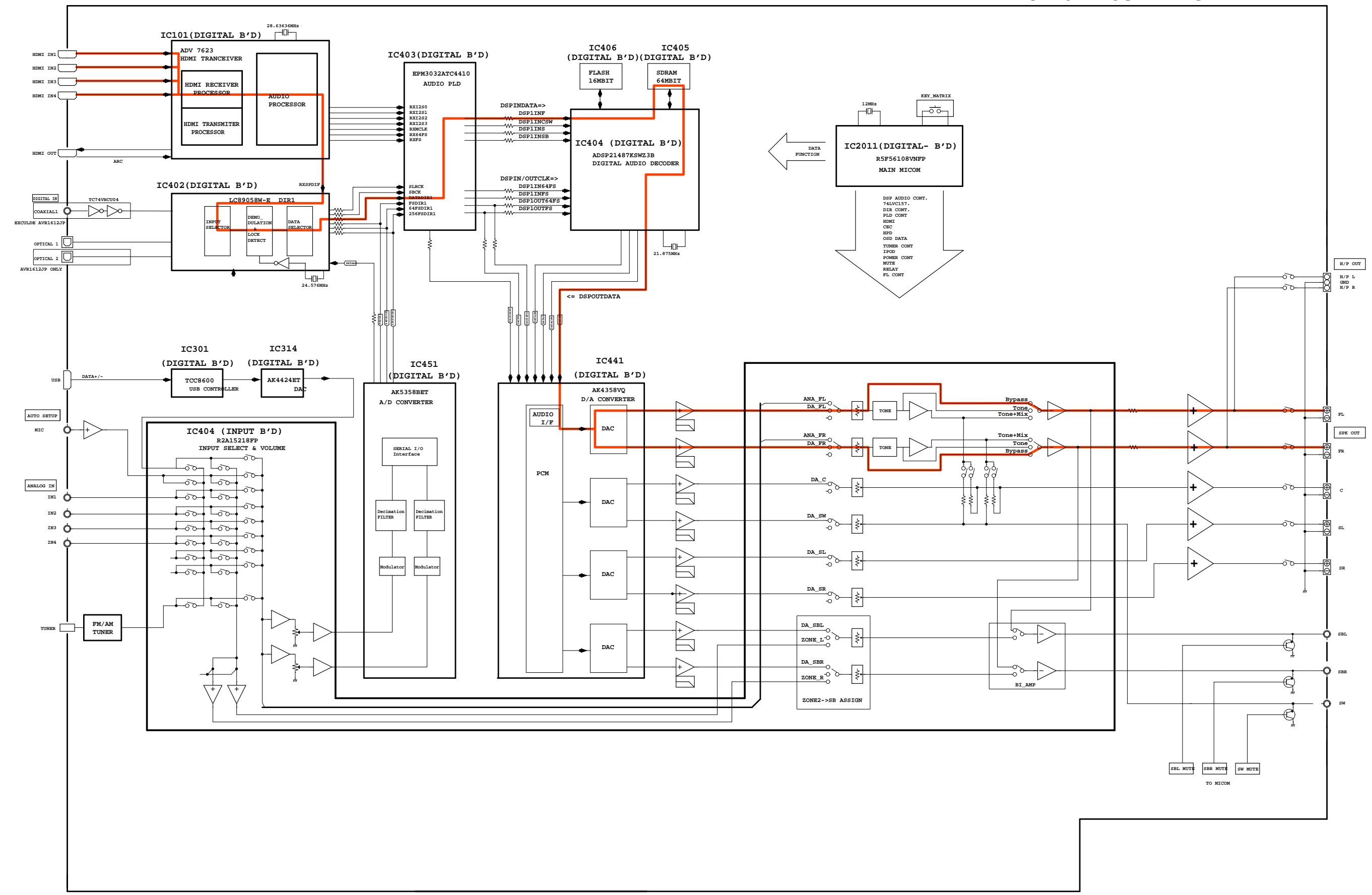
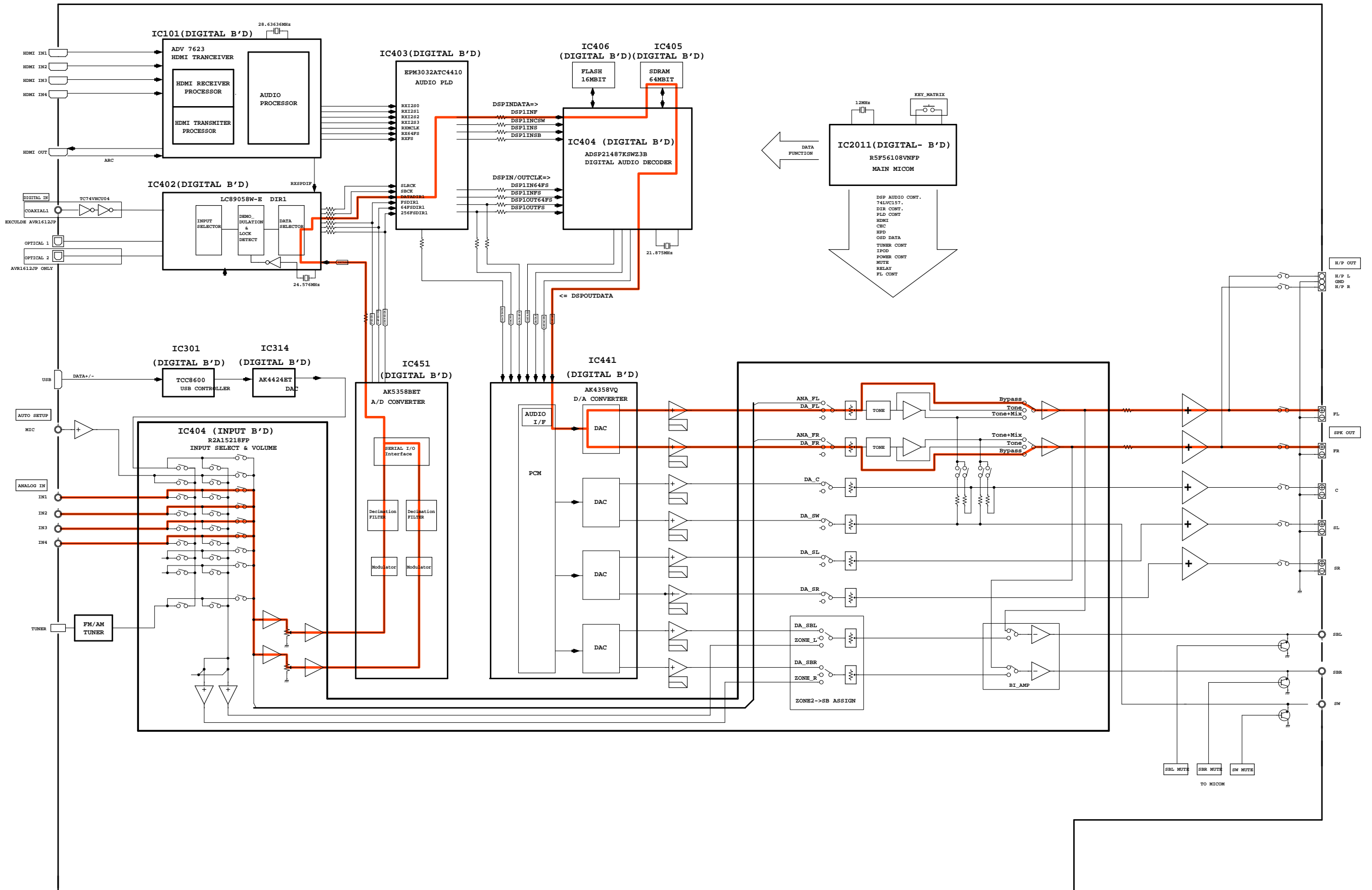
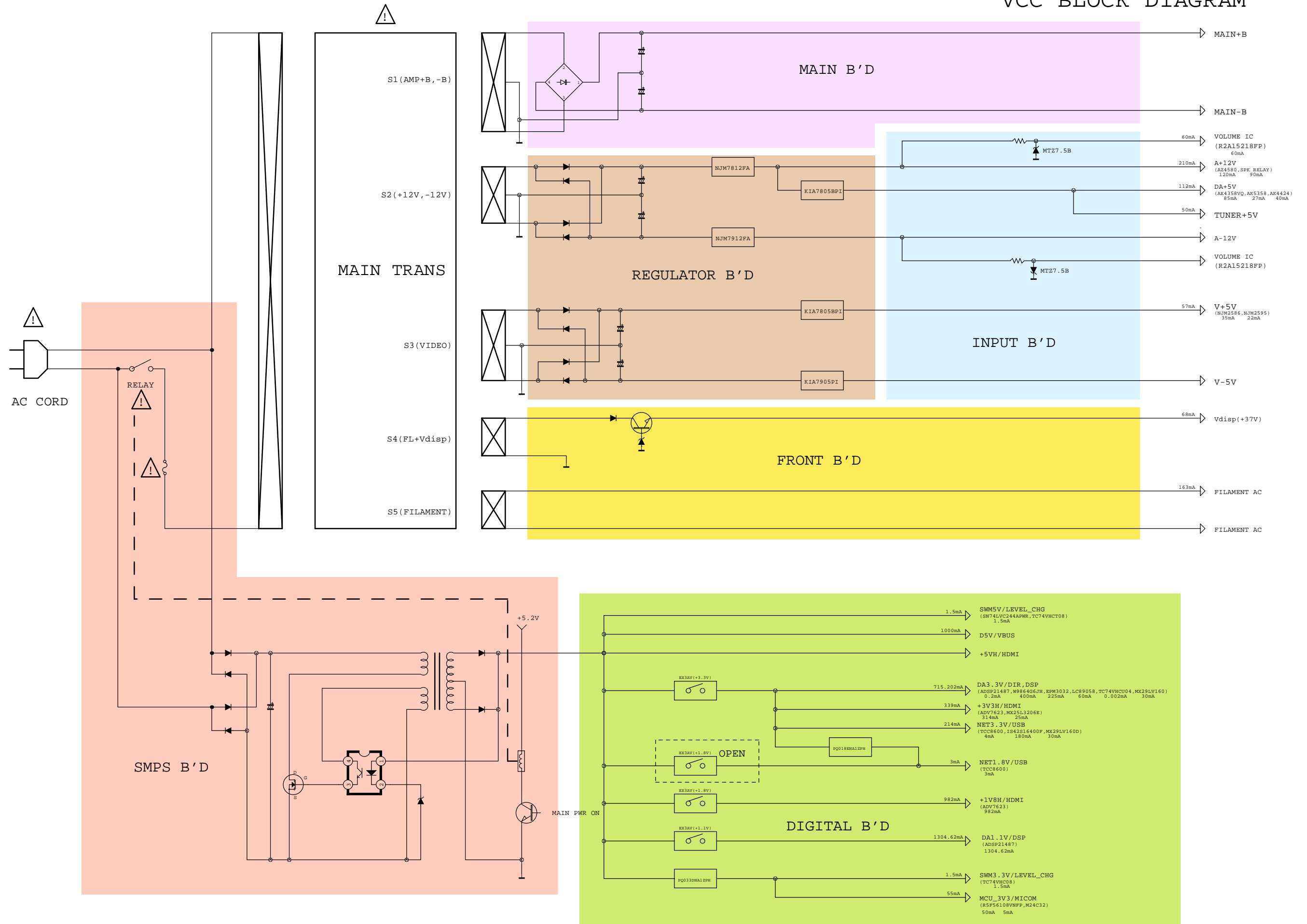


fig.10

AUDIO BLOCK DIAGRAM



VCC BLOCK DIAGRAM



JIG FOR SERVICING

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

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

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

• Connection of PCB HDMI JIG

-Preparation-

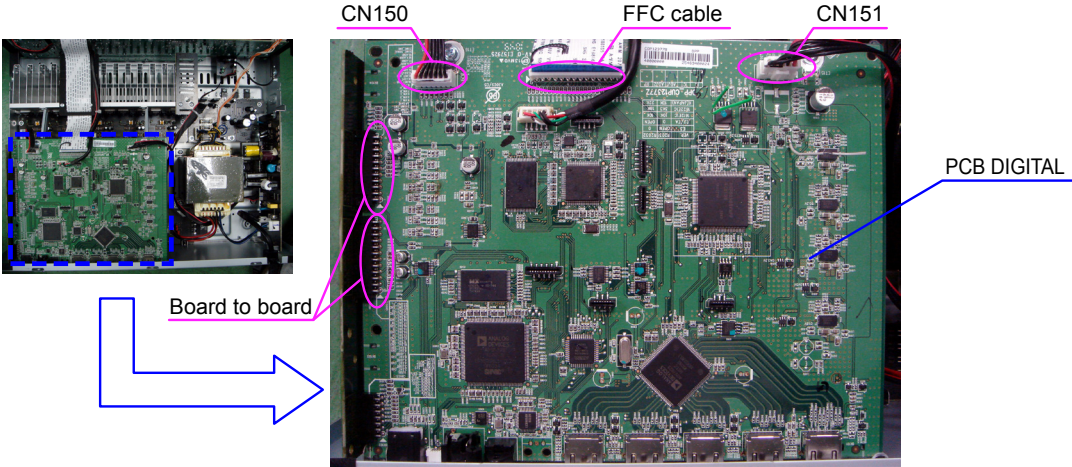
- 8U-110084S : EXTENSION UNIT KIT : 1 Set
- Insulation sheet (Do not supply it) : 1 sheet
- Ground lead (Do not supply it) : 1 pc

-Procedures-

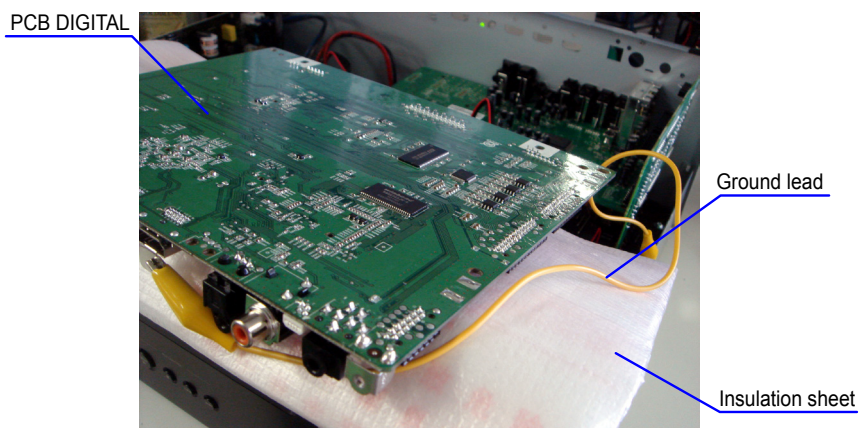
(1) Remove the screws.



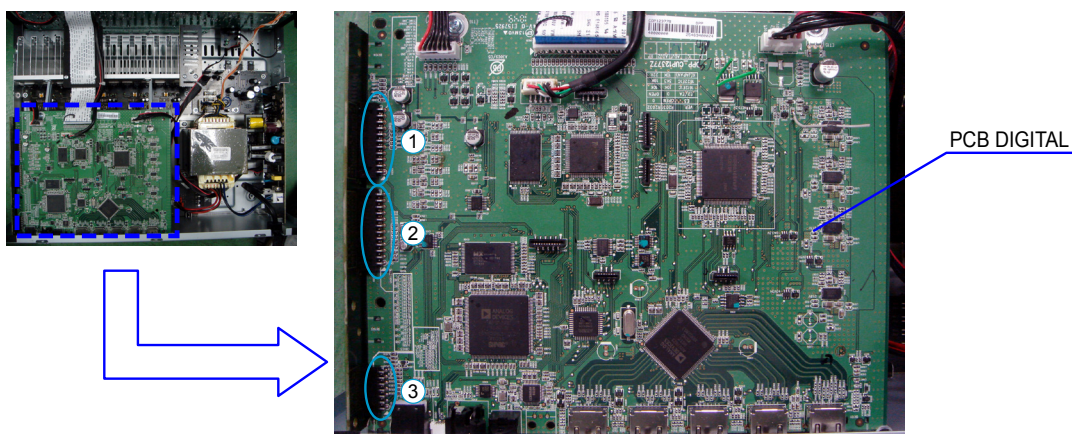
(2) Disconnect the connector board.



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



- (4) Connect the six extension jig cables.



Connection table of Board to Board

No.	Pin	Ref. No.	PCB		Ref. No.	PCB
①	21 pin	CN254	CONNECTOR	↔	CN254	DIGITAL
②	23 pin	CN256	CONNECTOR	↔	CN403	DIGITAL
③	13 pin	CN258	CONNECTOR	↔	CN253	DIGITAL

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	IC201	R5F56108VNF	B	SOFTWARE: Main
DIGITAL	IC406	MX29LV160DBTI-70G	B	SOFTWARE: DSP ROM
DIGITAL	IC403	EPM3032A-TC44	B	SOFTWARE: AUDIO PLD
DIGITAL	IC102	MX25L3206EM2I-12G	B	SOFTWARE: OSD ROM; E3,JP model
DIGITAL	IC102	MX25L6406EM2I-12G	B	SOFTWARE: OSD ROM; E2,E1C model

After replacing

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

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

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

PROCEDURE FOR UPGRADING THE VERSION OF THE FIRMWARE

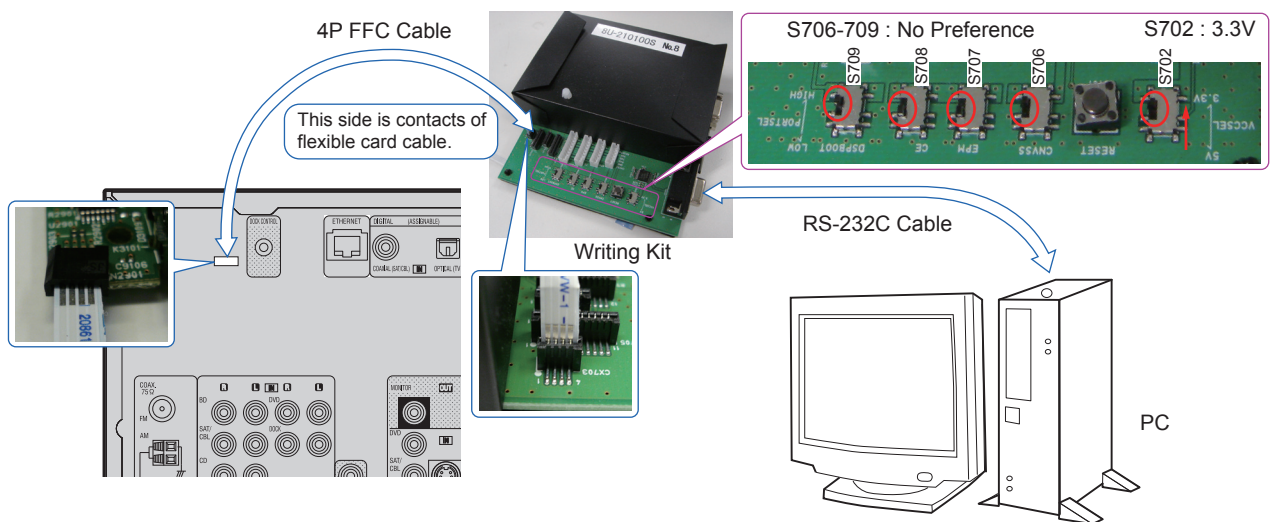
1. How to update by DFW

1.1. Preparations before starting the operation

- (1) Personal Computer (Installed "DFW_0048_AVR1612(Rev.1.1.1).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. Turn on the AV receiver

Operate the following. Turn on the AV receiver.

- (1) Connect the power cable to the AC outlet while simultaneously pushing the "NET/USB" button and the "INTERNET RADIO" button of the front panel.
- (2) Confirm the power indicator is green and "WRITTING" is displayed in the front panel.

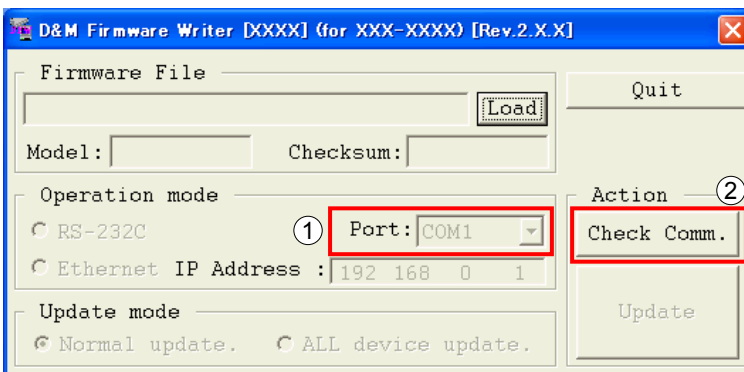
1.4. Run the DFW

Run the "DFW_0048_AVR1612(Rev.1.1.1).exe" on desktop of PC.



1.5. Communication check

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



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



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

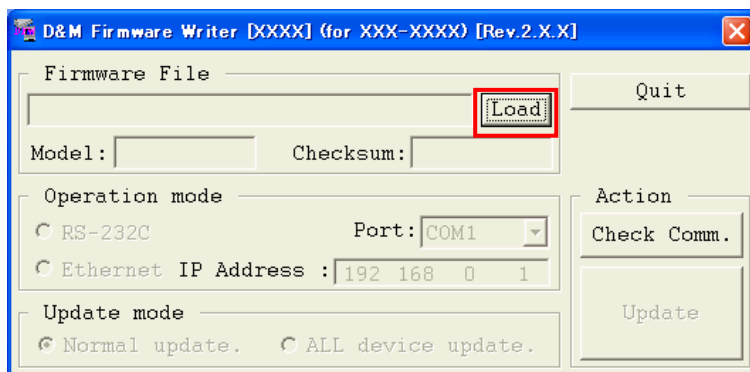


Please confirm the following

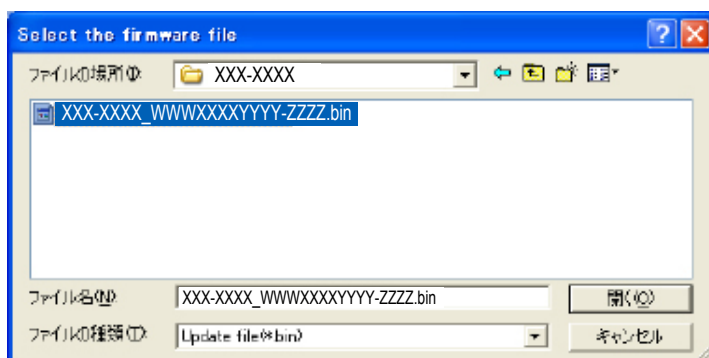
- (a) Check the connection of the AV receiver and PC. (refer to "1.2. Connection of the AV receiver")
- (b) Check the operation mode of the AV receiver. (refer to "1.3. Turn on the AV receiver")
- (c) Check the selection of the RS-232C port number of PC.

1.6. Download the firmware

- (1) Click the "Load" button.

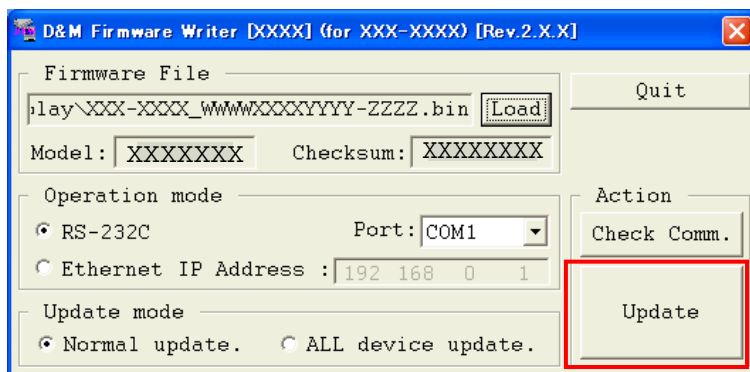


- (2) Download the firmware from the specified download source to PC.

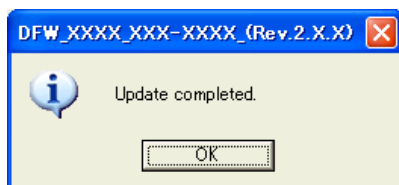


1.7. Complete the firmware updating

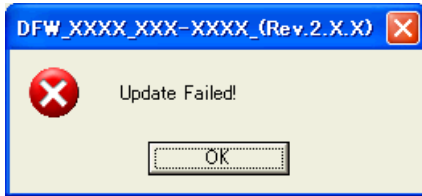
- (1) Click the "Update" button.



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



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



1.8. Notice:

Please keep the following notice for firmware update.

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

Confirming the firmware's number after upgraded

After updating the firmware, check the version. Refer to "1. μ com/DSP Version display mode" (15 page).

ADJUSTMENT

Audio Section

Adjusting Idling Current

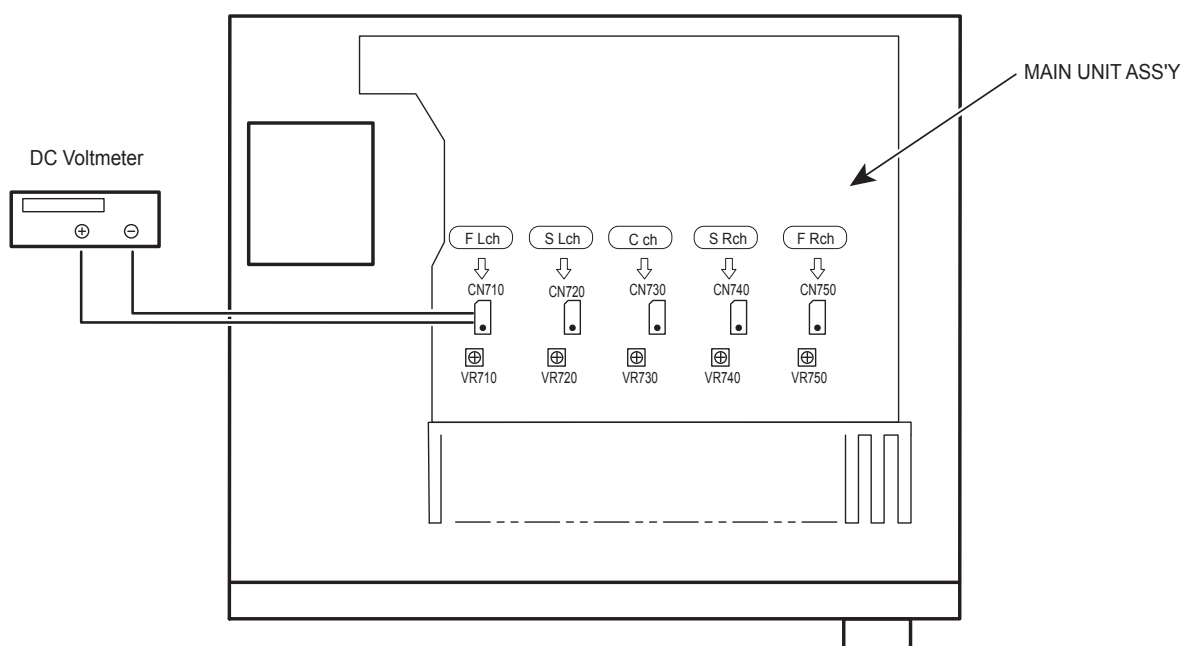
Required measurement equipment: DC Voltmeter

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 VR710(FL), VR750(FR), VR730(C), VR720(SL), VR740(SR), on MAIN AMP UNIT at fully counterclockwise (\odot) position.
- (2) Connect DC Voltmeter to test points (FRONT-Lch: CN710, FRONT-Rch: CN750, CENTER ch: CN730, SURROUND-Lch: CN720, SURROUND-Rch: CN740).
- (3) Connect the power cord to AC Line, and set the power switch to "ON".
- (4) Presetting.
 - MASTER VOLUME : "---" counterclockwise (\odot min.)
 - SPEAKER (Speaker terminal) : No load
(Do not connect speaker, dummy resistor, etc.)
 - MODE : MCH STEREO
 - FUNCTION : DVD
- (5) Within 2 minutes after the power on, turn VR710 clockwise (\odot) to adjust the TEST POINT voltage at $1.5\text{mV} \pm 0.5\text{mV DC}$.
- (6) After 10 minutes from the preset above, turn VR710 to set the voltage to $2.0\text{mV} \pm 0.5\text{mV DC}$.
- (7) Adjust the Variable Resistors of each channel(VR720-VR750) in the same way.



SURROUND MODES AND PARAMETERS

Surround

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

Surround modes and surround parameters

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

Symbols in the table

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

Surround mode	Channel output					Subwoofer	Mode	Cinema EQ.	DRC *8	Surr. Parameter			Room Size
	Front L/R	Center	Surround L/R	Surround Back L/R	Front Height L/R					D. Comp *9	LFE *10	Delay Time	
DIRECT (2channel)	○					⊙*3			○				
DIRECT (Multi-channel)		⊙	⊙*1			⊙			○		○		
STEREO	○					⊙			○		○		
MULTI CH IN	○	⊙	⊙		⊙*2	⊙	○*4	○	○		○		
DOLBY PRO LOGIC IIz	○	⊙	⊙		⊙	⊙		○	○		○		
DOLBY PRO LOGIC IIx	○	⊙	⊙	⊙		⊙		○	○		○		
DOLBY PRO LOGIC II	○	⊙	⊙			⊙		○	○		○		
DTS NEO:6	○	⊙	⊙	⊙		⊙		○	○		○		
DOLBY DIGITAL	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DOLBY DIGITAL Plus	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DOLBY TrueHD	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DTS SURROUND	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DTS 96/24	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DTS-HD	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
DTS Express	○	⊙	⊙	⊙	⊙*2	⊙		○	○		○		
MULTI CH STEREO	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
ROCK ARENA	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
JAZZ CLUB	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
MONO MOVIE	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
VIDEO GAME	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
MATRIX	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○
VIRTUAL	○	⊙	⊙	⊙	⊙	⊙		○	○		○		○

*1 A signal for each channel contained in an input signal is output as audio.

*2 If "Surr. Parameter" – "PLIIz Height" is set to "ON", sound is output from the front height speakers.

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

*4 If this surround mode is selected, only the "Height" mode setting is available for "Surr. Parameter" – "Mode".

*5 This item can be selected when "Surr. Parameter" – "Mode" is set to "Cinema".

*6 This item can be selected when "Surr. Parameter" – "Mode" is set to "Cinema".

*7 This item cannot be set when "Surr. Parameter" – "S.Back" is set to "PLIIx Music".

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

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

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

Surround mode	Surr. Parameter										Audysey Settings*19			RESTORER *18
	Height Gain	PLIz Height *12	AFDM *13	S.Back	Subwoofer	PRO LOGIC II/IIx Music mode only			NEO:6 Music mode only	Tone *14	MultEQ®	Dynamic EQ® *16	Dynamic Volume® *17	
						Panorama	Dimension	C.Width						
DIRECT (2 channel)														
DIRECT (Multi-channel)														
STEREO														
MULTI CH IN	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY PRO LOGIC IIz	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY PRO LOGIC IIx				<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY PRO LOGIC II				<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS NEO:6				<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY DIGITAL	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY DIGITAL Plus	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DOLBY TrueHD	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS SURROUND	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS 96/24	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS-HD	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS Express	<input type="radio"/> *11	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MULTI CH STEREO										<input type="radio"/> *15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ROCK ARENA										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
JAZZ CLUB										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MONO MOVIE										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VIDEO GAME										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MATRIX										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VIRTUAL										<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

*11 This item can be selected when "Surr. Parameter" - "PLIz Height" is set to "ON".

*12 If "Speaker Config." - "F.Height" is set to "None", this item cannot be selected.

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

*14 This item cannot be set when "Dynamic EQ®" is set to "ON".

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

*16 This item cannot be set when "MultEQ®" is set to "OFF" or "Manual".

*17 This item cannot be set when "Dynamic EQ®" is set to "OFF".

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

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

Types of input signals, and corresponding surround modes

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

Symbols in the table

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

Surround mode	NOTE	Input signal types and formats																		
		ANALOG	PCM		DTS-HD		DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY								
			LINEAR PCM (multi ch)	LINEAR PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio						DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5.4ch/3ch)						
DTS SURROUND																				
DTS-HD MSTR																				
DTS-HD HI RES	*1 *3			●																
DTS ES DSCRT6.1	*1 *3						●													
DTS ES MTRX6.1	*1 *3							◎												
DTS SURROUND									●											
DTS 96/24										●										
DTS (-HD) + PLIIx CINEMA	*2 *3																			
DTS (-HD) + PLIIx MUSIC	*1 *3																			
DTS (-HD) + PLIIz	*4																			
DTS EXPRESS																				
DTS (-HD) + NEO:6	*1 *3																			
DTS NEO:6 CINEMA																				
DTS NEO:6 MUSIC																				
DOLBY SURROUND																				
DOLBY TrueHD																				
DOLBY DIGITAL+																				
DOLBY DIGITAL EX	*1 *3																			
DOLBY (D+) (HD)+EX	*1 *3																			
DOLBY DIGITAL																				
DOLBY (D) (D+) (HD)+PLIIx CINEMA	*2 *3																			
DOLBY (D) (D+) (HD)+PLIIx MUSIC	*1 *3																			
DOLBY (D) (D+) (HD)+PLIz	*4																			
DOLBY PRO LOGIC Ix CINEMA	*1 *3																			
DOLBY PRO LOGIC Ix MUSIC	*1 *3																			
DOLBY PRO LOGIC Ix GAME	*1 *3																			
DOLBY PRO LOGIC IIz	*4																			
DOLBY PRO LOGIC II CINEMA																				
DOLBY PRO LOGIC II MUSIC																				
DOLBY PRO LOGIC II GAME																				
DOLBY SURROUND																				

*1 If "Speaker Config." - "S.Back" is set to "None", this surround mode cannot be selected.
 *2 If "Speaker Config." - "S.Back" is set to "1spkr" or "None", this surround mode cannot be selected.
 *3 This surround mode can be selected when "Pre Assign" is set to "NORMAL".
 *4 If "Speaker Config." - "F.Height" is set to "None", this surround mode cannot be selected.

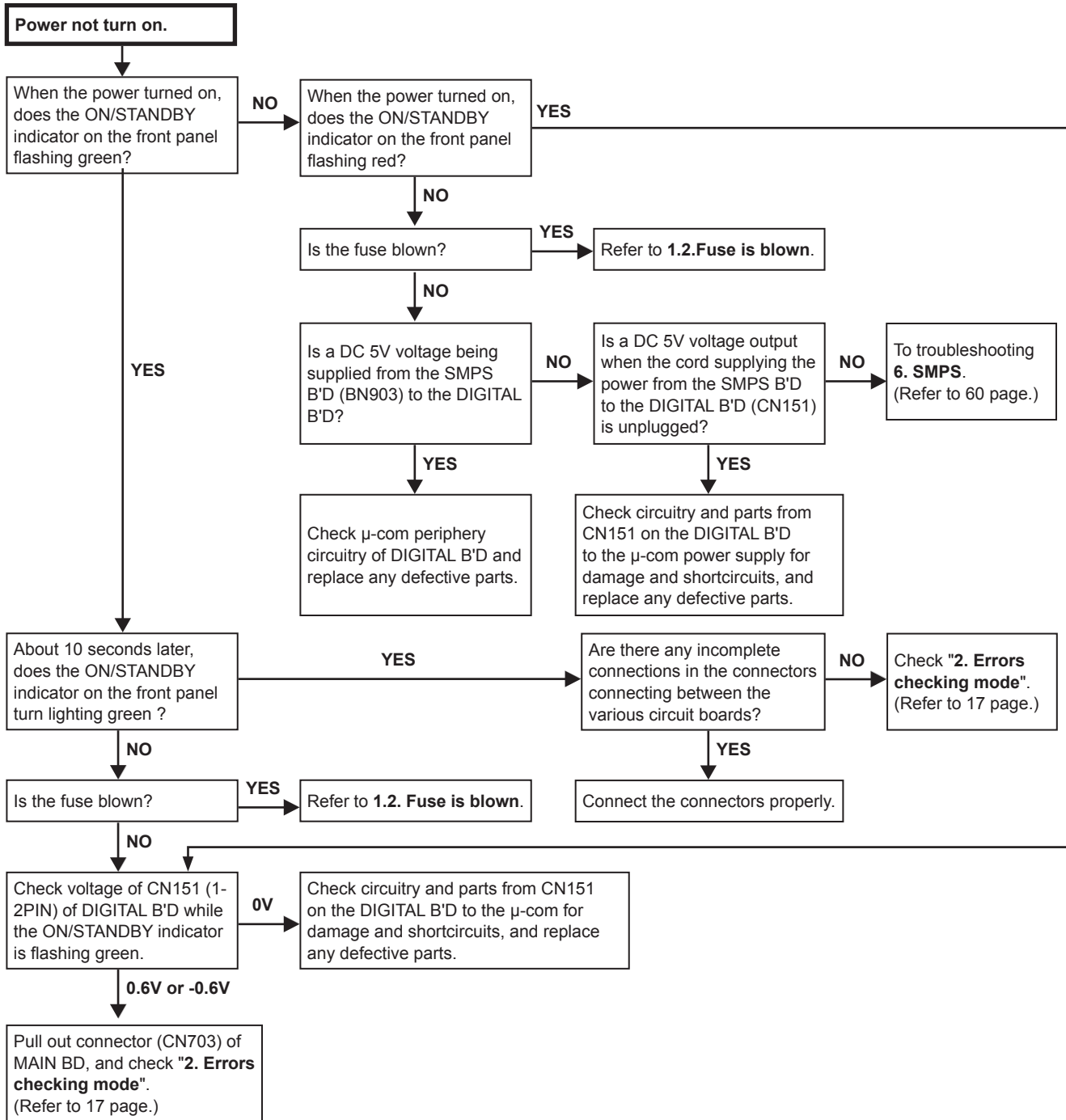
Surround mode	NOTE	Input signal types and formats														
		ANALOG	PCM		DTS-HD			DTS			DOLBY		DOLBY DIGITAL			
			LINEAR PCM (multi ch)	LINEAR PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5.4ch/3ch)
MULTI CH IN																
MULTI CH IN			●													
MULTI CH IN + PLIIx CINEMA	*2 *3		○													
MULTI CH IN + PLIIx MUSIC	*1 *3		○													
MULTI CH IN + PLIIz	*4		○													
MULTI CH IN + Dolby EX	*1 *3		○													
MULTI CH IN 7.1	*3		●	⊙ (7.1)												
DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DSP SIMULATION		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MULTI CH STEREO		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROCK ARENA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
JAZZ CLUB		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONO MOVIE		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIDEO GAME		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MATRIX		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIRTUAL		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO		●	○	○	○	○	○	○	○	○	○	○	○	○	○	○

*1 If "Speaker Config." – "S.Back" is set to "None", this surround mode cannot be selected.
 *2 If "Speaker Config." – "S.Back" is set to "1 spkr" or "None", this surround mode cannot be selected.
 *3 This surround mode can be selected when "Pre Assign" is set to "NORMAL".
 *4 If "Speaker Config." – "F.Height" is set to "None", this surround mode cannot be selected.

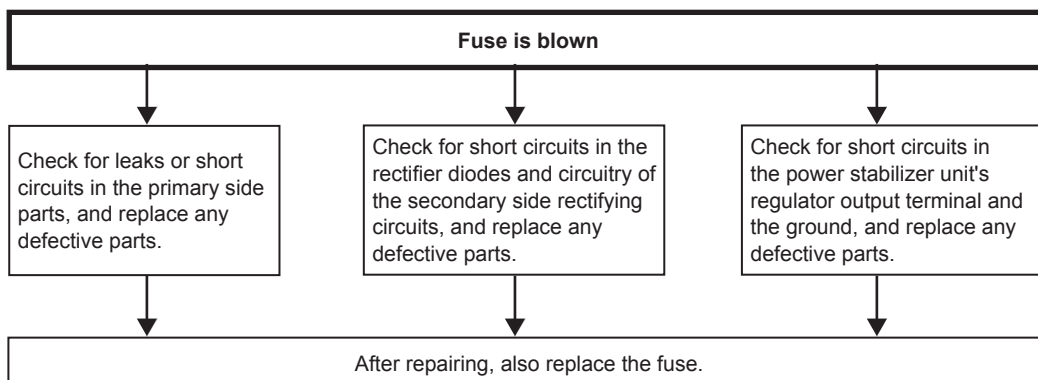
TROUBLE SHOOTING

1. POWER

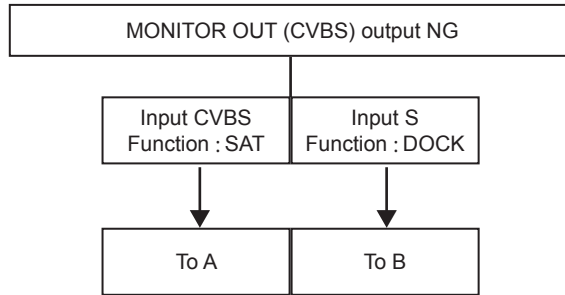
1.1. Power not turn on

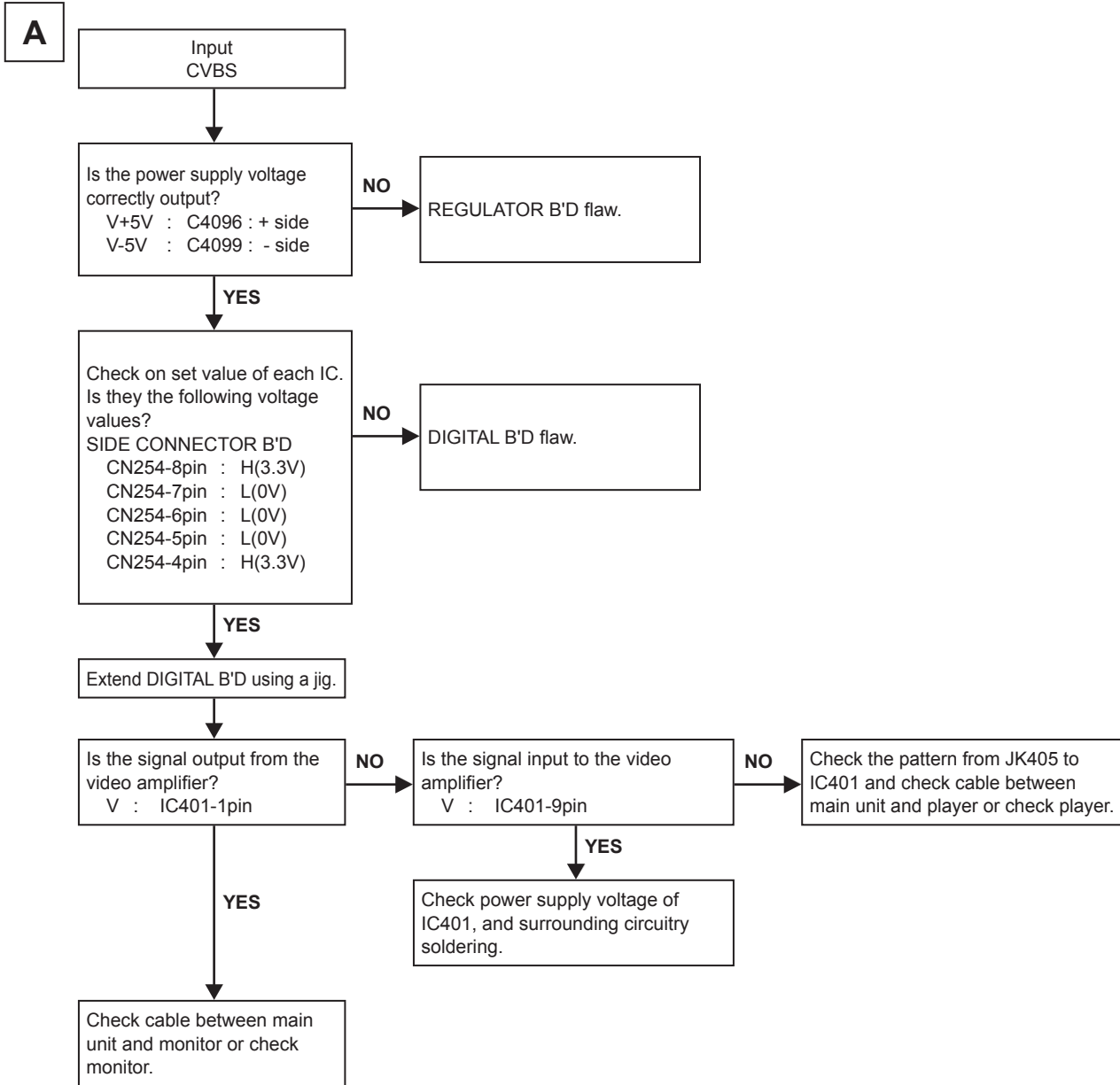


1.2. Fuse is blown

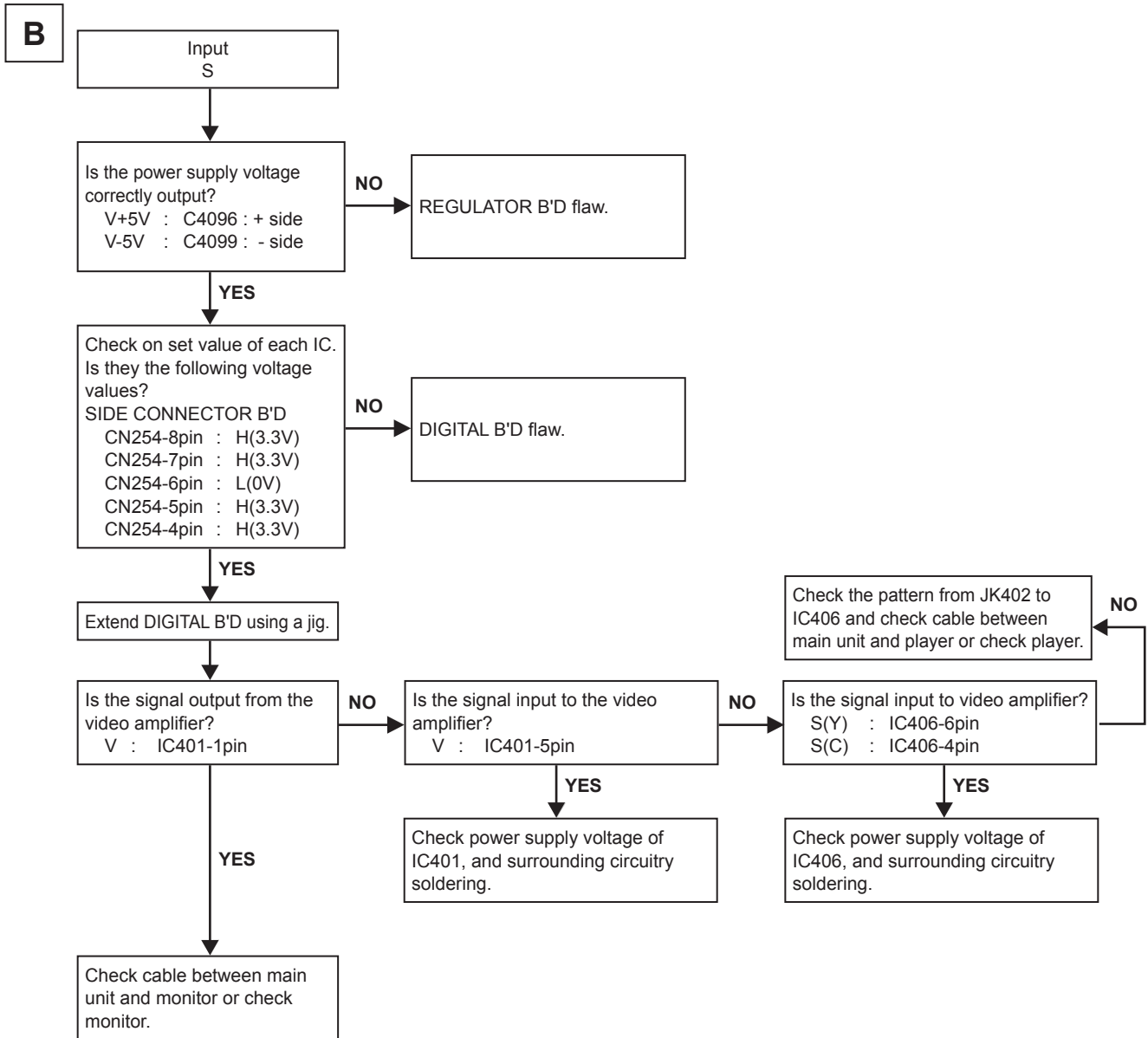


2. Analog video



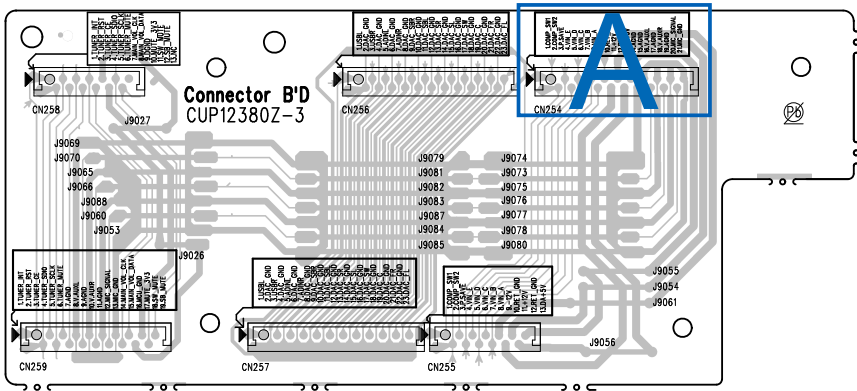


※ Unless specified, INPUT B'D part.



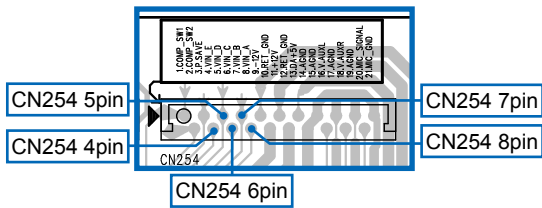
※ Unless specified, INPUT B'D part.

SIDE CNNECTOR test point

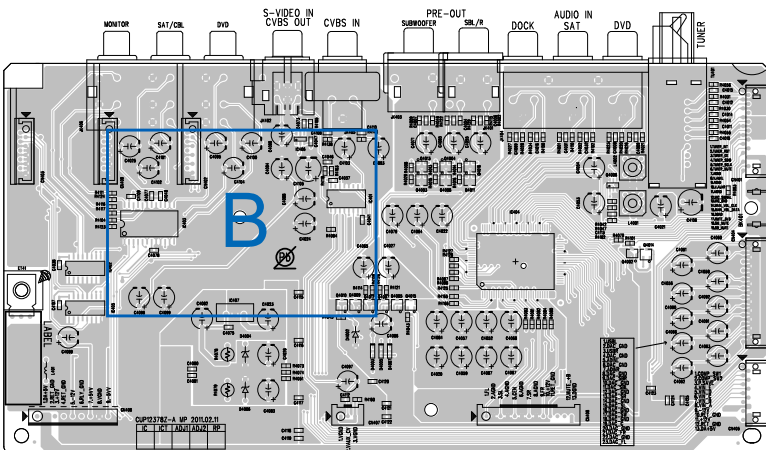


(COMPONENT SIDE)

Detail A

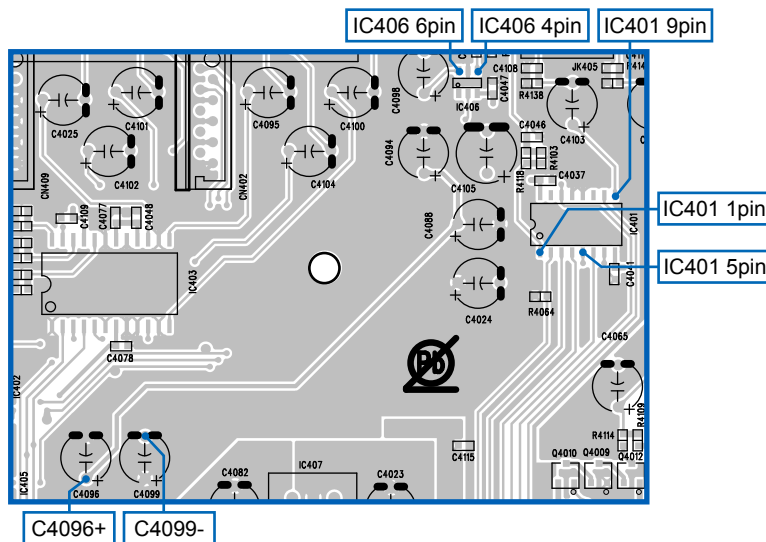


INPUT test point



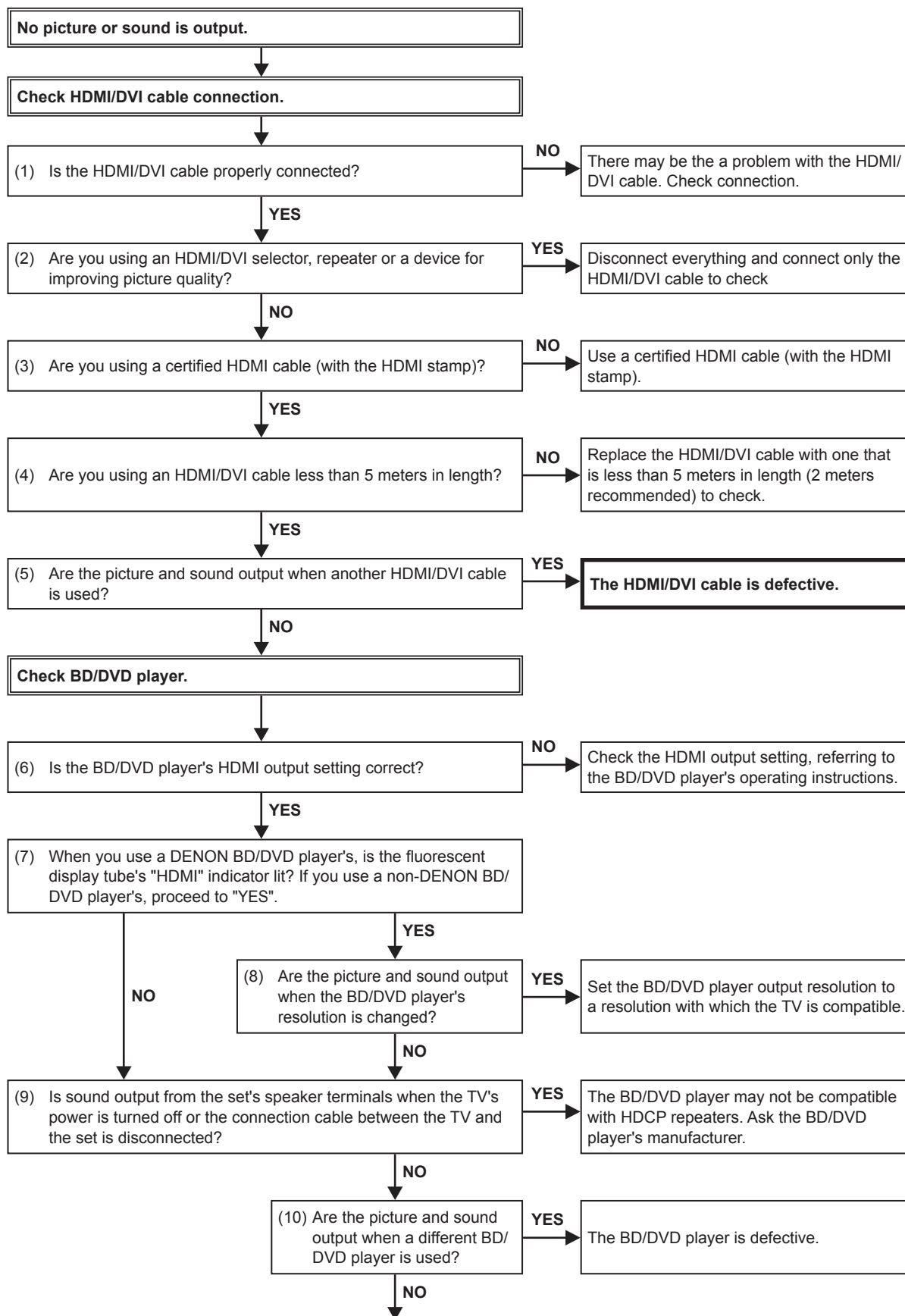
(COMPONENT SIDE)

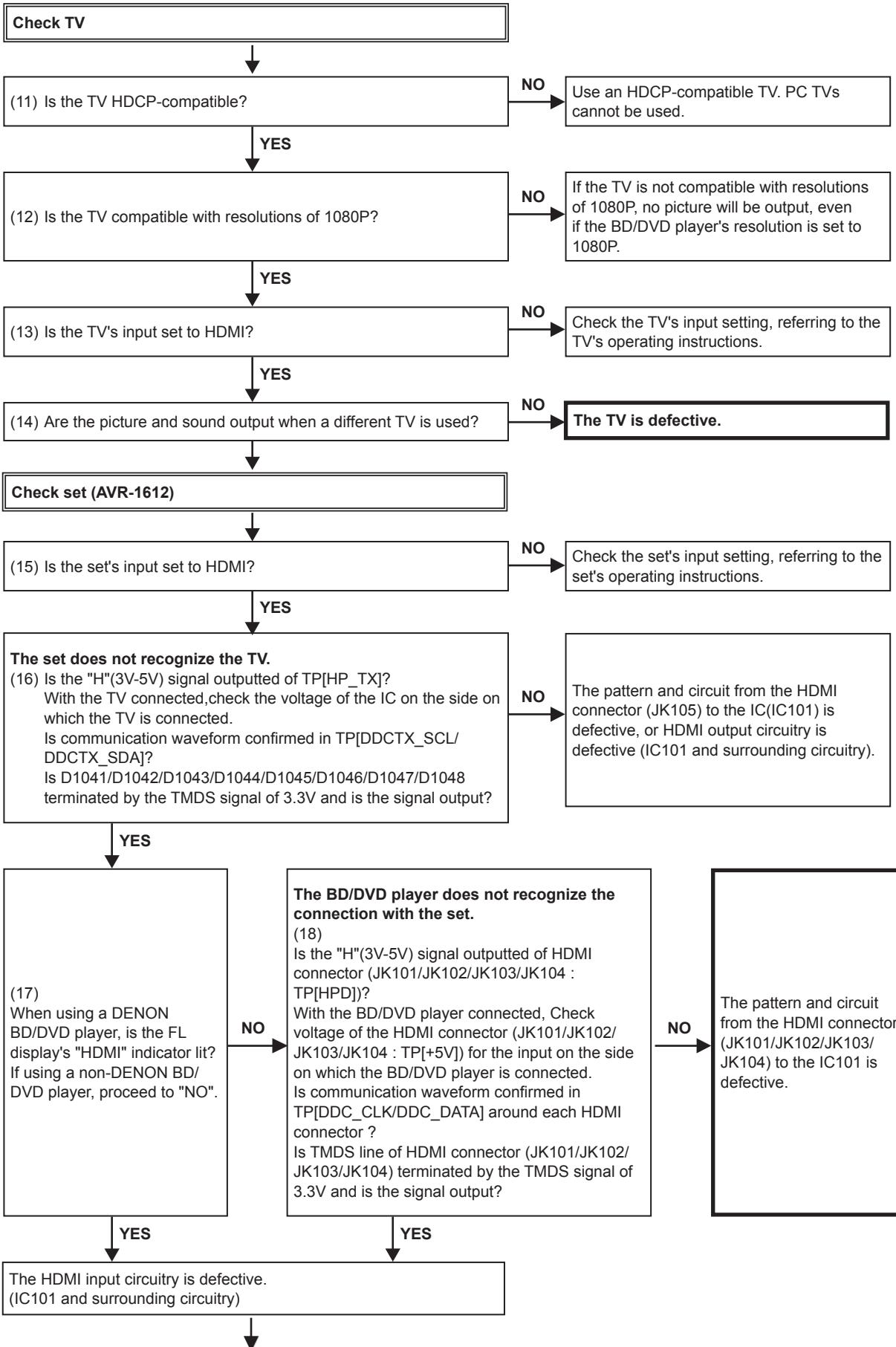
Detail B

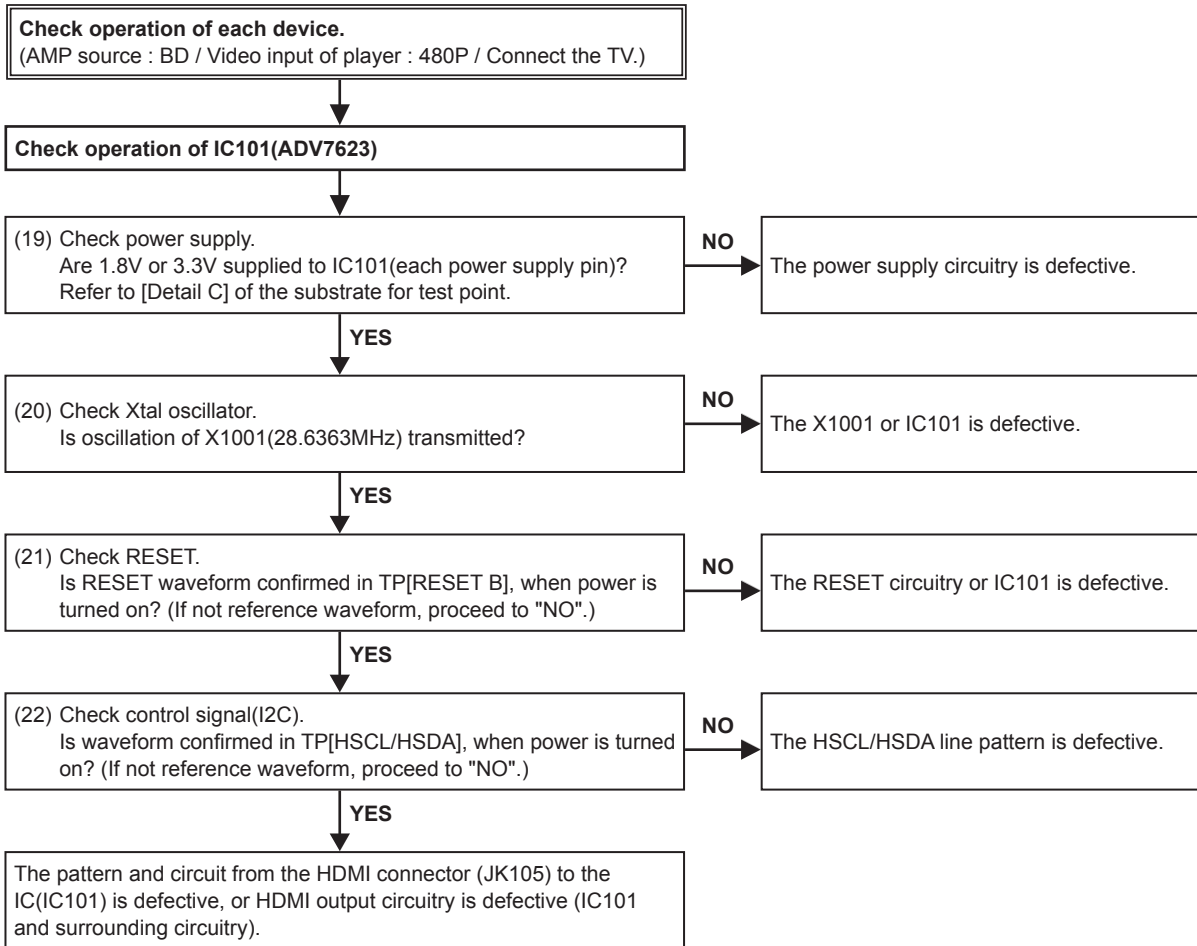


3. HDMI/DVI

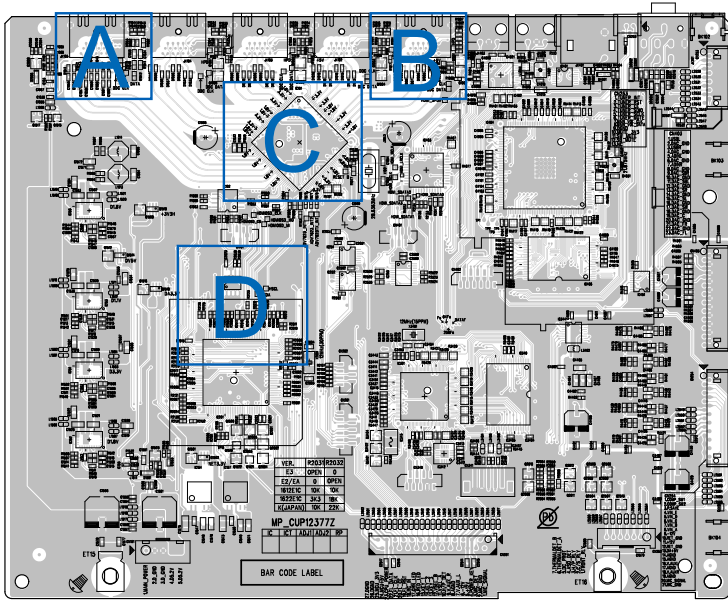
3.1. No picture or sound is output





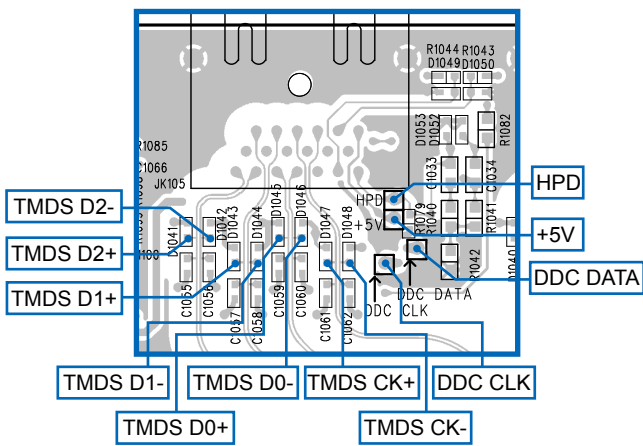


3.2. HDMI test point and waveforms

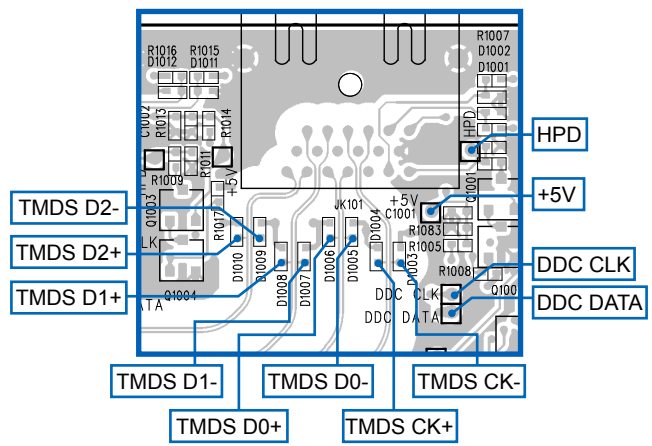


(COMPONENT SIDE)

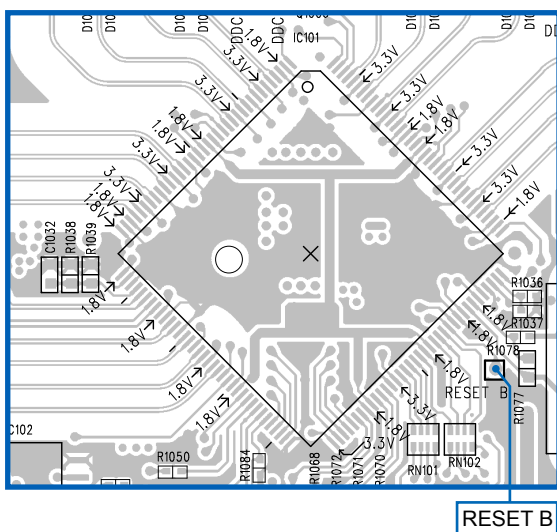
Detail A



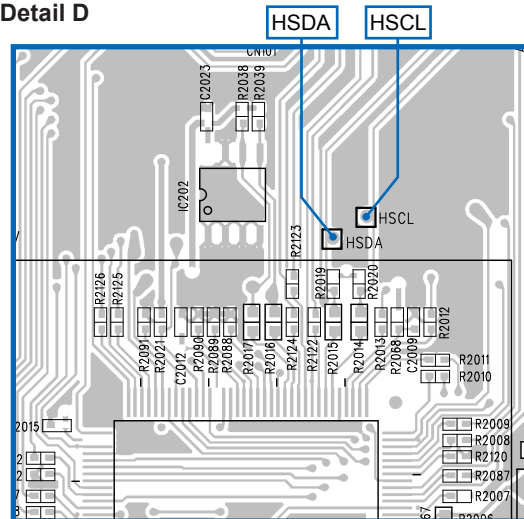
Detail B



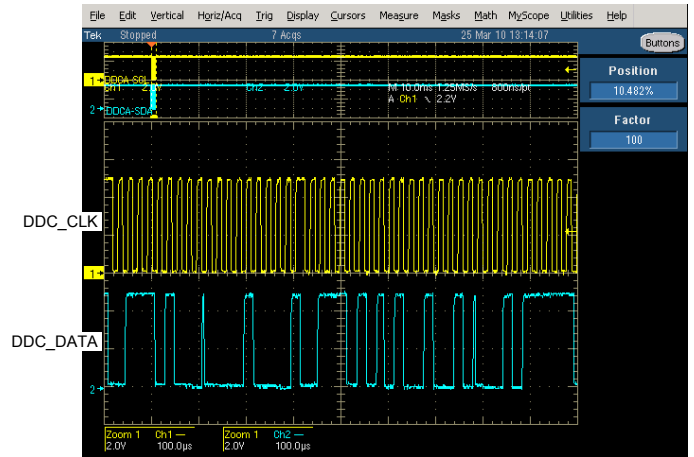
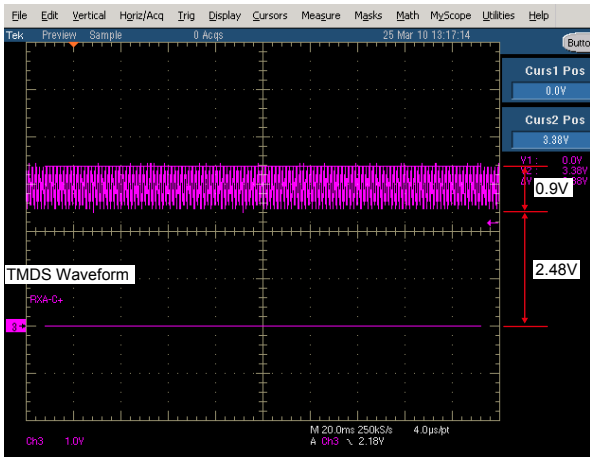
Detail C



Detail D

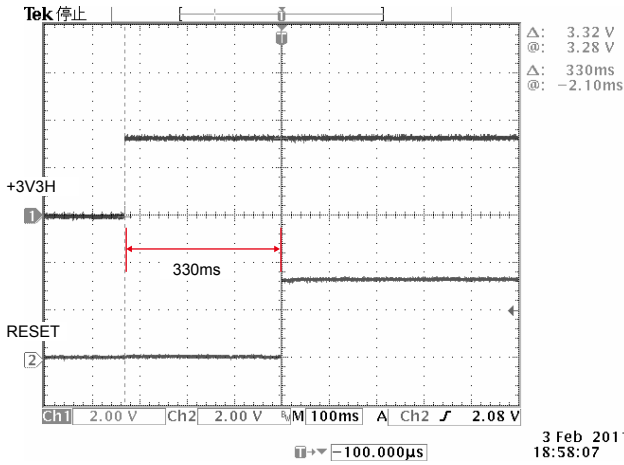


DDC_CLK/DDC_DATA/TMDS : Check items (16)/(18)

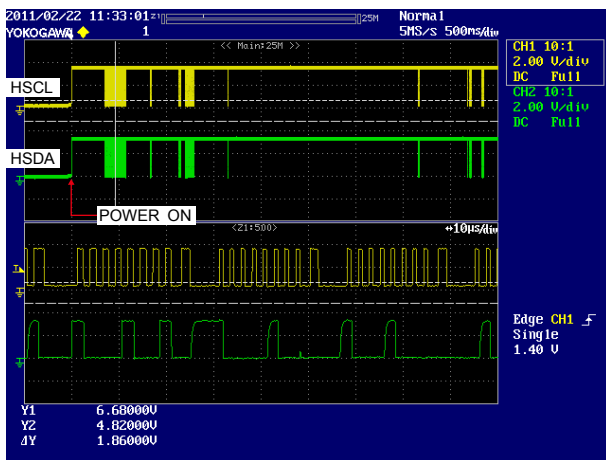


Timing waveform illustration from the start of +3V3H to when reset is released :

Check items (21)

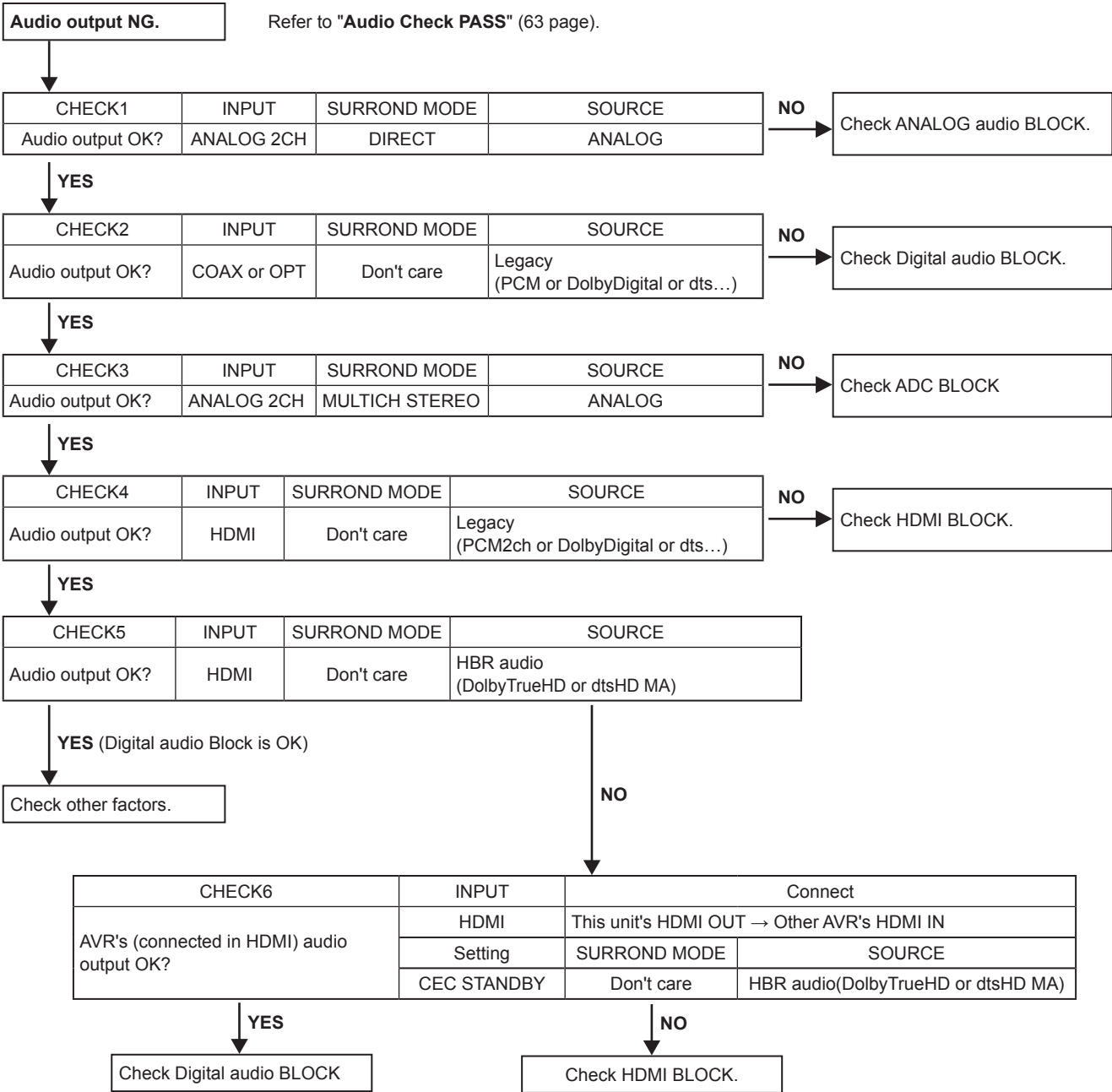


Controlled waveform(I2C), when power is turned on : Check items (22)

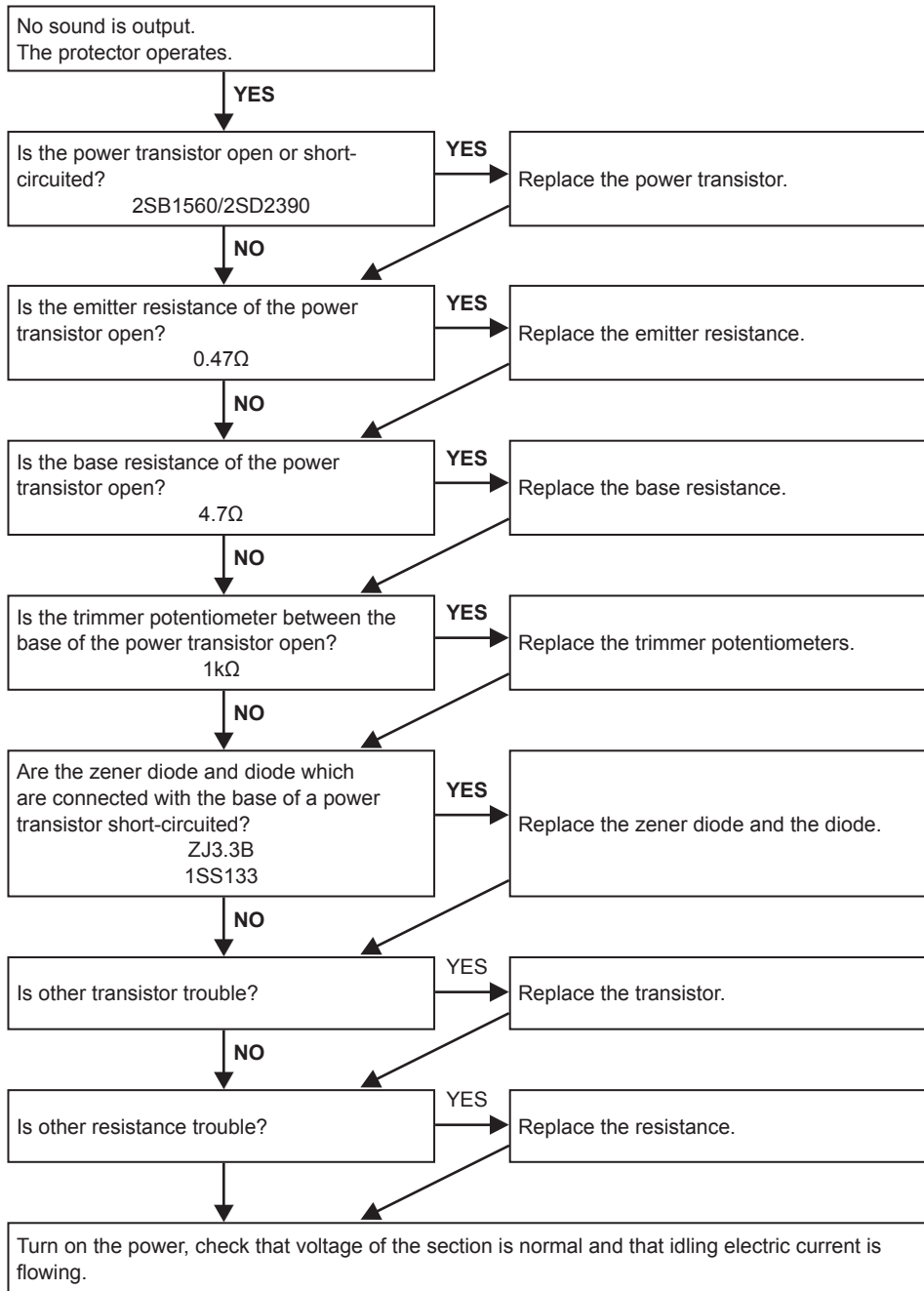


4. AUDIO

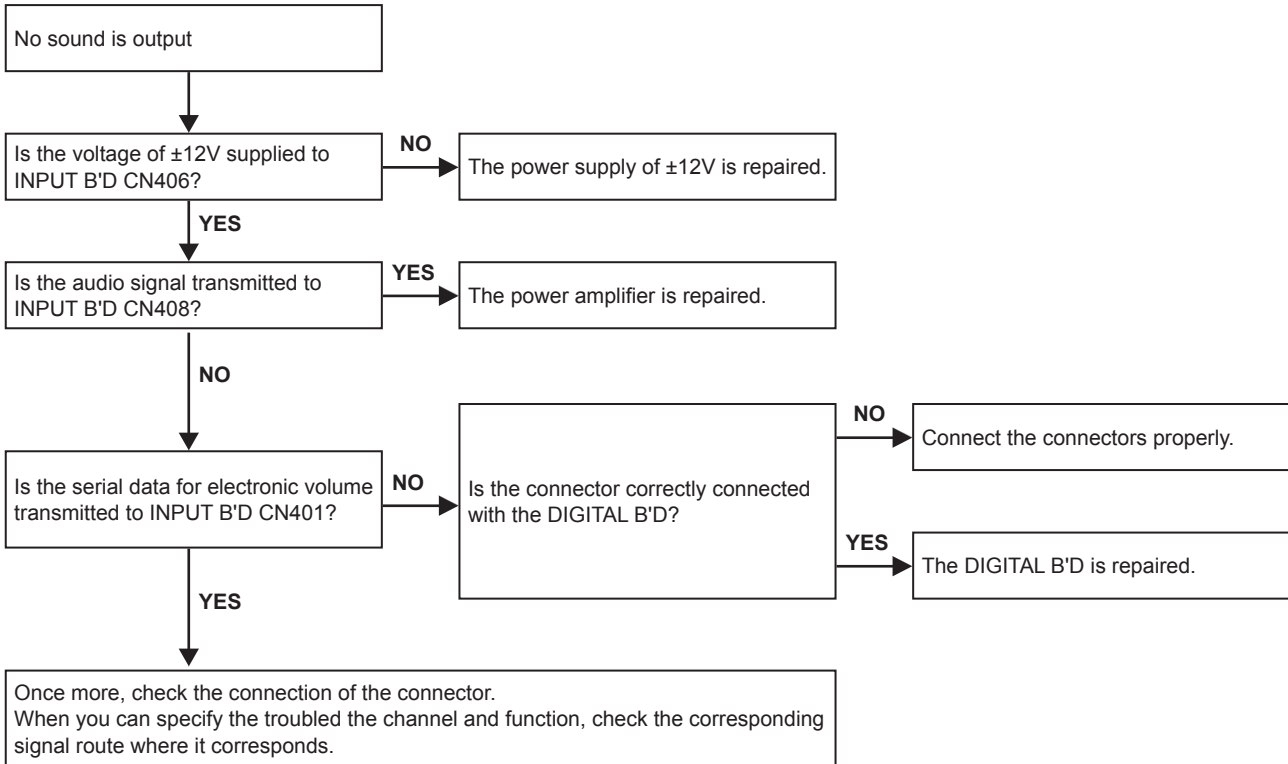
4.1. AUDIO CHECK



4.2. Power AMP (MAIN UNIT)

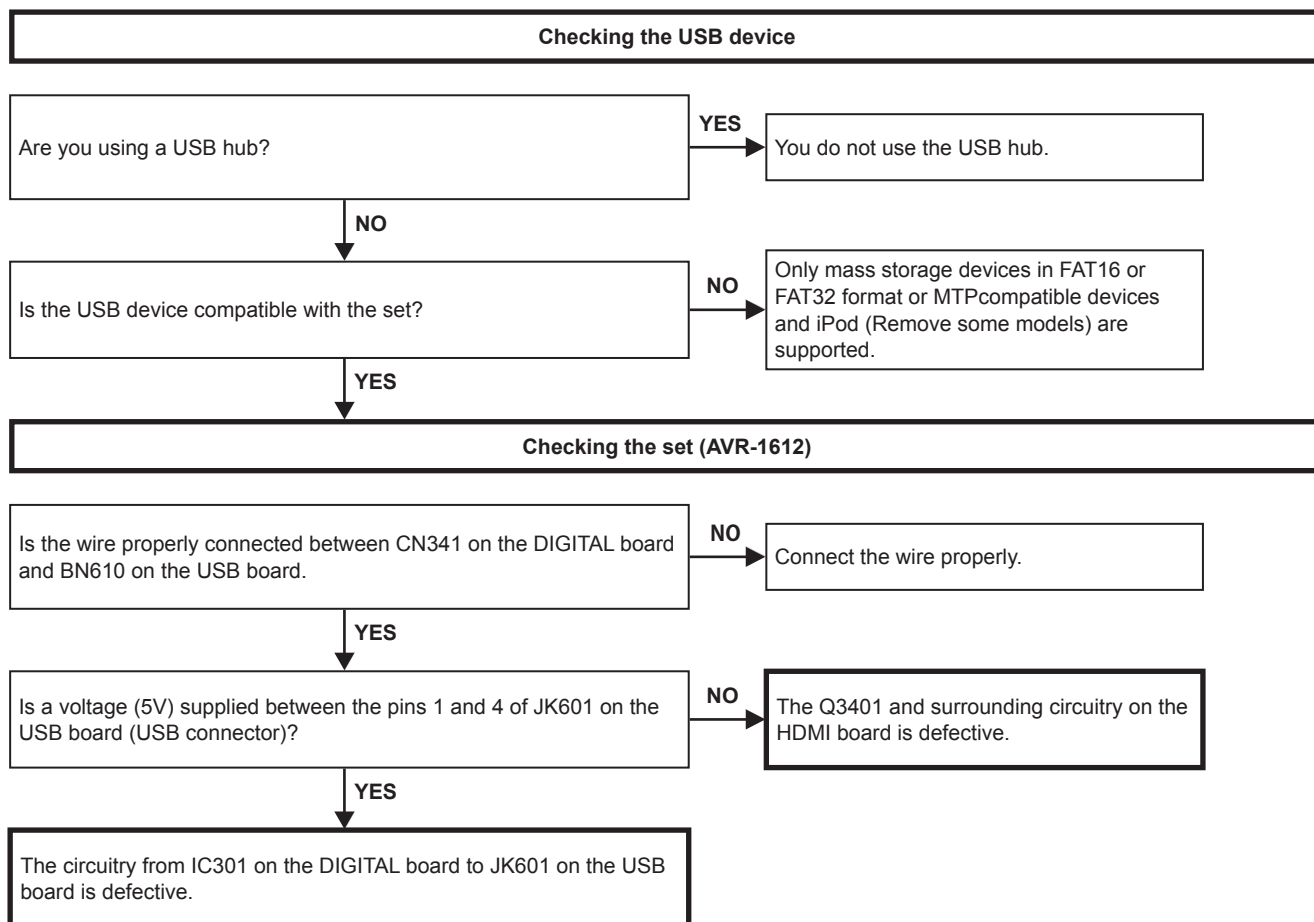


4.3. Analog audio

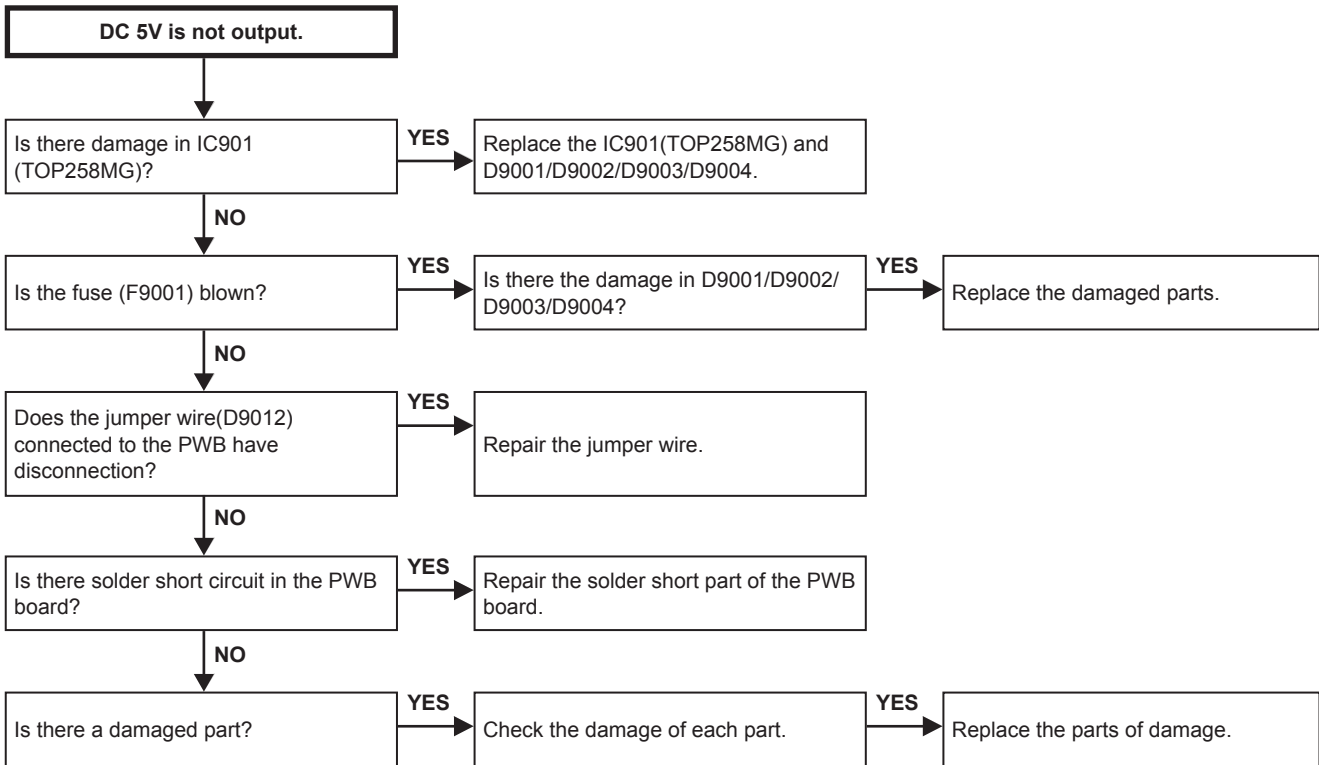


5. USB

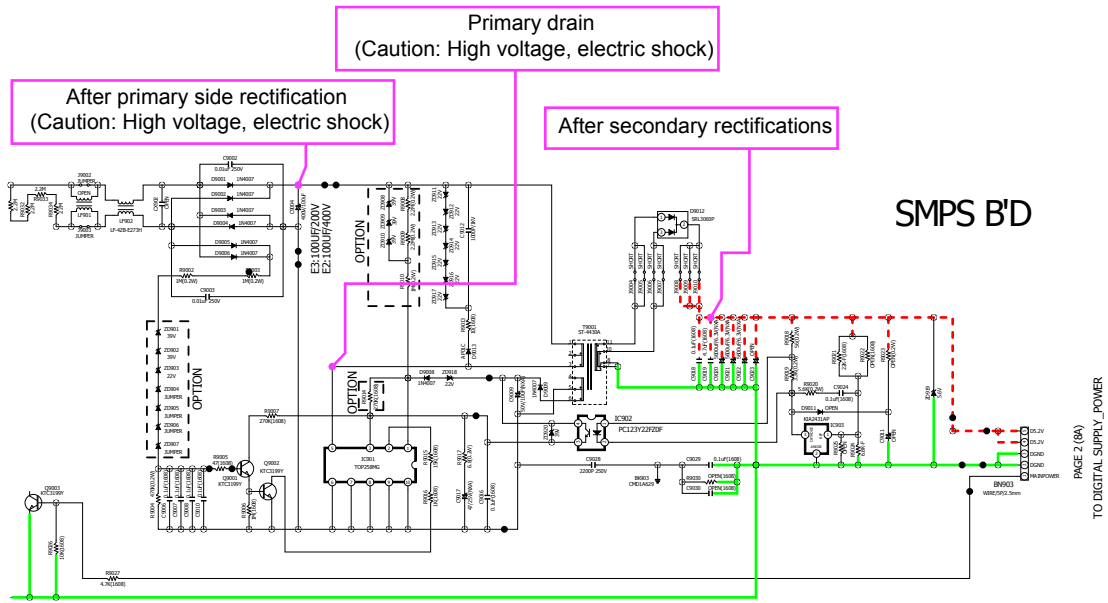
5.1. USB device is not recognized



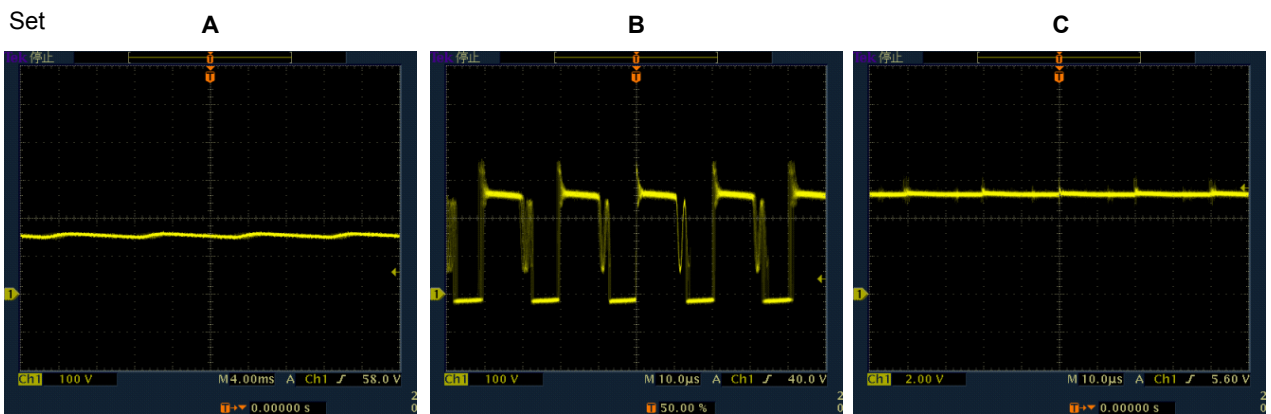
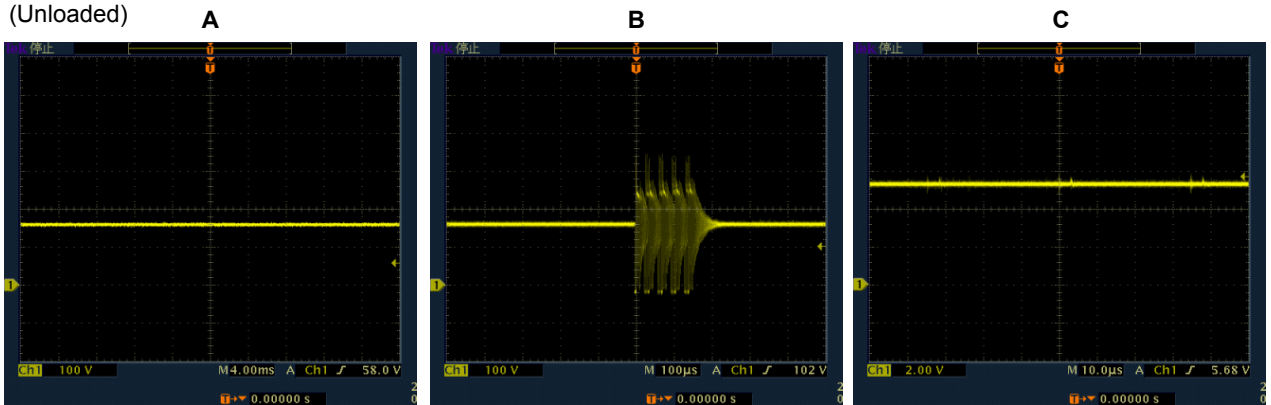
6. SMPS



Operation waveform for each part

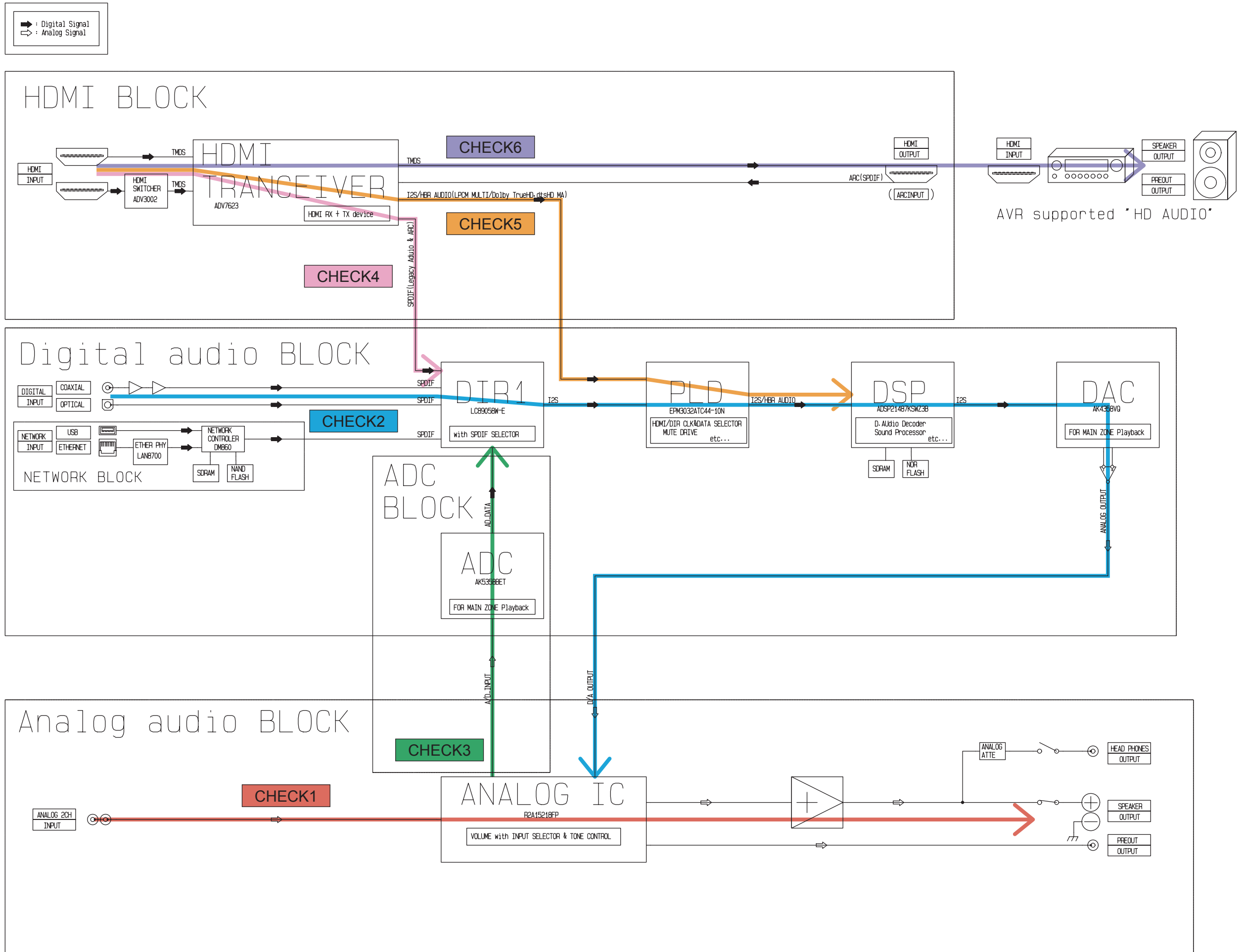


SMPS unit
(Unloaded)

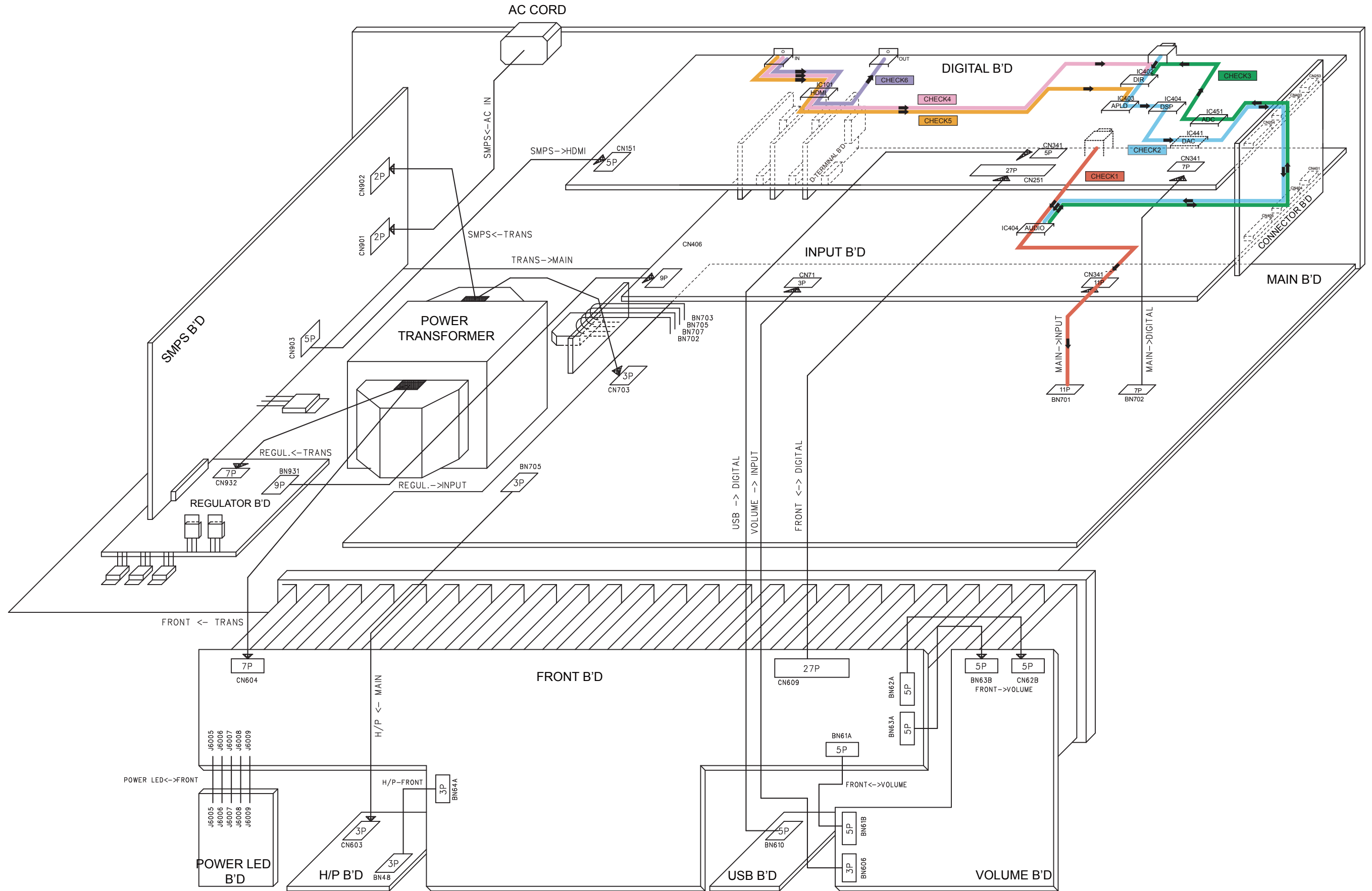


Audio Check PASS

Refer to troubleshooting "4.1. AUDIO CHECK"(56 page).

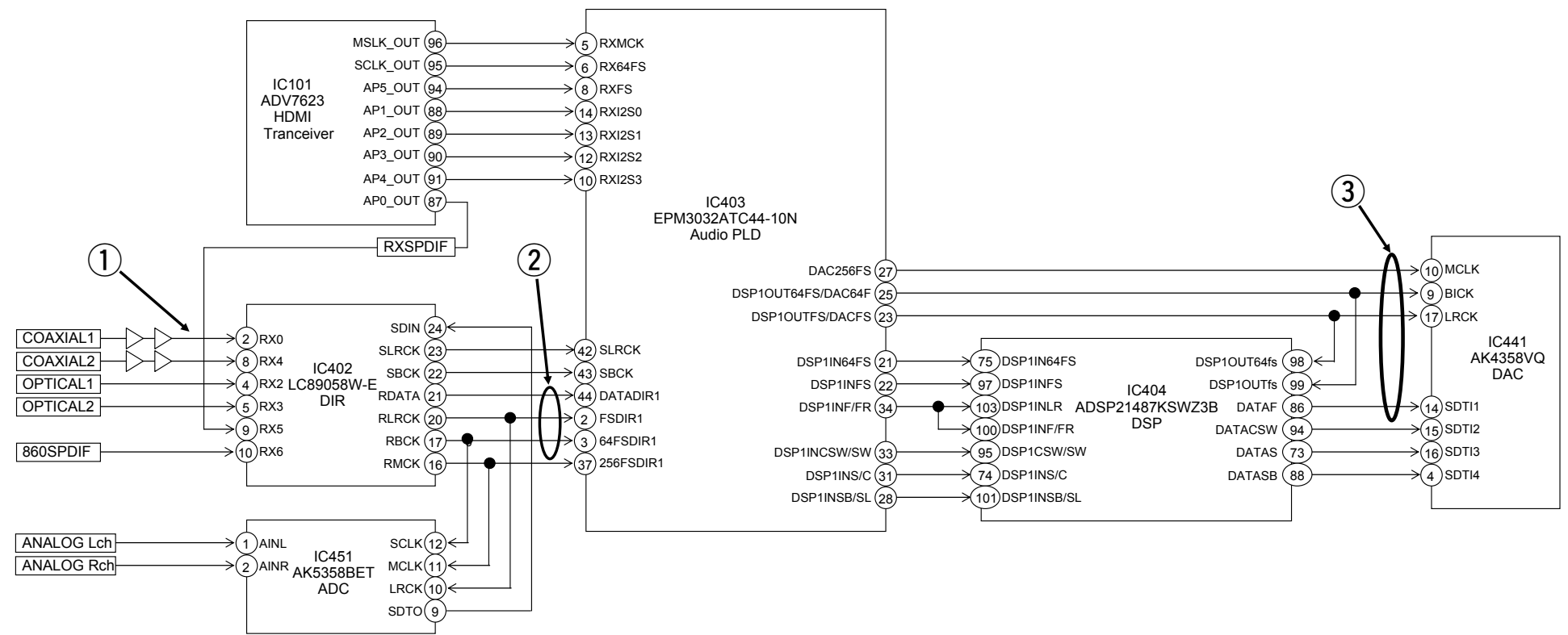
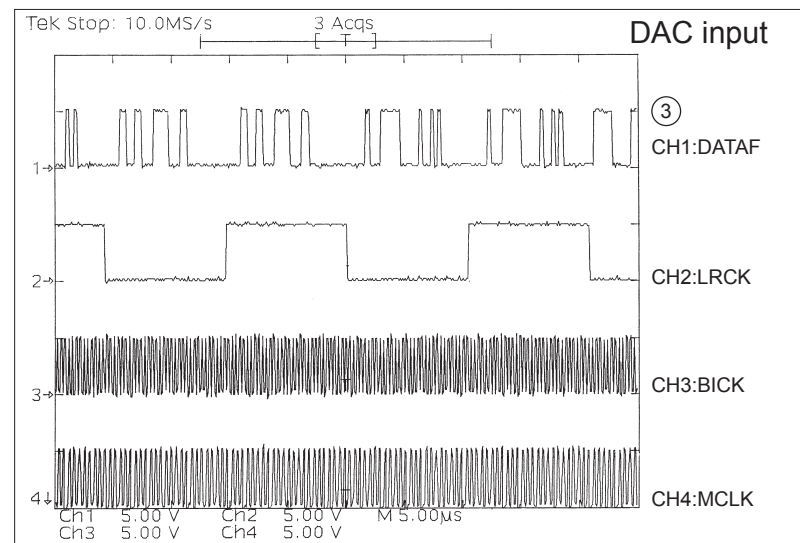
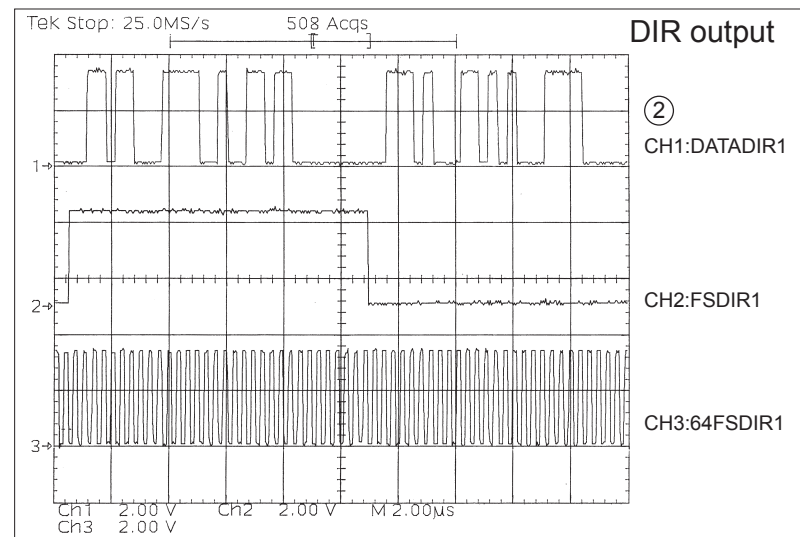
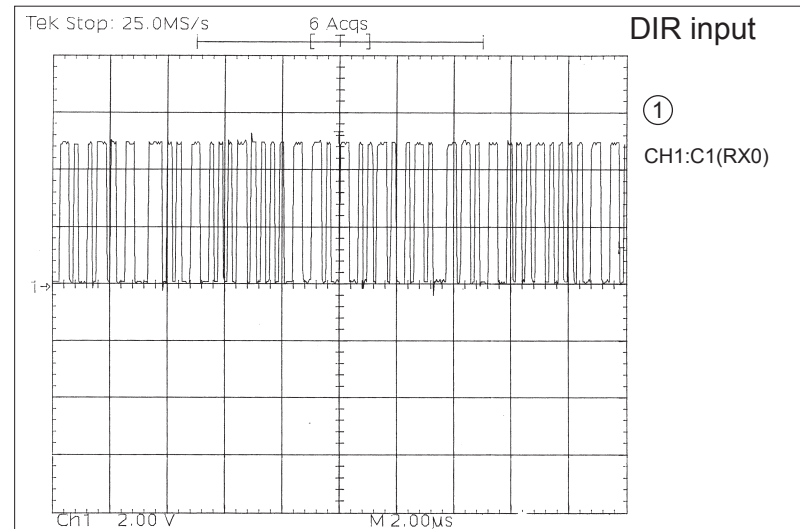


WIRING DIAGRAM

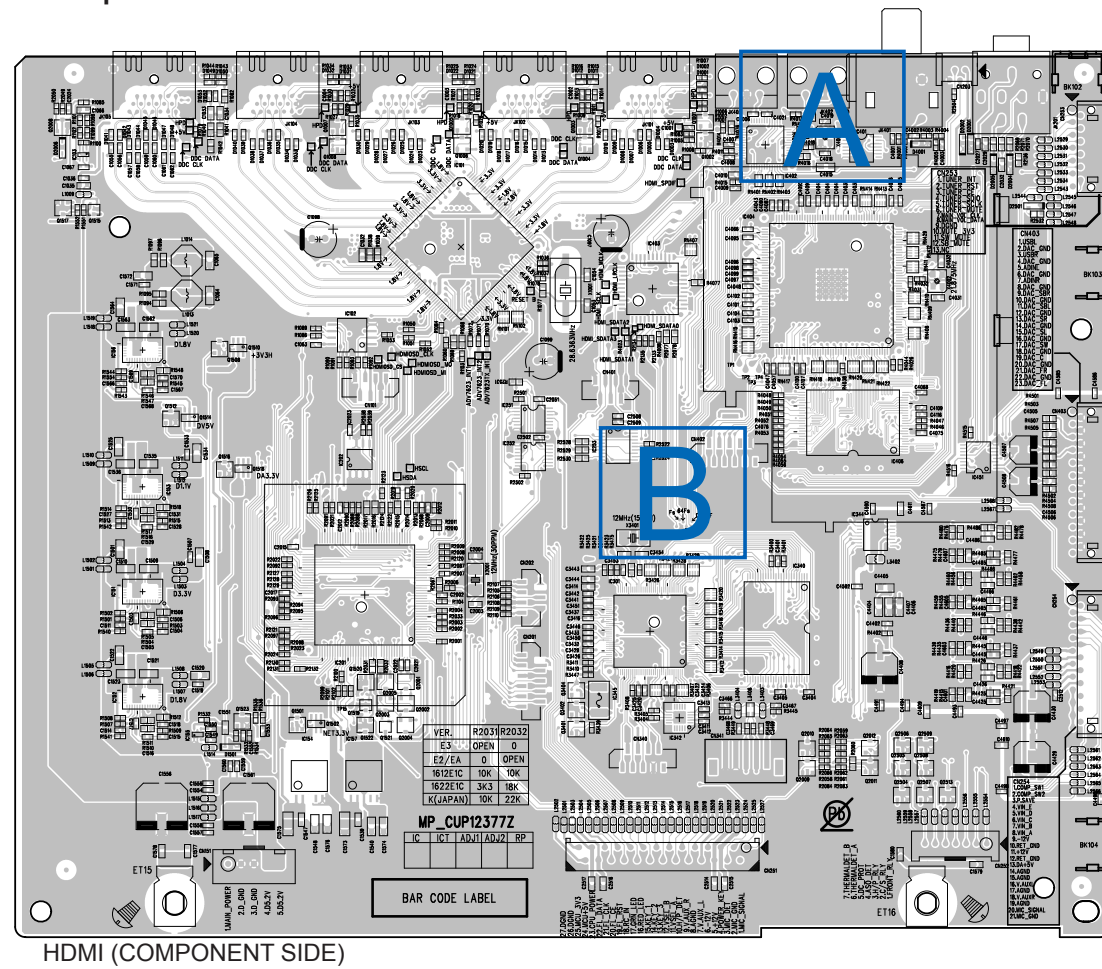


CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

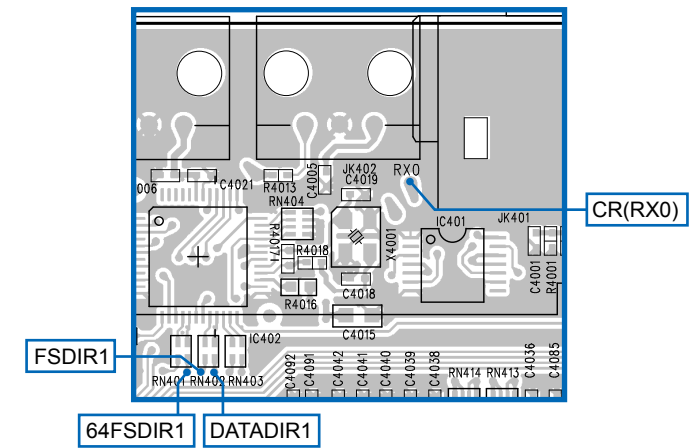
WAVE FORM



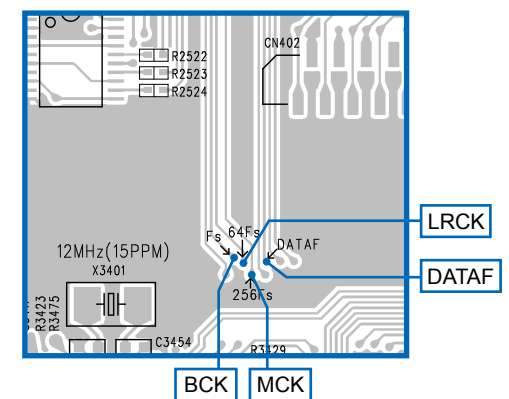
Test point



Detail A

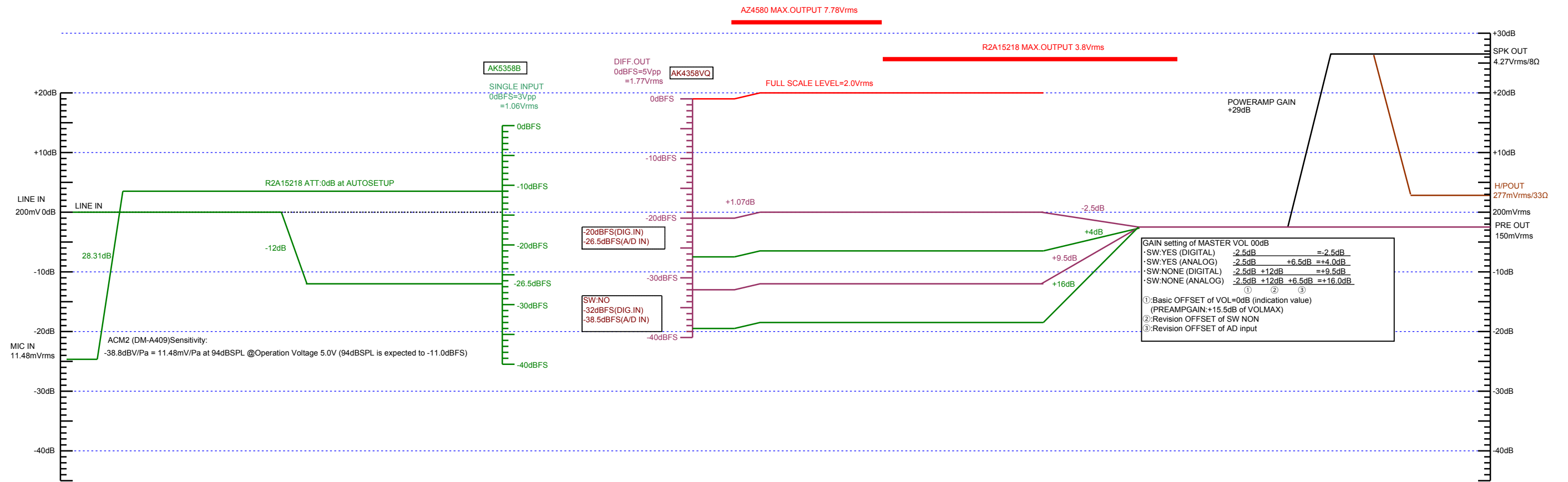
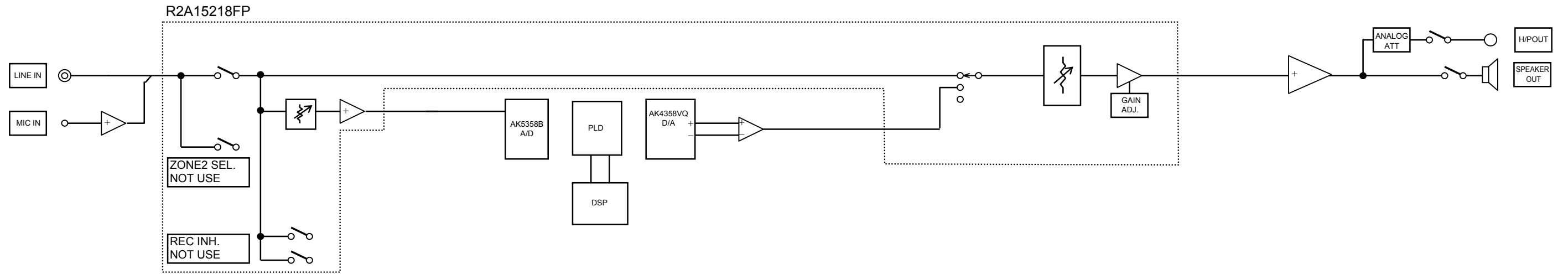


Detail B

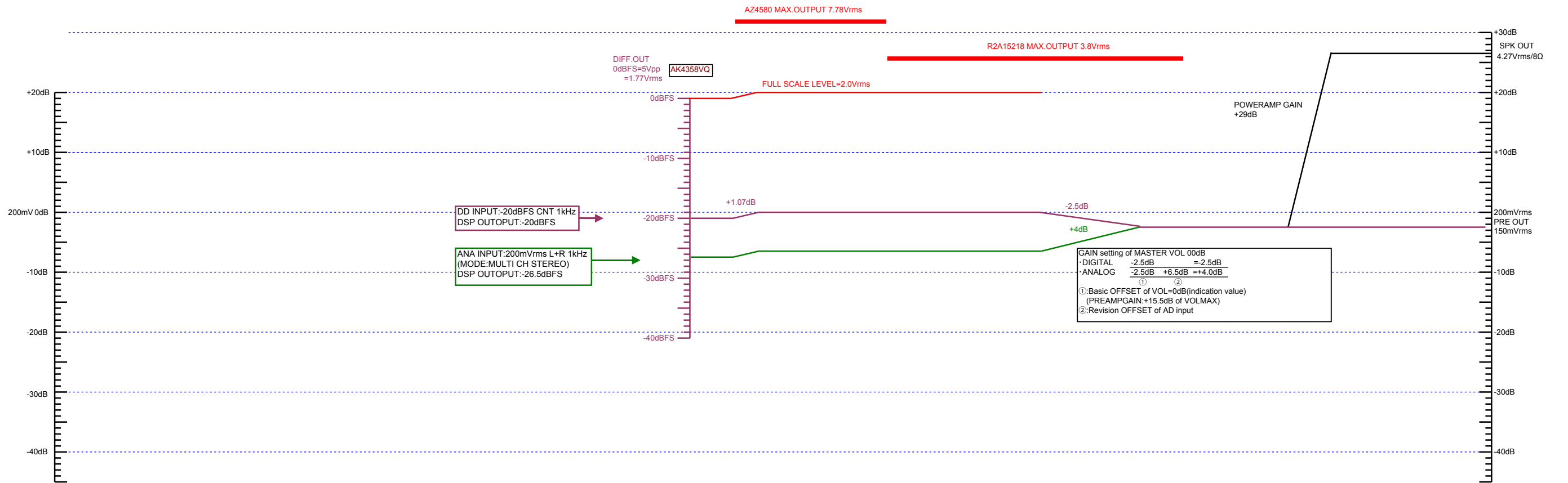
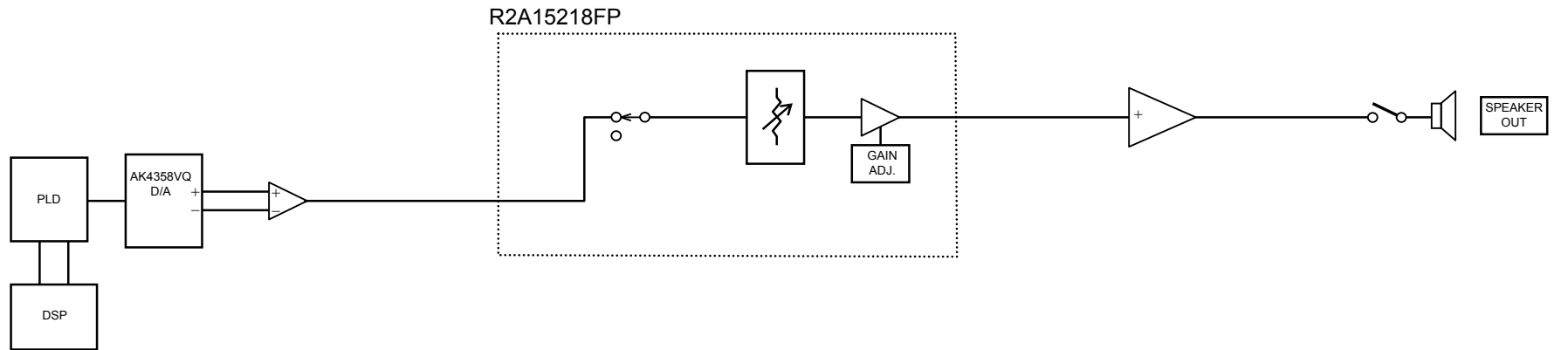


LEVEL DIAGRAM

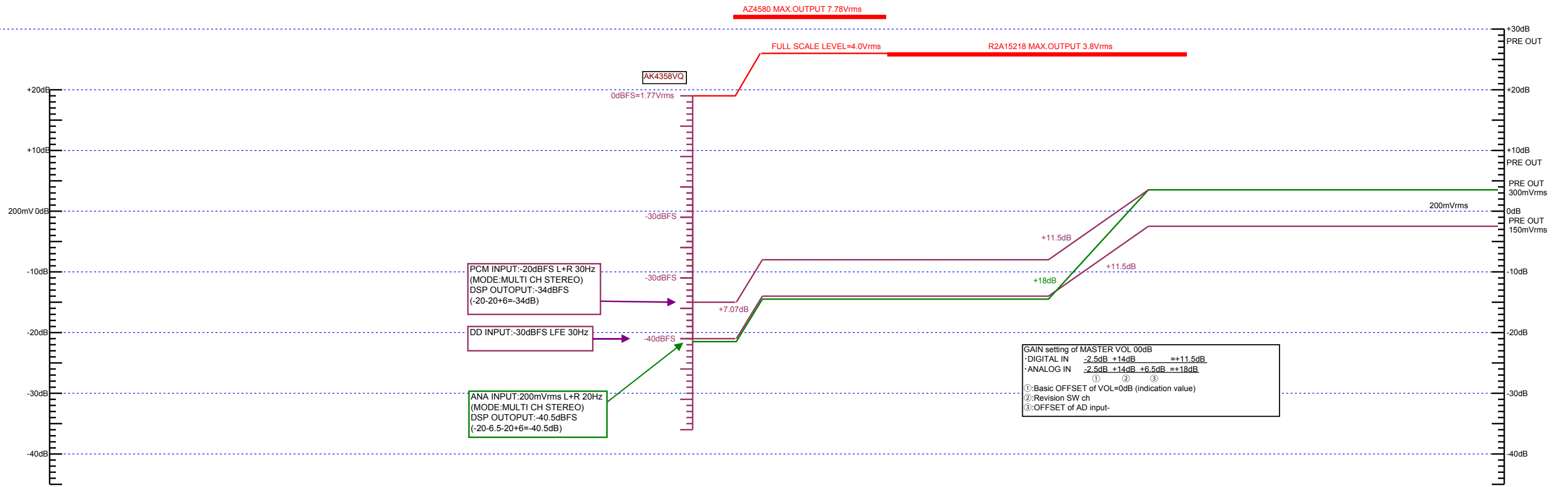
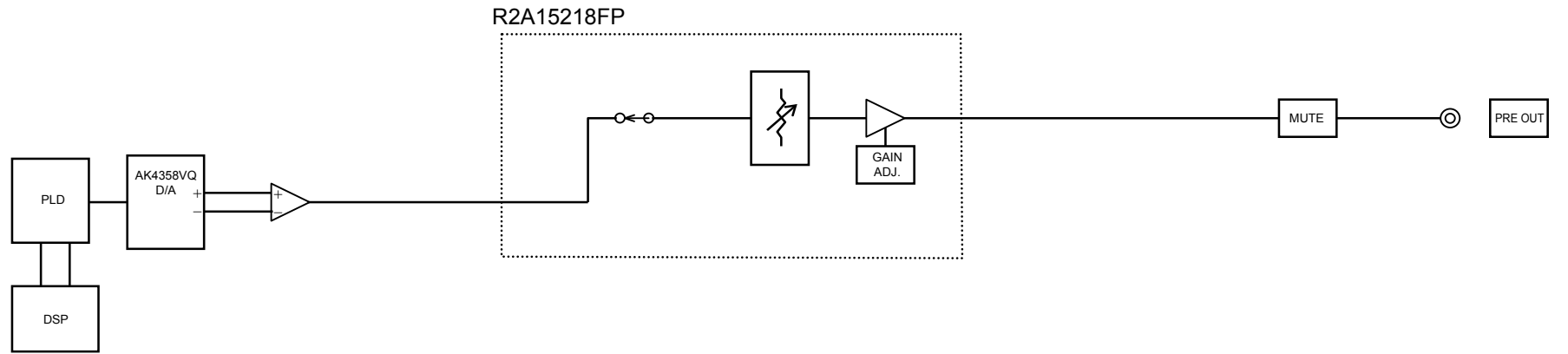
LEVEL DIAGRAM FRONT ch



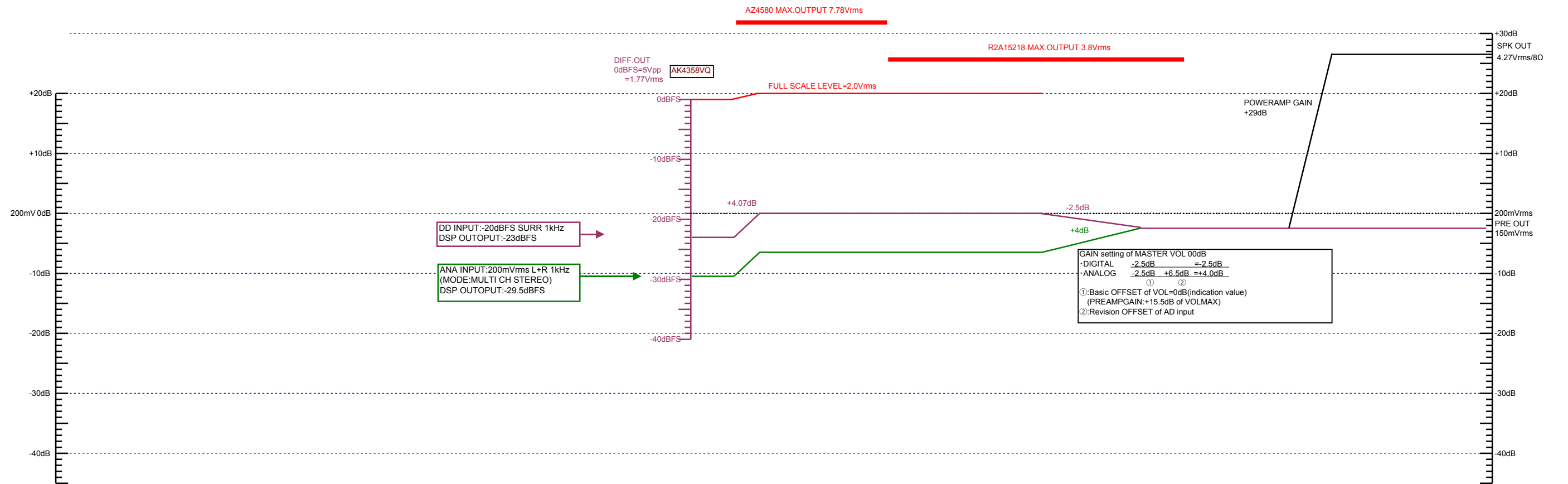
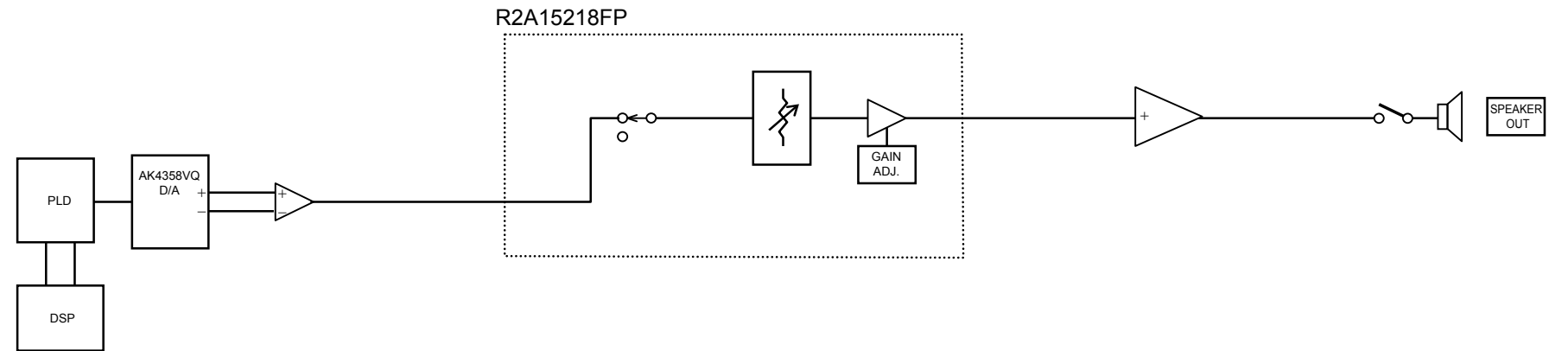
LEVEL DIAGRAM
CENTER ch



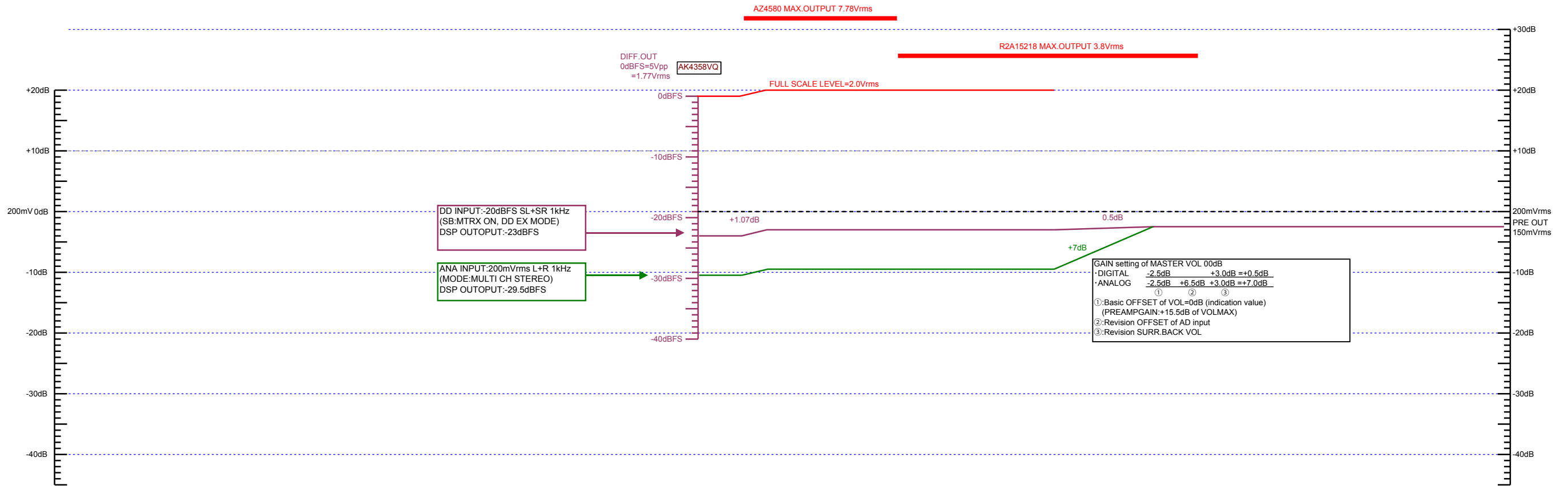
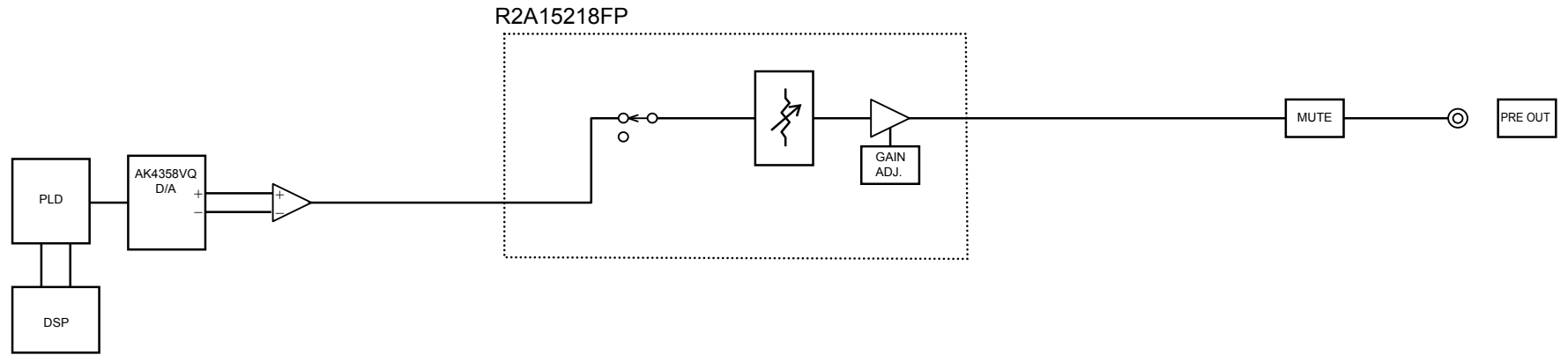
LEVEL DIAGRAM
SUBWOOFER ch



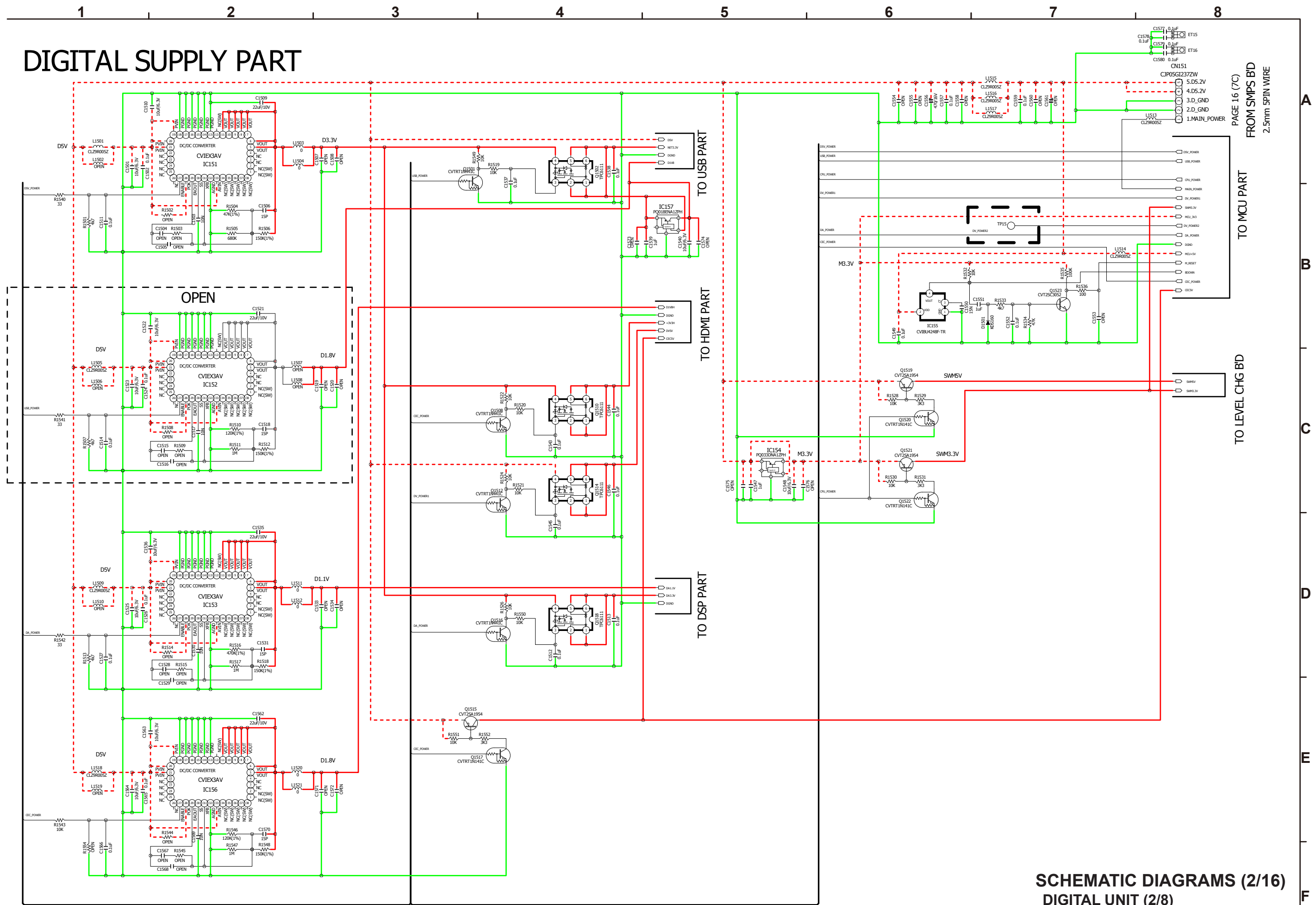
LEVEL DIAGRAM
SURROUND ch



**LEVEL DIAGRAM
SURROUND BACK ch**

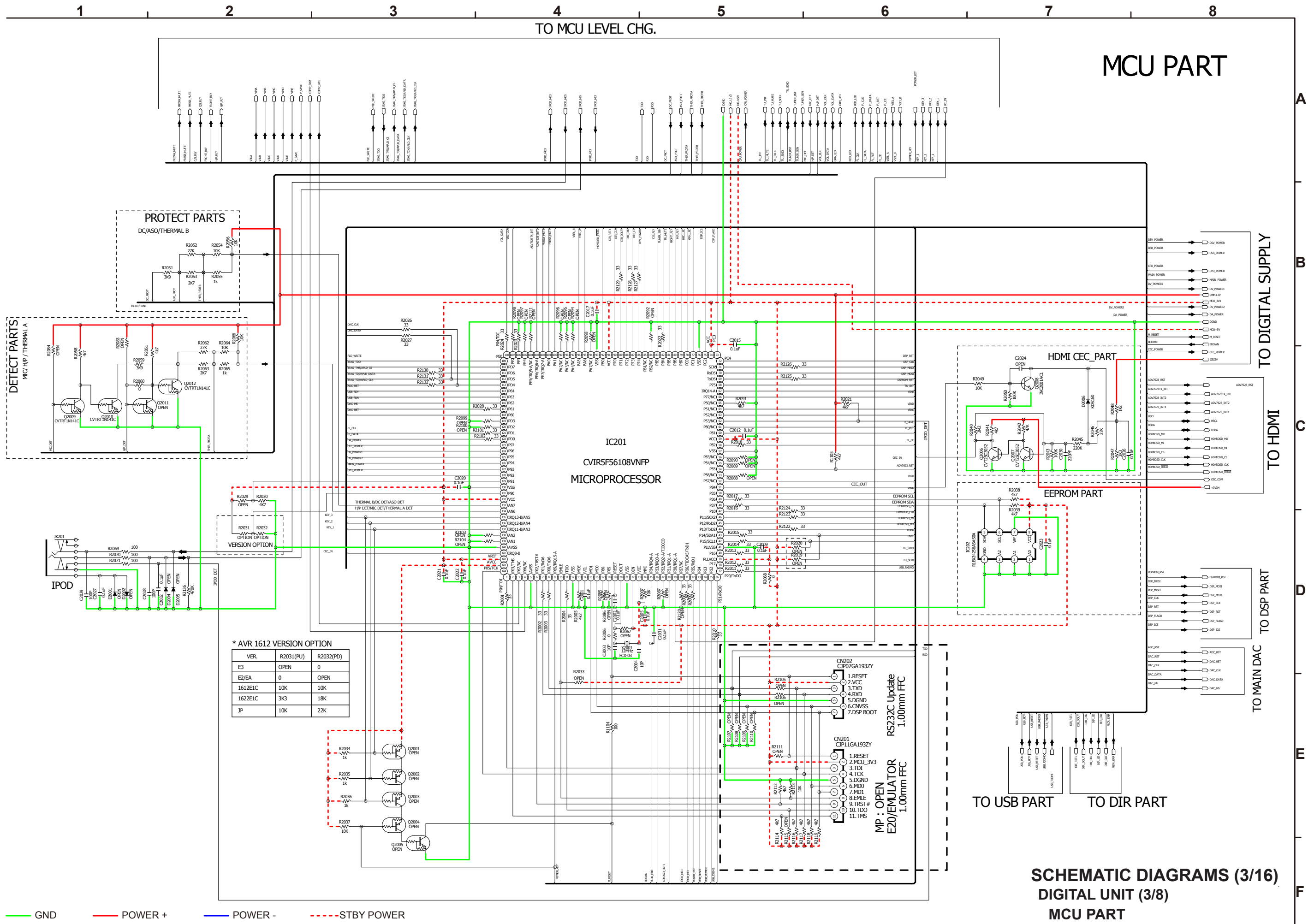


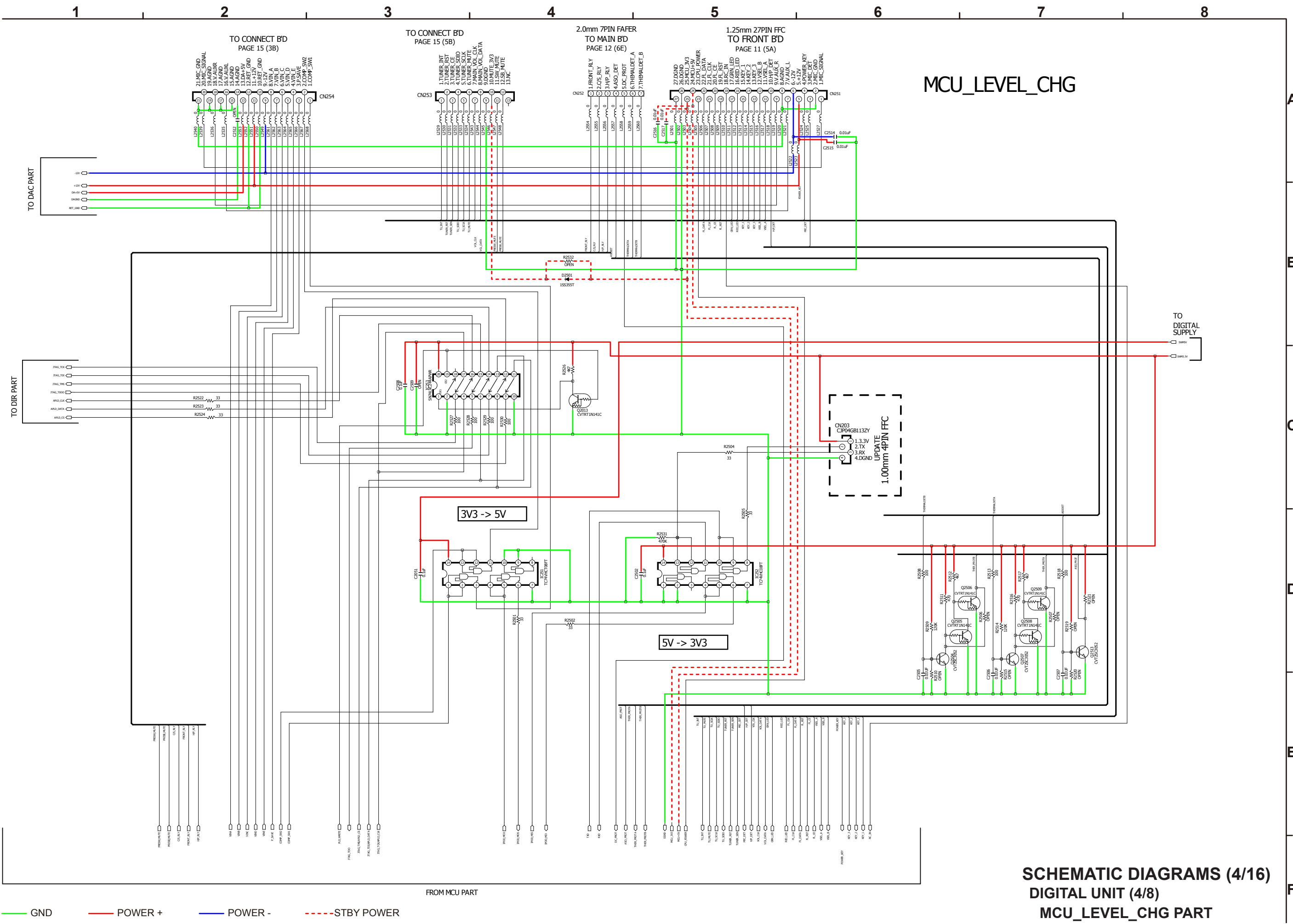
DIGITAL SUPPLY PART



SCHEMATIC DIAGRAMS (2/16)
DIGITAL UNIT (2/8)
DIGITAL SUPPLY PART

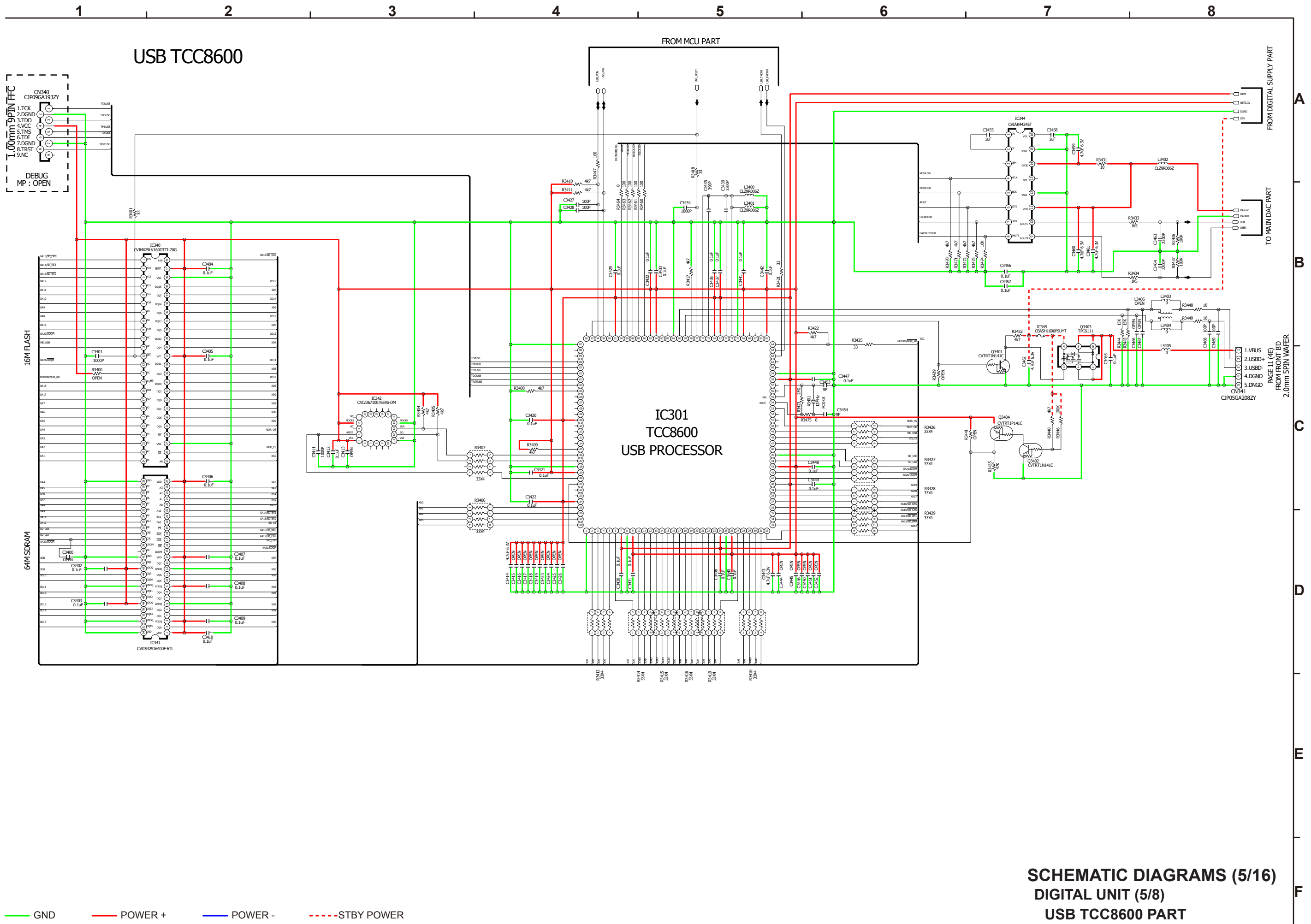
PAGE 16 (7C)
 FROM SMPS BD
 2.5mm SPIN WIRE



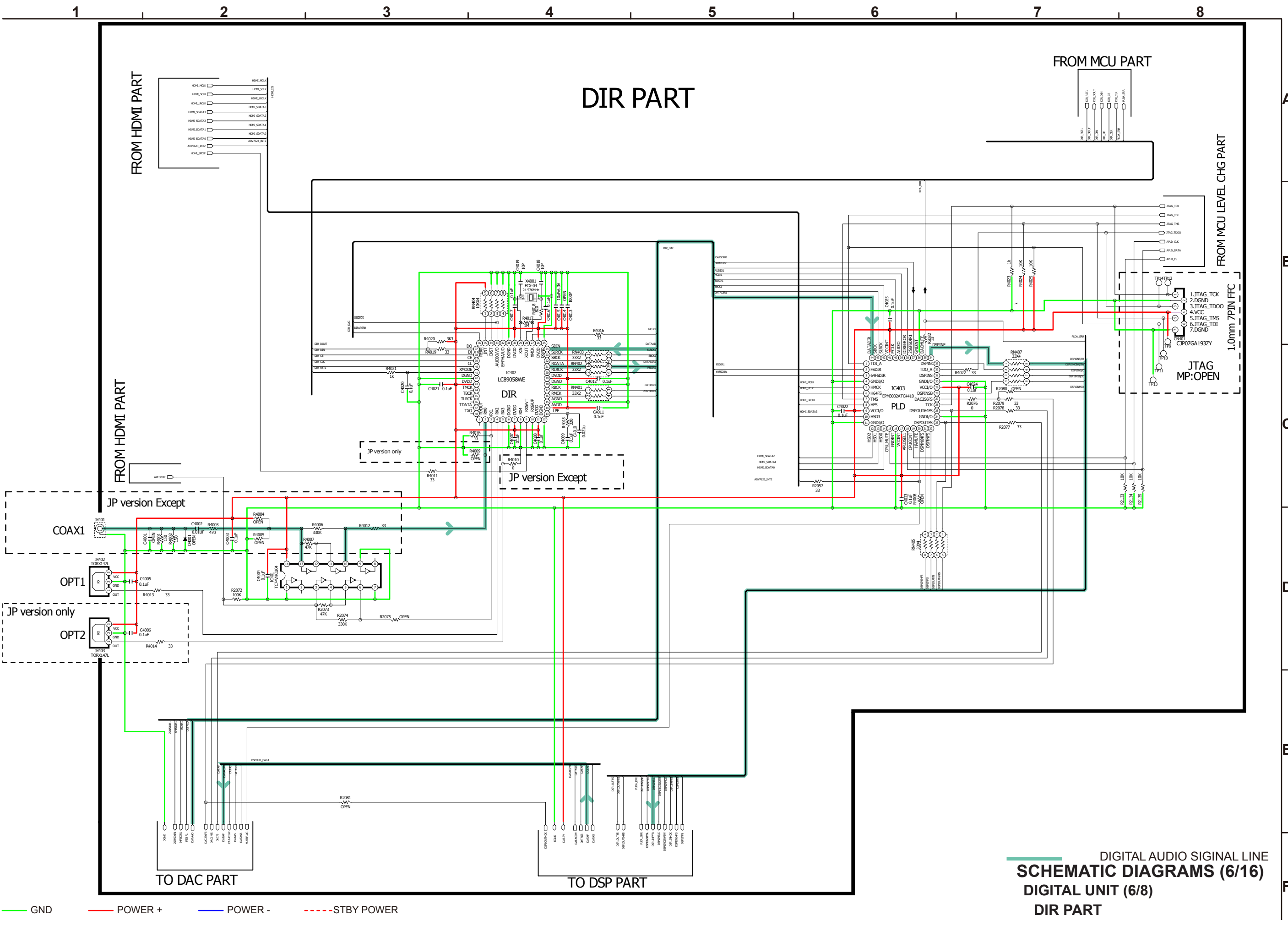


MCU_LEVEL_CHG

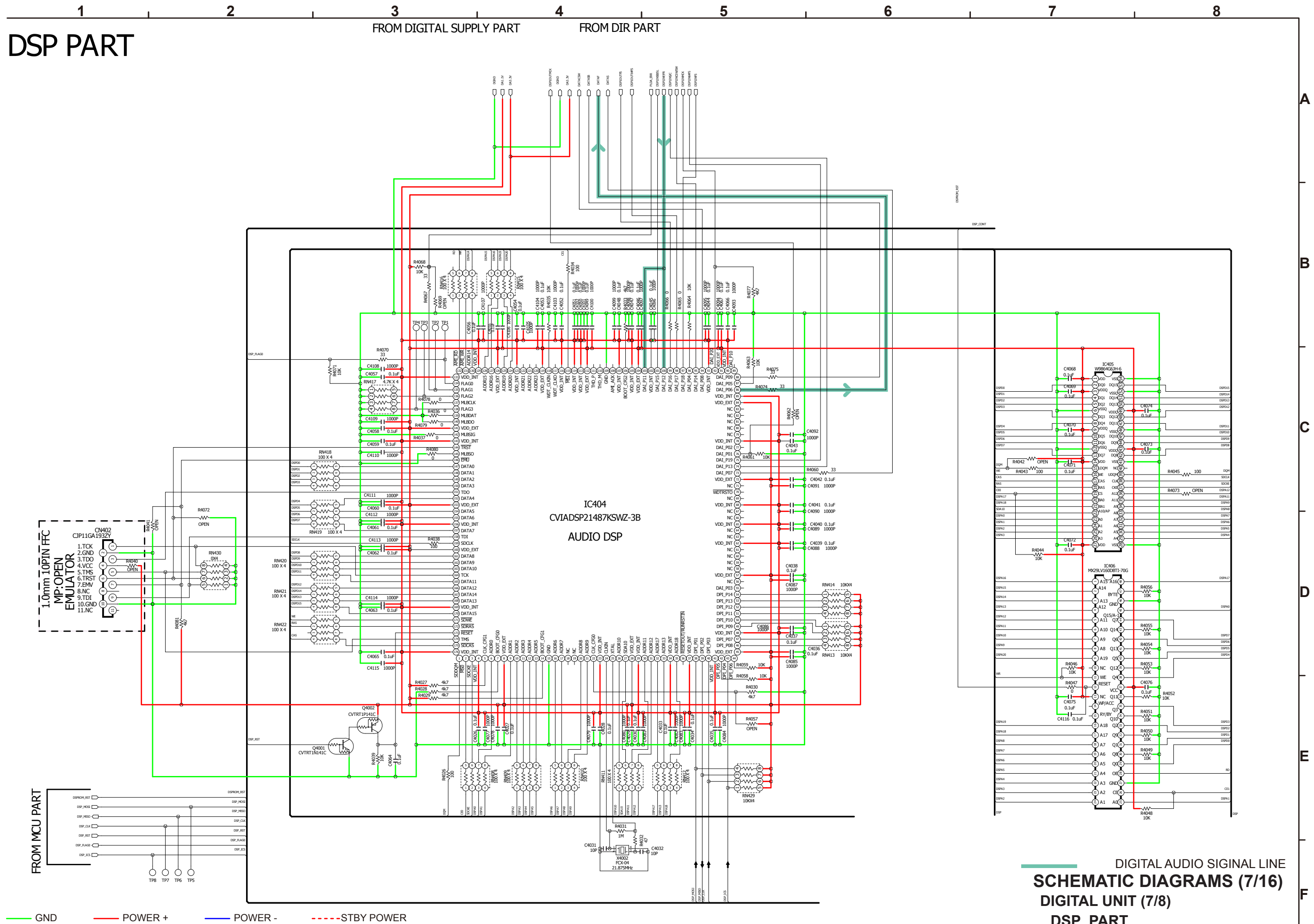
SCHEMATIC DIAGRAMS (4/16)
 DIGITAL UNIT (4/8)
 MCU_LEVEL_CHG PART

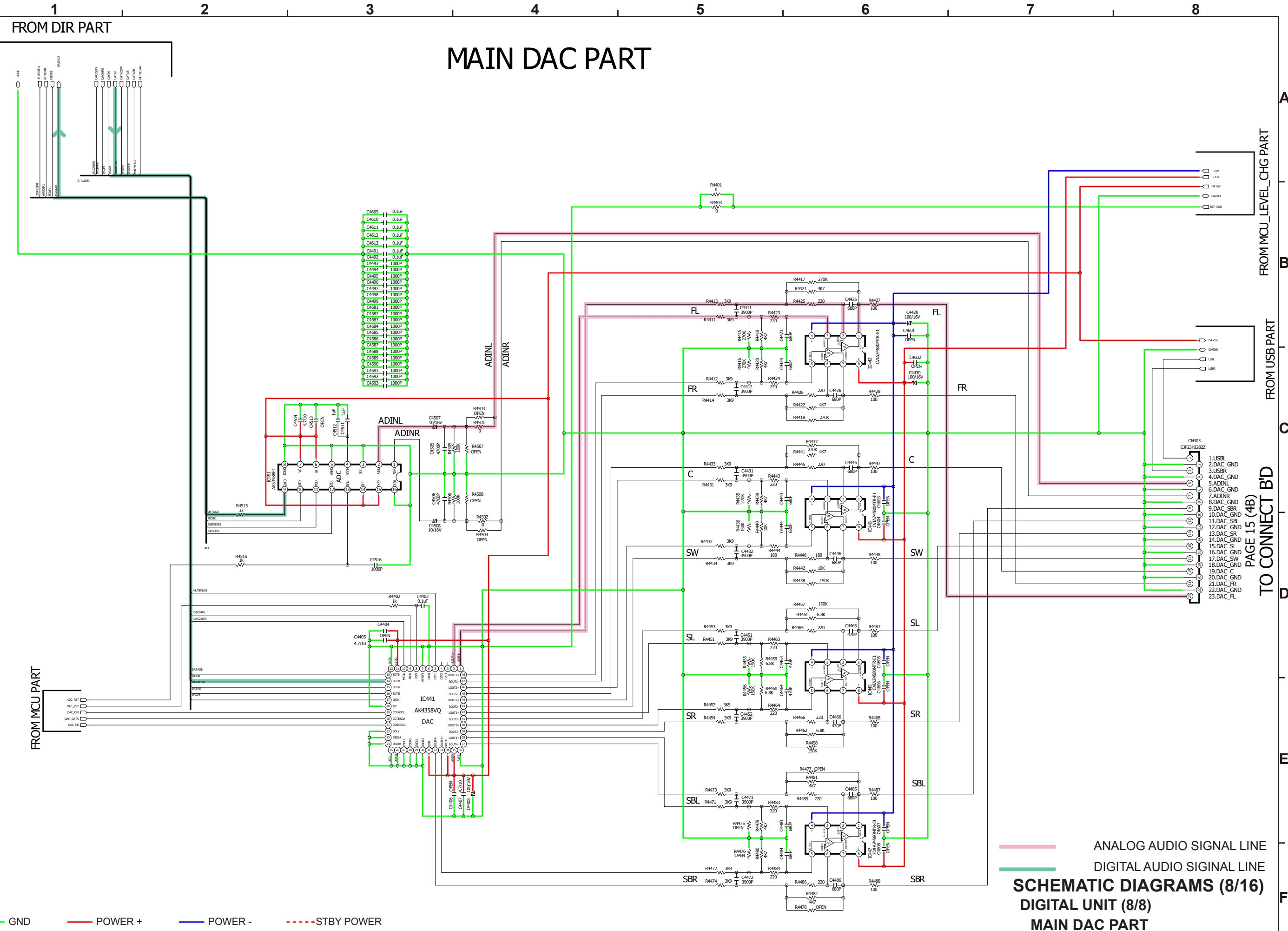


SCHEMATIC DIAGRAMS (5/16)
DIGITAL UNIT (5/8)
USB TCC8600 PART



DSP PART





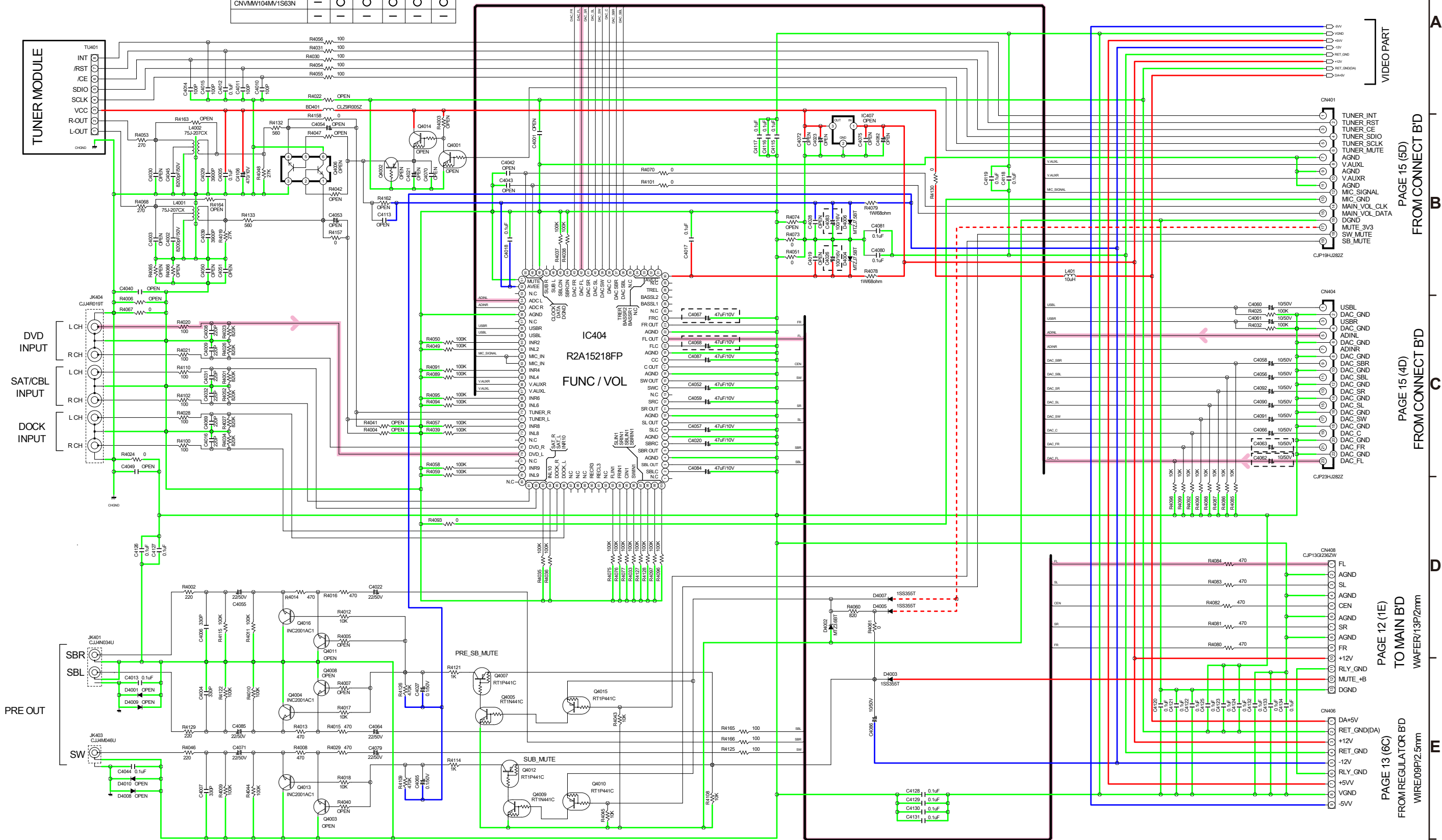
PAGE 15 (4B)
TO CONNECT BID

ANALOG AUDIO SIGNAL LINE
 DIGITAL AUDIO SIGNAL LINE
SCHEMATIC DIAGRAMS (8/16)
DIGITAL UNIT (8/8)
MAIN DAC PART

AUDIO PART

* TUNER MODULE OPTION TABLE

	BKE3	BKE2	E2(AP)	BKEA	SPE1C	K(JP)
CNVMM004M/1S63SN	○	—	—	—	—	—
CNVMM104M/1S63N	—	○	○	○	○	○
	—	—	—	—	—	—



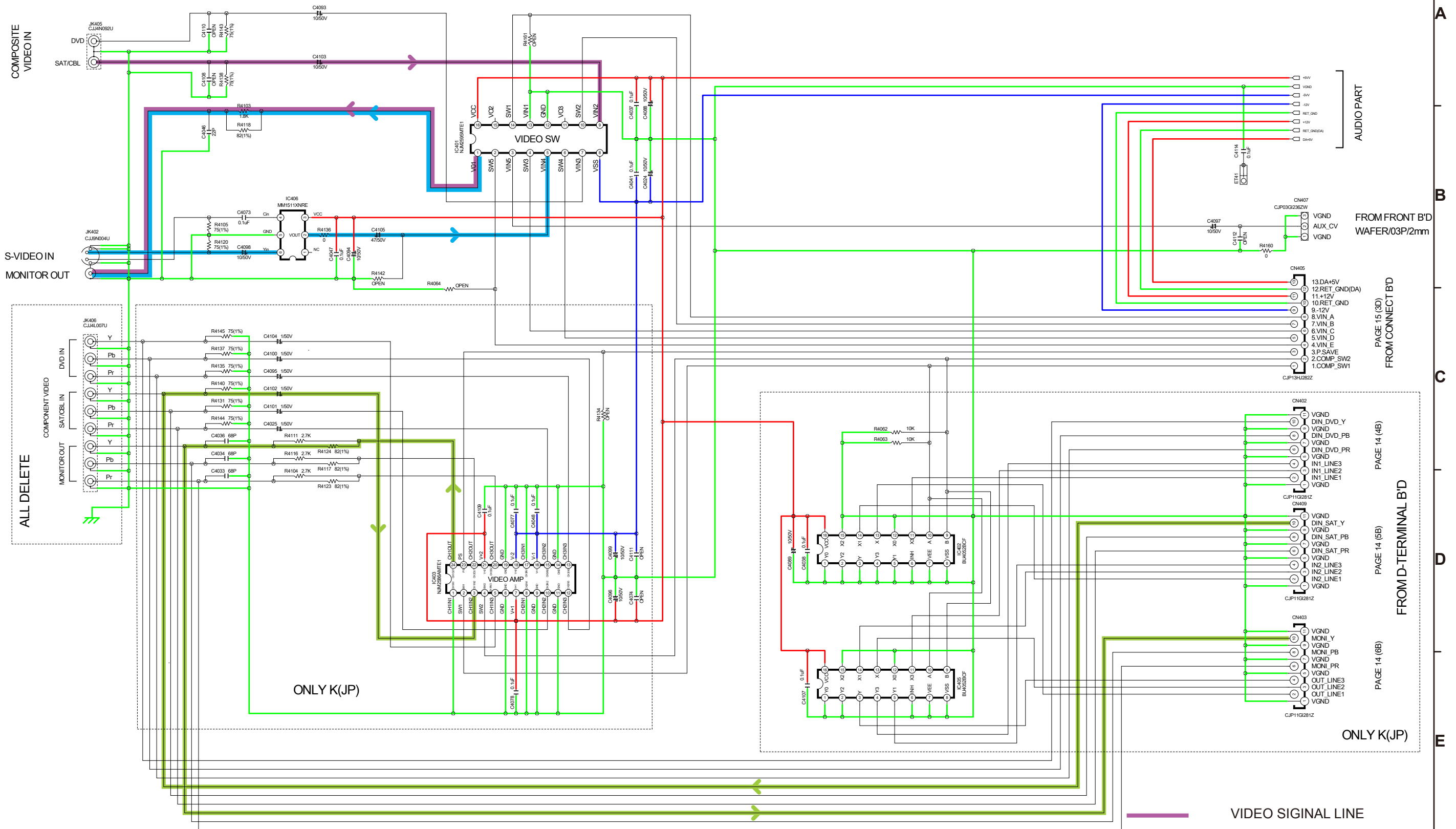
OPTION

	C4026, 4083	C4062, 4063	C4067, 4068
E3	100uF/16V	10uF/50V	47uF/10V
E2/EA			
E1C	100uF/50V	10uF/100V	47uF/63V
JP			

— GND — POWER + — POWER - - - - - STBY POWER

ANALOG AUDIO SIGNAL LINE
SCHEMATIC DIAGRAMS (9/16)
 INPUT UNIT (1/2)
 AUDIO PART

VIDEO PART



* VIDEO OPTION TABLE

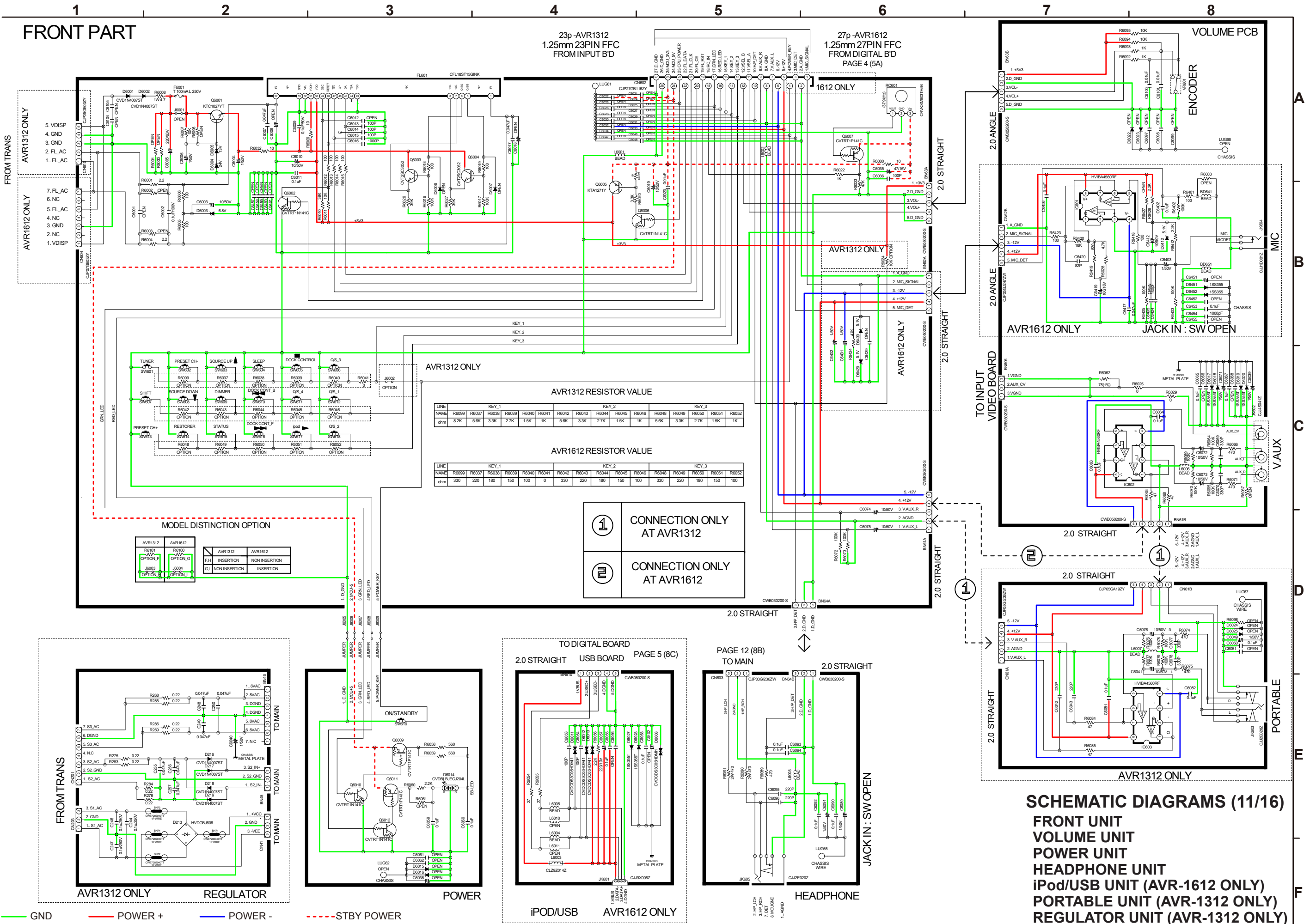
COMPONENT	BKE3	BKE2	E2(AP)	BKEA	SPE1C	K(JP)
COMPONENT	X	X	X	X	X	X
D-TERMINAL	X	X	X	X	X	O

— GND — POWER + — POWER - - - - STBY POWER

— VIDEO SIGNAL LINE
 — S(Y) VIDEO SIGNAL LINE
 — COMPONENT (Y) SIGNAL LINE

SCHEMATIC DIAGRAMS (10/16)
INPUT UNIT (2/2)
VIDEO PART

FRONT PART

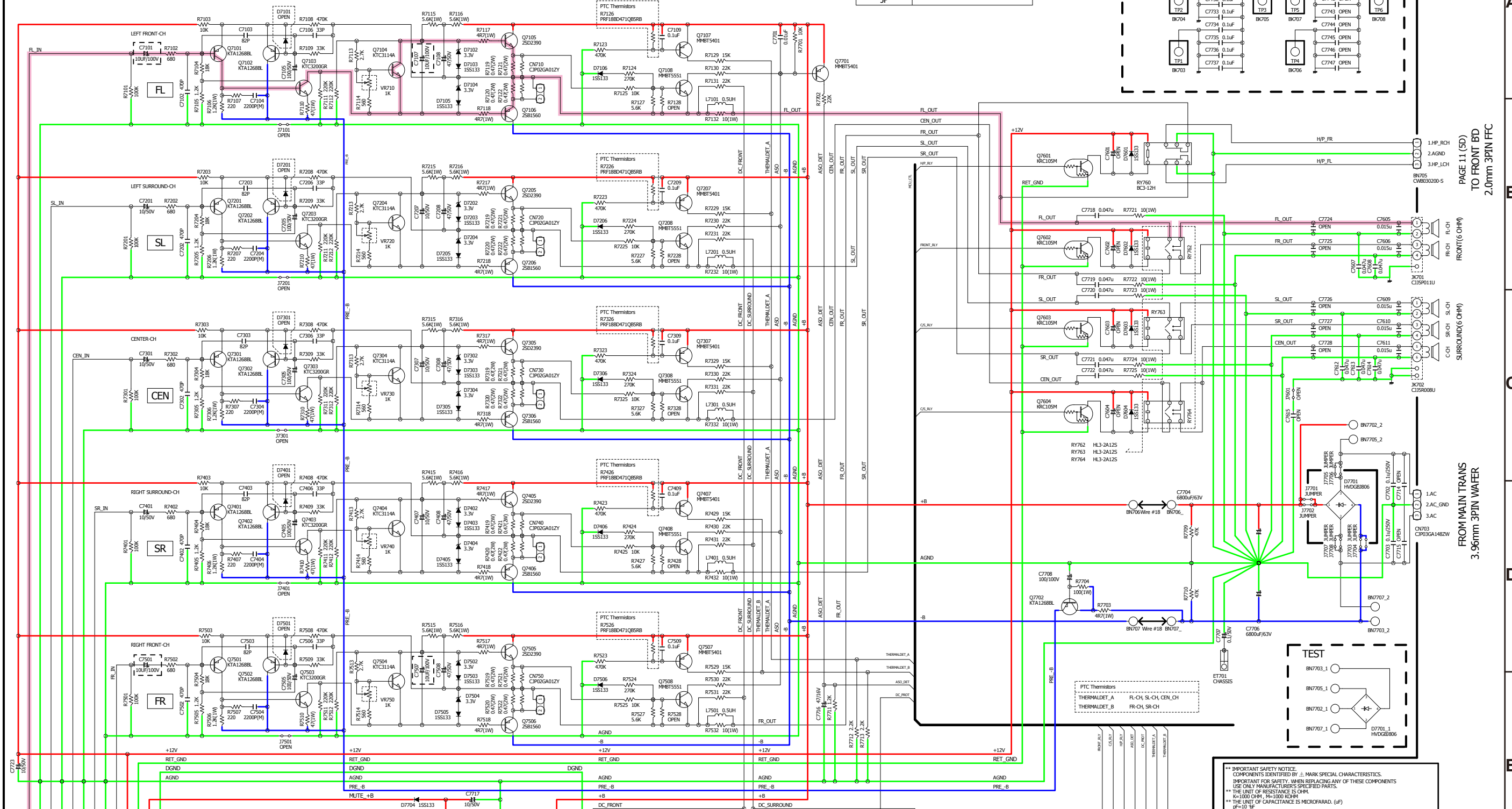
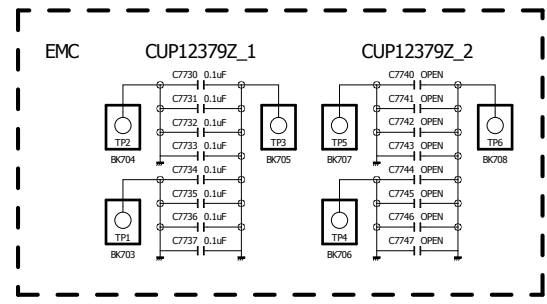


SCHEMATIC DIAGRAMS (11/16)
FRONT UNIT
VOLUME UNIT
POWER UNIT
HEADPHONE UNIT
iPod/USB UNIT (AVR-1612 ONLY)
PORTABLE UNIT (AVR-1312 ONLY)
REGULATOR UNIT (AVR-1312 ONLY)

MAIN PART

OPTION

E3	C7101, 7107, 7501, 7507
E2/EA	10uF/50V
E1C	10uF/100V
JP	



VERSION INFORMATION

MODEL NAME	Region
AVR1612 BKE3	North America
AVR1612 BKE3(H1612)	North America
AVR1612 BKE2	Europe
AVR1612 BKE2(AP)	Asia Pacific
AVR1612 BKEA	Australia
AVR1612 SPEIC	China
AVR1612 K	Japan

BN701 CMB130200-5

1.FL 2.AGND 3.SL 4.AGND 5.CEN 6.AGND 7.SK 8.AGND 9.FR 10.+12V 11.RET_GND 12.MUTE_+B 13.DGND

PAGE 9 (8D)
TO INPUT BD
2.0mm 13PIN WIRE

TEST

BN703_1
BN705_1
BN702_1
BN707_1

D7701 HVDB806

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY Δ MARK SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY: WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
* THE UNIT OF RESISTANCE IS OHM.
* THE UNIT OF CAPACITANCE IS MICROFARAD. (uF)
* THE UNIT OF CURRENT IS AMPERE (A).
* THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.

PAGE 4 (4A)
FROM DIGITAL BD
2.0mm 7PIN WIRE

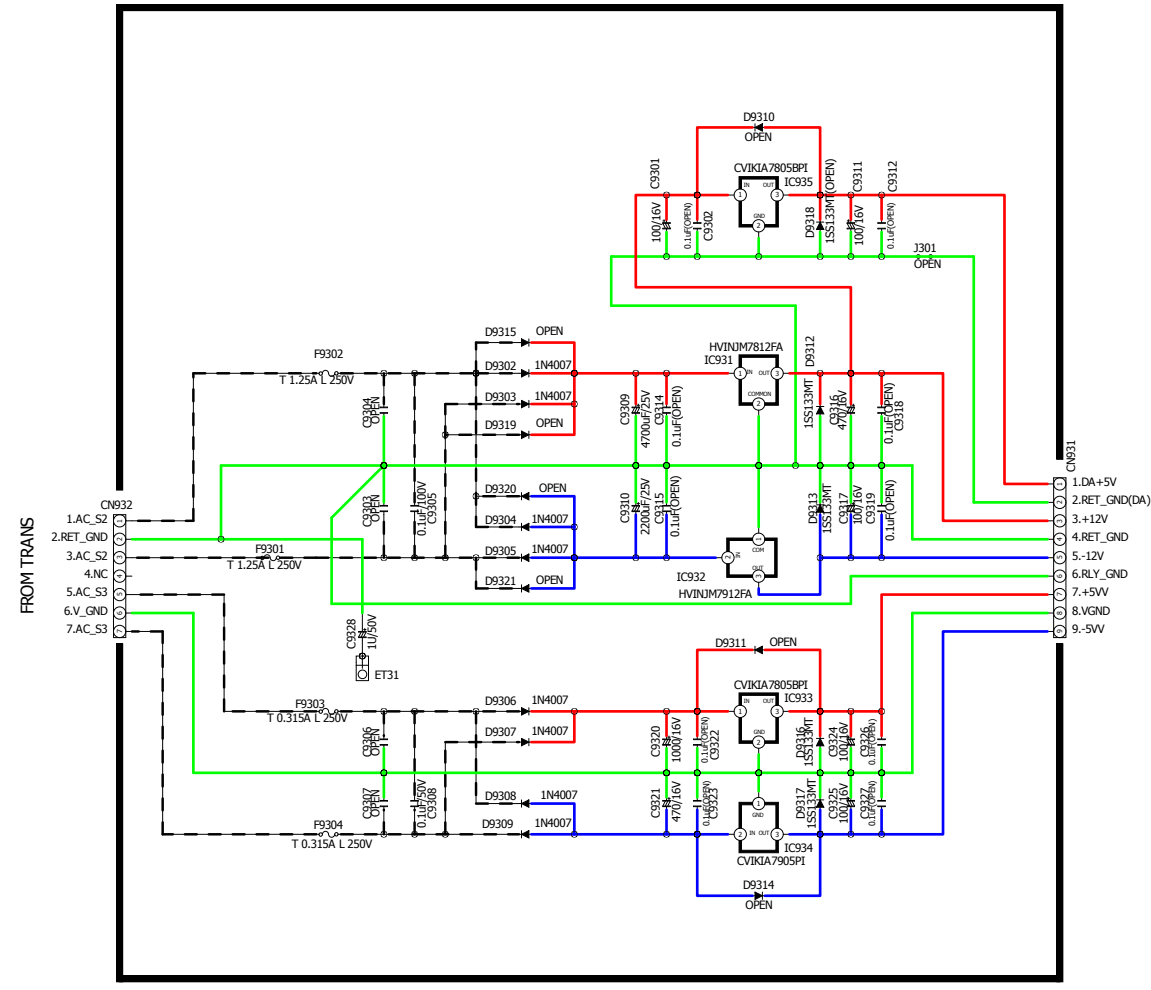
ANALOG AUDIO SIGNAL LINE

SCHEMATIC DIAGRAMS (12/16)

MAIN UNIT

GND POWER + POWER - STBY POWER

REGULATOR PART

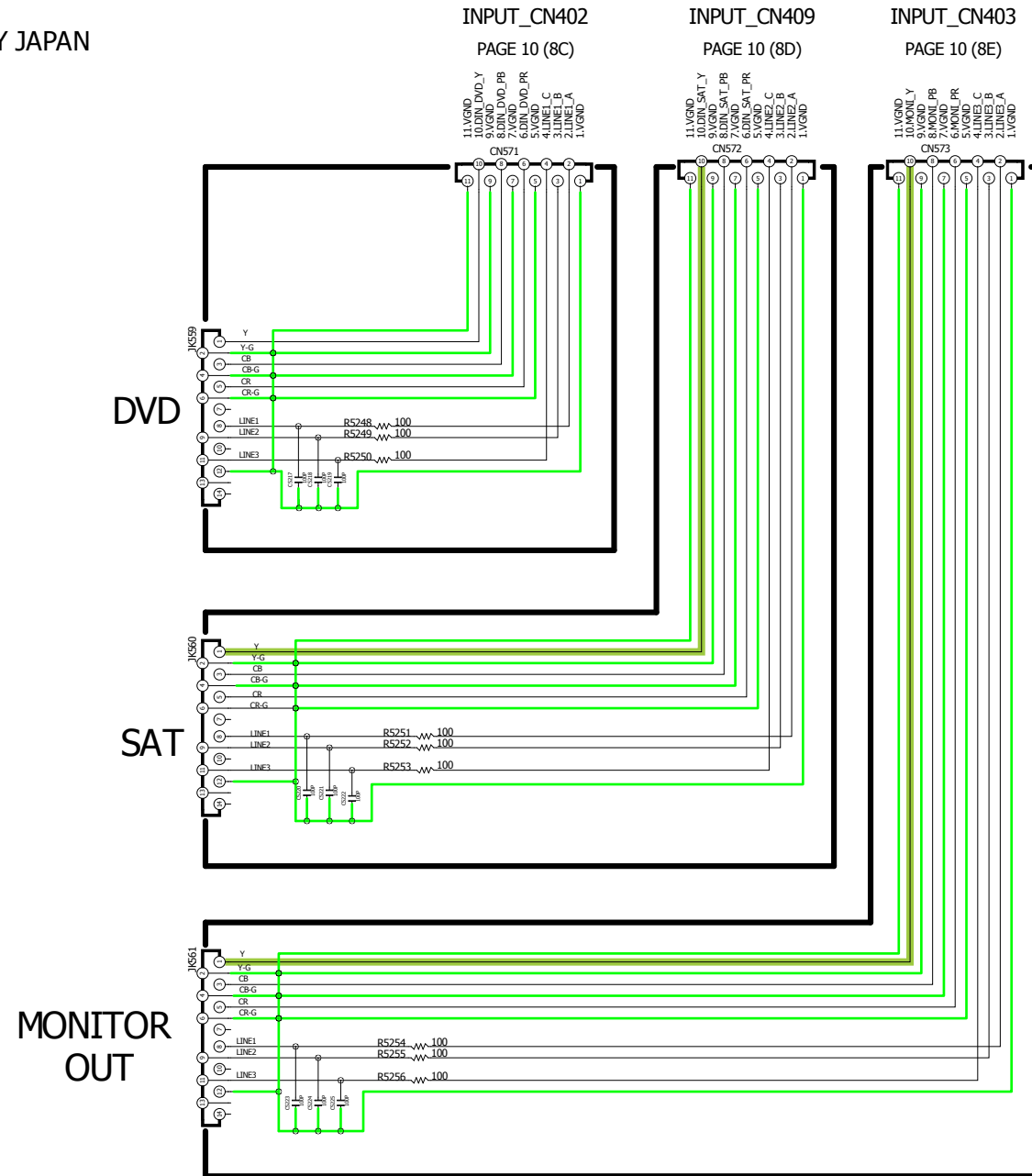


PAGE 9 (8E)
TO INPUT BD
2.0mm 9PIN WIRE

— GND — POWER + — POWER - - - - STBY POWER

D-TERMINAL PART

ONLY JAPAN



— COMPONENT (Y) SIGNAL LINE
SCHEMATIC DIAGRAMS (14/16)
D-TERMINAL UNIT(JP ONLY)

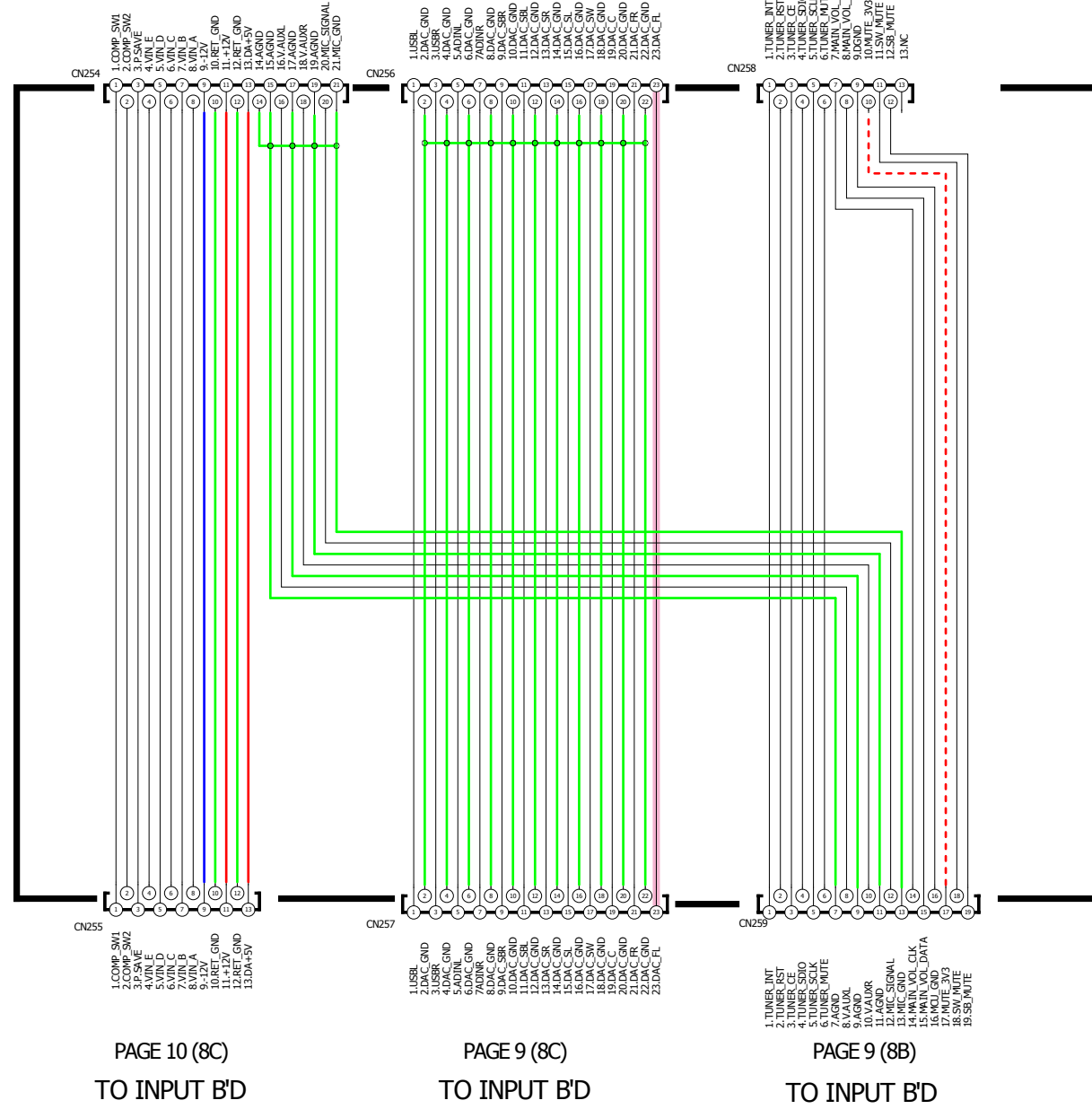
— GND — POWER + — POWER - - - - STBY POWER

CONNECTOR PART

FROM DIGITAL B'D
PAGE 4 (2A)

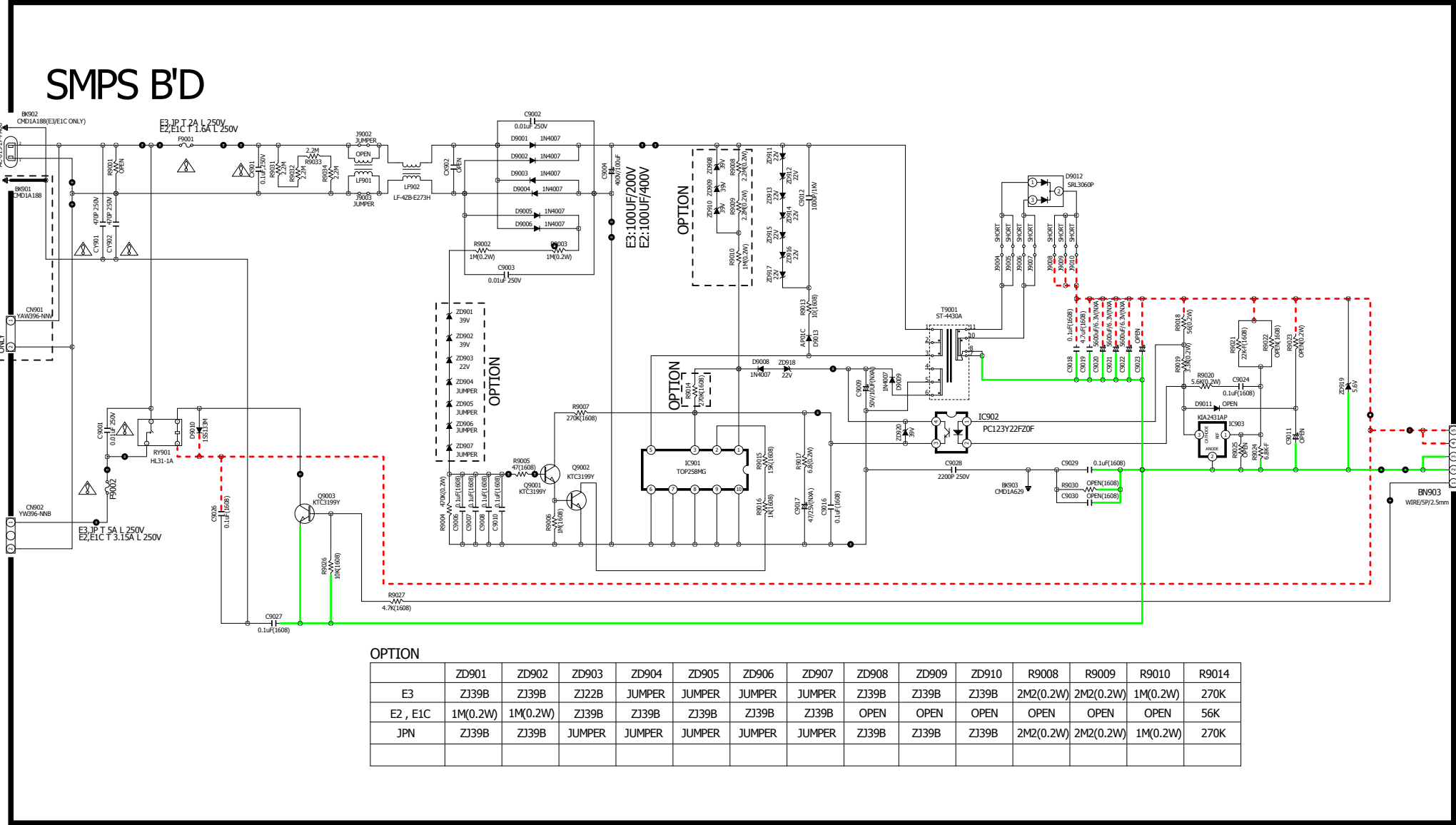
FROM DIGITAL B'D
PAGE 8 (8C)

FROM DIGITAL B'D
PAGE 4 (5A)



— GND — POWER + — POWER - - - - - STBY POWER

— ANALOG AUDIO SIGNAL LINE
SCHEMATIC DIAGRAMS (15/16)
CONNECTOR UNIT



OPTION

	ZD901	ZD902	ZD903	ZD904	ZD905	ZD906	ZD907	ZD908	ZD909	ZD910	R9008	R9009	R9010	R9014
E3	ZJ39B	ZJ39B	ZJ22B	JUMPER	JUMPER	JUMPER	JUMPER	ZJ39B	ZJ39B	ZJ39B	2M2(0.2W)	2M2(0.2W)	1M(0.2W)	270K
E2, E1C	1M(0.2W)	1M(0.2W)	ZJ39B	ZJ39B	ZJ39B	ZJ39B	ZJ39B	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	56K
JPN	ZJ39B	ZJ39B	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER	ZJ39B	ZJ39B	ZJ39B	2M2(0.2W)	2M2(0.2W)	1M(0.2W)	270K

PAGE 2 (8A)
TO DIGITAL_SUPPLY_POWER

— GND — POWER + — POWER - - - - STBY POWER

PARTS LIST OF EXPLODED VIEW

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

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

*Parts indicated by the "★" mark are not illustrated in the exploded view.

*The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

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

E3 : U.S.A. & Canada model

E2 : Europe model

E1C : China model(AVR-1612)

EA : Australia model

1622E1C : China model(AVR-1622)

BK : Black model

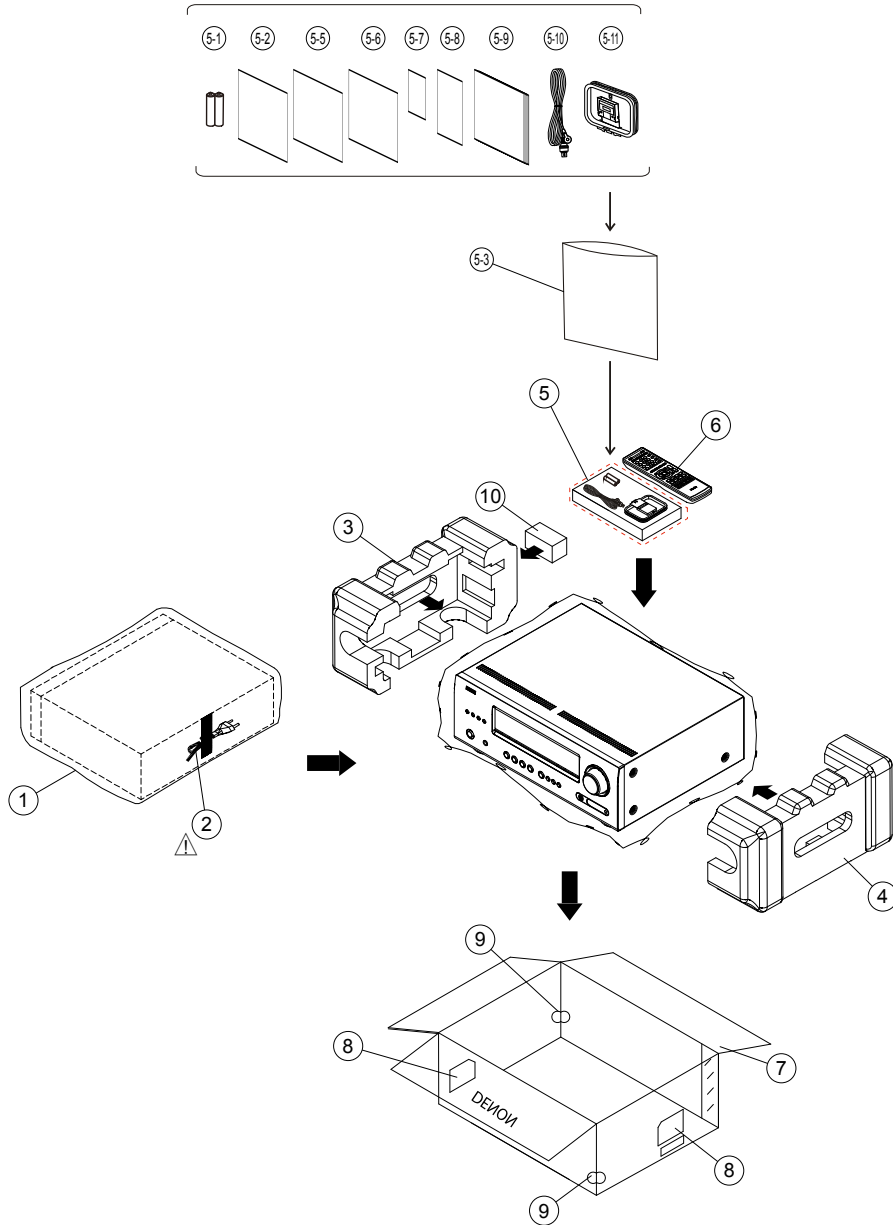
SP : Premium Silver model

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New	
1	nsp	FRONT PCB ASS'Y	E3	COP12381B	1 *	
1	nsp	FRONT PCB ASS'Y	E2,EA	COP12381C	1 *	
1	nsp	FRONT PCB ASS'Y	E1C,1622E1C	COP12381E	1 *	
C1	-	HEADPHONE PCB		-		
C2	-	USB PCB		-		
C3	-	FRONT PCB		-		
C4	-	VOLUME PCB		-		
C7	-	WIRE SUPPORT PCB		-		
2	nsp	POWER PCB ASS'Y	E3	COP12380B	1 *	
2	nsp	POWER PCB ASS'Y	E2,EA	COP12380C	1 *	
2	nsp	POWER PCB ASS'Y	E1C,1622E1C	COP12380E	1 *	
C5	-	SMPS PCB		-		
C6	-	REGULATOR PCB		-		
C13	-	CONNECTOR PCB		-		
△	C9	943101012320D	TRANS , POWER AVR1612/E3 , (85.8X63)	E3	CLT5U048ZU	1 *
△	C9	943101012330D	TRANS , POWER AVR1612/E2 , (85.8X63)	E2,EA	CLT5U048ZE	1 *
△	C9	943101012340D	TRANS , POWER AVR1612/E1C , (85.8X63)	E1C,1622E1C	CLT5U048ZH	1 *
3	nsp	MAIN PCB ASS'Y	E3	COP12379B	1 *	
3	nsp	MAIN PCB ASS'Y	E2,EA	COP12379C	1 *	
3	nsp	MAIN PCB ASS'Y	E1C,1622E1C	COP12379E	1 *	
C8	-	WIRE SUPPORT PCB		-		
C10	-	MAIN PCB		-		
C17	-	GND CONNECT PCB		-		
C11	nsp	INPUT PCB ASS'Y	E3	COP12378B	1 *	
C11	nsp	INPUT PCB ASS'Y	E2,EA	COP12378C	1 *	
C11	nsp	INPUT PCB ASS'Y	E1C,1622E1C	COP12378E	1 *	
C12	8U6331007200D	DIGITAL PCB ASS'Y	E3	COP12377B	1 *	
C12	8U6331007300D	DIGITAL PCB ASS'Y	E2,EA	COP12377C	1 *	
C12	8U6331007400D	DIGITAL PCB ASS'Y	E1C	COP12377E	1 *	
C12	8U6331011000S	DIGITAL PCB ASS'Y	1622E1C	COP12377F	1 *	
△	C14	90M-YC000780R	CORD , POWER	E3	CJA523FBYA	1
△	C14	90M-YC000850R	CORD , POWER	E1C,1622E1C	CJA2N047ZA	1
M1	00D9630362109	DENON BADGE(BLACK049)	BK	CGB1A140U	1	
M1	00D9630362202	DENON BADGE(SILVER 052)	SP	CGB1A140T	1	
M2	nsp	EARTH , USB		CMC1A420	1 *	
M3	nsp	EARTH AUX		CMC1A421	1 *	
M4	nsp	BOTTOM CHASSIS		CUA1A328	1	

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
M5	nsp	SMPS BRACKET		CMD1A790	1	*
M6	943401100020D	TOP CABINET(EMC)	BK	CKC2A155ZK117	1	*
M6	943401100030D	TOP CABINET(EMC)	SP	CKC2A155ZD11	1	*
M7	nsp	HEAT SINK		CMY1A371	1	*
M8	nsp	PCB BRACKET		CMD1A417	2	
M9	nsp	BRACKET , MULTI AV8003		CMD1A665	1	
M10	nsp	BRACKET , PCB		CMD1A789	2	*
M11	nsp	PANEL , REAR	E2,EA	CKF3A447Z	1	*
M11	nsp	PANEL , REAR	E3	CKF1A447Z	1	*
M11	nsp	PANEL , REAR	E1C	CKF2A447Z	1	*
M11	nsp	PANEL , REAR	1622E1C	CKF2A447Y	1	*
P1	943416012530D	WINDOW FL		CGU1A459Z	1	
P2	943412009840D	VOLUME KNOB	BK	CBN1A249	1	
P2	943412009850D	VOLUME KNOB	SP	CBN1A249C73	1	
P3	943419100020D	RCA COVER	BK	CGR1A510B28	1	
P3	943419100030D	RCA COVER	SP	CGR1A510G45	1	
P4	943402012360D	PANEL , FRONT	E2,EA	CGW1A509RHYB28	1	*
P4	943402012370D	PANEL , FRONT	E3	CGW1A509RHZB28	1	*
P4	943402012380D	PANEL , FRONT	SPE1C	CGW1A509RGXG45	1	*
P4	943402012390D	PANEL , FRONT	1622E1C	CGW1A509RGVG45	1	*
P4	943402100190D	PANEL , FRONT	BKE1C	CGW1A509RHUB28	1	*
P5	00D9630137807	STANDBY LENS		CGL1A289	1	
P6	943411009860D	BUTTON STANDBY ASS'Y	BK	CBT1A1141ZA	1	
P6	943411009870D	BUTTON STANDBY ASS'Y	SP	CBT1A1141YA	1	
P7	943411012490D	BUTTON , 4KEY	BK	CBT1A1154B28	1	
P7	943411012500D	BUTTON , 4KEY	SP	CBT1A1154G45	1	
P8	943411012570D	BUTTON , 5KEY	BK	CBT1A1153XB28	1	*
P8	943411012580D	BUTTON , 5KEY	SP	CBT1A1153WG45	1	*
P9	00D9630365002	WIN 3KEY BUTTON	BK	CBT1A1140B28	2	
P9	00D9630365301	WIN 3KEY BUTTON	SP	CBT1A1140G45	2	
P10	943411012510D	BUTTON , 3KEY	BK	CBT1A1155ZB28	1	
P10	943411012520D	BUTTON , 3KEY	SP	CBT1A1155YG45	1	
P11	943407100020D	FOOT		CKL1A190	4	
P12	00D9430202902	FOOT CUSHION		CHG2A289	4	
P13	nsp	RUBBER		CHG1A113	6	
P14	nsp	INSULATOR , SILICON		CMX1A298	1	
P15	nsp	HOLDER,PCB		CHE2A030	6	
P16	nsp	BUSHING , AC CORD	E3,E1C,1622E1C	CHR1A028	1	
P17	943419100250D	CGX1A492Z SHEET TOP AVR1612BK	BK	CGX1A492Z	1	*
P17	943419100260D	CGX1A492Y SHEET TOP AVR1612SP	SP	CGX1A492Y	1	*
P18	45451000500AM	STOPPER TOP BL PM6004	BK	CMH1A306Z	4	
P18	45451000501AM	STOPPER TOP SG PM6004	SP	CMH1A306Y	4	
SCREWS						
S1	nsp	SCREW	BK	CTB3+8JFZR	5	
S1	nsp	SCREW	SP	CTB3+8JFN	5	
S2	nsp	SCREW		CTW3+8JR	2	
S2	nsp	SCREW		CTW3+8JR	12	
S3	nsp	SCREW		CTB3+10JR	22	
S4	nsp	SCREW		CTB3+6JR	2	
S5	nsp	SCREW , SPECIAL		CHD1A012ZR	15	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New	
S6	nsp	SCREW		CTW3+18JR	6	
S7	nsp	SCREW		CTB3+8JR	6	
S8	nsp	SCREW		CTB3+6FR	4	
S9	nsp	SCREW		CTBD3+8JFZR	17	
S9	nsp	SCREW	BK	CTBD3+8JFZR	3	
S9	nsp	SCREW	SP	CTBD3+8JFN	3	
S10	nsp	SCREW		CTBD3+6FFZR	10	
S11	nsp	SCREW	BK	CTBD4+8JFZR	6	
S11	nsp	SCREW	SP	CTBD4+8JFN	6	
S11	nsp	SCREW	E2,EA	CTBD4+8JFZR	2	
S12	nsp	SCREW,TRANS		CHD2A023R	4	
S13	nsp	SCREW		CTWS3+10GR	1	
S14	nsp	SCREW		CTW3+12JR	1	
S15	nsp	SCREW , SPECIAL		CHD4A012R	3	
WIRES						
★ W1	943606500090S	CABLE , CARD (27P,1.25MM,220MM,B,10MM)		CWC4C4A27B220B10	1	*

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

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

*Parts indicated by the "★" mark are not illustrated in the exploded view.

*The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

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

E3 : U.S.A. & Canada model

E2 : Europe model

E1C : China model(AVR-1612)

EA : Australia model

1622E1C : China model(AVR-1622)

BK : Black model

SP : Premium Silver model

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	1	nsp	POLY BAG		CPP1A081X	1	
⚠	2	90M-YC000780R	POWER CORD	E3	CJA523FBYA	1	
⚠	2	90M-ZC000320R	POWER CORD	E2	CJA2B054Z	1	
⚠	2	90M-ZC000430R	POWER CORD	EA	HJA2S084Z	1	
⚠	2	90M-YC000850R	POWER CORD	E1C,1622E1C	CJA2N047ZA	1	
	3	943533012540D	SNOW PAD(L)		CPS1A909	1	
	4	943533100040D	SNOW PAD(R)		CPS1A910	1	

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
5	-	INSTRUCTION MANUAL ASS'Y		-	1	
5-1	nsp	BATTERY(AA)		CABR6PPB	2	
5-2	352010017003D	INST. MANUAL(E3 CD-ROM)	E3	CFT1A032Z	1	*
5-2	352010018006D	INST. MANUAL(E2 CD-ROM)	E2,EA	CFT1A033Z	1	*
5-2	352010030006D	INST. MANUAL(1612E1C CD-ROM)	E1C	CFT1A035Z	1	*
5-2	352010031009D	INST. MANUAL(1622E1C CD-ROM)	1622E1C	CFT1A036Z	1	*
5-3	nsp	POLY BAG(MANUAL)		CPB1A197Z	1	
★ 5-4	nsp	BARCODE LABEL(MANUAL)		CQB1A971	1	
5-5	nsp	S.S LIST		CQE1A226P	1	
5-6	nsp	WARRANTY CARD	E3	CQE1A224R	1	
5-7	nsp	CARD FOR CHINA IDENTIFICATION	E1C,1622E1C	CQE1A450Z	1	
5-8	nsp	WARRANTYCARD CHINA	E1C,1622E1C	CQE1A473Z	1	
5-9	542110053009D	QUICK MANUAL(E3)	E3	CQX1A1615Z	1	*
5-9	542110054002D	QUICK MANUAL(E2)	E2,EA	CQX1A1616Z	1	*
5-9	542110058004D	QUICK MANUAL(E1C)	E1C	CQX1A1618Z	1	*
5-9	542110059007D	QUICK MANUAL(1622E1C)	1622E1C	CQX1A1619Z	1	*
5-10	90M-ZA000230R	FM 1 POLANT(UL)	E3	CSA1A019Z	1	
5-10	00D9430113403	FM 1 POLE ANT.	E2,EA,E1C,1622E1C	CSA1A018Z	1	
5-11	943116009500S	AM LOOP ANT		CSA1A032Z	1	
6	307010088005D	REMOCON ASS'Y(RC-1157)		CARTAVR1612	1	*
7	943531012590D	OUTCARTON BOX	E3,BKE1C	CPG1A942W	1	*
7	943531012600D	OUTCARTON BOX	E2,EA	CPG1A942V	1	*
7	943531100060D	OUTCARTON BOX	SPE1C	CPG1A942U	1	*
7	943531012610D	OUTCARTON BOX	1622E1C	CPG1A942S	1	*
8	nsp	CONTROL LABEL		CQB1A993Z	1	
9	nsp	COLOR LABEL(WHITE)	SP	CQB1A676	2	
10	324010001003D	DM-A409EM		CJXAVR1612A	1	

PARTS LIST OF P.C.B. UNIT

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

*The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

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

E3 : U.S.A. & Canada model

E2 : Europe model

E1C : China model(AVR-1612)

EA : Australia model

1622E1C : China model(AVR-1622)

BK : Black model

SP : Premium Silver model

FRONT PCB UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
IC601,602	943239005300M	IC BA4560RF		HVIBA4560RF	
Q6001	943219006820S	TR KTC1027Y		CVTKTC1027YT	
Q6002	943216500020S	TR RT1N141C		CVTRT1N141C	
Q6003,6004	943214500020S	TR 2SC3052		CVT2SC3052	
Q6005	00MHT600141B1	TR KTA1271Y		HVTKTA1271YT	
Q6006	943216500020S	TR RT1N141C		CVTRT1N141C	
Q6007	943215500020S	TR RT1P141C		CVTRT1P141C	
Q6009	943215500020S	TR RT1P141C		CVTRT1P141C	
Q6010	943216500020S	TR RT1N141C		CVTRT1N141C	
Q6011	943215500020S	TR RT1P141C		CVTRT1P141C	
Q6012	943216500020S	TR RT1N141C		CVTRT1N141C	
D6001,6002	943203003150S	DIODE 1N4007T		HVD1N4007T	
D6003	90M-HD302360R	DIODE ZJ6.8BT		CVDZJ6.8BT	
D6004	00D9430087209	ZENER DIODE ZJ24B 1/2W		CVDZJ24BT	
D6005	90M-HD302450R	ZENER DIODE ZJ13B 1/2W		CVDZJ13BT	
D6008	963209003510S	DIODE , RELIABLE ESD PROTECTION		CVDCDS3C05HDMI1	
D6011-6013	963209003510S	DIODE , RELIABLE ESD PROTECTION		CVDCDS3C05HDMI1	
D6014	943176010090S	LED BLBJEGJ204L		CVDBLB.JEGJ204L	
D6017-6020	943209001080S	DIODE 1SS355T		CVD1SS355T	
D6027,6028	943209001080S	DIODE 1SS355T		CVD1SS355T	
D6412	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT	
D6429,6430	943202010080S	DIODE ZJ5.1B		CVDZJ5.1BT	
D6451,6452	943209001080S	DIODE 1SS355T		CVD1SS355T	
RESISTORS GROUP					
⚠ R6008	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)		CRG1SANJ4R7RT	
R6090,6091	nsp	RES,M-OXIDEFILM(2W/470ohm)		CRG2SANJ471RT	
CAPACITORS GROUP					
C6002	nsp	MYLAR CAP 0.1UF 50V J		HCQ1H104JZT	
C6003	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T	
C6004	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T	
C6005	00MOA22706320	ELECT CAP 220UF 63V		CCEA1JH221E	
C6006	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T	
C6007	nsp	METALLIZEDFILM CAP 0.047UF 100V		CCME2A473JXT	
C6009	nsp	CHIP CAP 0.1UF/50V/2012		CCUC1H104KC	
C6010	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T	
C6011	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC	
C6013-6015	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA	
C6016	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC	
C6017	nsp	METALLIZEDFILM CAP 0.047UF 100V		CCME2A473JXT	
C6019	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T	
C6020	nsp	CHIP CAP 0.01UF 50V K		CCUS1H103KC	
C6035	943134010670S	ELECT CAP 47UF 16V		CCEA1CKS470T	
C6036	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA	
C6039	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T	
C6053,6054	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA	
C6055	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC	
C6057	00D9430173003	CAP , ELECT(10V/220uF)-S		CCEA1AKS221T	
C6058-6060	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC	

DIGITAL PCB UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
IC101	943236012460S	IC HDMI Transceiver(LQFP-144P)			
IC102	943248100080S	I.C, FLASH MEMORY(AVR1612_E2_OSD)	E2,EA		*
IC102	943248100060S	I.C, FLASH MEMORY(AVR1612_E3_OSD)	E3		*
IC102	943248100090S	I.C, FLASH MEMORY(AVR1612_E1C_OSD)	E1C		*
IC151	nsp	IC EX3AV			
IC153	nsp	IC EX3AV			
IC154	231310009508S	I.C , REGULATOR (3.3V)			
IC155	234810015507S	I.C, VOLTAGE DETECTOR(4.8V)			
IC156	nsp	IC EX3AV			
IC157	231810090509S	I.C , REGULATOR (1.8V)			
IC201	943243100040S	I.C , U-COM(AVR1612_E2)	E2,EA		*
IC201	943243012660S	I.C , U-COM(AVR1612_E3)	E3		*
IC201	943243100050S	I.C , U-COM(AVR1612_E1C)	E1C		*
IC201	943243100060S	I.C , U-COM(AVR1622_E1C)	1622E1C		*
IC202	246810026500S	I.C EEPROM(256K, 32-kword x 8 bit)			
IC251	00D2623410907	IC TC74VHCT08AFT			
IC252	00D2623444902	IC TC74VHC08FT			
IC253	963239002150S	I.C , OCTAL BUFFER/DRIVER			
IC301	963239008830S	32BIT RISC CPU			
IC340	943248012670S	I.C, FLASH MEMORY(AVR1612_USB)			*
IC341	963239010380S	I.C, 64M SDRAM			
IC342	nsp	I.C , IPOD AUTHENTICATION CHIP FROM MARANTZ			
IC344	236810070500S	I.C, STEREO DAC (TSSOP16)			
IC345	943652500030S	POLY SWITCH (1.6A, 8V)			*
IC401	00D2623077900	I.C , HEX INVERTER			
IC402	236810062608S	I.C , DIR			
IC403	943236100020S	I.C, FLASH MEMORY(AVR1612_PLD)			*
IC404	nsp	I.C , DSP(LQFP-176P/350M)			
IC405	943246012690S	I.C , 64M SDRAM			
IC406	943248012680S	I.C, FLASH MEMORY(AVR1612_DSP)			*
IC441	236810073509S	I.C , DAC(8CH 192kHz 24-Bit)			
IC442,443	00D2631289900	IC AZ4580MTR-E1			
IC445	00D2631289900	IC AZ4580MTR-E1			
IC447	00D2631289900	IC AZ4580MTR-E1			
IC451	236810086505S	I.C , ADC(96kHz 24-Bit)			
Q1001	943215500020S	TR RT1P141C			
Q1002	943216500040S	TR RT1N241C			
Q1003	943215500020S	TR RT1P141C			
Q1004	943216500040S	TR RT1N241C			
Q1005	943215500020S	TR RT1P141C			
Q1006	943216500040S	TR RT1N241C			
Q1007	943215500020S	TR RT1P141C			
Q1008	943216500040S	TR RT1N241C			
Q1009	943216500050S	T.R,RT1N441C(47K-47K)			*
Q1501	943216500050S	T.R,RT1N441C(47K-47K)			*
Q1502	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)			*
Q1508	943216500050S	T.R,RT1N441C(47K-47K)			*
Q1510	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)			
Q1512	943216500050S	T.R,RT1N441C(47K-47K)			*
Q1514	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)			*
Q1515	00D2710326904	T.R,2SA1954			
Q1516	943216500050S	T.R,RT1N441C(47K-47K)			*
Q1517	943216500020S	TR RT1N141C			
Q1518	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)			*
Q1519	00D2710326904	T.R,2SA1954			
Q1520	943216500020S	TR RT1N141C			
Q1521	00D2710326904	T.R,2SA1954			
Q1522	943216500020S	TR RT1N141C			
Q1523	943214500020S	TR 2SC3052			
Q2006,2007	943214500020S	TR 2SC3052			
Q2008	943214500030S	T.R , MUTE			*
Q2009,2010	943216500020S	TR RT1N141C			

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

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
Q2012	943216500020S	TR RT1N141C			
Q2013	943216500020S	TR RT1N141C			
Q2504	943214500020S	TR 2SC3052			
Q2505,2506	943216500020S	TR RT1N141C			
Q2507	943214500020S	TR 2SC3052			
Q2508,2509	943216500020S	TR RT1N141C			
Q2513	943214500020S	TR 2SC3052			
Q3401,3402	943216500020S	TR RT1N141C			
Q3403	943229500020S	MOSFET,TPC6111(P-CH,U-MOSV)			*
Q3404	943215500020S	TR RT1P141C			
Q4001	943216500020S	TR RT1N141C			
Q4002	943215500020S	TR RT1P141C			
D1501	201310001503S	DIODE, ULTRA-HIGH SPEED			
D2006	201310001503S	DIODE, ULTRA-HIGH SPEED			
D2501	943209001080S	DIODE 1SS355T			
RESISTORS GROUP					
R1038	nsp	RES,CHIP(1608/1%/1.6Kohm)			
R1039	nsp	RES,CHIP(1608/1%/2Kohm)			
R1504	nsp	RES, CHIP(1608/1%/47Kohm)			
R1506	nsp	RES, CHIP(1608/1%/150Kohm)			
R1516	nsp	RES, CHIP(1608/1%/470Kohm)			
R1518	nsp	RES, CHIP(1608/1%/150Kohm)			
R1546	nsp	RES, CHIP(1608/1%/120Kohm)			
R1548	nsp	RES, CHIP(1608/1%/150Kohm)			
R2031	nsp	RES,CHIP(OOHM,5%,1608)	E2,EA		
R2031	nsp	CHIP RES,10K OHM 1/10W J	E1C		
R2031	nsp	RES , CHIP(3.3K OHM , 5% , 1608)	1622E1C		
R2032	nsp	RES,CHIP(OOHM,5%,1608)	E3		
R2032	nsp	CHIP RES,10K OHM 1/10W J	E1C		
R2032	nsp	RES , CHIP(18K OHM , 5% , 1608)	1622E1C		
CAPACITORS GROUP					
C1001-1004	nsp	CHIP CAP 0.1UF 16V			
C1005	nsp	CHIP CAP 10UF 6.3V			
C1006	nsp	CHIP CAP 0.1UF 16V			
C1007	nsp	CHIP CAP 10UF 6.3V			
C1008-1024	nsp	CHIP CAP 0.1UF 16V			
C1025	nsp	CHIP CAP 10UF 6.3V			
C1026	nsp	CHIP CAP 0.1UF 16V			
C1027	nsp	CHIP CAP 10UF 6.3V			
C1028	nsp	CHIP CAP 0.1UF 16V			
C1029	nsp	CHIP CAP 1UF 10V			
C1030	nsp	CHIP CAP 0.1UF 16V			
C1031	nsp	CHIP CAP 10UF 6.3V			
C1033-1035	nsp	CHIP CAP 1UF 10V			
C1036	nsp	CHIP CAP 0.1UF 16V			
C1037-1040	nsp	CHIP CAP 0.1UF 16V			
C1041	nsp	CHIP CAP 10UF 6.3V			
C1042	nsp	CHIP CAP 0.1UF 16V			
C1043	nsp	CHIP CAP 10UF 6.3V			
C1044	nsp	CHIP CAP 0.1UF 16V			
C1047-1050	nsp	CHIP CAP 0.1UF 16V			
C1051	nsp	CAP, CHIP(1005, 50V/1000pF)			
C1052	nsp	CHIP CAP 0.1UF 16V			
C1053,1054	nsp	CHIP CAP 47PF 50V			
C1063	nsp	CHIP CAP 0.1UF 16V			
C1067	nsp	CHIP CAP 0.1UF 16V			
C1501	nsp	CHIP CAP 10UF 6.3V			
C1502	nsp	CHIP CAP 0.1UF 16V			
C1503	nsp	CAP, CHIP(1005, 25V/0.01uF)			
C1506	nsp	CAP, CHIP(1005, 50V/15pF)			
C1509	nsp	CAP,CHIP(2012,10V/22uF)			

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
C1510	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1511	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1512,1513	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1525	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1526	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1527	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1530	nsp	CAP, CHIP(1005, 25V/0.01uF)			CCUIE103KC	
C1531	nsp	CAP, CHIP(1005, 50V/15pF)			CCUIH150JA	
C1535	nsp	CAP,CHIP(2012,10V/22uF)			CCUC1A226KC	
C1536	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1537,1538	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1539	nsp	CHIP CAP 1UF 10V			CCUS1A105KC	
C1540	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1543-1546	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1547	nsp	CHIP CAP 1UF 10V			CCUS1A105KC	
C1548	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1549	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1550	nsp	CHIP CAP 0.015UF 25V			CCUIE153KC	
C1551	nsp	CHIP CAP 1UF 10V			CCUS1A105KC	
C1552	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1556	943134500030S	CAP, SMD ELECT(16V/470uF/MANLEX RV, 10X10)			CCEC1CRV471T	*
C1557	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1559	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1562	nsp	CAP,CHIP(2012,10V/22uF)			CCUC1A226KC	
C1563,1564	nsp	CHIP CAP 10UF 6.3V			CCUC0J106KC	
C1565	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1566	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C1569	nsp	CAP, CHIP(1005, 25V/0.01uF)			CCUIE103KC	
C1570	nsp	CAP, CHIP(1005, 50V/15pF)			CCUIH150JA	
C1577-1580	nsp	CHIP CAP 0.1UF 50V K			CCUS1H104KC	
C2001	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2002	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2003,2004	nsp	CAP, CHIP(1608, 50V/10pF)			CCUS1H100JA	
C2005	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2009	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2012	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2015	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2017	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2020	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2021-2023	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2026	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2027	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2028	nsp	CHIP CAP 100PF 50V J			CCUS1H101JA	
C2029	nsp	CHIP CAP 100PF 50V J			CCUS1H101JA	
C2030	nsp	CAP, CHIP(1005, 50V/220pF)			CCUIH221JA	
C2031	nsp	CHIP CAP 0.1UF 50V K	E3		CCUS1H104KC	
C2031	nsp	CHIP CAP 0.1UF 50V K	E2,EA		CCUS1H104KC	
C2051	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2502	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2505	nsp	CAP, CHIP(1005, 25V/0.01uF)	E2,E3,EA		CCUIE103KC	
C2505-2507	nsp	CAP , CHIP (1005, 25V/0.01uF)	E1C		CCUIE103KC	
C2508	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C2514-2517	nsp	CHIP CAP 0.01UF 50V K			CCUS1H103KC	
C3401	nsp	CAP, CHIP(1005, 50V/1000pF)			CCUIH102KC	
C3402,3403	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3404,3405	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3406-3410	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3411	nsp	CAP, CHIP(1005, 50V/1000pF)			CCUIH102KC	
C3412	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3414	nsp	CAP, CHIP(1608,6.3V/4.7uF) (MURATA GRM18)			CCUS0J475KC	
C3420	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3421	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3422	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	
C3427,3428	nsp	CAP, CHIP(1005, 50V/100pF)			CCUIH101JA	
C3429	nsp	CHIP CAP 0.1UF 16V			CCUI1C104KC	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C3430,3431	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3432,3433	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3434	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C3435	nsp	CAP, CHIP(1005, 50V/390pF)		CCUI1H391JA	
C3436	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3437	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3438	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3439	nsp	CAP, CHIP(1005, 50V/1200pF)		CCUI1H122KC	
C3440	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3441,3442	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3443	nsp	CAP, CHIP(1608,6.3V/4.7uF) (MURATA GRM18)		CCUS0J475KC	
C3447-3449	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3453,3454	nsp	CAP, CHIP(1608, 50V/9pF)		CCUS1H090DA	
C3455	nsp	CHIP CAP 1UF 10V		CCUS1A105KC	
C3456,3457	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3458	nsp	CHIP CAP 1UF 10V		CCUS1A105KC	
C3459-3462	nsp	CAP, CHIP(1608,6.3V/4.7uF) (MURATA GRM18)		CCUS0J475KC	
C3463,3464	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC	
C3465	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C3468,3469	nsp	CAP, CHIP(1005, 50V/100pF)		CCUI1H101JA	
C4002	nsp	CAP, CHIP(1005, 25V/0.01uF)		CCUI1E103KC	
C4003	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4004	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4005-4009	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4010	nsp	CHIP CAP 0.022UF 50VK		CCUS1H223KC	
C4011,4012	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4013	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4015	nsp	CHIP CAP 10UF 6.3V		CCUC0J106KC	
C4016,4017	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4018,4019	nsp	CAP, CHIP(1005, 50V/10pF)		CCUI1H100JA	
C4020	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4021	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4022-4030	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4031,4032	nsp	CAP, CHIP(1608, 50V/10pF)		CCUS1H100JA	
C4033-4035	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4036	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4037	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4038-4043	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4044-4046	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4047,4048	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4049-4056	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4057	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4058-4065	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4066	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4067	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4068	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4069-4074	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4075,4076	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4077-4084	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4085	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4086	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4087	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4088,4089	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4090-4092	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4093,4094	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4095-4104	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4105,4106	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4107	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4108	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4109	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4110-4115	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4116	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4402	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4405	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF	
C4407	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C4408	943134500040S	CAP, CHIP ELECT(16V/100uF)		HCEC1CRV2101T	*
C4411,4412	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC	
C4423,4424	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4425,4426	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4429,4430	943134500040S	CAP, CHIP ELECT(16V/100uF)		HCEC1CRV2101T	*
C4431,4432	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC	
C4443,4444	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4445,4446	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4451,4452	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC	
C4463,4464	nsp	CAP, CHIP(1608, 50V/470pF)		CCUS1H471JA	
C4465,4466	nsp	CAP, CHIP(1608, 50V/470pF)		CCUS1H471JA	
C4471,4472	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC	
C4483,4484	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4485,4486	nsp	CAP, CHIP(1608, 50V/680pF)		CCUS1H681JA	
C4491	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4492	nsp	CHIP CAP 0.1UF 16V		CCUI1C104KC	
C4493,4494	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4495	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4496-4498	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4499	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4505,4506	nsp	CHIP CAP 4700PF 50V		CCUS1H472KC	
C4507,4508	943134500050S	CAP, CHIP ELECT(16V/10uF)		HCEC1CRV2100T	*
C4511,4512	nsp	CHIP CAP 1UF 10V		CCUS1A105KC	
C4514	nsp	CAP, CHIP(2012, 10V/4.7uF)		CCUC1A475ZF	
C4516	nsp	CHIP CAP 1000PF 50VK		CCUS1H102KC	
C4581-4584	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4585-4587	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4588,4589	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4590	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4591	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4592	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4593	nsp	CAP, CHIP(1005, 50V/1000pF)		CCUI1H102KC	
C4609-4611	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC	
C4612,4613	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC	
OTHERS PARTS GROUP					
BK102-104	nsp	BRACKET , PCB		CMD1A569	
CN101	nsp	WAFER , CARD CABLE (SMD)		CJP07GA193ZY	
CN151	nsp	LOCK-WAFER/STRAIGHT/2.5mm		CJP05GI237ZW	
CN202	nsp	WAFER , CARD CABLE (SMD)		CJP07GA193ZY	
CN203	nsp	WAFER , 4PIN ANGLE CARD CABLE 1MM		CJP04GB113ZY	
CN251	nsp	WAFER,FPC 1.25mm,stright		CJP27GA285ZN	
CN252	nsp	LOCK-WAFER/STRAIGHT/2mm		CJP07GI236ZW	
CN253	nsp	PIN SOCKET (13P,1.25mm,ANGLE, B-TO-B)		CJP13HJ282Z	
CN254	nsp	PIN SOCKET (21P,1.25mm,ANGLE, B-TO-B)		CJP21HJ282Z	
CN341	nsp	WAFER , SMD (2MM PITCH)		CJP05GA208ZY	
CN403	nsp	PIN SOCKET (23P,1.25mm,ANGLE, B-TO-B)		CJP23HJ282Z	
ET15,16	nsp	PALTE , EARTH		HJT1A025	
JK101-105	943643100040S	JACK, HDMI(KSI-TWI, W/ FLANGE)		CJJ9H014Z	
JK201	943643010220S	JACK, 3.5PI HORIZONTAL W/O RING		CJJ2E033Z	
JK401	943643100170S	JACK , BOARD		CJJ4M043Y	
JK402	262010004005S	MODULE , OPTICAL (RX,3.3V)		HJSTORX147L	
L1001-1008	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1009	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1501	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1503,1504	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	
L1509	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1511,1512	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	
L1513	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1514-1518	nsp	FERRITE , CHIP BEAD(60ohm, 1608)		CLZ9R005Z	
L1520,1521	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	
L2501-2525	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
L2527	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L2529-2534	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L2535,2536	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L2539,2540	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L2543-2568	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L3400,3401	nsp	FERRITE , CHIP BEAD(220ohm, 2012)		CLZ9R006Z		
L3402	nsp	FERRITE , CHIP BEAD(220ohm, 2012)		CLZ9R006Z		
L3403,3404	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
L3405	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
X1001	943141010350S	CRYSTAL, 28.636MHz, HC-49/SMD, 33pF, 30PPM		COX28636E330S		
X2001	00D3991038900	CRYSTAL, 12MHZ(SMD, FCX-03)		COX12000I100SR		
X3401	943141100030S	CRYSTAL, 12MHZ(SMD, FCX-03, 15ppm)		COX12000I100PPM15SR		*
X4001	141810046500S	CRYSTAL, 24.576MHZ(SMD, FCX-04)		COX24576I100SR		
X4002	943141100020S	CRYSTAL , 21.875MHZ(SMD , FCX-04)		COX21875I070SR		*

INPUT PCB UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC401	90M-HC109700R	IC NJM2595MTE1		CVINJM2595MTE1		
	IC404	943235003810S	IC R2A15218FP		CVIR2A15218FP		
	IC406	00MHC1010455Y	IC MM1511XNRE		HVIMM1511XNRE		
	Q4004	943214500030S	T.R , MUTE		CVTINC2001AC1		*
	Q4005	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		*
	Q4007	943215500030S	T.R,RT1P441C(47K-47K)		CVTRT1P441C		*
	Q4009	943216500050S	T.R,RT1N441C(47K-47K)		CVTRT1N441C		*
	Q4010	943215500030S	T.R,RT1P441C(47K-47K)		CVTRT1P441C		*
	Q4012	943215500030S	T.R,RT1P441C(47K-47K)		CVTRT1P441C		*
	Q4013	943214500030S	T.R , MUTE		CVTINC2001AC1		*
	Q4015	943215500030S	T.R,RT1P441C(47K-47K)		CVTRT1P441C		*
	Q4016	943214500030S	T.R , MUTE		CVTINC2001AC1		*
	D4002	00D2760760905	DIODE , ZENER 3.6V		CVDZJ3.6BT		
	D4003	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D4004	00D9430196306	DIODE ZJ7.5B		CVDZJ7.5BT		
	D4005	943209001080S	DIODE 1SS355T		CVD1SS355T		
	D4006	00D9430196306	DIODE ZJ7.5B		CVDZJ7.5BT		
	D4007	943209001080S	DIODE 1SS355T		CVD1SS355T		
RESISTORS GROUP							
	R4078,4079	nsp	METAL OXID EFILM RES(68OHM 1W)		CRG1SANJ680RT		
CAPACITORS GROUP							
	C4002	nsp	CHIP CAP 8200UF 50V		CCUS1H822KC		
	C4004	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4005	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4006,4007	nsp	CHIP CAP 330PF 50V J		CCUS1H331JA		
	C4008,4009	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C4010,4011	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C4012	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4013	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4014,4015	nsp	CHIP CAP 100PF 50V J		CCUS1H101JA		
	C4016	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C4017,4018	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4020	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
	C4022	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C4024	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4026	00D9430062101	ELECT CAP 100UF 16V	E3	CCEA1CH101T		
	C4026	943134500060S	ELECT CAP 100UF 50V	E2,EA,E1C	CCEA1HH101T		
	C4027	943134010470S	ELECT CAP 0.1UF 50V		CCEA1HH0R1T		
	C4029	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4031,4032	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
	C4037	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4039	nsp	CHIP CAP 3900PF 50V K		CCUS1H392KC		
	C4041	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4044	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4045	nsp	CHIP CAP 8200UF 50V		CCUS1H822KC		
	C4046	nsp	CHIP CAP 22PF 50V		CCUS1H220JA		
	C4047	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C4052	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
	C4055	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C4056	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4057	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
	C4058	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4059	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
	C4060, 4061	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
	C4062, 4063	00D9430175108	ELECT CAP 10UF 50V	E3	CCEA1HH100T		
	C4062, 4063	943134500070S	ELECT CAP 10UF 100V	E2,EA,E1C	CCEA2AH100TS		*
	C4064	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
	C4065	943134010470S	ELECT CAP 0.1UF 50V		CCEA1HH0R1T		

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
C4066	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4067, 4068	00D9630324607	CAP , ELECT(10V/47uF)	E3	CCEA1AH470T		
C4067, 4068	943134500080S	ELECT CAP 47UF 63V	E2,EA,E1C	CCEA1JH470TS		*
C4069	nsp	CHIP CAP 220PF 50V		CCUS1H221JA		
C4071	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
C4073	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
C4079	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
C4080,4081	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
C4083	00D9430062101	ELECT CAP 100UF 16V	E3	CCEA1CH101T		
C4083	943134500060S	ELECT CAP 100UF 50V	E2,EA,E1C	CCEA1HH101T		*
C4084	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
C4085	943134010590S	ELECT CAP 22UF 50V		CCEA1HH220T		
C4086	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4087	00D9630324607	CAP , ELECT(10V/47uF)		CCEA1AH470T		
C4088	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4090-4094	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4097,4098	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4103	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T		
C4105	00D9430148708	ELECT CAP 47UF 50V		CCEA1HH470T		
C4106	00D9430103808	ELECT CAP 470UF 10V		CCEA1AH471T		
C4114	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
C4115-4125	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
C4126-4134	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
OTHERS PARTS GROUP						
BD401	nsp	CHIP FERRITE BEAD(60ohm 1608)		CLZ9R005Z		
BK401	nsp	PCB BRACKET		CMD1A569		
CN401	nsp	PIN SOCKET (19P,1.25mm,ANGLE, B-TO-B)		CJP19HJ282Z		
CN404	nsp	PIN SOCKET (23P,1.25mm,ANGLE, B-TO-B)		CJP23HJ282Z		
CN405	nsp	PIN SOCKET (13P,1.25mm,ANGLE, B-TO-B)		CJP13HJ282Z		
CN406	nsp	WIRE ASS'Y Locking (YH) (9P,2.5MM,220MM,#24,105)		CWB4C0092203D		
CN407	nsp	LOCKINGTYPE STRAIGHTWAFER 2MM		CJP03GI236ZW		
CN408	nsp	LOCK-WAFER/STRAIGHT/2mm		CJP13GI236ZW		
ET41	nsp	EARTH PALTE		HJT1A025		
JK401	943643010150S	JACK NOSPPCC2PW/R		CJJ4N034U		
JK402	943643010190S	JACK NOSPPCCRCA/SVIDEO		CJJ9N004U		
JK403	943643010160S	JACK NOSPPCC1PBLACK		CJJ4M046U		
JK404	943643010170S	JACK NOSPPCC6PWWW/RRR		CJJ4R019T		
JK405	943643010180S	JACK NOSPPCC2PY/Y		CJJ4N092U		
L401	nsp	COIL , AXAIL (10UH)		HLQ02C100KT		
L4001,4002	943115010270S	MPX COIL(FM19KHzFILTER)		CLM4B001Z		
TU401	943183010320S	TUNER(USA)FM(SCREW:FTYPE),AM(S/LAB)	E3	CNVMW004MV1S63SN		
TU401	943183010310S	TUNER(EUR)FM,AM,RDS(S/LAB)	E2,EA,E1C	CNVMW104MV1S63N		

MAIN PCB UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
Q7101,7102	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7103	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7104	90M-HT800120R	TR KTC3114A		HVTKTC3114A	
Q7105	90M-HT400490R	POWER TR 2SD2390		HVT2SD2390	
Q7106	90M-HT200440R	POWER TR HVT2SB1560		HVT2SB1560	
Q7107	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7108	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551	*
Q7201,7202	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7203	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7204	90M-HT800120R	TR KTC3114A		HVTKTC3114A	
Q7205	90M-HT400490R	POWER TR 2SD2390		HVT2SD2390	
Q7206	90M-HT200440R	POWER TR HVT2SB1560		HVT2SB1560	
Q7207	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7208	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551	*
Q7301,7302	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7303	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7304	90M-HT800120R	TR KTC3114A		HVTKTC3114A	
Q7305	90M-HT400490R	POWER TR 2SD2390		HVT2SD2390	
Q7306	90M-HT200440R	POWER TR HVT2SB1560		HVT2SB1560	
Q7307	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7308	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551	*
Q7401,7402	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7403	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7404	90M-HT800120R	TR KTC3114A		HVTKTC3114A	
Q7405	90M-HT400490R	POWER TR 2SD2390		HVT2SD2390	
Q7406	90M-HT200440R	POWER TR HVT2SB1560		HVT2SB1560	
Q7407	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7408	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551	*
Q7501,7502	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7503	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7504	90M-HT800120R	TR KTC3114A		HVTKTC3114A	
Q7505	90M-HT400490R	POWER TR 2SD2390		HVT2SD2390	
Q7506	90M-HT200440R	POWER TR HVT2SB1560		HVT2SB1560	
Q7507	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7508	943214500040S	High Voltage NPN Transistors(SOT-23)		CVTMMBT5551	*
Q7601-7604	943216500030S	TR KRC105M		CVTKRC105MT	
Q7701	943212500020S	High Voltage PNP Transistors(SOT-23)		CVTMMBT5401	*
Q7702	00D2710301903	TR KTA1268BLATP		CVTKTA1268BLATPA	
Q7703	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7704	00D9430006206	T.R KTA1268GR		HVTKTA1268GRT	
Q7705,7706	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
Q7707	00D9430006206	TR KTA1268GR		HVTKTA1268GRT	
Q7708	00MHT800931A0	TR KTC3200GR		HVTKTC3200GRT	
D7102	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7103	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7104	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7105,7106	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7202	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7203	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7204	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7205,7206	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7302	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7303	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7304	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7305,7306	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7402	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7403	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7404	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7405,7406	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7502	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7503	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	
D7504	90M-HD302390R	DIODE ZJ3.3B		CVDZJ3.3BT	
D7505,7506	00D9430182609	DIODE 1SS133MT		CVD1SS133MT	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
D7601-7604	00D9430182609	DIODE 1SS133MT			
D7701	943203002640S	DIODE , BRIDGE(8A/600V)			
D7703	90M-HD302360R	DIODE ZJ6.8BT			
D7704	00D9430182609	DIODE 1SS133MT			
CAPACITORS GROUP					
C7101	00D9430175108	ELECT CAP 10UF 50V	E3		
C7101	943134500070S	ELECT CAP 10UF 100V	E2,EA,E1C		*
C7102	nsp	CERAMIC CAP 470PF 50V KB			
C7103	nsp	CERAMIC CAP 82PF 50V J			
C7104	nsp	MYLAR CAP 2200PF 100V J			
C7105	00MOA10705020	ELECT CAP 100UF 50V			
C7106	nsp	CERAMIC CAP 33PF 50V J			
C7107	00D9430175108	ELECT CAP 10UF 50V	E3		
C7107	943134500070S	ELECT CAP 10UF 100V	E2,EA,E1C		*
C7108	00D9430148708	ELECT CAP 47UF 50V			
C7109	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			
C7201	00D9430175108	ELECT CAP 10UF 50V			
C7202	nsp	CERAMIC CAP 470PF 50V KB			
C7203	nsp	CERAMIC CAP 82PF 50V J			
C7204	nsp	MYLAR CAP 2200PF 100V J			
C7205	00MOA10705020	ELECT CAP 100UF 50V			
C7206	nsp	CERAMIC CAP 33PF 50V J			
C7207	00D9430175108	ELECT CAP 10UF 50V			
C7208	00D9430148708	ELECT CAP 47UF 50V			
C7209	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			
C7301	00D9430175108	ELECT CAP 10UF 50V			
C7302	nsp	CERAMIC CAP 470PF 50V KB			
C7303	nsp	CERAMIC CAP 82PF 50V J			
C7304	nsp	MYLAR CAP 2200PF 100V J			
C7305	00MOA10705020	ELECT CAP 100UF 50V			
C7306	nsp	CERAMIC CAP 33PF 50V J			
C7307	00D9430175108	ELECT CAP 10UF 50V			
C7308	00D9430148708	ELECT CAP 47UF 50V			
C7309	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			
C7401	00D9430175108	ELECT CAP 10UF 50V			
C7402	nsp	CERAMIC CAP 470PF 50V KB			
C7403	nsp	CERAMIC CAP 82PF 50V J			
C7404	nsp	MYLAR CAP 2200PF 100V J			
C7405	00MOA10705020	ELECT CAP 100UF 50V			
C7406	nsp	CERAMIC CAP 33PF 50V J			
C7407	00D9430175108	ELECT CAP 10UF 50V			
C7408	00D9430148708	ELECT CAP 47UF 50V			
C7409	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			
C7501	00D9430175108	ELECT CAP 10UF 50V	E3		
C7501	943134500070S	ELECT CAP 10UF 100V	E2,EA,E1C		*
C7502	nsp	CERAMIC CAP 470PF 50V KB			
C7503	nsp	CERAMIC CAP 82PF 50V J			
C7504	nsp	MYLAR CAP 2200PF 100V J			
C7505	00MOA10705020	ELECT CAP 100UF 50V			
C7506	nsp	CERAMIC CAP 33PF 50V J			
C7507	00D9430175108	ELECT CAP 10UF 50V	E3		
C7507	943134500070S	ELECT CAP 10UF 100V	E2,EA,E1C		*
C7508	00D9430148708	ELECT CAP 47UF 50V			
C7509	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			
C7605,7606	nsp	FILM CAP 0.015UF 100V J MYLAR			
C7607,7608	nsp	MYLAR CAP 0.047UF 50V			
C7609-7611	nsp	FILM CAP 0.015UF 100V J MYLAR			
C7612-7614	nsp	MYLAR CAP 0.047UF 50V			
C7701	nsp	CERAMIC CAP 0.01UF 50V ZF			
C7702,7703	nsp	METALLIZED CAP 0.1UF 250V J			
C7704	943134010460S	ELECT CAP 6800UF 63V (30X35)			
C7706	943134010460S	ELECT CAP 6800UF 63V (30X35)			
C7707	943134010470S	ELECT CAP 0.1UF 50V			
C7708	943134010480S	ELECT CAP 100UF 100V			
C7710	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF			

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C7711	943134010660S	ELECT CAP 470UF 6.3V		CCEA0JH471T	
C7712	nsp	SEMICONDUCTOR CAP 0.1UF 50V ZF		CCFT1H104ZF	
C7713	943134010660S	ELECT CAP 470UF 6.3V		CCEA0JH471T	
C7716	nsp	ELECT CAP 47UF 16V		CCEA1CH470T	
C7717	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T	
C7718-7722	nsp	MYLAR CAP 0.047UF 50V		HCQ1H473JZT	
C7723	00D9430175108	ELECT CAP 10UF 50V		CCEA1HH100T	
RESISTORS GROUP					
R7106	nsp	METAL OXID EFILM RES(1.2KOHM 1W)		CRG1SANJ122RT	
R7110	nsp	RES,M-OXIDEFILM(1W/47ohm)		CRG1SANJ470RT	
R7115,7116	nsp	METAL OXID EFILM RES(1W/5.6Kohm)		CRG1SANJ562RT	
R7117,7118	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)	FLAMERETARDANT	CRG1SANJ4R7RT	
R7119-7122	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT	
△ R7126	252310006520S	PTC THERMISTORS, CHIP(95°C)		CRTPRF18BD471QB5RB	
R7132	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
R7206	nsp	METAL OXID EFILM RES(1.2KOHM 1W)		CRG1SANJ122RT	
R7210	nsp	RES,M-OXIDEFILM(1W/47ohm)		CRG1SANJ470RT	
R7215,7216	nsp	METAL OXID EFILM RES(1W/5.6Kohm)		CRG1SANJ562RT	
R7217,7218	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)	FLAMERETARDANT	CRG1SANJ4R7RT	
R7219-7222	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT	
△ R7226	252310006520S	PTC THERMISTORS, CHIP(95°C)		CRTPRF18BD471QB5RB	
R7232	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
R7306	nsp	METAL OXID EFILM RES(1.2KOHM 1W)		CRG1SANJ122RT	
R7310	nsp	RES,M-OXIDEFILM(1W/47ohm)		CRG1SANJ470RT	
R7315,7316	nsp	METAL OXID EFILM RES(1W/5.6Kohm)		CRG1SANJ562RT	
R7317,7318	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)	FLAMERETARDANT	CRG1SANJ4R7RT	
R7319-7322	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT	
△ R7326	252310006520S	PTC THERMISTORS, CHIP(95°C)		CRTPRF18BD471QB5RB	
R7332	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
R7406	nsp	METAL OXID EFILM RES(1.2KOHM 1W)		CRG1SANJ122RT	
R7415,7416	nsp	METAL OXID EFILM RES(1W/5.6Kohm)		CRG1SANJ562RT	
R7417,7418	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)	FLAMERETARDANT	CRG1SANJ4R7RT	
R7419-7422	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT	
△ R7426	252310006520S	PTC THERMISTORS, CHIP(95°C)		CRTPRF18BD471QB5RB	
R7432	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
R7506	nsp	METAL OXID EFILM RES(1.2KOHM 1W)		CRG1SANJ122RT	
R7510	nsp	RES,M-OXIDEFILM(1W/47ohm)		CRG1SANJ470RT	
R7515,7516	nsp	METAL OXID EFILM RES(1W/5.6Kohm)		CRG1SANJ562RT	
R7517,7518	943124500040S	RES,M-OXIDEFILM(1W/4.7ohm)	FLAMERETARDANT	CRG1SANJ4R7RT	
R7519-7522	943124500050S	RES,M-OXIDEFILM(2W/0.47ohm)	FLAMERETARDANT	CRG2SANJR47RT	
△ R7526	252310006520S	PTC THERMISTORS, CHIP(95°C)		CRTPRF18BD471QB5RB	
R7532	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
R7703	nsp	RES,M-OXIDEFILM(1W/4.7ohm)		CRG1SANJ4R7RT	
R7704	nsp	RES,M-OXIDEFILM(1W/100ohm)		CRG1SANJ101RT	
R7715-7720	nsp	RES,M-OXIDEFILM(1W/2.2Kohm)		CRG1SANJ222RT	
R7721-7725	nsp	RES,M-OXIDEFILM(1W/10ohm)		CRG1SANJ100RT	
VR710	963161012400S	RES,SEMIFIXED(1K,BCURVE)		CVN1RA102B03T	
VR720	963161012400S	RES,SEMIFIXED(1K,BCURVE)		CVN1RA102B03T	
VR730	963161012400S	RES,SEMIFIXED(1K,BCURVE)		CVN1RA102B03T	
VR740	963161012400S	RES,SEMIFIXED(1K,BCURVE)		CVN1RA102B03T	
VR750	963161012400S	RES,SEMIFIXED(1K,BCURVE)		CVN1RA102B03T	
OTHERS PARTS GROUP					
BK701	nsp	PCB BRACKET		CMD1A569	
BN701	nsp	WIRE ASS'Y Locking (YH) (13P,2MM,100MM,#26)		CWB1B013100HC	
BN702	nsp	WIRE ASS'Y Locking (YH) (7P,2MM,180MM,#26)		CWB1B007180HC	
BN705	nsp	WIRE ASS'Y Locking (YH) (3P,2MM,300MM,#26,105)		CWB4B003300HC	
BN706	nsp	WIRE ASS'Y (1P, 180MM,RED,#18,CKM-T)		CWE8212180TT	
BN707	nsp	WIRE ASS'Y (1P, 180MM,BLK, #18,CKM-T)		CWE8202180TT	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
BN7702,7703	nsp	WIREASS'Y (1P, 40MM)		CWE7202040TT	
BN7705	nsp	WIREASS'Y (1P, 40MM)		CWE7202040TT	
BN7707	nsp	WIREASS'Y (1P, 40MM)		CWE7202040TT	
CN703	nsp	WAFER(3PIN 3.96MM)		CJP03GA148ZW	
CN710	nsp	WAFER STRAIGHT 2PIN		CJP02GA01ZY	
CN720	nsp	WAFER STRAIGHT 2PIN		CJP02GA01ZY	
CN730	nsp	WAFER STRAIGHT 2PIN		CJP02GA01ZY	
CN740	nsp	WAFER STRAIGHT 2PIN		CJP02GA01ZY	
CN750	nsp	WAFER STRAIGHT 2PIN		CJP02GA01ZY	
ET701	nsp	EARTH PALTE		HJT1A025	
ET702	nsp	WIRE ASS'Y (1P, 80MM,BLK,#22)		CWE5202080A	
JK701	943646010250S	JACK NOSPCC4PRR/BB		CJJ5P011U	
JK702	943646010240S	JACK NOSPCC6PRRR/BBB		CJJ5R008U	
L7101	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK	
L7201	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK	
L7301	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK	
L7401	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK	
L7501	943115010260S	SPEAKER COIL (0.5UH)		CLEY0R5KAK	
RY760	943682000810S	RELAY 12V 2C2P		CSL4A016ZU	
RY762-764	682010023006S	RELAY 12V 2C1P		CSL3A021ZU	

POWER PCB UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
△	IC901	231010091708S	I.C , OFF-LINE POWER SWITCH		CVITOP258MG		
△	IC902	963239010480S	I.C , PHOTOCOUPLER		CVIPC123Y22FZ0F		
	IC903	212050010508S	I.C , SHUNT REGULATOR(TO-92)		CVIKIA2431AP		
	IC931	00D2630801004	REGULATOR IC NJM7812FA		HVINJM7812FA		
	IC932	00D2630641002	REGULATOR IC NJM7912FA		HVINJM7912FA		
	IC933	943231010390S	REGULATOR IC KIA7805BPI		CVIKIA7805BPI		
	IC934	00D2631099006	REGULATOR IC KIA7905PI		CVIKIA7905PI		
	IC935	943231010390S	REGULATOR IC KIA7805BPI		CVIKIA7805BPI		
	Q9001-9003	00MHT30001000	TR KTC3199Y		HVTKTC3199YT		
	D9001-9006	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D9008,9009	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D9010	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D9012	943209500030S	DIODE , LOW FORWARD SCHOTTKY RECTIFIER		CVDSRL3060P		*
	D9013	963209010430S	DIODE , RECTIFIER (1000V)		CVDAP01CT		
	D9302-9309	00D9630328409	DIODE , RECTIFIER, AXIAL		CVD1N4007ST		
	D9312,9313	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	D9316,9317	00D9430182609	DIODE 1SS133MT		CVD1SS133MT		
	ZD901	00D2760762958	DIODE , ZENER 39V	E3	CVDZJ39BT		
	ZD902,903	00D2760762958	DIODE , ZENER 39V	E3	CVDZJ39BT		
	ZD903	963202010440S	DIODE , ZENER 22V	E3	CVDZJ22BT		
	ZD904	00D2760762958	DIODE , ZENER 39V	E2,EA,E1C	CVDZJ39BT		
	ZD905	00D2760762958	DIODE , ZENER 39V	E2,EA	CVDZJ39BT		
	ZD906	00D2760762958	DIODE , ZENER 39V	E2,EA,E1C	CVDZJ39BT		
	ZD907	00D2760762958	DIODE , ZENER 39V	E2,EA,E1C	CVDZJ39BT		
	ZD908-910	00D2760762958	DIODE , ZENER 39V	E3	CVDZJ39BT		
	ZD911-918	963202010440S	DIODE , ZENER 22V		CVDZJ22BT		
	ZD919	00D9600095607	DIODE , ZENER 5.6V		CVDZJ5.6BT		
	ZD920	00D2760762958	DIODE , ZENER 39V		CVDZJ39BT		
RESISTORS GROUP							
	R9021	nsp	RES, CHIP(1608/1%/22Kohm)		CRJ10DF2202T		
	R9024	nsp	RES, CHIP(1608/1%/6.8Kohm)		CRJ10DF6801T		
	R9026	nsp	CHIP RES,10K OHM 1/10W J		CRJ10DJ103T		
	R9027	nsp	CHIP RES,4.7K OHM 1/10W J		CRJ10DJ472T		
△	R9031-9034	943121500030S	RES, CHIP (2012, 2.2Mohm,J)		CRJ18AJ225T		*
CAPACITORS GROUP							
△	C9001-9003	963132011940S	CAP, CERAMIC(X1/Y2,0.01uF,AC250V)		CCKDKY103MFM		
	C9004	963134010200S	CAP, ELECT(400V/100uF)105,18X31.5		CCET400NHA101ES		
	C9006-9008	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9009	00D9430175108	CAP, ELECT(50V/10uF)		CCEA1HNXA100TS		
	C9010	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9012	963132010120S	CAP, CERAMIC(DC1KV/1000pF)		CCKDDEH102KCM		
	C9016	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9017	00MOA47602520	CAP, ELECT(25V/47uF)		CCEA1ENXA470TS		
	C9018	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9019	nsp	CAP, CHIP(1608,6.3V/4.7uF) (MURATA GRM18)		CCUS0J475KC		
	C9020-9022	963134010220S	CAP, ELECT(6.3V/5600uF)		CCEA0JNXA562ES		
	C9024	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9026,9027	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
△	C9028	963132011930S	CAP, CERAMIC(X1/Y1,2200P,AC250V)		CCKDKX222MEM		
	C9029	nsp	CHIP CAP 0.1UF 50V K		CCUS1H104KC		
	C9301	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T		
	C9305	00MOF15104040	CAP,METAL-FILM(100V/0.1uF)		CCME2A104JXT		
	C9308	nsp	MYLAR CAP 0.1UF 50V J		HCQI1H104JZT		
	C9309	943134010620S	ELECT CAP 4700UF 25V		CCEA1EH472E		
	C9310	943134001290S	ELECT CAP 2200UF 25V		CCEA1EH222E		
	C9311	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T		

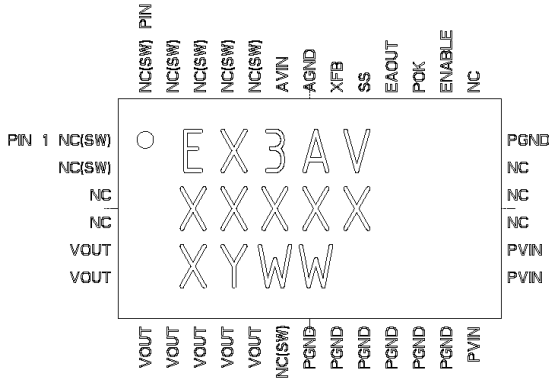
Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C9316	00D9430103905	ELECT CAP470UF 16V		CCEA1CH471T	
C9317	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T	
C9320	00MOA10801620	CAP , ELECT(16V/1000uF)		CCEA1CH102E	
C9321	00D9430103905	ELECT CAP470UF 16V		CCEA1CH471T	
C9324,9325	00D9430062101	ELECT CAP 100UF 16V		CCEA1CH101T	
C9328	943134010530S	ELECT CAP 1UF 50V C		CCEA1HH1R0T	
OTHERS PARTS GROUP					
BK901,902	nsp	PCB BRACKET		CMD1A188	
BK903	nsp	BRACKET , PCB		CMD1A629	
BN903	nsp	WIRE ASS'Y Locking (YH) (5P,2.5MM,350MM,#22,105)		CWB4D0053503D	
CN254	nsp	PIN HEADER (21P,1.25mm,STRAIGHT,B-TO-B)		CJP21GI281Z	
CN255	nsp	PIN HEADER (13P,1.25mm,STRAIGHT,B-TO-B)		CJP13GI281Z	
CN256,257	nsp	PIN HEADER (23P,1.25mm,STRAIGHT,B-TO-B)		CJP23GI281Z	
CN258	nsp	PIN HEADER (13P,1.25mm,STRAIGHT,B-TO-B)		CJP13GI281Z	
CN259	nsp	PIN HEADER (19P,1.25mm,STRAIGHT,B-TO-B)		CJP19GI281Z	
CN901	nsp	WAFER 2PIN 2MM	E3	CJP02KA060ZY	
CN902	nsp	WAFER 2PIN		CJP02GA89ZY	
CN931	nsp	LOCK-WAFER/STRAIGHT/2.5mm		CJP09GI237ZW	
CN932	nsp	WAFER STRAIGHT(7PIN 2.5MM)		CJP07GA01ZY	
△ CX901	943139500020S	CAP , POLYPROPYLENE FILM		HCQF2E104KZE	*
△ CY901,902	963134011730S	CAP, CERAMIC(X1/Y1,470P,AC250V)		CCKDKX471KBM	
ET31	nsp	EARTH PALTE		HJT1A025	
△ F9001	963652010500S	FUSE(S506 Series, 250V,1.6A)	E2,EA,E1C	CBA2C1600TLEC	
△ F9001	963652010510S	FUSE(S506 Series, 250V,2A)	E3	CBA2C2000TLEC	
△ F9002	963652010910S	FUSE(S506 Series, 250V,3.15A)	E2,EA,E1C	CBA2C3150TLEC	
△ F9002	963652010540S	FUSE(S506 Series, 250V,5A)	E3	CBA2C5000TLEC	
△ F9301,9302	00D2061096006	FUSE(218 Series, 250V, 1.25A)		KBA2C1250TLEY	
△ F9303,9304	00D2061095049	FUSE(218 Series, 250V, 0.315A)		KBA2C0315TLEY	
JK901	963641011240S	RECEPTACLE, (10A/AC250V/AC-015-2P-PA66)	E2,EA	CJJ8A015ZM	
△ LF902	963111010230S	LINE FILTER(LF-4ZB-E273H,27uH)		CLZ9Z126Z	
△ RY901	963682010370S	RELAY, POWER(DC5V, 1C1P)		CSL1C006ZE	
△ T9001	963102010240S	TRANS, SWITCHING(ST-4430A)		CLT9Z067ZE	
	nsp	FUSE HOLDER		KJCF5S	
	nsp	FUSE HOLDER		KJCF5S	

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

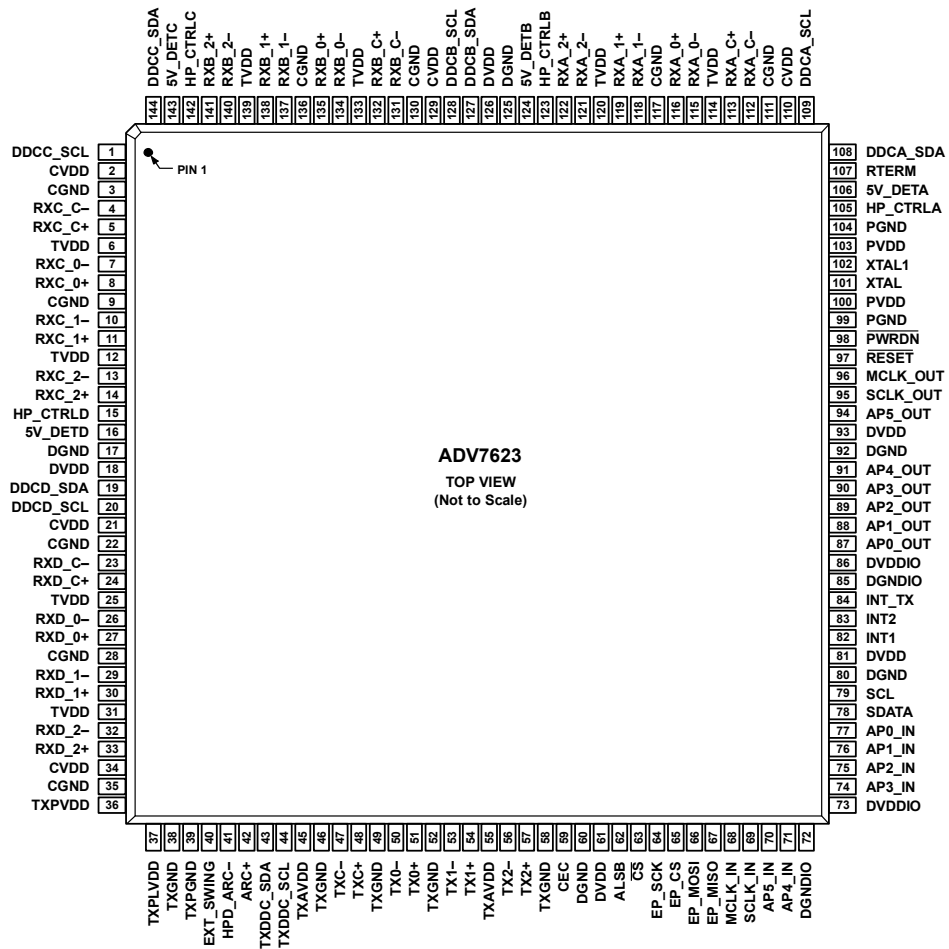
EX3AV (DIGITAL : IC151,153,154)



EX3AV Terminal Functions

PIN	NAME	FUNCTION
1-2, 12, 26, 34-38	NC(SW)	NO CONNECT – These pins are internally connected to the common switching node of the internal MOSFETs. They are not to be electrically connected to any external signal, ground, or voltage. Failure to follow this guideline may result in damage to the device.
3-4, 22-25	NC	NO CONNECT – These pins may be internally connected. Do not connect them to each other or to any other electrical signal. Failure to follow this guideline may result in device damage.
5-11	VOUT	Regulated converter output. Connect these pins to the load, and place output capacitor from these pins and PGND pins 13-15
13-18	PGND	Input/Output power ground. Connect these pins to the ground electrode of the Input and output filter capacitors. See VOUT and PVIN pin descriptions for more details.
19-21	PVIN	Input power supply. Connect to input power supply. Decouple with input capacitor to PGND pins 16-18.
27	ENABLE	Input Enable. Applying logic high enables the output and initiates a soft-start. Applying a logic low disables the output.
28	POK	Power OK is an open drain transistor for power system state indication. POK will be logic high when VOUT is with -10% to +20% of VOUT nominal.
29	EAOUT	Optional Error Amplifier output. Allows for customization of the control loop response.
30	SS	Soft-Start node. The soft-start capacitor is connected between this pin and AGND. The value of this capacitor determines the startup time.
31	XFB	External Feedback Input. The feedback loop is closed through this pin. A voltage divider at VOUT is used to set the output voltage. The mid point of the divider is connected to XFB. A phase lead capacitor from this pin to VOUT is also required to stabilize the loop.
32	AGND	Analog Ground. This is the Ground return for the controller. Needs to be connected to a quiet ground.
33	AVIN	Input power supply for the controller. Needs to be connected to input voltage at a quiet point.

ADV7623 (DIGITAL : IC101)



Pin Function Descriptions

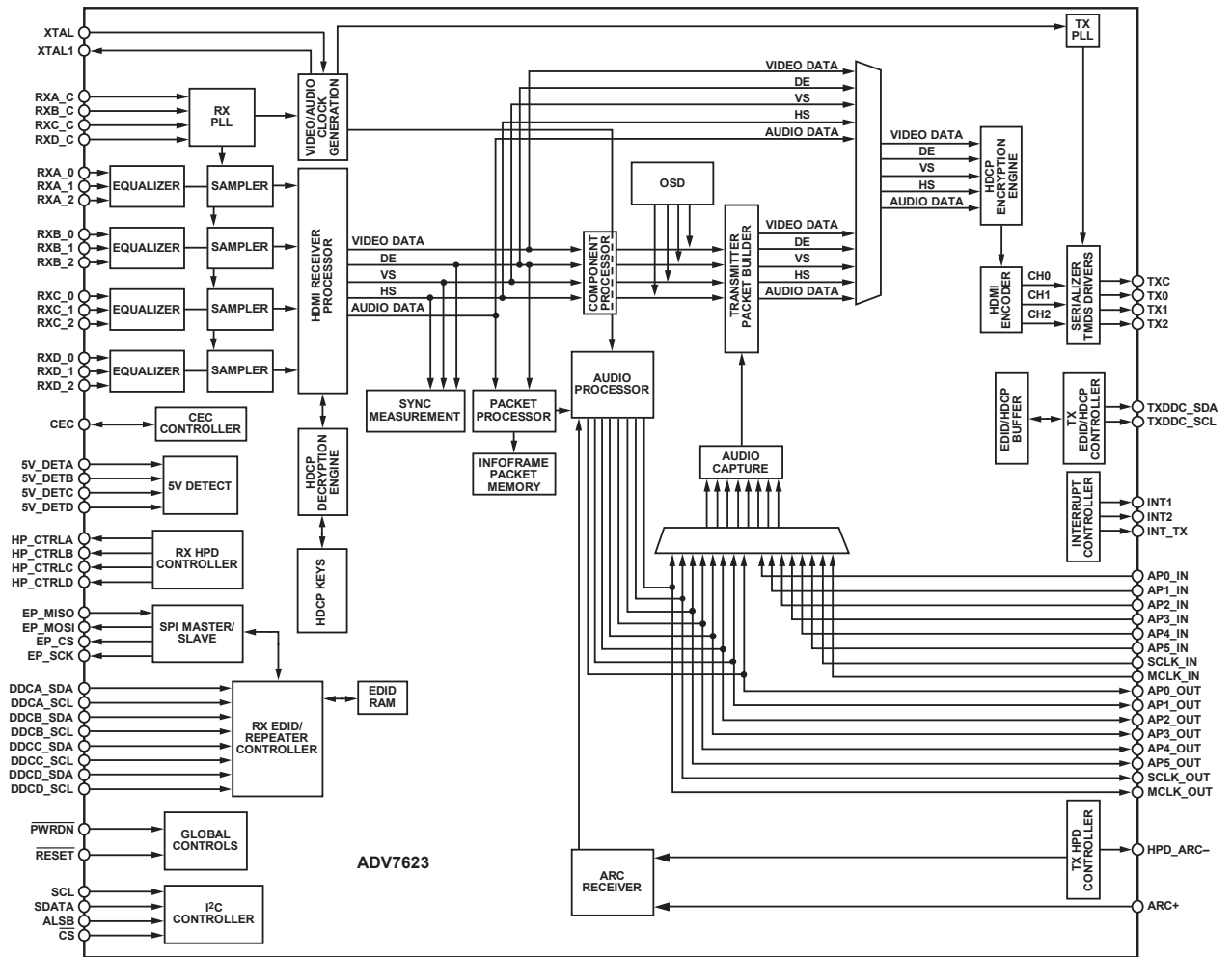
Pin No.	Mnemonic	Type	Description
1	DDCC_SCL	Digital input	HDCP Slave Serial Clock Port C. DDCC_SCL is a 3.3 V input that is 5 V tolerant.
2	CVDD	Power	Receiver Comparator Supply Voltage (1.8 V).
3	CGND	Ground	TVDD and CVDD Ground.
4	RXC_C-	HDMI input	Digital Input Clock Complement of Port C in the HDMI 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 10x the pixel clock rate; supports TMDS logic level.
51	TX0+	HDMI output	Differential Output Channel 0 True. Differential output of the red data at 10x 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 10x the pixel clock rate; supports TMDS logic level.
54	TX1+	HDMI output	Differential Output Channel 1 True. Differential output of the red data at 10x the pixel clock rate; supports TMDS logic level.
55	TXAVDD	Power	1.8 V Power Supply for TMDS Outputs.

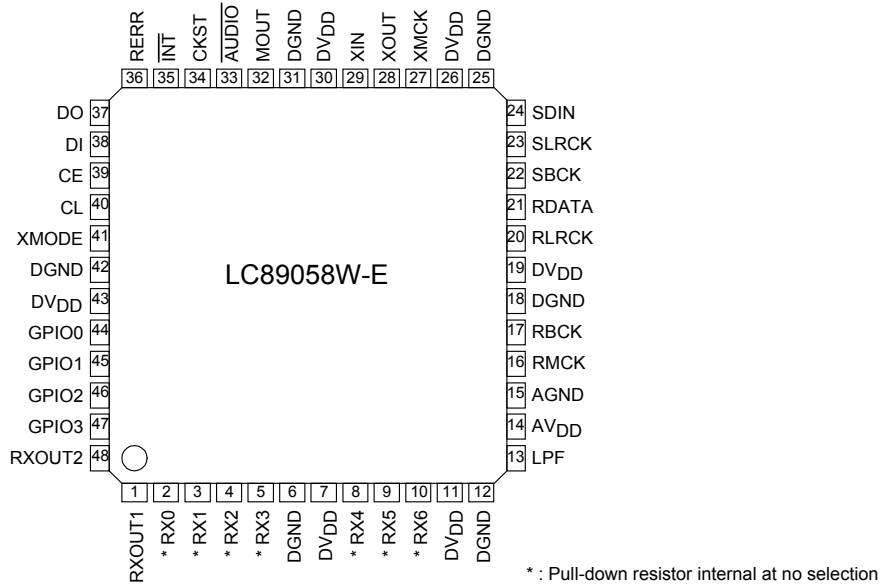
Pin No.	Mnemonic	Type	Description
13	RXC_2-	HDMI input	Digital Input Channel 2 Complement of Port C in the HDMI Interface.
14	RXC_2+	HDMI input	Digital Input Channel 2 True of Port C in the HDMI Interface.
15	HP_CTRLD	Digital output	Hot Plug Detect for Port D.
16	5V_DETD	Digital input	5 V Detect Pin 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 \times 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 \times 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 \times 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 \times 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_DETB	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_DETC	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



LC89058W-E (DIGITAL : IC402)



Pin Functions

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

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

* Input voltage: I = -0.3 to 3.6V, I_s = -0.3 to 5.5V

* Output voltage: O = -0.3 to 3.6V

* Pins 2, 4, 5, 8, 9, 10, 24, 38, 39, 40, and 41 have an internal pull-down resistor (pd).

Their level is fixed when they are unselected.

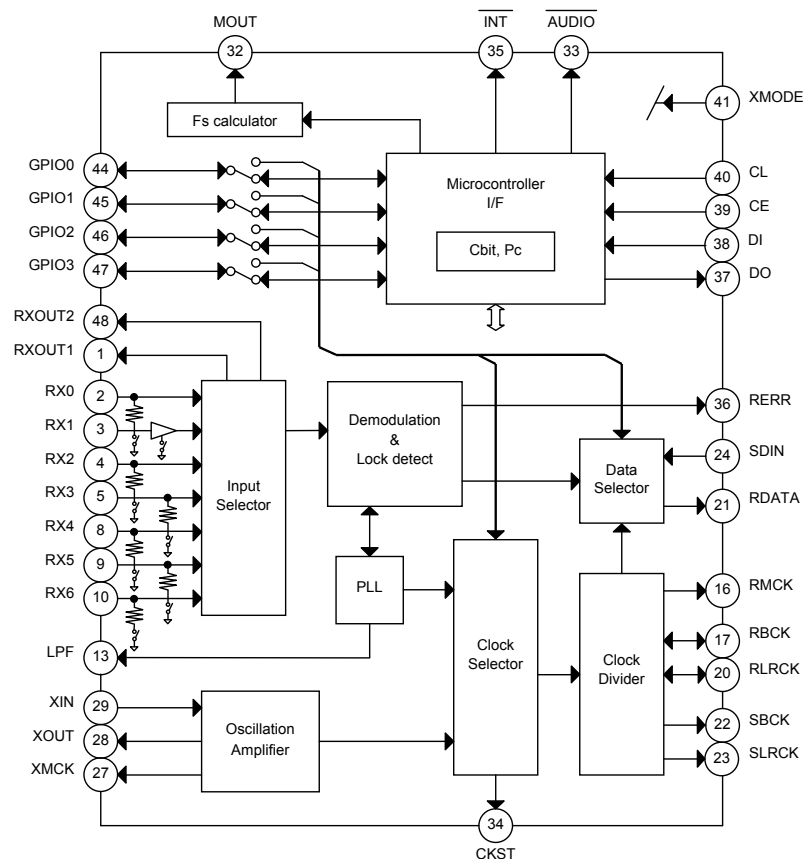
* Pins 32 and 33 are input pins for chip address setting when pin 41 is held at the low level.

* Pin 34 serves as the input pin for designating as the master or slave when pin 41 is held at the low level.

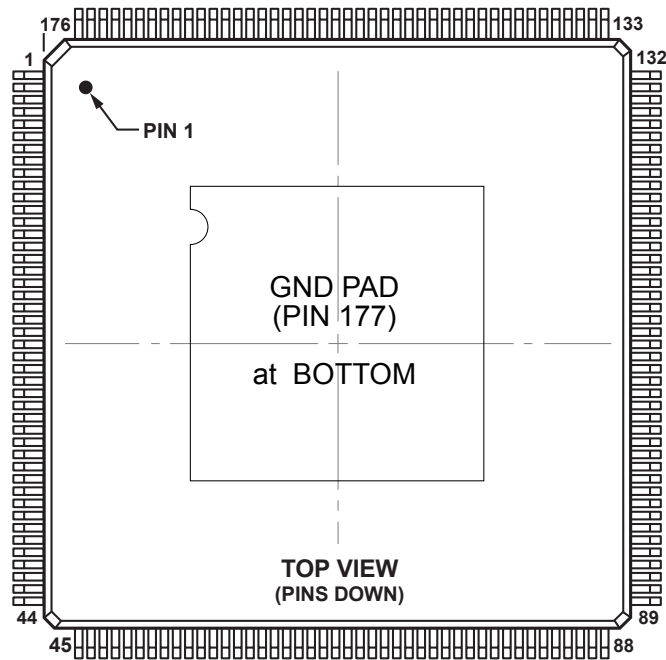
* Pin 35 serves as the input pin for configuring the I/O of pins 44 to 47 when pin 41 is held at the low level.

* The DVDD and AVDD pins must be held at the same level and turned on and off at the same timing to preclude Latch-up conditions.

LC89058W-E Block diagram



ADSP21487KSWZ3B (DIGITAL : IC404)

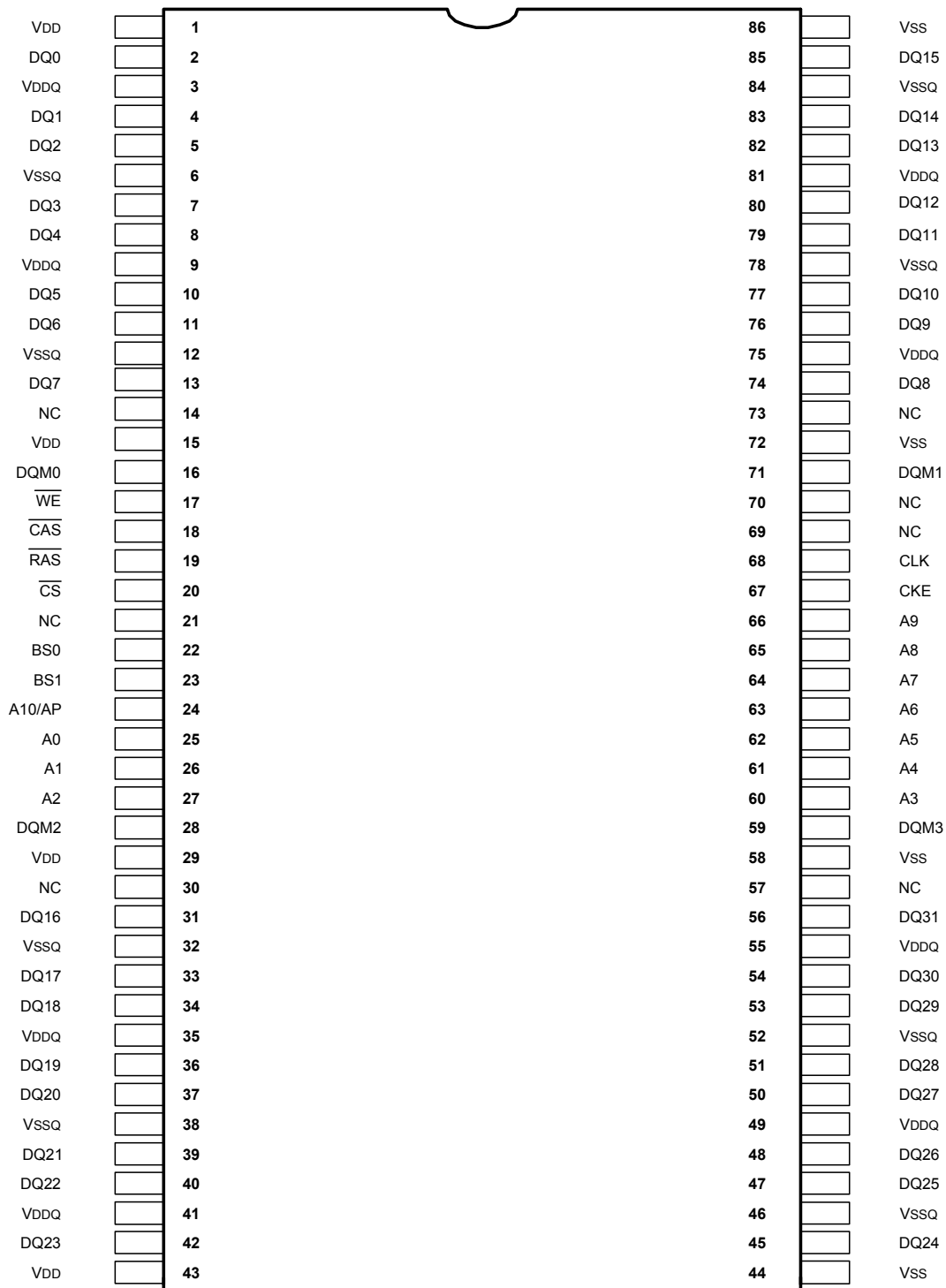


ADSP21487KSWZ3B Terminal Function

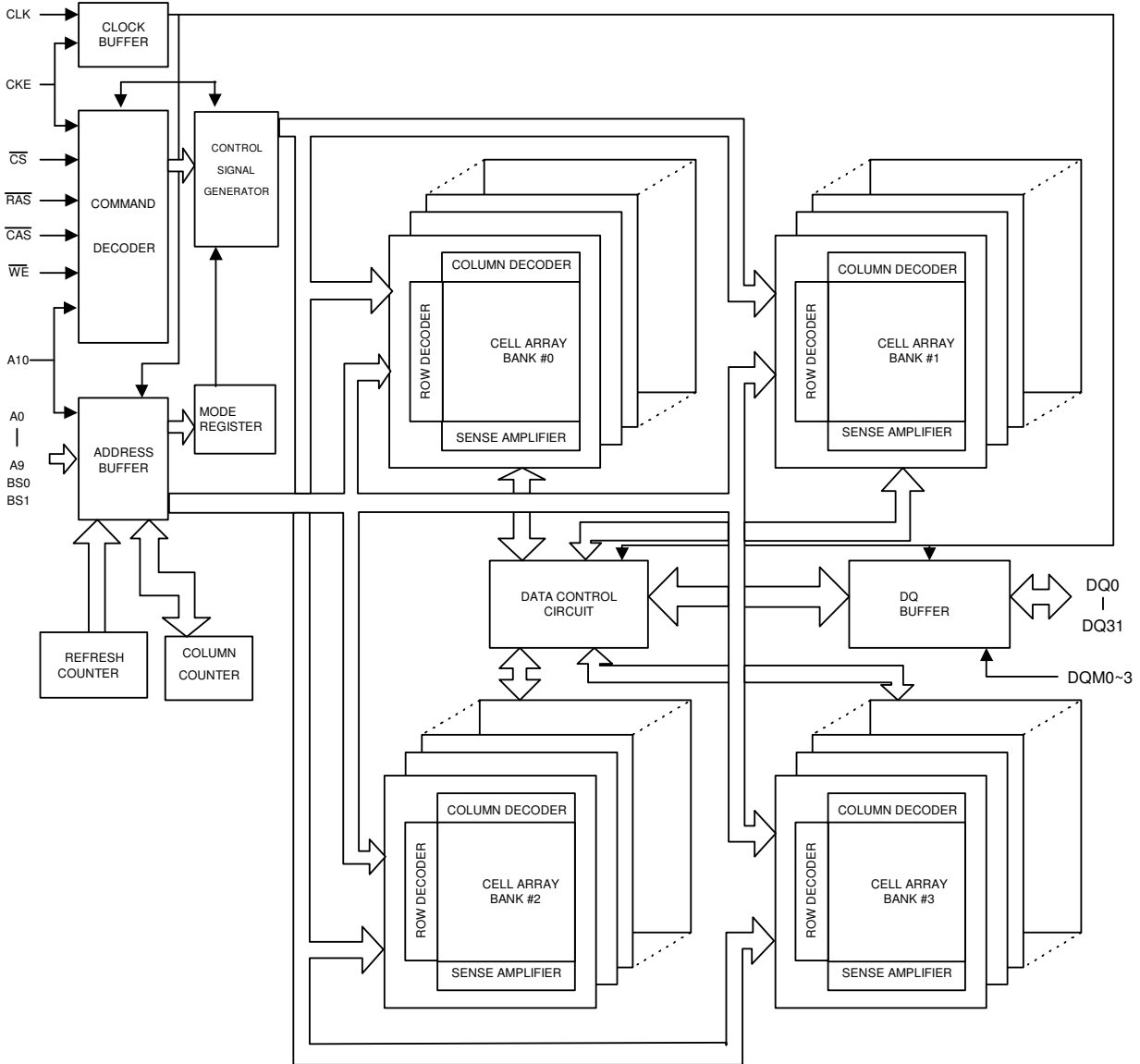
Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name	Pin No.
SDDQM	1	V _{DD_EXT}	45	DAI_P10	89	V _{DD_INT}	133
MS0	2	DPI_P08	46	V _{DD_INT}	90	FLAG0	134
SDCKE	3	DPI_P07	47	V _{DD_EXT}	91	FLAG1	135
V _{DD_INT}	4	V _{DD_INT}	48	DAI_P20	92	FLAG2	136
CLK_CFG1	5	DPI_P09	49	V _{DD_INT}	93	NC	137
ADDR0	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	MST	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 : IC405)



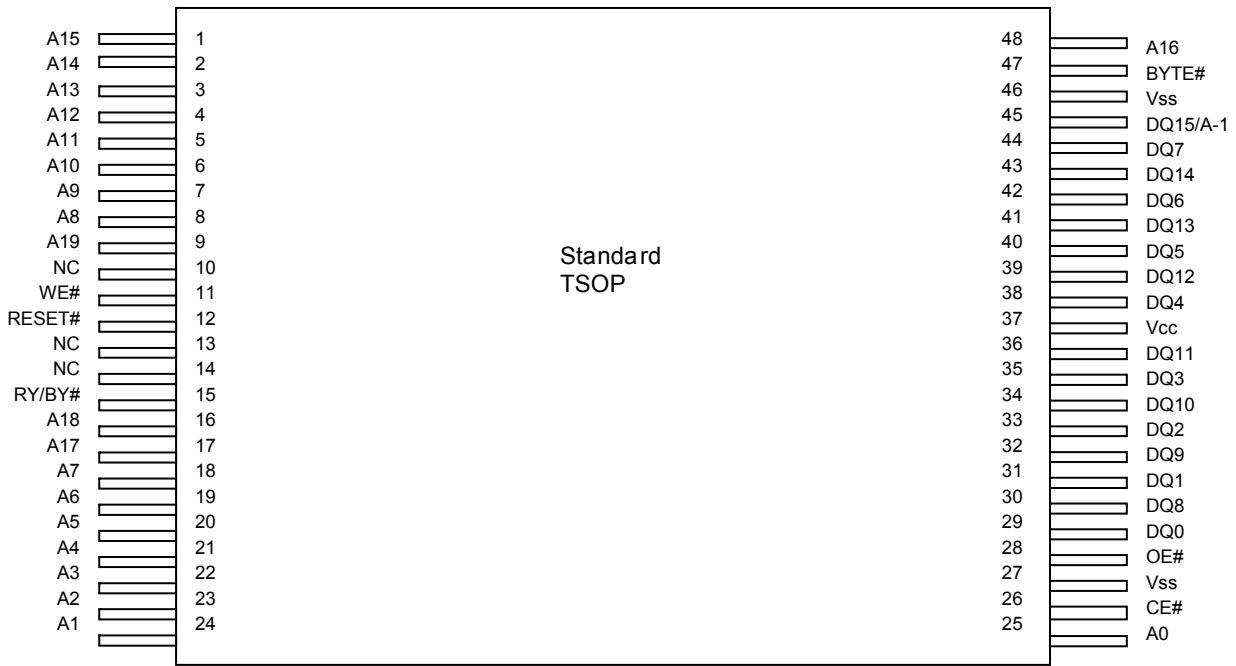
W9864G6JH-6 Block diagram



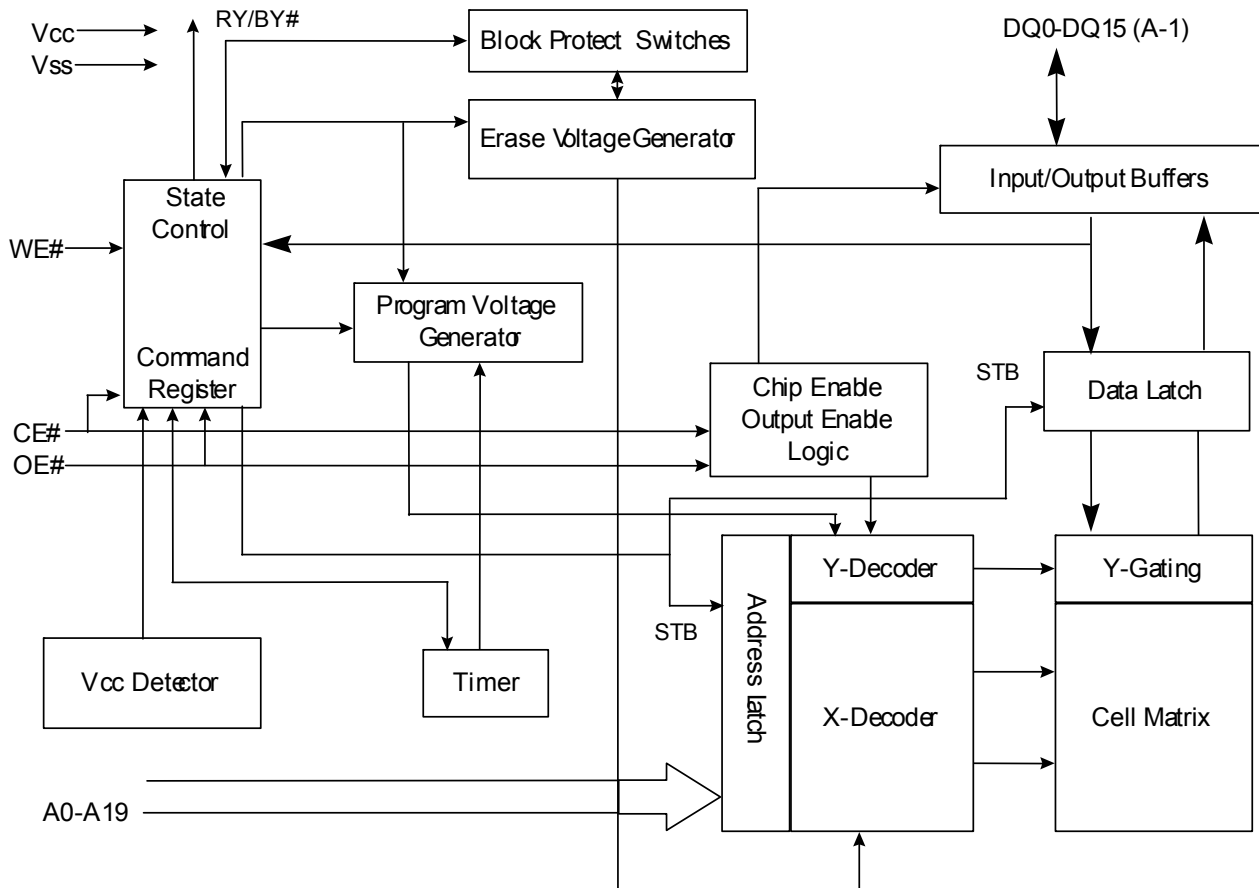
W9864G6JH-6 Pin description

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	$\overline{\text{CS}}$	Chip Select	Disable or enable the command decoder. When command decoder is disabled, new command is ignored and previous operation continues.
19	$\overline{\text{RAS}}$	Row Address Strobe	Command input. When sampled at the rising edge of the clock $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ define the operation to be executed.
18	$\overline{\text{CAS}}$	Column Address Strobe	Referred to $\overline{\text{RAS}}$
17	$\overline{\text{WE}}$	Write Enable	Referred to $\overline{\text{RAS}}$
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.

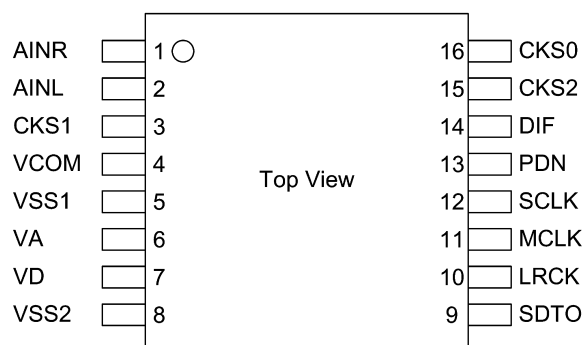
MX29LV160DBTI-70G (DIGITAL : IC406)



MX29LV160DBTI-70G Block Diagram



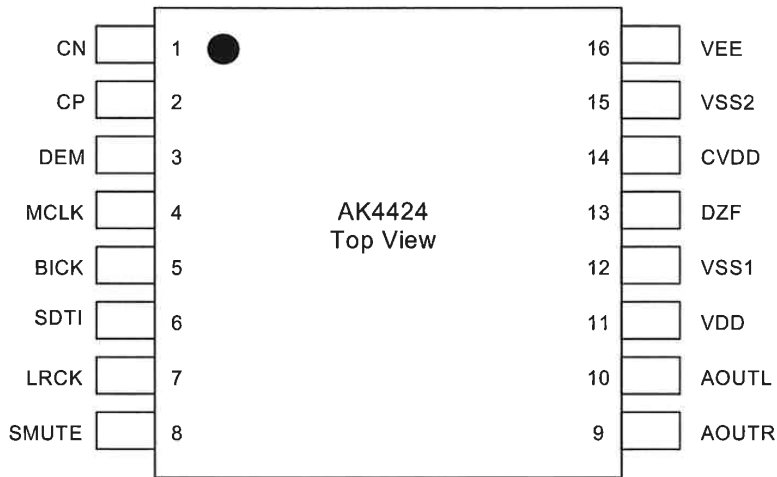
AK5358BET (DIGITAL : IC451)



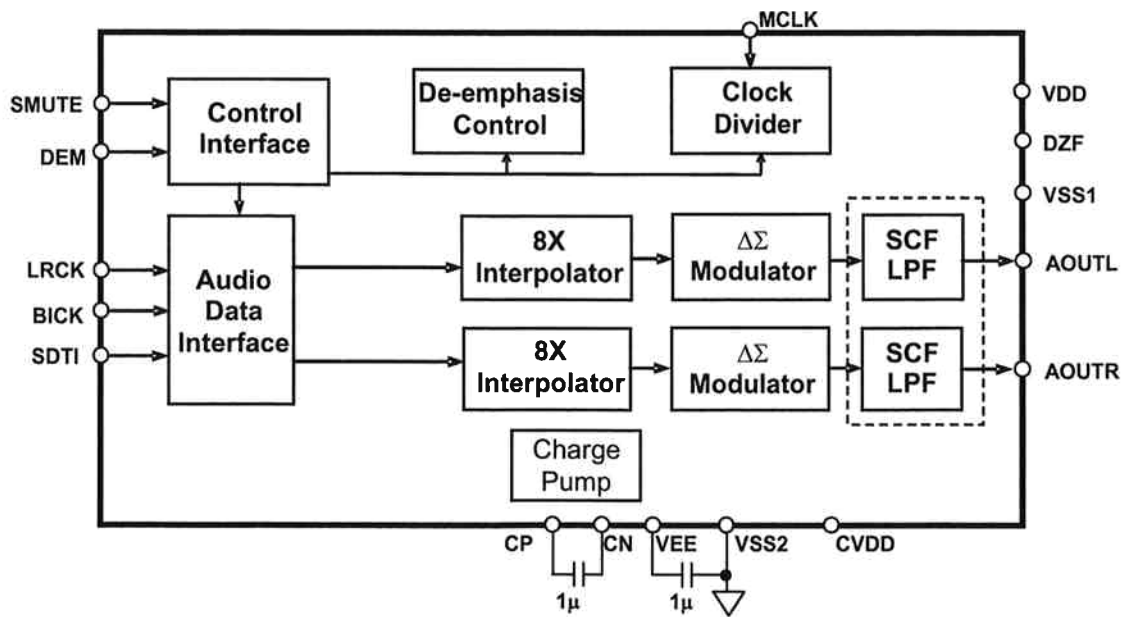
AK5358BET Pin Function

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

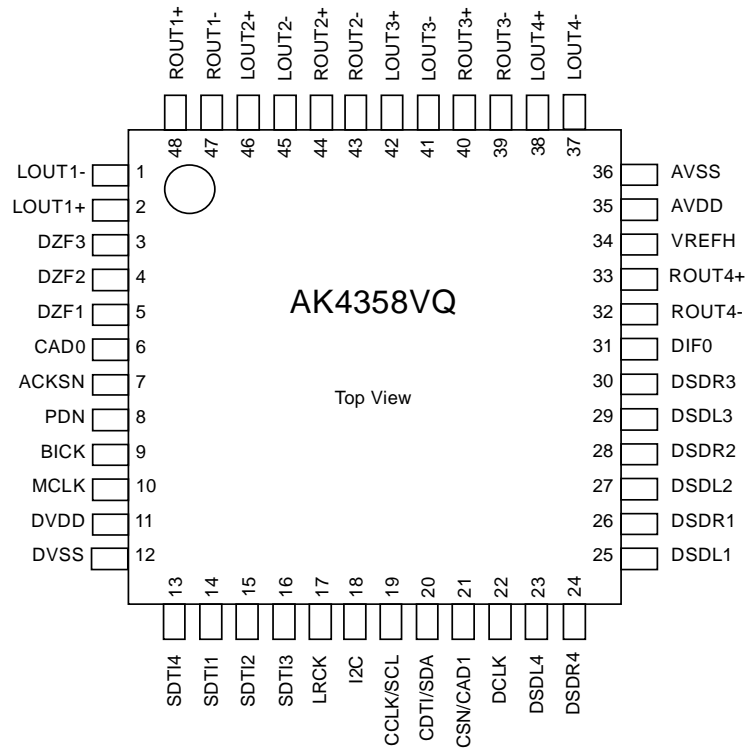
AK4424ET (DIGITAL : IC344)



AK4424ET Block Diagram



AK4358VQ (DIGITAL : IC441)



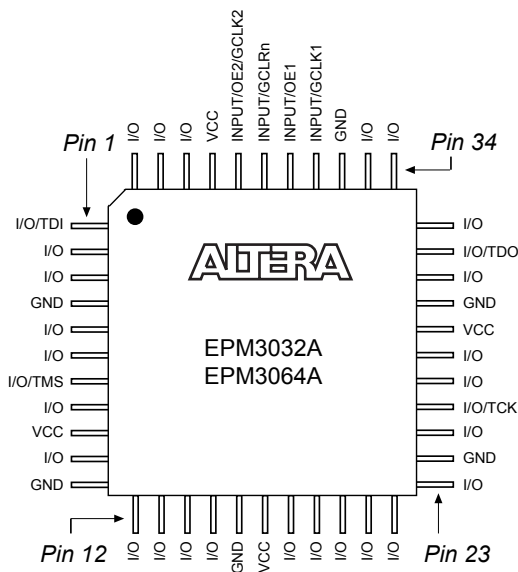
AK4358VQ Pin Function

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

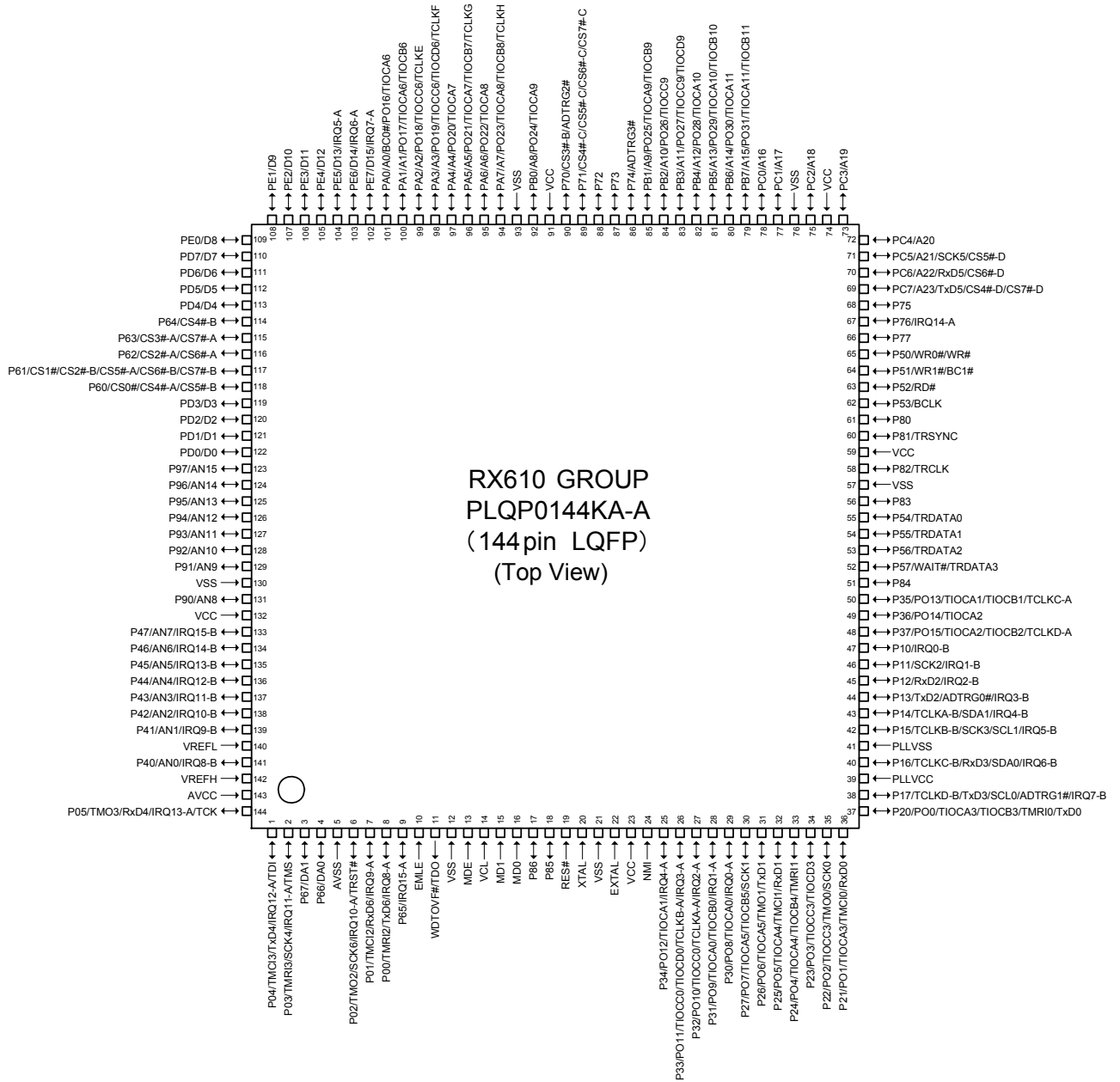
29	DSDL3	I	DAC3 DSD Lch Data Input Pin
30	DSDR3	I	DAC3 DSD Rch Data Input Pin
31	DIF0	I	Audio Data Interface Format 0 Pin
32	ROUT4-	O	DAC4 Rch Negative Analog Output Pin
33	ROUT4+	O	DAC4 Rch Positive Analog Output Pin
34	VREFH	I	Positive Voltage Reference Input Pin
35	AVDD	-	Analog Power Supply Pin,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

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

EPM3032A (DIGITAL : IC403)



R5F56108VNFP (DIGITAL : IC201)



**RX610 GROUP
PLQP0144KA-A
(144 pin LQFP)
(Top View)**

R5F56108VNFP Terminal Functions

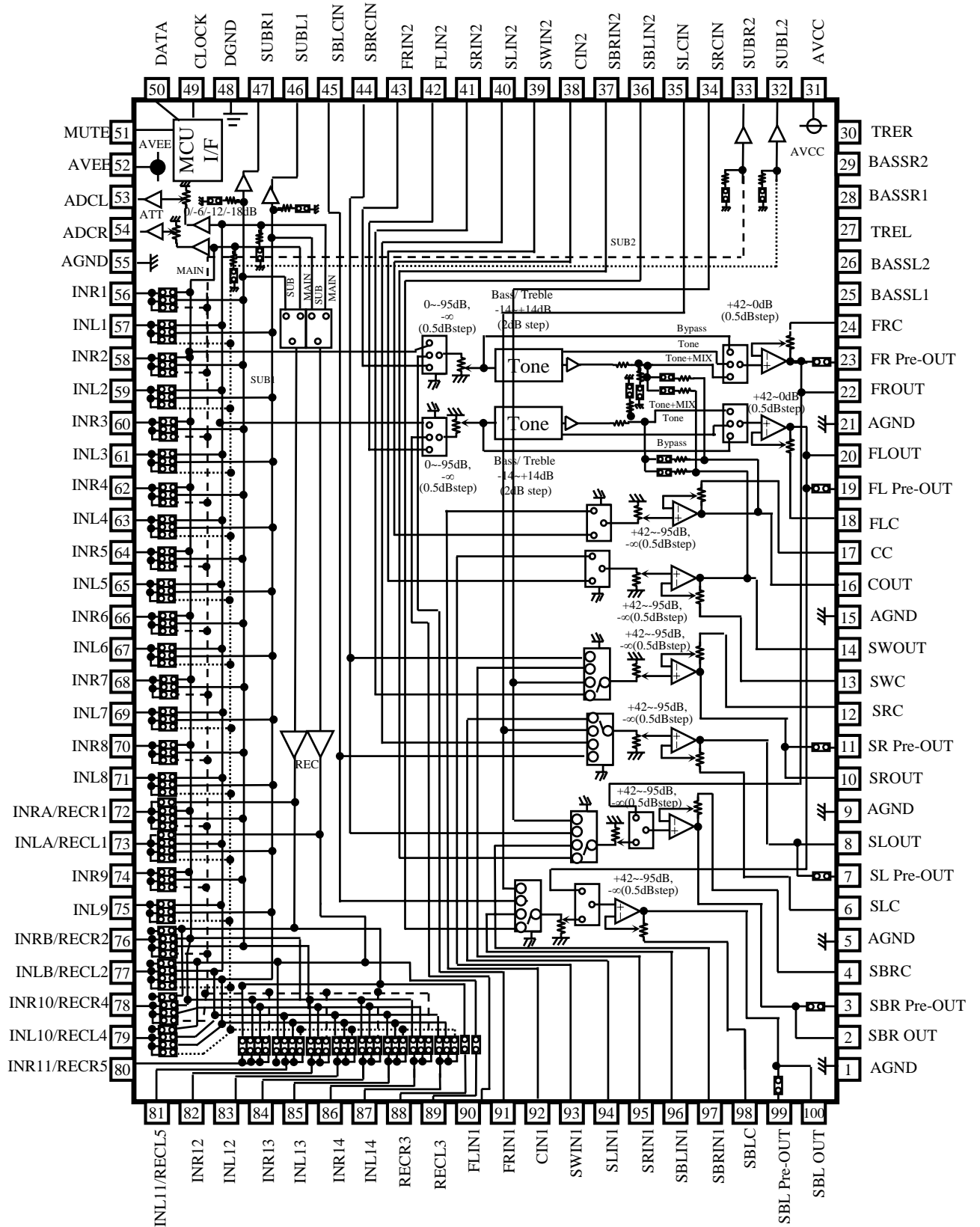
Pin	Pin Name	Symbol	I/O	Pull up/down	LvCnv	STBY	CEC STBY	Function
1	P04/IRQ12-A/TMCI3/TxD4/TDI	NC	I	M3VPu	-	I	I	NC
2	P03/IRQ11-A/TMRI3/SCK4/TMS	NC	I	M3VPu	-	I	I	NC
3	P67/DA1	HIN SELA	O	-	-	L	L	For HDMI 4/5/6/F selection(TC4052)
4	P66/DA0	HIN SELB	O	-	-	L	L	For HDMI 4/5/6/F selection(TC4052)
5	AVSS	AVSS	-	-	-	-	-	GND
6	P02/IRQ10-A/TMO2/SCK6/TRST#	NC	I	Pd	-	I	I	NC
7	P01/IRQ9-A/TMCI2/RxD6	RXD MI2320	I	M3VPu	-	I	I	Data received from the external pin(AMX)/MITSUBISHI writer rewrite
8	P00/IRQ8-A/TMRI2/TxD6	TXD MO2321	O	-	-	L	L	Data transfer to external pin(AMX)/MITSUBISHI writer rewrite
9	P65/IRQ15-A	POWER KEY	I	M3VPu	-	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
12	VSS	VSS	I	-	-	-	-	GND
13	MDE	MDE	I	Pd	-	-	-	NC

Pin	Pin Name	Symbol	I/O	Pull up/ down	LvCnv	STBY	CEC STBY	Function
14	VCL	VCL	I	-	-	-	-	Smoothing capacitor connection pin
15	MD1	MD1	I	M3VPu	-	-	-	NC
16	MD0	MD0	I	M3VPu	-	-	-	NC
17	P86	(MUTE POWER)	O	-	-	L	L	Reserve (PRE MUTE control)
18	P85	REMOTE POWER(232C)	O	-	-	L	L	232C POWER control pin(ON: H)
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	Power failure detection pin(Power failure:L)
26	P33/IRQ3-A/PO11/ TIOCC0/TIOCD0/ TCLKB-A	PLDAERR	I	-	-	L	L	PLD ERROR detection pin
27	P32/IRQ2-A/PO10/ TIOCC0/TCLKA-A	NC	O	-	-	L	L	NC
28	P31/IRQ1-A/PO9/TIOCA0/ TIOCB0	ADV7623 INT1	I	-	-	I	I	HDMI transmitter /receiver / OSD (ADV7623) INT1 output pin
29	P30/IRQ0-A/PO8/TIOCA0	RC IN	I	-	-	I	I	Remote control signal input pin
30	P27/PO7/TIOCA5/ TIOCB5/SCK1	ADV7511 RST	O	SW3VPu	-	L	H	HDMI transmitter RESET control pin (ADV7511)
31	P26/PO6/TIOCA5/TMO1/ TxD1	iPod TXD	O	-	3->5	L	L	IPOD communication control pin
32	P25/PO5/TIOCA4/TMC11/ RxD1	iPod RXD	I	-	5->3	L	L	IPOD communication control pin
33	P24/PO4/TIOCA4/ TIOCB4/TMR11	TU RST/(TU STEREO)	O/I	SW3VPu	-	L/L	L/L	TUNER RESET pin
34	P23/PO3/TIOCC3/TIOCD3	E RESET	O	-	-	L	L	ETHERNET RESET control pin (DM860)
35	P22/PO2/TIOCC3/TMO0/ SCK0	E POWER	O	-	-	L	L	ETHERNET POWER control pin (DM860)
36	P21/PO1/TIOCA3/TMC10/ RxD0	E_RXDMIEO	O	-	-	L	L	ETHERNET communication control pin (DM860)
37	P20/PO0/TIOCA3/ TIOCB3/TMR10/TxD0	E_TXDMOEI	O	-	-	L	L	ETHERNET communication control pin (DM860)
38	P17/IRQ7-B/TCLKD-B/ TxD3/SCL0/ADTRG1#	TU SCLK/TU SCL	O/O	SW3VPu	-	L/L	L/L	TUNER control pin
39	PLLVCC	PLLVCC	-	-	-	-	-	+3.3V
40	P16/IRQ6-B/TCLKC-B/ RxD3/SDA0	TU SDIO/TU SDA	O/I_O	SW3VPu	-	L/L	L/L	TUNER control pin
41	PLLVSS	PLLVSS	-	-	-	-	-	GND
42	P15/IRQ5-B/TCLKB-B/ SCK3/SCL1	HSCL (400k)	O	CEC3VPu	-	L	L	VIDEO I2C- HDMI TX,RX,OSD(ADV7623)/ HDMI_TX(ADV7511)/HDMI SW(ADV3002)/A to H decoder(ADV7844)
43	P14/IRQ4-B/TCLKA-B/ SDA1	HSDA (400k)	I_O	CEC3VPu	-	L	L	VIDEO I2C- HDMI TX,RX,OSD(ADV7623)/ HDMI_TX(ADV7511)/HDMI SW(ADV3002)/A to H decoder(ADV7844)
44	P13/IRQ3-B/TxD2/ ADTRG0#	ADV7623 SPI MO	O	-	-	L	L	OSD control pin (ADV7623)
45	P12/IRQ2-B/RxD2	ADV7623 SPI MI	I	-	-	L	L	OSD control pin (ADV7623)
46	P11/IRQ1-B/SCK2	ADV7623 SPI CLK	O	-	-	L	L	OSD control pin (ADV7623)
47	P10/IRQ0-B	ADV7623 SPI CS	O	-	-	L	L	OSD control pin (ADV7623)
48	P37/PO15/TIOCA2/ TIOCB2/TCLKD-A	EEPROM SDA	I_O	M3VPu	-	I	I	EEPROM control pin
49	P36/PO14/TIOCA2	EEPROM SCL	O	M3VPu	-	I	I	EEPROM control pin
50	P35/PO13/TIOCA1/ TIOCB1/TCLKC-A	ADV7844 RST	O	SW3VPu	-	L	H	HDMI decoder RESET control pin (ADV7844)
51	P84	CEC_OUT	O	-	-	L	-	CEC-D signal input pin
52	P57/WAIT#/TRDATA3	ADV3002 RST	O	SW3VPu	-	L	L	HDMI switcher RESET control pin (ADV3002)
53	P56/TRDATA2	E SPI MOEI	O	N3VPu	-	L	L	ETHERNET communication control pin (DM860)
54	P55/TRDATA1	ADV7623 RST	O	SW3VPu	-	L	L	HDMI Tx/Rx/OSD RESET control pin (ADV7623)
55	P54/TRDATA0	E SPI MIEO	I	N3VPu	-	L	L	ETHERNET communication control pin (DM860)
56	P83	E SPI CLK	O	N3VPu	-	L	L	ETHERNET communication control pin (DM860)
57	VSS	VSS	-	-	-	-	-	GND
58	P82/TRCLK	FL CE	O	-	-	L	L	FL control order pin
59	VCC	VCC	-	-	-	-	-	+3.3V

Pin	Pin Name	Symbol	I/O	Pull up/down	LvCnv	STBY	CEC STBY	Function
60	P81/TRSYNC	FL RST	O	-	-	L	L	FL control order pin
61	P80	S VSEL B	O	-	-	L	L	S VIDEO switcher control pin (TC4052)
62	BCLK/P53	iPod DET	I	SW3VPu	-	L	L	MINI JACK connection detection pin for DOCK connection(Connection:H)
63	P52/RD#	COMPS DET	I	SW3VPu	-	L	L	COMPONENT IN signal presence detection pin
64	P51/WR1#/BC1#	Z1 VSIG.DET	I	SW3VPu	-	L	L	VIDEO IN signal presence detection pin (input:H)
65	P50/WR0#/WR#	NC	O	-	-	L	L	NC
66	P77	S VSELA	O	-	-	L	L	S VIDEO switcher control pin (TC4052)
67	P76/IRQ14-A	TU GPO2_INT/(TUNED)	I	SW3VPu	-	L/L	L/L	TUNER GPIO2 input pin
68	P75	DSP ROMRST	O	-	-	L	L	Memory reset for DSP (Reset : L)
69	PC7/A23/CS4#-D/CS7#-D/TxD5	DSP MOSI	O	DA3VPu	-	L	L	DSP control pin (ADSP21487KSWZ-3B)
70	PC6/A22/CS6#-D/RxD5	DSP MISO	I	DA3VPu	-	L	L	DSP control pin (ADSP21487KSWZ-3B)
71	PC5/A21/CS5#-D/SCK5	DSPI CLK	O	DA3VPu	-	L	L	DSP control pin (ADSP21487KSWZ-3B)
72	PC4/A20	DSP RST	O	-	-	L	L	DSP(ADSP21487KSWZ-3B) reset output pin (Reset : L)
73	PC3/A19	DSP FLAG0	I	Pd	-	L	L	DSP control pin (ADSP21487KSWZ-3B)
74	VCC	VCC	-	-	-	-	-	+3.3V
75	PC2/A18	DSP ICS	O	DA3VPu	-	L	L	DSP control pin (ADSP21487KSWZ-3B)
76	VSS	VSS	-	-	-	-	-	GND
77	PC1/A17	GRN LED	O	-	-	L	L	POWER LED control pin(ON:H)
78	PC0/A16	RED LED	O	-	-	L	L	POWER/STANDBY LED control pin (ON:H)
79	PB7/A15/PO31/TIOCA11/TIOCB11	H/P RL	O	-	-	L	L	HEADPHONE RLY control pin
80	PB6/A14/PO30/TIOCA11	FRONT RL	O	-	-	L	L	LRELAY control pin
81	PB5/A13/PO29/TIOCA10/TIOCB10	T.MUTE	O	-	-	L	L	TUNER MUTE control pin(MUTE:L)
82	PB4/A12/PO28/TIOCA10	TU_SEN	O/O	-	-	L/L	L/L	TUNER control pin
83	PB3/A11/PO27/TIOCC9/TIOCD9	C/S RL	O	-	-	L	L	LRELAY control pin
84	PB2/A10/PO26/TIOCC9	SB RL	O	-	-	L	L	LRELAY control pin
85	PB1/A9/PO25/TIOCA9/TIOCB9	D5V POWER	O	-	-	L	H	Digital 5V power supply control pin
86	P74/ADTRG3#	DIR CE	O	-	-	L	L	DIR control pin (LC89058W-E)
87	P73	DIR DIN	O	-	-	L	L	DIR control pin (LC89058W-E)
88	P72	DIR DOUT	I	DA3VPu	-	I	I	DIR control pin (LC89058W-E)
89	P71/CS4#-C/CS5#-C/CS6#-C/CS7#-C	DIR CLK	O	-	-	L	L	DIR control pin (LC89058W-E)
90	P70/CS3#-B/ADTRG2#	DIR RST1	O	-	-	L	L	DIR control pin (LC89058W-E)
91	VCC	VCC	-	-	-	-	-	+3.3V
92	PB0/A8/PO24/TIOCA9	7623 ROM HOLD	O	-	-	L	L	SPI FLASH ROM HOLD control pin (ADV7623)
93	VSS	VSS	-	-	-	-	-	GND
94	PA7/A7/PO23/TIOCA8/TIOCB8/TCLKH	DIR(ETHER) RST	O	-	-	L	L	DIR (ETHER) RESET control pin (LC89058W)
95	PA6/A6/PO22/TIOCA8	VSELA	I	-	-	I	I	Master Volume rotation detection pin(Rotary encoder)
96	PA5/A5/PO21/TIOCA7/TIOCB7/TCLKG	VSEL B	I	-	-	I	I	Master Volume rotation detection pin(Rotary encoder)
97	PA4/A4/PO20/TIOCA7	DIR(ETHER) CE	O	-	-	L	L	DIR (ETHER) CE control pin (LC89058W)
98	PA3/A3/PO19/TIOCC6/TIOCD6/TCLKF	DAC(ETHER) MUTE	O	-	-	L	L	DAC (ETHER) MUTE control pin (AK4424ET)
99	PA2/A2/PO18/TIOCC6/TCLKE	PRE Z2 MUTE	O	-	-	L	L	PRE OUT MUTE control pin
100	PA1/A1/PO17/TIOCA6/TIOCB6	NC	O	-	-	L	L	NC
101	PA0/A0/BC0#/PO16/TIOCA6	PRE SW MUTE	O	-	-	L	L	PRE OUT MUTE control pin / NC (AVR1712)
102	PE7/IRQ7-A/D15	ADV7623 INT2	I	-	-	I	I	HDMI RECEIVER INT2 output pin (ADV7623)
103	PE6/IRQ6-A/D14	ADV7623 Tx INT	I	-	-	I	I	HDMI signal detection pin (ADV7623)
104	PE5/IRQ5-A/D13	ADV7511 Tx INT	O	-	-	L	L	HDMI signal detection pin (ADV7511)
105	PE4/D12	NC	O	SW3Pu	-	L	L	NC
106	PE3/D11	NC	O	SW3Pu	-	L	L	NC
107	PE2/D10	VOL CLK	O	-	-	L	L	FUNCTION/VOLUME control pin(R2A15218)
108	PE1/D9	VOL DATA	O	-	-	L	L	FUNCTION/VOLUME control pin(R2A15218)
109	PE0/D8	PLD WRITE	O	-	-	L	L	A.PLD /JTAG switching control pin
110	PD7/D7	JTAG TDO	I	-	-	L	L	A.PLD rewriting control pin(JTAG)
111	PD6/D6	JTAG TMS/APLD CS	O	-	-	L	L	A.PLD rewriting & control pin
112	PD5/D5	JTAG TDI/APLD DATA/DAC DATA	O	-	-	L	L	A.PLD rewriting & control /DAC control pin
113	PD4/D4	JTAG TCK/APLD CLK/DAC CLK	O	-	-	L	L	A.PLD rewriting & control /DAC control pin

Pin	Pin Name	Symbol	I/O	Pull up/ down	LvCnv	STBY	CEC STBY	Function
114	P64/CS4#-B	ADC RST	O	-	-	L	L	A/D converter control pin(AK5358B)
115	P63/CS3#-A/CS7#-A	E SPI REQ	I	Pd	-	L	L	ETHERNET communication control pin(DM860)
116	P62/CS2#-A/CS6#-A	E SPI CS	O	N3VPu	-	L	L	ETHERNET communication control pin(DM860)
117	P61/CS1#-A/CS2#-B/ CS5#-A/CS6#-B/CS7#-B	DAC MS	O	-	-	L	L	A/D converter control pin(AK4358VQ)
118	P60/CS0#-A/CS4#-A/ CS5#-B	DAC RST	O	-	-	L	L	A/D converter control pin(AK4358VQ)
119	PD3/D3	VEXP STB	O	-	3->5	L	L	VIDEO expander control pin(MC14094BD)
120	PD2/D2	VEXP OE	O	Pd	3->5	L	L	VIDEO expander control pin(MC14094BD)
121	PD1/D1	VEXP CLK/FL CLK	O	-	3->5/-	L	L	VIDEO expander control (MC14094BD) & FL control pin
122	PD0/D0	VEXP DIN/FL DATA	O	-	3->5/-	L	L	VIDEO expander control (MC14094BD) & FL control pin
123	P97/AN15	DA POWER	O	-	-	L	L	Digital power supply (DA3.3V & DA1.2V) control pin (ON:H)
124	P96/AN14	CEC POWER	O	-	-	L	H	CEC power supply (CEC5V & CEC3.3V & CEC1.8V) control pin for CEC STANDBY.
125	P95/AN13	DV POWER	O	-	-	L	※	Digital (VIDEO) power supply (DV5V & DV3.3V) control pin. *CEC STANDBY:MODE1=H, MODE2=L
126	P94/AN12	DV POWER2	O	-	-	L	※	Digital (VIDEO) power supply (DV1.8V) control pin. *CEC STANDBY:MODE1=H, MODE2=L
127	P93/AN11	MAIN POWER	O	-	-	L	L	MAIN POWER control pin
128	P92/AN10	CPU POWER	O	-	-	L	L	MAIN CPU POWER pin (POWER ON: H CEC ON = STANDBY: H)
129	P91/AN9	MODEL	I	-	-	I	I	MODEL switch input pin (No assign)
130	VSS	VSS	-	-	-	-	-	GND
131	P90/AN8	MODE	I	-	-	I	I	Destination detection pin
132	VCC	VCC	-	-	-	-	-	+3.3V
133	P47/IRQ15-B/AN7	THERMAL B/DC DET/ASO	I	-	-	I	I	ASO PROTECT / DC PROTECT / HEAT PROTECT-B detection pin
134	P46/IRQ14-B/AN6	H/P DET / MIC DET/THERMAL A	I	-	-	I	I	MIC detectionion / Headphone detectionion / HEAT PROTECT-A detection pin
135	P45/IRQ13-B/AN5	KEY3	I	SW3VPu	-	I	I	Button input 3
136	P44/IRQ12-B/AN4	KEY2	I	SW3VPu	-	I	I	Button input 2
137	P43/IRQ11-B/AN3	KEY1	I	SW3VPu	-	I	I	Button input 1
138	P42/IRQ10-B/AN2	RDS DATA(EU)/NC(KST-MW MODEL)	I/I	-	5->3	I	I	NC
139	P41/IRQ9-B/AN1	RDS CLK(EU)/NC(KST-MW MODEL)	I/I	-	5->3	I	I	NC
140	AVSS	AVSS	-	-	-	-	-	GND
141	P40/IRQ8-B/AN0	CEC_IN	I	SW3VPu	-	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	NC	I	M3VPu	-	I	I	NC

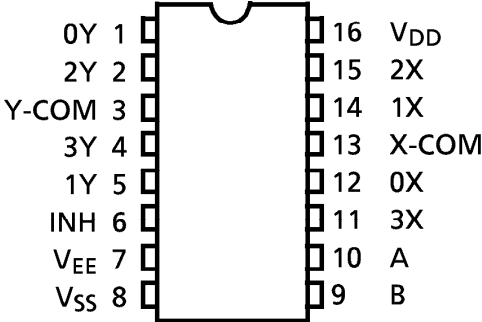
R2A15218FP (INPUT : IC404)



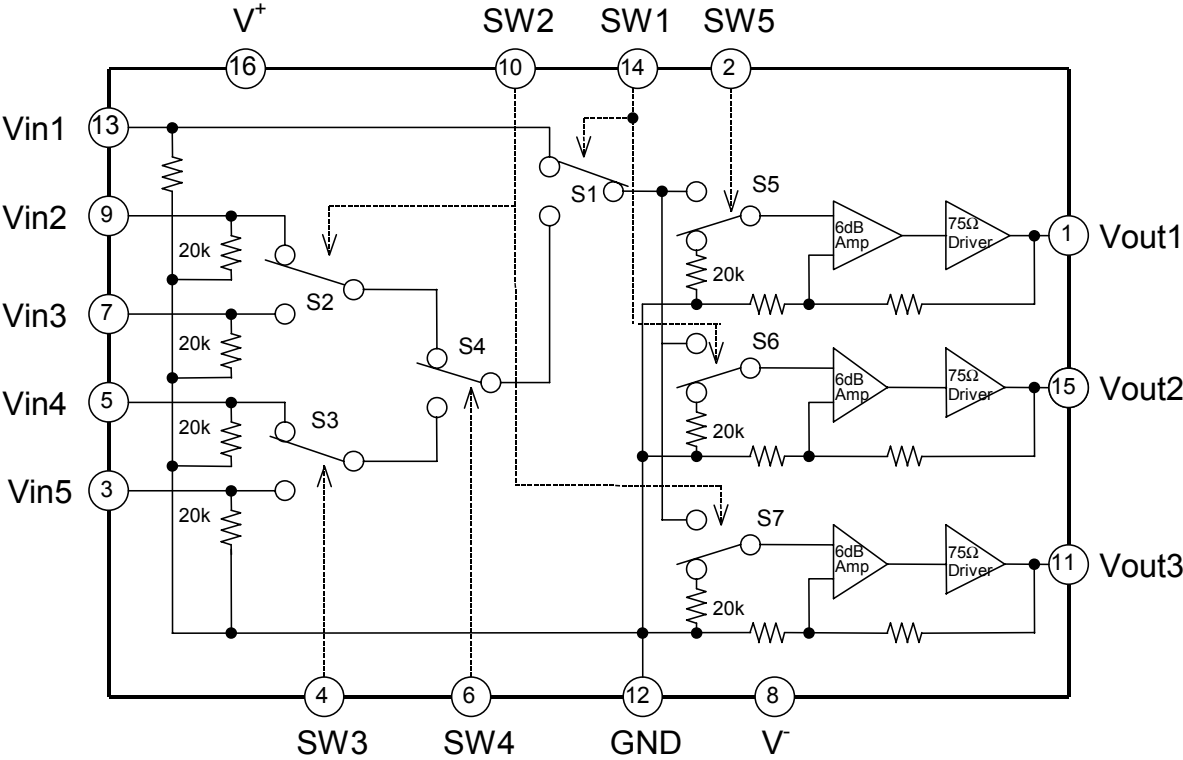
R2A15218FP Pin Function

PIN No.	Name	Function
22,20, 16,14, 10, 8, 2, 100	FROUT,FLOUT, COUT,SWOUT, SROUT, SLOUT, SBROUT,SBLOUT	Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel
23,19, 11, 7, 3, 99	FR Pre-out,FL Pre-out, SR Pre-out, SL Pre-out, SBR Pre-out,SBL Pre-out	Pre-output pin of FL/FR/SL/SR/SBL/SBR channel
24,18, 17,13, 12, 6, 4, 98	FRC,FLC, CC,SWC, SRC,SLC, SBRC,SBLC	Connects capacitor for reducing click noise of L/R/C/SW/SL/SR/SBL/SBR channel volume
1,5,9,15, 21,55,98	AGND	Analog ground of internal circuit
27,30	TREL, TRER	Frequency characteristic setting pin of L/R channel tone control (Treble)
25,26, 28,29	BASSL1,BASSL2 BASSR1,BASSR2	Frequency characteristic setting pin of L/R channel tone control (Bass)
31	AVCC	Positive power supply to internal circuit
43,42, 41,40, 39,38, 37,36	FRIN2, FLIN2, SRN2,SLIN2, SWIN2,CIN2, SBRIN2,SBLIN2	Multi Input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)
90,91, 92,93, 94,95, 96,97	FLIN1, FRIN1, CIN1,SWIN1, SLIN1,SRIN1, SBLIN1,SBRIN1	
48	DGND	Digital ground of internal circuit
49	DATA	Input pin of control data
50	CLOCK	Input pin of control clock
52	AVEE	Negative power supply to internal circuit
57,59,61,63, 65,67,69,71, 75,83,85,87	INL1,INL2, INL3,INL4, INL5,INL6,INL7,INL8, INL9,INL12,INL13,INL14	Input pin of L/R channel (Input Selector)
56,58,60,62, 64,66,68,70, 74,82,84,86	INR1,INR2, INR3,INR4, INR5,INR6,INR7,INR8, INR9,INR12,INR13,INR14	
51	MUTE	Outside Mute Control PIN
44,45 34,35	SBRCIN,SBLCIN SRCIN,SLCIN	3 rd Multi Input pin for SBL/SBR/SL/SR channel Volume that is able to swap SBR/SBL with SR/SL
46,47 33,32	SUBL1,SUBR1 SUBL2,SUBR2	Output pin for L/R channel SUB1/SUB2 Output
53,54	ADCL, ADCR	Output pin for L/R channel ADC
88,89	RECR3,RECL3	Output pin for L/R channel REC Output
72,73, 76,77, 78,79 80,81	INRA/RECR1,INLA/RECL1, INRB/RECR2,INLB/RECL2, INR10/RECR4,INL10/RECL4, INR11/RECR5,INL11/RECL5	Input pin of L/R channel (Input Selector)/ Output pin for L/R channel REC Output

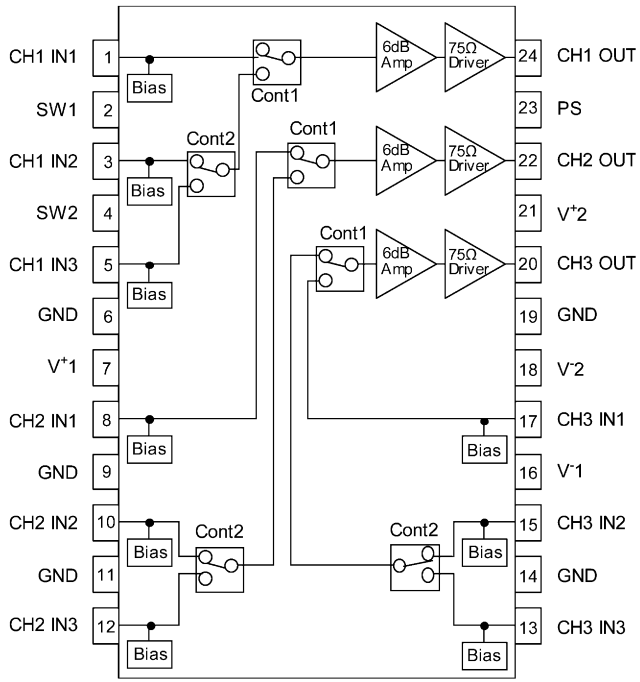
TC4052BFT (INPUT : IC402,405)



NJM2595M (INPUT : IC401)



NJM2586AM (INPUT : IC403)



ANODE CONNECTION

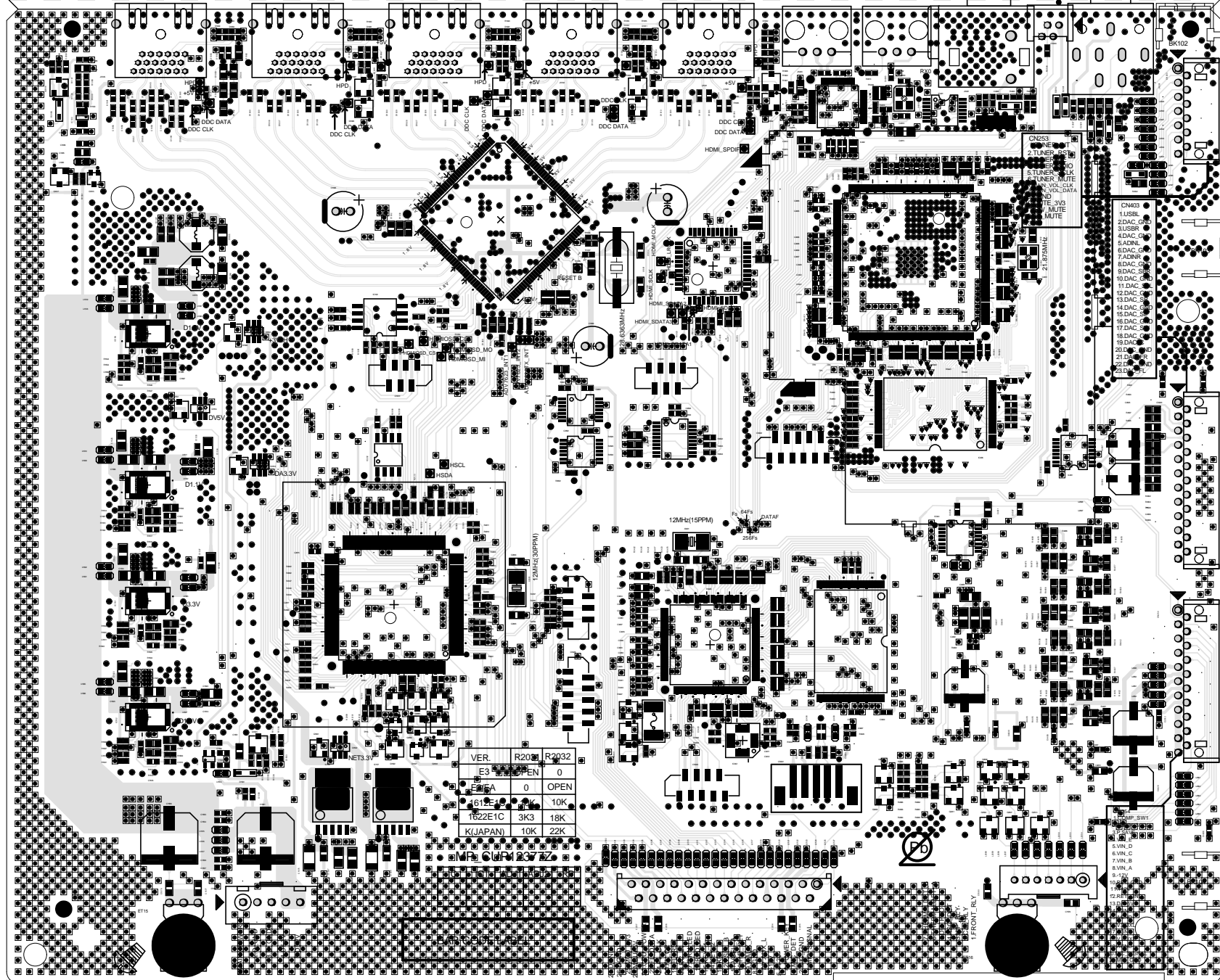
	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G
D0	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	S1	PCM
D1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	3d	AAC
D2	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	2d	S2
D3	4-1	4-1	4-1	4-1	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	EQ
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	VOL
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	DYN
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	XT
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	MULTEQ
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	AUDYSSEY
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	X
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	II
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	PL
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	DD (PL)
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	MASTER
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	RDS
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	AUTO
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	TUNED
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	STEREO
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	Neo:6
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	HD
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	dtb
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	-
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	SP-	-
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	A	-
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	B	-
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	Z2	-
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	Q1	-
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	Q2	-
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	Q3	-
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	-	-
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	-	-
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	-	DIG.
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	-	ANA.
AD1	-	-	-	-	-	-	AUTO	-	HDMI	DIGITAL	-	ANALOG	-	-	-	MUTE	-	DDIGITAL
AD2	-	-	-	-	-	-	HDMI	-	RSTR	REC	-	SBACK	-	-	-	SLEEP	-	DDTTruHD

AVR1612 DIGITAL MP_CUP1237Z-B



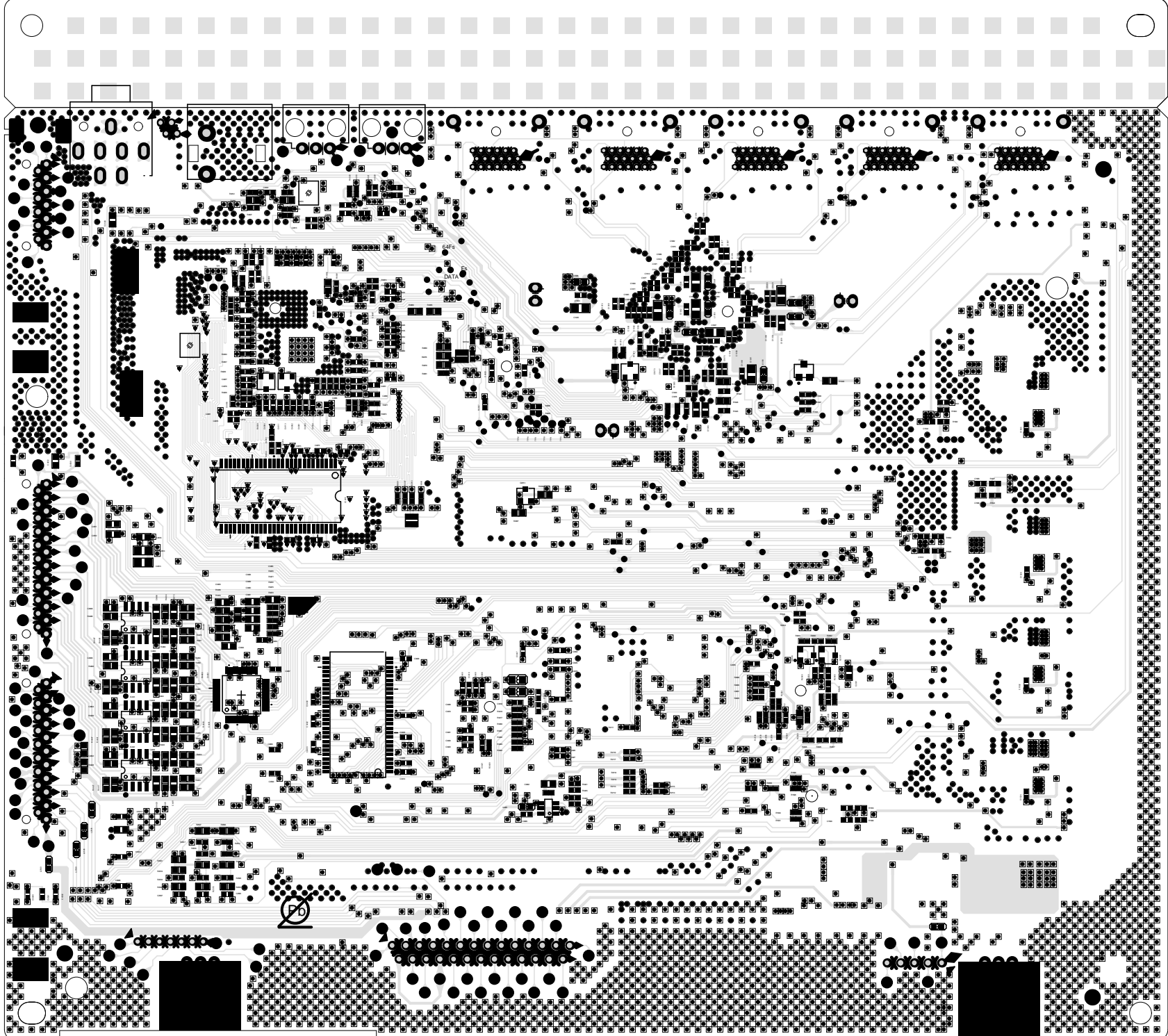
OUT

IN



VER.	R203	R2032
E3	OPEN	0
FA	0	OPEN
61	10K	
1622E1C	3K3	18K
K(JAPAN)	10K	22K

- 5.VIN_C
- 6.VIN_C
- 7.VIN_B
- 8.VIN_L
- 9-12V
- 10V
- 12V
- 15V

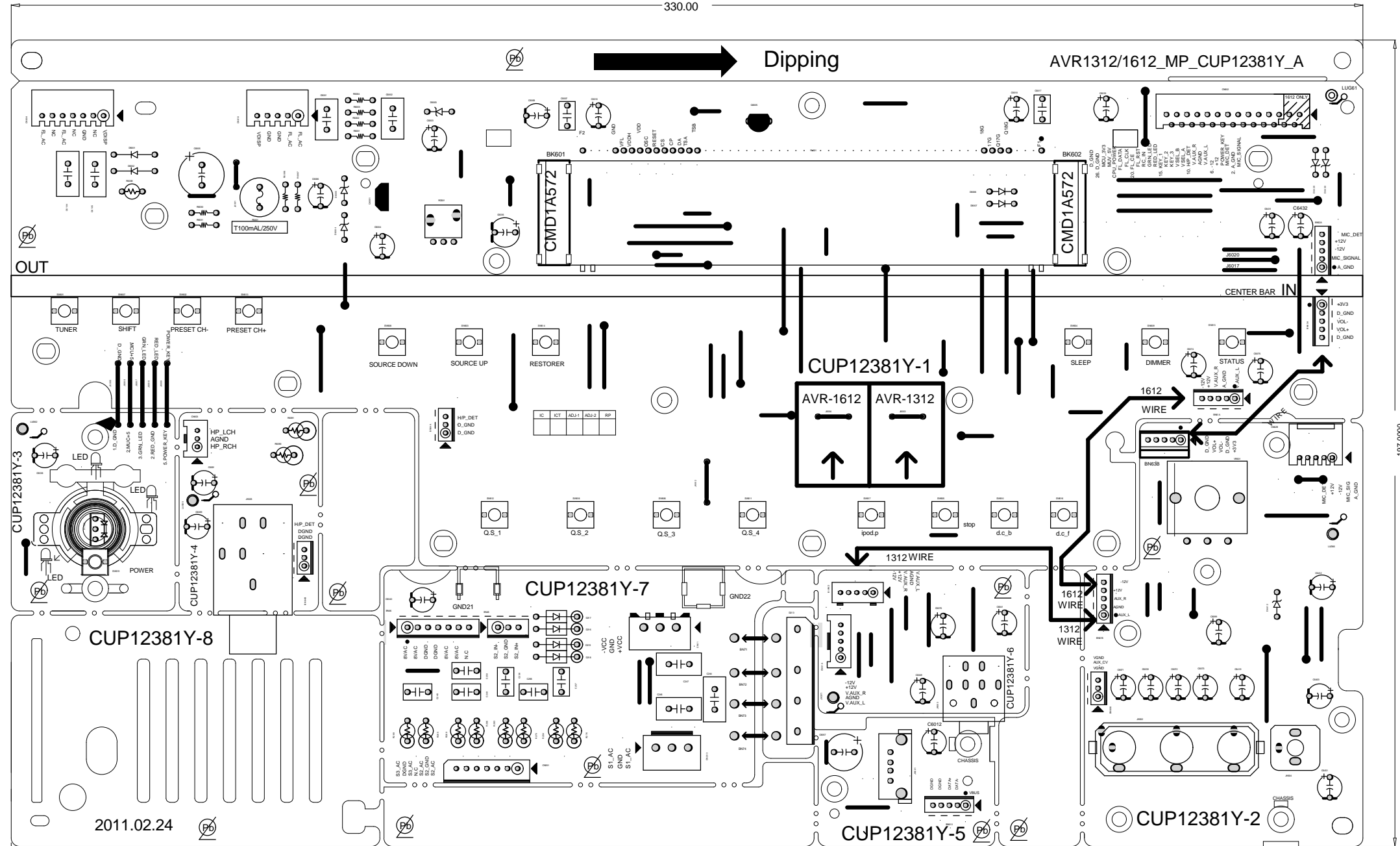


** AVR1312 / AVR1612 FRONT PCB **

330.00

Dipping

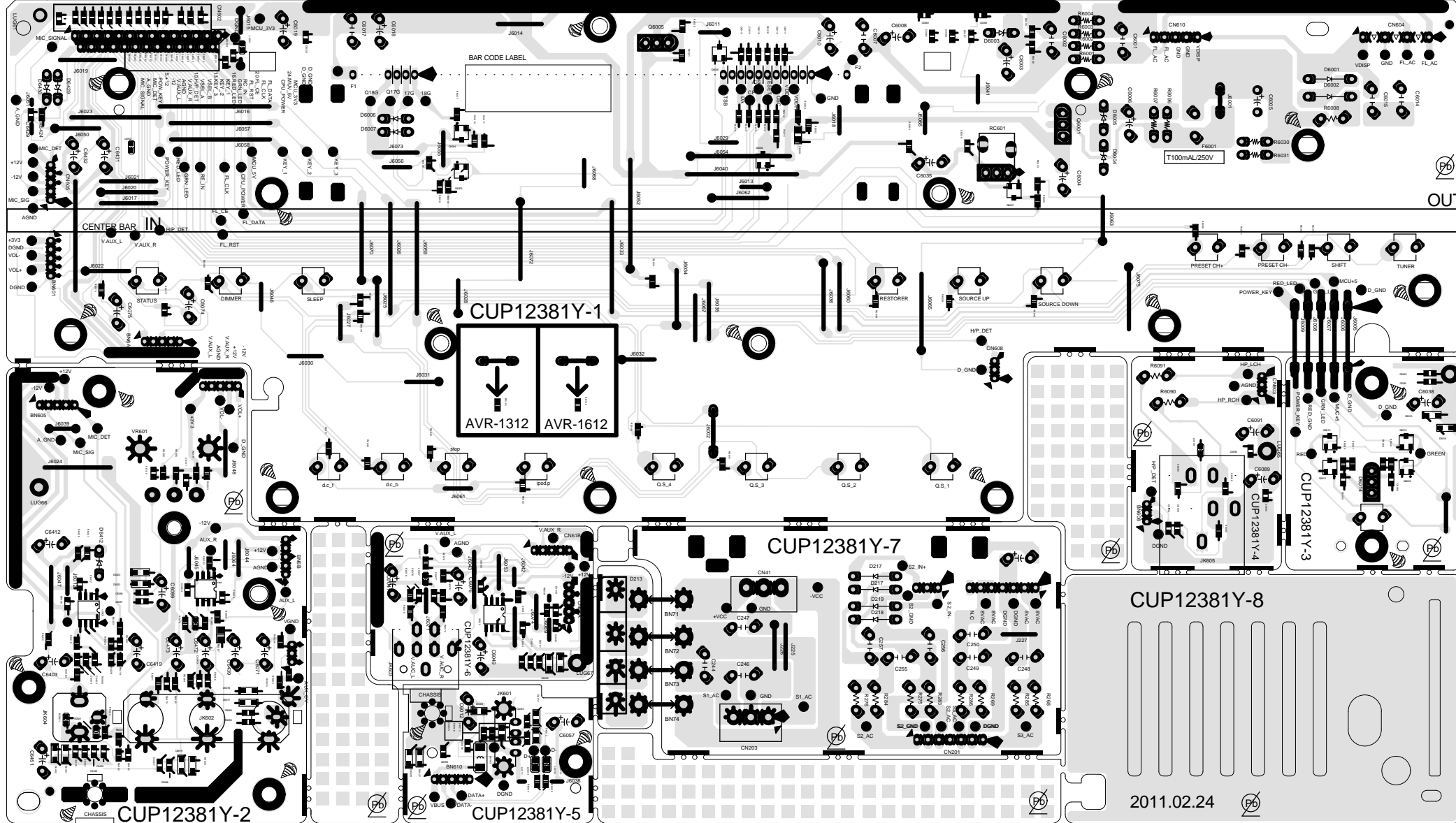
AVR1312/1612_MP_CUP12381Y_A



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AVR1312/1612_MP_CUP12381Y_A



CUP12381Y-8

2011.02.24

OUT

0000181

AVR1612 INPUT CUP12378Z-A MP 2011.02.11

S-VIDEO IN
CVBS OUT

PRE-OUT

AUDIO IN

TUNER

OUT

D&M

MONITOR

SAT/CBL

DVD

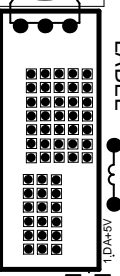
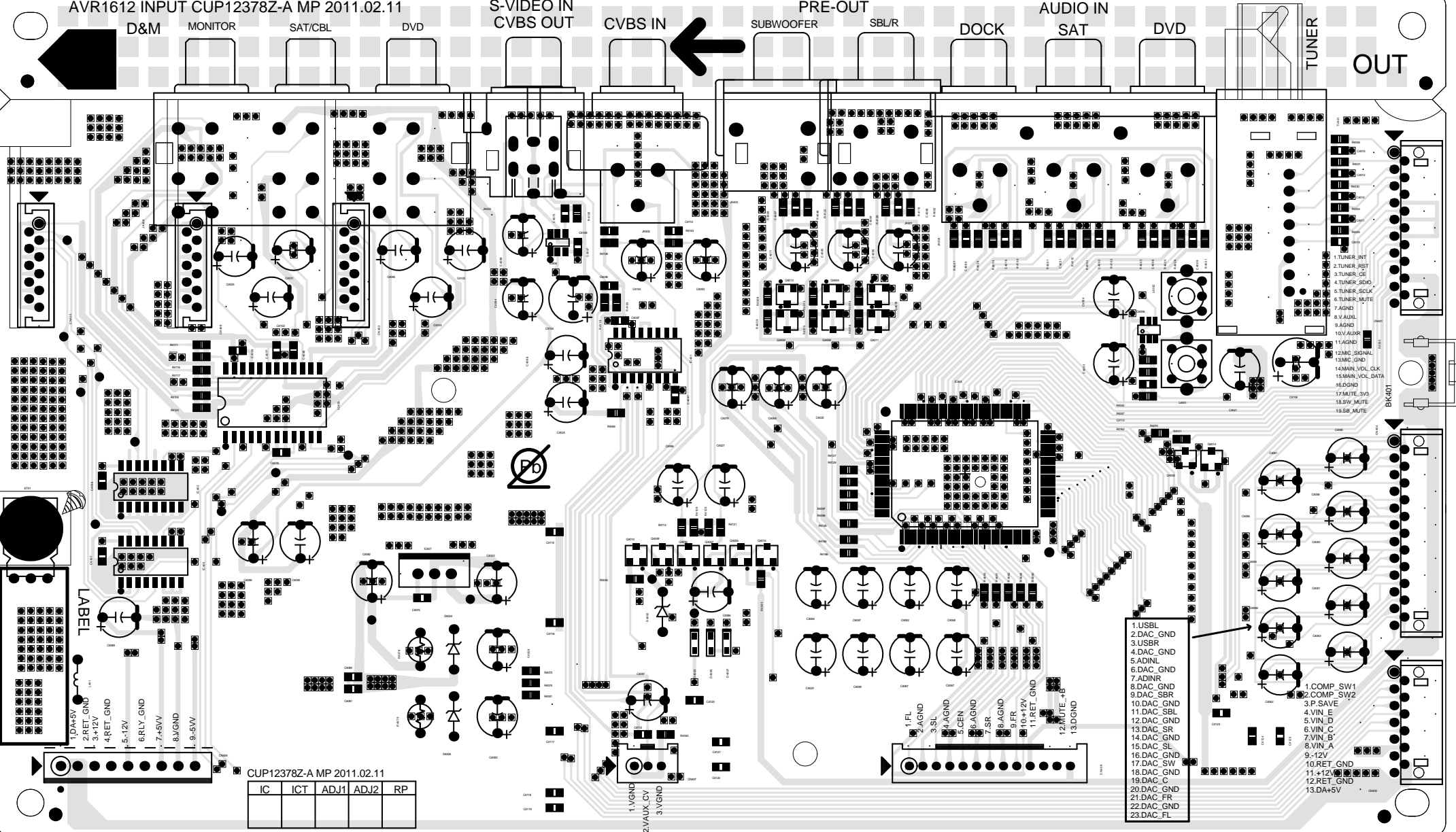
SUBWOOFER

SBL/R

DOCK

SAT

DVD



CUP12378Z-A MP 2011.02.11

IC	ICT	ADJ1	ADJ2	RP

1.VGND
2.VAUX_CV
3.VGND

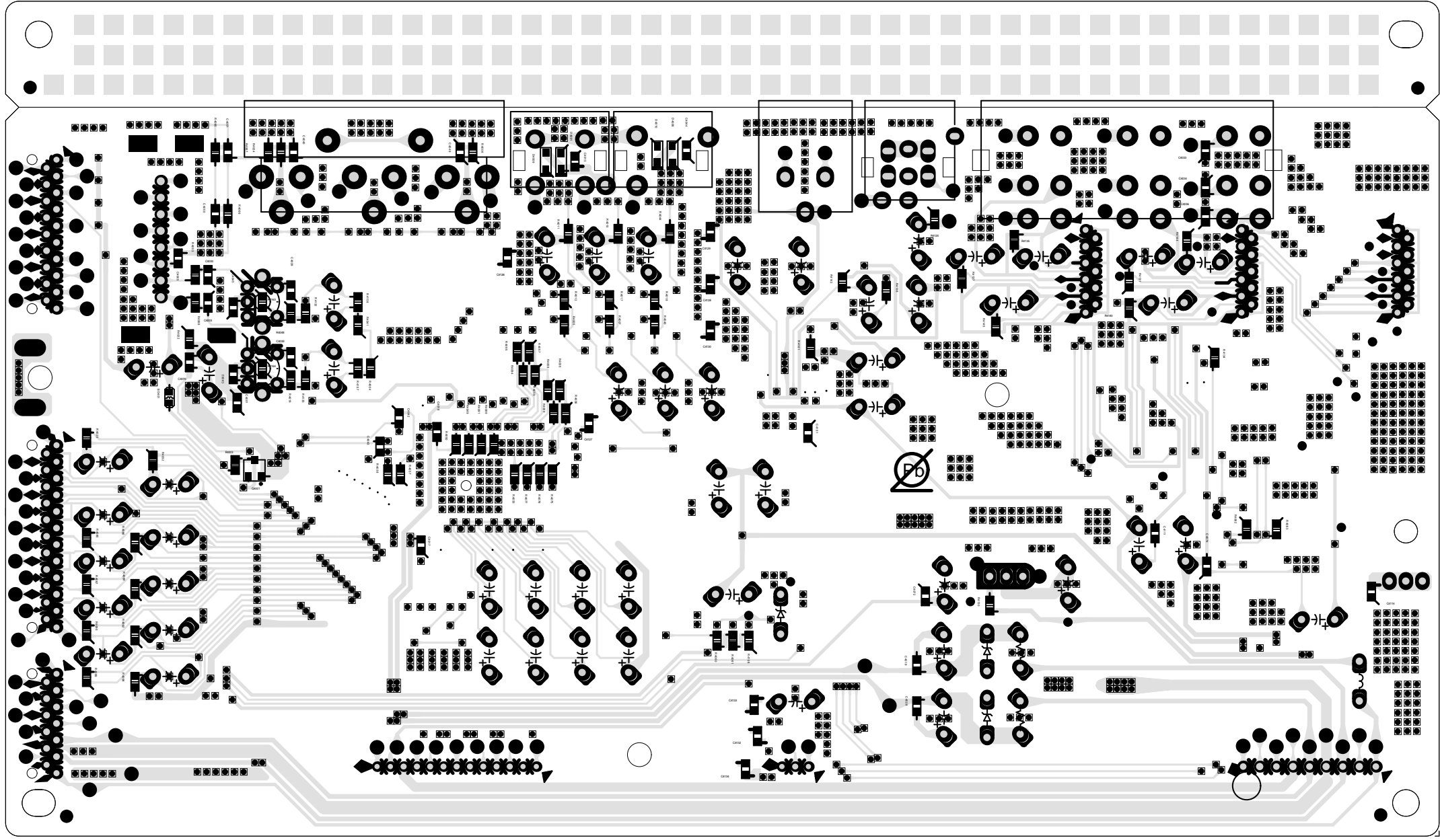
1.FL
2.AGND
3.SL
4.AGND
5.CEN
6.AGND
7.SR
8.AGND
9.FR_CV
11.RET_GND
12.MUTE_+B
13.DGND

1.USBL
2.DAC_GND
3.USBR
4.DAC_GND
5.ADINL
6.DAC_GND
7.ADINR
8.DAC_GND
9.DAC_SBR
10.DAC_GND
11.DAC_SBL
12.DAC_GND
13.DAC_SR
14.DAC_GND
15.DAC_SL
16.DAC_GND
17.DAC_SW
18.DAC_GND
19.DAC_C
20.DAC_GND
21.DAC_FR
22.DAC_GND
23.DAC_FL

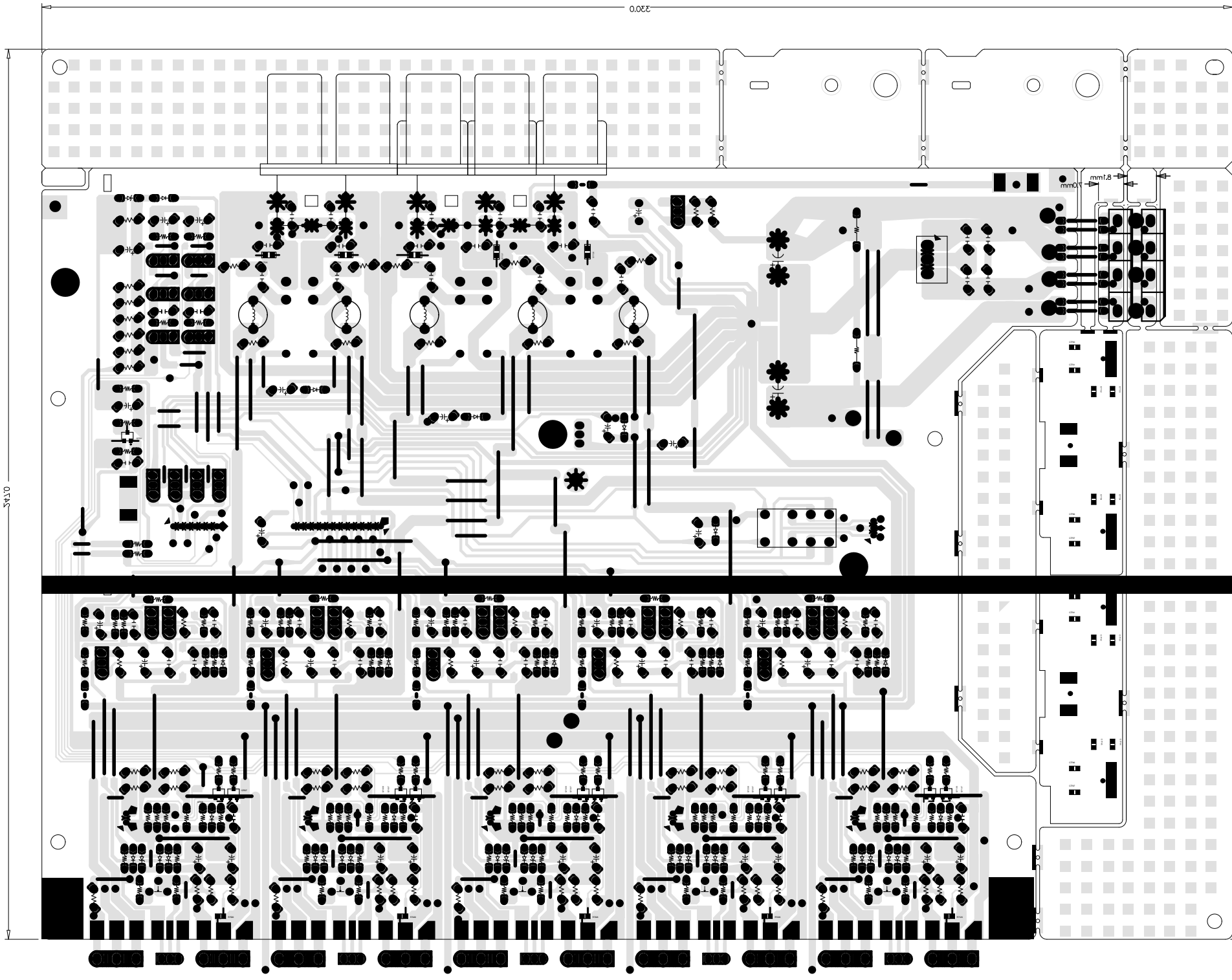
1.TUNER_INT
2.TUNER_RST
3.TUNER_SIE
4.TUNER_SDO
5.TUNER_SCLK
6.TUNER_MUTE
7.AGND
8.V_AIDL
9.AGND
10.V_AIDR
11.AGND
12.AIC_SIGNAL
13.AIC_GND
14.MAN_VOL_CLK
15.MAN_VOL_DATA
16.DDND
17.MUTE_SV
18.SW_MUTE
19.SB_MUTE

1.COMP_SW1
2.COMP_SW2
3.P_SAVE
4.VIN_F
5.VIN_D
6.VIN_O
7.VIN_B
8.VIN_A
9-12V
10.RET_GND
11-12V
12.RET_GND
13.DA+5V

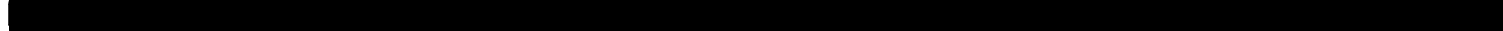
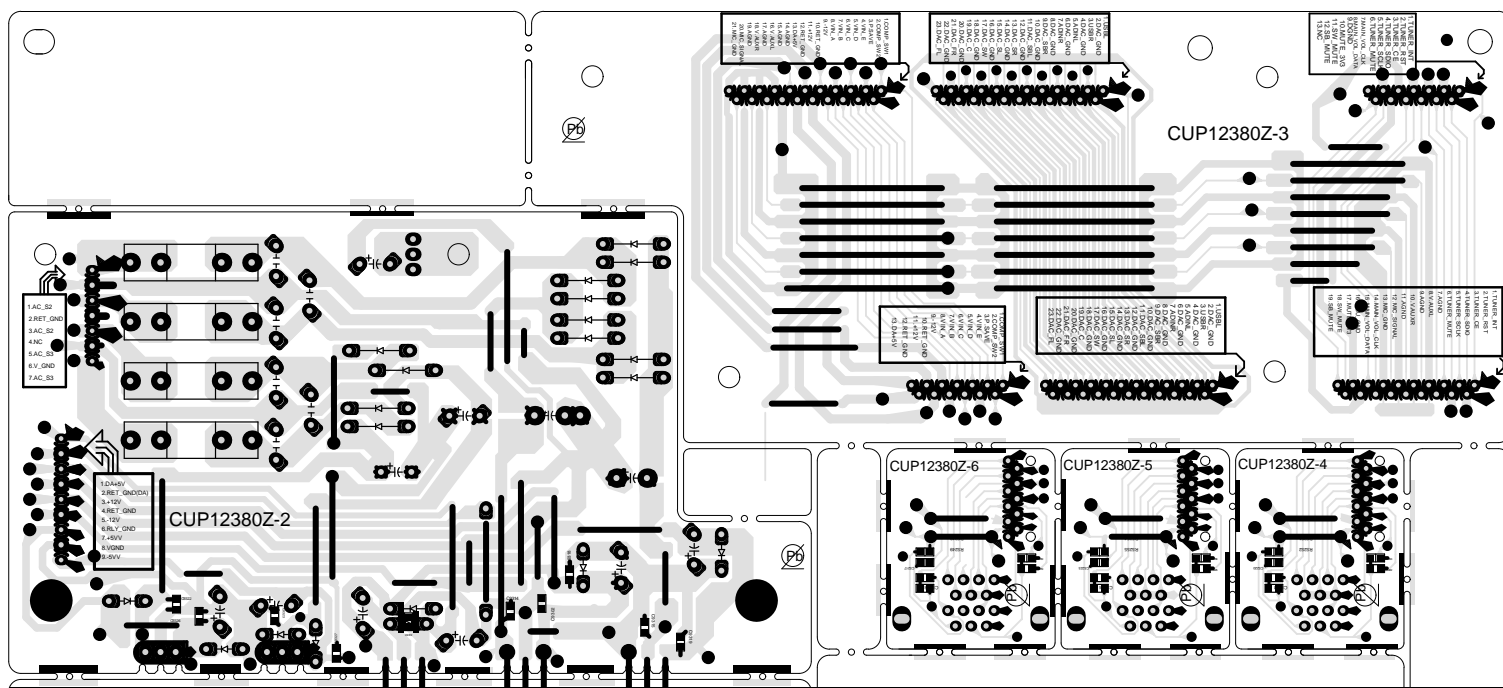
BK401



54110



33010



POWER_MP_CUP12380Z_A

